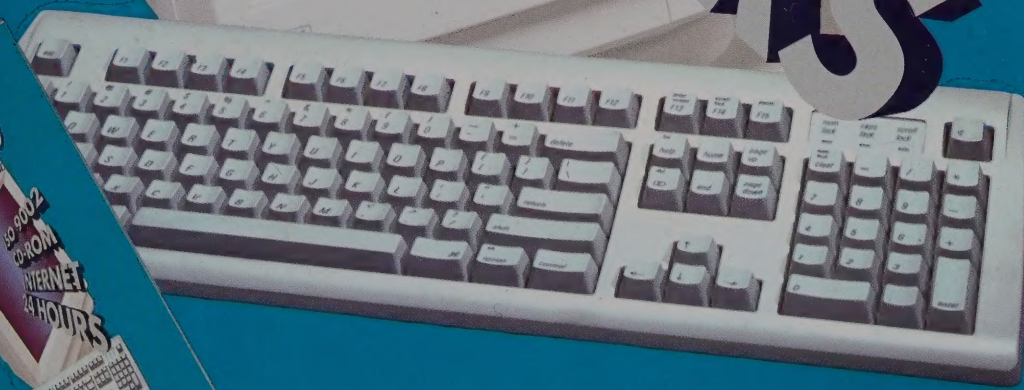
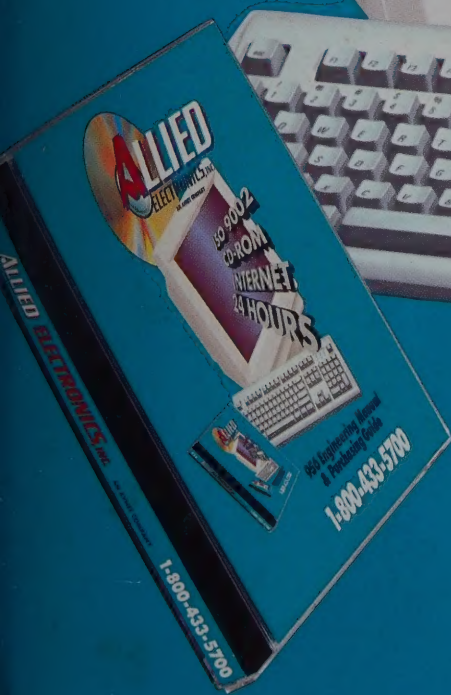




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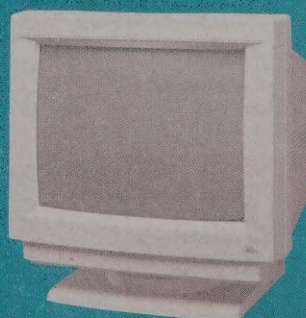
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All orders for future scheduled deliveries must be confirmed in writing by Purchase Order with specific delivery information. Any changes in delivery schedules must be in writing and agreed upon by Allied and customer and confirmed. Reductions in quantity may result in a cancellation fee.

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Minimum export order is \$50.00. Write **Allied Electronics International Marketing Dept. at 7410 Pebble, Fort Worth, Texas 76118 U.S.A. (Telex 75-8314, Telephone 817/595-3500, FAX 817/595-6444)** for complete information including, price quotations, handling, documentation and shipping.

Terms for payment on export orders are cash or irrevocable letter of credit. Cash orders in U.S. dollars will be accepted for immediate processing. Please include an extra 20% (10% on orders over \$500.00) to cover handling, documentation and shipping charges. We promptly refund any excess of payment over actual charges. Credit terms are available to qualified customers—inquire when placing order.

In some cases, certain items from our suppliers may require a leadtime. To insure faster delivery to you, a divisible letter of credit for two (2) shipments is recommended to allow the majority of your order to be shipped immediately. **All letters of credit must be valid for a minimum of one hundred-fifty (150) days.**

herein any implied warranties of merchantability, or of fitness or suitability for any particular purpose or use. All goods sold by Allied are purchased by the buyer "AS IS." Since Allied cannot control the manner or use of its products after their sale, Allied will not be responsible for any direct, consequential or indirect damages to the purchaser or any third party or ultimate user of the products. Allied will, at its option, either replace the goods sold or refund the purchase price should a product defect be brought to its attention within a reasonable time after sale.

Pricing

Prices shown are subject to change without notice. Orders are billed at the prices in effect at the time of shipment.

Shipping

All shipments are F.O.B. shipping point.

AP0 and FPO Orders

AP0 and FPO shipments will be routed Parcel Post Insured, with maximum size 100 inches (length plus girth) and maximum weight 70 lbs. For faster delivery, specify Priority Mail. To estimate shipping charges contact your local Post Office.

Truck Shipments

Trucks are the most economical way to ship items weighing approximately 50 pounds or more. Shipments weighing between 50 to 99 pounds will be charged at the minimum 100 pound rate as specified by truck carriers. Consult your local agent for truck rates.

Air-Freight Shipments

We will ship your order Air-Freight at your expense if you prefer. Contact your local Air Freight Carrier for Air-Freight charges.

Damaged Shipment

Merchandise shipped is carefully packed in compliance with carrier requirements. Claims for loss or damage in transit must be made with the carrier by the customer. All shipments should be unpacked and inspected immediately upon receipt.

Concealed Loss or Damage. If damage is not discovered until shipment is unpacked, make a request for inspection by the carrier's agent and file claim with the carrier.

Visible Loss or Damage. Any external evidence of loss or damage must be noted on the freight bill or carrier's receipt and signed by the carrier's agent. Failure to do this will result in the carrier refusing to honor the claim. For your protection our billing includes insurance for damage or loss in transit.

Shortages

All claims for shortage or shipment errors must be made **WITHIN 10 DAYS** after receipt of shipment.

Returning Merchandise

If you must return all or part of your order, for a reason other than carrier damage, contact your local representative within 30 days of receipt of shipment. Your local representative will provide the Return Authorization Number (and if any restocking charge is required). Return Authorization Numbers are good for only 30 days. All returned merchandise is subject to inspection prior to any credit being processed, merchandise should be returned in original cartons if possible.

Credit Cards



ORDER THE EASY WAY...Use Your American Express, Visa, or Mastercard

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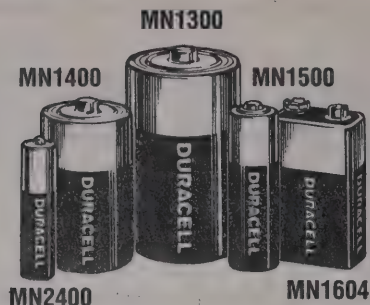
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Duracell Long-Life Alkaline Batteries

Extra service and long life. Designed for high drain service applications — outperform, outlast standard operating zinc-carbon batteries by up to 100%. Alkaline cells cost less, too. Compare by dividing the initial costs by the many extra hours of service provided.

Stock No.	Mfr.'s Type	Size	Volts	MAH	NEDA	EACH
737-0100	MN1300	D	1.5	14,000	13A	2.06
737-0110	MN1400	C	1.5	7,000	14A	2.06
737-0120	MN1500	AA	1.5	2,100	15A	1.50
737-0130	MN1604	Rect.	9.0	550	1604A	4.10
737-0140	MN2400	AAA	1.5	1,000	24A	1.50
737-0150	MN9100	N	1.5	700	91A	1.52
737-0908	MN908*	SQ	6.0	20,000	908A	11.12
737-0918	MN918†	Rect.	6.0	40,000	918A	23.70

*Spring Terminal. †Screw Terminal.

Heavy-Duty Plus® Zinc Carbon Batteries

The service capacity of a Heavy Duty battery is not a fixed number of ampere-hours because the battery functions at different efficiencies depending upon the conditions imposed upon it. The service varies with current drain, operating schedule, and cutoff voltage. It is also affected by the operating temperature and storage conditions of the battery prior to use.

Stock No.	Mfr.'s Type	Size	Volts	AH	NEDA	EACH
737-0600	M13SHD	D	1.5	†	13D	.76
737-0605	M14SHD	C	1.5	†	14D	.76
737-0610	M15SHD	AA	1.5	†	15D	.55
737-0615	M9VSHD	Rect.	9.0	†	1604D	1.80

†AH will vary according to application.



Procell® Industrial Alkaline Batteries

- ▶ Long Shelf Life With Sustained Power
- ▶ Lasts Up To Five Times Longer Than Regular Zinc Carbon Batteries
- ▶ Low Battery Replacement Cost . . . Low Use Cost
- ▶ Distinctive Industrial Label Reduced Pilferage
- ▶ Operate Reliably In Temperature Extremes Of -20°F To 160°F
- ▶ All Procell Lantern Batteries Sealed In Steel Cases For Durability

Stock No.	Mfr.'s Type	Size	Volts	MAH	EACH
737-0500	PC1300	D	1.5	14,000	1.76
737-0510	PC1400	C	1.5	7,000	1.76
737-0520	PC1500	AA	1.5	2,100	1.20
737-0530	PC1604	Rect.	9.0	550	3.32
737-0540	PC2400	AAA	1.5	1,000	1.20
737-0550	PC908	Sq.	6.0	20,000	8.96
737-0560	PC915	Sq.	6.0	20,000	8.98
737-0570	PC918	Rect.	6.0	40,000	18.96
737-0590	PC903	Rect.	7.5	40,000	35.20

Lithium and Special Applications Batteries

Lithium Batteries

Stock No.	Mfr.'s Type	Size	Volts	MAH	NEDA	EACH
737-0400	PX28L	.512 × .990	6.0	160	5005L	7.78
737-0405	DL223AB	1.368 × .760 × 1.409	6.0	1300	5024LC	14.90
737-0407	DL123AB	.665 × 1.338	3.0	1300	5018LC	8.10
737-0409	DL245B	.054 × .069 × .025	6.0	1300	5032LC	14.90
737-0410	DL1/3NB	.457 × .425	3.0	160	5008L	3.55
737-0420	DL1620B	.630 × .079	3.0	60	5009L	1.60
737-0430	DL2016B	.787 × .063	3.0	75	5000LC	1.60
737-0440	DL2025B	.787 × .098	3.0	140	5003LC	1.60
737-0450	DL2032B	.787 × .126	3.0	190	5004LC	1.60
737-0460	DL2420B	.965 × .079	3.0	120	5010L	1.60
737-0470	DL2430B	.965 × .118	3.0	250	5011L	1.70

Special Applications Batteries

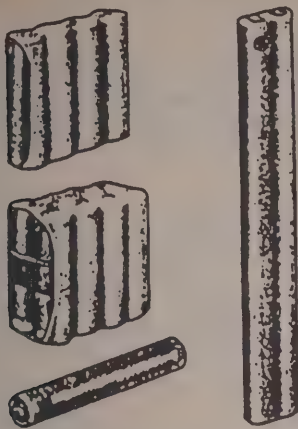
Stock No.	Mfr.'s Type	Volts	MAH	Size Dia. × Ht.	System	Primary Usage	NEDA	EACH
737-0021	MN21B	12.00	1300	.406 × 1.22	Alkaline	Car Alarm	—	1.49
737-0146	DA146	8.40	1500	91 Rect.	Zinc Air	Medical Battery	7004	6.67
737-0223	DL223AP	6.40	1300	91 Rect.	Lithium	Computer Backup	—	13.80
737-0224	DL224AR	6.40	1300	91 Rect.	Lithium	Computer Backup	5041	15.60
737-1005	7K67B	6.00	550	†	Alkaline	Photo/Remote	1412AP	4.20
737-1090	PC12A	1.50	2200	.618 × 1.963	Alkaline	Inst./Pager	—	6.69
737-1095	PC175A	7.50	110	.500 × 1.031	Alkaline	Inst.	—	4.92
737-2000	PX625AB	1.50	190	.612 × .233	Alkaline	Photo	—	1.96
737-2005	PC7K67	6.00	565	.900 × .360	Alkaline	Glucose Meter	—	3.21

†1.4906 × .355W × 1.900H.

Special Applications Batteries

Stock No.	Mfr.'s Type	Volts	MAH	Size Dia. × Ht.	System	Primary Usage	NEDA	EACH
737-1045	MS76B	1.50	180	.455 × .210	Silver Oxide	Photo	1107SO	3.42
737-1055	D303/357B	1.50	180	.455 × .210	Silver Oxide	Hearing Aids	1131SO	1.66
737-1060	D301/386B	1.50	120	.455 × .165	Silver Oxide	Watch/Calculator	1133SO	1.44
737-1065	D389/390B	1.50	70	.455 × .110	Silver Oxide	Watch/Calculator	1138SO	.95
737-1070	D384/392B	1.50	38	.305 × .143	Silver Oxide	Watch/Calculator	1135SO	.84
737-1075	D309/393B	1.50	70	.305 × .210	Silver Oxide	Watch/Calculator	1137SO	1.10
737-1080	D364B	1.50	15	.267 × .084	—	—	—	.84
737-1085	D381/391B	1.50	40	.455 × .081	—	—	—	1.10

†1.4906 × .355W × 1.900H.



Rechargeable NiCad Battery Packs

These replacement battery packs are made up of individual cells that are bonded together and insulated with PVC. They may be stored charged and uncharged. Other configurations are available. Order No. 69485K999 and specify battery type and configuration.

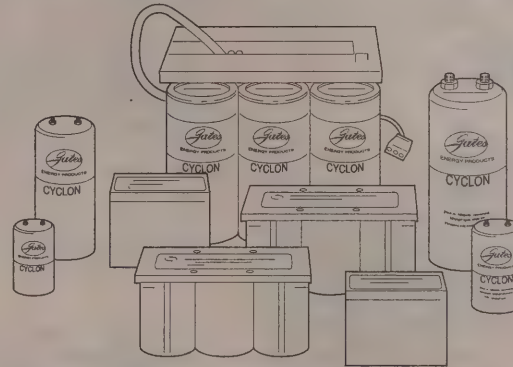
Fig.	Configuration of Cells			Total No. Of Cells	Volts	Cell Size AA (650) mAh			Cell Size Cs (Sub-C 1200) mAh		
	Wide	Deep	High			Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
A	2	1	1	2	2.4	221-2010	801001	6.70	221-2080	801025	9.70
A	3	1	1	3	3.6	221-2015	801066	7.50	221-2085	801026	12.14
A	4	1	1	4	4.8	221-2020	801065	11.88	221-2090	801027	19.44
A	6	1	1	6	7.2	221-2025	801005	18.20	221-2095	801028	29.18
A	10	1	1	10	12.0	221-2030	801009	29.72	221-4000	801033	48.62
B	2	2	1	4	4.8	221-2035	801010	11.88	221-4005	801034	19.44
B	4	2	1	8	9.6	221-2040	801012	23.72	221-4010	801036	38.54
B	5	2	1	10	12.0	221-2045	801013	29.72	221-4015	801037	48.62
C	1	1	2	2	2.4	221-2050	801014	6.70	221-4020	801038	9.70
C	1	1	4	4	4.8	221-2055	801016	11.88	221-4025	801040	19.44
D	2	1	2	4	4.8	221-2060	801018	11.88	221-4030	801042	19.44
D	2	1	3	6	7.2	221-2065	801019	18.20	221-4035	801043	29.18
B	2	1	4	8	9.6	221-2070	801020	23.72	221-4040	801044	38.54
D	3	1	2	6	7.2	221-2075	801022	18.20	221-4045	801046	29.18

Pure Lead Tin Batteries From Hawker Energy

At high rates of discharge, Hawker Energy's pure-lead tin technology overpowers conventional lead-calcium cells in every category of comparison. Hawker Energy's batteries are smaller, lighter and have a longer service life. They also offer faster recharge, a high discharge rate and are extremely reliable. That superiority means more value for every energy dollar.

You can get pure-lead tin technology only in Cyclon® and Genesis® batteries from Hawker Energy Products. This exceptional technology has been awarded both the *EDN Innovation of the Year* and *The 1993 Missouri Governor's New Product* honors. The advantages of pure-lead tin will enhance your new product design, reduce shipping costs and require less maintenance and far fewer replacements.

These batteries are going to make a powerful difference in your designs.



Hawker Energy Sealed Lead Monobloc Batteries

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity		Length (in.)	Width (in.)	Total Height (in.)	Incl. Terminals (in.)	Weight (Approx.)	EACH
			10 Hr. Rate (Ah)	20 Hr. Rate (Ah)						
221-2001	0810-0004	2.0	2.5	2.7	2.65	1.335	2.65	2.65	6.40 oz.	6.51
221-2002	0800-0004	2.0	5.0	5.4	3.16	1.735	3.16	3.16	13.00 oz.	8.75
221-2003	0840-0004	2.0	12.5	13.7	5.34	2.035	5.34	5.34	1.85 lbs.	28.97
221-2004	0820-0004	2.0	25.0	26.0	6.78	2.550	6.78	6.78	3.49 lbs.	33.92
221-0274	0810-0274	2.0	2.5	2.7	2.65	1.335	2.65	2.65	6.40 oz.	7.25
221-0235	0800-0235	2.0	5.0	5.4	3.16	1.735	3.16	3.16	13.00 oz.	11.25

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal 10 Hr. Rate (Ah)	Description (X)	Length (in.)	Width (in.)	Height (in.)	Total Height (in.)	Weight (Approx.)	EACH
221-2005	0819-0010	4.0	2.5	1 x 2	3.09	1.78	2.75	2.75	.80	11.99
221-0032	0809-0010	4.0	5.0	1 x 2	3.77	2.11	3.02	3.02	1.62	14.00
221-2006	0819-0012	6.0	2.5	1 x 3	4.43	1.78	2.75	2.75	1.20	13.00
221-2012	0809-0012	6.0	5.0	1 x 3	5.47	2.11	3.02	3.02	2.43	18.00
221-0010	0859-0010	4.0	8.0	1 x 2	3.77	2.11	4.00	4.00	2.43	16.11
221-0012	0859-0012	6.0	8.0	1 x 3	5.47	2.11	4.00	4.00	3.65	21.38

Lead-Acid Batteries From Yuasa-Exide

Stock No.	Mfr.'s Type	Volts	20 Hr. Rate (Ah)	Length		Width		Overall Height Incl. Terminals		Weight Approx.		EACH
				mm	in.	mm	in.	mm	in.	Kg	Lbs.	
221-0400	NP3-4	4	3.0	90.5	3.56	34.0	1.34	64.0	2.52	0.43	0.95	15.63
221-0401	NP4.2-4H		4.4	48.0	1.89	35.5	1.40	119.0	4.68	0.56	1.23	17.10
221-0402	NP10-4		10.0	102.0	4.02	50.0	1.97	98.0	3.86	1.35	2.97	18.24
221-0403	NP1-6	6	1.0	51.0	2.00	42.5	1.67	54.5	2.15	0.25	0.55	12.67
221-0404	NP1.2-6		1.2	97.0	3.82	25.0	0.98	54.5	2.15	0.30	0.66	10.10
221-0405	NP2.6-6		2.6	134.0	5.28	34.0	1.33	64.0	2.52	0.56	1.23	18.03
221-0406	NP3-6		3.0	134.0	5.28	34.0	1.33	64.0	2.52	0.65	1.43	21.23
221-0407	NP4-6*		4.0	70.0	2.76	47.0	1.85	105.5	4.15	0.85	1.87	12.69
221-0408	NP4-6W		4.0	70.0	2.76	47.0	1.85	102.5	4.04	0.85	1.87	14.60
221-0409	NP4.2-6H		4.4	47.8	1.88	51.5	2.03	120.0	4.68	0.80	1.76	22.13
221-0410	NP7-6*		7.0	151.0	5.95	34.0	1.33	97.5	3.84	1.35	2.98	16.26
221-0411	NP10-6*		10.0	151.0	5.95	50.0	1.97	97.5	3.84	2.00	4.41	18.86
221-0412	NP0.8-12	12	0.8	96.0	3.78	25.0	0.98	61.5	2.42	0.35	0.77	21.93
221-0413	NP1.2-12		1.2	97.0	3.82	48.0	1.89	54.5	2.15	0.57	1.25	19.26
221-0414	NP2-12		2.0	150.0	5.91	20.0	0.79	89.0	3.50	0.70	1.54	25.53
221-0415	NP2.3-12		2.3	178.0	7.01	34.0	1.34	64.0	2.52	0.94	2.07	23.52
221-0416	NP2.6-12		2.6	134.0	5.28	67.0	2.64	64.0	2.52	1.12	2.47	26.76
221-0417	NP4-12*		4.0	90.0	3.54	70.0	2.76	106.0	4.17	1.70	3.74	24.73
221-0418	NP7-12*		7.0	151.0	5.94	65.0	2.56	97.5	3.84	2.65	5.84	27.63

* Made in USA.

EAC Battery Assembly and Distribution

- ▶ Duracell
- ▶ Eagle-Picher
- ▶ Electrochem
- ▶ Energizer
- ▶ Eveready
- ▶ Hawker
- ▶ Maxell
- ▶ Panasonic
- ▶ Portable Energy Products
- ▶ Renata
- ▶ Saft

- ▶ Sanyo
- ▶ Sonnenschein
- ▶ Tadiran
- ▶ Varta
- ▶ Yuasa Exide

2 Lithium Batteries

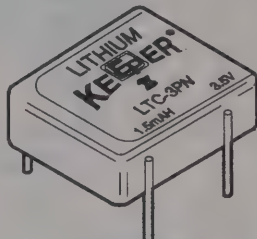
The Keeper II Series - Power On Demand

Power characteristics allow Keeper II batteries to be permanently mounted as long-lasting primary cells for improved total system reliability. No recharge circuits or components needed. Direct mount P.C. Board; no holder required. Features glass to metal seals, hermetic welds, and unique electro-chemistry for a design life of up to ten years. Highest available voltage characteristics; remains flat for the entire battery life. Other features include higher density than comparable batteries, non-pressurized design for nonvented

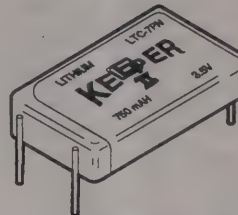
applications, limited short circuits by internal design, prismatic design for optimum circuit board space utilization, and stainless steel construction for corrosive resistance, hermetic seal, and structural integrity. Short circuits with no adverse effects. Wave solderable within storage temperature limits. Dip solder processable — polarity keyed and pin-outs are 0.1" spacing. Nominal drain rates from -73° to +125°C. UL recognized. Meets Federal shipping regulations.



LTC-9C LTC-17C



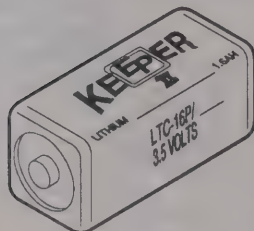
LTC-3PN



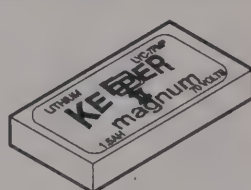
LTC-7PN



LTC-7P



LTC-16P/T



LTC-16M



LTC-16M-S2



LTC-16M-MS-S1

Keeper II Cylindrical Batteries

Stock No.	Mfr.'s Type	Universal Size	Nominal Working Voltage	Nominal Capacity 350 Hr. Rate	Length		Diameter		Weight (Grams)	EACH			
					In.	mm	In.	mm		1-9	10-49	50-99	100-499
710-5009	LTC-9C	1/2AA	3.5	950 mAh	.985	25.02	.540	13.72	8.6	7.16	6.82	6.61	6.32
710-5017	LTC-17C	AA	3.5	1700 mAh	1.950	49.53	.540	13.72	15.5	7.81	6.96	6.73	6.44

Lithium-thionyl Chloride

Stock No.	Mfr.'s Type	Working Voltage	Capacity @ 350 Hr. Rate 25°C	Length In. (mm)	Width In. (mm)	Thickness In. (mm)	Wt. g	EACH			
								1-9	10-49	50-99	100-499
710-5010	LTC-3PN*	3.5	350 mAh	.60 (15.24)	.65 (16.51)	.25 (6.35)	4.0	6.10	5.63	5.44	5.21
710-5015	LTC-7PN*	3.5	750 mAh	1.00 (25.40)	.65 (16.51)	.25 (6.35)	6.8	6.47	5.97	5.77	5.52
710-5020	LTC-7P*	3.5	750 mAh	1.20 (30.48)	.70 (17.78)	.35 (8.89)	9.0	6.65	6.14	5.92	5.67
710-5025	LTC-7PMP*	3.5	1500 mAh	1.50 (38.10)	1.20 (30.48)	.35 (8.89)	9.0	14.73	13.59	13.44	12.87
710-5040	LTC-16P/T†	3.5	1600 mAh	1.44 (36.55)	.53 (13.46)	.55 (13.46)	16.0	8.63	7.96	7.70	7.37
710-3015	LTC-16P-CO-F-S11**	3.5	1600 mAh	1.86 (47.24)	.66 (16.76)	.70 (16.76)	25.0	8.20	7.92	7.10	6.30

*Standard terminal is .03" (.76 mm) diameter positive and negative. **Terminals .020 sq pins on 1.7" centerlines. †Terminals .005" (.127 mm) × .125" (3.17 mm) tab.

Magnum Lithium Batteries

Stock No.	Mfr.'s Type	Working Voltage	Capacity 350 Hr. Rate	Length In. (mm)	Width In. (mm)	Thickness In. (mm)	Wt. g	1-9	10-49	50-99	100-499
710-4000	LTC-16M	3.5	1600 mAh	1.71 (43.43)	.99 (25.15)	.37 (9.40)	20.0	9.25	8.84	8.44	8.08
710-4005	LTC-16M-S2	3.5	1600 mAh	1.50 (38.10)	.90 (22.86)	.28 (7.11)	16.0	9.42	8.67	8.28	7.92
710-4010	LTC-16M-MS-S1	7.0	1600 mAh	1.92 (48.77)	1.03 (26.16)	.68 (17.27)	45.0	18.69	17.89	17.08	16.35

Computer Memory Backup Battery

Selection Guide

Timekeeper™ Battery	Fits Computer
EP-5242 EP-5242/W EP-5253 EP-5257 EP-5280	AT&T 3B Kapro IBM PC/AT, PC Limited, AST-286, HP Vectra, NCR-PC8, Samsung 3001, Pro Exec. 286 Tandy 3000, Epson Equity Compaq Desk Pro 286, Portable 286



EP-5242W



EP-5253

Cell Capacity at 350 Hr. Rate: 1600. Length: 1.90". 3 year warranty.

Stock No.	Mfr.'s Type	Working Voltage	Molex Conn. or Equal	Pin Polarization				Diode	Resistor	Wt. Grams	EACH			
				1	2	3	4				1-9	10-49	50-99	100-499
710-3020	EP-5242 ¹	3.50	22-41-4033	Neg.	0*	Pos.	X**	N/A	N/A	30	13.10	12.65	11.35	10.07
710-3030	EP-5242 ¹	3.50	50-57-9004	Pos.	Key	0*	Neg.	N/A	N/A	30	13.45	12.99	11.65	10.34
710-3040	EP-5253 ²	6.80	50-57-9004	Pos.	Key	0*	Neg.	1N914	39K	53	20.75	20.03	18.00	15.95
710-3050	EP-5257 ²	6.80	22-01-3047	Pos.	Key	0*	Neg.	1N914	30K	53	20.75	20.03	18.00	15.95
710-3060	EP-5280 ²	6.80	22-41-4043	Pos.	Key	0*	Neg.	(2)1N914	11K	53	20.75	20.03	18.00	15.95
710-3000	LTC-16P-CO-F-S7 ¹	3.50	22-01-3037	Pos.	Neg.	0*	X**	N/A	N/A	30	14.80	14.28	12.83	10.40

*0 is blank. **3-pin connector. ¹Width: .70"; Thick: .72". ²Width: 1.30"; Thick: .70".

Rechargeable Lead-Calcium Batteries

- Electrolyte Non-Gelled – 100% Capacity Delivery First Cycle
- Stand-By or Cyclic Service
- No Memory

- Maintenance-Free
- Lead Calcium Grid
- Rechargeable
- Interchangeable

- Use In Any Position
- Compact and Lightweight
- Optional Terminal Orientation Available
- Dual Seal

Carefree

Stock No.	Mfr.'s Type	Nom. Volt	Standard Terminal	Normal Cap. AH 20 HR.	Dimensions (Inches)				EACH			
					L	W	H	Including Term.	1-9	10-49	50-99	100-Up
710-0613	CF4V15	4	†	15.00	5.27	1.78	6.80	7.12	57.49	55.52	49.82	45.02
710-0611	CF6V1/2	6	†	0.45	1.92	1.00	2.00	2.25	8.03	7.76	6.96	6.29
710-0601	CF6V1	6	A	0.90	2.00	1.65	1.97	2.20	10.28	9.93	8.91	8.05
710-0626	CF6V2.6	6	A	2.60	5.30	1.35	2.37	2.56	16.28	15.72	14.11	12.75
710-0653	CF6V5.3	6	C	5.60	5.22	1.85	3.08	3.08	19.49	18.82	16.89	15.26
710-0608	CF6V8	6	C	8.00	6.00	2.00	3.75	3.93	16.81	16.24	14.57	13.17
710-0609	CF6V9	6	*	9.00	4.25	2.75	5.50	5.50	14.89	14.38	12.90	11.66
710-0614	CF6V9.5	6	*	9.50	4.25	2.75	5.50	5.50	16.81	16.24	14.57	13.17
710-0616	CF6V9.5-S4	6	†	9.50	4.25	2.75	5.52	5.52	20.56	19.86	17.82	16.10
710-0617	CF6V9.5-S22	6	†	9.50	4.25	2.75	5.52	5.52	21.66	20.91	18.77	16.96
710-0619	CF6V9.5-S24	6	†	9.50	4.25	2.75	5.52	5.52	20.56	19.86	17.82	16.10
710-0615	CF6V15	6	†	15.00	3.60	3.34	6.49	6.70	30.35	29.30	26.31	23.68
710-0630	CF6V30	6	C	28.00	6.25	3.35	6.50	6.75	49.80	48.07	43.18	38.90
710-0650	CF6V50	6	**	50.00	7.43	4.52	7.46	8.37	77.60	75.10	67.45	60.75
710-0806	CF8V6	8	C	6.00	3.34	2.15	6.50	6.66	25.17	24.30	21.82	19.68
710-1203	CF12V1/2L	12	A	0.45	3.85	1.00	2.00	2.25	15.90	15.35	13.79	12.87
710-1214	CF12V1.5	12	A	1.50	7.02	1.33	2.40	2.60	27.35	26.40	32.71	21.36
710-1226	CF12V2.6S1	12	A	2.60	5.28	2.52	2.30	2.48	26.92	25.99	23.34	21.12
710-1251	CF12V5L	12	C	5.20	6.12	2.42	3.94	4.16	29.65	26.01	23.37	21.15
710-1208	CF12V8	12	C	8.00	6.00	4.03	3.75	3.93	33.42	32.26	28.97	26.09
710-1210	CF12V9L	12	*	9.00	8.52	2.75	5.50	5.50	28.80	27.80	24.97	22.50
710-1211	CF12V9.5	12	*	9.50	5.53	4.25	5.50	5.50	34.70	33.51	30.07	27.17
710-1217	CF12V9.5L	12	*	9.50	8.52	2.75	5.50	5.50	34.70	33.51	30.07	27.17
710-1215	CF12V15	12	C	15.00	7.22	3.34	6.49	6.70	62.60	60.43	54.27	48.90
710-1220	CF12V20	12	C	22.00	6.51	4.91	6.53	6.75	68.72	66.34	59.58	50.70
710-1231	CF12V30L	12	C	28.00	10.04	4.31	6.50	6.75	117.01	113.00	101.40	91.63
710-1801	CF18V1	18	A	0.90	4.90	2.00	1.97	2.20	29.45	28.43	25.62	25.53

Carefree Magnum

710-0406	CFM4V4.6	4	A	4.60	1.87	1.89	4.02	4.22	9.05	8.74	7.85	7.03
710-0410	CFM4V10	4	C	9.50	4.03	2.00	3.75	3.93	13.70	13.22	11.88	11.28
710-0620	CFM6V3	6	A	3.00	5.30	1.35	2.37	2.56	16.28	15.72	14.11	12.75
710-0646	CFM6V4.6	6	A	4.60	2.76	1.89	4.02	4.22	10.60	10.24	9.19	8.30
710-0621	CFM6V6.4	6	C	6.40	5.22	1.85	3.08	3.08	11.69	11.32	10.32	9.74
710-0606	CFM6V6.5	6	C	6.50	6.00	1.34	3.75	3.95	13.17	12.72	11.42	10.32
710-0610	CFM6V10	6	C	9.50	6.00	2.00	3.75	3.93	13.68	13.24	12.63	12.07
710-0622	CFM6V12.5	6	*	12.50	4.25	2.75	5.50	5.50	19.17	18.51	16.61	15.01
710-0618	CFM6V18	6	C	18.00	3.60	3.34	6.49	6.70	30.70	29.71	28.34	27.09
710-0633	CFM6V33	6	C	33.00	6.25	3.35	6.50	6.75	47.46	45.93	43.81	41.88
710-0632	CFM12V3	12	A	3.00	5.28	2.52	2.30	2.48	28.91	27.92	25.06	22.64
710-0623	CFM12V4.6M	12	A	4.60	3.55	2.76	4.01	4.25	23.35	22.55	20.23	18.28
710-0624	CFM12V4.6L	12	A	4.60	5.54	1.89	4.02	4.25	23.35	22.55	20.23	18.28
710-0625	CFM12V6.4	12	C	6.40	5.22	3.72	3.08	3.08	44.76	43.23	38.79	35.06
710-1265	CFM12V6.5	12	A	6.50	5.95	2.58	3.75	3.95	23.27	22.52	21.48	20.53
710-1262	CFM12V6.2L	12	C	6.20	6.12	2.42	3.94	4.16	26.52	25.66	24.48	23.40
710-0628	CFM12V10	12	C	9.50	6.00	4.00	3.75	3.93	35.77	34.54	31.00	28.01
710-0629	CFM12V12.5	12	*	12.05	5.53	4.25	5.50	5.50	40.48	39.09	35.08	31.70
710-0631	CFM12V12.5L	12	*	12.50	8.52	2.75	5.50	5.50	40.48	39.09	35.08	31.70
710-1218	CFM12V18	12	C	18.00	7.21	3.34	6.49	6.70	62.64	60.62	57.82	55.27
710-1225	CFM12V25	12	C	25.00	6.51	4.91	6.53	6.75	67.66	65.47	62.45	59.70
710-1233	CFM12V33	12	C	33.00	6.72	6.25	6.50	6.75	95.47	92.39	88.12	84.23

Carefree UPS

710-2610	CF6V10UPS	6	C	10.00	6.00	2.00	3.75	3.93	20.13	19.48	18.58	17.76
710-2618	CF6V18UPS	6	**	18.00	3.60	3.34	6.49	7.33	44.55	43.02	38.61	34.89
710-2633	CF6V33UPS	6	**	33.00	6.25	3.35	6.40	7.34	71.32	68.88	61.81	55.85
710-2660	CF6V100UPS	6	**	60.00	7.42	4.51	7.42	8.32	90.49	87.39	78.42	70.87
710-2210	CF12V10UPS	12	C	10.00	6.00	4.00	3.75	3.75	39.20	37.85	33.97	30.69
710-2218	CF12V18UPS	12	**	18.00	7.22	3.34	6.49	7.33	75.61	73.01	65.52	59.21
710-2225	CF12V25UPS	12	**	25.00	6.51	4.91	6.50	7.37	73.68	71.15	63.85	57.70
710-2233	CF12V33UPS	12	**	33.00	6.72	6.25	6.40	7.34	120.58	116.45	104.50	94.43

Carefree HE Series

710-2663	HE6V7.7	6	A	7.70	5.95	1.35	3.69	3.88	14.79	14.28	12.82	11.58
710-2664	HE6V12.7	6	A	12.70	5.95	1.97	3.69	3.88	17.84	17.23	15.46	13.97
710-2665	HE12V7.7	12	A	7.70	5.95	2.53	3.69	3.88	23.49	22.69	20.36	18.40
710-2666	HE12V12.7	12	A	12.70	5.95	3.94	3.69	3.88	48.44	46.78	41.98	37.94

*Standard is recessed terminals, negative is .187" wide x .03" thick; positive is .250" x .03" thick. **Lead terminals .50" length x .18" width x .92" height with .25" diameter hole through the terminal. †Cylindrical lead post, .19" diameter, .32" tall. ‡Wire lead and connector for ride-on toy.

Carefree Chargers

Stock No.	Mfr.'s Type	Charger Voltage	Normal Current	Terminal Type	EACH		
					1-24	25-99	100-Up
710-7001	PNP694A	15.0	500 mA	Cigar Adapter	14.95	13.45	12.25
710-7650	CFC6V500F	6.9	500 mA	Alligator Clip	28.30	27.39	26.12
710-7620	CFC6V2000F	6.9	2 A	Alligator Clip	69.78	67.53	64.41
710-7655	CFC12V500F	13.9	500 mA	Alligator Clip	33.15	32.08	30.60
710-7656	CFC12V500C	15.1	500 mA	Alligator Clip	33.15	32.08	30.60

For Use In:

- Security Systems
- Emergency Lighting Systems
- Computer Stand-by
- Portable TVs and Radios
- Electronic Cash Registers
- UPS Systems
- Portable Medical Equipment
- Telephone Equipment
- Toys
- And Many Others

Carefree



Terminals

"A" TERMINAL
Tin-Plated Brass, Tab-Type
.187" x .031" 15°
Standard On .5, 1, 1.5, 2.6,
4, 4.6 AH Batteries
Optional On
Other Batteries



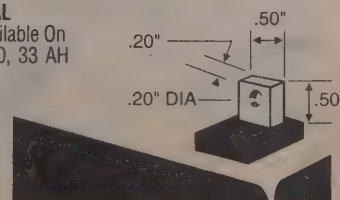
"B" TERMINAL
Tin-Plated Brass, Tab-Type
.250" x .031" 90°
Standard on All Single
Cell Batteries Optional
On Other Batteries



"C" TERMINAL
Tin-Plated Brass, Tab-Type
.250" x .031" 15° Standard on 4.5,
5, 5.3, 5.5, 6, 8, 10, 15, 18, 20,
25, 30 and 33. All Batteries
Optional On Other Batteries

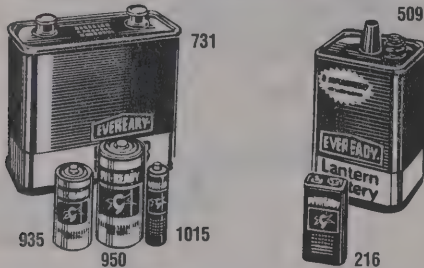


"P" TERMINAL
Cast Lead Available On
12, 20, 25, 30, 33 AH
Batteries



Energizer Alkaline Batteries

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Size	Common Use	EACH
729-0304	E90	910A	1.5	11.95 Dia. x 29.35	N	Photo-Cal.	1.08
729-5173	E91	15A	1.5	14.3 Dia. x 50.5	AA	Photo-Gen.	1.08
729-0303	E92	24A	1.5	10.5 Dia. x 44.5	AAA	Photo-Cal.	1.08
729-5172	E93	14A	1.5	26.2 Dia. x 50.0	C	Instrument	1.52
729-5171	E95	13A	1.5	34.15 Dia. x 61.1	D	Instrument	1.52
729-0096	E96-BP-2	25A	1.5	8.3 Dia. x 42.5	AAAA	Photo-Gen.	2.05
729-0522	522	1604A	9.0	26.2 x 16.65 x 48.4	9V	Smoke Alarm	3.03
729-6004	521	—	6.0	136.5 x 73.0 x	Lantern	Lantern	19.09
729-0523	523BP	1306A	4.5	125.4	Cylindrical	Photo Smoke	3.17
729-0526	529	—	6.0	16.85 Dia. x 49.95	6V SQ	Lantern	8.86
729-0527	539BP	—	6.0	66.7 x 66.7 x 115.0	J-Size	Remote Control	2.92



General Purpose Carbon-Zinc Batteries

Long-life carbon-zinc batteries are most popular for portable power. Available in most standard sizes. For use in industrial, electronic, transistor, and many other applications. Specially sealed to provide protection in handling and against corrosive leakage. Sturdy construction. Long dependable service, even over a wide range of temperatures, plus peak performance at all times.

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Size	Common Use	EACH
729-2005	509	908	6.0	2 5/8 x 2 5/8 x 4 7/16	6V SQ	Lantern	2.88
729-6037	935	14F	1.5	C 1 1/2 x 1 15/16	General Purpose		.46
729-6038	950	13F	1.5	D 1 1/2 x 2 13/32	General Purpose		.46
729-6014	1015	15F	1.5	AA 9/16 x 1 31/32	General Purpose		.40
729-6039	216	1604	9.0	1 1/2 x 2 1/2 x 1 29/32	Transistor Radio		.92
729-6002	731	918	6.0	—	Lantern		8.11

Super Heavy Duty (Zinc Chloride) Batteries

*Price per blister pack of 2 batteries.

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Replaces	Common Use	EACH
729-0781	1215	15D	1.5	AA 9/16 x 1 1/2	5AA	HD General Purpose	.54
729-0780	1222	1604D	9.0	1 1/2 x 1 1/4 x 1 15/16	D1604	HD General Purpose	1.57
729-0782	1235BP-2	14D	1.5	1 15/16	4C	HD General Purpose	1.40*
729-0783	1250BP-2	13D	1.5	C 1 1/2 x 1 15/16	6D	HD General Purpose	1.40*
729-0786	1212	24D	1.5	D 1 1/2 x 2 13/32	AAA	HD General Purpose	.49
729-0784	1209	908D	6.0	1 3/4 x 1 3/4	944	Lantern	3.78
729-0785	1231	918D	6.0	2 5/8 x 2 5/8 x 4 13/32	TW1X	Lantern	9.98



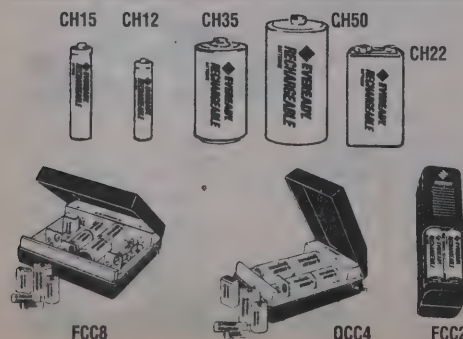
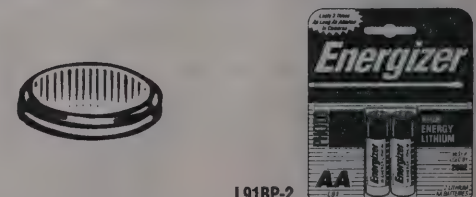
Industrial Batteries



Stock No.	Mfr.'s Type	NEDA	Volts	Description	Size	Common Use	EACH
729-4095	EN95	13A	1.5	D Alkaline Battery	D	Industry	1.49
729-4093	EN93	14A	1.5	C Alkaline	C	Industry	1.34
729-4091	EN91	15A	1.5	AA Alkaline	AA	Industry	.88
729-4092	EN92	24A	1.5	AAA Alkaline	AAA	Industry	.89
729-4097	EN22	1604A	9.0	9V Alkaline	9V	Industry	2.62
729-5000	EV150	13CD	1.5	D HD Flashlight Battery	D	Industry	.55
729-4027	EV135	14CD	1.5	C HD Flashlight Battery	C	Industry	.52
729-4099	EV50	13C	1.5	D Flashlight Battery	D	Industry	.49
729-4098	EV35	14C	1.5	C Flashlight Battery	C	Industry	.45
729-4096	EV15	13C	1.5	AA Penlite	AA	Industry	.34
729-4090	EV90	908C	6.0	Lantern Battery	6V SQ	Industry	3.00
729-4031	EV31	918C	6.0	6V Carbon Zinc Lantern	6V SQ	Industry	8.77
729-4025	EV122	1604CD	9.0	9V Carbon Zinc Lantern	9V	Smoke Detector	1.32
729-4026	EV10S	915C	6.0	6V Screw Terminal	6V SQ	Spotlights	3.92

Lithium Batteries

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Replaces	Common Use	EACH
729-6055	L91BP-2	15LF	1.5	14.3 Dia. x 50.5	AA, E91, EN91	Photo, Instrument	5.60
729-6005	E-CR1616BP	5021LC	3.0	.625 x .062	CR1616	Watch-Calculator	1.49
729-6006	E-CR1620BP	5009LC	3.0	.624 x .078	CR2016	Watch-Calculator	1.15
729-6010	E-CR2016	5000LC	3.0	.787 x .063	DL2016	Watch-Calculator	1.15
729-6011	E-CR2025	5003LC	3.0	.787 x .098	DL2025	Watch-Calculator	1.15
729-6012	E-CR2032	5004LC	3.0	.787 x .126	DL2032	Watch-Calculator	1.15



Rechargeable Nickel-Cadmium Batteries and Chargers

Batteries can be stored charged or uncharged. Capacity of Nickel-Cadmium batteries is expressed in average ampere hours, and stays relatively fixed over a wide range of discharge currents. Rechargeable batteries actually cost less to use per ampere hour than throwaway batteries. End of cycle life is considered to be the point where the battery no longer provides 80% of rated capacity. One hour recharge system available. Call for information.

Stock No.	Mfr.'s Type	Size	Volts	Capacity	Dimensions Inches	Replaces	EACH
729-6013	CF15	AA	1.2	500mAh	14.5 Dia. x 50.5	—	4.52
729-6015	CH15	AA	1.2	500mAh	14.5 Dia. x 50.5	GC3	3.45
729-6065	CH12BP2	AAA	1.2	180mAh	10.5 Dia. x 44.5	GE3A	6.89
729-6017	CH35	C	1.2	1.2Ah	26.2 Dia. x 50.0	GC2	4.32
729-6018	CH50	D	1.2	1.2Ah	34.2 Dia. x 61.5	GC1	4.32
729-4022	CH22	7.2	7.2	80mAh	26.5 x 16.9 x 48.5	—	8.65
729-6007*	FCC2	—	—	4-AA/AAA	—	—	10.14
729-6008*	QCC4	—	—	1-4 C, D or 1-8 AA, AAA or 1-2 9V	—	—	17.58
729-6070*	FCC8	—	—	8-AA, AAA, C, D or 4 9V	—	—	18.75

*5 Hour Charger.

Batteries

All the batteries listed below are guaranteed fresh when they leave our stock and carry additional manufacturer's guarantees. Made to high standards and fully inspected, these batteries are of the highest quality. Equivalent NEDA numbers are included in tables for your convenience.

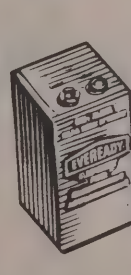
Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions	Replaces	Common Use	EACH
729-0023	A23BP	1811A	12.0	10.3 Dia. x 28.5 mm	MN21	Electronic	2.25
729-6024	A76BP	1166A	1 1/2	11.6 x 5.36 mm	—	Photo	.89
729-6029	186BP	1167A	1 1/2	.455 x .165	—	Watch/Calculator	.72
729-6030	189BP	1168A	1 1/2	.455 x .118	—	Watch/Calculator	.72
729-6031	206	1611	9	3/4 x 2	M1611	Trans. Radio	4.51
729-6033	EL223APBP	5024LB	6	1.32 x .76 x 1.40	K223L	Photo	12.15
729-6032	226	1600	9	1 x 1 15/16	P6	Trans. Radio	7.43
729-0790	246	1602	9	1 3/8 x 1 3/8 x 2 3/4	2N6	Trans. Radio	8.23
729-6034	266	1605	9	1 1/16 x 1 13/16 x 2 7/16	M1605	Trans. Radio	10.58
729-0791	276	1603	9	2 9/16 x 2 x 3 5/32	D6	Trans. Radio	12.23
729-1000	301BP	1132SO	1.5	4 9/16 x 1 19/32	RW34	Watch/Calculator	.94
729-1001	303BP	1130SO	1 1/2	Button Cell	303	Watch/Calculator	1.08
729-1003	357BP	1131SO	1 1/2	Button Cell	357	Watch/Calculator	1.06
729-0377	377BP	1176SO	1.5	Button Cell	377	Watch/Calculator	.72
729-1005	386BP	1133SO	1 1/2	Button Cell	386	Watch/Calculator	.77
729-0389	389BP	1138SO	1 1/2	Button Cell	389	Watch/Calculator	.65
729-1006	391BP	1160SO	1.5	4 9/16 x 1 13/16	391	Watch/Calculator	.66
729-1007	392BP	1135SO	1 1/2	Button Cell	392	Watch/Calculator	.46
729-1008	362BP	1158SO	1.5	Button Cell	D362	Watch/Calculator	.65
729-1009	364BP	1175SO	1.5	Button Cell	D364	Watch/Calculator	.57
729-1010	396BP	1163SO	1.5	Button Cell	D396	Watch/Calculator	.65
729-1011	393BP	1137SO	1 1/2	Button Cell	RW48	Watch/Calculator	.72
729-0580	411	208	15	1 1/32 x 5/8 x 1 29/64	U10	Inst.	7.23
729-0590	412	215	22 1/2	1 1/32 x 5/8 x 2	U15	Inst.	5.78
729-1013	413	210	30	1 1/32 x 5/8 x 2 9/16	U20	Inst.	8.31
729-0610	415	213	45	1 3/64 x 5/8 x 3 11/16	U30	Inst.	12.54
729-1014	416	217	67 1/2	1 21/64 x 63/64 x 3 1/2	UX45	Inst.	16.20
729-1455	455	201	45	2 31/32 x 1 x 3 11/16	XX30	B Radio	17.74
729-0670	467	200	67 1/2	2 13/16 x 1 3/8 x 3 45/64	XX45	B Radio	24.51
729-0489	489	728	225	4 11/32 x 2 11/16 x 4 3/16	XX150	Photo	69.82
729-0640	490	204	90	3 33/32 x 1 3/8 x 3 45/64	V60	Photo	34.77
729-1019	497	741	180	3 x 1 19/32 x 5 5/8	U320	Photo	70.82
729-0690	504	220	15	39/64 x 19/32 x 1 3/8	Y10	Inst.	4.68
729-0700	505	221	22 1/2	19/32 x 19/32 x 1.975	Y15	Inst.	5.82
729-1020	A544BP	1414A	6	.510 x .990	PX28	Photo	3.42
729-1026	706	902	6	8 5/16 x 2 15/16 x 6 7/16	4F4H	Emergency	33.12
729-1027	711	700	1 1/2	2 5/8 x 1 9/16 x 4 1/32	2FH	Glo-Plug	12.15
729-0814	715	903	7 1/2	7 1/4 x 4 1/16 x 6 7/16	4F5H	Emergency	29.23
729-1028	716	904	9	8.570 x 4.053 x 5.874	4F6H	Emergency	32.31
729-6003	732	926	12	5 3/8 x 2 7/8 x 4 15/16	TW2	Lantern	11.92
729-0812	735	900	1 1/2	2 5/8 x 2 5/8 x 4 15/16	4FM	Glo-Plug	5.54
729-0970	763	710	22 1/2	3 1/2 x 2 3/32 x 3 1/16	4156	Instrument	21.88



206



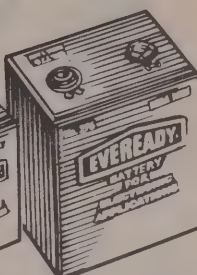
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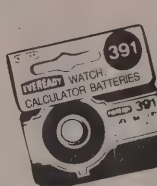
246



266



276



391BP



392BP



393BP



415



467

Flashlights and Lanterns



331Y



5109IND



4250IND



330Y



208IND



3251WH



1151



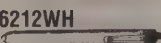
1251



1259



1351



6212WH

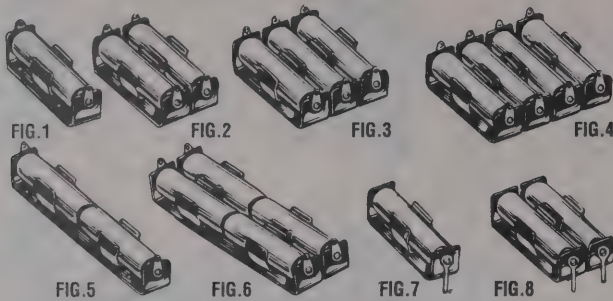
Stock No.	Mfr.'s Type	Description	EACH
729-0902	330Y	2 D-Cell Flashlight	2.31
729-0906	331Y	2 D-Cell with Magnet	2.94
729-0930	1151	2 AA-Cell Heavy Duty	2.94
729-0907	1251	2 D-Cell Heavy Duty	3.92
729-0935	1351	3 D-Cell Heavy Duty	4.69
729-0940	5109IND	6V Floating Lantern	3.51
729-0908	208IND	Heavy Duty Floating Lantern	6.15
729-0912	209H-S	Halogen Lantern	13.48
729-0914	3251D	Economy Flashlight	1.20
729-0901	1259	2 D Flashlight — Explosion Proof	6.02
729-0915	4250IND	2 D Rubber	6.02
729-0945	R215WBS	2AA Rubber with Batteries	4.43
729-0910	3251WH	2 D Hospital White	1.26
729-0911	6212WH	White Penlight — 2 AAA	2.03
729-0965	X250BP	2 D-Cell Accuspot Premium Light	13.49
729-0975	X215WBE	2 AA Personal Light with E91 Batteries	7.77
729-0980	X112WBE	1 AAA Cell Accuspot Micro Beam	5.58

Flashlight Bulbs

Stock No.	Mfr.'s Type	Primary Purpose	Base†	# Per Pack	Amps	EACH
729-3000	PR2BP-2	2 D-Cell Flashlight Bulb	F	10	.50	1.02
729-3002	PR3BP-2	3 D-Cell Flashlight Bulb	F	10	.50	1.03
729-3004	PR4BP-2	2 C-Cell Flashlight Bulb	F	10	.27	1.03
729-3020	HPR50BP	Halogen 6V Lantern Bulb	F	10	1.00	2.97
729-3025	HPR52BP	Halogen 2 D-Cell Bulb	F	10	.70	2.97
729-3030	KPR102BP-2	Krypton 2 D-Cell Bulb	F	10	.50	2.05

†F=Flanged.

2 Aluminum Battery Holders



For alkaline, carbon, zinc, mercury, nickel and lithium cells. Brass eyelets are nickel plated. Brass lugs are tin plated. Frame and clip are 2024-ST 4 Aluminum. Moisture proof, resin impregnated, fibre insulating washers. Good electrical contact; low leakage current. Features snap-fit clips.

"AAA" CELL HOLDERS (CELL SIZE $\frac{375}{468}$ O.D. $\times$ $\frac{1.673}{1.752}$ H)

Stock No.	Mfr.'s Type	Holds No. of Cells	Fig.	EACH		
				1-99	100-499	500-Up
839-2000	137	1	1	1.03	.96	.82
839-2001	138	2	2	1.81	1.60	1.44

"AA" CELL HOLDERS (CELL SIZE $\frac{531}{565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)

839-2002	139	1	1	.68	.62	.53
839-2003	140	2	2	1.33	1.25	1.07
839-2004	171	3	3	2.12	1.90	1.71
839-2005	182	4	4	3.03	2.84	2.41
839-2006	189	2	5	1.07	.99	.85
839-5100	2222**	1	7	.89	.83	.70
839-5105	2223**	2	8	1.42	1.40	1.19

"C" CELL HOLDERS (CELL SIZE $\frac{875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)

839-0173	173	1	1	.81	.76	.65
839-2007	174*	2	2	1.42	1.33	1.13
839-2008	187	3	3	2.95	2.63	2.34

"D" CELL HOLDERS (CELL SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)

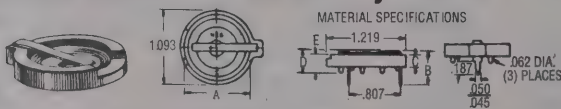
839-5070	175	1	1	.92	.86	.73
839-2009	176†	2	2	1.67	1.55	1.32
839-2010	190	3	3	3.65	3.28	2.90
839-2011	186	2	5	1.42	1.33	1.13
839-2012	200†	4	6	2.58	2.31	2.06

"N" CELL HOLDERS (CELL SIZE $\frac{375}{468}$ O.D. $\times$ $\frac{1.110}{1.189}$ H)

839-2013	154	1	1	.83	.79	.67
839-2014	155	2	2	1.74	1.62	1.38

* "C" Cell Holders—Dual #97 Clips Used. ** With PC Lugs. † "D" Cell Holders—Dual #98 Clips Used.

3 and 6 Volt Lithium Coin Cell Battery Holders



Single Cell Holder (3-Volt). Single and Dual Cell Holders designed for Lithium Coin Cells. An advanced, low profile, coin cell holder for 3 and 6 volts that accommodates 20 to 24mm (dia.) Lithium batteries with 1.6 to 5.0 mm (hts.). Mounts directly to printed circuit boards and features new air-flow design-support legs for easy, safe, flow soldering. Battery insertion is quick and easy. The nickel-plated spring steel contacts have clearly marked polarities. Made of UL approved, glass-filled Nylon, 94V-0.

Dual Cell Holder (6-Volt). Special feature: All holders have the same outside diameter and mounting configurations. This permits change of design to accommodate larger or smaller capacity batteries without altering the PC boards.

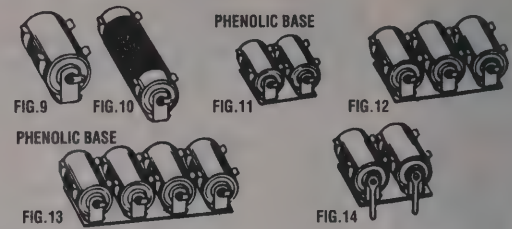
3-Volt Single Cell Holders

Stock No.	Mfr.'s Type	Number of Cells	Dimensions					EACH	
			A	B	C	D	E	1-99	100-499
839-3000	104	1	.911	.513	.195	.335	.295	.67	.61
839-2030	105	1	.985	.513	.195	.335	.295	.67	.61
839-2031	106	1	.796	.513	.195	.335	.295	.67	.61
839-2032	107	1	.895	.513	.195	.335	.295	.67	.61

6-Volt Dual Cell Holders

839-1025	1025	2	.985	.630	.312	.452	.412	.73	.67
839-1026	1026	2	.796	.630	.312	.452	.412	.73	.67
839-1027	1027	2	.895	.630	.312	.452	.412	.73	.67

Steel Battery Holders



- Corrosion Resistant Nickel Plated
- Moisture Proof Resin Impregnated, Fibre Insulating Washers
- Stainless Steel Contacts
- Ideal For Nid Alkaline, Mercury, Carbon, Zinc and Lithium Cells

Available selection styles accommodate 1 to 4 batteries. Made of rugged, nickel plated steel. Batteries held under constant spring tension for low contact resistance. All contacts fully insulated.

"AA" CELL HOLDERS (CELL SIZE $\frac{531}{565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)

Stock No.	Mfr.'s Type	Holds No. of Cells	Fig.	EACH		
				1-99	100-499	500-Up
839-2015	2139	1	9	.91	.77	.61
839-2016	2140	2	11	1.70	1.57	1.34
839-2017	2171	3	12	2.54	2.25	2.00
839-2018	2182	4	13	3.23	2.86	2.56
839-5135	2229*	2	14	1.70	1.49	1.34

"C" CELL HOLDERS (CELL SIZE $\frac{875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)

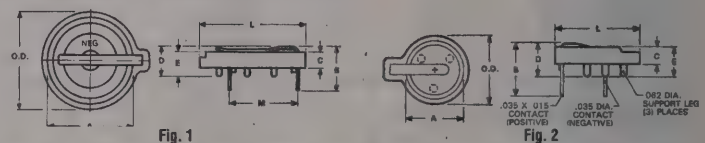
839-2019	2173	1	9	1.12	1.05	.89
839-2020	2174	2	11	2.25	2.01	1.78
839-2021	2187	3	12	3.21	2.85	2.55
839-2022	2188	4	13	4.22	3.76	3.34

"D" CELL HOLDERS (CELL SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)

839-2023	2175	1	9	1.36	1.28	1.09
839-2024	2176	2	11	2.56	2.27	2.02
839-2025	2190	3	12	3.68	3.31	2.93
839-2026	2192	4	13	5.67	5.08	4.51
839-5025	2186**	2	10	1.84	1.64	1.46

* With PC Lugs. ** Insulator Tubes Included.

Coin Cell PC Battery Holders



Single and Dual "Printed Circuit" Cell Holders for Lithium Coin Cells. Designed for easy battery replacement. Will accommodate diameters from 12mm to 30mm and heights from 1.6mm to 7.7mm. Some holders will accept more than two cells if they fall within the heights specified.

Stock No.	Mfr.'s Type	Fig.	No. of Cells	Dimensions								EACH	
				A	B	C	D	E	L	O.D.	M	1-99	100-499
839-0500	500	2	1	.495	.435	.150	.312	.250	.750	.593	.393	1.08	.92
839-0501	501	2	2	.495	.565	.250	.400	.350	.750	.593	.393	1.19	1.01
839-0502	502	2	1	.635	.460	.150	.312	.250	.897	.750	.463	1.08	.92
839-0103	103	1	1	.796	.513	.195	.335	.295	1.116	.896	.807	.67	.61
839-0257	1025-7	1	1	.985	.681	.312	.503	.412	1.219	1.093	.807	.73	.67
839-0301	301	1	1	1.187	.513	.195	.335	.295	1.425	1.297	.807	.67	.61

Surface Mount Coin Cell Battery Holders



- Low Profile for High Density Packaging
- Clearly Marked Polarities
- UL Approved Material
- Light Weight, Rugged Construction
- Temperature Range: -60°F to +540°F
- Battery Replacement Quick and Easy
- Accepts 20mm Dia. Batteries from All Major Manufacturers
- Slotted Tails for Higher Solder Joint Strength
- For Memory Back-up Application
- Ideal for Pick-and-Place SMT Assembly
- Bosses for Positive Orientation

Small Foot Print

Stock No.	Cat. No.	Cells	Dimensions		Battery	EACH	
			A	B		1-99	100-499
839-1061	1061	1	.286	.256	2032 2025 2016*	.90	.81
839-1062	1062	2	.406	.375		.90	.81

Large Foot Print

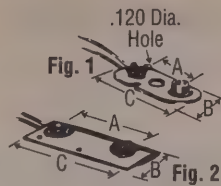
839-1063	1063	1	.286	.256	2032 2025 2016*	.90	.81
839-1064	1064	2	.406	.375		.90	.81

* #1061 and 1063 (1 or 2 cells); #1062 and 1064 (3 cells).

Battery Holders and Clips

Battery Straps

For all standard "9 Volt" batteries (as listed in table below). Corrosion resistant; low electrical contact resistance. Male and female snap contacts are steel, nickel plated. Female contacts are heat treated to spring temper. Maintains constant spring tension. Wires have tinned copper conductors (22 gauge, 7/30 pre-bond with PVC insulation); wire leads firmly soldered to contacts. Rated to 80°C and 300V. Meets U.L. Style 1061.



Stock No.	Mfr.'s Type	Fig.	A	B	C	Length of Wire 3/8" Strip	EACH		
							1-99	100-499	500-Up
839-2027	68	1	.500	.535	1.030	None	.18	.15	.13
839-2028	72	1	.500	.535	1.030	6.50	.52	.49	.42
839-2029	83	2	.500	.565	1.875	6.50	.72	.68	.57



"9 Volt" Snap-in Battery Holder

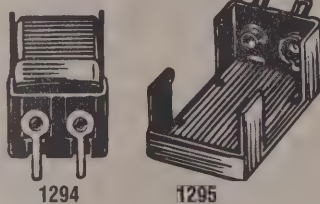
For use with standard "9 volt" batteries. Battery snaps in place to insure positive contact. For use where severe shock and vibration occur. Available with standard solder lugs or printed circuit lugs. Aluminum frame; brass hot tin solder and PC lugs; steel nickel plate contacts and clips; resin impregnated fibre insulation.

Stock No.	Mfr.'s Type	EACH		
		1-99	100-499	500-Up
839-4050	1290*	1.14	1.06	.90
839-4055	1291**	1.18	1.11	.94

*Solder Lugs. **PC Lugs.

Universal 9 Volt Battery Holders

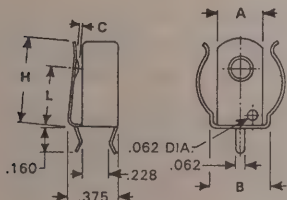
- Male-Female Snap-In Terminals Assure Positive Contact and Proper Polarity
- Excellent Spring Retention — Holds Battery In Place
- Withstands Severe Shock and Vibration
- Durable, Rugged Construction
- Operating Temperature Range: -40°C to +130°C
- Impervious to Most Industrial Solvents



With printed circuit terminals or combination quick-disconnect solder lug terminals. Holds any size, any shape, standard 9V battery. Eliminates need to specify an exact battery brand, size or shape. Ideal for power source or memory backup use in minicomputers, telecommunications, data processing, security systems, clocks, radios, toys and appliances. **Body:** Molded from high impact, 30% glass filled nylon. **Terminals:** Brass, tin plated. **Contacts:** Steel, nickel plated, highly corrosion resistant.

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-Up
839-1294	1294	W/PC Terminals	.75	.71	.61
839-1295	1295	W/Combo Quick Disconnect solder lug terminals	.72	.68	.58

PC Battery Clips for "A", "AA", "AAA" and "N" Sizes



Mounts directly to PC Board, eliminating need for wiring. Advanced "Snap-In" design assures sturdy, firm positioning during wave soldering procedure. Clip retains battery securely to withstand shock and vibration. Low profile, space saving and economical. Reliable spring tension assures low contact resistance. **Securely Holds:** Duracell, Eveready, Panasonic, Ray-O-Vac, Sony, Varta, Seiko and other major battery manufacturers.

Stock No.	Mfr.'s Type	Size	Diameters	Dimensions						EACH	
				A	B	C	H	L	Mat.	1-99	100-499
839-0082	82	"AAA" and "N"	.375 - .460	.250	.274	.040	.500	.260	.012	.16	.11
839-0092	92	"A" and "AA"	.531 - .665	.312	.353	.060	.593	.359	.015	.16	.11

Printed Circuit Snap-ons ("9 Volt")

Mount directly to printed circuit board. P.C. Male/Female for any standard "9 Volt" Battery. Cut costs by eliminating wiring. Compact Space Saver. **Material:** Frame: Steel, tin plate. **Contacts:** Steel nickel plate.

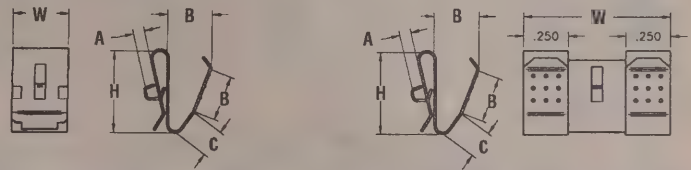


Stock No.	Mfr.'s Type	PER PK/100	
		1-4	5-9
839-0593	593*	17.60	14.90
839-0594	594*	20.90	17.85
839-0635	635*	17.50	14.85
839-0636	636*	21.35	18.15

*On Board Mounting. **Off Board Mounting.

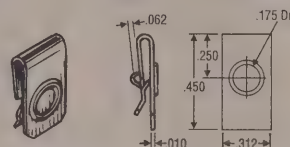
"A", "AA", "AAA", "AAAA" and "N" Battery Snap-On Clips

- Ideal for Molded Cases
- Self-Anchoring
- Snag Free Battery Insertion
- Low Cost



Clips over panels .060-.070 thick, and is anchored by sharp barbs, eliminating the need for special grooves, slots or holes. Spring tension of contact leg provides excellent contact and takes up any variation of battery length. External solder "ear" will hold wire for easy soldering.

Stock No.	Mfr.'s Type	Size	Dimensions						PER PK./100
			A	B	C	H	W	Mat.	
839-0204	204	"AAA", "AAAA" and "N"	.062	.187	.109	.322	.250	.010	11.95
839-2033	209	"A" and "AA"	.062	.250	.150	.449	.312	.012	11.95
839-2034	210	"A" and "AA"	.062	.250	.150	.449	.820	.012	20.65
839-3005	202	"AAA", "AAAA" and "N"	—	.187	.109	.322	.660	.010	20.65



"AA" Positive Snap-on Clip

This clip helps prevent battery from shifting when installed. Battery tip sits securely in the indented contact. Anchors securely by sharp barbs to panel from .060-.070 thick. No grooves, slots or holes needed. External "ear" simplifies soldering. **Material:** Spring tempered steel, nickel plated.

839-0228. 228. 1-4	PER PK/100	9.35
5-9	PER PK/100	7.90

PC Battery Holders for "1/2 AA", "AA" and "2/3 A" Sizes



- Snap-In PC Contact Design Holds In Position for Wave Solderability
- Tin Over Nickel Plated PC Contacts for Excellent Solderability
- Polarity Marking and Orientation
- Low Profile; Space-Saving
- Snap-on Retainer Cover (Optional); Retains Battery Securely to Withstand Severe Shock and Vibration; Helps Protect Against Shorting; Tamper Proof

Specifications. Holder: Glass filled Nylon-UL rated 94V-0. **Contacts:** Spring steel .012 thick. **Plating:** Bright Electro-Tin over Duplex nickel; over copper plate. **Retainer Cover:** ABS, UL rated 94V-0.

Stock No.	Mfr.'s Type	Size and Type	EACH	
			1-99	100-499
839-0108	108	1/2 AA	1.19	1.01
839-0109	108C	Cover only	.31	.24
839-1028	1028	AA	1.19	1.01
839-1018	1028C	Cover only	.52	.46
839-1029	1029	2/3 A	1.19	1.01
839-1030	1029C	Cover only	.52	.46

Nickel-Cadmium Batteries

Wide Variety of Cells

- ▶ Standard
- ▶ Rapid Charge "R"
- ▶ High Temperature "H" Memory Backup
- ▶ High Capacity "E"

Features

- ▶ Rechargeable Sealed Nickel-Cadmium Alkaline Cell
- ▶ Long Shelf Life
- ▶ High-Rate Charging
- ▶ Reliable, Self-Sealing Vent

Applications

- ▶ For Cyclic Use
- ▶ For Trickle or Float Charge Use

The most notable characteristic of these batteries is their ability to be repeatedly used for extremely long periods of time (very often more than five years). The perfect portable power source for this age of energy conservation, Ni-Cd batteries retain most of their initial performance throughout their service life and are used in an increasing number of ways and fields, including

factory, office and home automation systems, information network systems, and others. To satisfy these battery requirements, Panasonic places first priority on high product quality to assure high product reliability. Attention to detail is demanded in this severe quality control system that extends from raw and basic materials procurement to parts and even packaging.

Standard Type

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity C/5 (mAh)	Standard Charge		Quick Charge		Dimensions (with tube)		Approximate Weight oz. (g)	Size	EACH			
				Current (mA)	Time (h)	Current (mA)	Time (h)	Diameter inch (mm)	Height inch (mm)			1-9	10-24	25-49	50-99
884-0860	P-11AA	1.2	110	11	15	27.5	6.0	0.55±0.02 (14.0±0.5)	0.65±0.02 (16.5±0.5)	0.23 (6.5)	113AA	2.35	1.79	1.55	1.42
884-0830	P-15N	1.2	150	15	15	38.0	6.0	0.45±0.02 (11.5±0.5)	1.16±0.02 (29.5±0.5)	0.28 (8)	N	2.81	2.14	1.95	1.78
884-0865	P-15NC	1.2	150	15	15	38.0	6.0	0.45±0.02 (11.5±0.5)	1.12±0.02 (28.5±0.5)	0.28 (8)	N	2.68	2.14	1.95	1.78
884-0790	P-18AAA	1.2	180	18	15	54.0	5.0	0.39±0.02 (10.0±0.5)	1.73±0.02 (44.0±0.5)	0.35 (10)	AAA	2.45	1.80	1.62	1.56
884-0795	P-22AAA	1.2	220	22	15	66.0	5.0	0.39±0.02 (10.0±0.5)	1.73±0.02 (44.0±0.5)	0.35 (10)	AAA	2.69	2.36	2.22	2.09
884-0900	P-50AA	1.2	500	50	15	150.0	5.0	0.55±0.02 (14.0±0.5)	1.95±0.02 (49.5±0.5)	0.78 (22)	AA	2.06	1.82	1.62	1.52
884-0801	P-50AA/FT	1.2	500	50	15	150.0	5.0	0.55±0.02 (14.0±0.5)	1.88±0.02 (47.8±0.5)	0.78 (22)	AA	2.06	1.82	1.62	1.52
884-0905	P-60AA	1.2	600	60	15	180.0	5.0	0.55±0.02 (14.0±0.5)	1.95±0.02 (49.5±0.5)	0.78 (22)	AA	2.55	1.80	1.76	1.62
884-0808	P-60SC	1.2	600	60	15	150.0	6.0	0.69±0.02 (22.5±0.5)	1.02±0.02 (26.0±0.5)	1.02 (29)	2/3SC	4.15	3.16	2.91	2.63
884-0910	P-100C	1.2	1000	100	15	333.0	4.5	1.00±0.02 (25.3±0.5)	1.20±0.02 (30.5±0.5)	1.59 (45)	2/3C	5.18	4.82	4.50	4.23
884-0819	P-220C	1.2	2200	220	15	730.0	4.5	1.00±0.02 (25.3±0.5)	1.94±0.02 (49.3±0.5)	2.65 (75)	C	7.53	6.02	5.47	5.02
884-0915	P-240C	1.2	2400	240	15	1500.0	2.4	1.00±0.02 (25.3±0.5)	1.92±0.03 (48.8±0.7)	2.55 (73)	C	6.58	6.12	5.72	5.36
884-0818	P-400D	1.2	4000	400	15	—	—	1.27±0.03 (32.3±0.7)	2.36±0.04 (59.9±1.0)	4.90 (139)	D	12.68	10.14	9.22	8.45
884-0920	P-500D	1.2	5000	500	15	—	—	1.27±0.03 (32.3±0.7)	2.36±0.04 (59.9±1.0)	5.10 (145)	D	10.58	9.76	9.07	8.81

Rapid Charge "R" Type

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity C/5 (mAh)	Rapid Charge		Dimensions		Approximate Weight oz. (g)	Size	EACH			
				Current (mA)	Time (h)	Diameter inch (mm)	Height inch (mm)			1-9	10-24	25-49	50-99
884-0925	P-30AAR	1.2	300	300	1.5	0.55±0.02 (14.0±0.5)	1.09±0.02 (27.7±0.5)	0.42 (12)	2/3AA	2.29	2.03	1.90	1.78
884-0930	P-45AR	1.2	450	450	1.5	0.65±0.02 (16.5±0.5)	1.10±0.02 (28.0±0.5)	0.63 (18)	2/3Af	3.29	2.91	2.72	2.55
884-0935	P-60AAR/FT	1.2	600	600	1.5	0.55±0.02 (14.0±0.5)	1.88±0.02 (47.8±0.5)	0.78 (22)	AA	2.13	1.89	1.77	1.66
884-0940	P-60SCR	1.2	600	600	1.5	0.89±0.02 (22.5±0.5)	1.02±0.02 (26.0±0.5)	0.95 (27)	2/3SC	3.47	3.07	2.85	2.69
884-0945	P-70AAR	1.2	700	700	1.5	0.55±0.02 (14.0±0.5)	1.95±0.02 (49.5±0.5)	0.78 (22)	AA	2.98	2.77	2.59	2.43
884-0950	P-70AR	1.2	700	700	1.5	0.65±0.02 (16.5±0.5)	1.67±0.02 (42.5±0.5)	0.95 (27)	4/5Af	3.72	3.29	3.08	2.89
884-0955	P-180SCR	1.2	1800	1800	1.5	0.89±0.02 (22.5±0.5)	1.67±0.02 (42.5±0.5)	1.73 (49)	SC	5.18	4.82	4.50	4.23

High Temperature "H" Type

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity C/5 (mAh)	Standard Charge		Dimensions (with tube)		Approximate Weight oz. (g)	Size	EACH			
				Current (mA)	Time (h)	Diameter inch (mm)	Height inch (mm)			1-9	10-24	25-49	50-99
884-0808	P-11AAH	1.2	110	3.7	48	0.55±0.02 (14.0±0.5)	0.66±0.02 (16.8±0.5)	0.23 (6.5)	1/3AA	2.35	1.79	1.55	1.42
884-0965	P-50AAH/FT	1.2	500	17.0	48	0.55±0.02 (14.0±0.5)	1.88±0.02 (47.8±0.5)	0.78 (22)	AA	2.04	1.89	1.68	1.58
884-0970	P-120SCH	1.2	1200	40.0	48	0.89±0.02 (22.5±0.5)	1.67±0.02 (42.5±0.5)	1.80 (51)	SC	3.96	3.68	3.44	3.23
884-0820	P-180CH	1.2	1800	60.0	48	1.00±0.02 (25.3±0.5)	1.94±0.02 (49.3±0.5)	2.65 (75)	C	7.53	6.02	5.47	5.02
884-0975	P-230CH	1.2	2300	75.0	48	1.00±0.02 (25.3±0.5)	1.94±0.02 (49.3±0.5)	2.75 (78)	C	5.98	5.56	5.19	4.87
884-0815	P-400DH	1.2	4000	133.0	48	1.27±0.03 (32.3±0.7)	2.36±0.04 (59.9±1.0)	4.90 (139)	D	12.68	10.14	9.22	8.45

Super High Capacity and Rapid Charge "S" Type

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity C/5 (mAh)	Rapid Charge		Dimensions (with tube)		Approximate Weight oz. (g)	Size	EACH			
				Current (mA)	Time (h)	Diameter inch (mm)	Height inch (mm)			1-9	10-24	25-49	50-99
884-0980	P-90AAS*	1.2	900	900	1.5	0.55±0.02 (14.0±0.5)	1.95±0.02 (49.5±0.5)	0.78 (22)	AA	3.72	3.29	3.08	2.89
884-0985	P-120AS*	1.2	1200	1200	1.5	0.65±0.02 (16.5±0.5)	1.67±0.02 (42.5±0.5)	0.92 (26)	4/5Af	4.96	4.61	4.31	4.04
884-0990	P-120AAS*	1.2	1200	1200	1.5	0.55±0.02 (14.0±0.5)	2.54±0.02 (64.5±0.5)	1.09 (31)	5/4AA	4.96	4.61	4.31	4.04
884-0995	P-140AS*	1.2	1400	1400	1.5	0.65±0.02 (16.5±0.5)	1.95±0.02 (49.5±0.5)	1.16 (32)	Af	5.47	5.08	4.75	4.46
884-1005	P-230SCS*	1.2	2300	2000	1.6	0.88±0.02 (22.5±0.5)	1.94±0.02 (49.2±0.5)	2.24 (57)	5/4SC	8.35	7.77	7.26	6.81
884-1010	P-60AS†	1.2	600	600	1.5	0.65±0.02 (16.5±0.5)	1.10±0.02 (28.0±0.5)	0.63 (18)	2/3Af	3.36	2.98	2.78	2.61
884-1015	P-70AAS/FT†	1.2	700	700	1.5	0.55±0.02 (14.0±0.5)	1.88±0.02 (47.8±0.5)	0.74 (21)	AA	3.13	2.77	2.59	2.43
884-1020	P-110AS†	1.2	1100	1100	1.5	0.65±0.02 (16.5±0.5)	1.67±0.02 (42.5±0.5)	0.88 (25)	4/5Af	4.24	3.94	3.68	3.46
884-1025	P-110AAS†	1.2	1100	1100	1.5	0.55±0.02 (14.0±0.5)	2.54±0.02 (64.5±0.5)	1.02 (29)	5/4AA	4.62	4.29	4.01	3.75
884-1030	P-180SCS†	1.2	1800	1500	1.6	0.88±0.02 (22.5±0.5)	1.67±0.02 (42.5±0.5)	1.66 (47)	SC	5.50	5.12	4.78	4.49

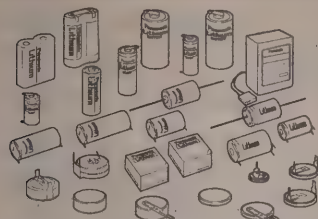
High Capacity and Ultra High Charge Type

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity (mAh)	Rapid Charge		Dimensions (with tube)		Approximate Weight oz. (g)	Size	EACH			
				Current (mA)	Time (h)	Diameter inch (mm)	Height inch (mm)			1-9	10-24	25-49	50-99
884-0945	P-70AAR	1.2	700	700	1.5	0.55±0.02 (14.0±0.5)	1.95±0.02 (49.5±0.5)	0.78 (22)	AA	3.79	3.46	3.03	2.89
884-1040	P-120SCRJ	1.2	1200	1200	1.5	0.89±0.02 (22.5±0.5)	1.30±0.02 (33.0±0.5)	1.33 (38)	4/5SC	3.85	3.35	3.08	2.93
884-1045	P-170SCRJ	1.2	1650	1700	1.5	0.89±0.02 (22.5±0.5)	1.67±0.02 (42.5±0.5)	1.72 (49)	SC	5.15	4.70	4.32	4.12
884-1050	P-180SCR	1.2	1800	1800	1.5	0.89±0.02 (22.5±0.5)	1.67±0.02 (42.5±0.5)	1.73 (49)	SC	5.28	4.82	4.43	4.23
884-1055	P-280CR	1.2	2800	2800	1.5	1.00±0.02 (25.3±0.5)	1.92±0.02 (48.8±0.5)	2.77 (79)	C	7.84	7.15	6.58	6.27

High Rate Discharge and Rapid Charge "R/P" Type

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity C/5 (mAh)	Rapid Charge		Maximum Discharge Current (A)	Dimensions		Approximate Weight oz. (g)	Size	EACH			
				Current (mA)	Time (h)		Diameter inch (mm)	Height inch (mm)			1-9	10-24	25-49	50-99
884-1065	P-120SCRJ	1.2	1200	1200	1.5	30	0.89±0.02 (22.5±0.5)	1.670±0.02 (42.5±0.5)	1.66 (47)	SC	3.85	3.35	3.08	2.93
884-1070	P-130SCR	1.2	1300	1300	1.5	13	0.89±0.02 (22.5±0.5)	1.670±0.02 (42.5±0.5)	1.66 (47)	SC	3.18	2.77	2.54	2.43
884-1075	P-140SCR	1.2	1400	1400	1.5	14	0.89±0.02 (22.5±0.5)	1.670±0.02 (42.5±0.5)	1.66 (47)	SC	3.42	2.98	2.74	2.61
884-1080	P-170SCRJ	1.2	1650	1700	1.5	30	0.89±0.02 (22.5±0.5)	1.670±0.02 (42.5±0.5)	1.73 (49)	SC	5.15	4.70	4.32	4.12
884-1085	P-120SCPC*	1.2	1200	1200	1.5	30	0.89±0.02 (22.5±0.5)	1.634±0.02 (41.5±0.5)	1.66 (47)	SC	3.67	3.35	3.08	2.93
884-1090	P-130SCRC*	1.2	1300	1300	1.5	13	0.89±0.02 (22.5±0.5)	1.634±0.02 (41.5±0.5)	1.66 (47)	SC	3.18	2.77	2.54	2.43
884-1095	P-140SCRC*	1.2	1400	1400	1.5	14	0.89±0.02 (22.5±0.5)	1.634±0.02 (41.5±0.5)	1.66 (47)	SC	3.42	2.98	2.74	2.61

* Compact Type.



Lithium Batteries

- ▶ High voltage (3 V)
- ▶ High energy density
- ▶ Long shelf life
- ▶ Stable operation

- ▶ .5% capacity deterioration per year
- ▶ Excellent durability
- ▶ Flat discharge voltage and stable internal impedance

- ▶ High rate discharge
- ▶ Wide operating temperatures
- ▶ Strong leakage resistance
- ▶ Excellent safety

Versatile, long-life Panasonic lithium batteries for leakproof high-energy sources. Designed for a wide range of electronic applications, from cameras and radios to computer memory backup. Safe and chemically and thermally stable. No corrosive liquid or poisonous gas discharge. Two types available: BR (polycarbon monofluoride) provides flat discharge voltage and stable internal impedance. CR (manganese dioxide) gives high discharge rate and high discharge voltage. Panasonic cells are recognized under UL File No. MH12210.

(CF)N/LI Batteries: Poly-Carbon Monofluoride

Stock No.	Mfr.'s Type	Electrical Characteristics (20°C)					Recommended Drain		Dimensions			EACH			
		JIS	IEC	Nominal Voltage (V)	Nominal Capacity* (mAh)	Pulse (mA)	Standard (mA)	Low (μA)	Diameter (mm)	Height (mm)	Weight (g)	1-9	10-24	25-49	50-99
884-0700	BR1216	—	—	3	25	5	0.03	1	12.5	1.60	0.6	1.44	1.31	1.03	.95
884-0710	BR1220	—	—	3	35	5	0.03	1	12.5	2.00	0.7	1.37	1.31	1.03	.95
884-0312	BR1225	—	—	3	38	5	0.03	1	12.5	2.50	0.9	1.38	1.19	1.03	.95
884-0317	BR1616	—	—	3	48	8	0.03	1	16.0	1.60	1.0	1.50	1.31	1.13	1.05
884-0715	BR1632	—	—	3	120	10	0.03	1	16.0	3.20	1.5	1.36	1.31	1.13	1.05
884-0316	BR2016	—	—	3	75	10	0.03	1	20.0	1.60	1.5	1.43	1.31	1.13	1.05
884-0720	BR2020	—	—	3	100	10	0.03	2	20.0	2.00	2.0	1.50	1.31	1.13	1.05
884-0301	BR2032	—	—	3	190	10	0.03	4	20.0	3.20	2.5	1.50	1.31	1.18	1.09
884-0320	BR2320	—	—	3	110	10	0.03	2	23.0	2.00	2.5	1.58	1.36	1.13	1.05
884-0325	BR2325	—	—	3	185	10	0.03	3	23.0	2.50	3.0	1.54	1.31	1.13	1.05
884-0725	BR2330	—	—	3	255	10	0.03	5	23.0	3.00	3.2	1.86	1.63	1.42	1.33
884-1000	BR3032	—	—	3	500	10	0.03	10	30.0	3.20	5.5	3.52	3.00	2.65	2.20

MN02/LI Batteries: Manganese Dioxide

Stock No.	Mfr.'s Type	JIS	IEC	Nominal Voltage (V)	Nominal Capacity* (mAh)	Pulse (mA)	Standard (mA)	Low (μA)	Diameter (mm)	Height (mm)	Weight (g)	EACH			
												1-9	10-24	25-49	50-99
884-0730	CR1025	CR1025	—	3	32	5	0.10	1	10.0	2.50	0.7	1.24	1.09	.94	.88
884-0735	CR1216	CR1216	—	3	25	5	0.10	1	12.5	1.60	0.7	1.24	1.09	.94	.88
884-0740	CR1220	CR1220	—	3	35	5	0.10	1	12.5	2.00	0.9	1.24	1.09	.94	.88
884-0745	CR1616	CR1616	—	3	50	8	0.10	1	16.0	1.60	1.2	1.24	1.09	.94	.88
884-0750	CR1620	CR1620	—	3	70	8	0.10	1	16.0	2.00	1.3	1.26	1.17	1.01	.95
884-0755	CR1632	—	—	3	110	8	0.10	1	16.0	3.20	1.8	1.31	1.20	1.05	.98
884-0760	CR2012	CR2012	—	3	55	10	0.10	1	20.0	1.20	1.4	1.31	1.20	1.05	.98
884-0370	CR2016	CR2016	—	3	70	10	0.10	2	20.0	1.60	1.7	1.44	1.24	1.08	1.00
884-0765	CR2025	CR2025	—	3	150	15	0.20	3	20.0	2.50	2.5	1.44	1.24	1.08	1.00
884-0770	CR2032	CR2032	—	3	210	15	0.20	4	20.0	3.20	3.3	1.44	1.24	1.08	1.00
884-0775	CR2320	CR2320	—	3	125	15	0.20	3	23.0	2.00	3.0	1.44	1.24	1.08	1.00
884-0375	CR2330	CR2330	—	3	250	15	0.20	5	23.0	3.00	4.0	2.02	1.74	1.52	1.40
884-0380	CR2354	—	—	3	560	15	0.20	5	23.0	5.40	5.9	2.12	1.84	1.60	1.48
884-0780	CR3032	—	—	3	500	15	0.20	10	30.0	3.20	7.1	2.46	2.16	1.98	1.85
884-0385	CR2477	—	—	3	1000	10	0.20	10	24.5	7.70	10.5	4.34	3.95	3.62	3.34

* Nominal Capacity shown is based on standard drain. NOTE: Cells are available in assorted pin and tab configurations. Consult your local regional office for additional information.

Cylindrical Type Lithium Batteries — (CF) / LI Batteries: Poly-Carbon Monofluoride

Stock No.	Mfr.'s Type	Electrical Characteristics (20°)					Dimensions (Max.)		Weight (g)	EACH			
		Nominal Voltage (V)	Nominal Capacity* (mAh)	Standard Drain (mA)	Continuous Maximum Drain (ma)	Max. Pulse (ma)	Diameter (mm)	Approximate Height (mm)		1-9	10-24	25-49	50-99
884-0300	BR-C	3	5000	150.0	300	1000	26.0	50.0	47.0	13.58	12.36	11.31	10.44
884-0785	BR-A	3	1800	2.5	250	1000	17.0	45.5	18.0	7.94	7.35	6.72	6.30
884-0437	BR-2/3A	3	1200	2.5	250	1000	17.0	33.5	13.5	4.86	4.42	4.05	3.89
884-0436	BR-1/2A	3	650	2.0	120	500	17.0	23.0	9.5	5.37	5.00	4.50	3.58
884-0789	BR-2/3AA	3	600	2.0	80	5000	14.5	33.5	9.5	11.36	10.51	9.62	9.01

* Nominal Capacity shown above is based on standard drain and cut off voltage down to 1.8V at 20°C.

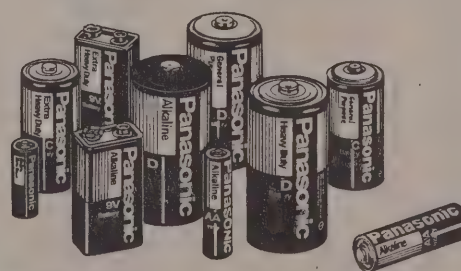
Alkaline and Zinc Chloride Batteries

Extra Heavy Duty Zinc Chloride (Green)

Stock No.	Mfr.'s Type	Size	Voltage V	Service Life		EACH			
				Test Condition	Duration	1-9	10-24	25-49	50-99
884-5120	UM1NX	D	1.5	3.9Ω, 1H/D, 1.0V 39Ω, 4H/D, 0.9V 2.25Ω continuous, 0.8 V	18.5 Hrs. 240.0 Hrs. 360.0 Min.	.70	.61	.56	.52
884-5125	UM2NX	C	1.5	6.8Ω, 1H/D, 1.0 V 75Ω, 4H/D, 0.9 V 4Ω continuous, 0.8 V	15.0 Hrs. 200.0 Hrs. 390.0 Min.	.48	.42	.38	.36
884-5132	UM3NX	AA	1.5	10Ω, 1H/D, 0.9 V 75Ω, 4H/D, 0.9 V 4Ω continuous, 0.8 V	7.5 Hrs. 65.0 Hrs.	.37	.31	.26	.24
884-5135	UM4NX	AAA	1.5	5Ω, 5M/D, 0.9 V 300Ω, 12H/D, 0.9 V	1.5 Hrs. 120.0 Hrs.	.21	.19	.17	.16
884-5140	UM5NX	N	1.5	300Ω, 12H/D, 0.9 V 180Ω, 1H/D, 5.4V	85.0 Hrs. 55.0 Hrs.	.24	.22	.18	.17
884-5131	006PNX	9 V	9.0	900Ω, 4H/D, 5.4 V 225Ω continuous 5.4 V	49.0 Hrs. 8.0 Hrs.	.98	.95	.83	.77

Heavy Duty: Zinc-Chloride (Blue)

Stock No.	Mfr.'s Type	Size	Voltage V	Service Life		EACH			
				Test Condition	Duration	1-9	10-24	25-49	50-99
884-5114	UM1DX	D	1.5	3.9Ω, 1H/D, 1.0 V 40Ω, 4H/D, 0.9V 2.25Ω continuous, 0.8 V	12.5 Hrs. 210.0 Hrs. 336.0 Hrs.	.53	.47	.40	.36
884-5116	UM2DX	C	1.5	6.8Ω, 1H/D, 1.0 V 75Ω, 4H/D, 0.9V 4Ω continuous, 0.8 V	10.5 Hrs. 165.0 Hrs. 325.0 Min.	.37	.33	.29	.27
884-5129	UM3DX	AA	1.5	10Ω, 1H/D, 0.9 V 75Ω, 4H/D, 0.9 V 4Ω continuous, 0.8 V	6.5 Hrs. 60.0 Hrs. 1.5 Hrs.	.27	.23	.22	.20



Heavy Duty: Zinc-Chloride (Blue)

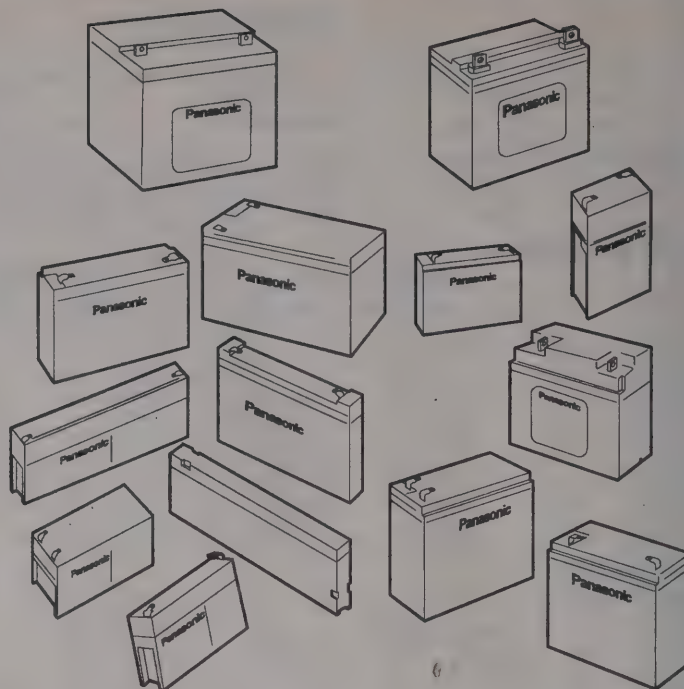
Stock No.	Mfr.'s Type	Size	Voltage V	Service Life		EACH			
				Test Condition	Duration	1-9	10-24	25-49	50-99
884-5112	006PDX	9 V	9.0	180Ω, 1H/D, 5.4 V 900Ω, 4H/D, 5.4V 225Ω continuous, 5.4 V	7.0 Hrs. 45.0 Hrs. 5.2 Hrs.	.89	.80	.70	.65

Alkaline (Black)

Stock No.	Mfr.'s Type	Size	Nominal Voltage (V)	Service Life			EACH			
				Starting Drain (mA)	Load (Ω)	Hours	1-9	10-24	25-49	50-99
884-5171	AM1X	D	1.5	750	2.0	14.5	1.49	1.26	1.08	.98
884-5172	AM2X	C	1.5	380	3.9	10.0	.98	.87	.74	.67
884-5173	AM3X	AA	1.5	150	10.0	11.0	.58	.52	.44	.40
884-5174	AM4X	AAA	1.5	75	20.0	11.0	.69	.61	.52	.47
884-5175	AM5X	N	1.5	75	20.0	8.0	.95	.84	.72	.65
884-5130	6AM6	9 V	9.0	60	150.0	11.0	3.03	2.57	2.20	1.80

Sealed Lead-Acid Batteries

- High Quality
- Excellent Lead Acid Rechargeable Battery System
- Excellent Deep Discharge Recovery
- Long Service Life — Float or Cyclic
- Starved Electrolyte Leakproof Design
- Maintenance-Free Operation
- 100% Factory Tested
- UL Component Recognition
- No Corrosive Gas Generation
- Use for Portable Equipment
- Charge, Discharge, or Store in any Position
- Use for Power Failure Backup, Emergencies
- No Memory Effect
- Approved as "Dry Cell" for Air Shipment By Dept. of Transportation and IATA
- Popular Video and Cellular Phone Batteries



The LCR-Battery is a new type of sealed lead-acid rechargeable battery system developed by Matsushita Battery Industrial Co., Ltd. The lead-calcium rechargeable (LCR) battery, will stand up to tough operating conditions such as overcharge and deep discharge. In field service, troubles due to abnormal, improper operation or misuse are reduced to a minimum. The LCR battery has stable and reliable capacity. It can be easily maintained to permit proper operation of the equipment that it powers. The battery withstands overcharge, overdischarge, vibration and shock, more readily than competitive products, and is capable of extended storage. To assure this high quality and reliability, **LCR batteries are 100% tested on line for voltage, capacity, and seals, and all vents are 100% visually inspected during the final assembly process.** The LCR battery uses an absorbed

electrolyte system. All of the electrolyte is absorbed into the positive and negative plates, and the separator material. Coupled with the use of special sealing epoxies, tongue and groove case and cover construction, and long-sealing paths for posts and connectors, the LCR batteries have exceptional leak resistance, **and can be used in any position.** These batteries save installation space, while providing full and reliable power for the equipment, and many have been designed for rapid recharge, or for high power output. As a result, this power is used for applications ranging from VCRs to vacuums, electric tools, engine-start, UPS systems and computers. LCR batteries have exceptional deep discharge recovery and charge acceptance, even after deep or prolonged discharge.

Sealed Lead-Acid Rechargeable Batteries

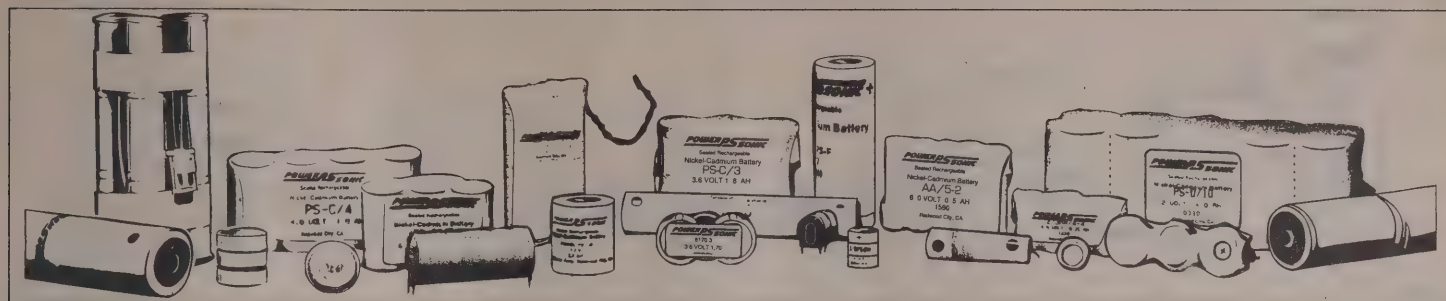
Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal	Capacity	Dimensions				Weight (Approx.) Lbs. (g)	Std. Terminals or Connectors	EACH			
			10 Hour Rate (Ah)	20 Hour Rate (Ah)	Length In. (mm)	Width In. (mm)	Height In. (mm)	Total Height Incl. Term. In. (mm)			1-9	10-24	25-49	50-99
884-0507	LCR6V1.3P	6	1.2	1.3	3.82 (97.0)	0.94 (24.0)	1.97 (50.0)	2.16 (56.0)	0.66 (300)	FASTON Type 187	9.90	9.00	8.25	7.92
884-0585	LCR12V1.3P	12	1.2	1.3	3.82 (97.0)	1.87 (47.5)	1.97 (50.0)	2.16 (56.0)	1.30 (590)	FASTON Type 187	19.61	17.89	16.45	15.69
884-0590	LCT-1912AP	12	1.8	1.9	0.94 (23.8)	7.17 (182.0)	2.33 (61.5)	2.43 (61.7)	1.40 (635)	Pressure Contact	46.53	42.45	39.03	32.21
884-0550	LCR12V2.2P	12	2.0	2.2	6.97 (177.0)	1.34 (33.0)	2.36 (60.0)	2.60 (66.0)	1.76 (800)	Pressure Contact	22.96	20.58	20.12	19.45
884-0541	LCR6V2.4P	6	2.2	2.4	2.60 (66.0)	1.30 (33.0)	3.88 (98.5)	4.11 (104.5)	1.15 (520)	FASTON Type 187	13.56	12.33	11.20	10.45
884-0505	LCR6V3.2P	6	3.0	3.2	2.60 (66.0)	1.30 (33.0)	4.69 (119.0)	4.92 (125.0)	1.46 (660)	FASTON Type 187	12.15	11.21	10.41	10.12
884-0515	LCR6V3.4P	6	3.0	3.4	5.28 (134.0)	1.34 (34.0)	2.36 (60.0)	2.60 (66.0)	1.36 (620)	FASTON Type 187	16.28	14.80	13.57	12.74
884-0555	LCR12V3.4P	12	3.0	3.4	5.28 (134.0)	2.64 (67.0)	2.36 (60.0)	2.60 (66.0)	2.73 (1240)	FASTON Type 187	34.51	31.75	28.77	27.24
884-0655	LCR6V4BP*	6	3.7	4.0	2.76 (70.0)	1.85 (47.0)	4.02 (102.0)	4.25 (108.0)	1.83 (830)	FASTON Type 187	14.18	12.76	11.60	10.60
884-0525	LCR6V4PL	6	3.7	4.0	2.76 (70.0)	1.85 (47.0)	4.02 (102.0)	4.02 (102.0)	1.83 (830)	Lead Wire Type	13.56	12.33	11.30	10.43
884-0600	LCR12V4BP	12	3.7	4.0	3.54 (90.0)	2.76 (70.0)	4.02 (102.0)	4.33 (110.0)	3.66 (1660)	FASTON Type 187	25.38	23.15	21.29	20.30
884-0605	LCR6V5BP*	6	4.7	5.0	2.76 (70.0)	1.85 (47.0)	4.02 (102.0)	4.25 (108.0)	2.14 (970)	FASTON Type 187	15.26	13.92	12.80	12.12
884-0610	LCR12V5BP*	12	4.7	5.0	3.54 (90.0)	2.76 (70.0)	4.02 (102.0)	4.25 (108.0)	4.25 (1930)	FASTON Type 187	25.44	23.21	21.33	20.35
884-0615	LCR6V6.5P/BP*	6	5.8	6.5	5.95 (151.0)	1.34 (34.0)	3.70 (94.0)	3.94 (100.0)	2.54 (1150)	FASTON Type 187 or 250	15.09	13.77	12.66	12.07
884-0620	LCR12V6.5P/BP*	12	5.8	6.5	5.95 (151.0)	2.54 (64.5)	3.70 (94.0)	3.94 (100.0)	4.85 (2200)	FASTON Type 187 or 250	27.50	25.08	23.06	22.00
884-0587	LCR6V7.2BP*	6	6.8	7.2	5.95 (151.0)	1.34 (34.0)	3.70 (94.0)	3.94 (100.0)	2.76 (1250)	FASTON Type 187 or 250	13.66	12.61	11.71	11.38
884-0625	LCR12V7.2BP*	12	6.8	7.2	5.95 (151.0)	2.54 (64.5)	3.70 (94.0)	3.94 (100.0)	5.29 (2400)	FASTON Type 187 or 250	28.94	26.40	24.27	23.15
884-0630	LCR6V10P/BP*	6	9.3	10.0	5.95 (151.0)	1.97 (50.0)	3.70 (94.0)	3.94 (100.0)	3.86 (1750)	FASTON Type 187 or 250	19.32	17.63	16.20	15.46
884-0635	LCR12V10BP*	12	9.3	10.0	5.95 (151.0)	3.98 (101.0)	3.70 (94.0)	4.01 (102.0)	7.72 (3500)	FASTON Type 187 or 250	38.77	35.36	32.51	31.00
884-0640	LCR6V12BP*	6	11.3	12.0	5.95 (151.0)	1.97 (50.0)	3.70 (94.0)	3.94 (100.0)	4.19 (1900)	FASTON Type 187 or 250	19.28	17.59	16.17	15.43
884-0645	LCR12V17CP*	12	15.0	17.0	7.13 (181.0)	3.00 (76.0)	6.58 (167.0)	6.58 (167.0)	14.30 (6500)	M5 Bolt and Nut Type	65.57	59.52	55.00	52.46
884-0564	LCL12V20P	12	18.0	20.0	7.28 (185.0)	4.92 (125.0)	6.50 (165.0)	6.50 (165.0)	16.51 (7.5 kg)	M5 Bolt and Nut Type	62.26	56.55	54.48	52.97
884-0565	LCL12V24P	12	22.0	24.0	4.92 (125.0)	6.50 (165.0)	6.89 (175.0)	6.89 (175.0)	19.20 (8.7 kg)	M5 Bolt and Nut Type	83.41	75.05	68.24	62.55
884-0650	LCL12V33P	12	30.0	33.0	7.70 (195.6)	5.12 (130.0)	6.10 (155.0)	7.09 (180.0)	—	M6 Bolt and Nut Type	95.19	86.84	79.83	76.15
884-0570	LCL12V38P	12	35.0	38.0	7.76 (197.0)	6.50 (165.0)	6.88 (175.0)	6.88 (175.0)	28.70 (13.0 kg)	M6 Bolt and Nut Type	123.20	112.00	102.67	94.77
884-0580	LCL12V65P	12	57.0	65.0	13.80 (350.0)	6.54 (166.0)	6.85 (174.0)	6.85 (174.0)	41.90 (19.0 kg)	M6 Bolt and Nut Type	182.00	165.45	151.67	140.00

* Available in ABS plastic resin cases to comply with UL94-V0 designated as "LCV" types.

Popular Video and Cellular Phone Batteries

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal	Capacity	Dimensions			Weight (Approx.) Lbs. (g)	Std. Terminals or Connectors	EACH			
			10 Hour Rate (Ah)	20 Hour Rate (Ah)	Length In. (mm)	Width In. (mm)	Height In. (mm)			1-9	10-24	25-49	50-99
884-0597	LCR-1812P	12	1.8	1.90	7.890 (200.5)	.980 (24.80)	2.38 (60.5)	1.54 (700)	DC Plug	45.20	43.50	41.80	39.70
884-0596	LCS-2012P	12	2.0	2.10	7.900 (200.7)	.980 (24.80)	2.43 (61.7)	1.54 (700)	Pressure Contact	50.67	45.60	41.45	38.00
884-0598	LCS2312NC	12	2.3	2.34	7.165 (182.0)	.939 (23.85)	2.43 (61.7)	1.40 (635)	Pressure Contact	36.61	33.56	30.98	28.77

Nickel Cell Assemblies



Features

- Sealed leak-proof construction
- Cell uniformity

Power-Sonic nickel-cadmium batteries are also available as cell assemblies and packs. Both cylindrical and button cells may be packaged in any configuration to meet electrical and dimensional requirements.

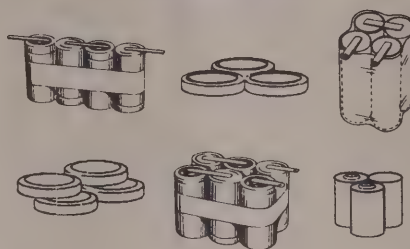
When specifying battery assemblies, the following information should be given:

- 1) Size and type of cell
- 2) Voltage or number of cells
- 3) Configuration of cells: e.g., 1x4, 2x5, stick, etc.
- 4) Packaging method: taped, shrink-tubing, or molded case
- 5) Termination: button top, solder tabs, or wire leads with or without connectors
- 6) Supply drawing of configurations.

When ordering a replacement battery pack specify voltage or number of cells, ampere-hour capacity or cell size, and dimensions of the pack.

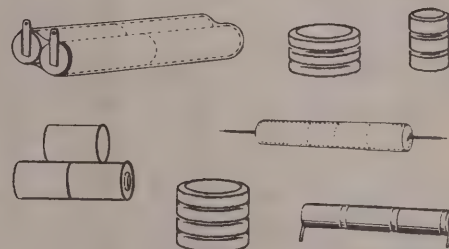
- An operating temperature range
- An operating temperature range

- Sintered plate construction
- Low cell impedance

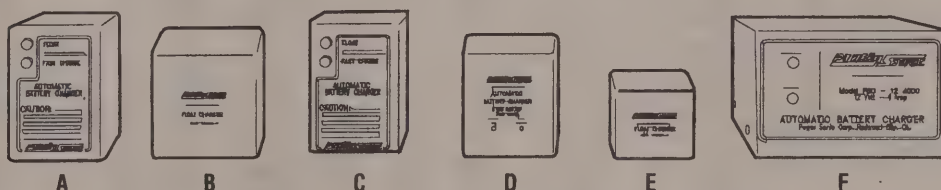


LINEAR CONFIGURATIONS

TUBULAR CONFIGURATIONS



SLA Battery Chargers



Features

Electronically regulated – current limited chargers for sealed lead-acid type batteries.

Wall mount plug-in design for 1.25 Amp and below, counter top design with input cord for 4 Amp output and above.

Operating temperature range: 32°F to 104°F (0°C to 40°C); suitable for 105-129 VAC, 60 Hz input; voltage regulation $\pm 1.5\%$ for line and load current up to nominal current rating.

LED indicators on "A"-type chargers – one to indicate "POWER ON," the other to indicate "CHARGING MODE" ("ON" to signal high-rate charging, "OFF" to signal float charging).

Hi-impact resistant thermo-plastic housing for 250-1250 series. Metal housing for 300, 800, 4000, 10A series.

Screw-type terminals for 250, 500, and 1250 series, I/O cord for 300, 800, 4000, 10A series.

SLA Battery Chargers

Stock No.	Mfr.'s Type	Fig.	Output Voltage (V)		Output Current (A)		Use With Battery		EACH			
			Nom.	Range	Nom.	Max.	Voltage	Capacity	1-9	10-24	25-49	50-99
621-0622	PSC-6250F	E	6	6.83	.30	.60	6V	15AH	30.94	29.94	28.56	27.30
621-6300	PSC-6300A	A	6	6.84/7.35	.25	.25	6V	1-5AH	36.07	34.48	33.50	32.56
621-0670	PSC-6500A	D	6	6.75/7.35	.60	.75	6V	4-10AH	46.75	45.24	43.15	41.25
621-0630	PSC-64000A	F	6	6.75/7.35	3.50	4.00	6V	10-40AH	119.00	115.16	109.84	105.00
621-0660	PSC-12250F	E	12	13.65	.25	.40	12V	1-5AH	30.94	29.94	28.56	27.30
621-6305	PSC-12300A	C	12	13.68/14.70	.30	.30	12V	1-5AH	37.99	36.77	35.07	33.52
621-0685	PSC-12500F	B	12	13.65	.50	.60	12V	2-10AH	32.21	31.17	29.73	28.42
621-0675	PSC-12500A	D	12	13.50/14.70	.50	.60	12V	2-10AH	46.75	45.24	43.15	41.25
621-6310	PSC-12800A	C	12	13.68/14.70	.75	.75	12V	4-17AH	36.07	34.48	33.50	32.56
621-0695	PSC-124000A	F	12	13.50/14.70	4.00	4.75	12V	10-40AH	119.00	115.16	109.84	105.00
621-0701	PSC-12-10A	*	12	13.50/14.70	10.00	10.00	12V	60-100AH	250.58	242.49	231.30	221.10
621-0600	PSC-6250A	E	6	6.75/7.35	.30	.60	6V	1-5AH	37.99	36.77	35.07	33.52
621-0680	PSC-6800A	A	6	6.84/7.35	.75	.75	6V	4-12AH	39.74	38.44	36.64	35.00
621-1225	PSC-12250A	E	12	13.50/14.70	.50	.60	12V	1-5AH	37.88	36.63	34.92	33.35

*Not Shown.

Nickel-Cadmium Batteries



Standard Cells

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Capacity 5 Hr. Rate (mAh)	Std. Charge		Quick Charge		Diameter (Max.)		Height (Max.)		Weight		EACH			
				(mA)	(Hrs.)	(mA)	(Hrs.)	Inches	mm	Inches	mm	oz.	g	1-9	10-24	25-49	50-99
621-1000	PS-1/3AA	1.2	110	41	15	28	6.0	0.571	14.5	0.669	17.0	0.25	7	2.10	1.89	1.69	1.64
621-1001	PS-1/3AA/T	1.2	110	11	15	28	6.0	0.571	14.5	0.669	17.0	0.25	7	2.16	2.05	1.92	1.87
621-0830	PS-N	1.2	150	15	15	38	6.0	0.473	12.0	1.142	29.0	0.30	9	2.45	2.21	2.08	2.01
621-0831	PS-N/T	1.2	150	15	15	38	6.0	0.473	12.0	1.142	29.0	0.30	9	2.59	2.45	2.31	2.24
621-0790	PS-AAA	1.2	180	18	15	45	6.0	0.414	10.5	1.752	44.5	0.35	10	2.45	2.21	2.08	2.01
621-0791	PS-AAA/T	1.2	180	18	15	45	6.0	0.414	10.5	1.752	44.5	0.35	10	2.72	2.45	2.31	2.24
621-1015	PS-2/3AA	1.2	250	25	15	75	4.5	0.571	14.5	1.181	30.0	0.42	12	2.08	1.89	1.77	1.72
621-1016	PS-2/3AA/T	1.2	250	25	15	75	4.5	0.571	14.5	1.181	30.0	0.42	12	2.35	2.13	2.00	1.94
621-0800	PS-AAL	1.2	500	50	15	150	4.5	0.571	14.5	1.988	50.5	0.74	22	2.00	1.81	1.62	1.57
621-0801	PS-AAT	1.2	500	50	15	150	4.5	0.571	14.5	1.988	50.5	0.74	22	2.17	1.97	1.85	1.79
621-0850	PS-SC	1.2	1200	120	15	300	6.0	0.906	23.0	1.692	43.0	1.69	48	3.53	3.20	3.00	2.91
621-0851	PS-SC/T	1.2	1200	120	15	300	6.0	0.906	23.0	1.692	43.0	1.69	48	3.80	3.44	3.23	3.13
621-0820	PS-C/B	1.2	1800	180	15	—	—	1.024	26.0	1.969	50.0	2.65	75	5.95	5.66	5.31	5.15
621-0821	PS-C/T	1.2	1800	180	15	—	—	1.024	26.0	1.969	50.0	2.65	75	6.21	5.90	5.54	5.37
621-1040	PS-1/2D	1.2	2200	220	15	—	—	1.300	33.0	1.476	37.5	3.03	86	7.07	6.72	6.31	6.12
621-1041	PS-1/2D/T	1.2	2200	220	15	—	—	1.300	33.0	1.476	37.5	3.03	86	7.33	6.97	6.54	6.34
621-0810	PS-D/B	1.2	4000	400	15	—	—	1.339	34.0	2.402	61.5	5.47	155	10.00	9.51	8.92	8.66
621-0811	PS-D/T	1.2	4000	400	15	—	—	1.339	34.0	2.402	61.5	5.47	155	10.26	9.75	9.15	8.88
621-1050	PS-F	1.2	7000	700	15	—	—	1.339	34.0	3.583	91.5	8.82	250	17.24	16.39	15.38	14.93
621-1051	PS-F/T	1.2	7000	700	15	—	—	1.339	34.0	3.583	91.5	8.82	250	17.50	16.64	15.62	15.15

High Temp Cells

621-0900	PS-AAH	1.2	500	50	15	—	—	0.571	14.5	1.933	49.1	0.74	22	1.85	1.75	1.65	1.59
621-0901	PS-SCH	1.2	1200	120	15	—	—	0.906	23.0	1.692	43.0	1.69	48	3.41	3.08	2.90	2.86
621-0902	PS-CH	1.2	1800	180	15	—	—	1.024	26.0	1.969	50.0	2.65	75	5.50	5.28	4.95	4.76
621-0903	PS-DH	1.2	4000	400	15	—	—	1.339	34.0	2.421	61.5	5.47	155	9.50	9.00	8.50	8.41
621-0916	PS-1/3AAH	1.2	1100	110	15	—	—	0.571	14.5	0.669	17.0	0.25	7	2.43	2.10	1.83	1.69
621-0917	PS-1/2DH	1.2	2200	220	15	—	—	1.271	32.3	1.448	36.8	2.82	80	7.20	6.54	6.00	5.53

High Capacity Cells

621-0904	PS-AAX	1.2	600	60	15	180	5.0	0.571	14.5	1.988	60.5	0.87	23	2.00	1.90	1.80	1.67
621-0905	PS-AAS	1.2	700	70	15	230	5.0	0.571	14.5	1.988	50.5	0.88	25	2.26	2.05	1.95	1.90
621-0906	PS-SCX	1.2	1500	150	15	—	—	0.875	22.2	1.662	42.2	1.83	52	3.78	3.40	3.20	3.10
621-0907	PS-CX	1.2	2400	240	15	—	—	1.024	26.0	1.969	50.0	2.65	75	6.40	6.07	5.74	5.56
621-0908	PS-DX	1.2	5000	500	15	—	—	1.339	34.0	2.421	61.5	5.47	155	10.90	10.33	9.75	9.44

High Rate Cells

621-0909	PS-SCF	1.2	1400	140	15	2100	1.0	0.875	22.2	1.662	42.2	1.83	52	3.78	3.40	3.20	3.10
621-0910	PS-CF	1.2	2000	200	15	3000	1.0	1.024	26.0	1.969	50.0	2.65	75	6.65	6.30	5.95	5.79
621-0911	PS-DF	1.2	4500	450	15	6000	1.0	1.274	32.4	2.374	60.3	5.29	150	11.00	10.43	9.85	9.52
621-0918	PS-1/2DF	1.2	2200	220	15	750	4.5	1.271	32.3	1.448	36.8	2.82	80	7.30	6.53	6.08	5.61

High Capacity — Rapid Charge Cells

621-0912	PS-AAXF	1.2	700	70	15	1000	1.0	0.571	14.5	1.988	50.5	0.85	24	2.45	2.23	2.10	1.98
621-0913	PS-SCXF	1.2	1700	170	15	2500	1.0	1.875	22.2	1.662	42.2	1.83	52	4.40	4.18	3.95	3.81
621-0914	PS-CXF	1.2	2200	220	15	3300	1.0	1.024	26.0	1.969	50.0	2.65	75	6.90	6.55	6.20	6.03
621-0915	PS-DXF	1.2	5000	500	15	7000	1.0	1.274	32.4	2.295	58.3	5.29	150	11.40	10.80	10.20	9.92

Pager Battery PS-NP fits Motorola Pagers—Pageboy II, Page Com, Spirit, and Director.

621-1080	PS-NP	1.2	150	15	15	38	6.0	0.473	12.0	1.260	32.0	0.35	10	4.07	3.69	3.46	3.36
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*"/T" indicates with Tabs.

PCBM — "Printed Circuit Board Memory" Batteries

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Capacity 5 Hr. Rate (mAh)	Trickle Charge		Diameter (Max.)		Height (Max.)		Weight		EACH			
				(mA)	(min. hrs.)	Inches	mm	Inches	mm	oz.	g	1-9	10-24	25-49	50-99
621-1090	PS-PCBM-2.4	2.4	110	3.7	48	0.571	14.5	1.350	34.5	0.53	15.0	5.09	4.84	4.54	4.40
621-1095	PS-B60/3	3.6	60	2.1	48	0.650	16.5	0.700	18.0	0.31	9.0	4.84	4.68	4.47	4.27
621-1100	PS-PCBM-3.6	3.6	150	3.7	48	0.571	14.5	2.015	52.0	0.79	22.5	7.24	6.89	6.46	6.27
621-0073	PS-AA/3	3.6	500	3.7	48	—	—	2.000	50.9	2.25	68.0	8.72	8.00	7.74	7.38

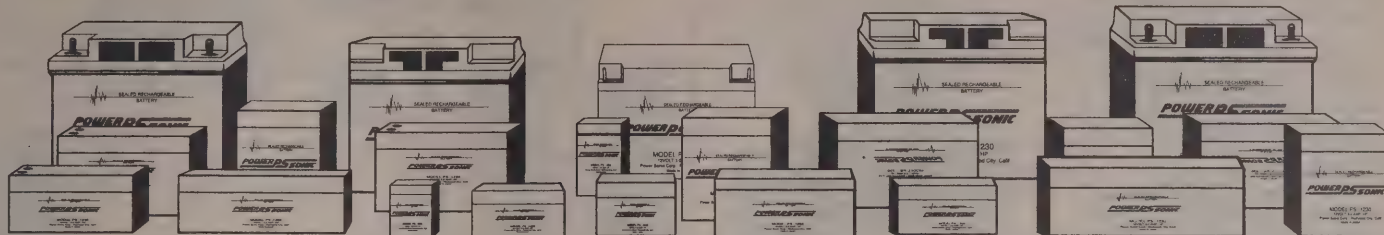
Button Cells

*"/T" indicates with Tabs.

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal Capacity 5 Hr. Rate (mAh)	End Voltage (V)	Standard Charge			Dimension (mm)		Weight (g)	IEC Standard	EACH			
					Current (mA)	Time (hr.)	Max. Charging Voltage	Dia.	Height			1-9	10-24	25-49	50-99
621-1105	PS-B60	1.2	60	1.0	6	16	1.5V	15.45 - 0.15	6.20 - 0.60	4	KBL 16/7	1.32	1.17	0.96	0.90
621-1110	PS-B100	1.2	100	1.0	11	16	1.5V	15.00 - 0.20	7.70 - 0.40	8	—	1.54	1.37	1.12	1.05
621-1115	PS-B170	1.2	170	1.0	17	16	1.5V	25.10 - 0.20	6.70 - 0.60	10	KBL 26/7	1.98	1.79	1.50	1.35
621-1120	PS-B280	1.2	280	1.0	28	16	1.5V	25.10 - 0.20	9.00 - 0.60	14	KBL 26/9	2.10	1.80	1.60	1.45
621-1125	PS-B60/T	1.2	60	1.0	6	16	1.5V	15.45 - 0.15	6.20 - 0.60	5	KBL 16/7	1.66	1.46	1.20	1.13
621-1130	PS-B100/T	1.2	100	1.0	11	16	1.5V	15.00 - 0.20	7.70 - 0.40	9	—	1.88	1.65	1.36	1.28
621-1135	PS-B170/T	1.2	170	1.0	17	16	1.5V	25.10 - 0.20	6.70 - 0.60	11	KBL 26/7	1.89	1.67	1.60	1.35
621-1140	PS-B280/T	1.2	280	1.0	28	16	1.5V	25.10 - 0.20	9.00 - 0.60	15	KBL 26/9	2.10	1.80	1.70	1.60

Economical, Rechargeable Power Combined with the Handling Ease of Dry Batteries

2



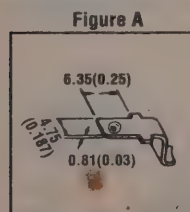
Features

- ▶ Sealed/Maintenance-Free
- ▶ High Discharge Rate
- ▶ Economical
- ▶ Wide Operating Temperature Range
- ▶ Design Flexibility
- ▶ Easy Handling
- ▶ Long Shelf Life
- ▶ Rugged Construction
- ▶ Deep Discharge Recovery
- ▶ Compact
- ▶ Long Service Life

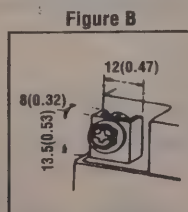
Stock No.	Mfr.'s Type	Nom. V	Rt. Cap.* Amp-Hr.	20-H Dis. Rate mA	Terminal Type	Dimensions						Weight		EACH			
						Length		Width		Height†		Lbs.	Kg	1-9	10-24	25-49	50-99
						In	mm	In	mm	In	mm						
621-0445	PS-445	4	4.5	225	C	1.93	49	2.09	53	3.86	98	1.50	0.70	14.25	13.75	13.25	12.08
621-0490	PS-490	4	9.0	450	C	4.02	102	1.73	44	3.86	98	2.40	1.10	17.70	15.90	15.05	14.63
621-0605	PS-605	6	0.5	25	Wire	2.24	57	.55	14	1.97	50	0.20	0.09	11.46	10.27	9.74	9.47
621-0180	PS-610	6	1.0	50	A	2.00	51	1.65	42	2.20	56	0.62	0.28	10.50	9.40	8.90	8.65
621-0190	PS-612	6	1.2	60	A	3.82	97	.94	24	2.13	54	0.64	0.29	10.75	9.65	9.13	8.86
621-0200	PS-620	6	2.0	100	A	2.95	75	2.00	51	2.28	58	0.95	0.43	15.85	14.20	13.43	13.04
621-0220	PS-630	6	3.0	150	A	5.28	134	1.34	34	2.56	65	1.28	0.58	14.90	13.35	12.65	12.30
621-0240	PS-640F1	6	4.0	200	A	2.76	70	1.89	48	4.02	102	1.92	0.87	12.10	10.80	10.23	9.94
621-0241	PS-640WL	6	4.0	200	Wire	2.76	70	1.89	48	4.02	103	1.92	0.87	14.65	13.15	12.33	11.76
621-0260	PS-670	6	7.0	350	A	5.95	152	1.34	34	3.86	98	2.60	1.17	19.20	17.05	16.16	15.70
621-0655	PS-665	6	6.5	325	D	3.86	98	2.20	56	4.05	103	3.00	1.40	19.15	17.15	16.75	16.55
621-0280	PS-682F	6	8.0	400	A	3.86	98	2.20	56	4.65	118	3.30	1.50	18.25	16.35	15.48	15.04
621-0281	PS-682WL	6	8.0	400	Wire	3.86	98	2.20	56	4.65	118	3.30	1.50	19.90	17.85	16.90	16.43
621-0069	PS-695	6	9.5	475	D	4.26	108	2.75	70	5.54	141	4.90	2.20	19.25	17.25	16.33	15.86
621-1283	PS-6100-F1	6	10.0	500	A	5.95	151	2.00	51	3.86	98	4.60	2.10	21.00	18.80	17.80	17.30
621-6120	PS-6120	6	12.0	600	D	4.25	108	2.75	70	5.51	140	4.40	2.00	20.95	18.75	17.75	17.25
621-0380	PS-6200NB	6	20.0	1000	B	6.18	157	3.27	83	4.92	125	8.20	3.70	51.35	45.95	43.50	42.28
621-6360	PS-6360NB	6	36.0	1800	B	6.25	159	3.35	85	6.95	176	13.80	6.20	37.91	36.69	35.00	33.95
621-1208	PS-1208	12	0.8	40	F	3.78	96	.98	25	2.42	62	0.80	0.35	15.92	15.00	14.33	13.80
621-0402	PS-1212	12	1.2	60	A	3.82	97	1.65	42	2.13	54	1.30	0.60	18.25	16.35	15.48	15.04
621-0340	PS-1220	12	1.9	95	A	7.01	178	1.34	34	2.56	65	2.00	0.90	22.65	20.30	19.23	18.69
621-1253	PS-1226	12	2.6	130	A	7.01	178	1.34	34	2.56	65	2.20	1.00	18.25	17.66	16.84	16.64
621-1230	PS-1230	12	3.0	150	A	5.23	134	2.64	67	2.60	66	2.60	1.20	25.60	22.90	21.68	21.06
621-0350	PS-1232	12	3.2	160	A	7.68	195	1.85	47	2.95	75	3.15	1.40	25.60	22.90	21.68	21.06
621-1242	PS-1242	12	4.0	200	A	3.54	90	2.76	70	4.13	105	3.80	1.70	25.85	23.15	21.90	21.28
621-1252	PS-1252	12	5.0	250	A	3.54	90	2.76	70	4.25	108	4.20	1.90	20.46	19.80	18.88	17.54
621-0365	PS-1270	12	7.0	325	A	5.95	151	2.56	65	3.86	98	5.29	2.10	26.60	23.80	22.53	21.89
621-1281	PS-1282L	12	8.0	400	A	7.72	196	2.20	56	4.65	118	6.70	3.00	37.10	33.20	31.43	30.51
621-1280	PS-1282S	12	8.0	400	A	4.40	112	3.86	99	4.65	118	6.70	3.00	37.10	33.20	31.43	30.54
621-1295	PS-1295	12	9.5	475	D	8.38	213	2.75	70	5.50	140	10.00	4.60	40.30	36.05	34.15	33.20
621-0390	PS-12100	12	10.0	500	A & C	5.95	151	4.00	102	3.86	98	9.20	4.20	43.65	39.10	37.03	35.99
621-1212	PS-12120	12	12.0	600	D	5.95	151	3.86	98	3.86	98	8.80	4.00	42.15	37.75	35.76	34.75
621-2120	PS-12120L	12	12.0	600	D	8.38	213	2.75	70	5.50	140	11.00	5.00	43.65	39.10	37.03	35.99
621-0395	PS-12170F	12	17.0	850	C	7.13	181	2.99	76	6.57	167	12.80	5.80	55.50	49.70	47.05	45.73
621-0397	PS-12180NB	12	17.5	875	B	7.13	181	2.99	76	6.57	167	12.80	5.80	55.50	49.70	47.05	45.73
621-1226	PS-12260	12	26.0	1300	C	6.89	175	6.54	166	4.92	125	18.70	8.50	79.85	71.50	67.68	65.76
621-1227	PS-12260NB	12	26.0	1300	B	6.89	175	6.54	166	7.15	125	18.70	8.50	79.85	71.50	67.68	65.76
621-2330	PS-12330NB	12	33.0	1650	C	7.68	197	5.19	132	6.69	182	26.50	12.00	72.85	65.20	61.73	59.99
621-0405	PS-12400NB	12	40.0	2000	B	7.75	197	6.50	165	9.05	176	27.50	12.50	103.50	92.70	87.75	85.28
621-1250	PS-12500NB	12	50.0	2500	E	9.40	239	5.50	140	9.45	230	36.00	16.40	83.33	80.64	76.92	71.42
621-6000	PS-12600NB	12	60.0	3000	E	10.25	260	6.60	168	9.45	240	39.70	18.00	115.60	103.50	97.98	95.21
621-8000	PS-12800NB	12	80.0	4000	E	12.00	305	6.60	168	2.42	240	50.00	22.70	147.50	132.10	125.05	121.53
621-0832	PS-832	8	3.2	160	A	5.28	134	1.42	86	2.70	69	1.88	0.85	20.19	18.10	17.21	16.66
621-1223	PS-1223	12	2.3	115	**	7.17	182	0.94	24	5.12	61	1.76	0.8	30.38	27.24	25.90	25.07
621-9000	PS121000	12	100	5000	E	13.07	332	6.85	174	2.42	239	70.5	32	203.85	182.55	172.80	167.93
621-0632	PS-632	6	3.2	160	A	2.60	66	1.30	33	4.80	130	1.51	0.7	17.11	15.34	14.59	14.12

*Capacity at 20-hour rate. †Height over terminal. ‡Solder Tabs. **Pressure contact.

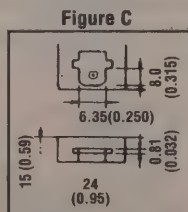
Terminal Type



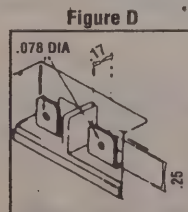
FASTON tabs .187" x .032" mate with AMP, INC. "187" series receptacles or equivalent



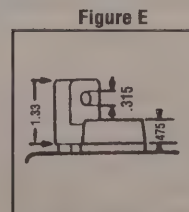
Threaded terminal post with nut and bolt terminal both in 5 mm and 6 mm diameter



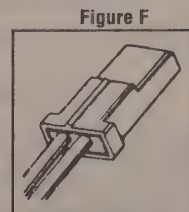
"250" FASTON, .250" x .032" mate with AMP, INC. "250" series receptacles or equivalent



Polarized positive, .250" x .032", negative, .187" x .032"



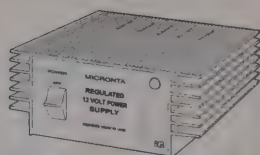
Heavy duty flag terminals



Terminated with AMP, INC. part number 1-480318-0 and female pin part number 60619-1

Regulated Power Supply

- Plugs Into 120 VAC House Current
- Powers Your Mobile CB Radio and Other Car Accessories That Use 12 VDC
- Tightly Regulated Voltage Output (Less Than 20 Millivolt Ripple)
- Safe to Use with Mobile CBs, Ham Radios, CD Players, Tape Players or Anything Powered with a Vehicle's DC Electrical System
- UL Listed
- Handy as Bench Power Supply for Electronic Experimenters or Technicians

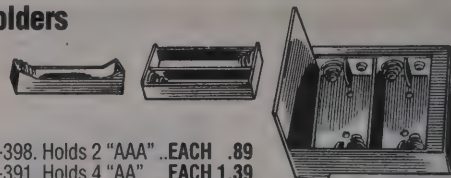


- Push-to-Reset Circuit Breaker
- LED "On" Indicator
- Massive Heat Sink for Cool Operation
- Rated 2.5 Amps Continuous

910-9964. Type 22-120. EACH 39.99

— NEW —

Battery Holders



910-5182. 270-398. Holds 2 "AAA"	EACH .89
910-5183. 270-391. Holds 4 "AA"	EACH 1.39
910-5184. 270-385. Holds 2 "C"	EACH 1.39
910-5185. 270-390. Holds 4 "C"	EACH 1.59
910-5186. 270-386. Holds 2 "D"	EACH 1.59
910-5187. 270-396. Holds 4 "D"	EACH 1.79
910-5189. 270-401. Holds 1 "AA"	EACH .79
910-5190. 270-402. Holds 1 "C"	EACH .89
910-5191. 270-403. Holds 1 "D"	EACH .99

Rechargeable Nickel Cadmium Batteries



Can be charged and discharged up to 500 times to save you both time and money. Top performance no matter how many times it's been recharged. Both "C" and "D" cells are rated 1.25 V, "AA" is rated 1 1/4 V and sold in packages of 2.

Stock No.	Mfr.'s Type	Size	Wt. Oz.	EACH
910-5175	23-123	"D"	5	6.99*
910-5176	23-124	"C"	2 1/2	6.99*
910-5177	23-125	"AA"	1	4.99*
910-5178	23-126	9 V Rect.	1 1/2	9.99
910-5179	23-127	"AAA"	1	5.99*

*Per Pkg. of 2.

Premium-Quality Alkalines

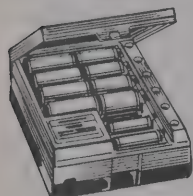


- Long Shelf Life
- High Output at Low Temperatures
- Anti-Corrosion Contacts
- Cost Less in the Long Run

These exclusive alkalines retain full power during long-term storage and give you top performance even under high current drain. For all standard uses. Non-rechargeable.

Stock No.	Mfr.'s Type	Size	Pkg. Quantity	PER PKG.
910-9015	23-551	"C"	2	2.59
910-9016	23-553	9 V Rect.	Each	2.19
910-9017	23-552	"AA"	4	2.99
910-9018	23-550	"D"	2	2.59
910-9019	23-555	"AAA"	2	1.69
910-9020	23-023	"N"	2	1.69

Battery Charger



- Automatically Regulated Charging Rate

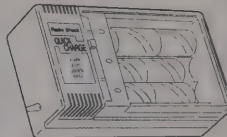
Type 23-134. Charge up to ten "C", "D" or "AA" batteries at a time in any combination of twos. Also charges up to three 9 V cells. LEDs show when system is charging. UL listed.

910-5180. Type 23-134. EACH 29.99

Universal Quick Charger

— NEW —

Type 23-233. Charges standard "D", "C", "AA", "AAA", 9 V Ni-Cd batteries in 5 hours. High capacity "D", "C" and "AA" Ni-Cd batteries require longer charging time. Holds six batteries at a time (except 9 V).



910-2333. Type 23-233. EACH 27.99

Halogen Flashlight



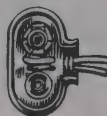
- Brighter Beam for Better Visibility
- Sturdy Construction for Long Life

Type 61-2737. 300% brighter than ordinary flashlights. Designed for durability, its water-resistant housing and lens are virtually unbreakable. Uses 2 "D" cell batteries.

910-9021. Type 61-2737. EACH 12.99

T-Type 9-Volt Battery Clips

Type 270-325. Perfect for replacement use in walkie-talkies, radios, tape players and battery-powered portable. 1/2" spacing. Fits transistor radio and other battery holder connectors. Made of sturdy plastic. Offers long life and excellent resistance to battery acid and physical stresses.



910-5205. Type 270-325. PER PKG./5 1.39

Battery Checker

- For D/C/9V/AA
- AAA/N Sizes



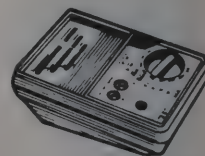
Type 22-096B. For zinc carbon, alkaline, mercury and nickel-cadmium batteries.

910-2137. Type 22-096B. White. EACH 9.99

910-2135. Type 22-096. Blue. EACH 9.99

Battery Tester

Type 22-0032. Accurately measures almost any type of battery under load conditions ranges: 1.5 volts (1-150 mA), 3, 6, 9, 12, 15, 22.5 volts. Size: 1 3/4" x 3 1/2" x 5 1/4". For battery tests only.

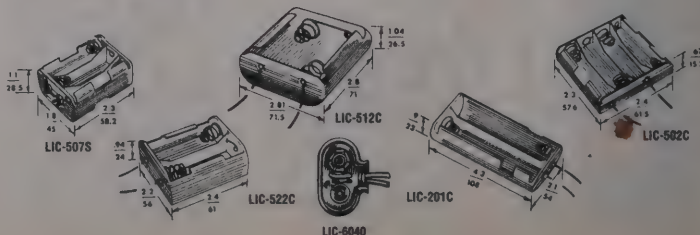


910-9023. Type 22-0032. EACH 14.99

Molded Plastic Battery Holders and Clips

Stock No.	Mfr.'s Type	Molds	Terminations	EACH			
				1-99	100-499	500-999	1000-2499
262-5077	LIC-507S	6 "AA"	Leads (6V and 9V)	.54	.49	.44	.39
262-5223	LIC-522C	2 "C"	Leads (6V and 9V)	.68	.61	.55	.50
262-5123	LIC-512C	2 "D"	Leads (6V and 9V)	1.32	1.16	.90	.86
262-2013	LIC-201C	4 "C"	Leads (6V and 9V)	.76	.68	.62	.55
262-5023	LIC-502C	4 "AA"	Leads (6V and 9V)	.56	.50	.45	.41
262-5013	LIC-501C	4 "AA"	Leads (6V and 9V)	.40	.36	.32	.29
262-6040	LIC-6040	9V	Clip 4"	.19	.17	.16	.15

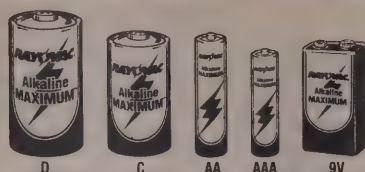
ALECTRON



Batteries

Alkaline Batteries

- High Performance Alkaline
- Ultra Low Mercury Level



Stock No.	Mfr.'s Type	NEDA	Volts	Size	Common Use	Pack Qty.	EACH	
							1-99	100-499
738-0100	813	13A	1.5	D	Instrument	1	1.40	1.22
738-0105	814	14A	1.5	C	Instrument	1	1.40	1.22
738-0110	815	15A	1.5	AA	General	1	.41	.38
738-0115	824	24A	1.5	AAA	Calculator	1	1.27	1.16
738-0120	810	910A	1.5	N	Calc./Instr.	1	2.60	2.30
738-0125	A1604-1	1604A	9V	9V	Instrument	1	1.91	1.68

Lantern Batteries

Stock No.	Mfr.'s Type	NEDA	Volts	Size	Common Use	Terminals	EACH	
							1-99	100-499
738-0200	941	906	6	Lantern	General	Spring	3.73	3.28
738-0205	942	915	6	Lantern	General	Screw	4.25	3.92
738-0210	944	906D	6	Lantern	Heavy Duty	Spring	4.74	4.37
738-0215	945	—	6	Lantern	Heavy Duty	Screw	5.32	4.91
738-0220	926	926	12	Lantern	General	Screw	12.32	11.37
738-0225	918	918	6	Lantern	General	Screw	10.18	9.40
738-0230	904	904	9	Lantern	Emer. Lights	Screw	32.30	29.81
738-0235	920	920	6	Lantern	Barricade Lights	—	4.67	4.31
738-0240	922	922	12	Lantern	Emer. Lights	Screw	39.95	36.87

Calculator and Electronic Batteries

Packaged As Singles

Stock No.	Mfr.'s Type	NEDA	Volts	Carded	Type	Shape	EACH	
							1-99	100-499
738-0400	357	1131S0	1.5	YES	Silver Oxide	Button	1.34	1.17
738-0410	386	1133S0	1.5	YES	Silver Oxide	Button	.80	.74
738-0415	389	1138S0	1.5	YES	Silver Oxide	Button	.68	.62
738-0420	392	1135S0	1.5	YES	Silver Oxide	Button	.57	.52
738-0425	393	1137S0	1.5	YES	Silver Oxide	Button	.90	.82
738-0430	CR-2025	5003L	3.0	YES	Lithium	Button	1.85	1.61
738-0435	CR-2032	—	3.0	YES	Lithium	Button	1.77	1.57

Lifex™ Lithium Coin Cell Batteries



- Lifex™ Batteries Offer High Energy Density and Voltage
- Operating Temperature Range of -40° to 85°C
- Safe and Stable Lithium System

Stock No.	Mfr.'s Type	Voltage	Capacity (mAh)	Maximum Pulse (mA)	Tab Configuration	EACH	
						1-99	100-499
738-0504	BR1225	3.0	39	8mA	None	1.28	1.21
738-0506	BR1225-T2	3.0	39	8mA	Two Tabs	1.72	1.52
738-0508	BR1225-T2V	3.0	39	8mA	Two Tabs—Vertical	2.17	1.91
738-0512	BR2016	3.0	70	10mA	None	1.33	1.24
738-0516	BR2325	3.0	180	10mA	None	1.67	1.46
738-0518	BR2325-T2	3.0	180	10mA	Two Tabs	1.96	1.80
738-0528	BR2335	3.0	300	12mA	None	1.79	1.56
738-0535	BR2335T2-1	3.0	300	12mA	Two Tabs	2.05	1.86
738-0540	BR2335T3L-1	3.0	300	12mA	Three Tabs	2.40	2.18
738-0545	BR2335T3V-1	3.0	300	12mA	Three Tabs—Vertical	2.40	2.18

Computer Clock Batteries



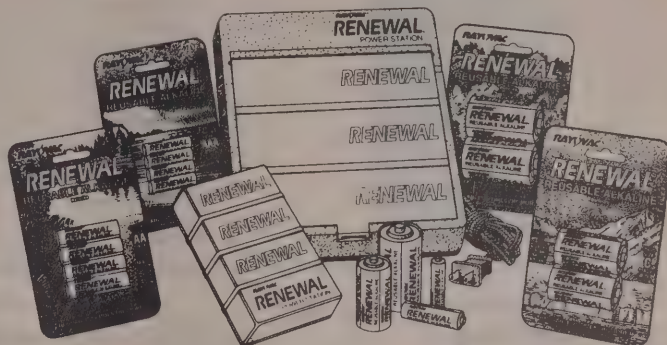
- Economical Replacement for IBM® PC-AT 286, 386 and 486 Computer and Compatibles with Standard 4-Pin Connector
- Replaces 6-Volt Lithium Batteries with No Circuit Modification

Stock No.	Mfr.'s Type	Volts	Use	EACH	
				1-99	100-499
738-0001	844-1	4.5	For IBM® PC-AT and compatible computers	9.99	9.22
738-0002	PC223A-1	6.0	For IBM® PS/2 and PC-XT/286	14.36	13.26
738-0005	840-1	4.5	For IBM® PC-AT and compatible computers	9.50	8.88

RAYVAC®

RENEWAL® Reusable Alkaline™

— NEW —



- Reusable 25 Times or More When Charged in a RENEWAL Power Station
- Longer Lasting Charge Than Old Fashioned Rechargeable Batteries
- Better for the Environment
- Easy to Use

Stock No.	Mfr.'s Type	Size	Type	Pack Qty.	EACH	
					1-99	100-499
738-0713	713-2	D	Reusable Alkaline Batteries	2	5.22	4.98
738-0714	714-2	C	Reusable Alkaline Batteries	2	5.22	4.98
738-0715	715-4	AA	Reusable Alkaline Batteries	4	5.79	5.52
738-0724	724-4	AAA	Reusable Alkaline Batteries	4	5.79	5.52
738-0725	PS1	—	Portable Power Station	—	18.16	17.32
738-6000	PS2	—	Family Power Station	—	36.32	34.64

Industrial Batteries



Stock No.	Mfr.'s Type	NEDA	Volts	Size	Type	Pack Qty.	PER PACK	
							1-99	100-499
738-1000	AL-D	13A	1.5	D	Alkaline	6	8.77	8.09
738-1005	AL-C	14A	1.5	C	Alkaline	6	8.16	7.53
738-1010	AL-AA	15A	1.5	AA	Alkaline	8	7.34	6.77
738-1015	AL-9V	1604A	9V	9V	Alkaline	6	16.11	14.87
738-1020	AL-AAA	24A	1.5	AAA	Alkaline	8	7.34	6.77
738-1025	HD-D	13D	1.5	D	Heavy Duty	6	3.61	3.24
738-1030	HD-C	14D	1.5	C	Heavy Duty	6	3.32	2.92
738-1035	HD-AA	15D	1.5	AA	Heavy Duty	8	3.57	3.13
738-1040	HD-9V	1604D	9V	9V	Heavy Duty	6	8.46	7.81
738-1045	GP-D	13F	1.5	D	General Purpose	6	3.41	3.00
738-1050	GP-C	14F	1.5	C	General Purpose	6	2.89	2.54
738-1055	GP-AA	15F	1.5	AA	General Purpose	8	2.99	2.63
738-1060	GP-9V	1604	9V	9V	General Purpose	6	5.44	5.28

Lifex™ FB Lithium Batteries



- Lifex FB™ Batteries Are Designed for Outstanding Reliability and Wide Operating Temperature Range
- Allow for Series or Parallel Interconnection Between Cells
- Stand Up to Harsh Manufacturing and User Environments

Stock No.	Mfr.'s Type	Voltage (Nominal)		Capacity (mAh)		Maximum Pulse (mA)		EACH	
		Parallel Connection	Series Connection	Parallel Connection	Series Connection	Parallel Connection	Series Connection	1-99	100-499
738-3000	FB1225H2	3.0	6.0	78	39	16	8	6.03	5.57
738-3005	FB2325H2	3.0	6.0	360	180	20	10	6.03	5.48
738-3010*	RH23H2-B	—	—	—	—	—	—	3.07	2.85

*Battery Socket for the FB2325H2.



U9VL Battery

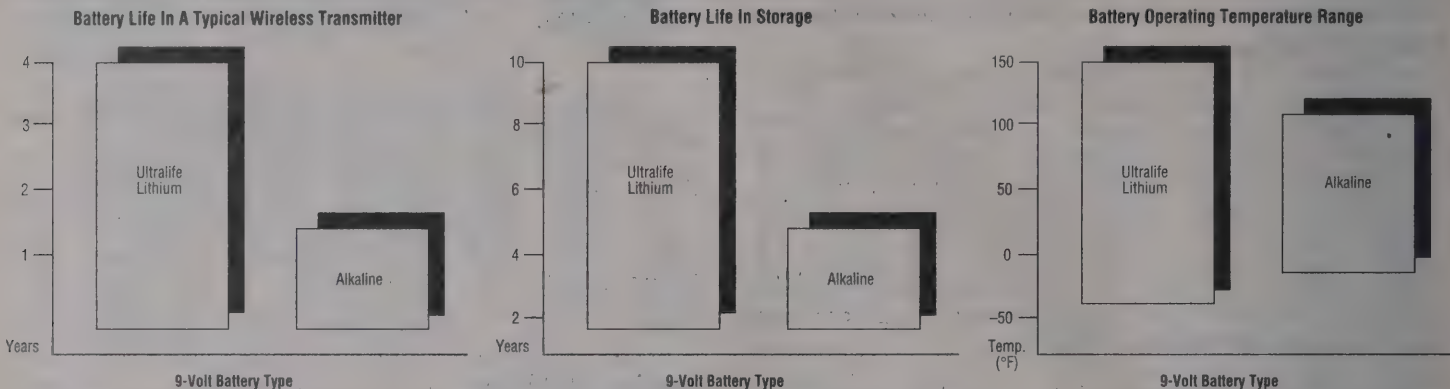
This unique lithium 9-volt battery is more powerful than any other 9-volt battery in the world. The Ultralife U9VL lasts up to 4 times longer than alkaline 9-volt batteries, 10 times longer than carbon-zinc or NiCd 9-volt batteries. Because it's lithium, the U9VL has every advantage: the highest energy-density, most reliability, longest shelf life (up to 10 years), widest operating temperature range (-40°C to 50°C), and lightest weight. Plus, the U9VL has a patented safety mechanism built in that prevents overheating and leakage due to accidental short circuiting or charging.

Ultralife makes a commitment to total quality in its high-technology lithium energy products. Made in the USA at Ultralife's state-of-the-art automated plant, the U9VL is tested to meet the strictest quality and safety standards. Ultralife batteries even carry the component recognition mark of Underwriters Laboratories (UL) — the benchmark of quality.

Specifications. Width: .674". Height: 1.933". Length: 1.039". Weight: 1.35 oz. **mAh Rating:** 1200. **Primary Applications:** Smoke Detectors, Security Devices, Medical Instruments, Meters, Radios, and Toys.

215-0010. U9VL.....EACH 5.92

The U9VL Lithium 9-Volt Battery is the Ultimate Power Source for Wireless Security System Installations



High-Energy Lithium Photo/Computer Batteries

— NEW —

The advanced Ultralife Lithium technology that created the world's longest-lasting 9-volt battery is now available in photographic batteries.

The new high-energy Ultralife Lithium Photo Batteries fit all cameras and flashes that use 3 V or 6 V lithium batteries. They also provide back-up power for many personal computers.

These batteries deliver exceptionally high energy over the widest temperature range. They also have a remarkably long shelf life, staying fresh in storage up to 10 years. And the Ultralife Lithium chemistry is environmentally friendly — 100% free of toxic metals. UL recognized.

215-0025. UB123A.....EACH 3.46
 215-0030. UB223A.....EACH 6.92
 215-0035. UB2CR5.....EACH 6.92

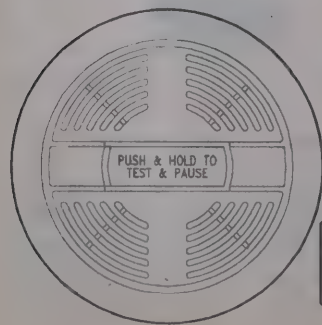
U3VL Battery

The Ultralife U3VL lithium 3-volt battery is ideal for applications requiring a power source with long life, maximum reliability, and minimum maintenance. With state-of-the-art lithium technology, the U3VL packs an incredible 3,600 mAh capacity into a remarkably compact housing (the flat, rectangular U3VL is about the same size as a normal 9-volt battery).

Because it's lithium, the U3VL has not only a tremendous energy density, but also a long shelf life (up to 10 years), a superior operating temperature range (from -40°C all the way up to 50°C), and environmentally friendly components (no mercury or other heavy metals). Plus, lithium is much lighter than alkaline and other chemistries, so it is the best battery to use for weight-critical applications. And lithium has an exceptionally flat voltage profile, so you can count on steady performance.

Specifications. Width: .660". Height: 1.764". Length: 1.017". Weight: 1.23 oz. **mAh Rating:** 3600. **Primary Applications:** Microprocessors, Memory Back-Up, Security Devices and Meters.

215-0005. U3VL.....EACH 6.46



The Ultimate Long Life™ Smoke Detector

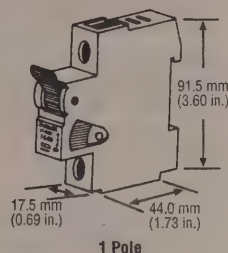
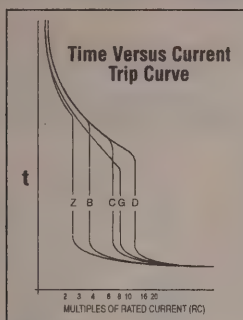
Your customers can rest easy when they buy a new ULTRALIFE® S100 Smoke and Fire Detector. It offers a six year performance warranty. No other manufacturer comes close to matching it. While other smoke detector manufacturers package their products with the cheapest batteries they can find, only the ULTRALIFE system contains the genuine ULTRALIFE 9-volt Lithium Power Cell. It delivers up to 10 times longer life than ordinary batteries. And up to four times longer life than alkaline batteries.

The new ULTRALIFE Smoke and Fire Detector with the 9-volt ULTRALIFE Lithium Power Cell and six year warranty offers you and your customers the highest security and best value in its calls. Plus it offers all the advanced features your customers expect from a high quality smoke detector.

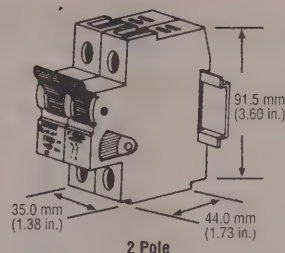
Specifications. **Detection:** Ionization. **Battery:** 9-volt Lithium Power Cell included. **Battery Life:** Six year limited warranty. **Low Battery Warning:** Up to 30 days. **Quiet Alarm:** Temporarily silences false alarms from fireplace, cigarette, and cooking smoke. **Alarm Level:** 85 dB at 10'. **Alarm Duration:** Continuous while smoke is present. **Missing Battery Indicator:** Cover won't close if battery is removed. **Indicator Light:** Solid state LED flashes every 45 seconds to show alarm is powered. **Test Button:** Tests sensitivity, circuitry, battery, and horn. **Temperature Range:** 40°F to 100°F. **Humidity Range:** 10% to 85% relative humidity.

215-0020. S100.....EACH 17.69

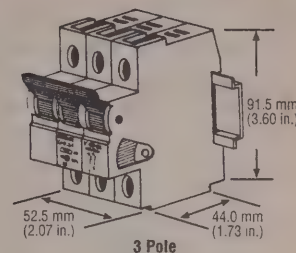
V-EA Circuit Breakers, DIN Rail Mount



1 Pole



2 Pole



3 Pole

► UL Recognized

UL® Recognized as noted for group applications of motors and other loads in addition to general purpose applications. Altech/ABL SURSUM V-EA miniature DIN rail mount circuit breakers provide an opportunity for major cost and installation time savings and superior circuit protection.

The V-EA provides disconnect, overload protection, fast half-cycle short-circuit protection and current and energy let-through limiting. It is horsepower-rated for AC across-the-line motor starting and ampere-rated for general purpose applications.

Five trip characteristics are UL® Recognized. All trip characteristics are internationally defined and accepted. The "G" characteristic matches USA and Canadian thermal/magnetic trip norms. All rated currents (RC) have the same housing dimensions and terminal sizes. The V-EA can be loaded with full rated current (100% breaker). Recognized with Line/Load reversibility, i.e., power feed can be field or factory wired to the screw-cage clamp terminals at the "top", range 8 AWG to 3 AWG, or at the "bottom", range 18 AWG to 2 AWG. The V-EA/U is intended for OEM industrial applications, and the V-EA/UC is intended for industrial and commercial applications directly under the jurisdiction of USA and Canadian electrical codes.

World Class Approvals

UL® Recognized. UL1077, group and standard circuits, ampere rated at rated current for general purpose applications and horsepower rated for motor control applications, maximum 480Y/277 VAC (480 V phase-to-phase, 277 VAC to ground/neutral) trip characteristics B, C, D, G and Z.

Ampere Rating and Horsepower Rating

Horsepower Rating: Single Phase, One Pole V-EA

Max. FLA = Rated Current	Horsepower at Nominal Line Voltage, 1φ					
	110-120 V	200 V	208 V	220-240 V	265 V	277 V
0.30 A	2.0 A*	2.0 A*	2.0 A*	2.0 A*	2.0 A*	2.0 A*
0.50 A	3.3 A*	3.3 A*	3.3 A*	3.3 A*	3.3 A*	3.3 A*
0.75/0.80 A	5.3 A*	5.3 A*	5.3 A*	5.3 A*	5.3 A*	5.3 A*
1.00 A	6.6 A*	6.6 A*	6.6 A*	6.6 A*	6.6 A*	6.6 A*
1.60 A	10.6 A*	10.6 A*	10.6 A*	10.6 A*	10.6 A*	10.6 A*
2.00 A	13.2 A*	13.2 A*	13.2 A*	1/6	1/6	1/6
2.50 A	16.5 A*	1/6	1/6	1/6	1/4	1/4
3.00 A	1/10	1/4	1/4	1/4	1/3	1/3
3.50 A	1/8	1/4	1/4	1/3	1/3	1/3
4.00 A	1/8	1/3	1/3	1/3	1/2	1/2
5.00 A	1/6	1/2	1/2	1/2	3/4	1
6.00 A	1/4	1/2	1/2	3/4	3/4	1
8.00 A	1/3	3/4	1	1	1 1/2	1 1/2
10.00 A	1/2	1 1/2	1 1/2	1 1/2	2	2
12.50/13.00 A	3/4	1 1/2	2	2	3	3
15.00/16.00 A	1	2	2	3	3	3
20.00 A	1 1/2	3	3	3	5	5
25.00 A	2	3	3	5	5	5
30.00/32.00 A	3	5	5	5	7 1/2	7 1/2
40.00 A	3	7 1/2	7 1/2	7 1/2	10	10
50.00 A	5	7 1/2	10	10	10	15

* Locked Rotor Current Rating in lieu of Horsepower Rating. †UL and CSA Pending. Single Phase and "Two Phase" HP for 2 Pole V-EA are greater than or equal to Three Phase HP.

B Characteristic

"B" Thermal 1 hour trip zone 1.13 to 1.45 times V-EA rated current (RC); Magnetic 100 ms trip boundary 3 to 5 times RC. The "B" and "C" characteristics are for special applications requiring magnetic trips at lower overcurrent levels than the "G" or "D". Its thermal trip is delayed more than USA and Canadian norms, which allows less derating in higher temperature applications.

Rated Current	"B" One Pole				"B" Two Pole				"B" Three Pole			
	Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH	
			1-24	25-Up			1-24	25-Up			1-24	25-Up
6.00 A	501-4091	1B6.0U	18.80	15.67	501-4220	2B6.0U	41.30	34.42	501-4310	3B6.0U	65.00	54.17
10.00 A	501-4092	1B10U	18.80	15.67	501-4221	2B10U	41.00	34.17	501-4311	3B10U	65.00	54.17
13.00 A	501-4093	1B13U	18.80	15.67	501-4222	2B13U	41.00	34.17	501-4312	3B13U	65.00	54.17
16.00 A	501-4094	1B16U	18.80	15.67	501-4223	2B16U	41.00	34.17	501-4313	3B16U	65.00	54.17
20.00 A	501-4095	1B20U	18.80	15.67	501-4224	2B20U	41.00	34.17	501-4314	3B20U	65.00	54.17
25.00 A	501-4096	1B25U	18.80	15.67	501-4225	2B25U	41.00	34.17	501-4315	3B25U	65.00	54.17
32.00 A	501-4097	1B32U	18.80	15.67	501-5102	2B32U	41.00	34.17	501-5106	3B32U	65.00	54.17
40.00 A	501-4098	1B40U	21.40	17.83	501-5103	2B40U	48.00	40.00	501-5107	3B40U	82.40	68.67
50.00 A	501-4099	1B50U	23.30	19.42	501-5104	2B50U	51.80	43.17	501-5108	3B50U	86.00	71.67
63.00 A	501-5101	1B63U	27.60	23.00	501-5105	2B63U	55.70	46.42	501-5109	3B63U	98.90	78.25

► Pending UL508 Listing

One Pole and One Pole Plus Neutral. Rated current 0.3 A through 4.0 A, interrupt capacity 35 kA at 277 VAC with any upstream branch-circuit protection.

One Pole and One Pole Plus Neutral. Rated currents 5.0 A through 50 A, interrupt capacity 10 kA with upstream branch circuit fuse sized 350 A or less.

Two Pole and Three Pole. Rated currents 0.3 A through 25 A, standard interrupt capacity 10 kA with upstream branch circuit fuse sized maximum four time V-EA rated current, group interrupt capacity 8.7 kA with upstream branch-circuit protection fuse sized 350 A or less.

Pending UL® Recognition. UL 1077, 2 pole and 3 pole rated currents 30 A through 50 A. Expected August 1995.

Pending UL® Listing. UL 508 for Series V-EA/UC, 1 pole, 2 pole and 3 pole, rated currents 0.3 A through 50 A. Expected September 1995.

Pending CSA Certification. CAN/CSA-C22.2 No. 14 for Series V-EA/UC, 1 pole, 2 pole and 3 pole, rated currents 0.3 A through 50 A. Expected October 1995.

International: For various trip characteristics and rated currents, CENELEC/VDE, Germanischer Lloyds, SEV, SEMKO, NEMKO, etc.

Horsepower Rating: Three Phase, Three Pole V-EA

Max. FLA = Rated Current	Horsepower at Nominal Line Voltage, 3φ				
	110-120 V	200 V	208 V	220-240 V	440-480 V
0.30 A	2.0 A*	2.0 A*	2.0 A*	2.0 A*	2.0 A*
0.50 A	3.3 A*	3.3 A*	3.3 A*	3.3 A*	3.3 A*
0.75/0.80 A	5.3 A*	5.3 A*	5.3 A*	5.3 A*	5.3 A*
1.00 A	6.6 A*	6.6 A*	6.6 A*	6.6 A*	1/2
1.60 A	10.6 A*	10.6 A*	10.6 A*	10.6 A*	3/4
2.00 A	13.2 A*	13.2 A*	1/2	1/2	1
2.50 A	16.5 A*	1/2	1/2	3/4	1 1/2
3.00 A	19.8 A*	3/4	3/4	3/4	2
3.50 A	23.1 A*	3/4	3/4	1	2
4.00 A	1/2	1	1	1	2
5.00 A	3/4	1	1 1/2	1 1/2	3
6.00 A	3/4	1 1/2	1 1/2	2	3
8.00 A	1	2	2	2	5
10.00 A	1 1/2	3	3	3	7 1/2
12.50/13.00 A	2	3	3	3	10
15.00/16.00 A	2	5	5	5	10
20.00 A	3	5	5	7 1/2	15
25.00 A	5	7 1/2	7 1/2	10	20
30.00/32.00A†	5	10	10	10	25
40.00 A†	7 1/2	10	15	15	30
50.00 A†	10	15	15	20	40

V-EA Circuit Breakers, DIN Rail Mount

"G" Characteristic

Magnetic 100 ms trip boundary is at 8 to 10 times rated current (RC) (i.e., hold for at least 100 ms at 8 times RC, trip in less than 100 ms at 10 times RC). At short-circuit currents, the V-EA typically trips in less than 1 ms and clears in less than 8 ms (half-cycle breaker).

Meets USA trip time-versus-current norms. The V-EA-G will thermally trip in about one hour at 125% of its RC, trip in less than one hour at 135% of RC, trip in less than 10 seconds at 600% of RC, hold

for at least one hour at 105% of RC, and carry 100% of RC continuously (all at cold-start from 20°C to 25°C). When at operating temperature the times will be 25% to 50% of those given for cold-starts.

IEC/CEE general industrial trip characteristic. Meets USA and Canadian thermal and magnetic trip norms. It is suitable for most general industrial applications within its ratings. Most CENELEC and Pacific Basin countries are signatories.

Rated Current	"G" One Pole				"G" Two Pole				"G" Three Pole			
	Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH	
			1-24	25-Up			1-24	25-Up			1-24	25-Up
0.30 A	501-0002	1G0.3U	18.50	15.42	501-0018	2G0.3U	41.30	34.42	501-4360	3G0.3U	62.90	52.42
0.50 A	501-4162	1G0.5U	18.50	15.42	501-4271	2G0.5U	41.30	34.42	501-4361	3G0.5U	62.90	52.42
0.75 A	501-4163	1G0.75U	18.50	15.42	501-4272	2G0.75U	41.30	34.42	501-4362	3G0.75U	62.90	52.42
0.80 A	501-4401	1G0.8U	18.50	15.42	501-4404	2G0.8U	41.30	34.42	501-4407	3G0.8U	62.90	52.42
1.00 A	501-4164	1G1.0U	18.50	15.42	501-4273	2G1.0U	41.30	34.42	501-4363	3G1.0U	62.90	52.42
1.60 A	501-4165	1G1.6U	18.50	15.42	501-4274	2G1.6U	41.30	34.42	501-4364	3G1.6U	62.90	52.42
2.00 A	501-4166	1G2.0U	18.50	15.42	501-4275	2G2.0U	41.30	34.42	501-4365	3G2.0U	62.90	52.42
2.50 A	501-4167	1G2.5U	18.50	15.42	501-4276	2G2.5U	41.30	34.42	501-4366	3G2.5U	62.90	52.42
3.00 A	501-4168	1G3.0U	18.50	15.42	501-4277	2G3.0U	41.30	34.42	501-4601	3G3.0U	62.90	52.42
3.50 A	501-4169	1G3.5U	18.50	15.42	501-4278	2G3.5U	41.30	34.42	501-4368	3G3.5U	62.90	52.42
4.00 A	501-4170	1G4.0U	18.50	15.42	501-4279	2G4.0U	41.30	34.42	501-4369	3G4.0U	62.90	52.42
5.00 A	501-0068	1G5.0U	18.50	15.42	501-4280	2G5.0U	41.30	34.42	501-4370	3G5.0U	62.90	52.42
6.00 A	501-4172	1G6.0U	18.50	15.42	501-4281	2G6.0U	38.60	32.17	501-4371	3G6.0U	59.10	49.25
8.00 A	501-4173	1G8.0U	18.50	15.42	501-4282	2G8.0U	38.60	32.17	501-4372	3G8.0U	59.10	49.25
10.00 A	501-4174	1G10U	18.50	15.42	501-4283	2G10U	38.60	32.17	501-4373	3G10U	59.10	49.25
12.00 A	501-4175	1G12U	18.50	15.42	501-4405	2G12U	38.60	32.17	501-4408	3G12U	59.10	49.25
12.50 A	501-4402	1G12.5U	18.50	15.42	501-0090	2G12.5U	38.60	32.17	501-4374	3G12.5U	59.10	49.25
15.00 A	501-0072	1G15U	18.50	15.42	501-4285	2G15U	38.60	32.17	501-4375	3G15U	59.10	49.25
16.00 A	501-4177	1G16U	18.50	15.42	501-4286	2G16U	38.60	32.17	501-4376	3G16U	59.10	49.25
20.00 A	501-4178	1G20U	18.50	15.42	501-4287	2G20U	39.60	33.00	501-4377	3G20U	59.10	49.25
25.00 A	501-4179	1G25U	18.50	15.42	501-4288	2G25U	39.60	33.00	501-4378	3G25U	59.10	49.25
30.00 A	501-0076	1G30U	18.50	15.42	501-0096	2G30U	41.30	27.50	501-0116	3G30U	59.10	49.25
32.00 A	501-4181	1G32U	18.50	15.42	501-4406	2G32U	41.30	27.50	501-4409	3G32U	59.10	49.25
40.00 A	501-4182	1G40U	18.50	15.42	501-0098	2G40U	47.90	39.92	501-0118	3G40U	73.00	60.83
50.00 A	501-4183	1G50U	21.30	15.42	501-0100	2G50U	51.50	42.92	501-0120	3G50U	79.80	66.50
60.00 A	501-0016	1G60U	21.90	18.25	501-0032	2G60U	56.40	47.00	501-0048	3G60U	86.40	72.00
63.00 A	501-4403	1G63U	21.90	18.25	501-4530	2G63U	56.40	47.00	501-4531	3G63U	86.40	72.00

"Z" Characteristic

Thermal one hour trip zone 1.05 to 1.35 times rated current (RC); Magnetic 100 ms trip zone 2 to 3 times RC. Semiconductor Protection. The "Z" characteristic is intended for protection of loads that can withstand only very low I²t energy exposure (e.g. some electronic circuits). The

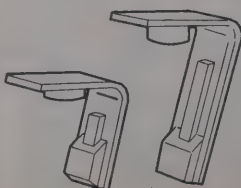
Magnetic trip is very fast. The Thermal trip is the same as the "G" and meets USA, Canadian norms. Trip Curve. Specialty defined characteristic, primarily for Semiconductor protection (test applications).

Rated Current	"Z" One Pole				"Z" Two Pole				"Z" Three Pole			
	Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH	
			1-24	25-Up			1-24	25-Up			1-24	25-Up
0.30 A	501-4191	1Z0.3U	27.60	23.00	501-4290	2Z0.3U	55.50	46.25	501-4380	3Z0.3U	111.30	92.75
0.50 A	501-4192	1Z0.5U	27.60	23.00	501-4291	2Z0.5U	55.50	46.25	501-4381	3Z0.5U	111.30	92.75
0.75 A	501-4193	1Z0.75U	27.60	23.00	501-4292	2Z0.75U	55.50	46.25	501-4382	3Z0.75U	111.30	92.75
1.00 A	501-4194	1Z1.0U	27.60	23.00	501-4293	2Z1.0U	55.50	46.25	501-4383	3Z1.0U	111.30	92.75
1.60 A	501-4195	1Z1.6U	27.60	23.00	501-4294	2Z1.6U	55.50	46.25	501-4384	3Z1.6U	111.30	92.75
2.00 A	501-4196	1Z2.0U	27.60	23.00	501-4295	2Z2.0U	55.50	46.25	501-4385	3Z2.0U	111.30	92.75
2.50 A	501-4197	1Z2.5U	27.60	23.00	501-4296	2Z2.5U	55.50	46.25	501-4386	3Z2.5U	111.30	92.75
3.00 A	501-4198	1Z3.0U	27.60	23.00	501-4297	2Z3.0U	55.50	46.25	501-4387	3Z3.0U	111.30	92.75
3.50 A	501-4199	1Z3.5U	27.60	23.00	501-4298	2Z3.5U	55.50	46.25	501-4388	3Z3.5U	111.30	92.75
4.00 A	501-4200	1Z4.0U	27.60	23.00	501-4299	2Z4.0U	55.50	46.25	501-4389	3Z4.0U	111.30	92.75
5.00 A	501-4201	1Z5.0U	27.60	23.00	501-4300	2Z5.0U	55.50	46.25	501-4390	3Z5.0U	111.30	92.75
6.00 A	501-4202	1Z6.0U	27.60	23.00	501-4301	2Z6.0U	55.50	46.25	501-4391	3Z6.0U	111.30	92.75
8.00 A	501-4203	1Z8.0U	27.60	23.00	501-4302	2Z8.0U	55.50	46.25	501-4392	3Z8.0U	111.30	92.75
10.00 A	501-4204	1Z10U	25.40	21.17	501-4303	2Z10U	53.30	44.42	501-4393	3Z10U	105.40	87.83
12.50 A	501-4205	1Z12.5U	25.40	21.17	501-4304	2Z12.5U	53.30	44.42	501-4394	3Z12.5U	105.40	87.83
15.00 A	501-4206	1Z15U	25.40	21.17	501-4305	2Z15U	53.30	44.42	501-4395	3Z15U	105.40	87.83
16.00 A	501-4207	1Z16U	25.40	21.17	501-4306	2Z16U	53.30	44.42	501-4396	3Z16U	105.40	87.83
20.00 A	501-4208	1Z20U	25.40	21.17	501-4307	2Z20U	53.30	44.42	501-4397	3Z20U	105.40	87.83
25.00 A	501-4209	1Z25U	25.40	21.17	501-4308	2Z25U	53.30	44.42	501-4398	3Z25U	105.40	87.83
30.00 A	501-4210	1Z30U	25.40	21.17	501-4500	2Z30U	53.30	44.42	501-4502	3Z30U	105.40	87.83
32.00 A	501-4211	1Z32U	25.40	21.17	501-4501	2Z32U	53.30	44.42	501-4503	3Z32U	105.40	87.83

Accessories

V-EA Touch Protectors

The V-EA protects against electrical shock during manual actuation in accordance with VDE 0106/Part 100 and VDE 0470/Part 1, with "finger safe" terminal-screw heads and "back of hand" safe terminals. If additional "touch" protection is desired, separate touch protector covers can easily be snapped on to the V-EA top and/or bottom terminals.



Lock-Outs

Prevent inadvertent resetting of the V-EA or MA during maintenance. Easily snaps on.

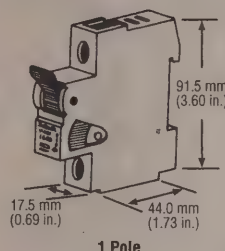
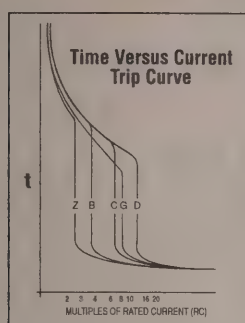


501-5120. 15-961. V-EA Bottom Terminals.....EACH .55
501-5121. 15-962. V-EA Top Terminals.....EACH .55

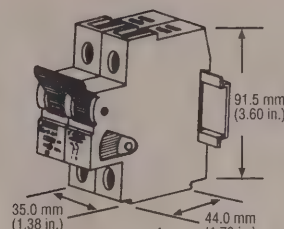
501-5122. 15-969. Lock-Out.....EACH 4.30

V-EA Circuit Breakers, DIN Rail Mount

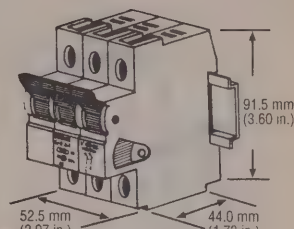
2



1 Pole



2 Pole



3 Pole

"C" Characteristic

Thermal one hour trip zone 1.13 to 1.45 times V-EA rated current (RC); Magnetic 100 ms trip boundary 5 to 10 times RC. Trip Curve. Secondary CENELEC characteristic for residential and

similar applications. Used for higher-inrush circuits, such as motor loads. As with "B", specify "VDE stamp required" for European residential applications.

Rated Current	"C" One Pole				"C" Two Pole				"C" Three Pole			
	Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH	
			1-24	25-Up			1-24	25-Up			1-24	25-Up
0.30 A	501-4101	1C0.3U	21.00	17.50	501-4230	2C0.3U	44.00	36.67	501-4320	3C0.3U	75.60	63.00
0.50 A	501-4102	1C0.5U	21.00	17.50	501-4231	2C0.5U	44.00	36.67	501-4321	3C0.5U	75.60	63.00
0.75 A	501-4103	1C0.75U	21.00	17.50	501-4232	2C0.75U	44.00	36.67	501-4322	3C0.75U	75.60	63.00
1.00 A	501-4104	1C1.0U	21.00	17.50	501-4233	2C1.0U	44.00	36.67	501-4323	3C1.0U	75.60	63.00
1.60 A	501-4105	1C1.6U	21.00	17.50	501-4234	2C1.6U	44.00	36.67	501-4324	3C1.6U	75.60	63.00
2.00 A	501-4106	1C2.0U	21.00	17.50	501-4235	2C2.0U	44.00	36.67	501-4325	3C2.0U	75.60	63.00
2.50 A	501-4107	1C2.5U	21.00	17.50	501-4236	2C2.5U	44.00	36.67	501-4326	3C2.5U	75.60	63.00
3.00 A	501-4108	1C3.0U	21.00	17.50	501-4237	2C3.0U	44.00	36.67	501-4327	3C3.0U	75.60	63.00
3.50 A	501-4109	1C3.5U	21.00	17.50	501-4238	2C3.5U	44.00	36.67	501-4328	3C3.5U	75.60	63.00
4.00 A	501-4110	1C4.0U	21.00	17.50	501-4239	2C4.0U	44.00	36.67	501-4329	3C4.0U	75.60	63.00
5.00 A	501-4111	1C5.0U	21.00	17.50	501-4240	2C5.0U	44.00	36.67	501-4330	3C5.0U	75.60	63.00
6.00 A	501-4112	1C6.0U	21.00	17.50	501-4241	2C6.0U	44.00	36.67	501-4331	3C6.0U	71.40	59.50
8.00 A	501-4113	1C8.0U	21.00	17.50	501-4242	2C8.0U	44.00	36.67	501-4332	3C8.0U	71.40	59.50
10.00 A	501-4114	1C10U	20.00	16.67	501-4243	2C10U	42.80	35.67	501-4333	3C10U	71.40	59.50
13.00 A	501-4115	1C13U	20.00	16.67	501-4244	2C13U	42.80	35.67	501-4334	3C13U	71.40	59.50
16.00 A	501-4116	1C16U	20.00	16.67	501-4245	2C16U	42.80	35.67	501-4335	3C16U	71.40	59.50
20.00 A	501-4117	1C20U	20.00	16.67	501-4246	2C20U	42.80	35.67	501-4336	3C20U	71.40	59.50
25.00 A	501-4118	1C25U	20.00	16.67	501-4447	2C25U	42.80	35.67	501-4337	3C25U	71.40	59.50
32.00 A	501-4119	1C32U	20.00	16.67	501-5111	2C32U	42.80	35.67	501-5115	3C32U	71.40	59.50
40.00 A	501-4120	1C40U	22.50	18.75	501-5112	2C40U	51.00	42.50	501-5116	3C40U	71.40	59.50
50.00 A	501-4121	1C50U	24.50	20.42	501-5113	2C50U	55.50	46.25	501-5117	3C50U	95.90	79.92
63.00 A	501-5110	1C63U	26.35	21.96	501-5114	2C63U	60.80	50.67	501-5118	3C63U	103.40	86.17

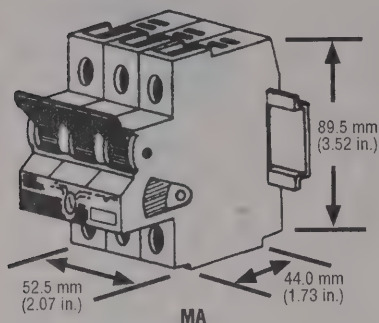
"D" Characteristic

Thermal one hour trip zone 1.13 to 1.45 times rated current (RC); Magnetic 100 ms trip boundary 10 to 16 times RC. CENELEC high-inrush industrial. The "D" characteristic meets USA and Canadian magnetic trip norms for high-inrush applications (transformers, high efficiency motors,

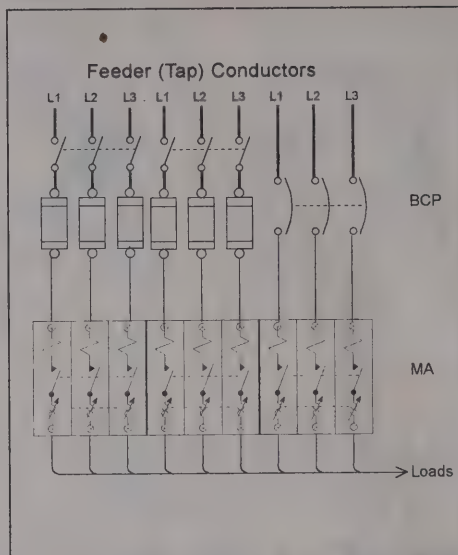
etc.) Thermal trips are the same as the "B". Trip Curve. CENELEC industrial curve, particularly for motor and similar applications. No VDE required (not for residential use).

Rated Current	"D" One Pole				"D" Two Pole				"D" Three Pole			
	Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH	
			1-24	25-Up			1-24	25-Up			1-24	25-Up
0.30 A	501-4131	1D0.3U	22.30	18.58	501-4250	2D0.3U	46.20	38.50	501-4340	3D0.3U	77.60	64.67
0.50 A	501-4132	1D0.5U	22.30	18.58	501-4251	2D0.5U	46.20	38.50	501-4341	3D0.5U	77.60	64.67
0.75 A	501-4133	1D0.75U	22.30	18.58	501-4252	2D0.75U	46.20	38.50	501-4342	3D0.75U	77.60	64.67
1.00 A	501-4134	1D1.0U	22.30	18.58	501-4253	2D1.0U	46.20	38.50	501-4343	3D1.0U	77.60	64.67
1.60 A	501-4135	1D1.6U	22.30	18.58	501-4254	2D1.6U	46.20	38.50	501-4344	3D1.6U	77.60	64.67
2.00 A	501-4136	1D2.0U	22.30	18.58	501-4255	2D2.0U	46.20	38.50	501-4345	3D2.0U	77.60	64.67
2.50 A	501-4137	1D2.5U	22.30	18.58	501-4256	2D2.5U	46.20	38.50	501-4346	3D2.5U	77.60	64.67
3.00 A	501-4138	1D3.0U	22.30	18.58	501-4257	2D3.0U	46.20	38.50	501-4347	3D3.0U	77.60	64.67
3.50 A	501-4139	1D3.5U	22.30	18.58	501-4258	2D3.5U	46.20	38.50	501-4348	3D3.5U	77.60	64.67
4.00 A	501-4140	1D4.0U	22.30	18.58	501-4259	2D4.0U	46.20	38.50	501-4349	3D4.0U	77.60	64.67
5.00 A	501-4141	1D5.0U	22.30	18.58	501-4260	2D5.0U	46.20	38.50	501-4350	3D5.0U	77.60	64.67
6.00 A	501-4142	1D6.0U	22.30	18.58	501-4261	2D6.0U	46.20	38.50	501-4351	3D6.0U	75.00	62.50
8.00 A	501-4143	1D8.0U	22.30	18.58	501-4262	2D8.0U	45.00	37.50	501-4352	3D8.0U	75.00	62.50
10.00 A	501-4144	1D10U	21.40	17.83	501-4263	2D10U	45.00	37.50	501-4353	3D10U	75.00	62.50
13.00 A	501-4145	1D13U	21.40	17.83	501-4264	2D13U	45.00	37.50	501-4354	3D13U	75.00	62.50
15.00 A	501-4146	1D15U	21.40	17.83	501-4265	2D15U	45.00	37.50	501-4355	3D15U	75.00	62.50
16.00 A	501-4147	1D16U	21.40	17.83	501-4266	2D16U	45.00	37.50	501-4356	3D16U	75.00	62.50
20.00 A	501-4148	1D20U	21.40	17.83	501-4267	2D20U	45.00	37.50	501-4800	3D20U	75.00	62.50
25.00 A	501-4149	1D25U	21.40	17.83	501-4468	2D25U	45.00	37.50	501-4358	3D25U	75.00	62.50
30.00 A	501-4150	1D30U	21.40	17.83	501-4488	2D30U	45.00	37.50	501-4494	3D30U	75.00	62.50
32.00 A	501-4151	1D32U	21.40	17.83	501-4489	2D32U	45.00	37.50	501-4495	3D32U	75.00	62.50
40.00 A	501-4152	1D40U	23.90	19.92	501-4490	2D40U	53.60	44.67	501-4496	3D40U	93.00	77.50
50.00 A	501-4153	1D50U	25.70	21.42	501-4491	2D50U	58.30	48.58	501-4497	3D50U	100.70	83.92
60.00 A	501-4486	1D60U	27.75	23.13	501-4492	2D60U	63.90	53.25	501-4498	3D60U	108.30	90.25
63.00 A	501-4487	1D63U	27.75	23.13	501-4593	2D63U	63.90	53.25	501-4499	3D63U	108.30	90.25

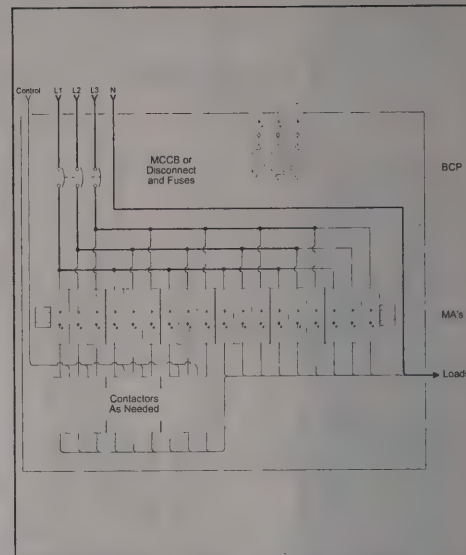
MA Three Phase Adjustable Circuit Breakers — 35 mm DIN Rail Mount



Standard Circuit



Group Circuit



The Altech/ABL SURSUM MA holds through starting and inrush currents of three phase transformers, lighting, power supplies and motors (including the new high efficiency motors) yet provides tight overload protection, fast half-cycle short-circuit protection, and current/energy let-through protection.

The MA is UL 508 Listed and UL® certified to CAN/CSA-C22.2 No. 14 (C-UL) as a manual motor controller with group ratings, and functions as a 3-phase disconnect, overload protector and controller in one compact DIN rail mounted package. It is a thermal/magnetic circuit breaker in the

IEC style with thermal overload trip curves calibrated for USA norms. With the adjustment dial set at the full-load-amps (FLA) of the load, the MA/U cold-start trips in about one hour at an overload of 115% FLA and in less than 10 seconds at 600% FLA, and hot-start trips in less than two minutes at 150% FLA (i.e., Class 10 A overload device). The MA/U is therefore suitable overload protection for all motor applications covered under NFPA70 - National Electrical Code® 430-32 (a)(1), including those with service factors less than 1.15 or temperature rise over 40°C. With screw-cage clamp terminals which accept 18 AWG to 3 AWG wire factory or field, the MA is particularly well suited for group applications and single motor taps under NEC® 430-53 (c) and (d).

Stock No.	Mfr.'s Type	Rated Current	FLA Dial Range	3ø Horsepower Ratings at Nominal Line Voltage					Group SRT. CKT. Ratings	EACH	
				110-120 V	200 V	208 V	220-240 V	440-480 V		1-24	25-Up
501-4504	MA0.16U	0.16 A	0.10 A-0.16 A	Through MA2.5U, amp rated for motor circuits having a full load amperage (FLA) not exceeding the MA's general purpose rated current (RC, equals maximum dial setting) and a locked rotor current not exceeding 6 times the MA's RC.					42 kARMS symmetrical (max. 1200 A MCCB or RK5)	81.50	67.92
501-4505	MA0.25U	0.25 A	0.16 A-0.25 A							81.50	67.92
501-4506	MA0.40U	0.40 A	0.25 A-0.40 A							81.50	67.92
501-4507	MA0.63U	0.63 A	0.40 A-0.63 A							81.50	67.92
501-4508	MA1.0U	1.00 A	0.63 A-1.00 A							81.50	67.92
501-4509	MA1.6U	1.60 A	1.00 A-1.60 A							81.50	67.92
501-4510	MA2.5U	2.50 A	1.60 A-2.50 A							81.50	67.92
501-4511	MA4.0U	4.00 A	2.50 A-4.00 A	1/2	3/4	3/4	1	2	14 kARMS symmetrical (max. 350 A MCCB or RK5)	81.50	67.92
501-4512	MA6.3U	6.30 A	4.00 A-6.30 A	3/4	1 1/2	1 1/2	1 1/2	3		81.50	67.92
501-4513	MA10U	10.00 A	6.30 A-10.00 A	1	2	2	3	5		81.50	67.92
501-4514	MA16U	16.00 A	10.00 A-16.00 A	2	3	3	5	10		89.20	74.33
501-4515	MA20U	20.00 A	16.00 A-20.00 A	3	5	5	5	10	10 kARMS symmetrical (max. 350 A MCCB or RK5)	92.20	76.83
501-4516	MA25U	25.00 A	20.00 A-25.00 A	3	5	7 1/2	7 1/2	15		98.30	81.92
501-4517	MA32U	32.00 A	25.00 A-32.00 A	5	7 1/2	7 1/2	10	20		107.70	89.75
501-4518	MA40U	40.00 A	32.00 A-40.00 A	5	10	10	10	25		119.80	99.83

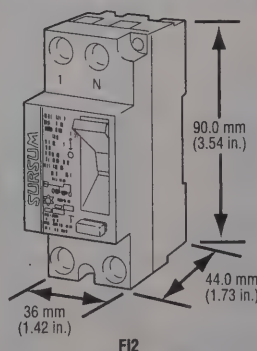
FI Earth Leakage Circuit Breakers — 35 mm DIN Rail Mount

Compact DIN rail mount Earth Leakage Circuit Breakers detect and interrupt ground faults. They are VDE approved for the European system of protecting people, animals, equipment and property from dangerous line-to-ground and shock hazard currents.

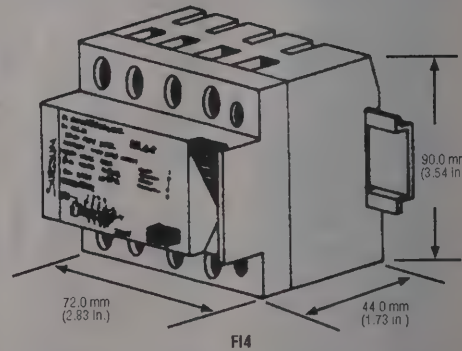
Trip-capable on decayed line voltage, marked approval of DIN/VDE, marked "Snowflake" temperature range, marked trip sensitivity to pulsed as well as sinusoidal fault currents, integral test circuit, insensitive to vibration, etc.

US applications include ground fault protection of equipment (GFPE) using the 10 mA and 30 mA fault current ratings, especially when high distributed capacitance or other leakage cause excessive nuisance trips at lower fault currents. Applications for the 300 mA rating are equipment protection and fire prevention by limiting the energy of a fault to less than the minimum ignition energy for many materials.

The FI is not intended to repeatedly make/break currents above rated line current. Breaking capacity is 1500 A for rated line currents through 40 A and 2000 A for 63 A line. Limit let-through to 30,000 A's for FI-2 and 80,000 A's for FI-4, or use gL fuses for 10 kA withstand capacity: 16 A line = 63 A fuse; 25 A and 40 A line = 80 A fuse; 63 A line = 100 A fuse.



FI2



FI4

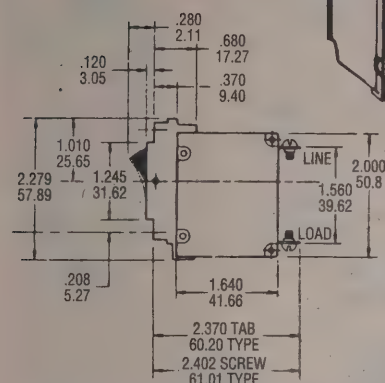
Two Pole Single Phase 240 VAC Max.

Stock No.	Mfr.'s Type	Rated Line Current	Fault Trip Current	EACH	
				1-24	25-Up
501-4519	FI21.01	16 A	10 mA	215.00	179.17
501-4520	FI22.03	25 A	30 mA	205.00	170.83
501-4521	FI22.30	25 A	300 mA	240.00	200.00
501-4522	FI23.03	40 A	30 mA	210.00	175.00
501-4523	FI23.30	40 A	300 mA	240.00	200.00

Four Pole Two/Three Phase 415 VAC Max.

Stock No.	Mfr.'s Type	Rated Line Current	Fault Trip Current	EACH	
				1-24	25-Up
501-4524	FI42.03	25 A	30 mA	235.00	195.83
501-4525	FI42.30	25 A	300 mA	266.00	221.67
501-4526	FI43.03	40 A	30 mA	235.00	195.83
501-4527	FI43.30	40 A	300 mA	266.00	221.67
501-4528	FI44.03	63 A	30 mA	415.00	345.83
501-4529	FI44.30	63 A	300 mA	255.00	212.50

A Series



VISI-Rocker Circuit Protection

Unique molded-in two-color rocker actuator indicates "tripped" mode when breaker is on or off (per illustrations) series trip, 6-32 threaded mtg. inserts, push on .250 tab terminals. Rated at 250 VAC/65 VDC. Series trip curve-34 (AC-DC tpe) trip point is 135%. Recognized by UL, Inc. and are CSA certified.

Indicate On

Stock No.	Mfr.'s Type	Amps	EACH		
			1-9	10-24	25-49
683-0001	AC1-B0-34-450-1G1-C	5	16.50	15.23	14.44
683-0002	AC1-B0-34-610-1G1-C	10	16.50	15.23	14.44
683-0003	AC1-B0-34-615-1G1-C	15	16.50	15.23	14.44
683-0004	AC1-B0-34-620-1G1-C	20	16.50	15.23	14.44
683-0005	AC1-B0-34-625-1G1-C	25	16.50	15.23	14.44
683-0006	AC1-B0-34-630-1G1-C	30	16.50	15.23	14.44

Indicate Off

683-0007	AF1-BO-34-450-1G1-C	5	16.50	15.23	14.44
683-0008	AF1-BO-34-610-1G1-C	10	16.50	15.23	14.44
683-0009	AF1-BO-34-615-1G1-C	15	16.50	15.23	14.44
683-0010	AF1-BO-34-620-1G1-C	20	16.50	15.23	14.44
683-0011	AF1-BO-34-625-1G1-C	25	16.50	15.23	14.44
683-0012	AF1-BO-34-630-1G1-C	30	16.50	15.23	14.44

BA and CA Series Circuit Breakers

All "B" and "C" series magnetic circuit breakers are recognized by UL, Inc. and are CSA certified and VDE approved.

All products are of a series trip construction, with 6-32 threaded mounting inserts, dual "I-O/ON-OFF" markings on a black toggle actuator, and come with .250" tab (Q.C.) terminals on the "B" series, and 10-32 threaded stud terminals on the "C" series. All units are supplied with an all purpose medium, AC-DC delay curve #34, rated at 227 VAC/65 VDC with trip times as shown below

Percentage of rated current with trip time in seconds: 135%—1.8-100; 200%—.60-20; 400%—.15-3; 600%—.03-1.3; 800%—.004-60; 1000%—.004-1.

BA1-Series (1-Pole)

Stock No.	Mfr.'s Type	Amps	EACH		
			1-9	10-24	25-49
683-0013	BA1-BO-34-425-121-D	2.5	14.50	13.38	12.43
683-0014	BA1-BO-34-450-121-D	5.0	14.50	13.38	12.43
683-0015	BA1-BO-34-610-121-D	10.0	14.50	13.38	12.43
683-0016	BA1-BO-34-615-121-D	15.0	14.50	13.38	12.43
683-0017	BA1-BO-34-620-121-D	20.0	14.50	13.38	12.43
683-0018	BA1-BO-34-630-121-C*	30.0	14.50	13.38	12.43

BA2-Series (2-Pole)

683-0019	BA2-BO-34-450-121-D	5.0	37.00	34.15	31.71
683-0020	BA2-BO-34-610-121-D	10.0	37.00	34.15	31.71
683-0021	BA2-BO-34-615-121-D	15.0	37.00	34.15	31.71
683-0022	BA2-BO-34-620-121-D	20.0	37.00	34.15	31.71
683-0023	BA2-BO-34-630-121-C*	30.0	37.00	34.15	31.71

BA3-Series (3-Pole)

683-0024	BA3-B0-34-610-121-C*	10.0	62.50	57.69	53.57
683-0025	BA3-B0-34-620-121-C*	20.0	62.50	57.69	53.57
683-0026	BA3-B0-34-630-121-C*	30.0	62.50	57.69	53.57

CA1-Series (1-Pole)

683-0027	CA1-B0-34-450-121-C	5.0	19.95	18.42	17.10
683-0028	CA1-B0-34-610-121-C	10.0	19.95	18.42	17.10
683-0029	CA1-B0-34-615-121-C	15.0	19.95	18.42	17.10
683-0030	CA1-B0-34-620-121-C	20.0	19.95	18.42	17.10
683-0031	CA1-B0-34-630-121-C	30.0	19.95	18.42	17.10
683-0032	CA1-B0-34-640-121-C	40.0	19.95	18.42	17.10
683-0033	CA1-B0-34-650-121-C	50.0	19.95	18.42	17.10

CA2-Series (2-Pole)

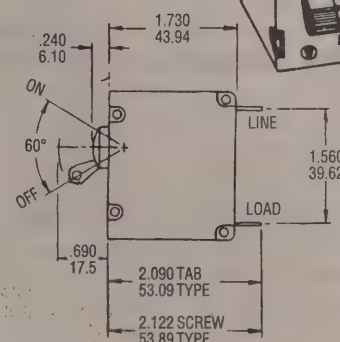
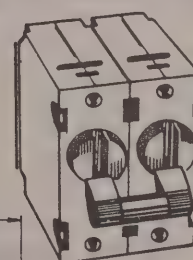
683-0034	CA2-80-34-450-121-C	5.0	54.65	50.45	46.84
683-0035	CA2-80-34-610-121-C	10.0	54.65	50.45	46.84
683-0036	CA2-80-34-615-121-C	15.0	54.65	50.45	46.84
683-0037	CA2-80-34-620-121-C	20.0	54.65	50.45	46.84
683-0038	CA2-80-34-630-121-C	30.0	54.65	50.45	46.84
683-0039	CA2-80-34-640-121-C	40.0	54.65	50.45	46.84
683-0040	CA2-80-34-650-121-C	50.0	54.65	50.45	46.84

CA3-Series (3-Pole)

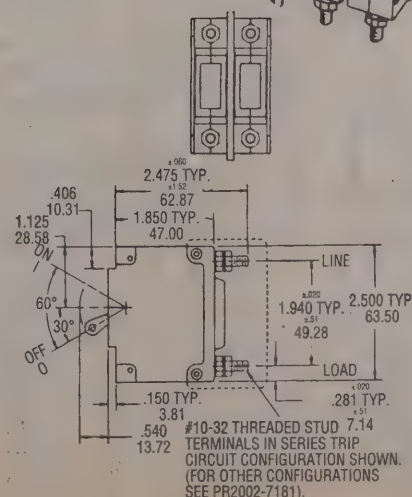
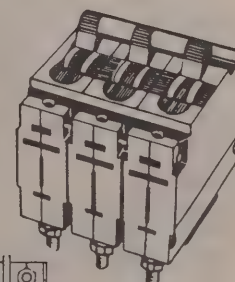
683-0041	CA3-B0-34-450-121-C	5.0	86.25	79.62	73.93
683-0042	CA3-B0-34-610-121-C	10.0	86.25	79.62	73.93
683-0043	CA3-B0-34-615-121-C	15.0	86.25	79.62	73.93
683-0044	CA3-B0-34-620-121-C	20.0	86.25	79.62	73.93
683-0045	CA3-B0-34-630-121-C	30.0	86.25	79.62	73.93
683-0046	CA3-B0-34-640-121-C	40.0	86.25	79.62	73.93
683-0047	CA3-B0-34-650-121-C	50.0	86.25	79.62	73.93

*UL Recognized and CSA Certified Only.

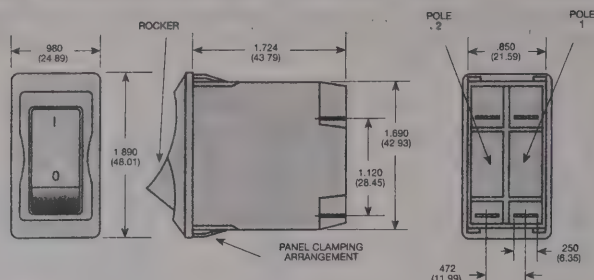
B Series



C Series



Model W33 Rocker Thermal Circuit Breaker



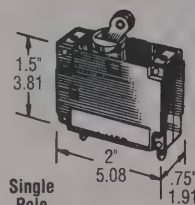
Switchable Rocker Actuated Thermal Circuit Breaker in convenient, snap-in mounting. Trip-free operation. Calibrated to continuously carry 100% of rated load. It may trip between 101% and 135% of rated load, but must trip at 135% within 1 hour at +25°C. **Dielectric Strength:** over 2,000 volts RMS. **Maximum Operating Voltages:** 50 VDC, 250 VAC to 400 Hz. **Interrupt Capacity:** 1,000 Amps at 50 VDC; 250 VAC, 60 Hz; 125/250 VAC, 400 Hz; 1,500 amps at 125/250 VAC, 60 Hz. **1/4" Quick-Connect/Solder Terminals.** **International Marking:** I/O. **Poles:** S type, Pole 1 — Switch only; Pole 2 — series trip overload sensing. T type, Poles 1 and 2 — Series Trip Overload Sensing. UL Recognized, CSA Certified. Designed to meet requirements of IEC and VDE.

Stock No.	Mfr.'s Type	Amps	Rocker Color	Lighted	EACH		
					1-24	25-49	50-99
989-5501	W33-S1NIQ-5	5	Black	No	7.99	7.59	6.93
989-5511	W33-S4BIQ-10*	10	Amber	Yes	9.09	8.64	8.02
989-5512	W33-S4BIQ-15*	15	Amber	Yes	9.09	8.64	8.02
989-5517	W33-T2NIQ-20	20	White	No	8.82	8.38	7.83
989-5518	W33-T4BIQ-5*	5	Amber	Yes	9.92	9.43	8.55
989-5519	W33-T4BIQ-10*	10	Amber	Yes	9.92	9.43	8.55
989-5520	W33-T4BIQ-15*	15	Amber	Yes	9.92	9.43	8.55

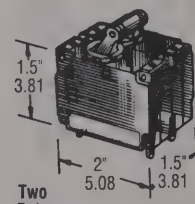
*120 VAC (Neon with Resistor).

Mini-Mag Hydraulic-Magnetic Circuit Breakers

Rugged construction protects to 30 amps, to 277 volts, 60 Hz AC. Accurately calibrated to carry 100% of rated load and to trip at between 101% and 125% of load. Trip time at 200% of rated load is from 2.2 to 20 seconds. On heavy overloads, a spring-loaded iron piston moves instantly for immediate circuit interruption. Operation unaffected by ambient conditions. Terminals are .250" Quick Disconnect type. **Humidity Resistance:** per MIL-STD-202. **Dielectric Strength:** 1500 VAC 60 Hz. **Reset Time:** instantaneous. **Voltage Drop:** less than 1.5 V at 1 A or more. **Shock and Vibration:** tested per MIL-STD-202. **Operating Temperature:** -40°C to +85°C. **Insulation Resistance:** 100 megs at 500 VDC. Fungus resistant. **Interrupt Capacity:** 5-20A — 5,000 amps; 30A — 2,500 amps. **Shipping Weight:** 2.5 oz. per pole. UL recognized and CSA certified.



Single Pole



Two Pole

Single-Pole

Stock No.	Mfr.'s Type	Amps	EACH		
			1-24	25-49	50-99
989-5532	W67-X2Q1-2-5	5	24.01	22.82	21.61
989-5541	W67-X2Q1-2-15	15	24.01	22.82	21.61

Two-Pole

Stock No.	Mfr.'s Type	Amps	EACH		
			1-24	25-49	50-99
989-5591	W68-X2Q1-2-10	10	57.16	54.31	51.45
989-5501	W68-X2Q1-2-20	20	57.16	54.31	51.45
989-5611	W68-X2Q1-2-30	30	57.16	54.31	51.45

Model W23 Pushbutton Circuit Breakers

Single-pole with trip-free mechanism. Overload condition extends button, exposing white band for visible trip indication. Meets MIL-STD: 202, method 106—humidity; 202, method 101, test condition B—salt spray. **Endurance Cycling:** 6000+ at 100% rating, 10,000 mechanical cycles. **Max. Operating Voltages:** 50 VDC; 250 VAC (to 400 Hz). **Weight:** less than 2 oz. UL recognized, CSA certified.



Stock No.	Mfr.'s Type	Amps	Trip Time @ 200% Rating	EACH		
				1-24	25-49	50-99
989-6064	W23-X1A1G-5	5	6-22 seconds	19.68	18.69	17.71
989-6067	W23-X1A1G-10	10	6-22 seconds	19.68	18.69	17.71
989-6069	W23-X1A1G-15	15	6-22 seconds	19.68	18.69	17.71
989-6073	W23-X1A1G-20	20	6-22 seconds	19.68	18.69	17.71
989-6074	W23-X1A1G-25	25	6-22 seconds	19.68	18.69	17.71
989-6075	W23-X1A1G-30	30	6-22 seconds	19.68	18.69	17.71

Magnetic Type Circuit Breakers



For 60 Hz AC, up to 277 V. Will carry 100% of rated load indefinitely, with ultimate trip at 125%. **Trip Time:** 2.2-20 seconds at 200%. **Interrupt Capacity:** 5000 amps at 277 VAC. UL recognized.

Fig. A—Single-Pole AC Type

Stock No.	Mfr.'s Type	Amps	EACH		
			1-24	25-49	50-99
989-6188	W91-X112-10	10	28.00	26.61	25.21
989-6193	W91-X112-15	15	28.00	26.61	25.21
989-6198	W91-X112-20	20	28.00	26.61	25.21

Fig. B—Two-Pole AC Type

Stock No.	Mfr.'s Type	Amps	EACH		
			1-24	25-49	50-99
989-6355	W92-X112-15	15	67.16	63.80	60.45
989-6356	W92-X112-20	20	67.16	63.80	60.45
989-6366	W92-X112-30	30	67.16	63.80	60.45
989-6717	W92-X112-50	50	67.16	63.80	60.45

Fig. C—Three-Pole AC Type

Stock No.	Mfr.'s Type	Amps	1-24	25-49	50-99
989-6440	W93-X112-30	30	91.09	84.59	78.93

Fuseholder-Type Thermal Circuit Breaker

W28 Series. Single pole breakers occupy about the same space as fuseholders. Dielectric strength over 1,500 volts RMS. Max. oper. voltages are 32 VDC, 250 VAC. **Approx. Weight:** 0.35 oz. (10 g). UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Amps	Trip Time @ 200% of Load	EACH		
				1-24	25-49	50-99
989-6701	W28-XQ1A-1	1	4.5-28 seconds @ +25°C	7.62	7.24	6.84
989-6702	W28-XQ1A-2	2	4.5-28 seconds @ +25°C	7.95	7.53	7.15
989-6703	W28-XQ1A-3	3	2.2-15 seconds @ +25°C	4.29	4.05	3.50
989-6705	W28-XQ1A-5	5	2.2-15 seconds @ +25°C	4.29	4.05	3.50
989-6707	W28-XQ1A-7	7	2.2-15 seconds @ +25°C	4.29	4.05	3.50
989-6710	W28-XQ1A-10	10	2.2-15 seconds @ +25°C	4.29	4.05	3.50
989-6715	W28-XQ1A-15	15	2.2-15 seconds @ +25°C	4.29	4.05	3.50

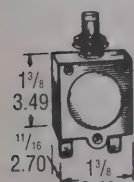
Model W31 Toggle Actuated Circuit Breakers

Single pole with toggle trip lever; trip-free mechanism. Wipe-on make contacts lessen voltage drop. Meets MIL-STD 202, method 106—humidity; 202, method 101, test condition B—salt spray. **Endurance Cycling:** 6000+ at 100% of rating, 10,000 mechanical cycles. **Maximum Operating Voltages:** 50 VDC; 250 VAC (to 400 Hz). **Weight:** less than 2 oz. UL recognized, CSA certified.



Stock No.	Mfr.'s Type	Amps	Trip Time @ 200% Rating	EACH		
				1-24	25-49	50-99
989-6131	W31-X2M1G-5	5	6-22 seconds	23.68	22.50	21.33
989-6134	W31-X2M1G-10	10	6-22 seconds	23.68	22.50	21.33
989-6137	W31-X2M1G-15	15	6-22 seconds	23.68	22.50	21.33
989-6140	W31-X2M1G-20	20	6-22 seconds	23.68	22.50	21.33
989-6143	W31-X2M1G-25	25	6-22 seconds	23.68	22.50	21.33
989-6146	W31-X2M1G-30	30	6-22 seconds	23.68	22.50	21.33
989-6716	W31-X2M1G-35	35	6-22 seconds	23.68	22.50	21.33

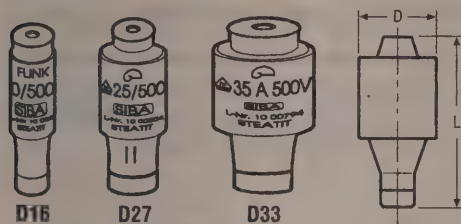
Model W58X Push-To-Reset Type Thermal Circuit Breakers



Here's an economical way to get low current protection. Button extends to indicate overload. **Max. Operating Voltage:** 250 VAC and 50 VDC. Carries 100% of rated load with ultimate trip at 145%. **Tripping Time:** for 1 to 4 amps is 10-45 sec. at 200%; 5 amps and up is 6-30 sec. at 200%. **Dielectric Strength:** over 1500 volts RMS. **Voltage Drop:** less than 1 1/2 volts. **Interrupt Capacity:** 2000 A at 500 VDC, 1000 A at 250 VAC. UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Amps	EACH		
			1-24	25-49	50-99
989-6486	W58-XB1A4A-1	1	10.07	9.57	9.07
989-6487	W58-XB1A4A-2	2	10.07	9.57	9.07
989-6488	W58-XB1A4A-3	3	10.07	9.57	9.07
989-6490	W58-XB1A4A-5	5	6.47	6.14	5.84
989-6491	W58-XB1A4A-7	7	6.47	6.14	5.84
989-6492	W58-XB1A4A-10	10	6.47	6.14	5.84
989-6496	W58-XB1A4A-15	15	6.47	6.14	5.84
989-6501	W58-XB1A4A-20	20	6.47	6.14	5.84

Diazed Fuses (Bottle Fuses)



Dimensions mm (In.)

Diazed Fuses	Length (L)	Diameter (D)
A	50.0 (1.97)	12.5 (0.50)
B	50.0 (1.97)	22.0 (0.87)
C	50.0 (1.97)	27.0 (1.06)

500 VAC; DIN 49360, 49515/VDE 0636/IEC 269.

gL/gG Slow Blow

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0101	2D16SB	2	A	2.50	2.13
299-0103	4D16SB	4	A	2.50	2.13
299-0105	6D16SB	6	A	2.50	2.13
299-0107	10D16SB	10	A	2.50	2.13
299-0109	16D16SB	16	A	2.50	2.13
299-0111	20D16SB	20	A	2.50	2.13
299-0113	25D16SB	25	A	2.50	2.13
299-0115	2D27SB	2	B	2.20	1.87
299-0117	4D27SB	4	B	2.20	1.87
299-0119	6D27SB	6	B	2.00	1.70
299-0121	10D27SB	10	B	2.00	1.70
299-0123	16D27SB	16	B	2.00	1.70
299-0125	20D27SB	20	B	2.00	1.70
299-0127	25D27SB	25	B	2.00	1.70
299-0129	35D33SB	35	C	2.50	2.13
299-0131	50D33SB	50	C	2.50	2.13
299-0133	63D33SB	63	C	2.50	2.13

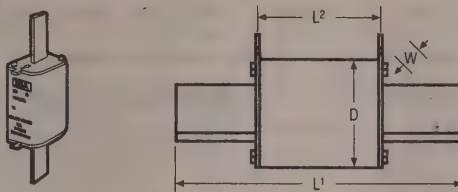
Fast Blow

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0135	2D16FB	2	A	2.50	2.13
299-0137	4D16FB	4	A	2.50	2.13
299-0139	6D16FB	6	A	2.50	2.13
299-0141	10D16FB	10	A	2.50	2.13
299-0143	16D16FB	16	A	2.50	2.13
299-0145	20D16FB	20	A	2.50	2.13
299-0147	25D16FB	25	A	2.50	2.13
299-0149	2D27FB	2	B	2.20	1.87
299-0151	4D27FB	4	B	2.20	1.87
299-0153	6D27FB	6	B	2.00	1.70
299-0155	10D27FB	10	B	2.00	1.70
299-0157	16D27FB	16	B	2.00	1.70
299-0159	20D27FB	20	B	2.00	1.70
299-0161	25D27FB	25	B	2.00	1.70
299-0163	35D33FB	35	C	2.50	2.13
299-0165	50D33FB	50	C	2.50	2.13
299-0167	63D33FB	63	C	2.50	2.13

gR Superfast Blow — Semiconductor Protection

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0169	2D16SC	2	A	5.00	4.50
299-0171	4D16SC	4	A	5.00	4.50
299-0173	6D16SC	6	A	5.00	4.50
299-0175	10D16SC	10	A	5.00	4.50
299-0177	16D16SC	16	A	5.00	4.50
299-0179	20D16SC	20	A	5.00	4.50
299-0181	25D16SC	25	A	5.00	4.50
299-0183	30D16SC	30	A	7.00	6.30
299-0185	2D27SC	2	B	5.00	4.50
299-0187	4D27SC	4	B	5.00	4.50
299-0189	6D27SC	6	B	4.80	4.32
299-0191	10D27SC	10	B	4.80	4.32
299-0193	16D27SC	16	B	4.80	4.32
299-0195	20D27SC	20	B	4.80	4.32
299-0197	25D27SC	25	B	4.80	4.32
299-0199	30D27SC	30	B	4.90	4.41
299-0201	35D33SC	35	C	6.00	5.40
299-0203	50D33SC	50	C	6.20	5.58
299-0205	63D33SC	63	C	6.40	5.76

NH Fuses



Dimensions mm (In.)

NH Fuses*	Overall Length (L1)	Body Length (L2)	Depth (D)	Width (W)
D	78 (3.10)	48 (1.89)	36 (1.42)	20 (0.79)

*To DIN 43620.

gL/gG. 500 VAC; VDE 0635/IEC 269; 120 kA at 500 VAC.

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-49	50-249
299-0257	2NH00GL	2	D	9.00	8.10
299-0259	4NH00GL	4	D	9.00	8.10
299-0261	6NH00GL	6	D	7.00	6.30
299-0263	10NH00GL	10	D	7.00	6.30
299-0265	16NH00GL	16	D	7.00	6.30
299-0267	20NH00GL	20	D	7.00	6.30
299-0269	25NH00GL	25	D	7.00	6.30
299-0271	32NH00GL	32	D	7.00	6.30
299-0272	35NH00GL	35	D	7.00	6.30
299-0273	40NH00GL	40	D	7.00	6.30
299-0275	50NH00GL	50	D	7.00	6.30
299-0277	63NH00GL	63	D	7.00	6.30
299-0279	80NH00GL	80	D	7.00	6.30
299-0281	100NH00GL	100	D	7.00	6.30
299-0418	125NH00GL	125	D	8.00	7.20
299-0420	160NH00GL	160	D	8.00	7.20

gR — Semiconductor Protection 660 VAC

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0422	16NH00GR-6	16	D	22.50	20.25
299-0424	20NH00GR-6	20	D	22.50	20.25
299-0426	25NH00GR-6	25	D	22.50	20.25
299-0428	32NH00GR-6	32	D	22.50	20.25
299-0430	40NH00GR-6	40	D	25.00	22.50
299-0432	50NH00GR-6	50	D	25.00	22.50
299-0434	63NH00GR-6	63	D	25.00	22.50
299-0436	80NH00GR-6	80	D	25.00	22.50
299-0438	100NH00GR-6	100	D	25.50	22.95
299-0440	125NH00GR-6	125	D	24.00	21.60

Neozed Fuses



Dimensions mm (In.)

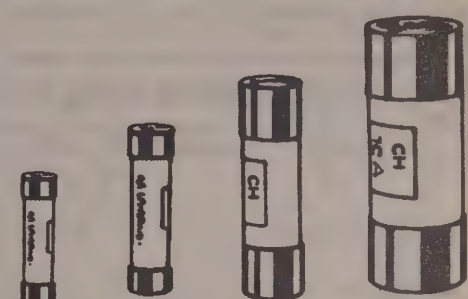
Neozed Fuses	Length (L)	Diameter (D)
E	36.0 (1.42)	11.0 (0.43)
F	36.0 (1.42)	15.3 (0.60)

gL Slow Blow. 380 VAC, 250 VDC; DIN 49522/VDE 0636/IEC 269. Low Power Loss.

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0399	2NZ01GL	2	E	2.50	2.13
299-0401	4NZ01GL	4	E	2.50	2.13
299-0403	6NZ01GL	6	E	2.50	2.13
299-0405	10NZ01GL	10	E	2.50	2.13
299-0407	16NZ01GL	16	E	2.50	2.13
299-0409	20NZ02GL	20	F	2.50	2.13
299-0411	25NZ02GL	25	F	2.50	2.13
299-0413	35NZ02GL	35	F	3.50	3.15
299-0415	50NZ02GL	50	F	3.50	3.15
299-0417	63NZ02GL	63	F	3.50	3.15

Cylinder Fuses

— NEW —



8 x 32 10 x 38 14 x 51 22 x 58

Dimensions mm (In.)

Cylinder Fuses	Length (L)	Diameter (D)
G	32.0 (1.25)	8.0 (.31)
H	38.0 (1.49)	10.0 (.39)
I	51.0 (2.00)	14.0 (.55)
J	58.0 (2.28)	22.0 (.86)

NFC 61200, NFC63210, NFC63211.

gl. 380 VAC 8 x 32 mm (.31 x 1.25")

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0442	2C8x32GI	2	G	1.60	1.44
299-0444	4C8x32GI	4	G	1.60	1.44
299-0446	6C8x32GI	6	G	1.60	1.44
299-0448	8C8x32GI	8	G	1.60	1.44
299-0450	10C8x32GI	10	G	1.60	1.44
299-0452	12C8x32GI	12	G	1.60	1.44
299-0454	16C8x32GI	16	G	1.60	1.44
299-0456	20C8x32GI	20	G	1.60	1.44

gl. 500 VAC 10 x 38 mm (.39 x 1.49")

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0458	1C10x38GI	1	H	1.60	1.44
299-0460	2C10x38GI	2	H	1.60	1.44
299-0462	4C10x38GI	4	H	1.60	1.44
299-0464	6C10x38GI	6	H	1.60	1.44
299-0466	8C10x38GI	8	H	1.60	1.44
299-0470	10C10x38GI	10	H	1.60	1.44
299-0472	12C10x38GI	12	H	1.60	1.44
299-0474	16C10x38GI	16	H	1.60	1.44
299-0476	20C10x38GI	20	H	1.60	1.44
299-0478	25C10x38GI	25	H	1.60	1.44
299-0480	32C10x38GI	32	H	1.60	1.44

gl. 660 VAC 14 x 51 mm (.55 x 2")

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0482	2C14x51GI	2	I	1.80	1.62
299-0484	4C14x51GI	4	I	1.80	1.62
299-0486	6C14x51GI	6	I	1.80	1.62
299-0488	8C14x51GI	8	I	1.80	1.62
299-0490	10C14x51GI	10	I	1.80	1.62
299-0492	12C14x51GI	12	I	1.80	1.62
299-0494	16C14x51GI	16	I	1.80	1.62
299-0496	20C14x51GI	20	I	1.80	1.62
299-0498	25C14x51GI	25	I	2.00	1.80
299-0500	32C14x51GI	32	I	2.00	1.80
299-0502	40C14x51GI	40	I	2.00	1.80
299-0504	50C14x51GI	50	I	2.00	1.80

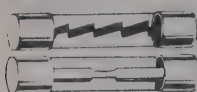
gl. 660 VAC 22 x 58 mm (.86 x 2.28")

Stock No.	Mfr.'s Type	Amps	Dim.	EACH	
				1-99	100-499
299-0506	6C22x58GI	6	J	3.50	3.15
299-0508	8C22x58GI	8	J	3.50	3.15
299-0510	10C22x58GI	10	J	3.50	3.15
299-0512	12C22x58GI	12	J	3.50	3.15
299-0514	16C22x58GI	16	J	3.50	3.15
299-0516	20C22x58GI	20	J	3.50	3.15
299-0518	25C22x58GI	25	J	3.50	3.15
299-0520	32C22x58GI	32	J	3.50	3.15
299-0522	40C22x58GI	40	J	3.50	3.15
299-0524	50C22x58GI	50	J	3.50	3.15
299-0526	63C22x58GI	63	J	3.50	3.15
299-0528	80C22x58GI	80	J	4.00	3.60
299-0530	100C22x58GI	100	J	4.00	3.60
299-0532	125C22x58GI	125	J	4.00	3.60

2 Bussmann Information Fax 314-527-1450

Bussmann product information at your convenience. Available 24 hours a day — 7 days a week. Please have your fax number ready when you call.

To speak with a Customer Satisfaction Representative please call 314-527-3877 (Monday-Friday, 8 am-5 pm central).



AGC Fast-Acting 1/4" x 1 1/4" Fuses

Test Specifications: carry 110%, open at 135% within 1 hour. UL listed 250 V. UL Recognized. 32V. CSA certified. Formerly called 3AG.

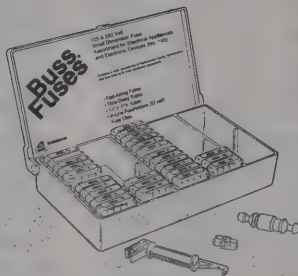
Stock No.	Amps	Volts	EACH*		
			5-45	50-245	250-Up
740-0120	1/16	250	1.07	.96	.86
740-0126	1/8	250	1.07	.95	.86
740-0128	3/16	250	1.08	.96	.86
740-0106	2/10	250	1.08	.96	.86
740-0107	1/4	250	.60	.52	.47
740-0131	3/10	250	.59	.51	.46
740-0132	3/8	250	.60	.53	.47
740-0133	1/2	250	.42	.38	.34
740-0134	9/10	250	.40	.36	.32
740-0130	3/4	250	.41	.37	.33
740-0113	1	250	.34	.29	.24
740-9125	1 1/4	250	.34	.29	.25
740-0114	1 1/2	250	.33	.28	.23
740-0115	2	250	.34	.29	.24
740-0116	2 1/2	250	.32	.27	.23
740-0141	3	250	.33	.28	.23
740-0143	4	250	.41	.37	.33
740-0144	5	250	.41	.37	.33
740-0145	6	250	.41	.37	.33
740-0200	7 1/2	250	.33	.28	.24
740-0201	10	250	.33	.28	.24
740-0202	15	32	.33	.28	.24
740-0203	20	32	.33	.28	.24
740-0173	25	32	.33	.28	.24
740-0204	30	32	.33	.28	.24

*Sold in multiples of 5 only.

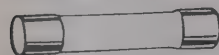
Type 140 Fuse Kit

- ▶ 125 and 250 Volt Small Dimension Fuse Assortment
- ▶ Fast Acting and Time Delay Fuses
- ▶ 1/4" x 1 1/4" Fuses
- ▶ In-Line Fuseholders
- ▶ Fuse Clips

Type 140 fuse kit contains the most commonly used fuses. Applications and cross-reference data that comes with the kit helps identify correct fuse replacements. Inventory strips for convenient reordering. 31 different products including: 140 fuses in a range of 1/2 to 30 A, plus 2 fuseholders, fuseclips and one fuse puller. Spaces allow customizing contents by user. Sturdy nylon box with sturdy hinge and positive closure make it ideal for factory or service truck use.



740-9140. Type 140 EACH 145.02



MDA Time-Delay 1/4" x 1 1/4" Fuses

Ceramic body. UL listed, CSA certified through 15 A. UL recognized 20 A.

Stock No.	Amps	Volts	EACH		
			1-99	100-249	250-Up
740-5037	1/8	250	4.10	3.40	2.35
740-5038	1/4	250	2.60	2.17	1.50
740-5039	3/8	250	2.42	2.02	1.39
740-5040	1/2	250	2.65	2.21	1.52
740-5041	3/4	250	2.60	2.17	1.50
740-5042	1	250	1.96	1.63	1.35
740-5043	1 1/4	250	2.65	2.21	1.52
740-5044	1 1/2	250	2.65	2.21	1.52
740-5045	2	250	1.96	1.63	1.35
740-5046	2 1/2	250	1.71	1.41	1.07
740-5047	3	250	1.47	1.23	1.01
740-5048	3 1/2	250	1.96	1.63	1.34
740-5049	4	250	1.47	1.23	1.01
740-5050	5	250	1.46	1.22	1.00
740-5051	6	250	1.98	1.64	1.13
740-5052	7	250	1.96	1.63	1.12
740-5053	8	250	1.47	1.23	1.01
740-5054	10	250	1.47	1.23	1.01
740-5055	12	250	1.47	1.23	1.01
740-5056	15	250	1.47	1.23	1.01
740-5057	20	250	1.47	1.23	1.01

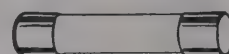
MDL Time-Delay 1/4" x 1 1/4" Fuses

Time delay glass. For circuits with high inrush. Spiral wound construction. Avoid needless blows from starting currents and surges. Several seconds delay



Stock No.	Amps	Volts	EACH*		
			5-45	50-245	250-Up
740-0211	1/16	250V	1.57	1.37	1.24
740-0212	1/10	250V	1.56	1.37	1.24
740-0213	1/8	250V	1.56	1.37	1.24
740-5016	1/4	250V	1.00	.88	.80
740-5017	3/10	250V	1.01	.88	.80
740-5019	1/2	250V	.95	.85	.75
740-5021	3/4	250V	.95	.85	.75
740-5022	9/10	250V	.93	.84	.73
740-5023	1	250V	.92	.83	.72
740-5024	1 1/4	250V	.82	.72	.64
740-5025	1 1/2	250V	.82	.72	.64
740-5027	2	250V	.83	.72	.64
740-5028	2 1/2	250V	.82	.72	.64
740-5029	3	250V	.83	.72	.64
740-5030	3 1/2	250V	.83	.72	.64
740-5031	4	250V	.85	.75	.66
740-5032	5	250V	.83	.72	.64
740-0248	6	250V	.82	.72	.64
740-5033	6 1/4	250V	.82	.72	.64
740-5034	7	250V	.83	.72	.64
740-5035	8	250V	.82	.72	.64
740-0243	10	32V	1.10	.96	.86
740-0249	12	32V	1.09	.96	.86
740-0244	15	32V	1.10	.96	.86
740-0245	20	32V	1.10	.96	.86
740-0250	25	32V	1.10	.96	.86
740-0247	30	32V	1.10	.96	.86

*Sold in multiples of 5 only.



ABC Fast-Acting 1/4" x 1 1/4" Fuses

Ceramic body. 10,000 amps at 125 V. Carry 110%, open at 135% within

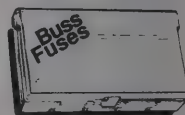
Stock No.	Amps	Volts	EACH*		
			5-45	50-245	250-Up
740-5003	1/4	250	.80	.71	.64
740-5004	1/2	250	.80	.71	.64
740-5005	3/4	250	.80	.71	.64
740-5006	1	250	.80	.71	.64
740-5007	2	250	.80	.71	.64
740-5008	3	250	.80	.71	.64
740-5009	4	250	.77	.68	.54
740-5010	5	250	.72	.63	.56
740-5011	6	250	.72	.63	.57
740-5012	7	250	.72	.63	.56
740-3020	8	250	.72	.63	.57
740-3030	10	250	.72	.63	.57
740-3040	12	250	.72	.63	.56
740-3050	15	250	.72	.63	.57
740-3060	20	250	1.17	1.03	.89

*Sold in multiples of 5 only.

Quick-Service Fuse Kit

- ▶ One Fuseblock
- ▶ Three Fuseholders
- ▶ Two Pairs of Fuse Clips
- ▶ Five Each of 54 Different Fuses

A complete assortment of 125 V and 250 V small dimension fuses for repair of both electrical and electronic devices.



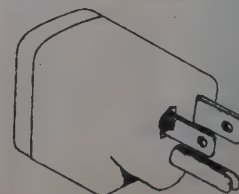
740-0270 EACH 279.39

MDL-1/8	MDL-1/4	MDL-1/2	MDL-3/4	MDL-1	MDL-1 1/2
MDX-2	MDX-3	MDX-4	MDX-5	MDX-6	MDX-8
MDA-10	MDA-15	MDA-20	MDA-30	AGC-1/8	AGC-1/4
AGC-1/2	AGC-3/4	AGC-1	AGC-1 1/2	AGC-2	AGC-2 1/2
AGC-3	MTH-4	MTH-5	MTH-6	MTH-7	MTH-8
ABC-10	ABC-15	ABC-20	ABC-30	GMA-1/4	GMA-1/2
GMA-1	GMA-2	GMA-3	GMA-4	GMA-6	GMC-1
GMC-2	GMC-3	GMC-4	GMC-6	GVJ-1/2	GVJ-1
GVJ-2	GVJ-3	MDV-1/2	MDV-1	MDV-2	MDV-3

Sentry Surge Protectors

- ▶ Protection for TVs, Laptop Computers, and Holiday Decorations
- ▶ Sentry's Two-Way Protection Outperforms Other Surge Protector Products
- ▶ Sentry Surge Protectors Are Fused to Prevent a Leading Cause of House Fires (Short Circuits Caused by Damaged or Overloaded Extension Cords)
- ▶ Sentry Surge Protectors Stop Electrical Surges and Spikes Instantly, Protecting Expensive Electronics Against Overvoltage Conditions

740-3401. Sen TV EACH 7.76
740-3402. Sen XM EACH 7.76
740-3403. Sen LT EACH 7.76



Ferrule Type Fuses

Bussmann Information Fax 314-527-1450

Bussmann product information at your convenience. Available 24 hours a day — 7 days a week. Please have your fax number ready when you call.

To speak with a Customer Satisfaction Representative please call 314-527-3877 (Monday-Friday, 8 am-5 pm central).

GDA Quick-Acting High Interrupting Rating Fuses

Designed to meet IEC specification 127-2, Standard Sheet 1. UL recognized. (5 mm × 20 mm.) Ceramic.

Stock No.	Amps	Volts	EACH		
			1-49	50-249	250-Up
740-5155	50.00 mA	250	2.07	1.72	1.20
740-5156	63.00 mA	250	1.96	1.63	1.14
740-5157	80.00 mA	250	1.96	1.63	1.14
740-5158	100.00 mA	250	2.07	1.72	1.52
740-5159	125.00 mA	250	2.07	1.72	1.20
740-5160	160.00 mA	250	1.96	1.63	1.14
740-5161	200.00 mA	250	2.07	1.72	1.20
740-5162	250.00 mA	250	2.07	1.72	1.20
740-5163	315.00 mA	250	2.07	1.72	1.52
740-5164	400.00 mA	250	1.95	1.63	1.14
740-5165	500.00 mA	250	1.81	1.50	1.05
740-5166	630.00 mA	250	1.81	1.50	1.05
740-5167	800.00 mA	250	1.90	1.57	1.10
740-5168	1.00	250	1.81	1.50	1.05
740-5169	1.25	250	1.81	1.50	1.05
740-5170	1.60	250	1.81	1.50	1.05
740-5171	2.00	250	1.90	1.57	1.10
740-5172	2.50	250	1.90	1.57	1.10
740-5173	3.15	250	1.90	1.57	1.10
740-5174	4.00	250	1.81	1.50	1.05
740-5175	5.00	250	1.81	1.50	1.05
740-9566	6.30	250	1.90	1.57	1.10

GDB Quick-Acting Low Interrupting Rating Fuses

Designed to meet IEC 127-2, Standard Sheet 2. (5 mm × 20 mm.) Glass.

Stock No.	Amps	Volts	EACH		
			1-49	50-249	250-Up
740-5176	50.00 mA	250	2.35	1.96	1.36
740-5177	63.00 mA	250	2.35	1.96	1.36
740-5178	80.00 mA	250	2.35	1.96	1.36
740-5179	100.00 mA	250	2.35	1.96	1.36
740-5180	125.00 mA	250	1.73	1.44	1.00
740-5181	160.00 mA	250	1.73	1.44	1.00
740-5182	200.00 mA	250	1.82	1.51	1.05
740-5183	250.00 mA	250	1.73	1.44	1.00
740-5184	315.00 mA	250	1.73	1.44	1.00
740-5185	400.00 mA	250	1.73	1.44	1.00
740-5186	500.00 mA	250	1.44	1.20	.83
740-5187	630.00 mA	250	1.51	1.26	.87
740-5188	800.00 mA	250	1.44	1.20	.83
740-5189	1.00	250	1.51	1.26	.87
740-5190	1.25	250	1.51	1.26	.87
740-5191	1.60	250	1.44	1.20	.83
740-5192	2.00	250	1.51	1.26	.87
740-5193	2.50	250	1.44	1.20	.83
740-5194	3.15	250	1.44	1.20	.83
740-5195	4.00	250	1.51	1.26	.87
740-5196	5.00	250	1.51	1.26	.87
740-5197	6.30	250	1.44	1.20	.83
740-9570	8.00	250	1.44	1.20	.83
740-9575	10.00	250	1.51	1.26	.87

GDC Time-Lag Fuses

Designed to meet IEC 127-2, Standard Sheet 3. (5 mm × 20 mm.) Glass.

Stock No.	Amps	Volts	EACH		
			1-49	50-249	250-Up
740-5198	32.00 mA	250	3.23	2.60	1.80
740-5199	40.00 mA	250	3.23	2.60	1.80
740-5200	50.00 mA	250	3.23	2.60	1.80
740-5201	63.00 mA	250	3.08	2.48	1.72
740-5202	80.00 mA	250	3.08	2.48	1.72
740-5203	100.00 mA	250	2.81	2.35	1.62
740-5204	125.00 mA	250	3.08	2.48	1.72
740-5205	160.00 mA	250	2.81	2.35	1.62
740-5206	200.00 mA	250	2.81	2.35	1.62
740-5207	250.00 mA	250	2.95	2.46	1.71
740-5208	315.00 mA	250	2.81	2.35	1.62
740-5209	400.00 mA	250	2.81	2.35	1.62
740-5210	500.00 mA	250	1.90	1.57	1.10
740-5211	630.00 mA	250	1.81	1.50	1.05
740-5212	800.00 mA	250	1.90	1.57	1.10
740-5213	1.00	250	1.90	1.57	1.10
740-5214	1.25	250	1.81	1.50	1.05
740-5215	1.60	250	1.81	1.50	1.05
740-5216	2.00	250	1.81	1.50	1.05
740-5217	2.50	250	1.90	1.57	1.10
740-5218	3.15	250	1.90	1.57	1.10
740-5219	4.00	250	1.90	1.57	1.10
740-5220	5.00	250	1.90	1.57	1.10
740-5221	6.30	250	1.90	1.57	1.10

GMA Fast Acting Fuses For Foreign Equipment

Compact 5 mm × 20 mm fuse. UL listed, CSA Certified through 6 amps. UL Recognized through 15 amps. Glass.

Stock No.	Amps	Volts	EACH		
			5-45	50-245	250-Up
740-3004	63.00 mA	250	1.14	.96	.91
740-3127	100.00 mA	250	1.14	.96	.91
740-3005	125.00 mA	250	1.14	.96	.91
740-3128	200.00 mA	250	.66	.55	.52
740-3006	250.00 mA	250	.70	.58	.55
740-3007	500.00 mA	250	.64	.53	.50
740-3008	750.00 mA	250	.70	.58	.55
740-3129	800.00 mA	250	.66	.55	.52
740-3130	1.00	250	.68	.57	.54
740-3009	1.50	250	.66	.55	.52
740-3131	1.60	250	.66	.55	.52
740-3010	2.00	250	.64	.53	.50
740-3011	2.50	250	.70	.58	.55
740-3012	3.00	250	.70	.58	.55
740-3132	3.50	250	.70	.58	.55
740-3013	4.00	250	.70	.58	.55
740-3014	5.00	250	.66	.55	.52
740-3015	6.00	250	.70	.58	.55
740-3016	7.00	125	.66	.55	.52
740-3017	8.00	125	.70	.58	.55
740-3018	10.00	125	.70	.58	.55
740-3019	15.00	125	.66	.55	.52

*Sold in multiples of 5 only.

GMC Time-Delay Fuses 5 × 20 mm

Compact fuse. UL listed, CSA certified through 5 A. UL Recognized

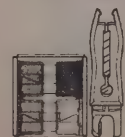
Stock No.	Amps	Volts	EACH		
			1-49	50-249	250-Up
740-5133	63.00 mA	250	1.84	1.46	1.39
740-5134	100.00 mA	250	1.93	1.54	1.39
740-5135	125.00 mA	250	1.68	1.40	1.33
740-5136	200.00 mA	250	1.75	1.47	1.39
740-5137	250.00 mA	250	1.75	1.47	1.39
740-5138	500.00 mA	250	1.11	.92	.89
740-5139	750.00 mA	250	.69	.58	.56
740-5140	800.00 mA	250	.66	.55	.53
740-5141	1.00	250	1.06	.88	.85
740-5142	1.50	250	1.11	.92	.89
740-5143	1.60	250	1.06	.88	.85
740-5144	2.00	250	1.11	.92	.89
740-5145	2.50	250	1.11	.92	.89
740-5146	3.00	250	1.06	.88	.85
740-5147	3.50	125	1.11	.92	.89
740-5148	4.00	125	1.06	.88	.85
740-5149	5.00	125	1.11	.92	.89
740-5150	6.00	125	1.06	.88	.85
740-5151	7.00	125	1.06	.88	.85
740-5152	8.00	125	1.06	.88	.85
740-5153	10.00	125	1.06	.88	.85

AGA Non Time-Delay Fuses 1/4" × 5/8" (6.4 mm × 15.9 mm)

Formerly 1 AG fuse. UL listed through 5A. UL recognized through 12 A.

Stock No.	Amps	Volts	EACH		
			5-45	50-245	250-Up
740-9500	1/10	125	2.90	1.92	1.32
740-9505	1/4	125	1.05	.88	.62
740-9510	1/2	125	1.05	.88	.62
740-9515	3/4	125	1.05	.88	.62
740-9520	1	125	.67	.55	.39
740-9525	2	125	.67	.55	.39
740-9530	3	125	.67	.55	.39
740-9535	5	125	.52	.44	.30
740-9540	7	32	.52	.44	.30
740-9545	10	32	.52	.44	.30
740-9550	15	32	.52	.44	.30
740-9555	20	32	.52	.44	.30
740-9560	25	32	.52	.44	.30
740-9565	30	32	.52	.44	.30

*Sold in multiples of 5 only.

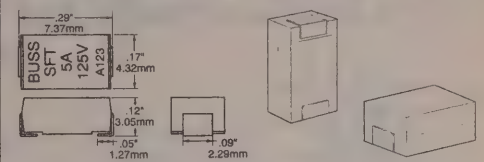


Emergency Fuse Kit with Fusepuller FP-A3

Works with Models: Peugeot, Renault, Volvo — 1985 or later; Audi, BMW, Fiat, Saab — 1984 or later; Plymouth, Datsun, Honda, Mazda, Subaru, Nissan, Volkswagen — 1982 or later; Toyota — 1981 or later; Chevrolet, Buick, Pontiac — 1980 or later; Ford, Lincoln, Mercury, Dodge, Chrysler, Cadillac — 1979 or later; Oldsmobile — 1978 or later.

740-0007. AT-7. Includes Blade-Type Fuses ATC-5, 10, 15, 20, 25, 30, and FP-A3 Fusepuller.....EACH 3.16

SMD TRON® Surface Mount Fuses



- ▶ .170" × .294" (4.32 mm × 7.47 mm) — NEW —
- ▶ 0-10 Rated Current at 110%: 4 Hours Minimum
- ▶ 0-10 Rated Current at 250%: 1 Second Maximum
- ▶ Interrupting Rating: VAC — 50 A; VDC — 300 A

Stock No.	Rated Current	Rated Voltage		EACH		
		AC (Max.)	DC (Max.)	1-49	50-249	250-Up
740-3301	63 mA	125 V	125 V	2.92	2.68	2.47
740-3302	125 mA	125 V	125 V	2.92	2.68	2.47
740-3303	250 mA	125 V	125 V	2.65	2.43	2.24
740-3304	375 mA	125 V	125 V	2.65	2.43	2.24
740-3305	500 mA	125 V	125 V	2.40	2.20	2.03
740-3306	750 mA	125 V	125 V	2.40	2.20	2.03
740-3307	1	125 V	125 V	2.40	2.20	2.03
740-3308	1.5	125 V	125 V	2.40	2.20	2.03
740-3309	2	125 V	125 V	2.40	2.20	2.03
740-3310	2.5	125 V	125 V	2.40	2.20	2.03
740-3311	3	125 V	125 V	2.40	2.20	2.03
740-3312	3.5	125 V	125 V	2.40	2.20	2.03
740-3313	4	125 V	125 V	2.40	2.20	2.03
740-3314	5	125 V	125 V	2.40	2.20	2.03
740-3315	7	60 V	90 V	2.65	2.43	2.24
740-3316	10	60 V	90 V	2.65	2.43	2.24

SMT Subminiature Surface Mount Chip Fuses — NEW —

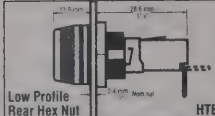
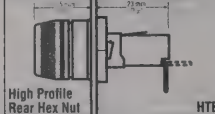
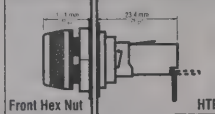
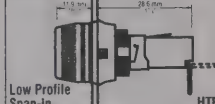
Bussmann SMT Chip Fuses utilize metal film and ultrasonic wire bond technologies for superior fusing action and enhanced reliability. The fuse element is bonded to a ceramic substrate and encapsulated with glass, providing excellent short circuit performance and environmental integrity. The end terminations are over-plated with nickel and tin-lead. Catalog Symbol: 3216FF. Voltage Rating: 32 VAC, 63 VDC. Interrupting Rating: 50 amp AC/DC. Physical Size: EIA SOCM-3216AC 3.2 × 1.6 × 0.90 mm (0.126 × 0.063 × 0.035"). Agency Approvals: UL Recognized (All Ratings) File E19180, Guide JDX2; CSA Certified (1.5-3 A) File 53787, Class 1422-01; CSA Component Acceptance (250-750 mA, 1 A) File 53787, Class 1422-30. Time Current Characteristics. Fast Acting Fuse: Will carry 100% of rated current for a minimum of 4 hours, and will open within 5 seconds at 250% of rated current.

Stock No.	Mfr.'s Type	Current Rating (Amp)	EACH		
			5-45	50-245	250-Up
740-3216	3216FF-250mA	.250	.57	.52	.48
740-3217	3216FF-375mA	.375	.57	.52	.48
740-3218	3216FF-500mA	.500	.57	.52	.48
740-3219	3216FF-750mA	.750	.57	.52	.48
740-3220	3216FF-1A	1.000	.57	.52	.48
740-3221	3216FF-1.5A	1.500	.57	.52	.48
740-3222	3216FF-2A	2.000	.57	.52	.48
740-3223	3216FF-3A	3.000	.57	.52	.48

2

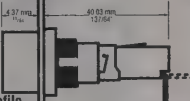
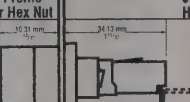
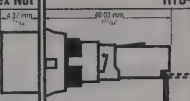
HTB International Fuseholders

Knob Type HTB Fuseholder Selection Matrix

b Type HTB holder ection rix		Terminal Options				Carrier Options		Mounting Hole Options (Nominal Dimensions)
		Solder/ 3/16" Quick-Connect		1/4" Quick-Connect		5 x 20mm ("M" Equals Metric)		
		In-Line	Rt. Angle	In-Line	Rt. Angle	In-Line	Rt. Angle	
								Note: Before Tooling Contact Factory for exact dimensions and panel thickness range
		1.0 mm	6.3 mm 250 mil	1.0 mm	11.0 mm 430 mil	11.0 mm 430 mil	12.7 mm 500 mil	
		1.0 mm	6.3 mm 250 mil	1.0 mm	11.0 mm 430 mil	11.0 mm 430 mil	12.7 mm 500 mil	
Low Profile Rear Hex Nut		HTB-221	HTB-241	HTB-261	HTB-281	✓		
		HTB-22M	HTB-24M	HTB-26M	HTB-28M		✓	
High Profile Rear Hex Nut		HTB-421	HTB-441	HTB-461	HTB-481	✓		
		HTB-42M	HTB-44M	HTB-46M	HTB-48M		✓	
Front Hex Nut		HTB-621	HTB-641	HTB-661	HTB-681	✓		
		HTB-62M	HTB-64M	HTB-66M	HTB-68M		✓	
Low Profile Snap-In		HTB-821	HTB-841	HTB-861	HTB-881	✓		
		HTB-82M	HTB-84M	HTB-86M	HTB-88M		✓	

The 32 Models of the Buss HTB fuseholder offer complete design flexibility. Their reduced size permits maximum space utilization. Their appearance is compatible with aesthetically designed equipment. Designed to UL, CSA and IEC (SEMCO and VDE) standards. The HTB-4 offers high profile while the HTB-2 offers a low profile mounting option. The HTB-6 mounts through rear of panel permitting wire connections to be made to holder before mounting in panel. The HTB-8 provides fast, easy and secure mounting without tools or hardware. Terminal options include in-line or right angle solder 3/16" quick-connect and in-line or right angle 1/4" quick-connect. The HTB will accept both 1/4" x 1/4" and 5 mm x 20 mm fuses simply by changing the carriers. 250 volts.

Slotted Type HTB Fuseholder Selection Matrix

Allotted Type HTB Userholder selection Matrix	Terminal Options								Carrier Options				Mounting Hole Options (Nominal Dimensions)
	Solder/ 3/16" Quick-Connect				1/4" Quick-Connect				3/16" x 1/4" ("I" Equals Inches)		5 x 20mm ("M" Equals Metric)		Note: Refer Tooling contact Factory for exact dimensions and panel thickness range
	In-Line	Rt. Angle	In-Line	Rt. Angle	In-Line	Rt. Angle	In-Line	Rt. Angle					
													
	0.7 mm 0.028"	0.3 mm 0.012"	0.8 mm 0.031"	1.3 mm 0.051"					11.7 x 1.6 mm 461				
All Holders: 3/16" (15.8mm) Diameter Length—1 1/4" (44.5mm) (plus in-line terminal)													
Low Profile Rear Hex Nut					HTB-321	HTB-341	HTB-361	HTB-381					
					HTB-32M	HTB-34M	HTB-36M	HTB-38M					
High Profile Rear Hex Nut					HTB-521	HTB-541	HTB-561	HTB-581					
					HTB-52M	HTB-54M	HTB-56M	HTB-58M					
Low Profile Snap-In					HTB-921	HTB-941	HTB-961	HTB-981					
					HTB-92M	HTB-94M	HTB-96M	HTB-98M					

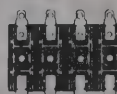
Stock No.	Mfr.'s Type	EACH		
		1-49	50-249	250-Up
740-5262	HTB-221	2.91	2.43	1.68
740-5263	HTB-22M	2.91	2.43	1.68
740-5264	HTB-241	2.90	2.42	1.68
740-5265	HTB-24M	2.91	2.43	1.68
740-5266	HTB-261	3.25	2.70	1.86
740-5267	HTB-26M	3.25	2.70	1.86
740-5268	HTB-281	3.26	2.71	1.87
740-5269	HTB-28M	3.25	2.70	1.86
740-5270	HTB-421	2.91	2.43	1.68
740-5271	HTB-42M	2.91	2.43	1.68
740-5272	HTB-441	2.92	2.43	1.69
740-5273	HTB-44M	2.91	2.43	1.68
740-5274	HTB-461	3.25	2.70	1.86
740-5275	HTB-46M	3.25	2.70	1.86
740-5276	HTB-481	1.70	1.42	.98
740-5277	HTB-48M	3.25	2.70	1.86

Stock No.	Mfr.'s Type	EACH		
		1-49	50-249	250-Up
740-5278	HTB-621	2.91	2.43	1.68
740-5279	HTB-62M	2.91	2.43	1.68
740-5280	HTB-641	2.91	2.43	1.68
740-5281	HTB-64M	2.91	2.43	1.68
740-5282	HTB-661	3.25	2.70	1.86
740-5283	HTB-66M	3.25	2.70	1.86
740-5284	HTB-681	3.25	2.70	1.86
740-5285	HTB-68M	3.25	2.70	1.86
740-5286	HTB-821	2.91	2.43	1.68
740-5287	HTB-82M	2.91	2.43	1.68
740-5288	HTB-841	2.90	2.42	1.68
740-5289	HTB-84M	2.91	2.43	1.68
740-5290	HTB-861	3.25	2.70	1.86
740-5291	HTB-86M	3.25	2.70	1.86
740-5292	HTB-881	3.25	2.70	1.86
740-5293	HTB-88M	3.25	2.70	1.86

Stock No.	Mfr.'s Type	EACH		
		1-49	50-249	250-Up
740-4962	HTB-321	2.91	2.43	1.68
740-4963	HTB-32M	2.91	2.43	1.68
740-4964	HTB-341	2.91	2.43	1.68
740-4965	HTB-34M	2.91	2.43	1.68
740-4966	HTB-361	3.25	2.70	1.86
740-4967	HTB-36M	3.25	2.70	1.86
740-4968	HTB-381	3.25	2.70	1.86
740-4969	HTB-38M	3.25	2.70	1.86
740-4970	HTB-521	2.91	2.43	1.68
740-4971	HTB-52M	2.91	2.43	1.68
740-4972	HTB-541	2.91	2.43	1.68
740-4973	HTB-54M	2.91	2.43	1.68

Stock No.	Mfr.'s Type	EACH		
		1-49	50-249	250-Up
740-4974	HTB-561	3.25	2.70	1.86
740-4975	HTB-56M	3.25	2.70	1.86
740-4976	HTB-581	3.25	2.70	1.86
740-4977	HTB-58M	3.25	2.70	1.86
740-4978	HTB-921	2.91	2.43	1.68
740-4979	HTB-92M	2.90	2.42	1.68
740-4980	HTB-941	2.91	2.43	1.68
740-4981	HTB-94M	2.91	2.43	1.68
740-4982	HTB-961	3.25	2.70	1.86
740-4983	HTB-96M	3.25	2.70	1.86
740-4984	HTB-981	3.25	2.70	1.86
740-4985	HTB-98M	3.25	2.70	1.86

For tight cluster mounting of 1/4" x 1/4" fuses. Single pole to 12 pole units. Break-away design permits fuseblock to be sub-divided by



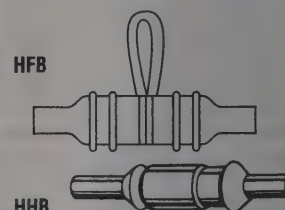
Stock No.	Mfr.'s Type	Description			Rated Amps	EACH		
		Terminal	Size	Angle		1-49	50-249	250-Up
740-5303	S-8001-1	Solder	—	0°	25	1.20	1.01	.69
740-5304	S-8002-1	Solder	—	40°	25	1.20	1.01	.69
740-5305	S-8002-12	Solder	—	40°	25	13.43	11.20	7.75
740-5306	S-8101-1	Quick connect	3/16"	0°	15	1.20	1.01	.69
740-5307	S-8102-1	Quick connect	3/16"	40°	15	2.23	1.85	1.29
740-5308	S-8201-1	Quick connect	1/4"	0°	20	1.20	1.01	.69
740-5309	S-8202-1	Quick connect	1/4"	40°	20	1.20	1.01	.69
740-5310	S-8202-12	Quick connect	1/4"	40°	20	12.25	10.20	7.75
740-5311	S-8203-1	Quick connect	1/4"	side	20	1.66	1.37	1.07
740-5312	S-8301-1	Screw	—	—	30	2.12	1.76	1.34
740-5313	S-8301-12	Screw	—	—	30	21.95	18.28	15.12

HFB-HHB In-Line Fuseholders

Both HFB and HHB feature easy assembly. Rated 30 amps, 32 volts. High visibility yellow bodies with raised letters. Accept #12-#18 wires.

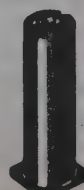
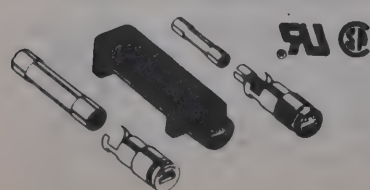
HFB for harsh environments—water, salt spray, ultraviolet, ozone—40°C to 150°C temp. range.

HHB universal holder for normal environments. Accepts 1/4" x 7/8", 1/4" x 1" and 1/4" x 1 1/4" fuses.



Stock No.	Mfr.'s Type	EACH		
		1-49	50-249	250-Up
740-5301	HFB	6.05	5.04	3.48
740-5302	HHB	2.37	1.97	1.55

PC Board Fuseholder



"Kicked Terminals" "Stabilizer Pins" M



"Kicked" terminals increase stability. HBH horizontal version; HBV (with stability pins) and HBW vertical models. HBH-I and HBH-M take 1/4" x 1/4" or 5 x 20 mm fuses. UL-12A @ 250 V. Designed to UL, CSA and IEC (SEMCO and VDE) standards.

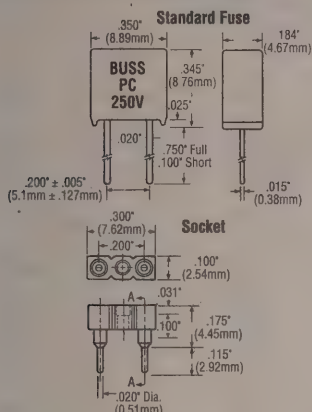
Stock No.	Mfr.'s Type	Feature	EACH		
			1-49	50-249	250-Up
740-5295	HBH-I	Horizontal	3.12	2.60	1.97
740-5296	HBH-M	Horizontal	3.57	2.99	2.06
740-5297	HBV-I	Vertical Stability Pins	3.71	3.09	2.35
740-5298	HBV-M	Vertical Stability Pins	4.22	3.52	2.44
740-5299	HBW-I	Vertical	4.22	3.52	2.44
740-5300	HBW-M	Vertical	4.22	3.45	2.44

Bussmann Information Fax 314-527-1450

Bussmann product information at your convenience. Available 24 hours a day — 7 days a week. Please have your fax number ready when you call.

To speak with a Customer Satisfaction Representative please call 314-527-3877 (Monday-Friday, 8 am-5 pm central).

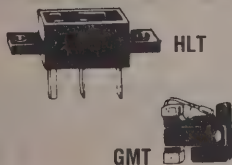
PC-Tron® PC Board Fuses



The PC-Tron™ subminiature fuse offers high short circuit performance which until now could only be found in much larger glass tube fuses. Due to its unique construction the PC-Tron™ limits the I²t (energy let-thru) to very low levels. .2" lead spacing. Auto insertable. Standard wave soldering technique will not affect performance. Optional socket available. Long lead .75" or Short lead .10" length. Surface mount versions also available.

Interrupting Rating		10,000 amperes @ 125 VAC; ½ — 5 amps 50 amperes @ 250 VAC; ½ — 3 amps			
Stock No.	Amps	Lead Length	Type	EACH	
				1-49	50-249
740-5058	½	Long	PCB	2.68	2.13
740-5059	¾	Long	PCB	2.68	2.13
740-5060	1	Long	PCB	2.68	2.13
740-5061	1½	Long	PCB	2.68	2.13
740-5062	2	Long	PCB	2.68	2.13
740-5063	2½	Long	PCB	2.68	2.13
740-5064	3	Long	PCB	2.68	2.13
740-5065	5	Long	PCD	2.68	2.13
740-5066	½	Short	PCC	2.68	2.13
740-5067	¾	Short	PCC	2.68	2.13
740-5068	1	Short	PCC	2.68	2.13
740-5069	1½	Short	PCC	2.68	2.13
740-5070	2	Short	PCC	2.68	2.13
740-5071	2½	Short	PCC	2.68	2.13
740-5072	3	Short	PCC	2.68	2.13
740-5073	5	Short	PCE	2.68	2.13
740-5074	Optional Socket		PCS	.40	.36

GMT Telecommunication Fuse



For multiple panel mounting in small spaces. Color-coded, spring-loaded flag indicates amp rating, performing visual indication when alarm circuit activates. Opening time @ 150% load, 5 mins. (max.). Amp ratings are 125 Vac, or 60 Vdc. Size: ¼" × 1½". HLT holder fits all GMT fuses. Multipole holders available.

Stock No.	Amps	Color	EACH	
			1-49	50-249
740-5223	¼	Violet	2.31	1.83
740-5224	½	Red	2.31	1.83
740-5225	¾	Black	3.00	2.39
740-5226	1	Brown	2.63	2.08
740-5227	1½	Gray	2.50	2.08
740-5228	2	White	2.20	1.82
740-5229	3	Orange	2.20	1.83
740-5230	5	Blue	2.20	1.83
740-5231	7½	Green	2.20	1.83
740-5232	10	Blk-White	2.50	2.08
740-5233	10	Red-White	2.50	2.08
740-5234	HLT holder fits all GMT		2.54	2.13

KTK-R Fast-Acting 1½" × 1½" Fuses

Limitron Fast-Acting Class E E fuse. UL listed and CSA certified for branch circuit protection. Excellent short circuit protection.



Stock No.	Amps	Volts	EACH	
			1-49	50-249
740-5249	1	600	7.03	5.87
740-5250	1½	600	7.03	5.87
740-5251	2	600	7.03	5.87
740-5252	3	600	7.03	5.87
740-5253	4	600	8.28	6.90
740-5254	5	600	7.03	5.87
740-5255	6	600	7.03	5.87
740-5256	7	600	9.69	8.07
740-5258	9	600	11.11	9.27
740-5259	10	600	7.03	5.87
740-5260	12	600	8.28	6.90
740-5261	15	600	7.03	5.87
740-6025	20	600	7.03	5.87
740-6030	25	600	8.28	6.90
740-6035	30	600	7.04	5.87

FNM Time-Delay 1½" × 1½" Fuses



Dual elements, in single fiber tube, fuses avoid needless blows from starting currents or surges. Operates only on dangerous overloads, or short circuits. Fuse opening time is 1 hour (max.) at 135% load. UL listed, CSA certified through 15A.

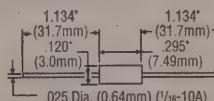
Stock No.	Amps	Volts	EACH	
			1-49	50-249
740-5235	½	250	3.68	2.91
740-5236	1	250	3.10	2.91
740-5237	1½	250	3.68	2.91
740-5238	2	250	2.87	2.28
740-5239	2½	250	3.39	2.67
740-5240	3½	250	3.39	2.67
740-5241	4	250	2.87	2.28
740-5242	5	250	2.87	2.28
740-5243	6¼	250	3.39	2.67
740-5244	8	250	2.87	2.28
740-5245	10	250	2.87	2.28
740-5246	12	125	3.39	2.70
740-5247	15	125	2.87	2.28
740-6010	20	32	2.87	2.28
740-6015	25	32	3.39	2.69
740-6020	30	32	2.87	2.28

Microtron® Fuses — PC Board

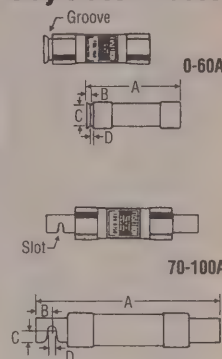
Specifications. Typical opening times: 5 sec. max. @ 250%. Body Material: High temperature plastic with a U.L. 94V0 rating. Lead Pull Force: 7 lb. minimum.

Agency Approvals: U.L.

Recognition and CSA Certification. Units Per Reel: 2500. Packaging: Per E.I.A. Standard RS-296-D. All materials are sulfur free to maintain component solderability. Interrupting Ratings: Up to 5A — 125 VAC - 50A, 125 VDC - 300A; 5.1 - 10A — 60VAC - 50A, 90 VDC - 300A. The Microtron Fuses are designed to safely interrupt 50 amps at 125 VAC. Maximum short circuit current of 300 amps at 125 VAC.



Stock No.	Mfr. 's Type	Resistance Ohms Cold	Amps	EACH	
				1-49	50-249
740-4901	MCR-¼	7.000	¼	2.22	1.85
740-4902	MCR-½	2.200	½	2.11	1.77
740-4903	MCR-¾	0.600	¾	2.22	1.85
740-4904	MCR-1	0.350	1	2.22	1.85
740-4905	MCR-1½	0.250	1½	2.11	1.77
740-4906	MCR-2	0.150	2	1.72	1.42
740-4907	MCR-3	0.120	3	1.63	1.35
740-4908	MCR-4	0.070	4	1.72	1.42
740-4909	MCR-5	0.050	5	1.64	1.36
740-4910	MCR-6	0.035	6	1.63	1.35
740-4911	MCR-7	0.026	7	1.63	1.35
740-4912	MCR-8	0.022	8	1.72	1.42
740-4913	MCR-10	0.016	10	1.63	1.35
740-4914	MCR-15	0.010	15	1.63	1.35
740-4915	MCR-20	0.010	20	1.63	1.35
740-4916	MCR-25	0.006	25	1.63	1.35
740-4917	MCR-30	0.006	30	1.63	1.35

FRN-R and FRS-R Fusetron®
Dual-Element Time-Delay Class R Fuses

These fuses are ideal for use in rejection fuse clips or ordinary fuse clips. Fuses will fit existing fused equipment. Fusetron® fuse has a link element which handles only heavy overloads and short-circuits and a thermal cutout element for light overloads. Interrupting rating of 200,000 amperes rms symmetrical. UL listed, CSA certified.

0-60 Ampere

Type	Ampere Rating	A	B	C	D
FRN-R	0-30	2"	5/8"	3/4"	5/8"
	35-60	3"	3/4"	5/8"	3/4"
FRS-R	0-30	5"	3/4"	5/8"	3/4"
	35-60	5½"	1/4"	7/8"	3/4"

70-100 Ampere

Type	Ampere Rating	A	B	C	D
FRN-R	70-100	5½"	1/2"	23/64"	3/4"
FRN-R	70-100	7½"	1/2"	23/64"	3/4"

FRN-R Series 250V AC

Stock No.	Amps	EACH	
		1-49	50-249
740-9580	½	4.51	3.76
740-9585	¾	4.51	3.76
740-9590	1	4.01	3.18
740-9600	2	4.01	3.18
740-9605	2½	4.01	3.18
740-9610	3	3.66	2.91
740-9620	4	3.84	3.05
740-9625	5	3.84	3.05
740-9630	6	3.84	3.05
740-9635	6¼	3.84	3.05
740-9640	7	4.31	3.59
740-9645	8	3.84	3.05
740-9650	10	3.84	3.05
740-9655	12	3.84	3.05
740-9660	15	3.13	2.48
740-9665	20	3.13	2.48
740-9670	25	3.13	2.48
740-9675	30	3.13	2.48
740-9680	35	5.45	4.55
740-9685	40	5.45	4.55
740-9690	45	5.45	4.55
740-9695	50	5.45	4.55
740-9700	60	5.45	4.55
740-9705	70	12.28	10.22
740-9710	80	12.28	10.22
740-9715	90	12.28	10.22
740-9720	100	12.29	10.23

FRS-R Series 600V AC

Stock No.	Amps	EACH	
		1-49	50-249
740-9725	1	8.00	6.67
740-9730	1½	8.00	6.67
740-9735	2	8.00	6.67
740-9740	3	9.64	6.20
740-9745	3½	7.09	5.91
740-9750	4	7.44	6.20
740-9755	4½	8.77	7.31
740-9760	5	7.44	6.20
740-9765	5½	8.77	7.31
740-9770	6	7.44	6.20
740-9775	6½	7.44	6.20
740-9780	10	7.44	6.20
740-9785	15	6.62	5.52
740-9790	17½	6.62	5.52
740-9795	20	6.62	5.52
740-9800	30	6.62	5.52
740-9805	40	11.34	9.46
740-9810	50	11.34	9.46
740-9815	60	11.34	9.46
740-9820	70	23.48	19.56
740-9825	80	23.48	19.57
740-9830	90	23.48	19.56
740-9835	100	23.48	19.56

Fast-Acting Fuses



Type 3AG. For Low Time lag usage. $1\frac{1}{4} \times \frac{1}{4}$ ". Maximum 250V. U.L. listed and CSA certified.

Stock No.	Mfr.'s Type	Amps	EACH*		
			5-95	100-495	500-995
845-4001	312.062	$\frac{1}{16}$	1.11	.98	.89
845-4002	312.125	$\frac{1}{8}$	1.11	.98	.89
845-4003	312.175	$\frac{1}{4}$	1.11	.98	.89
845-4004	312.187	$\frac{3}{16}$	1.11	.98	.89
845-4005	312.250	$\frac{1}{2}$	.68	.60	.55
845-4006	312.300	$\frac{3}{4}$	.68	.60	.55
845-4007	312.375	$\frac{1}{2}$	.68	.60	.55
845-4008	312.500	$\frac{1}{2}$	.35	.31	.21
845-4009	312.750	$\frac{3}{4}$	.47	.42	.38
845-4010	312001	1	.21	.19	.17
845-4018	3121.25	$1\frac{1}{4}$	.29	.26	.24
845-4011	31201.5	$1\frac{1}{2}$	.29	.26	.24
845-4012	312002	2	.29	.26	.24
845-4019	31202.5	$2\frac{1}{2}$	.29	.26	.24
845-4013	312003	3	.29	.26	.24
845-4014	312004	4	.46	.41	.37
845-4015	312005	5	.46	.41	.37
845-4016	312006	6	.46	.41	.37
845-4020	312007	7	.46	.41	.37
845-4017	312008	8	.63	.56	.51
845-4021	312010	10	.63	.56	.51

*Sold in multiples of 5 only.

3AB Ceramic Body Fast-Acting

250V or less. **Blow Time:** 110% 4 hour minimum; 135% 1 hour maximum; 200% 15 second maximum ($\frac{1}{8}$ -12A); 60 second maximum (15-30A). $1\frac{1}{4} \times \frac{1}{4}$ ". U.L. listed thru 15 amps. Certified by CSA thru 15 amps. U.L. recognized, 20-30A.

Stock No.	Mfr.'s Type	Amps	EACH*		
			5-95	100-495	500-995
845-4553	314001	1	.79	.70	.63
845-4022	314002	2	.79	.70	.63
845-4554	314003	3	.79	.70	.63
845-4023	314004	4	.79	.70	.63
845-4555	314005	5	.74	.66	.60
845-4556	314006	6	.74	.66	.60
845-4024	314007	7	.74	.66	.60
845-4557	314008	8	.74	.66	.60
845-4558	314010	10	.74	.66	.60
845-4559	314012	12	.74	.66	.60
845-4560	314015	15	.74	.66	.60
845-4561	314020	20	1.12	.99	.90
845-4562	314025	25†	1.12	.99	.90
845-4025	314030	30†	1.12	.99	.90

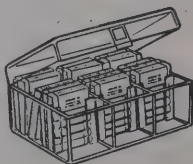
*Sold in multiples of 5 only. †125V max.

Fuse Kits

Fuse Kit

Fuse caddy offers an assortment of the most popular industrial 3AG slow blow and regular fuses in an attractive plastic case. Kit contains 15 boxes of 5 fuses each in $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2, 3, and 5 amp. *Slow blow only.

845-9403. Type 094037.....EACH 60.50



Complete Electronic Kit

The most complete circuit protection kit available. Ideal for schools, hospitals, plants, R&D labs, and maintenance departments. Two hundred eighty of our most popular fuses in a wide assortment of 3AG, 2AG, 5 × 20mm glass and 3AB ceramic fuses. Also includes 10 variations of fuse clips, fuse blocks, and panel mount and in-line fuseholders. Packaged in a rugged clear plastic box with cross reference information and inventory strips. Box dimensions $7\frac{3}{4} \times 5\frac{1}{2} \times 1\frac{1}{2}$ " deep.

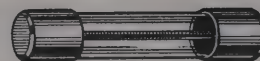
845-9404. Type 094376.....EACH 342.95

Economy Kit

This kit uses the same case as above but includes 150 of our most popular 3AG and 5 × 20mm fuses and five variations of fuseholders, clips and blocks. This leaves space for the users to fill in with their most popular fuses and holders.

845-9405. Type 094377.....EACH 128.51

Slo Blo® Fuses



Type 3AG. For circuits with high inductive surge. $1\frac{1}{4} \times \frac{1}{4}$ ". Maximum 250V except (†) denotes 32V. **Approvals:** Listed by Underwriters Laboratories and certified by CSA thru 7 amps; Recognized under the components program of Underwriters Laboratories from

Stock No.	Mfr.'s Type	Amps	EACH*		
			5-95	100-495	500-995
845-4036	313.031	$\frac{1}{32}$	2.22	1.98	1.79
845-4037	313.062	$\frac{1}{16}$	1.76	1.57	1.42
845-4038	313.100	$\frac{1}{10}$	1.76	1.57	1.42
845-4039	313.125	$\frac{1}{8}$	1.76	1.57	1.42
845-4043	313.200	$\frac{2}{10}$	1.76	1.57	1.42
845-4044	313.250	$\frac{1}{4}$	1.07	.94	.86
845-4045	313.300	$\frac{3}{10}$	1.07	.94	.86
845-4046	313.375	$\frac{3}{8}$	1.07	.94	.86
845-4047	313.400	$\frac{4}{10}$	1.07	.94	.86
845-4048	313.500	$\frac{1}{2}$	1.02	.90	.82
845-4049	313.600	$\frac{6}{10}$	1.02	.90	.82
845-4050	313.700	$\frac{7}{10}$	1.02	.90	.82
845-4051	313.750	$\frac{3}{4}$	1.02	.90	.82
845-4052	313.800	$\frac{8}{10}$	1.02	.90	.82
845-4053	313001	1	.76	.67	.61
845-4054	3131.25	$1\frac{1}{4}$	.77	.68	.62
845-4055	31301.5	$1\frac{1}{2}$	.77	.68	.62
845-4056	31301.6	$1\frac{1}{2}$	.77	.68	.62
845-4057	313002	2	.57	.51	.46
845-4058	31302.5	$2\frac{1}{2}$	.77	.68	.62
845-4059	313003	3	.77	.68	.62
845-4060	31303.2	$3\frac{1}{10}$	.77	.68	.62
845-4061	313004	4	.77	.68	.62
845-4062	313005	5	.77	.68	.62
845-4063	3136.25	$6\frac{1}{4}$	.77	.68	.62
845-4064	313007	7	.77	.68	.62
845-4065	313008	8	.77	.68	.62
845-4066	313010	10†	1.03	.92	.83
845-4400	313012	12†	1.03	.92	.83
845-4067	313015	15†	1.03	.92	.83
845-4068	313020	20†	1.03	.92	.83
845-4405	313025	25†	1.03	.92	.83
845-4410	313030	30†	1.03	.92	.83

*Sold in multiples of 5 only.

PC Mount Kit

This kit also uses the same case as Model 094376 except it contains only PC mountable fuses, fuseholders, fuseblocks, and fuse clips. The kit includes an assortment of 200 picofuses, microfuses, 3AG, 5 × 20mm, and 2AG pigtail fuses. Also included are 10 variations of PC mount fuseholders, fuse blocks, and fuse clips. Perfect kit for engineering departments and R&D labs.

845-9406. Type 094378.....EACH 328.64

Complete Automotive Fuse Kit

The most complete automotive fuse kit available! This kit includes 200 glass, blade and ceramic fuses for use in all American, European and Japanese vehicles. Also included are 10 variations of fuse blocks and in-line fuseholders. This kit is ideal for automotive maintenance departments. Packaged in a sturdy, clear plastic box, $11\frac{1}{8} \times 6\frac{3}{4} \times 1\frac{1}{2}$ " deep.

845-9407. Type 094379.....EACH 79.10

Appliance Service Kit

This kit includes 150 of our most popular fuses used in the appliance market. Also included is an additional assortment of 12 items consisting of appliance switches, indicator lights, fuseholders and fuseblocks. This kit is ideal for the appliance repair industry. Box dimensions are $7\frac{3}{4} \times 5\frac{1}{2} \times 1\frac{1}{2}$ " deep. Extra space is available for adding more items.

2AG "Fast-Acting" and "Slo-Blo" Fuses

2AG 225000 Series Fast-Acting Fuses

Stock No.	Mfr.'s Type	Amps	Volts	EACH*		
				5-95	100-495	500-Up
845-6001	225.125	1/8	250	.94	.84	.72
845-6002	225.250	1/4	250	.94	.84	.72
845-6004	225.500	1/2	250	.37	.33	.28
845-6006	225001	1	250	.37	.33	.28
845-6007	22501.5	1 1/2	250	.37	.33	.28
845-6008	225002	2	250	.37	.33	.28
845-6010	225003	3	250	.37	.33	.28
845-6012	225004	4	125	.37	.33	.28

2AG 224000 Series (Pigtail) Fast-Acting Fuses

845-6016	224.375	3/4	250	1.25	1.06	.91
845-6019	224.250	1/4	250	1.25	1.06	.91
845-6021	224.500	1/2	250	.61	.54	.46
845-6022	224.750	3/4	250	.61	.54	.46
845-6023	224001	1	250	.61	.54	.46
845-6025	224002	2	250	.61	.54	.46
845-6027	224003	3	250	.61	.54	.46
845-6029	224004	4	125	.61	.54	.46
845-6030	224005	5	125	.61	.54	.46

*Sold only in multiples of 5.

The 2AG fuse provides the same performance characteristics as the universal standard 3AG design in less than one-third the space.

These subminiature fuses offer top quality, reliability, and space-saving protection for your new designs. Available with pigtail leads for direct soldering or for use with #111501 mating PCB fuse clips. The 2AG Series is UL and CSA approved.

2AG 229000 Series Slo-Blo Fuses

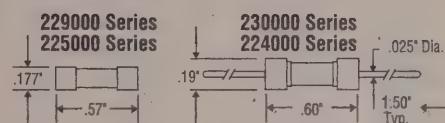
Stock No.	Mfr.'s Type	Amps	Volts	EACH*		
				5-95	100-495	500-Up
845-6034	229.250	1/4	250	.50	.45	.38
845-6036	229.500	1/2	250	.50	.45	.38
845-6038	229001	1	250	.50	.45	.38
845-6039	22901.5	1 1/2	250	.50	.45	.38
845-6040	229002	2	250	.37	.34	.29
845-6043	229003	3	250	.37	.34	.29
845-6045	229004	4	125	.50	.45	.38
845-6046	229005	5	125	.50	.45	.38
845-6047	229007	7	125	.50	.45	.38

2AG 230000 Series (Pigtail) Slo-Blo Fuses

845-6048	230.250	1/4	250	.83	.74	.63
845-6050	230.500	1/2	250	.83	.74	.63
845-6051	230.750	3/4	250	.83	.74	.63
845-6052	230001	1	250	.83	.74	.63
845-6054	230002	2	250	.83	.74	.63
845-6058	23003.5	3 1/2	250	.83	.74	.63
845-6059	230004	4	125	.83	.74	.63
845-6060	230005	5	125	.83	.74	.63

*Sold only in multiples of 5.

Subminiature Glass Body



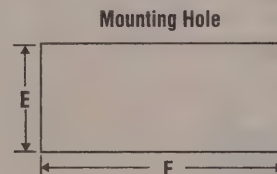
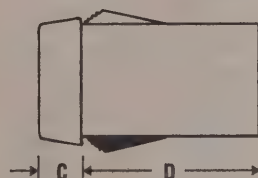
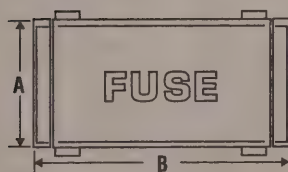
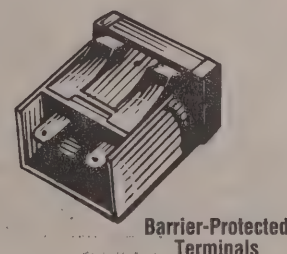
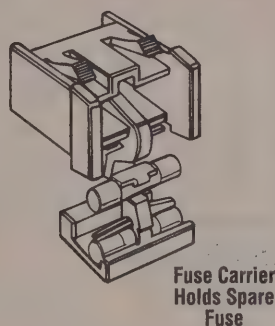
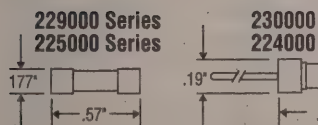
2AG Fast-Acting Type Electrical Characteristics

Rating	Blow Time
100%	4 hours, minimum
135%	1 hour, maximum
200%	10 seconds, maximum

2AG Slo-Blo Type Electrical Characteristics

110%	4 hours, minimum
135%	1 hour, maximum
200%	3 seconds, minimum
	1 minute, maximum

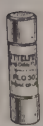
Flip-Top Shock-Safe Panel Mount Type



Shock-Safe design eliminates any possibility of electrical shock, per IEC Standards 257 and 65. Fuse carrier holds spare fuse for fast, easy fuse replacement and convenient servicing. Low profile design complements modern panels. **Approvals:** Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. (286677 CSA pending). **Specifications.** **Electrical:** Rating — See table below; Insulation Resistance — 10,000 megohm minimum at 500 VDC; Contact Resistance — Less than 0.01 ohm. **Mounting:** Snap-in mounting. No hardware required. Panel thickness range — .032" through

.125". **Molded Parts:** Thermoplastic (UL 94V0) black standard (other colors available as special). **Fuse Carrier:** Springloaded. Unlocks with a press of the finger. Locks into place to prevent accidental circuit interruption. Permanently attached to fuseholder body to prevent loss. Extracts fuse from live terminals. Holds spare fuse. **Terminals:** Copper alloy, tin plate. Accepts quick-connect or solder. **Ambient Temperature:** -40°C to +85°C. **Vibration:** 10-55-10 Hz at .06" double amplitude (Method 201, MIL-STD-202). **Patents:** Patented.

Stock No.	Mfr.'s Type	Fuse Size	Q.C. Terminals	Max. Amps At 250 A	A	B	C	D	E ±.005"	F ±.005"	EACH	
											1-99	100-499
845-9877	346877	3AG	.250" x .032" .072" Dia. Hole .187" x .032"	15	.75"	1.50"	.27"	1.04"	.688"	1.445"	2.49	1.91
845-9898	286677	5 x	.055" Dia. Hole .110" x .020"	10	.70"	1.03"	.26"	.94"	.625"	.953"	3.47	2.94
845-6086	286377	2AG	.048" Dia. Hole	10	.61"	.85"	.20"	.87"	.550"	.775"	1.90	1.61



FLQ Midget Slo-Blo® Fuses

500 V or less. Short circuit rating: 10,000 amps.
1/32" x 1 1/2".

Stock No.	Mfr.'s Type	Amps	EACH	
			1-99	100-499
845-4160	FLQ 1/4	1/4	8.22	6.98
845-4161	FLQ 1/2	1/2	7.16	6.09
845-4162	FLQ 1	1	7.16	6.09
845-4163	FLQ 1 1/4	1 1/4	7.16	6.09
845-4164	FLQ 2	2	7.16	6.09
845-4165	FLQ 2 1/2	2 1/2	7.16	6.09
845-4166	FLQ 3 1/2	3 1/2	7.16	6.09
845-4167	FLQ 4	4	7.16	6.09
845-4168	FLQ 5	5	7.16	6.09
845-4170	FLQ 8	8	7.16	6.09
845-4171	FLQ 10	10	7.16	6.09
845-4172	FLQ 12	12	7.16	6.09
845-4173	FLQ 15	15	7.16	6.09

FLM Slo-Blo® Fuses

250 V or less. Short circuit rating: 10,000 amps AC. For use in circuits with hi in-rush currents. UL listed and CSA certified. 1/32" x 1 1/2".

Stock No.	Amps	EACH	
		1-99	100-499
845-4535	1/2	3.12	2.65
845-4537	1 1/4	3.12	2.65
845-4539	2 1/2	3.12	2.65
845-4540	3 1/2	2.90	2.47
845-4542	5	2.51	2.13
845-4543	6 1/4	2.90	2.47
845-4544	8	2.60	2.21
845-4545	10	2.51	2.13
845-4547	15	2.51	2.13

NLN "One Time" Fuses

250 V or less. Interrupting rating: 10,000 amps AC. Class H and 5K.

Stock No.	Amps	Size	EACH	
			10-90	100-499
845-4299	1	1/16 x 2	1.04	.88
845-4300	2	1/16 x 2	1.51	1.28
845-4301	6	1/16 x 2	1.04	.88
845-4302	10	1/16 x 2	.91	.78
845-4303	15	1/16 x 2	.84	.72
845-4304	20	1/16 x 2	.84	.72
845-4306	30	1/16 x 2	.90	.76
845-4307	35	1/16 x 3	1.57	1.33
845-4308	40	1/16 x 3	1.35	1.15
845-4311	60	1/16 x 3	1.35	1.15

L25S (Formerly KLB) Very Fast-Acting Semiconductor Fuses



250 VAC or less. Interrupting rating: 200,000 amps AC. Blow Time: 100%, 4 hour minimum.

Stock No.	Amps	EACH	
		1-99	100-499
845-4193	5	7.70	6.55
845-4195	8	7.70	6.55
845-4198	15	7.25	6.16
845-4199	20	6.65	5.65
845-4200	25	7.70	6.55
845-4201	30	6.65	5.65
845-4202	35	26.87	22.84
845-4203	40	22.86	19.43
845-4204	45	30.80	26.18
845-4205	50	22.86	19.43
845-4207	70	29.31	24.92
845-4208	80	29.31	24.92
845-4210	100	29.31	24.92
845-4211	125	32.94	28.00
845-4212	150	29.31	24.92

FLN-R Slo-Blo® Current Limiting Fuses

For protection against fault currents up to 200,000 amps in motor branch circuitry, transformers, etc. Class RK-5, 250 V or less. Dual element.

Stock No.	Amps	Size	EACH	
			1-99	100-499
845-4514	1	1/16 x 2	3.63	3.09
845-4517	2	1/16 x 2	3.63	3.09
845-4519	3 1/2	1/16 x 2	3.35	2.85
845-4520	4	1/16 x 2	3.35	2.85
845-4521	5	1/16 x 2	3.35	2.85
845-4523	8	1/16 x 2	3.35	2.85
845-4524	10	1/16 x 2	3.35	2.85
845-4525	15	1/16 x 2	2.70	2.30
845-4526	17 1/2	1/16 x 2	3.12	2.65
845-4527	20	1/16 x 2	2.70	2.30
845-4528	25	1/16 x 2	2.70	2.30
845-4529	30	1/16 x 2	2.70	2.30
845-4530	35	1/16 x 3	5.02	4.27
845-4531	40	1/16 x 3	5.02	4.27
845-4532	50	1/16 x 3	5.02	4.27
845-4533	60	1/16 x 3	5.02	4.27
845-4534	100	1 1/16 x 5 1/8	11.17	9.49

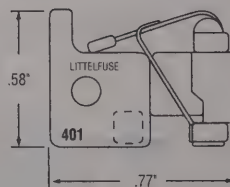
FLS-R Slo-Blo® Current Limiting Fuses



Similar to FLN-R Series except interrupting rating is 200,000 amps @ 600 volts AC and 20,000 @ 300 volts DC.

Stock No.	Amps	Size	EACH	
			1-99	100-499
845-4263	2	1/16 x 5	7.36	6.25
845-4268	6 1/4	1/16 x 5	6.80	5.78
845-4269	8	1/16 x 5	6.80	5.78
845-4271	10	1/16 x 5	6.80	5.78
845-4272	15	1/16 x 5	6.06	5.15
845-4273	20	1/16 x 5	6.06	5.15
845-4274	25	1/16 x 5	6.06	5.15
845-4275	30	1/16 x 5	6.06	5.15
845-4277	40	1 1/16 x 5 1/2	10.43	8.87
845-4280	100	1 1/16 x 7 1/8	21.49	18.27

Alarm Indicating Fuses 125 VAC/60 VDC



► For telecommunications equipment and similar applications

Color coded by amperage. Blown fuse indicating flag can activate alarm circuit. Multiple panel mounting in limited space. .585 x .775". UL recognized at 60 VDC.

Stock No.	Mfr.'s Type	Amps	Color	EACH		
				1-99	100-499	500-Up
845-4548	401.180	1 1/2	Yellow	1.93	1.72	1.56
845-4549	401.250	1/4	Violet	1.93	1.72	1.56
845-4550	401.500	1/2	Red	1.93	1.72	1.56
845-4552	401.750	3/4	Brown	1.93	1.72	1.56
845-4553	401.001	1	Gray	1.93	1.72	1.56
845-4254	401.1.33	1 1/2	White	1.93	1.72	1.56
845-4255	401.002	2	Orange	1.93	1.72	1.56
845-4256	401.003	3	Blue	1.93	1.72	1.56
845-4257	401.005	5	Green	1.93	1.72	1.56
845-4258	401.075	7 1/2	Blk/Wht.	1.93	1.72	1.56
845-4259	401.010	10	Red/Wht.	1.93	1.72	1.56

Electrical and Instrument Fuses

KLK Fast Acting Fuses

600 V or less. Hi-interrupting capacity. For use in circuits with up to 200,000 amps short circuit 1/32" x 1 1/2".



Stock No.	Amps	EACH	
		1-99	100-499
845-4281	1/10	7.70	6.55
845-4282	1/4	6.49	5.52
845-4283	3/10	8.85	7.52
845-4284	1/2	5.78	4.91
845-4285	1	5.78	4.91
845-4287	1 1/2	6.49	5.52
845-4288	2	5.78	4.91
845-4289	3	5.78	4.91
845-4291	5	5.78	4.91
845-4292	6	5.78	4.91
845-4293	8	5.78	4.91
845-4294	10	5.78	4.91
845-4295	15	5.78	4.91
845-4296	20	5.95	5.06
845-4297	25	5.95	5.06
845-4298	30	5.95	5.06

3AB Slo-Blo® Type Fuses

QPL



Ceramic body construction permits higher interrupting ratings and voltage ratings. Ideal for applications where high current loads are expected. 250 Volts. 1/4" x 1 1/4".

Approvals: Listed by Underwriters Laboratories and Certified by CSA from 1/4 through 10 amperes. Recognized under the Components Program of Underwriters Laboratories from 12 through 30 amperes.

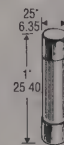
Electrical Characteristics: % of Ampere

Rating/Opening Time: 110% — 4 hrs. min., 135% — 1 hr. max., 200% — 5 sec. min.

Stock No.	Mfr.'s Type	Amps	EACH*		
			5-45	50-245	250-Up
845-4175	326001	1	1.73	1.54	1.39
845-4176	3261.25	1 1/4	1.73	1.54	1.39
845-4177	326002	2	1.73	1.54	1.39
845-4178	326003	3	1.20	1.07	.97
845-4179	326004	4	1.20	1.07	.97
845-4180	326005	5	1.20	1.07	.97
845-4181	3266.25	6 1/4	1.20	1.07	.97
845-4182	326007	7	1.20	1.07	.97
845-4183	326008	8	1.20	1.07	.97
845-4184	326010	10	1.20	1.07	.97
845-4186	326012	12	1.20	1.07	.97
845-4187	326015	15	1.20	1.07	.97
845-4188	326020	20	1.20	1.07	.97
845-4189†	326025	25	1.20	1.07	.97
845-4190†	326030	30	1.20	1.07	.97

*Sold in multiples of 5 only. †125 Volts.

8AG Instrument Fuses



Type 361. Blow Time: 100% — 4 hours minimum; 200%, — 5 seconds maximum. **Type 362.** Blow Time: 110% — 4 hours minimum; 135% — 1 hour maximum; 200% — 10 seconds maximum. **Type 362:** UL Listed thru 5 amps and CSA Certified 1/4-5A. 1" x 1/4".

Stock No.	Mfr.'s Type	Amps	EACH*		
			5-45	50-245	250-Up
845-4140	361.002	1/500**	7.99	7.11	6.45
845-4569	361.031	1/250**	4.22	3.76	3.41
845-4570	361.062	1/125**	1.49	1.33	1.21
845-4571	361.100	1/100**	1.01	.89	.81
845-4572	361.125	1/80**	1.01	.89	.81
845-4573	361.250	1/40**	.62	.55	.50
845-4142	361.375	3/4**	.62	.55	.50
845-4574	361.500	1/2**	.62	.55	.50
845-4143	361.750	3/4**	.62	.55	.50
845-4575	361.001	1**	.36	.32	.29
845-4576	361.015	1 1/2**	.36	.32	.29
845-4577	361.002	2**	.36	.32	.29
845-4578	361.003	3†	.37	.33	.30
845-4144	361.004	4†	.37	.33	.30
845-4579	361.005	5†	.37	.33	.30
845-4145	362.125	1 1/2**	1.01	.89	.81
845-4146	362.250	1 1/2**	.62	.55	.50
845-4147	362.500	1 1/2**	.62	.55	.50
845-4148	362.001	1**	.36	.32	.29
845-4149	362.015	1 1/2†	.36	.32	.29
845-4150	362.002	2†	.36	.32	.29
845-4152	362.003	3†	.36	.32	.29
845-4153	362.005	5†	.26	.23	.21
845-4154	362.006	6†	.26	.23	.21
845-4155	362.008	8*	.26	.23	.21
845-4156	362.010	10*	.26	.23	.21
845-4157	362.015	15*	.26	.23	.21
845-4158	362.020	20*	.26	.23	.21

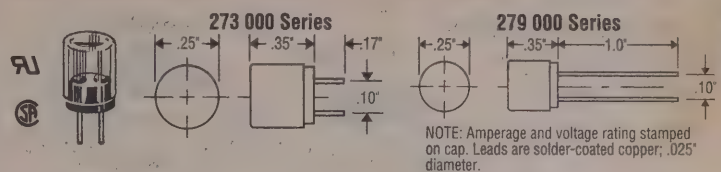
*Sold in multiples of 5 only. **250 V. †125V. = 32V.

Subminiature Microfuses

Very fast-acting. Ideal for printed circuits. Features low resistance and high reliability in ultrafast blowing characteristics. **Series 279000** has 1" leads for wiring into circuit. Short circuit interrupting capacity 125 volts, 10,000 amps AC. **Series 273000** has .170 leads for plugging into subminiature fuse holder. **Blowing specifications:** 100%—4 hours minimum; 200%—5 second maximum; transparent glass cap. 125 V rating. UL Recognized. CSA Certified.

Series 273

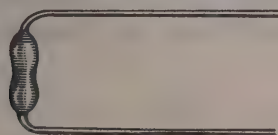
Stock No.	Mfr.'s Type	Amps	EACH		
			1-99	100-249	250-Up
845-4096	273.002	1/500	5.90	5.25	4.76
845-4097	273.005	1/200	5.90	5.25	4.76
845-4098	273.010	1/100	5.90	5.25	4.76
845-4099	273.015	1/64	5.90	5.25	4.76
845-4100	273.031	1/32	5.90	5.25	4.76
845-0015	273.050	1/20	2.68	2.26	1.95
845-4101	273.062	1/16	2.54	2.26	1.95
845-0017	273.100	1/10	2.54	2.26	1.95
845-4102	273.125	1/8	2.54	2.26	1.95
845-4103	273.200	2/10	2.54	2.26	1.95
845-0023	273.250	1/4	2.63	2.26	1.95
845-4104	273.300	3/10	2.54	2.26	1.95
845-4105	273.400	1/2	2.54	2.15	1.95
845-0027	273.500	1/2	2.68	2.26	1.95
845-4106	273.600	1/2	2.54	2.15	1.95
845-4107	273.700	1/2	2.68	2.15	1.95
845-4108	273.750	3/4	2.54	2.15	1.95
845-4109	273.800	1/2	2.54	2.15	1.95
845-0032	273001	1	2.54	2.15	1.95
845-4110	27301.5	1 1/2	2.54	2.15	1.95
845-0036	273002	2	2.54	2.15	1.95
845-0038	273003	3	2.54	2.15	1.95
845-4111	273004	4	2.54	2.15	1.95
845-0041	273005	5	2.68	2.26	1.95



Series 279

Stock No.	Mfr.'s Type	Amps	EACH		
			1-99	100-249	250-Up
845-4112	279.002	1/500	7.57	6.74	6.11
845-4113	279.005	1/200	7.57	6.74	6.11
845-4114	279.010	1/100	7.57	6.74	6.11
845-4115	279.015	1/64	7.57	6.74	6.11
845-4116	279.031	1/32	7.57	6.74	6.11
845-4117	279.050	1/20	3.10	2.63	2.38
845-4118	279.062	1/16	3.10	2.63	2.38
845-4119	279.100	1/10	3.10	2.63	2.38
845-4120	279.125	1/8	3.10	2.63	2.38
845-4121	279.200	2/10	3.10	2.63	2.38
845-4122	279.250	1/4	3.10	2.63	2.38
845-4123	279.300	3/10	3.10	2.63	2.38
845-4125	279.500	1/2	2.95	2.63	2.38
845-4127	279.700	2/10	2.95	2.63	2.38
845-4128	279.750	3/4	3.10	2.63	2.38
845-4130	279001	1	3.10	2.63	2.38
845-4131	27901.5	1 1/2	3.10	2.63	2.38
845-4132	279002	2	3.10	2.63	2.38
845-4133	279003	3	3.10	2.63	2.38
845-4134	279004	4	3.10	2.63	2.38
845-4135	279005	5	3.10	2.63	2.38
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PICO II™ Fast-Acting Subminiature Fuses Radial Leads

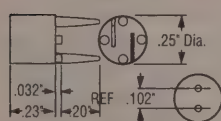


NOTE: LF and amperage rating are LASER-MARKED on both sides of all non color-coded PICO II™ fuses.

For circuits of 125 V or less with ampere rating of 1/16 to 15. **Blow Time:** 4 hours minimum at 100% (1/16-15 amps); 5 seconds maximum at 200% (1/16-10 amps); 10 seconds maximum at 200% (12-15 amps). **Body Diameter:** .095". **Body Length:** .28". Leads are solder-coated copper, .025" diameter for 1/16-10 A, .032" diameter for 12-15 A. LF and amperage rating laser marked on both sides of fuse. UL Recognized. CSA Certified.

Stock No.	Mfr.'s Type	Amps	EACH*	
			5-95	100-245
845-4605	252.125	1/8	2.54	2.15
845-4085	252.250	1/4	2.42	2.15
845-4610	252.375	3/8	2.42	2.15
845-4087	252.500	1/2	2.42	2.15
845-4615	252.750	3/4	2.42	2.15
845-4620	252001	1	2.42	2.15
845-4090	25201.5	1 1/2	2.42	2.15
845-4625	252002	2	2.42	2.15
845-4092	252003	3	2.42	2.15
845-4093	252004	4	2.42	2.15
845-4630	252005	5	2.42	2.15
845-4635	252010	10	2.42	2.15

*Sold in multiples of 5 only. Also available in bulk.

P.C. Mounted Microfuse/
Picofuse Holder

Fuseholder body molded in white acetal resin, terminals are silver plated brass. Rated at 5 amps, 125 volts maximum.

845-4136. Type 281005. Vertical Mounting. 1-99.....EACH 1.53
100-499.....EACH 1.37 500-Up.....EACH 1.24

Subminiature Microfuse Holder

Type 281001. Subminiature holder ideal for chassis mounting. Rated at 5 amps, 125 volts max. With spring nut. **Average shipping weight:** 3 oz.

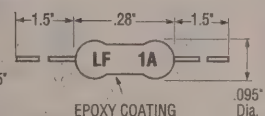
845-4137. 1-99.....EACH 1.27
100-499.....EACH 1.09 500-Up.....EACH 1.09



Axial-Lead PICO II™ Subminiature Fuses

251 000 Series
(Non color-coded)

NOTE: Leads are solder-coated copper, .025" diameter for 1/16-10A, .032" diameter for 12-15A.



For subminiature circuit protection where short circuit currents may be as high as 300 amperes. Low resistance values, high-speed action, insulated terminations, encapsulated epoxy-coated body. Will withstand vibrations of 10-55 Hz per method 201 of MIL-STD-202, and of 55-2000 Hz at 10 Gs per method 204, test condition C, of MIL-STD-202, and shock of 100 Gs for 6 milliseconds per method 213, test condition I of MIL-STD-202. **Operating ambient temperature:** -55°C to 125°C. At -55°C current carrying capacity is 110% of rating; at 25°C, 100% of rating; at 125°C, 80% of rating. Fuses will withstand an axial pull of 7 pounds. **Voltage Rating:** 125 V on 1/16-10 amps; 32 V on 12-15 amps. **Body Length:** .280". **Lead Length:** 1.50". **Body Diameter:** .095". **Lead Diameter:** .025" on 1/16-10 amps; .032" on 12-15 amps.

Stock No.	Mfr.'s Type	Amps	EACH*		
			5-95	100-245	250-Up
845-2000	251.062	1/16	1.43	1.20	1.04
845-2002	251.125	1/8	1.27	1.08	.92
845-2003	251.250	1/4	1.27	1.08	.92
845-2004	251.375	3/8	1.27	1.08	.92
845-2005	251.500	1/2	1.27	1.08	.92
845-2006	251.750	3/4	.96	.84	.72
845-2007	251001	1	.96	.84	.72
845-2008	25101.5	1 1/2	.96	.84	.72
845-2009	251002	2	.96	.84	.72
845-2010	25102.5	2 1/2	.95	.84	.72
845-2011	251003	3	.95	.84	.72
845-2012	25103.5	3 1/2	.95	.84	.72
845-2013	251004	4	.95	.84	.72
845-2014	251005	5	.95	.84	.72
845-2015	251007	7	.95	.84	.72
845-2016	251010	10	.95	.84	.72
845-2017	251012	12	1.55	1.33	1.14
845-2018	251015	15	1.55	1.33	1.14

*Sold in multiples of 5 only.

Microfuse Holder

Type 282002. Rear panel mount RF shielded microfuse holder. Housing and knob are aluminum. Body is molded of black phenolic. Rated 5 amps, 125 volts max.

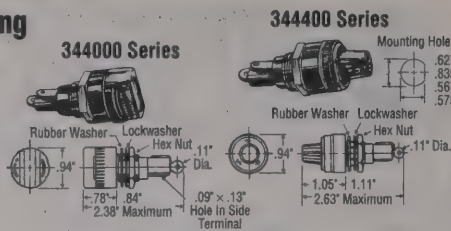
845-4139. Type 282002. 1-99.....EACH 7.22
100-499.....EACH 6.42



Blown-Fuse Indicating Panel Mount Type For 3AG Fuses



QPL®



Approvals: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA.

Specifications. Electrical: Rated at 20 amperes at lamp voltage as shown below. Dielectric withstanding voltage exceeds 1500 volts. All fuseholders are supplied with a resistor. When designing indicating type fuseholders into a circuit, consideration should be given to the resistance of fractional amperage fuses and the parallel resistance of the indicator lamp and its resistor. **Mounting:** Withstands 15 lb.-in. mounting torque. Maximum panel thickness is .250". **Molded Parts:** Black thermoset (UL 94V0), except lens is thermoplastic (UL 94V2). See Table below for lens color. **Knob:** Bayonet style. **Terminals:** Copper and copper alloy. Tin-plated. **Ambient Temperature:** -40°C to +60°C. **Hardware:** Neoprene washer, lockwasher and hex nut unassembled.

Stock No.	Mfr.'s Type	Voltage Range	Lamp Type	Lamp Current Rating Amps	Lens Color	EACH	
						1-99	100-499
845-9500	344006	2.5-7	6V Incand.	.200	Amber	14.74	13.12
845-9510	344401	2.5-7	6V Incand.	.200	Amber	14.74	13.12
845-9520	344012	7-6	14V Incand.	.080	Amber	14.74	13.12
845-9530	344402	7-6	14V Incand.	.080	Amber	14.74	13.12
845-9540	344024	16-32	28V Incand.	.040	Amber	14.74	13.12
845-9550	344403	16-32	28V Incand.	.040	Amber	14.74	13.12
845-9560	344125	100-125	Neon	.002	Clear	11.42	10.16
845-9570	344404	100-125	Neon	.002	Clear	10.18	9.06
845-9580	344250	200-250	Neon	.002	Clear	11.42	10.16
845-9590	344405	200-250	Neon	.002	Clear	10.18	9.06

Fuse Clips

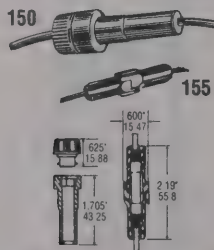


Fits 3AG, Traditional 1/4" (dia.) PC Type, and 2AG or 5mm (dia.) PC Type.

Stock No.	Mfr.'s Type	Fig.	For	EACH*		
				10-90	100-490	500-990
845-4236	101002	A	3AG	.16	.15	.12
845-0868	102071	B	3AG	.15	.13	.11
845-0869	102074	B	3AG	.16	.15	.12
845-4238	102078	C	3AG	.19	.17	.14
845-4239	105002	A	5AG	.28	.25	.20
845-4243†	122083	B	3AG	.48	.43	.36
845-4244†	122087	B	3AG	.48	.43	.36
845-6062†	111501	C	2AG	.12	.11	.09

*Sold in multiples of 10 only. †Suitable for current up to 10 amps.

Universal In-Line Fuseholders



Type 155-100. Supplied with an 8" loop of #14 AWG red vinyl insulated wire and two springs: one long spring for fuses through SFE9 and one short spring for SFE14 and SFE20. **Type 150-145.** Supplied with a 15" loop of #14 AWG red vinyl insulated wire and three springs of different lengths to accommodate different sizes of 1/4" fuses.

845-0100, Type 155100, 1-99	EACH 1.75
100-499	EACH 1.48
500-999	EACH 1.28
845-0145, Type 150145, 1-99	EACH 2.69
100-4999	EACH 2.28
500-999	EACH 1.97

Omni-Block™ Fuse Mountings

One piece self-aligning fuse clip/terminal design. Breakaway poles for easier stocking and ordering. Protective pole barriers surround each clip to provide greater protection against clip damage and electrical shock. Low profile design.

UL recognized and CSA certified at 300 V. Molded of glass filled polyester. UL 94V0 flammability rating. **Clip/terminal:** High tensile spring brass, electro-tin plated. Standard gray color.



Stock No.	Mfr.'s Type	Terminals	Poles	EACH		
				1-99	100-499	500-999
845-3001	354001-GY	Solder	1	.69	.61	.52
845-3002	354002-GY	Solder	2	1.55	1.31	1.13
845-3012	354012-GY	Solder	12	7.52	6.69	6.08
845-4221	354602-GY	Q.C. 3/16"	2	1.41	1.19	1.03
845-4222	354612-GY	Q.C. 3/16"	12	7.52	6.69	6.08
845-4223	354801-GY	Q.C. 1/4"	1	.69	.61	.52
845-4224	354802-GY	Q.C. 1/4"	2	1.41	1.19	1.03
845-4225	354812-GY	Q.C. 1/4"	12	7.52	6.69	6.08

Note: Q.C.—Quick Connect Blocks in black, red, white, blue, green and yellow available on special order from factory.

Bakelite In-Line Fuseholders

Assembled with 19" lead and fuse as listed.

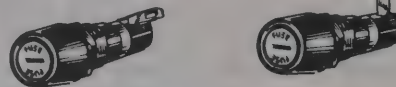


Stock No.	Mfr.'s Type	Fuse Type	EACH		
			1-99	100-499	500-999
845-4250	155009A	SFE9	2.52	2.14	1.94
845-4251	155014A	SFE14	2.52	2.14	1.94
845-4252	155020A	SFE20	2.65	2.25	1.94

Shock-Safe Fuseholders

For 1/4 x 1/4" fuses. UL recognized and CSA certified (20 A, 300 V). Designed to meet International Electrotechnical Commission specifications 65 and 257. Eliminates any possibility of electrical shock. Terminals accept solder of 3/16" female connector.

Low Profile



Extends to .16" from panel. Screwdriver slot knob.

Stock No.	Mfr.'s Type	Bottom Terminal	EACH		
			1-99	100-499	500-999
845-4214	345601	Rt. angle	2.28	1.93	1.75
845-4215	345611	Straight	2.28	1.93	1.75

High Profile



Screwdriver slot knob. Less space behind panel.

Stock No.	Mfr.'s Type	Bottom Terminal	EACH		
			1-99	100-499	500-999
845-4216	345602	Rt. angle	2.28	1.93	1.75
845-4217	345612	Straight	2.28	1.93	1.75

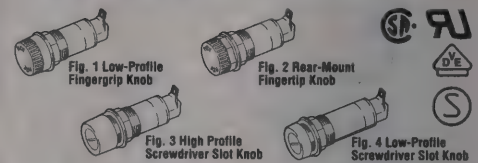
Finger Grip



Finger grip style knobs.

Stock No.	Mfr.'s Type	Bottom Terminal	EACH		
			1-99	100-499	500-999
845-4218	345603	Rt. angle	2.28	1.93	1.75
845-4219	345613	Straight	2.28	1.93	1.75

International Shock-Safe Fuseholders



Shock-safe design per IEC Standards 65 and 257. Universal fuseholder body accepts 3AG, 5 x 20 mm, and 2AG fuse sizes depending on knob selected. Choice of three terminal styles: dual purpose 3/16" solder/quick-connect, 3/16" NEMA quick-connect, and 1/4" NEMA/DIN quick-connect. UL recognized, CSA certified, VDE approved and SEMKO approved.

For 3AG Fuses

Stock No.	Mfr.'s Type	Fig.	Terminal	EACH		
				1-99	100-499	500-999
845-4800	3453-LF1	1	3/16"*	2.08	1.85	1.68
845-4801	3453-LF3	1	3/16"†	2.08	1.85	1.68
845-4802	3453-LF7	1	1/4"‡	2.20	1.96	1.78
845-4803	3453-RF1	2	3/16"*	2.20	1.96	1.78
845-4804	3453-RF3	2	3/16"†	2.20	1.96	1.78
845-4805	3453-RF7	2	1/4"‡	2.34	2.08	1.89
845-4806	3453-HS1	3	3/16"*	2.08	1.85	1.68
845-4807	3453-HS3	3	3/16"†	2.08	1.85	1.68
845-4808	3453-HS7	3	1/4"‡	2.20	1.96	1.78
845-4809	3453-LS1	4	3/16"*	2.08	1.85	1.68
845-4810	3453-LS3	4	3/16"†	2.08	1.85	1.68
845-4811	3453-LS7	4	1/4"‡	2.20	1.96	1.78

For 5 x 20 Fuses

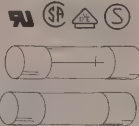
Stock No.	Mfr.'s Type	Fig.	Terminal	EACH		
				1-99	100-499	500-999
845-4812	3455-LF1	1	3/16"*	2.36	2.10	1.91
845-4813	3455-LF3	1	3/16"†	2.36	2.10	1.91
845-4814	3455-LF7	1	1/4"‡	2.50	2.23	2.02
845-4815	3455-RF1	2	3/16"*	2.50	2.23	2.02
845-4816	3455-RF3	2	3/16"†	2.50	2.23	2.02
845-4817	3455-RF7	2	1/4"‡	2.62	2.33	2.12
845-4818	3455-HS1	3	3/16"*	2.36	2.10	1.91
845-4819	3455-HS3	3	3/16"†	2.36	2.10	1.91
845-4820	3455-HS7	3	1/4"‡	2.50	2.23	2.02
845-4821	3455-LS1	4	3/16"*	2.36	2.10	1.91
845-4822	3455-LS3	4	3/16"†	2.36	2.10	1.91
845-4823	3455-LS7	4	1/4"‡	2.50	2.23	2.02

*Solder/Quick-Connect. †NEMA Quick Connect. ‡NEMA/DIN Quick Connect.

Fuses and Fuse Holders

5 × 20 mm Fuses — Low and High Breaking

Fast-acting FSF/SP and time-delay FST/SPT fuses are according to IEC 127. FSF/FST fuses break at 35 A/250 V AC. SP/SPT fuses break at 1500 A/250 V AC. UL recognized (FSF — 100 mA-6.3 A; FST — 125 mA-6.3 A; SP — 500 mA-6.3 A), CSA component acceptance, VDE approved (FSF and FST — 100 mA-6.3 A; SP — 500 mA-6.3 A), SEMKO approved (SPT — 1 A-6.3 A).



Low Breaking 5 × 20 mm Fuses

Amps	Fast Type FSF			Time Delay Type FST		
	Stock No.	Mr.'s Type	EACH	Stock No.	Mr.'s Type	EACH
100 mA	798-0076	034.1506	.47	798-0112	034.3107	1.00
125 mA	798-0078	034.1507	.47	798-0114	034.3108	.55
160 mA	798-0080	034.1508	.47	798-0116	034.3109	.55
200 mA	798-0082	034.1509	.47	798-0118	034.3110	.55
250 mA	798-0084	034.1510	.47	798-0120	034.3111	.55
315 mA	798-0086	034.1511	.47	798-0122	034.3112	.55
400 mA	798-0088	034.1512	.47	798-0124	034.3113	.55
500 mA	798-0090	034.1513	.47	798-0126	034.3114	.55
630 mA	798-0092	034.1514	.47	798-0128	034.3115	.55
800 mA	798-0094	034.1515	.47	798-0130	034.3116	.55
1 A	798-0096	034.1516	.47	798-0132	034.3117	.55
1.25 A	798-0098	034.1517	.47	798-0134	034.3118	.55
1.6 A	798-0099	034.1518	.47	798-0136	034.3119	.55
2 A	798-0100	034.1519	.47	798-0138	034.3120	.55
2.5 A	798-0102	034.1520	.47	798-0140	034.3121	.55
3.15 A	798-0104	034.1521	.47	798-0142	034.3122	.55
4 A	798-0106	034.1522	.47	798-0144	034.3123	.55
5 A	798-0108	034.1523	.47	798-0146	034.3124	.55
6.3 A	798-0110	034.1524	.47	798-0148	034.3125	.55

High Breaking 5 × 20 mm Fuses

Amps	Fast Type SP			Time Delay Type SPT		
	Stock No.	Mr.'s Type	EACH	Stock No.	Mr.'s Type	EACH
500 mA	798-0150	001.1001	.80	798-0174	001.2501	1.90
630 mA	798-0152	001.1002	.80	798-0176	001.2502	1.90
800 mA	798-0154	001.1003	.80	798-0178	001.2503	1.90
1 A	798-0156	001.1004	.80	798-0180	001.2504	1.90
1.25 A	798-0158	001.1005	.80	798-0182	001.2505	1.90
1.6 A	798-0160	001.1006	.80	798-0184	001.2506	1.90
2 A	798-0162	001.1007	.80	798-0186	001.2507	1.90
2.5 A	798-0164	001.1008	.80	798-0188	001.2508	1.90
3.15 A	798-0166	001.1009	.80	798-0190	001.2509	1.90
4 A	798-0168	001.1010	.80	798-0192	001.2510	1.90
5 A	798-0170	001.1011	.80	798-0194	001.2511	1.90
6.3 A	798-0172	001.1012	.80	798-0196	001.2512	1.90

Fuse Kits

Type 034.9856. Contains FSF assortment. 270 pcs.: 15 ea., 100 mA-10 A.
798-0528. Type 034.9856. Fuse Kit EACH 97.00

Type 034.9857. Contains FST assortment. 270 pcs.: 15 ea., 100 mA-10 A.
798-0530. Type 034.9857. Fuse Kit EACH 84.80

Type 034.9871. Contains SP/SPT assortment. 180 pcs.: 10 ea., 800 mA-10 A.
798-0532. Type 034.9871. Fuse Kit EACH 133.72

Type 034.9858. Contains FST/SP assortment. 270 pcs.: 15-30 ea., 500 mA-10 A.
798-0534. Type 034.9858. Fuse Kit EACH 119.48

Open Design Fuse Clip/Blocks

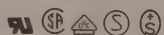


Built according to IEC 257, UL 512. UL recognized, CSA certified, VDE, SEMKO, and SEV approved. Fig. 2 available with cover. Figs. 1 and 3 accept 5 × 20 mm or 1/4" × 1/4" fuses, one fuse at a time per IEC 65. Kicked terminals for wave soldering.

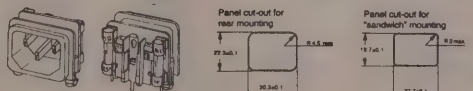
Stock No.	Mr.'s Type	Fig.	Fuse Size	Pin Spacing	EACH
798-0042	751.0100	1	5 × 20 mm or 1/4" × 1/4"	5 mm	.46
798-0362	031.8201	2	5 × 20 mm	22.5 mm	.47
798-0364	031.8211	2	5 × 20 mm	25.0 mm	.47
798-0366	031.8221	2	5 × 20 mm	SMD	.69
798-0536	031.8231	3	5 × 20 mm or 1/4" × 1/4"	5 × 20 mm	.80

AC Appliance Inlet For PCB With Piggyback Fuse Clips

— NEW —

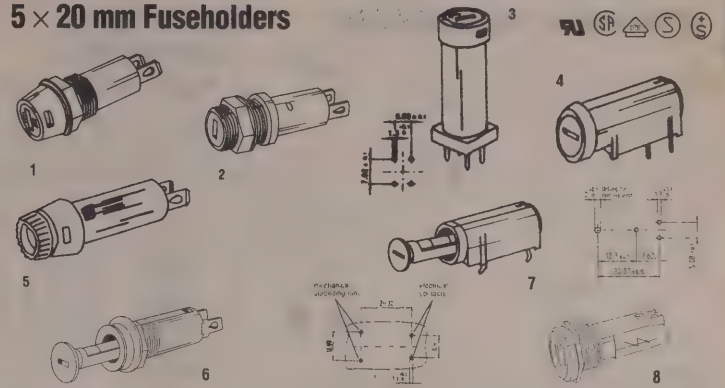


Series GSF for 1.5 mm panel (rear or "sandwich" mounting). Panel cutouts show measurements for rear and "sandwich" mounting. Ground terminals are solder/quick connect.



Stock No.	Mr.'s Type	Mounting	EACH
798-0538	GSF1.1212.31	PCB/Snap Posts, 1.6 mm	2.05
798-0540	GSF1.2212.31	PCB/Snap Posts, 1.6 mm	2.29

5 × 20 mm Fuseholders



Fuseholders for 5 × 20 mm fuses according to IEC 257, UL 512. All UL recognized, CSA certified, VDE, SEMKO and SEV approved. Various mounting styles for panel or PCB. Type FBS meets new IEC 529 shocksafety for total inaccessibility of live parts; fuse carriers are captive. Type FIZ is for high current applications. IP 67 models are watertight.

Type FPG UL/CSA 16 A/250 V, VDE/SEMKO/SEV 10 A/250 V

Stock No.	Mr.'s Type	Fig.	Fuse Carrier	Terminals	Panel Mounting	EACH
798-0019	3101.0010	1	Slotted	+	Front	1.95
798-0017	3101.0015	1	Finger Grip	+	Front	1.95
798-0015	3101.0110	1	Slotted, IP 67	+	Front	2.22
798-0542	3101.0115	1	Finger Grip, IP 67	+	Front	2.22
798-0544	3101.0020	2	Slotted	+	Rear	1.95
798-0546	3101.0025	2	Finger Grip	+	Rear	1.95
798-0548	3101.0120	2	Slotted, IP 67	+	Rear	2.22
798-0550	3101.0125	2	Finger Grip, IP 67	+	Rear	2.22
798-0013	3101.0040	3	Slotted	+	PCB	1.95
798-0552	3101.0045	3	Finger Grip	+	PCB	1.95
798-0011	3101.0050	4	Slotted	+	PCB	1.95
798-0554	3101.0055	4	Finger Grip	+	PCB	1.95
798-0021	3101.0030	5	Slotted	+	Snap-in	1.95
798-0556	3101.0035	5	Finger Grip	+	Snap-in	1.95
798-0558	3101.0031	5	Slotted	+	Snap-in	1.95
798-0560	3101.0036	5	Finger Grip	+	Snap-in	1.95

Type FBS UL/CSA/VDE/SEMKO/SEV 10 A/250 V

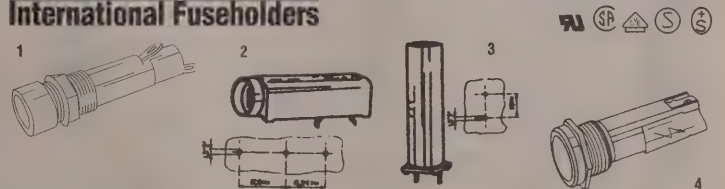
Stock No.	Mr.'s Type	Fig.	Fuse Carrier	Terminals	Panel Mounting	EACH
798-0562	031.3901	6	Captive/Slotted	+	Screw-on	1.92
798-0564	031.3911	6	Captive/Finger	+	Screw-on	1.70
798-0566	031.3981	7	Captive/Slotted	+	PCB	1.78
798-0568	031.3991	7	Captive/Finger	+	PCB	1.78

Type FIZ UL/CSA/VDE/SEMKO/SEV 10 A/250 V

Stock No.	Mr.'s Type	Fig.	Fuse Carrier	Terminals	Panel Mounting	EACH
798-0032	031.2201	8	Slotted, IP 67	+	Screw-on	10.09
798-0034	031.2203	8	Slotted	+	Screw-on	8.35

†Solder. ‡Quick Disconnect.

International Fuseholders



Fuseholders for 5 × 20 mm or 1/4" × 1/4" fuses according to IEC 257, UL 512. All UL recognized; CSA certified. VDE, SEMKO, and SEV approved. Various mounting styles for panel or PCB. All fuseholders complete with carriers except type FUL, ordered separately. IP 67 models are watertight.

Type FEU UL 20 A/250 V, CSA 16 A/250 V, VDE/SEMKO/SEV 10 A/250 V

Stock No.	Mr.'s Type	Fig.	Fuse Carrier	Terminals	Panel Mounting	EACH
798-0570	031.1706	1	Slotted, 5 × 20 mm	+	Screw-on	1.70
798-0572	031.1699	1	Slotted, 1/4" × 1/4"	+	Screw-on	1.68
798-0574	031.1803	1	Finger Grip, 5 × 20 mm	+	Screw-on	1.70
798-0576	031.1804	1	Finger Grip, 1/4" × 1/4"	+	Screw-on	1.70
798-0578	031.1767	1	Slotted, 5 × 20 mm	+	Screw-on	1.70
798-0580	031.1768	1	Slotted, 1/4" × 1/4"	+	Screw-on	1.68

Type FAU/FAC UL/CSA 16 A/250 V, VDE 10 A/250 V, SEMKO/SEV 6.3 A/250 V

Stock No.	Mr.'s Type	Fig.	Fuse Carrier	Terminals	Panel Mounting	EACH
798-0582	031.3821	2	Slotted, 5 × 20 mm	+	PCB	1.92
798-0584	031.3822	2	Slotted, 1/4" × 1/4"	+	PCB	1.90
798-0586	031.3571	3	Slotted, 5 × 20 mm	+	PCB	1.71
798-0588	031.3581	3	Slotted, 1/4" × 1/4"	+	PCB	1.69

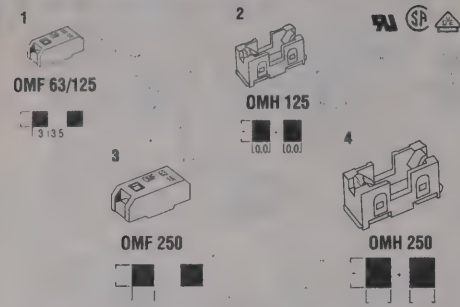
Type FUL UL/CSA 30 A/250 V, VDE/SEMKO/SEV 16 A/250 V

Stock No.	Mr.'s Type	Fig.	Fuse Carrier	Terminals	Panel Mounting	EACH
798-0590	031.2303	4	Holder Body Only, IP 67	+	Screw-on	3.34
798-0592	031.2308	4	Holder Body Only	+	Screw-on	3.20
798-0594	031.2320	4	Carrier, 1/4" × 1/4", IP 67	—	—	3.00
798-0596	031.2321	4	Carrier, 1/4" × 1/4"	—	—	2.52
798-0598	031.2322	4	Carrier, 5 × 20 mm, IP 67	—	—	3.00
798-0600	031.2323	4	Carrier, 5 × 20 mm	—	—	2.52

†Solder. ‡Quick Disconnect.

2

Surface Mount Fuse and Holder



OMF 63 V, 125 V and 250 V fast-acting surface mount fuses. OMF 63 V and 125 V blow in less than 10 milliseconds at 400%. Breaking capacity is 50 A AC/DC for the OMF 63 V; 300 A AC/400 A DC for the OMF 125 V. OMF 250 V blows in 300 seconds maximum at 200%. Breaking capacity is 100 A/250 V AC/DC. Made from UL 94V-0 thermoplastic for reflow, vapor-phase and wave soldering. Available in bulk (100 pcs.) OMH 125 V 031.7701.11 and 250 V 031.7702.11 fuseholder optional.

OMF 63 V

Stock No.	Mfr.'s Type	Fig.	Amps	EACH
798-0044	3402.0003.11	1	63 mA	1.19
798-0046	3402.0004.11	1	100 mA	.97
798-0048	3402.0005.11	1	160 mA	.97
798-0050	3402.0006.11	1	250 mA	.97
798-0320	3402.0043.11	1	350 mA	.97
798-0322	3402.0044.11	1	375 mA	.97
798-0052	3402.0007.11	1	400 mA	.97
798-0324	3402.0045.11	1	500 mA	.84
798-0054	3402.0008.11	1	630 mA	.84
798-0326	3402.0046.11	1	750 mA	.84
798-0056	3402.0009.11	1	1 A	.84
798-0058	3402.0010.11	1	1.25 A	.84
798-0328	3402.0047.11	1	1.5 A	.84
798-0060	3402.0011.11	1	1.6 A	.84
798-0062	3402.0012.11	1	2 A	.84
798-0064	3402.0013.11	1	2.5 A	.84
798-0066	3402.0014.11	1	3 A	.84
798-0330	3402.0048.11	1	3.15 A	.84
798-0332	3402.0015.11	1	3.5 A	.84
798-0334	3402.0016.11	1	4 A	.84
798-0336	3402.0017.11	1	5 A	.78
798-0074	031.7701.11	2	5 A	.80

OMF 125 V

798-0416	3404.0003.11	1	63 mA	1.19
798-0418	3404.0004.11	1	100 mA	.97
798-0420	3404.0005.11	1	160 mA	.97
798-0422	3404.0006.11	1	250 mA	.97
798-0424	3404.0043.11	1	350 mA	.97
798-0426	3404.0044.11	1	375 mA	.97
798-0428	3404.0007.11	1	400 mA	.97
798-0430	3404.0045.11	1	500 mA	.84
798-0432	3404.0008.11	1	630 mA	.84
798-0434	3404.0046.11	1	750 mA	.84
798-0436	3404.0009.11	1	1 A	.84
798-0438	3404.0010.11	1	1.25 A	.84
798-0440	3404.0047.11	1	1.5 A	.84
798-0442	3404.0011.11	1	1.6 A	.84
798-0444	3404.0012.11	1	2 A	.84
798-0446	3404.0013.11	1	2.5 A	.84
798-0448	3404.0014.11	1	3 A	.84
798-0450	3404.0048.11	1	3.15 A	.84
798-0452	3404.0015.11	1	3.5 A	.84
798-0454	3404.0016.11	1	4 A	.84
798-0456	3404.0017.11	1	5 A	.78
798-0074	031.7701.11	2	5 A	.80

OMF 250 V

798-0338	3403.0012.11	3	400 mA	1.27
798-0340	3403.0013.11	3	500 mA	1.27
798-0342	3403.0014.11	3	630 mA	1.27
798-0344	3403.0015.11	3	800 mA	1.27
798-0346	3403.0016.11	3	1 A	1.27
798-0348	3403.0017.11	3	1.25 A	1.27
798-0350	3403.0018.11	3	1.6 A	1.27
798-0352	3403.0019.11	3	2 A	1.27
798-0354	3403.0020.11	3	2.5 A	1.27
798-0356	3403.0021.11	3	3.15 A	1.27
798-0358	3403.0022.11	3	4 A	1.27
798-0360	031.7702.11	4	5 A	.82

Fuse Kit

Contains OMF 63 V assortment: 90 pcs.: 10 each 100 mA-5 A, 10 each OMF 63 holder. OMF 250 V assortment: 90 pcs.: 10 each 500 mA-4 A, 10 each OMF 250 holder.

798-0460. Type 034.9877. Fuse Kit.....EACH 166.77

Quick-Acting Surface Mount Fuse — 125 V

Quick-acting surface mount fuse built according to IEC 127-4. UL recognized, CSA certified. Breaks at 100 A/125 V AC/DC; low voltage drop. Material meets UL 94V-0 flammability.

Stock No.	Mfr.'s Type	Amps	Voltage Drop	EACH
798-0400	3405.0917.11	800 mA	<130	.48
798-0402	3405.0918.11	1 A	<90	.48
798-0404	3405.0919.11	1.25 A	*	.48
798-0406	3405.0920.11	1.6 A	*	.48
798-0408	3405.0921.11	2 A	<120	.48
798-0410	3405.0922.11	2.5 A	<100	.48
798-0412	3405.0923.11	3.15 A	<80	.48
798-0414	3405.0924.11	4 A	<80	.48

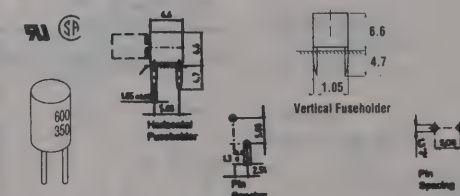
*Consult with factory for voltage drop.

Quick-Acting High Breaking Microfuse — 125 V

Fast-acting MSA 125 V fuse is according to IEC 127. Fuse breaks at 300 A/125 V AC. UL recognized 63 mA-10 A, CSA certified 63 mA-7 A.

Stock No.	Mfr.'s Type	Amps	EACH
798-0198	034.4807	63 mA	1.10
798-0200	034.4810	125 mA	1.10
798-0202	034.4813	250 mA	1.10
798-0204	034.4815	375 mA	.80
798-0206	034.4817	500 mA	.80
798-0208	034.4820	750 mA	.80
798-0210	034.4822	1 A	.80
798-0212	034.4824	1.5 A	.80
798-0214	034.4826	2 A	.80
798-0216	034.4827	2.5 A	.80
798-0218	034.4828	3 A	.80
798-0220	034.4830	3.5 A	.80
798-0222	034.4831	4 A	.80
798-0224	034.4832	5 A	.80
798-0226	034.4833	7 A	.80
798-0228	034.4834	10 A	.80
798-0230	034.4835	12 A	1.16
798-0232	034.4836	15 A	1.16

Quick-Acting Microfuse — 125 V



Fast-acting MSF 125 V built according to IEC 127. Breaks at 300 A/125 V. UL recognized (100 mA-5 A). CSA certified (100 mA-5 A). VDE approved. Material meets UL 94V-0 flammability. Microfuse FMS 125 V ordered separately below.

Stock No.	Mfr.'s Type	Amps	EACH
798-0234	034.4209	100 mA	1.80
798-0236	034.4210	125 mA	1.80
798-0238	034.4211	160 mA	1.70
798-0240	034.4212	200 mA	1.70
798-0242	034.4213	250 mA	1.70
798-0244	034.4214	315 mA	1.70
798-0246	034.4215	400 mA	1.70
798-0248	034.4216	500 mA	1.70
798-0250	034.4217	630 mA	1.70
798-0252	034.4220	800 mA	1.70
798-0254	034.4221	1 A	1.70
798-0256	034.4222	1.25 A	1.70
798-0258	034.4223	1.6 A	1.70
798-0260	034.4224	2 A	1.70
798-0262	034.4225	2.5 A	1.70
798-0264	034.4226	3.15 A	1.70
798-0266	034.4227	4 A	1.70
798-0268	034.4228	5 A	1.70

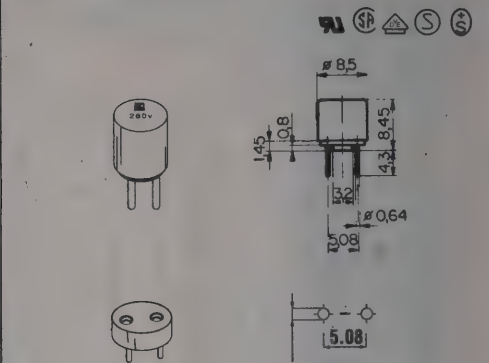
798-0462. Type 031.7501. 125 V Vertical Fuseholder.....EACH .58
798-9990. Type 031.7505. 125 V Horizontal Fuseholder.....EACH .50

Fuse Kit

Contains MSF 125 V assortment (black cap). 180 pcs.: 10 each 50 mA-5 A, 20 each MSF holder.

798-0464. Type 034.9875. Fuse Kit.....EACH 172.12

Quick-Acting and Time-Lag Microfuses — 250 V



MSF/MST/MXT 250 V built according to IEC 127. MSF/MST 250 V breaks at 35 A/250 V AC. MXT 250 V breaks at 100 A/250 V AC. UL recognized CSA accepted (MSF 250 — 40 mA-5 A, MST 250 — 63 mA-6.3 A) (MXT 250 V — 800 mA-6.3 A). VDE approved (MSF 250 — 50 mA-3.15 A, MST 250 — 63 mA-4 A). Material meets UL 94V-0 flammability. Microfuse holder FMS 250 V ordered separately below.

MSF 250 V Quick-Acting

Stock No.	Mfr.'s Type	Amps	EACH
798-0270	034.6003	80 mA	.56
798-0272	034.6004	100 mA	.46
798-0274	034.6005	125 mA	.46
798-0276	034.6006	160 mA	.46
798-0278	034.6007	200 mA	.46
798-0280	034.6008	250 mA	.46
798-0282	034.6009	315 mA	.46
798-0284	034.6010	400 mA	.46
798-0286	034.6011	500 mA	.46
798-0288	034.6012	630 mA	.46
798-0290	034.6013	800 mA	.46
798-0292	034.6014	1 A	.46
798-0294	034.6015	1.25 A	.46
798-0296	034.6016	1.6 A	.46
798-0298	034.6017	2 A	.46
798-0300	034.6018	2.5 A	.46
798-0302	034.6019	3.15 A	.46
798-0304	034.6020	4 A	.46
798-0306	034.6021	5 A	.46

MST 250 V Time-Lag

798-0466	034.6604	80 mA	.67
798-0468	034.6605	100 mA	.59
798-0470	034.6606	125 mA	.59
798-0472	034.6607	160 mA	.49
798-0474	034.6608	200 mA	.49
798-0476	034.6609	250 mA	.43
798-0478	034.6610	315 mA	.43
798-0480	034.6611	400 mA	.43
798-0482	034.6612	500 mA	.43
798-0484	034.6613	630 mA	.43

798-0486	034.6614	800 mA	.43
798-0488	034.6615	1 A	.43
798-0490	034.6616	1.25 A	.43
798-0492	034.6617	1.6 A	.43
798-0494	034.6618	2 A	.43

798-0496	034.6619	2.5 A	.43
798-0498	034.6620	3.15 A	.43
798-0500	034.6621	4 A	.43
798-0502	034.6622	5 A	.43

MXT 250 V High Breaking Microfuse Time-Lag

798-0504	034.6914	800 mA	.51
798-0506	034.6915	1 A	.51
798-0508	034.6916	1.25 A	.51
798-0510	034.6917	1.6 A	.51
798-0512	034.6918	2 A	.51
798-0514	034.6919	2.5 A	.51
798-0516	034.6920	3.15 A	.51
798-0518	034.6921	4 A	.51
798-0520	034.6922	5 A	.51
798-0522	034.6923	6.3 A	.51

798-0524. Type 031.7601. 250 V Fuseholder.....EACH .58

Fuse Kit

Contains MSF/MST 250 V assortment (black cap). 180 pcs.: 10 each 63 mA-5 A, 10 each MSF holder.

798-0526. Type 034.9876. Fuse Kit.....EACH 116.00

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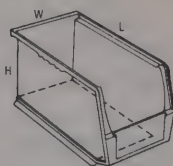
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AkroBins

Polypropylene Storage Bins That Hang or Stack

- ▶ AkroBins Hang Securely from Louvered Panels
- ▶ Extra-Wide Stacking Ledge Assures Secure Stacking
- ▶ Large Label Slot for Clear Identification
- ▶ Reinforced Ribs Prevent Bins from Spreading When Loaded

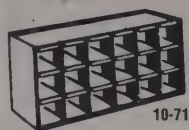


Cabinets

Stock No.	Mfr.'s Type	Inside Dimensions			Outside Dimensions			EACH
		L"	W"	H"	L"	W"	H"	
723-3021	30-210	4 3/4	3 7/16	2 13/16	5 3/8	4 1/8	3	.90
723-3022	30-220	6 3/4	3 7/16	2 13/16	7 3/8	4 1/8	3	1.63
723-3023	30-230	10 1/4	4 3/8	4 3/4	10 7/8	5 1/2	5	4.06
723-3025	30-235	10 1/4	10	4 3/4	10 7/8	11	5	6.25
723-3026	30-239	10	6 9/16	6 3/4	10 3/4	8 3/4	7	6.75
723-3024	30-240	14	6 9/16	6 3/4	14 3/4	8 3/4	7	8.00
723-3027	30-250	14	14 3/4	6 3/4	14 3/4	16 1/2	7	11.23
723-3060*	30-265	17 1/8	6 1/2	8 3/4	18	8 3/8	9	13.88
723-3065*	30-270	17 1/8	14 7/8	10 3/4	18	16 1/2	11	20.25

*Do not hang from louvered panels.

Stackable Plastic Frame Cabinets



Series 2000. Stackable storage cabinets feature see-through styrene drawers, a polystyrene frame, pedestal base and recessed tray tops for stacking, and keyhole slots for wall mounting. Drawers have stop-tabs to prevent content spillage and come with dividers. Frame is lightweight, virtually unbreakable. **Dimensions:** 18 1/4 x 8 5/8 x 6 3/8".

Stock No.	Mfr.'s Type	No. of Drawers	Storage Capacity	EACH
723-1071	10-718	18	682 cu.*	21.65
723-1052	10-523	23*	685 cu.*	21.65
723-1013	10-136	36†	663 cu.*	21.65

*16 full size, 4 double deep, 3 double-wide double-deep. †Drawers do not have dividers.

Dividers

Divide bins front-to-back with these precision-molded bin dividers. Allows for better organization of contents and a more efficient use of space.



Stock No.	Mfr.'s Type	Fits Bin No.	PER PK./6
723-4400	40-210	30-210	3.98
723-4410	40-220	30-220	4.28
723-4420	40-230	30-230, 30-235	7.25
723-4430	40-239	30-239	8.23
723-4440	40-245	30-240, 30-250	10.03

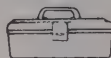
Lids

Made of see-through crystal styrene to keep contents dust-free and protected.



Stock No.	Mfr.'s Type	Fits Bin No.	EACH
723-2021	30-211	30-210	.69
723-2022	30-221	30-220	.78
723-2023	30-231	30-230	1.54

09 Series Tool Boxes



09-012

09-113

09-116

Made of tough polypropylene. Features lift-out trays, full-interlocking hinges (Model 09-012 has a living hinge and no tray), sure-lock latches, and a deep main storage compartment. Model 09-116 also has padlock eyes.

Stock No.	Mfr.'s Type	Color	Dimensions (L x W x H)	Storage Capacity	EACH
723-0912	09-012	Red	12 x 6 x 4"	160 cu.*	2.80
723-0913	09-113	Red	13 x 7 x 6"	405 cu.*	7.75
723-0900	09-116	Red	16 x 8 x 7"	630 cu.*	21.35

Pro Line Tool Boxes

18" Structural Foam Tool Box/Metal Latch

- ▶ High Density Structural Foam Construction for Professional Grade Strength
- ▶ Heavy Duty Riveted Handle
- ▶ Removable Inside Tray
- ▶ 18"L x 10 1/2"D x 10 3/4"H



723-0718, 07-018 EACH 24.46

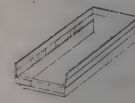
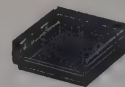
Shelf Bins



30-150

30-158

30-164



30-170

30-184

- ▶ Molded of Durable Polypropylene For Years of Service
- ▶ Special Built-In Hanglock Allows Easy Access To Entire Bin
- ▶ Wide Label Holder Molder In
- ▶ Available in Red, Yellow, and Blue

Stock No.	Mfr.'s Type	Outside Dim. W x L	Inside Dim. W x L	Divider No.	EACH
723-301X	30-110	2 3/4 x 11 5/8	1 5/8 x 10 1/4	NONE	1.18
723-312X	30-120	4 1/8 x 11 5/8	3 x 10 1/4	40-120	1.31
723-314X	30-128	4 1/8 x 17 1/8	3 x 16 1/2	40-120	1.78
723-305X	30-138	6 1/2 x 17 1/8	5 1/2 x 16 1/2	40-130	2.50
723-316X	30-150	8 3/8 x 11 5/8	7 1/8 x 10 1/4	40-150	2.64
723-307X	30-158	8 3/8 x 17 1/8	7 1/8 x 16 1/2	40-150	3.43
723-308X	30-164	6 5/8 x 23 5/8	5 1/2 x 22 1/8	40-130	5.00
723-309X	30-170	11 1/8 x 11 5/8	10 x 10 1/4	40-170	3.29
723-319X	30-178	11 1/8 x 17 1/8	10 x 16 1/2	40-170	5.44
723-315X	30-184	8 3/8 x 23 5/8	7 1/8 x 22 1/8	40-150	6.08

NOTE: Height on all Shelf Bins is 4 inches. To indicate color replace the "X" in the stock number with: 0-Yellow, 1-Blue, 2-Red.

Dividers For Above Shelf Bins

- ▶ Dividers Available in Black Only

723-4023, 40-120	PER PK./24	6.61
723-4024, 40-130	PER PK./24	7.19
723-4025, 40-150	PER PK./24	16.75
723-4026, 40-170	PER PK./24	20.78

Electrical Products

Portacord® Cord Holder

- ▶ 50 ft. Capacity
- ▶ 15 1/2"L x 5 1/4"W x 3/4"H Thick



723-0305, 03-006 EACH 1.98

Clear Plastic Utility Boxes — NEW —

Lightweight, rigid, scratch resistant, rugged clarified polypropylene boxes have rugged hinges and sturdy double thick walls and partitions.

Keep Box 05-206

- ▶ Six Equal Compartments
- ▶ 4 1/8"W x 2 5/8"L x 1"H



723-0520, 05-206 EACH 1.05

Keep Box 05-406

- ▶ Adjustable Partitions: 6-18 Compartments
- ▶ 8 1/2"W x 4 1/4"L x 1 1/2"H



723-0540, 05-406 EACH 3.12

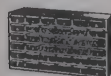
Keep Box 05-505

- ▶ Perfect For Slides, Crafts, Hardware
- ▶ Adjustable Partitions: 5-15 Compartments
- ▶ 11 1/2"W x 6 1/2"L x 2 5/8"H



723-0550, 05-505 EACH 5.22

Modular Cabinet



16-136

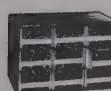


16-718

Frame Size: 18"W x 6"L



19-228



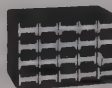
19-909



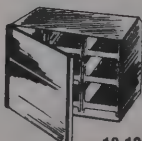
19-416



19-715



19-320



19-109

Frame Size: 17"W x 11"H x 11"L

Stores small parts, electronic components and things you need to locate instantly. Cabinets can be stacked horizontally or vertically wall mounted or placed on carts or shelves. Heavy duty steel frame with charcoal gray baked enamel finish, steel drawer supports, nesting "feet" for stability in stacking. Molded styrene drawers have transparent windows (models 16-136 and 16-718 in ABS plastic frames have all transparent drawers) and retaining tab to hold drawers open.

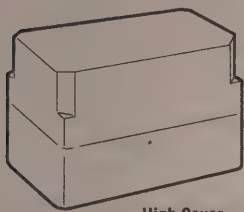
Stock No.	Mfr.'s Type	Cabinet Size			Drawers Per Cabinet	Drawer Dimensions			EACH
		W	H	D		W	H	D	
723-1713	16-136	18	9 1/2	6	36	2 5/8	1 1/8	5 3/4	38.53
723-1701	16-718	18	9	6	18	2 5/8	2 1/2	5 3/4	38.53
723-1990	19-909	17	11	11	9	5 3/16	3 1/16	10 9/16	72.09
723-1971	19-715	17	11	11	15	3 3/16	3 1/16	10 9/16	72.09
723-1941	19-416	17	11	11	16	4	2 1/8	10 9/16	72.09
723-1932	19-320	17	11	11	20	3 3/16	2 1/8	10 9/16	72.09
723-1922	19-228	17	11	11	28	2 3/16	2 1/16	10 9/16	72.09
723-1910	19-109	17	11	11	9	5 3/16	3 1/16	10 9/16	97.43

Cross Dividers

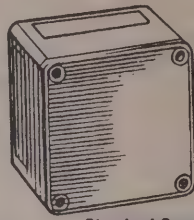
Stock No.	Mfr.'s Type	Fits Cabinet	PER PKG./25*
723-4050	40-901	16-718	5.16
723-4090	40-501	16-136	2.72
723-4220	40-228	19-228	8.04
723-4230	40-320	19-320	5.16
723-4240	40-416	19-416	6.31
723-4310	40-715	19-715	7.68
723-4330	40-909	19-909	8.27

*Sold per package of 25 only.

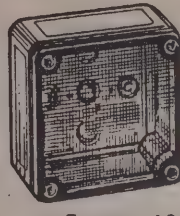
Industrial TK Series Enclosures



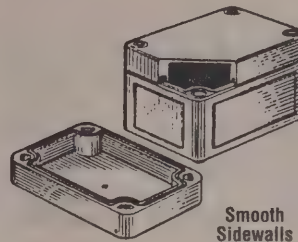
High Cover



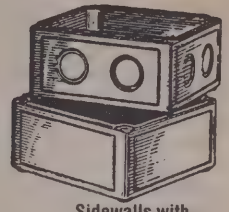
Standard Gray Cover



Transparent Cover



Smooth Sidewalls



Sidewalls with Knockouts

Whenever electrical and electronic components need to be housed in dustproof and watertight, completely insulated and corrosion-free enclosures, Altech/Spelsberg TK series enclosures offer solutions. Enhance the value of your products with their appealing design

in a variety of sizes with standard gray or transparent covers in different heights. The exceptional possibilities of subsequent processing (drilling, milling, bonding, lacquering, fitting components) permit virtually all special requirements to be met.

Polycarbonate (PC) — Smooth Sidewalls, without Knockouts, NEMA 4X (IP66)

Stock No.	Mfr.'s Type	Cover Type	Dimensions L x D x H Inches	EACH
500-7701	120-401	gray	2.56 sq. x 2.24	7.10
500-7702	120-901	gray	2.56 sq. x 3.19	8.75
500-7703	130-001	transparent	2.56 sq. x 2.24	7.10
500-7704	130-501	transparent	2.56 sq. x 3.19	8.75
500-9701	120-402	gray	3.70 x 2.56 x 2.24	8.75
500-9702	120-902	gray	3.70 x 2.56 x 3.19	10.83
500-9703	130-002	transparent	3.70 x 2.56 x 2.24	8.75
500-9704	130-502	transparent	3.70 x 2.56 x 3.19	10.83
500-9901	120-403	gray	3.70 sq. x 2.24	10.05
500-9902	120-903	gray	3.70 sq. x 3.19	12.56
500-9903	130-003	transparent	3.70 sq. x 2.24	10.05
500-9904	130-503	transparent	3.70 sq. x 3.19	12.56
500-1110	120-404	gray	4.33 sq. x 2.50	13.34
500-1111	120-904	gray	4.33 sq. x 3.54	15.85
500-1112	130-004	transparent	4.33 sq. x 2.50	13.34
500-1113	130-504	transparent	4.33 sq. x 3.54	15.85
500-1309	120-409	gray	5.12 x 3.70 x 2.24	12.56
500-1310	120-909	gray	5.12 x 3.70 x 3.19	15.16
500-1311	130-009	transparent	5.12 x 3.70 x 2.24	12.56
500-1312	130-509	transparent	5.12 x 3.70 x 3.19	15.16

Polystyrene (PS) — Sidewalls with Knockouts, NEMA 4X (IP66)

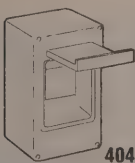
Stock No.	Mfr.'s Type	Cover Type	Side Knockouts	Dimensions Inches	EACH
500-7705	115-401	gray	4, Pg. 16	2.56 sq. x 2.24	5.11
500-7706	115-901	gray	4, Pg. 16	2.56 sq. x 3.19	6.41
500-8000	116-001	transparent	4, Pg. 16	2.56 sq. x 2.24	5.80
500-8001	116-501	transparent	4, Pg. 16	2.56 sq. x 3.19	7.62
500-6705	115-402	gray	6, Pg. 16	3.70 x 2.56 x 2.24	5.80
500-6706	115-902	gray	6, Pg. 16	3.70 x 2.56 x 3.19	7.19
500-8002	116-002	transparent	6, Pg. 16	3.70 x 2.56 x 2.24	6.67
500-8003	116-502	transparent	6, Pg. 16	3.70 x 2.56 x 3.19	8.75
500-9905	115-403	gray	7, Pg. 16	3.70 sq. x 2.24	6.67
500-9906	115-903	gray	7, Pg. 16	3.70 sq. x 3.19	8.75
500-8004	116-003	transparent	7, Pg. 16	3.70 sq. x 2.24	7.71
500-8005	116-503	transparent	7, Pg. 16	3.70 sq. x 3.19	10.39
500-1114	115-404	gray	7, Pg. 21/16	4.33 sq. x 2.60	9.18
500-1115	115-904	gray	7, Pg. 21/16	4.33 sq. x 3.54	10.83
500-8006	116-004	transparent	7, Pg. 21/16	4.33 sq. x 2.60	10.39
500-8007	116-504	transparent	7, Pg. 21/16	4.33 sq. x 3.54	13.34
500-1307	115-409	gray	10, Pg. 16/11	5.12 x 3.70 x 2.24	8.75
500-1308	115-909	gray	10, Pg. 16/11	5.12 x 3.70 x 3.19	10.39
500-8008	116-009	transparent	10, Pg. 16/11	5.12 x 3.70 x 2.24	10.05
500-8009	116-509	transparent	10, Pg. 16/11	5.12 x 3.70 x 3.19	12.56

Stock No.	Mfr.'s Type	Cover Type	Dimensions L x D x H Inches	EACH
500-1317	120-405	gray	5.12 sq. x 2.95	16.71
500-1314	120-905	gray	5.12 sq. x 3.90	19.92
500-1315	130-005	transparent	5.12 sq. x 2.95	16.71
500-1316	130-505	transparent	5.12 sq. x 3.90	19.92
500-1811	120-406	gray	7.09 x 4.33 x 3.54	22.52
500-1812	120-906	gray	7.09 x 4.33 x 4.37	25.98
500-1813	130-006	transparent	7.09 x 4.33 x 3.54	22.52
500-1814	130-506	transparent	7.09 x 4.33 x 4.37	25.98
500-1818	120-407	gray	7.17 x 7.09 x 3.54	29.27
500-1819	120-907	gray	7.17 x 7.09 x 4.37	32.48
500-1820	130-007	transparent	7.17 x 7.09 x 3.54	29.27
500-1821	130-507	transparent	7.17 x 7.09 x 4.37	32.48
500-2518	120-408	gray	10.0 x 7.09 x 3.54	39.23
500-2519	120-908	gray	10.0 x 7.09 x 4.37	42.43
500-2520	130-008	transparent	10.0 x 7.09 x 3.54	39.23
500-2521	130-508	transparent	10.0 x 7.09 x 4.37	42.43
500-3825	120-412	gray	14.21 x 10 x 4.37	90.06
500-3826	120-912	gray	14.21 x 10 x 6.50	109.12
500-3827	130-012	transparent	14.21 x 10 x 4.37	90.06
500-3828	130-512	transparent	14.21 x 10 x 6.50	109.12

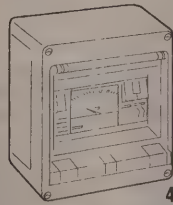
Stock No.	Mfr.'s Type	Cover Type	Side Knockouts	Dimensions Inches	EACH
500-1313	115-405	gray	7, Pg. 21/16	5.12 sq. x 2.95	10.83
500-1318	115-905	gray	7, Pg. 21/16	5.12 sq. x 3.09	12.64
500-8010	116-005	transparent	7, Pg. 21/16	5.12 sq. x 2.95	12.56
500-8011	116-505	transparent	7, Pg. 21/16	5.12 sq. x 3.09	15.85
500-1815	115-406	gray	12"	7.09 x 4.33 x 3.54	14.20
500-1816	115-906	gray	12"	7.09 x 4.33 x 4.37	15.85
500-8012	116-006	transparent	12"	7.09 x 4.33 x 3.54	16.71
500-8013	116-506	transparent	12"	7.09 x 4.33 x 4.37	19.92
500-1822	115-407	gray	12"	7.17 x 7.09 x 3.54	17.41
500-1823	115-907	gray	12"	7.17 x 7.09 x 4.37	19.05
500-8014	116-007	transparent	12"	7.17 x 7.09 x 3.54	21.22
500-8015	116-507	transparent	12"	7.17 x 7.09 x 4.37	19.92
500-2522	115-408	gray	16"	10.0 x 7.09 x 3.54	24.25
500-2523	115-908	gray	16"	10.0 x 7.09 x 4.37	25.72
500-8016	116-008	transparent	16"	10.0 x 7.09 x 3.54	29.44
500-8017	116-508	transparent	16"	10.0 x 7.09 x 4.37	32.48
500-3829	115-412	gray	26"	14.21 x 10 x 4.37	52.39
500-3830	115-912	gray	26"	14.21 x 10 x 6.50	62.35
500-8018	116-012	transparent	26"	14.21 x 10 x 4.37	75.78
500-8019	116-512	transparent	26"	14.21 x 10 x 6.50	93.53

1.) 4, Pg 21/16, 16, Pg 16; 2.) 8, Pg 21/16, 4, Pg 29/21; 3.) 12, Pg 21/16, 4, Pg 29/21; 4.) 32, Pg 16, 4, Pg 21/16, 6, Pg 29/21.

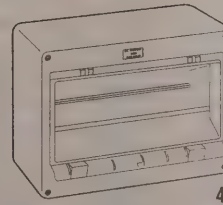
EK Series



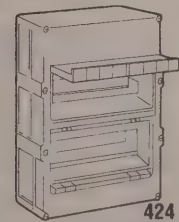
404



408



412



424

EK Quick Access Enclosures. Functional, attractive housings to protect DIN rail mounted components such as circuit breakers and other control devices. Transparent hinged cover

provides easy access and visibility. Include removable busbar assemblies for ground and neutral and 35 mm DIN rail.

EK Polystyrene — Transparent Hinged Covers, with Knockouts, NEMA 4X (IP65)

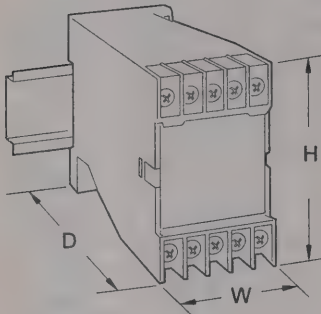
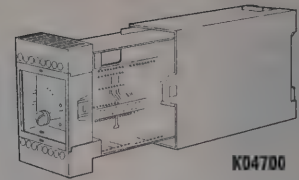
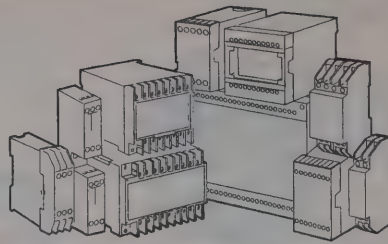
Stock No.	Mfr.'s Type	Side Knockouts	Dimensions W x D x H Inches	EACH
500-5404	542-404	4, Pg. 16, 1, Pg. 21/16	4.33 sq. x 7.09	32.73
500-5408	542-408	8, Pg. 16, 1, Pg. 21/16	7.17 x 7.09 x 4.33	43.13

Stock No.	Mfr.'s Type	Side Knockouts	Dimensions W x D x H Inches	EACH
500-5412	542-412	8, Pg. 16, 2, Pg. 21/16	10.0 x 7.09 x 4.33	55.60
500-5424	542-424	8, Pg. 16, 2, Pg. 29/21	14.21 x 10 x 4.33	92.66

¹Plus 1, Pg 29/21. ²Short side has 4, Pg 16 and 1, Pg 29/21.

DIN Rail Mount Enclosures

"Get the international look." Package your products and devices in attractive enclosures that come complete with four to 144 ready-to-wire terminals and integral PC board guides. Terminal-to-board connections can be made by wire jumpers, solder tabs and, on some enclosures, with card edge connectors or machine solderable terminals to reduce production time. These enclosures can be easily customized with logos or other imprints. Internationally accepted, they are molded of UL 94V0 materials.



K70

- 6 to 32 Terminals
- Housing Material: Polycarbonate
- Cover Material: ABS
- Standard Color: Gray
- Terminals Rated to 25A (Pluggable to 10A)
- Terminal Covers Optional

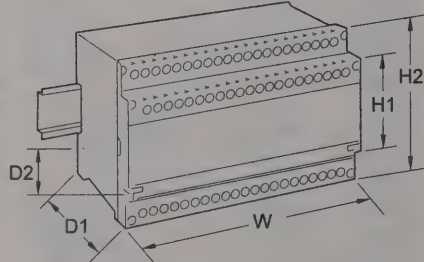
Cost effective kits have snap-on covers for easy insertion and removal of PC boards. Pressure plate terminals, fixed and pluggable terminal-to-board connections.

Stock No.	Mfr.'s Type	Max. # of Term.	Term.-to-Bd. Connection*	Housing Dimensions mm			EACH
				W	H	D	
500-9000	90.001	8	WJ, FO	22.5	74.0	97.0	10.91
500-9001	90.010	10	WJ, MS	45.0	74.0	112.0	13.89
500-9002	90.020	12	WJ, FO	22.5	74.0	97.0	12.71
500-9003	90.030	12	WJ, MS	22.5	74.0	97.0	12.96
500-9004	90.040	12	WJ	55.0	74.0	114.0	18.85
500-9005	90.050	16	WJ, ST, CE	55.0	74.0	114.0	26.16
500-9006	90.060	20	WJ, FO	45.0	74.0	124.0	25.55
500-9007	90.070	20	WJ, FO	45.0	74.0	124.0	29.26
500-9008	90.080	20	WJ, FO	100.0	74.0	114.0	27.90
500-9009	90.090	20	WJ, ST, CE	100.0	74.0	114.0	28.25
500-9010	90.100	32	WJ, ST, CE	150.0	74.0	113.0	40.80

*Terminal-to-Board Connections: WJ = Wire Jumper, SP = Solder Pin, MS = Machine Solderable Pins, CE = Card Edge (Pluggable), FO = Fast ON, ST = Solder Tab.

K04700

- 8 to 132 Terminals
- Housing Material: Polycarbonate
- Cover Material: Glass-filled Polycarbonate
- Std. Color: Black Housing, Tan Cover
- Terminals Rated to 25A (Pluggable to 10A)
- Enclosures With Removable Cover Panels Are Available



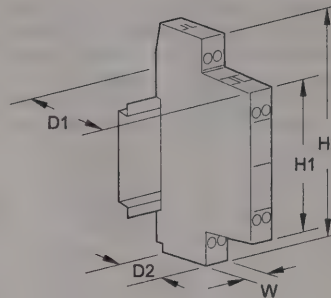
A wide range of sizes and cover designs. Pressure plate or cage clamp terminals, fixed and pluggable terminal-to-board connections. Pluggable connection helps to eliminate wiring mistakes.

Stock No.	Mfr.'s Type	Max. # of Term.	Term.-to-Bd. Connection*	Housing Dimensions mm					EACH
				W	H1	H2	D1	D2	
500-9023	90.230	10	WJ, FO	45.0	74.0	—	118.5	—	15.62
500-9029	90.290	16	MS	45.0	74.0	—	118.5	—	24.80
500-9032	90.320	16	CE	45.0	74.0	—	118.5	—	23.93
500-9035	90.350	20	WJ, ST, CE	100.0	74.0	—	118.5	—	38.44
500-9038	90.380	22	MS	75.0	74.0	—	118.5	—	35.96
500-9041	90.410	22	CE	75.0	74.0	—	118.5	—	40.55
500-9044	90.440	30	MS	100.0	74.0	—	118.5	—	41.17
500-9047	90.470	30	CE	100.0	74.0	—	118.5	—	44.02
500-9050	90.500	32	WJ, ST, CE	152.0	71.0	—	118.5	—	50.84
500-9053	90.530	42	WJ, ST, CE	200.0	73.0	—	118.5	—	55.67
500-9056	90.560	42	WJ, ST, CE	200.0	122.0	—	118.5	—	60.14
500-9068	90.680	66	WJ, CE	200.0	72.0	—	118.5	—	91.64
500-9071	90.710	66	WJ, ST, CE	200.0	123.0	—	118.5	—	96.27
500-9074	90.740	84	WJ, ST, CE	200.0	82.0	123.0	118.5	136.0	98.08
500-9077	90.770	132	WJ, ST, CE	200.0	82.0	123.0	118.5	136.0	170.13

*Terminal-to-Board Connections: WJ = Wire Jumper, SP = Solder Pin, MS = Machine Solderable Pins, CE = Card Edge (Pluggable), FO = Fast ON, ST = Solder Tab.

K04070

- 4 to 6 Cage Clamp Terminals
- Housing Material: Polyamide
- Standard Color: Gray
- Terminals Rated to 16A
- Extended Length Pins Available



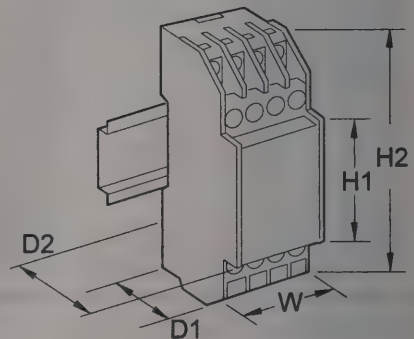
Compact, cost-effective snap together kits. Removable cage clamp terminals with dual solder pins are machine solderable. Horizontal and vertical PC board positions. Funnel shaped wire entries.

Stock No.	Mfr.'s Type	Max. # of Term.	Term.-to-Bd. Connection*	Housing Dimensions mm					EACH
				W	H1	H2	D1	D2	
500-9100	91.001	4	SP	12.5	60.0	—	60.0	—	6.20
500-9101	91.010	6	SP	12.5	60.0	75.0	60.0	31.0	7.19
500-9102	91.020	6	SP	20.5	60.0	—	60.0	—	7.94
500-9103	91.030	8	SP	12.5	60.0	90.0	60.0	31.0	8.56
500-9104	91.040	8	SP	28.5	60.0	—	60.0	—	9.67
500-9105	91.050	9	SP	20.5	60.0	75.0	60.0	31.0	9.80
500-9106	91.060	12	SP	20.5	60.0	90.0	60.0	31.0	12.28
500-9107	91.070	12	SP	28.5	60.0	75.0	60.0	31.0	12.65
500-9108	91.080	16	SP	28.5	60.0	90.0	60.0	31.0	16.49

*Terminal-to-Board Connections: WJ = Wire Jumper, SP = Solder Pin, MS = Machine Solderable Pins, CE = Card Edge (Pluggable), FO = Fast ON, ST = Solder Tab.

KU4080

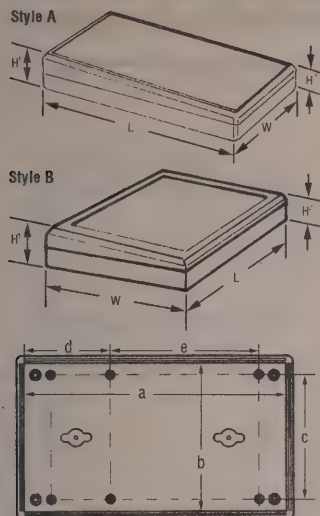
- 8 to 64 Terminals
- Integral Printed Circuit Board Guides
- Housing Material: Polycarbonate
- Standard Color: Gray
- Terminals Rated to 10A



Versatile enclosures provide ample internal space for wiring and electronic components. Kits consist of snap-in double level terminals, cover and base, with integral PC board guides. Machine solderable pins, pressure plate terminals. Fit standard 45mm DIN cutout in larger enclosures like Altech's EK Series nonmetallic enclosures.

Stock No.	Mfr.'s Type	Max. # of Term.	Term.-to-Bd. Connection*	Housing Dimensions mm					EACH
				W	H1	H2	D1	D2	
500-9120	91.201	8†	WJ	17.5	44.6	89.7	48.0	57.7	13.89
500-9122	91.220	16	WJ, MS	35.3	44.6	89.7	48.0	58.0	19.22
500-9124	91.240	16†	WJ, MS	35.3	44.6	89.7	48.0	58.0	19.22
500-9126	91.260	32	WJ, MS	71.7	44.6	89.7	48.0	58.6	30.25
500-9128	91.280	32†	WJ, MS	71.7	44.6	89.7	48.0	58.6	30.25
500-9130	91.300	32	WJ, MS	140.0	44.6	88.6	48.0	59.5	34.47
500-9132	91.320	32†	WJ, MS	140.0	44.6	88.6	48.0	59.5	34.47
500-9134	91.340	32	WJ, MS	140.3	44.6	88.6	48.0	59.0	34.47
500-9136	91.360	32†	WJ, MS	140.3	44.6	88.6	48.0	59.0	34.47
500-9138	91.380	64	WJ, MS	140.3	44.6	88.6	48.0	59.0	56.42
500-9140	91.400	64†	WJ, MS	140.3	44.6	88.6	48.0	59.0	56.42

*Terminal-to-Board Connections: WJ = Wire Jumper, SP = Solder Pin, MS = Machine Solderable Pins, CE = Card Edge (Pluggable), FO = Fast ON, ST = Solder Tab. †Right Angle Pins.



Slanted Series Electronic Enclosures

Convenient, easy to customize small ABS enclosure with a slanted top in two designs and three bottom heights. Style A has a 15° and Style B has an 8° inclination. Top and bottom shells are joined by four self-cutting screws. Multiple mounting provisions for PC boards are provided. The inclined top surface is recessed to accept an aluminum panel of up to 1 mm (.04") thickness. **Standard Color: Gray.**

Style A

Stock No.	Mfr.'s Type	Outside Dimensions* — mm (in.)				Inside Dimensions — mm (in.)			EACH
		L	W	H ¹	H ²	c	d	e	
500-1200	S-550S	144.5 (5.69)	85.0 (3.35)	30.0 (1.18)	21.0 (0.83)	65.0 (2.56)	45.5 (1.79)	77.0 (3.03)	7.53
500-1202	S-660S	144.5 (5.69)	85.0 (3.35)	36.0 (1.42)	27.0 (1.06)	65.0 (2.56)	45.5 (1.79)	77.0 (3.03)	9.79
500-1204	S-770S	144.5 (5.69)	85.0 (3.35)	54.0 (2.13)	45.0 (1.77)	65.0 (2.56)	45.5 (1.79)	77.0 (3.03)	11.12

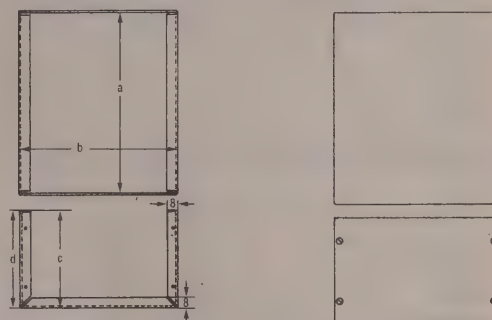
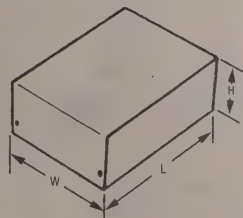
Style B

Stock No.	Mfr.'s Type	Outside Dimensions* — mm (in.)				Inside Dimensions — mm (in.)			EACH
		L	W	H ¹	H ²	c	d	e	
500-1206	S-550SP	144.5 (5.69)	85.0 (3.35)	32.0 (1.26)	21.0 (0.83)	65.0 (2.56)	45.5 (1.79)	77.0 (3.03)	7.23
500-1208	S-660SP	144.5 (5.69)	85.0 (3.35)	38.0 (1.50)	27.0 (1.06)	65.0 (2.56)	45.5 (1.79)	77.0 (3.03)	9.00
500-1210	S-770SP	144.5 (5.69)	85.0 (3.35)	56.0 (2.20)	45.0 (1.77)	65.0 (2.56)	45.5 (1.79)	77.0 (3.03)	10.15

*Dimension a — Length 7 mm (.28"); Dimension b — Width 7 mm (.28").

Aluminum Series Electronic Enclosures

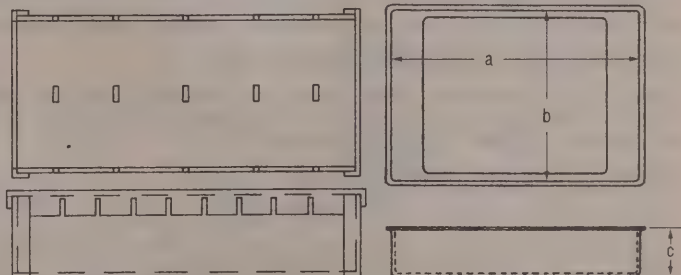
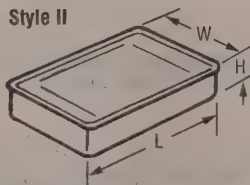
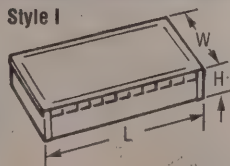
Small to medium size enclosures made of aluminum sheet metal, consisting of an anodized aluminum base with integral front and back panels and a black aluminum cover with integral front and side walls. The base and cover are joined together with four self-cutting screws on both front and back. Supplied as a kit, including screws. Surfaces are protected with a peel-off film.



Stock No.	Mfr.'s Type	Outside Dimensions — mm (in.)			Inside Dimensions — mm (in.)				EACH
		L	W	H	a	b	c	d	
500-1212	A-421	87.0 (3.43)	160.0 (6.30)	100.0 (3.94)	81.0 (3.19)	157.0 (6.18)	96.5 (3.80)	98.0 (3.86)	13.96
500-1214	A-422	137.0 (5.39)	160.0 (6.30)	100.0 (3.94)	131.0 (5.16)	157.0 (6.18)	96.5 (3.80)	98.0 (3.86)	17.48
500-1216	A-423	187.0 (7.36)	160.0 (6.30)	100.0 (3.94)	181.0 (7.13)	157.0 (6.18)	96.5 (3.80)	98.0 (3.86)	20.94
500-1218	A-424	237.0 (9.33)	160.0 (6.30)	100.0 (3.94)	231.0 (9.09)	157.0 (6.18)	96.5 (3.80)	98.0 (3.86)	24.46
500-1220	A-425	287.0 (11.30)	160.0 (6.30)	100.0 (3.94)	281.0 (11.06)	157.0 (6.18)	96.5 (3.80)	98.0 (3.86)	27.92
500-1222	A-426	337.0 (13.27)	160.0 (6.30)	100.0 (3.94)	331.0 (13.03)	157.0 (6.18)	96.5 (3.80)	98.0 (3.86)	31.41
500-1224	A-427	387.0 (15.24)	160.0 (6.30)	100.0 (3.94)	381.0 (15.00)	157.0 (6.18)	96.0 (3.80)	98.0 (3.86)	34.85

EMI/RFI Series Electronic Enclosures

Use for RF frequency components such as filters, amplifiers, receivers, etc. and to keep radiation close to its source. ER-371 to ER-374 include dividers and have snap-on covers. ER-433 to ER-454 have deep drawn bottom shells and are used to hermetically seal RF emitting components. Cover is loose fitting, use adhesive or potting compound to attach securely. Both series are made of hot tin plated sheet metal.



Style I

Stock No.	Mfr.'s Type	Outside Dimensions — mm (in.)			Inside Dimensions — mm (in.)			EACH
		L	W	H	a	b	c	
500-1226	ER-371	54.0 (2.13)	50.0 (1.97)	26.0 (1.02)	50.0 (1.97)	46.0 (1.81)	24.0 (0.94)	2.78
500-1228	ER-372	83.0 (3.27)	50.0 (1.97)	26.0 (1.02)	79.0 (3.11)	46.0 (1.81)	24.0 (0.94)	3.78
500-1230	ER-373	106.0 (4.17)	50.0 (1.97)	26.0 (1.02)	102.0 (4.02)	46.0 (1.81)	24.0 (0.94)	5.45
500-1232	ER-374	161.0 (6.34)	50.0 (1.97)	26.0 (1.02)	157.0 (6.18)	46.0 (1.81)	24.0 (0.94)	6.42

Style II

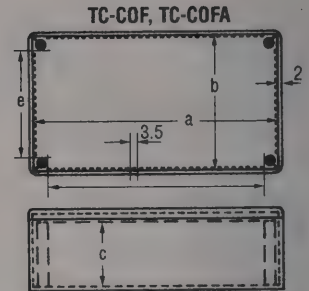
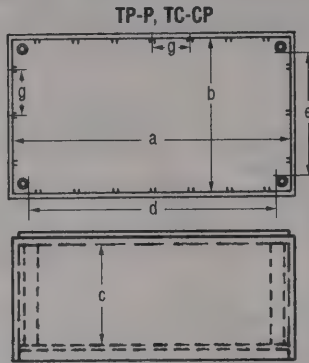
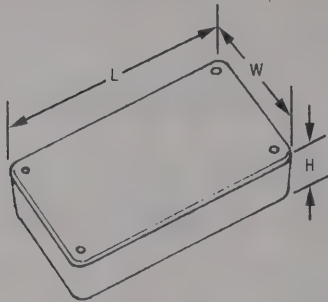
Stock No.	Mfr.'s Type	Outside Dimensions — mm (in.)			Inside Dimensions — mm (in.)			EACH
		L	W	H	a	b	c	
500-1234	ER-433	51.0 (2.01)	31.5 (1.24)	9.5 (0.37)	47.0 (1.85)	28.0 (1.10)	6.0 (0.24)	1.89
500-1236	ER-434	63.5 (2.50)	31.5 (1.24)	9.5 (0.37)	60.0 (2.36)	28.0 (1.10)	6.0 (0.24)	1.89
500-1238	ER-443	51.0 (2.01)	31.5 (1.24)	13.0 (0.51)	47.0 (1.85)	28.0 (1.10)	9.5 (0.37)	1.89
500-1240	ER-444	63.5 (2.50)	31.5 (1.24)	13.0 (0.51)	60.0 (2.36)	28.0 (1.10)	9.5 (0.37)	1.89
500-1242	ER-453	51.0 (2.01)	31.5 (1.24)	17.5 (0.69)	47.0 (1.85)	28.0 (1.10)	14.0 (0.55)	1.89
500-1244	ER-454	63.5 (2.50)	31.5 (1.24)	17.5 (0.69)	60.0 (2.36)	28.0 (1.10)	14.0 (0.55)	1.89

Altech/Teko plastic enclosures can be used for many applications. Screws are used on most designs to join top and bottom shells for stability, and to eliminate the possibility of

breaking interlocking pins. Open anytime without damaging the enclosure. Customization is easy.

Top Cover Electronic Enclosures

3



Consist of ABS base, with integral printed circuit board guides and a cover which is mounted with four screws. ABS or aluminum covers. Supplied as kits.

TC-P ABS Base, Dark Gray, Aluminum Cover, Rectangular Corners, Cover Thickness: 1 mm (.04")

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)			Inside Dimensions — mm (In.)					Aluminum Cover — mm (In.)		EACH
		L	W	H	c	d	e	f	g	a	b	
500-1330	TC-P/1	85.0 (3.50)	56.0 (2.20)	35.5 (1.40)	26.5 (1.04)	67.0 (2.64)	38.0 (1.50)	10.5 (0.41)	15.0 (0.59)	80.0 (3.15)	51.0 (2.01)	2.22
500-1331	TC-P/2	110.0 (4.40)	70.0 (2.76)	49.0 (1.93)	39.5 (1.56)	89.0 (3.50)	49.0 (1.93)	12.5 (0.49)	20.0 (0.79)	105.0 (4.13)	65.0 (2.56)	2.84
500-1332	TC-P/3	160.0 (6.30)	96.0 (3.78)	61.0 (2.40)	51.0 (2.00)	141.0 (5.55)	77.0 (3.03)	13.0 (0.52)	21.5 (0.85)	155.0 (6.10)	91.0 (3.58)	4.43
500-1333	TC-P/4	215.0 (8.46)	130.0 (5.12)	77.0 (3.03)	66.0 (2.60)	195.0 (7.68)	109.0 (4.29)	10.5 (0.41)	31.5 (1.24)	210.0 (8.27)	125.0 (4.92)	6.60

TC-CP ABS Base and Cover, Dark Gray, Rectangular Corners, with Mounting Provisions for PC Boards

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)			Inside Dimensions — mm (In.)					PCB Mtg. Prov. Cvr. — mm (In.)		EACH
		L	W	H	c	d	e	f	g	j	k	
500-1334	TC-CP/1	85.0 (3.35)	56.0 (2.20)	42.0 (1.65)	37.0 (1.47)	67.0 (2.64)	38.0 (1.50)	10.5 (0.41)	15.0 (0.59)	51.0 (2.01)	27.0 (1.06)	2.67
500-1335	TC-CP/2	110.0 (4.40)	70.0 (2.76)	54.0 (2.13)	50.0 (1.97)	89.0 (3.50)	49.0 (1.93)	12.5 (0.49)	20.0 (0.79)	66.5 (2.62)	31.0 (1.22)	3.42
500-1336	TC-CP/3	160.0 (6.30)	96.0 (3.78)	67.0 (2.64)	61.0 (2.40)	141.0 (5.55)	77.0 (3.03)	13.0 (0.52)	21.5 (0.85)	100.5 (3.94)	46.0 (1.81)	5.34
500-1337	TC-CP/4	215.0 (8.46)	130.0 (5.12)	83.0 (3.27)	77.0 (3.03)	195.0 (7.68)	109.0 (4.29)	10.5 (0.41)	31.5 (1.24)	128.0 (5.04)	66.0 (2.60)	7.95

TC-COFA ABS Base, Dark Gray, Aluminum Cover, Rounded Corners, Cover Thickness: 1 mm (.04")

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)			Inside Dimensions — mm (In.)					Aluminum Cover — mm (In.)		EACH
		L	W	H	c	d	e	f	g	a	b	
500-1338	TC-COFA/5	100.0 (3.94)	55.0 (2.17)	25.0 (0.98)	20.5 (0.81)	80.0 (3.15)	35.0 (1.38)	3.5 (0.14)	—	95.0 (3.74)	50.0 (1.97)	4.32
500-1339	TC-COFA/6	125.0 (4.92)	70.0 (2.76)	35.0 (1.83)	30.5 (1.20)	105.0 (4.13)	50.0 (1.97)	3.5 (0.14)	—	120.0 (4.72)	65.0 (2.56)	5.48
500-1340	TC-COFA/7	160.0 (6.30)	95.0 (3.74)	45.0 (1.77)	40.0 (1.57)	140.0 (5.51)	75.0 (2.95)	3.5 (0.14)	—	155.0 (6.10)	90.0 (3.54)	6.31
500-1341	TC-COFA/8	215.0 (8.46)	130.0 (5.12)	65.0 (2.56)	60.0 (2.36)	195.0 (7.68)	110.0 (4.33)	3.5 (0.14)	—	210.0 (8.27)	125.0 (4.92)	9.94

TC-COF ABS Base, Dark Gray, ABS Cover, Light Gray, Rounded Corners

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)			Inside Dimensions — mm (In.)					Aluminum Cover — mm (In.)		EACH
		L	W	H	c	d	e	f	g	a	b	
500-1342	TC-COF/1	100.0 (3.94)	55.0 (2.17)	29.0 (1.14)	24.5 (0.96)	80.0 (3.15)	35.0 (1.38)	3.5 (0.14)	—	—	—	5.21
500-1343	TC-COF/2	125.0 (4.92)	70.0 (2.76)	39.0 (1.54)	34.5 (1.36)	105.0 (4.13)	70.0 (2.76)	3.5 (0.14)	—	—	—	6.60
500-1344	TC-COF/3	160.0 (6.30)	95.0 (3.74)	49.0 (1.93)	44.5 (1.75)	140.0 (5.51)	75.0 (2.95)	3.5 (0.14)	—	—	—	7.60
500-1345	TC-COF/4	215.0 (8.46)	130.0 (5.12)	69.0 (2.72)	64.5 (2.54)	195.0 (7.68)	110.0 (4.33)	3.5 (0.14)	—	—	—	11.98

*Dimension a — Length 5 mm (.197"); Dimension b — Width 5 mm (.197").

Hand Held Series Electronic Enclosures

Consist of two half shells which are held together by 4 self-cutting screws. Four or more mounting provisions for PC boards are molded into bottom shell. Most HH Series enclosures are supplied with a .5 mm (.01") aluminum panel that fits into a recessed area on top of the top shell. Supplied as kits.

ABS Base and Cover, Black, Aluminum Panel

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)					Aluminum Panel Dimensions — mm (In.)			EACH
		L	W	H	A	B	Length	Width	Thickness	
500-1350	HH-1111	85.0 (3.35)	72.0 (2.83)	25.0 (0.98)	12.5 (0.49)	12.5 (0.49)	72.0 (2.83)	59.5 (2.34)	0.5 (0.02)	4.34
500-1351	HH-1122	85.0 (3.35)	72.0 (2.83)	30.5 (1.20)	18.0 (0.71)	12.5 (0.49)	72.0 (2.83)	59.5 (2.34)	0.5 (0.02)	4.59
500-1352	HH-2222	85.0 (3.35)	72.0 (2.83)	30.5 (1.20)	18.0 (0.71)	18.0 (0.71)	72.0 (2.83)	59.5 (2.34)	0.5 (0.02)	4.78

ABS Base and Cover, Gray, Aluminum Panel

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)					Aluminum Panel Dimensions — mm (In.)			EACH
		L	W	H	A	B	Length	Width	Thickness	
500-1353	HH-550	144.5 (5.68)	85.0 (3.35)	25.0 (0.98)	12.5 (0.49)	12.5 (0.49)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	7.53
500-1354	HH-560	144.5 (5.68)	85.0 (3.35)	31.0 (1.22)	18.5 (0.73)	12.5 (0.49)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	7.95
500-1355	HH-660	144.5 (5.68)	85.0 (3.35)	37.0 (1.46)	18.5 (0.73)	18.5 (0.73)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	9.23
500-1356	HH-750	144.5 (5.68)	85.0 (3.35)	49.0 (1.93)	36.5 (1.44)	12.5 (0.49)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	9.42
500-1357	HH-760	144.5 (5.68)	85.0 (3.35)	55.0 (2.17)	36.5 (1.44)	18.5 (0.73)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	9.79
500-1358	HH-770	144.5 (5.68)	85.0 (3.35)	73.0 (2.87)	36.5 (1.44)	36.5 (1.44)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	10.56

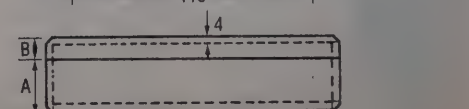
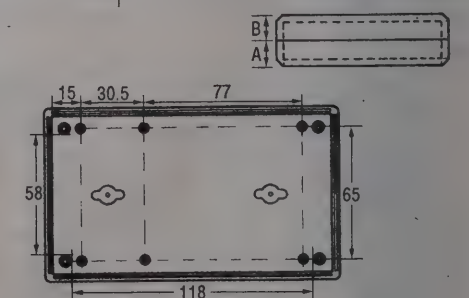
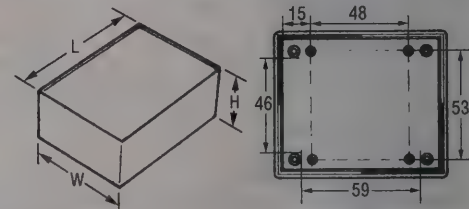
ABS Base and Cover, Gray, No Aluminum Panel (Closed Top Cover, No Aluminum Panel)

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)					Aluminum Panel Dimensions — mm (In.)			EACH
		L	W	H	A	B	Length	Width	Thickness	
500-1359	HH-550F	144.5 (5.68)	85.0 (3.35)	21.0 (0.83)	8.5 (0.33)	12.5 (0.49)	—	—	—	6.60
500-1360	HH-660F	144.5 (5.68)	85.0 (3.35)	27.0 (1.06)	8.5 (0.33)	18.5 (0.73)	—	—	—	7.40
500-1361	HH-770F	144.5 (5.68)	85.0 (3.35)	45.0 (1.77)	8.5 (0.33)	36.5 (1.44)	—	—	—	9.33

ABS Base and Cover, Gray, with Aluminum Panel, External Snap-On Battery Compartment Lid for 9 V Battery

Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)					Aluminum Panel Dimensions — mm (In.)			EACH
		L	W	H	A	B	Length	Width	Thickness	
500-1362	HH-780	144.5 (5.68)	85.0 (3.35)	31.0 (1.22)	12.5 (0.49)	18.5 (0.73)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	9.06
500-1363	HH-880	144.5 (5.68)	85.0 (3.35)	37.0 (1.46)	18.5 (0.73)	18.5 (0.73)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	10.34
500-1364	HH-980	144.5 (5.68)	85.0 (3.35)	55.0 (2.17)	36.5 (1.44)	18.5 (0.73)	131.5 (5.18)	72.0 (2.83)	0.5 (0.02)	10.95

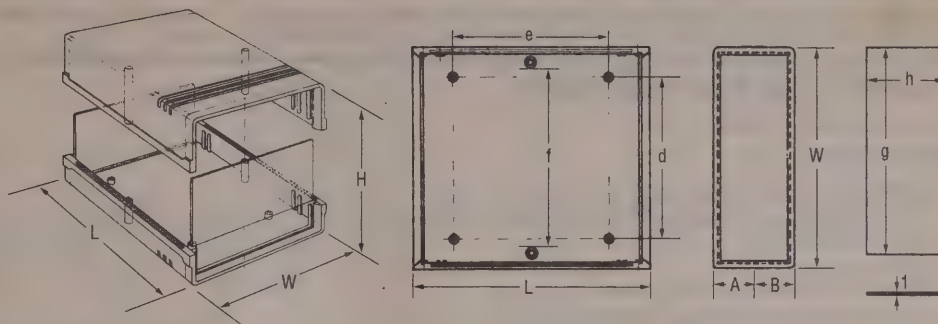
*Dimension a — Length 7 mm (.28"); Dimension b — Width 7 mm (.28").



Front Panel Series Electronic Enclosures

- Standard Color: Gray; Black Available
- Non-Skid Feet

Consists of two ABS half shells plus front and rear 1 mm (.04") thick aluminum panels which are inserted vertically. Enclosures are complete with molded in PC board guides and four PC board mounting provisions. Assembled with two self-cutting screws. Supplied as a complete kit with protective covers on aluminum surface. Some FP Series enclosures are equipped with a battery compartment. Easy to customize.



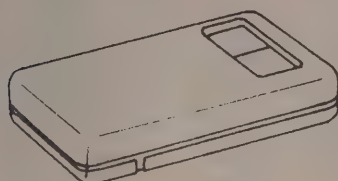
Stock No.	Mfr.'s Type	Outside Dimensions — mm (In.)					Inside Dimensions — mm (In.)			Front Panel Dim. — mm (In.)		EACH
		L	W	H	A	B	d	e	f	g	h	
500-1365	FP-011	134.0 (5.28)	129.0 (5.08)	47.0 (1.85)	23.5 (0.93)	23.5 (0.93)	91.0 (3.58)	76.0 (2.99)	105.5 (4.15)	120.0 (4.72)	41.0 (1.61)	9.93
500-1366	FP-012	134.0 (5.28)	129.0 (5.08)	54.0 (2.13)	23.5 (0.93)	30.5 (1.20)	91.0 (3.58)	76.0 (2.99)	105.5 (4.15)	120.0 (4.72)	48.0 (1.89)	11.93
500-1367	FP-022	134.0 (5.28)	129.0 (5.08)	61.0 (2.40)	30.5 (1.20)	30.5 (1.20)	91.0 (3.58)	76.0 (2.99)	105.5 (4.15)	120.0 (4.72)	55.0 (2.16)	13.00
500-1368	FP-222	173.0 (6.81)	154.0 (6.06)	47.0 (1.85)	23.5 (0.93)	23.5 (0.93)	111.0 (4.37)	115.0 (4.59)	127.0 (5.00)	145.0 (5.71)	41.0 (1.61)	15.84
500-1369	FP-223	173.0 (6.81)	154.0 (6.06)	54.0 (2.13)	23.5 (0.93)	30.5 (1.20)	111.0 (4.37)	115.0 (4.59)	127.0 (5.00)	145.0 (5.71)	48.0 (1.89)	16.19
500-1370	FP-233	173.0 (6.81)	154.0 (6.06)	61.0 (2.40)	30.5 (1.20)	30.5 (1.20)	111.0 (4.37)	115.0 (4.59)	127.0 (5.00)	145.0 (5.71)	55.0 (2.16)	16.89
500-1371	FP-10001	145.0 (5.71)	85.0 (3.35)	37.0 (1.46)	18.5 (0.73)	18.5 (0.73)	48.0 (1.89)	87.5 (3.44)	62.0 (2.44)	77.5 (3.05)	43.5 (1.71)	9.07
500-1372	FP-10002	145.0 (5.71)	85.0 (3.35)	49.0 (1.93)	18.5 (0.73)	30.5 (1.20)	48.0 (1.89)	87.5 (3.44)	62.0 (2.44)	77.5 (3.05)	43.5 (1.71)	10.04
500-1373	FP-10003	145.0 (5.71)	85.0 (3.35)	61.0 (2.40)	30.5 (1.20)	30.5 (1.20)	48.0 (1.89)	87.5 (3.44)	62.0 (2.44)	77.5 (3.05)	43.5 (1.71)	11.27

Enclosure with External Snap-On Battery Compartment Lid for 9 V Battery

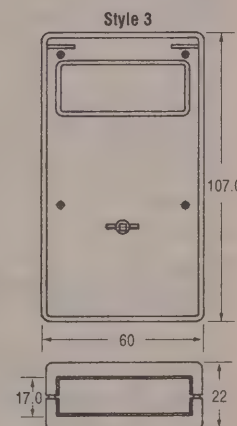
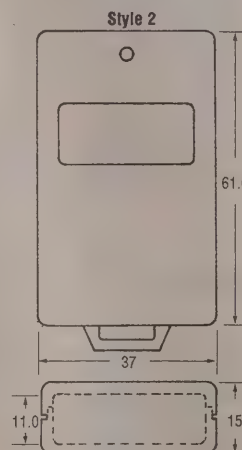
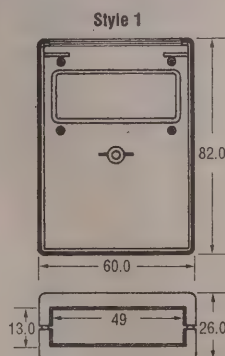
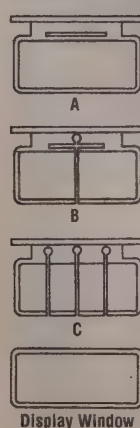
500-1374	FP-10002B	145.0 (5.71)	85.0 (3.35)	49.0 (1.93)	30.5 (1.20)	18.5 (0.73)	48.0 (1.89)	87.5 (3.44)	62.0 (2.44)	77.5 (3.05)	43.5 (1.71)	11.06
500-1375	FP-10003B	145.0 (5.71)	85.0 (3.35)	61.0 (2.40)	30.5 (1.20)	30.5 (1.20)	48.0 (1.89)	87.5 (3.44)	62.0 (2.44)	77.5 (3.05)	43.5 (1.71)	12.25

* Dimension a — Length 8 mm (.31"); Dimension b — Width 8 mm (.31"); Dimension c — Height 6 mm (.24").

Mini Pocket Series Electronic Enclosures



Available in three sizes with up to four push buttons with or without a clear front panel for infrared signals or a clear top plastic readout. Choose from gray or black ABS housings with blue, red or yellow pushbuttons. Two half shells assembled with one self-cutting screw. Styles 1 and 3 have four internal mounting provisions for PC boards. Stainless Steel clips are available.



Enclosure Supplied with 4 PCB Mounting Screws and External Snap-On Battery Compartment Lid*

Stock No.	Mfr.'s Type	Style No.	Description	Enclosure Color	Pushbutton Type(s)	Color of Pushbuttons	Battery Type	EACH
500-1376	MP10124/0	1	Pushbutton Set	Gray	A+B+C	Blue	9 V	5.48
500-1377	MP10124/1	1	Clear Display Readout, No Pushbuttons	Gray	—	—	9 V	5.48
500-1378	MP10124/2	1	Infrared Panel and Pushbutton Set	Gray	A+B+C	Blue	9 V	6.30
500-1379	MP10124/3	1	Pushbutton Set	Black	A+B+C	Blue	9 V	5.48
500-1380	MP10124/4	1	Clear Display Readout, No Pushbuttons	Black	—	—	9 V	5.48
500-1381	MP10124/5	1	Infrared Panel and Pushbutton Set	Black	A+B+C	Blue	9 V	6.30

Enclosure Supplied with Internal Battery Compartment

500-1382	MP10120/0	2	Pushbutton	Gray	A	Red	12 V†	2.28
500-1383	MP10120/1	2	Pushbutton	Gray	B	Red	12 V†	2.28
500-1384	MP10120/2	2	Pushbutton	Gray	A	Blue	12 V†	2.28
500-1385	MP10120/3	2	Pushbutton	Gray	B	Blue	12 V†	2.28
500-1386	MP10120/0	2	Pushbutton	Black	A	Red	12 V†	2.28
500-1387	MP10120/1	2	Pushbutton	Black	B	Red	12 V†	2.28
500-1388	MP10120/2	2	Pushbutton	Black	A	Blue	12 V†	2.28
500-1389	MP10120/3	2	Pushbutton	Black	B	Blue	12 V†	2.28

Enclosure Supplied with 4 PCB Mounting Screws and External Snap-On Battery Compartment Lid*

500-1390	HP-RC124	3	Pushbutton Set	Black	A+B+C	Yellow	9 V	5.55
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* Stainless Steel Clips Available, Order Separately Below. †12 V Battery Dimensions: Diameter — 9.91 mm (.39"); Length — 27.94 mm (1.10").

500-1391. HP-CL1. Stainless Steel Clip.....EACH 1.33

Seal cable entries and keep contaminants such as liquids, gases and solid materials from entering into enclosures. Provide strain relief to reduce stress on components and termination points. Available in

Polyamide (PA) and Nickel Plated Brass (BN). For additional functions and colors, please contact Altech directly.

Standard Liquid Tight Strain Reliefs

Suitable for most applications, widely used.

Straight-Through

Polyamide (PA)

- ▶ PG7 to PG48 and NPT3/8" to NPT3/4" Sizes with Integral Sealing Ridges
- ▶ PG29 to PG48 Sizes Have an Additional Preinstalled Polyethylene Seal Ring
- ▶ Standard Color: Light Gray

Nickel Plated Brass (BN)

- ▶ Preinstalled Perbunan (P) Seal Ring (O-Ring)

Cord Grips, Polyamide (PA) with Neoprene (NE) Sealing Sleeve

Stock No.	Mfr.'s Type	Thread Size	Cable Dia. mm (In.)	Mtg. Hole Dia. Drill Size*	Dimensions — mm (In.)			EACH
					B	C	E	
500-1245	80.000	PG7	2.0- 5.0 (0.08-0.20)	33/64	22.0 (0.87)	8.0 (0.32)	15.0 (0.59)	.63
500-1246	80.003	PG9	4.0- 8.0 (0.16-0.32)	39/64	25.1 (1.00)	8.0 (0.32)	19.0 (0.75)	.70
500-1247	80.005	PG11	5.0-10.0 (0.20-0.39)	3/4	28.5 (1.12)	8.0 (0.32)	22.0 (0.87)	.84
500-1248	80.007	PG13.5	6.0-12.0 (0.24-0.47)	53/64	29.7 (1.17)	9.0 (0.35)	24.0 (0.94)	.92
500-1249	80.009	PG16	10.0-14.0 (0.39-0.55)	29/32	32.0 (1.26)	10.0 (0.39)	27.0 (1.06)	1.08
500-1250	80.011	PG21	13.0-18.0 (0.51-0.71)	19/64	36.5 (1.44)	11.0 (0.43)	33.0 (1.30)	1.49
500-1251	80.013	PG29	18.0-25.0 (0.71-0.98)	131/64	43.5 (1.71)	11.0 (0.43)	42.0 (1.65)	3.02
500-1252	80.015	PG36	22.0-32.0 (0.87-1.30)	17/8	54.0 (2.13)	13.0 (0.51)	53.0 (2.09)	9.54
500-1253	80.017	PG42	30.0-38.0 (1.18-1.48)	25/32	53.5 (2.11)	13.0 (0.51)	60.0 (2.36)	13.30
500-1254	80.019	PG48	34.0-44.0 (1.34-1.73)	23/8	55.7 (2.19)	14.0 (0.55)	65.0 (2.56)	16.82
500-1255	80.020	NPT3/8"	3.0- 7.0 (0.12-0.28)	11/16	29.0 (1.14)	15.0 (0.59)	22.0 (0.87)	.87
500-1256	80.022	NPT1/2"	7.0-12.0 (0.28-0.47)	27/32	31.3 (1.23)	15.0 (0.59)	27.0 (1.06)	1.03
500-1257	80.024	NPT3/4"	9.0-16.0 (0.35-0.63)	11/16	36.7 (1.45)	15.0 (0.59)	33.0 (1.30)	1.38

Cord Grips, Nickel Plated Brass (BN) with Neoprene (NE) Sealing Sleeve

Stock No.	Mfr.'s Type	Thread Size	Cable Dia. mm (In.)	Mtg. Hole Dia. Drill Size*	Dimensions — mm (In.)			EACH
					B	C	E	
500-1258	80.100	PG7	2.0- 5.0 (0.08-0.20)	33/64	19.3 (0.76)	5.1 (0.20)	14.0 (0.55)	1.70
500-1259	80.103	PG9	4.0- 8.0 (0.16-0.32)	39/64	22.0 (0.87)	5.7 (0.22)	17.0 (0.67)	1.90
500-1260	80.105	PG11	5.0-10.0 (0.20-0.39)	3/4	22.5 (0.89)	6.0 (0.24)	20.0 (0.79)	2.20
500-1261	80.107	PG13.5	6.0-12.0 (0.24-0.47)	53/64	23.0 (0.91)	6.5 (0.26)	22.0 (0.87)	2.50
500-1262	80.109	PG16	10.0-14.0 (0.39-0.55)	29/32	24.5 (0.96)	6.5 (0.26)	24.0 (0.95)	2.90
500-1263	80.111	PG21	13.0-18.0 (0.51-0.71)	19/64	27.7 (1.09)	7.0 (0.28)	30.0 (1.18)	4.70
500-1264	80.113	PG29	18.0-25.0 (0.71-0.98)	131/64	32.0 (1.26)	8.0 (0.34)	40.0 (1.58)	8.50
500-1265	80.115	PG36	22.0-32.0 (0.87-1.30)	17/8	38.0 (1.50)	9.0 (0.35)	50.0 (1.97)	13.50
500-1266	80.117	PG42	30.0-38.0 (1.18-1.48)	25/32	39.3 (1.55)	10.0 (0.39)	57.0 (2.24)	27.00
500-1267	80.119	PG48	34.0-44.0 (1.34-1.73)	23/8	41.3 (1.63)	10.0 (0.39)	64.0 (2.52)	33.00
500-1268	80.120	NPT3/8"	2.0- 6.0 (0.08-0.24)	11/16	16.9 (0.67)	15.0 (0.59)	17.0 (0.66)	2.40
500-1269	80.122	NPT1/2"	6.0-12.0 (0.24-0.47)	27/32	24.5 (0.96)	13.0 (0.51)	24.0 (0.94)	2.70
500-1270	80.125	NPT3/4"	13.0-18.0 (0.51-0.71)	11/16	27.7 (1.09)	13.0 (0.51)	30.0 (1.18)	6.20

*Nearest US Drill Size.

Bend Protection

Polyamide (PA)

- ▶ PG7 to PG21 Sizes with Integral Sealing Ridges
- ▶ Standard Color: Light Gray

Cord Grips have a "Pigtail" extension to increase the bending radius of the cable, preventing sharp bending and nicks.

Cord Grips, Polyamide (PA) with Neoprene (NE) Sealing Sleeve

Stock No.	Mfr.'s Type	Thread Size	Cable Dia. mm (In.)	Mtg. Hole Dia. Drill Size*	Dimensions — mm (In.)			EACH
					B	C	E	
500-1271	80.300	PG7	3.5- 6.5 (0.14-0.26)	33/64	60.0 (2.36)	8.0 (0.31)	15.0 (0.59)	2.10
500-1272	80.301	PG9	4.0- 8.0 (0.16-0.31)	39/64	72.0 (2.83)	8.0 (0.31)	19.0 (0.74)	2.30
500-1273	80.302	PG11	5.0-10.0 (0.20-0.39)	3/4	84.0 (3.30)	8.0 (0.31)	22.0 (0.86)	2.70
500-1274	80.303	PG13.5	6.0-12.0 (0.24-0.47)	53/64	95.5 (3.75)	9.0 (0.35)	24.0 (0.94)	2.90
500-1275	80.304	PG16	10.0-14.0 (0.39-0.55)	29/32	109.0 (4.29)	10.0 (0.39)	27.0 (1.06)	3.10
500-1276	80.305	PG21	13.0-18.0 (0.51-0.71)	19/64	128.0 (5.03)	11.0 (0.43)	33.0 (1.29)	5.70

Economy Straight-Through Liquid Tight Strain Reliefs

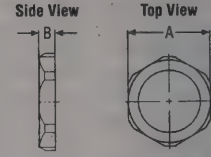
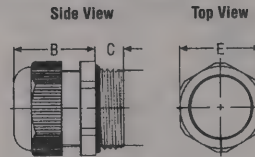
Ideal for basic, strict budge requirements.

Polystyrene (PS)

- ▶ PG7 to PG48 Sizes
- ▶ Standard Color: Light Gray

Cord Grips, Polystyrene (PS) with Rubber (RU) Sealing Ring

Stock No.	Mfr.'s Type	Thread Size	Cable Dia. mm (In.)	Mtg. Hole Dia. Drill Size*	Dimensions — mm (In.)			EACH
					B	C	E	
500-1277	80.600	PG7	5.0- 7.0 (0.20-0.28)	33/64	22.3 (0.88)	7.6 (0.30)	14.2 (0.56)	.44
500-1278	80.601	PG9	6.0- 8.0 (0.24-0.32)	39/64	23.0 (0.91)	8.2 (0.32)	20.8 (0.82)	.50
500-1279	80.602	PG11	8.0-10.0 (0.36-0.40)	3/4	24.9 (0.98)	8.2 (0.32)	24.9 (0.98)	.59
500-1280	80.603	PG13.5	10.0-12.0 (0.39-0.47)	53/64	26.0 (1.02)	9.4 (0.37)	26.8 (1.06)	.66
500-1281	80.604	PG16	12.0-14.0 (0.47-0.55)	29/32	28.8 (1.13)	11.3 (0.45)	29.4 (1.16)	.76
500-1282	80.605	PG21	15.0-17.0 (0.59-0.67)	19/64	32.5 (1.28)	10.7 (0.42)	35.4 (1.39)	1.04
500-1283	80.606	PG29	24.0-26.0 (0.95-1.02)	131/64	38.2 (1.50)	11.2 (0.44)	45.6 (1.80)	2.10
500-1284	80.607	PG36	31.0-33.0 (1.22-1.30)	17/8	42.4 (1.67)	12.7 (0.50)	57.0 (2.24)	6.68
500-1285	80.608	PG42	39.0-41.0 (1.54-1.61)	25/32	47.6 (1.87)	13.0 (0.51)	64.9 (2.56)	9.30
500-1286	80.609	PG48	45.0-47.0 (1.77-1.85)	23/8	49.0 (1.93)	13.7 (0.54)	70.3 (2.77)	11.70

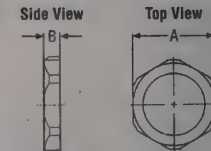
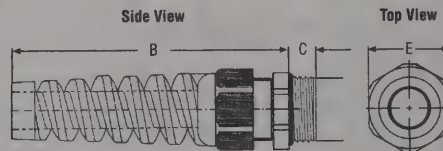


Locknuts, Polyamide (PA), Color, Light Gray

Stock No.	Mfr.'s Type	Dim. — mm (In.)		EACH
		A	B	
500-1287	86.000	19.0 (0.75)	5.0 (0.20)	.13
500-1288	86.001	22.0 (0.87)	5.0 (0.20)	.13
500-1289	86.002	24.0 (0.94)	5.0 (0.20)	.13
500-1290	86.003	27.0 (1.06)	6.0 (0.24)	.13
500-1291	86.004	30.0 (1.18)	6.0 (0.24)	.15
500-1292	86.005	36.0 (1.42)	7.0 (0.28)	.18
500-1293	86.006	46.0 (1.81)	7.0 (0.28)	.40
500-1294	86.007	60.0 (2.36)	8.0 (0.31)	1.20
500-1295	86.008	65.0 (2.56)	8.0 (0.31)	1.38
500-1296	86.009	70.0 (2.76)	8.0 (0.31)	1.57
500-1297	86.061	24.0 (0.94)	6.0 (0.24)	.15
500-1298	86.062	27.0 (1.06)	6.0 (0.24)	.17
500-1299	86.063	32.0 (1.26)	6.0 (0.24)	.20

Locknuts, Nickel Plated Brass (BN)

Stock No.	Mfr.'s Type	Dim. — mm (In.)		EACH
		A	B	
500-1300	86.500	15.0 (0.59)	2.8 (0.11)	.17
500-1301	86.501	18.0 (0.71)	2.8 (0.11)	.17
500-1302	86.502	21.0 (0.83)	3.0 (0.12)	.18
500-1303	86.503	23.0 (0.91)	3.0 (0.12)	.18
500-1304	86.504	26.0 (1.02)	3.0 (0.12)	.22
500-1305	86.505	32.0 (1.26)	3.5 (0.14)	.37
500-1306	86.506	41.0 (1.61)	4.0 (0.16)	.55
500-1307	86.507	51.0 (2.01)	5.0 (0.20)	1.20
500-1308	86.508	60.0 (2.36)	5.0 (0.20)	1.60
500-1309	86.509	64.0 (2.52)	5.5 (0.22)	1.80
500-1310	86.541	19.0 (0.75)	3.5 (0.14)	.42
500-1311	86.542	24.0 (0.94)	3.5 (0.14)	.50
500-1312	86.543	30.0 (1.18)	4.6 (0.18)	1.50



Locknuts, Polyamide (PA), Color, Light Gray

Stock No.	Mfr.'s Type	Dim. — mm (In.)		EACH
		A	B	
500-1287	86.000	19.0 (0.75)	5.0 (0.20)	.13
500-1288	86.001	22.0 (0.87)	5.0 (0.20)	.13
500-1289	86.002	24.0 (0.94)	5.0 (0.20)	.13
500-1290	86.003	27.0 (1.06)	6.0 (0.24)	.13
500-1291	86.004	30.0 (1.18)	6.0 (0.24)	.15
500-1292	86.005	36.0 (1.42)	7.0 (0.28)	.18

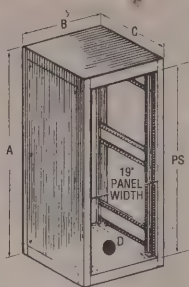
Locknuts, Polyamide (PA), Color, Light Gray

Stock No.	Mfr.'s Type	Dimensions — mm (In.)		EACH
		A	B	
500-1287	86.000	19.0 (0.75)	5.0 (0.20)	.13
500-1288	86.001	22.0 (0.87)	5.0 (0.20)	.13
500-1289	86.002	24.0 (0.94)	5.0 (0.20)	.13
500-1290	86.003	27.0 (1.06)	6.0 (0.24)	.13
500-1291	86.004	30.0 (1.18)	6.0 (0.24)	.15
500-1292	86.005	36.0 (1.42)	7.0 (0.28)	.18
500-1293	86.006	46.0 (1.81)	7.0 (0.28)	.40
500-1294	86.007	60.0 (2.36)	8.0 (0.31)	1.20
500-1295	86.008	65.0 (2.56)	8.0 (0.31)	1.38
500-1296	86.009	70.0 (2.76)	8.0 (0.31)	1.57

Economizer Cabinet Racks

- ▶ 14 Gauge Welded Steel Frame
- ▶ Sides Removable From Outside
- ▶ Rear Door Included
- ▶ 8 1/2" Diameter Opening in Bottom Panel For Cable Access
- ▶ Steel or Plexiglass Front Door Available: Order Separately
- ▶ 1 Pair of Adjustable Panel Rails Included
- ▶ Finish: Royal Blue or Sand Texture
- ▶ Available In 5 Panel Heights and 3 Depths
- ▶ Add-A-Racks Available
- ▶ Ventilated Version Available

Design Features. Furnished complete with sides, rear door and one pair of panel mounting rails. **Panel Mounting Rails:** 12 gauge steel. Fully adjustable, tapped 10-32 in front on E.I.A. universal spacing. Separate .281" diameter holes provided for mounting accessories. **Rear Door:** 20 gauge steel. Opens 180° to completely clear rear panel space. Can be hinged left or right. Key lock is standard. **Side Panels:** 20 gauge steel. Removable from outside for easy access. **Bottom:** Pierced for RC-7758 casters. Four 1.109" knockouts for cable access. Available in standard Bud finishes at no extra charge. (Also available in 24" width from factory).



Stock No.	Mfr.'s Type	Panel Space PS	Outside Height A	Outside Width B	Outside Depth C	Clear Inside Depth D	Est. Weight (lbs.)	EACH
736Q9620	ER-16502	42"	47 1/16"	22"	18 1/2"	17"	110	529.15
736Q9621	ER-16503	52 1/2"	57 13/16"	22"	18 1/2"	17"	124	551.65
736Q9622	ER-16504	61 1/4"	66 9/16"	22"	18 1/2"	17"	139	592.25
736Q9623	ER-16505	70"	75 5/16"	22"	18 1/2"	17"	151	627.40
736Q9624	ER-16506	78 3/4"	84 1/16"	22"	18 1/2"	17"	163	654.35
736Q9625	ER-16512	42"	47 1/16"	22"	25 1/2"	24"	128	567.75
736Q9626	ER-16513	52 1/2"	57 13/16"	22"	25 1/2"	24"	145	592.60
736Q9627	ER-16514	61 1/4"	66 9/16"	22"	25 1/2"	24"	162	648.25
736Q9628	ER-16515	70"	75 5/16"	22"	25 1/2"	24"	175	676.85
736Q9629	ER-16516	78 3/4"	84 1/16"	22"	25 1/2"	24"	189	716.35
736Q9630	ER-16522	42"	47 1/16"	22"	30 3/4"	29 1/4"	143	604.30
736Q9631	ER-16523	52 1/2"	57 13/16"	22"	30 3/4"	29 1/4"	160	632.30
736Q9632	ER-16524	61 1/4"	66 9/16"	22"	30 3/4"	29 1/4"	180	705.80
736Q9633	ER-16525	70"	75 5/16"	22"	30 3/4"	29 1/4"	194	723.50
736Q9634	ER-16526	78 3/4"	84 1/16"	22"	30 3/4"	29 1/4"	209	788.45

Optional Accessories. Trim Kit includes brushed, etched and clear anodized aluminum cowl extrusion and two vertical extrusions with black vinyl inserts. Double-sided tape for mounting is affixed to back of extrusions. **Mounting Rails:** One pair of mounting rails is provided. Some accessories may require two sets of rails. Refer to accessory chart to order extra sets. **Doors:** Rear door provided. Optional plexiglass and steel doors are available.

Trim Kit*

Stock No.	Mfr.'s Type	Fits Panel Space	EACH
736Q9600	ER-16542	42"	99.90
736Q9601	ER-16543	52 1/2"	107.80
736Q9602	ER-16544	61 1/4"	133.35
736Q9603	ER-16545	70"	137.10
736Q9604	ER-16546	78 3/4"	155.80

Steel Door

736Q9610	ER-16532	42"	139.45
736Q9611	ER-16533	52 1/2"	149.35
736Q9612	ER-16534	61 1/4"	168.85
736Q9613	ER-16535	70"	178.55
736Q9614	ER-16536	78 3/4"	184.85

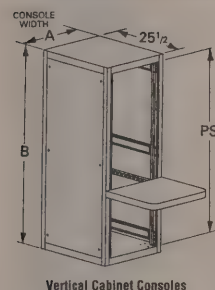
Mounting Rails (Pair)

736-9605	PMR-9450	42"	58.10
736-9606	PMR-9451	52 1/2"	64.40
736-9607	PMR-9452	61 1/4"	71.95
736-9608	PMR-9453	70"	78.75
736-9609	PMR-9454	78 3/4"	83.45

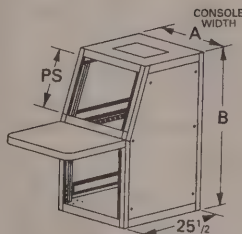
Plexiglass Door*

736Q9163	V-9063-A	42"	339.20
736Q9164	V-9064-A	52 1/2"	352.55
736Q9165	V-9065-A	61 1/4"	395.90
736Q9166	V-9066-A	70"	437.40
736Q9167	V-9067-A	78 3/4"	459.10

*Plexiglass door cannot be used in conjunction with trim kit.



Vertical Cabinet Consoles



Inclined Cabinet Consoles

Economizer™ Consoles

- ▶ Constructed Out of Standard Economizer Products
- ▶ EIA 19" Panel Width
- ▶ Finish: Black Texture (BT), Sand Texture (S), or Royal Blue Texture (RB)
- ▶ Available in One, Two, or Three Bay Configurations

Vertical Cabinet Consoles

One Bay

Stock No.*	Mfr.'s Type	A Console Width	B Outside Height	PS Panel Space	EACH
736Q350N	CV-17614	22"	66 9/16"	61 1/4"	915.80
736Q351N	CV-17615	22"	75 5/16"	70"	983.00
736Q352N	CV-17616	22"	84 1/16"	78 3/4"	1012.50

Two Bay

736Q353N	CV-17624	44"	66 9/16"	61 1/4"	1794.50
736Q354N	CV-17625	44"	75 5/16"	70"	1888.30
736Q355N	CV-17626	44"	84 1/16"	78 3/4"	1958.05

Three Bay

736Q356N	CV-17634	66"	66 9/16"	61 1/4"	2463.10
736Q357N	CV-17635	66"	75 5/16"	70"	2557.80
736Q410N	CV-17636	66"	84 1/16"	78 3/4"	2678.50

*Color Code: 1 = BT, 2 = S, 3 = RB; insert the color number where the N appears in the stock number.

— NEW —

- ▶ 24" Clear Inside Depth
- ▶ 18" Deep, Antique White Desks
- ▶ Each Cabinet Bay and Desktop Is Shipped Individually, Requiring Minor Assembly for Completion

Inclined Cabinet Consoles

One Bay

Stock No.*	Mfr.'s Type	A Console Width	B Outside Height	PS Panel Space	EACH
736Q412N	CI-17714	22"	42 5/16"	10 1/2"	863.25
736Q413N	CI-17715	22"	45 1/16"	14"	886.80
736Q414N	CI-17716	22"	50 9/16"	19 1/4"	919.65

Two Bay

736Q415N	CI-17724	44"	42 5/16"	10 1/2"	1695.85
736Q416N	CI-17725	44"	45 1/16"	14"	1740.60
736Q417N	CI-17726	44"	50 9/16"	19 1/4"	1780.70

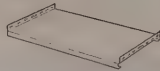
Three Bay

736Q418N	CI-17734	66"	42 5/16"	10 1/2"	2324.35
736Q419N	CI-17735	66"	45 1/16"	14"	2379.70
736Q500N	CI-17736	66"	50 9/16"	19 1/4"	2441.95

*Color Code: 1 = BT, 2 = S, 3 = RB; insert the color number where the N appears in the stock number.

Accessories

Stationary Shelves



Description: 16 ga. steel; supports 200 lbs.; flanged front and rear for added support; black texture finish; models to fit 19" and 24" panel widths, available in ventilated and non-ventilated versions (ventilated have 20% open area); hardware supplied. Also available in metallic gray and white textured.

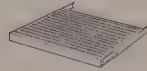
Non-Ventilated Shelves

Stock No.	Mfr.'s Type	Cabinet Racks		Shelves		EACH
		Panel Width	Max. Clear Inside Depth	Width	Depth	
736-2379	SH-2379	19"	17"	17 29/32"	14 1/4"	45.40
736-2380	60-2380	19"	20 1/2"	17 1/8"	19 1/4"	47.35
736-2381	60-2381	19"	24"	17 1/8"	22 3/4"	49.70
736-2382	SH-2382	19"	29 1/4"	17 29/32"	26 1/2"	53.30
736-2479	SH-2479	24"	17"	22 29/32"	14 1/4"	50.45
736-2480	SH-2480	24"	20 1/2"	22 29/32"	17 3/4"	52.70
736-2481	SH-2481	24"	24"	22 29/32"	21 1/4"	54.80
736-2482	SH-2482	24"	29 1/4"	22 29/32"	26 1/2"	58.85

Ventilated Shelves

736-2383	SH-2383	19"	17"	17 29/32"	14 1/4"	47.35
736-2384	SH-2384	19"	20 1/2"	17 29/32"	17 3/4"	49.60
736-2385	SH-2385	19"	24"	17 29/32"	21 1/4"	51.40
736-2386	SH-2386	19"	29 1/4"	17 29/32"	26 1/2"	55.75
736-2483	SH-2483	24"	17"	22 29/32"	14 1/4"	53.00
736-2484	SH-2484	24"	20 1/2"	22 29/32"	17 3/4"	55.25
736-2485	SH-2485	24"	24"	22 29/32"	21 1/4"	57.55
736-2486	SH-2486	24"	29 1/4"	22 29/32"	26 1/2"	61.80

Sliding Shelves



Description: 16 ga. steel; flanged on all 4 sides for added support; black texture finish; models to fit 19" and 24" panel widths, available in ventilated and non-ventilated versions (ventilated have 20% open area); hardware supplied.

Non-Ventilated Shelves

Stock No.	Mfr.'s Type	Cabinet Racks		Shelves				EACH
		Panel Width	Max. Clear Inside Depth	W	D	Load Rating (lbs.)	Travel	
736-2387	SH-2387	19"	17"	17"	14 1/4"	140	9	87.75
736-2388	SH-2388	19"	20 1/2"	17"	17 3/4"	128	12	93.15
736-2389	SH-2389	19"	24"	17"	21 1/4"	92	15	98.25
736-2390	SH-2390	19"	29 1/4"	17"	26 1/2"	70	19	105.05
736-2487	SH-2487	24"	17"	22"	14 1/4"	140	9	91.10
736-2488	SH-2488	24"	20 1/2"	22"	17 3/4"	128	12	96.60
736-2489	SH-2489	24"	24"	22"	21 1/4"	92	15	101.90
736-2490	SH-2490	24"	29 1/4"	22"	26 1/2"	70	19	108.80

Ventilated Shelves

736-2391	SH-2391	19"	17"	17"	14 1/4"	140	9	89.10
736-2392	SH-2392	19"	20 1/2"	17"	17 3/4"	128	12	94.55
736-2393	SH-2393	19"	24"	17"	21 1/4"	92	15	99.80
736-2394	SH-2394	19"	29 1/4"	17"	26 1/2"	70	19	106.80
736-2491	SH-2491	24"	17"	22"	14 1/4"	140	9	92.85
736-2492	SH-2492	24"	20 1/2"	22"	17 3/4"	128	12	98.40
736-2493	SH-2493	24"	24"	22"	21 1/4"	92	15	103.65

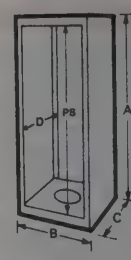
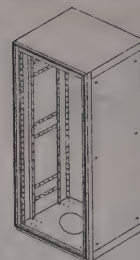
Classic II Cabinet Racks

Welded Frame: 14-gauge steel vertical rails, 16-gauge steel top and bottom. Uniquely designed, 16-gauge steel rail supports. Furnished complete with removable sides, rear door and one pair of panel mounting rails. **Panel Mounting Rails:** 12-gauge steel. Fully adjustable, tapped #10-32 in front on EIA universal spacing. Separate .281" diameter holes provided for mounting accessories. Two pairs furnished. **Side Panel:** 20-gauge steel. Removable from outside for easy access. **Bottom:** Pierced for RC-778 casters, and with one 8 1/2" diameter hole and four 1.109" knockouts for cable access. **Finishes:** Gray Textured (GT), Royal Blue Textured (RB) are standard. Available in other Bud textured finishes at no extra cost.

Non-Ventilated*

Stock No.		Mr.'s Type	Panel Space (PS) Inches	Outside Height (A) Inches	Outside Width (B) Inches	Outside Depth (C) Inches	Clear Inside Depth (D) Inches	Est. Wt. Lbs.	EACH
RB	GT								
736Q9547	736Q9522	AGR 9522	42.00	47.31	22	18.50	17.00	110	590.15
736Q9548	736Q9523	AGR 9523	52.50	57.81	22	18.50	17.00	124	646.35
736Q9549	736Q9524	AGR 9524	61.25	66.56	22	18.50	17.00	139	727.00
736Q9550	736Q9525	AGR 9525	70.00	75.31	22	18.50	17.00	151	766.60
736Q9551	736Q9526	AGR 9526	78.75	84.06	22	18.50	17.00	163	831.25
736Q9552	736Q9532	AGR 9532	42.00	47.31	22	25.50	24.00	128	624.65
736Q9553	736Q9533	AGR 9533	52.50	57.81	22	25.50	24.00	145	695.60
736Q9554	736Q9534	AGR 9534	61.25	66.56	22	25.50	24.00	162	781.70
736Q9555	736Q9535	AGR 9535	70.00	75.31	22	25.50	24.00	175	834.55
736Q9556	736Q9536	AGR 9536	78.75	84.06	22	25.50	24.00	189	890.95
736Q9557	736Q9542	AGR 9542	42.00	47.31	22	30.75	29.25	143	666.05
736Q9558	736Q9543	AGR 9543	52.50	57.81	22	30.75	29.25	160	733.45
736Q9559	736Q9544	AGR 9544	61.25	66.56	22	30.75	29.25	180	829.10
736Q9560	736Q9545	AGR 9545	70.00	75.31	22	30.75	29.25	194	885.85
736Q9561	736Q9546	AGR 9546	78.75	84.06	22	30.75	29.25	209	955.25

*Note: Ventilated versions available.

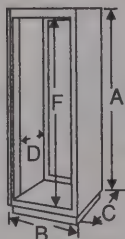
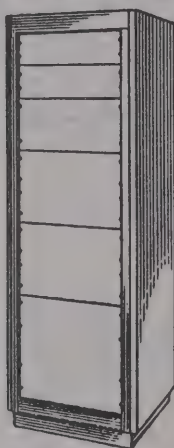


Front Doors (Rear doors included with rack)

Stock No.		Mr.'s Type	Fits Racks With	Wt. Lbs.	EACH
RB	GT				
736Q9562	736Q9932	AGD-932	42" Panel Space	20	180.25
736Q9563	736Q9933	AGD-933	52 1/2" Panel Space	23	191.95
736Q9564	736Q9934	AGD-934	61 1/4" Panel Space	26	217.50
736Q9565	736Q9935	AGD-935	70" Panel Space	28	230.10
736Q9566	736Q9936	AGD-936	78 3/4" Panel Space	31	238.40

*Order door to match color of rack.

Series 60 Upright Cabinet Racks



- ▶ 14 Gauge Welded Steel Frame
- ▶ Sides Removable From Inside
- ▶ Rear Door Comes Standard
- ▶ Open Bottom
- ▶ Steel and Plexiglass Front Door Available: Order Separately
- ▶ Add-a-Rack Available
- ▶ 2 Pairs of Adjustable Panel Mounting Rails Standard
- ▶ Finish: Royal Blue or Gray Textured
- ▶ Available in 7 Panel Heights and 3 Depths. Inclined Panel Racks also Available. See Below

These cabinet racks are proof of what Bud designers have striven for and achieved: quality enclosures that enhance the function, appearance and value of your products. All Series 60 Cabinet Racks include welded frame, sides, top and rear door.

Stock No.		Mr.'s Type	Ht. In.	P.S.* In.	Depth In.	Wt. Lbs.	EACH
RB	GT						
736Q8971	736Q8905	60-2301	40 1/4	31 1/2	22	137	798.25
736Q8972	736Q8910	60-2302	50 1/4	42	22	162	903.50
736Q8973	736Q8915	60-2303	61 1/4	52 1/2	22	189	987.65
736Q8974	736Q8920	60-2304	69 1/4	61 1/4	22	215	1071.90
736Q8975	736Q8925	60-2305	78 3/4	70	22	227	1143.30
736Q8976	736Q8935	60-2307	29 1/4	21	25 1/2	123	761.20
736Q8977	736Q8945	60-2308	40 1/4	31 1/2	25 1/2	145	818.30
736Q8978	736Q8955	60-2311	69 1/4	61 1/4	25 1/2	216	1098.30
736Q8979	736Q8960	60-2312	78 3/4	70	25 1/2	231	1161.70
736Q8980	736Q8970	60-2313	87 3/4	78 3/4	25 1/2	263	1261.60

*Panel Space, †When ordering, specify color suffix; Louvered sides also available from factory.

Plexiglass Doors

- ▶ Fits Series 60 and 2000 Racks
- ▶ 1/4" Smoke Gray Plexiglass
- ▶ Frame is 1 1/2" x 1 1/2" Anodized Aluminum Extrusion With Longitudinal Grooves for Enhanced Appearance
- ▶ Door is Magnetically Held in Closed Position
- ▶ Easily Installed or Removed Through Use of Spring Pin Hinges
- ▶ Inner Surface of Door is at Least 1 1/2" From Front Panel
- ▶ Door Clears Panel Space When Opened 90° or More
- ▶ Installation Hardware Furnished

Stock No.		Mr.'s Type	Upright Rack Vertical Panel Space	Weight Lbs.	EACH
RB	GT				
736Q9160	V-9060-A		21"	11	276.75
736Q9161	V-9061-A		31 1/2"	16	304.40
736Q9162	V-9062-A		35"	17	327.35
736Q9163	V-9063-A		42"	19	339.20
736Q9164	V-9064-A		52 1/2"	20	352.55
736Q9165	V-9065-A		61 1/4"	23	395.90
736Q9166	V-9066-A		70"	24	437.40
736Q9167	V-9067-A		78 1/4"	26	459.10

Stock No.		Mr.'s Type*	Inclined Vertical Panel Space	Weight Lbs.	EACH
RB	GT				
736Q9168	V-9068-A		29 3/4"	14	301.05
736Q9169	V-9069-A		24 1/2"	13	296.00
736Q9170	V-9070-A		22 3/4"	12	289.25

*See inclined units below and on next page.

Series 30 (Extra Deep) Upright Cabinet Racks

Stock No.		Mr.'s Type	Outside Height	Outside Width	Outside Depth	Clear Inside Depth	Panel Space	Top Opening	Wt. Lbs.	EACH
RB	GT									
736Q8981	736Q2300	30-2300	29 3/4"	24 1/4"	30 3/4"	29 1/4"	21"	18 1/2" x 25 3/4"	154	816.30
736Q8982	736Q2301	30-2301	40 1/4"	24 1/4"	30 3/4"	29 1/4"	31 1/2"	18 1/2" x 25 3/4"	174	893.28
736Q8983	736Q2302	30-2302	50 1/4"	24 1/4"	30 3/4"	29 1/4"	42"	18 1/2" x 25 3/4"	202	1002.45
736Q8984	736Q2303	30-2303	61 1/4"	24 1/4"	30 3/4"	29 1/4"	52 1/2"	18 1/2" x 25 3/4"	225	1100.85
736Q8985	736Q2304	30-2304	69 1/4"	24 1/4"	30 3/4"	29 1/4"	61 1/4"	18 1/2" x 25 3/4"	245	1177.70
736Q8986	736Q2305	30-2305	78 3/4"	24 1/4"	30 3/4"	29 1/4"	70"	18 1/2" x 25 3/4"	268	1268.15
736Q8987	736Q2306	30-2306	87 3/4"	24 1/4"	30 3/4"	29 1/4"	78 3/4"	18 1/2" x 25 3/4"	294	1356.20

*Supplied with plain sides and plain rear door.

Front Doors

Rear Door Supplied With Racks. Width: 18 1/2"

▶ Finish: Royal Blue or Gray Textured

Height	Fits Upright Rack With This Panel Space	Wt. Lbs.	Plain				Louvered			
			Stock No.		Mr.'s Type	EACH	Stock No.		Mr.'s Type	EACH
			RB	GT			RB	GT		
21 1/2"	21"	8	736Q8988	736Q2340	60-2340	130.40	736Q8995	736Q2540	60-2540	130.40
31 1/2"	31 1/2"	11 1/2	736Q8989	736Q2341	60-2341	144.80	736Q8996	736Q2541	60-2541	144.80
42 1/2"	42"	15 1/2	736Q8990	736Q2342	60-2342	152.50	736Q8997	736Q2542	60-2542	152.50
52 1/2"	52 1/2"	19	736Q8991	736Q2343	60-2343	169.55	736Q8998	736Q2543	60-2543	169.55
61 1/2"	61 1/4"	22 1/4	736Q8992	736Q2344	60-2344	208.10	736Q8999	736Q2544	60-2544	208.10
70 1/2"	70"	25 1/2	736Q8993	736Q2345	60-2345	216.80	736Q9000	736Q2545	60-2545	216.80
79 1/2"	78 3/4"	29	736Q8994	736Q2346	60-2346	220.25	736Q9144	736Q2546	60-2546	220.25

Perforated Tops

Stock No.		Mr.'s Type	Width	Depth	Fits Upright Rack With Overall Depth Of	Wt. Lbs.	EACH
RB	GT						
736-2370	736-2570	60-2370	21 1/2"	17"	22"	6	53.30
736-2371	736-2571	60-2371	21 1/2"	20 1/2"	25 1/2"	7	54.90

Series 60 Inclined Panel Cabinet Racks

Series 60 Inclined Panel Racks are similar to the upright models in style and construction and can be used in conjunction with them. The front is divided into upright and 20° inclined panel space. Two pairs of fully adjustable mounting rails are in the front upright and sloping panel area, and one pair in the rear. **Finish:** Royal blue or gray textured.



Inclined Panel Cabinet Racks

Stock No.		Mr.'s Type*	Outside Height (A)	Outside Width (B)	Outside Depth (C)	Clear Inside Depth (D)	Inclined Panel Space (E)	Vertical Panel Space (F)	Top Opening	Wt. Lbs.	EACH
RB	GT										
736Q9143	736Q8975	60-2330	50 3/4"	24 1/4"	22"	20 1/2"	10 1/2"	29 3/4"	11 1/2" x 18 1/2"	155	908.80
736Q9002	736Q8980	60-2331	50 3/4"	24 1/4"	22"	20 1/2"	15 3/4"	24 1/2"	10" x 18 1/2"	156	908.80
736Q9145	736Q8985	60-2332	50 3/4"	24 1/4"	22"	20 1/2"	17 1/2"	22 3/4"	9 7/8" x 18 1/2"	154	908.80

Series 30 (Extra Deep) Inclined Panel Cabinet Racks

Stock No.		Mr.'s Type*	Outside Height (A)	Outside Width (B)	Outside Depth (C)	Clear Inside Depth (D)	Inclined Panel Space (E)	Vertical Panel Space (F)	Top Opening	Wt. Lbs.	EACH
RB	GT										
736Q9004	736Q2330	30-2330	50 3/4"	24 1/4"	30 3/4"	29 1/4"	10 1/2"	29 3/4"	20 1/2" x 18 1/2"	196	1007.70
736Q9005	736Q2331	30-2331	50 3/4"	24 1/4"	30 3/4"	29 1/4"	15 3/4"	24 1/2"	10" x 18 1/2"	196	1007.70
736Q9146	736Q2332	30-2332	50 3/4"	24 1/4"	30 3/4"	29 1/4"	17 1/2"	22 3/4"	18 1/2" x 18 1/2"	196	1007.70

*Supplied with plain sides and plain rear door.

Perforated Tops

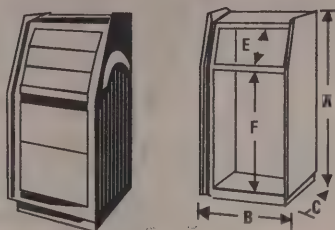
Stock No.		Mr.'s Type	Width	Depth	Fits Inclined Panel Rack With This Top Opening	Wt. Lbs.	EACH
RB	GT						
736-2372	736-2572	60-2372	21 1/2"	11 1/2"	11 1/2" x 18 1/2"	3 1/2	44.45
736-2373	736-2573	60-2373	21 1/2"	10"	10" x 18 1/2"	3 1/2	41.85
736-2374	736-2574	60-2374	21 1/2"	9 1/2"	9 1/2" x 18 1/2"	3 1/4	37.25

*Order Perforated tops, sides and doors to match color of cabinet.

Inclined and Upright Cabinet Racks

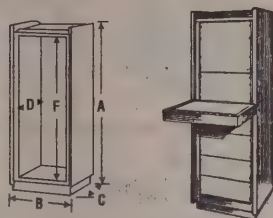
Series 2000 Inclined Panel Cabinet Racks

Series 2000 Inclined Panel Racks are similar to the upright models in style and construction and can be used in conjunction with them. The front is divided into upright and 20° inclined panel space. Two pairs of fully adjustable mounting rails are in the front upright and sloping panel area, and one pair in the rear. 24" panel space racks available on special request. Be sure to ask about our console availability using Bud Wedges and Add-A-Racks. We'll be happy to help you design the proper configuration. Available in Royal Blue (RB) or Gray textured (GT).



Series 2000 Upright Cabinet Racks

- ▶ 14 Gauge Welded Steel Frame
- ▶ Sides Removable From Inside
- ▶ Rear Door Included
- ▶ Steel and Plexiglass Front Door Available: Order Separately
- ▶ Open Bottom
- ▶ 2 Pair Adjustable Panel Mounting Rails Included
- ▶ Finish: Royal Blue (RB) or Gray Textured (GT)
- ▶ Available in 8 Panel Heights and 3 Depths; Inclined Panel Racks Also Available
- ▶ Add-A-Rack Available



Here are electronic enclosures that do more than house equipment. The sheer square line of the Series 2000, its symmetrical styling is the result of experience and perception Bud designers have. All Series 2000 cabinet racks include welded frame and base, sides, top and rear door (louvered sides also available from factory).

Series 2000

Stock No.		Mfr.'s Type*	Outside Height (A) (In.)	Outside Width (B) (In.)	Outside Depth (C) (In.)	Clear Inside Depth (D) (In.)	Panel Space (F) (In.)	Weight (Lbs.)	EACH
RB	GT								
736Q9059	736Q3549	E-2000	30 1/4	24 1/8	23 7/8	20 1/2	21	119	759.80
736Q9060	736Q3954	E-2001	40 3/4	24 1/8	23 7/8	20 1/2	31 1/2	141	814.05
736Q9061	736Q3955	E-2002	44 1/4	24 1/8	23 7/8	20 1/2	35	149	842.45
736Q9062	736Q3962	E-2003	51 1/4	24 1/8	23 7/8	20 1/2	42	168	917.50
736Q9063	736Q3966	E-2004	61 3/4	24 1/8	23 7/8	20 1/2	52 1/2	195	1013.20
736Q9064	736Q3974	E-2005	70 1/2	24 1/8	23 7/8	20 1/2	61 1/4	216	1108.60
736Q9065	736Q3979	E-2006	79 1/4	24 1/8	23 7/8	20 1/2	70	233	1162.90
736Q9066	736Q3980	E-2007	88	24 1/8	23 7/8	20 1/2	78 3/4	260	1261.15
736Q9067	736Q3981	E-2008	30 1/4	24 1/8	27 3/8	24	21	129	770.10
736Q9068	736Q3982	E-2009	40 3/4	24 1/8	27 3/8	24	31 1/2	154	842.50
736Q9069	736Q4010	E-2010	44 1/4	24 1/8	27 3/8	24	35	159	878.70
736Q9070	736Q4017	E-2011	51 1/4	24 1/8	27 3/8	24	42	179	966.45
736Q9071	736Q4021	E-2012	61 3/4	24 1/8	27 3/8	24	52 1/2	215	1084.75
736Q9072	736Q4027	E-2013	70 1/2	24 1/8	27 3/8	24	61 1/4	234	1147.55
736Q9073	736Q4030	E-2014	79 1/4	24 1/8	27 3/8	24	70	244	1188.75
736Q9074	736Q4034	E-2015	88	24 1/8	27 3/8	24	78 3/4	268	1287.10

Series 30-2000 (Extra Deep) Upright Cabinet Racks

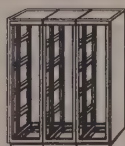
736Q9075	736Q4000	E30-2000	30 1/4	24 1/8	32 5/8	29 1/4	21	150	827.05
736Q9076	736Q4001	E30-2001	40 3/4	24 1/8	32 5/8	29 1/4	31 1/2	175	892.15
736Q9077	736Q4002	E30-2002	44 1/4	24 1/8	32 5/8	29 1/4	35	180	944.25
736Q9078	736Q4003	E30-2003	51 1/4	24 1/8	32 5/8	29 1/4	42	217	1007.00
736Q9079	736Q4004	E30-2004	61 3/4	24 1/8	32 5/8	29 1/4	52 1/2	248	1124.50
736Q9080	736Q4005	E30-2005	70 1/2	24 1/8	32 5/8	29 1/4	61 1/4	259	1197.40
736Q9081	736Q4006	E30-2006	79 1/4	24 1/8	32 5/8	29 1/4	70	303	1286.10
736Q9082	736Q4007	E30-2007	88	24 1/8	32 5/8	29 1/4	78 3/4	307	1372.20

*Supplied with plain sides and plain rear door.

Add-A-Rack System

For Series 60, Series 30 and Series 2000 Cabinet Racks

Used to combine two or more enclosures into one integral system. **Design Features.** Assembly consists of a welded frame, top, bottom and rear door. Aluminum extrusions are included for Series 2000. **Bonus Features.** The advantage of using this system is economy. When developing a band of enclosures, costs can be dramatically reduced by using one complete unit and several Add-A-Rack assemblies to obtain the optimum width. **Finishes:** Order the same color as the cabinet rack.



Series 60/30

Stock No.		Mfr.'s Type	Use With Rack	Depth Inside (In.)	EACH
RB	GT				
736Q9083	736Q2307	60-2500	60-2300	20 1/2	605.85
736Q9084	736Q2308	60-2501	60-2301	20 1/2	663.80
736Q9085	736Q2309	60-2502	60-2302	20 1/2	742.80
736Q9086	736Q2310	60-2503	60-2303	20 1/2	832.25
736Q9087	736Q2311	60-2504	60-2304	20 1/2	897.05
736Q9088	736Q2312	60-2505	60-2305	20 1/2	968.60
736Q9089	736Q2320	60-2506	60-2306	20 1/2	1057.25
736Q9090	736Q2313	60-2507	60-2307	24	624.35
736Q9091	736Q2314	60-2508	60-2308	24	692.90
736Q9092	736Q2315	60-2509	60-2309	24	748.00
736Q9093	736Q2316	60-2510	60-2310	24	818.00

Series 60/30 (continued)

Stock No.		Mfr.'s Type	Use With Rack	Depth Inside (In.)	EACH
RB	GT				
736Q9094	736Q2317	60-2511	60-2311	24	922.95
736Q9095	736Q2318	60-2512	60-2312	24	979.35
736Q9096	736Q2319	60-2513	60-2313	24	1081.10
736Q9097	736Q2500	30-2500	30-2300	29 1/4	658.60
736Q9098	736Q2501	30-2501	30-2301	29 1/4	719.15
736Q9099	736Q2502	30-2502	30-2302	29 1/4	845.85
736Q9100	736Q2503	30-2503	30-2303	29 1/4	928.80
736Q9101	736Q2504	30-2504	30-2304	29 1/4	1005.00
736Q9102	736Q2505	30-2505	30-2305	29 1/4	1093.25
736Q9103	736Q2506	30-2506	30-2306	29 1/4	1200.65
736Q9104	736Q2530	60-2530	60-2330	20 1/2	752.45
736Q9105	736Q2531	60-2531	60-2331	20 1/2	752.45
736Q9106	736Q2532	60-2532	60-2332	20 1/2	752.45
736Q9107	736Q2533	60-2533	60-2333	29 1/4	849.60
736Q9108	736Q2534	30-2534	30-2334	29 1/4	849.55
736Q9109	736Q2535	30-2535	30-2335	29 1/4	849.55

Series 2000

Stock No.	Stock No.	AE-2032	E-2000	20 1/2	607.32
736Q9111	736Q2536	AE-2033	E-2001	20 1/2	661.55
736Q9112	736Q2537	AE-2034	E-2002	20 1/2	690.05
736Q9113	736Q2538	AE-2035	E-2003	20 1/2	762.50
736Q9114	736Q2539	AE-2036	E-2004	20 1/2	859.85

Series 2000 Inclined Panel Cabinet Racks

Stock No.		Mfr.'s Type	Outside Height (A) (In.)	Outside Width (B) (In.)	Outside Depth (C) (In.)	Clear Inside Depth (D) (In.)	Inclined Panel Space (E) (In.)	Vertical Panel Space (F) (In.)	Weight (Lbs.)	EACH
RB	GT									
736Q9053	736Q7102	SE-2064	51 1/4	24 1/8	23 7/8	20 1/2	10 1/2	29 1/4	163	962.55
736Q9054	736Q7110	SE-2065	51 1/4	24 1/8	23 7/8	20 1/2	15 3/4	22 1/4	161	962.60
736Q9055	736Q7122	SE-2066	51 1/4	24 1/8	23 7/8	20 1/2	17 1/2	22 3/4	164	962.60

Series 30-2000 (Extra Deep) Inclined Panel Cabinet Racks

736Q9056	736Q7103	S30-2064	51 1/4	24 3/16	32 5/8	29 1/4	10 1/2	29 3/4	223	1018.70
736Q9057	736Q7104	S30-2065	51 1/4	24 3/16	32 5/8	29 1/4	15 3/4	24 1/2	223	1018.90
736Q9058	736Q7105	S30-2066	51 1/4	24 3/16	32 5/8	29 1/4	17 1/2	22 3/4	223	1018.90

*Supplied with plain sides and plain rear door.

All American Rack

- ▶ 14 Gauge Welded Steel Frame
- ▶ Sides Removable From Outside, No Screws
- ▶ Rear Door Included
- ▶ Steel and Plexiglass Front Door Available: Order Separately
- ▶ Open Bottom
- ▶ 2 Pair Adjustable Panel Mounting Rails Included
- ▶ Finish: White Textured Frame With Sand Textured Sides, Rear Door, and Top
- ▶ Available in 5 Panel Heights and 2 Depths
- ▶ Add-A-Rack Available



The All-American Rack features a unique combination of steel and aluminum components which provide an optimum blend of strength and economy. The frame is constructed of heavy-duty aluminum extrusions with die-cast aluminum corner brackets and steel supports. The sides, top and doors can be removed from the outside in seconds to provide complete interior accessibility. Available in five panel heights and a choice of 24" or 30" depths, the All-American Rack also offers a wide range of accessories including plexiglass doors for front or rear. An Add-A-Rack system, used to combine two or more racks into one integral system, is also available. For complete engineering data, Form No. AA-87, and to order, contact your local Allied facility.

Stock No.	Mfr.'s Type	Outside Height (A) (In.)	Outside Width (B) (In.)	Outside Depth (C) (In.)	Clear Inside Depth (D) (In.)	Panel Space (PS) (In.)	Clear Top Opening (In.)	Weight (Lbs.)	EACH
736Q0412	AA-16412	48 ¹³ / ₁₆	23 ⁵ / ₈	26 ¹ / ₂	24	42	19 × 21 ⁷ / ₈	155	1036.45
736Q0413	AA-16413	59 ⁵ / ₈	23 ⁵ / ₈	26 ¹ / ₂	24	52 ¹ / ₂	19 × 21 ⁷ / ₈	174	1085.90
736Q0414	AA-16414	68 ¹ / ₈	23 ⁵ / ₈	26 ¹ / ₂	24	61 ¹ / ₄	19 × 21 ⁷ / ₈	196	1150.55
736Q0415	AA-16415	76 ¹³ / ₁₆	23 ⁵ / ₈	26 ¹ / ₂	24	70	19 × 21 ⁷ / ₈	212	1215.30
736Q0416	AA-16416	85 ¹ / ₈	23 ⁵ / ₈	26 ¹ / ₂	24	78 ³ / ₄	19 × 21 ⁷ / ₈	228	1321.05
736Q0422	AA-16422	48 ¹³ / ₁₆	31 ¹ / ₄	29 ¹ / ₄	42	19 × 27 ¹ / ₈	170	1082.90	
736Q0423	AA-16423	59 ⁵ / ₈	31 ¹ / ₄	29 ¹ / ₄	52 ¹ / ₂	19 × 27 ¹ / ₈	191	1168.85	
736Q0424	AA-16424	68 ¹ / ₈	31 ¹ / ₄	29 ¹ / ₄	61 ¹ / ₄	19 × 27 ¹ / ₈	215	1235.60	
736Q0425	AA-16425	76 ¹³ / ₁₆	31 ¹ / ₄	29 ¹ / ₄	70	19 × 27 ¹ / ₈	233	1302.30	
736Q0426	AA-16426	85 ¹ / ₈	31 ¹ / ₄	29 ¹ / ₄	78 ³ / ₄	19 × 27 ¹ / ₈	250	1381.95	

NOTE: Rear door provided. Optional doors can be used front or rear.

Optional Accessories

Fits	Plexiglass Doors			Steel Doors		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
AA-16412, AA-16422	736Q0722	AA-16722	307.20	736-0727	AA-16702	149.60
AA-16413, AA-16423	736Q0723	AA-16723	330.80	736-0728	AA-16703	159.25
AA-16414, AA-16424	736Q0724	AA-16724	349.20	736-0729	AA-16704	167.15
AA-16415, AA-16425	736Q0725	AA-16725	359.75	736-0730	AA-16705	178.60
AA-16416, AA-16426	736Q0726	AA-16726	386.10	736-0731	AA-16706	183.10

Series 2000 (continued)

Stock No.		Mfr. 's Type	Use With Rack	Depth Inside (in.)	EACH
RB	GT				
736Q9116	736Q2551	AE-2037	E-2005	20 1/2	956.15
736Q9117	736Q2552	AE-2038	E-2006	20 1/2	934.20
736Q9118	736Q2553	AE-2039	E-2007	20 1/2	1109.90
736Q9119	736Q2554	AE-2040	E-2008	24	640.85
736Q9120	736Q2556	AE-2041	E-2009	24	688.30
736Q9121	736Q2557	AE-2042	E-2010	24	726.10
736Q9122	736Q2558	AE-2043	E-2011	24	812.40
736Q9123	736Q2559	AE-2044	E-2012	24	932.45
736Q9124	736Q2560	AE-2045	E-2013	24	1002.60
736Q9125	736Q2561	AE-2046	E-2014	24	1036.15
736Q9126	736Q2562	AE-2047	E-2015	24	1140.35
736Q9127	736Q2563	A30-2032	E30-2000	29 1/4	680.80
736Q9128	736Q2564	A30-2033	E30-2001	29 1/4	733.00
736Q9129	736Q2565	A30-2034	E30-2002	29 1/4	791.15
736Q9130	736Q2566	A30-2035	E30-2003	29 1/4	854.60
736Q9131	736Q2567	A30-2036	E30-2004	29 1/4	933.90
736Q9132	736Q2568	A30-2037	E30-2005	29 1/4	1006.80
736Q9133	736Q2569	A30-2038	E30-2006	29 1/4	1115.50
736Q9134	736Q2580	A30-2039	E30-2007	29 1/4	1210.75
736Q9135	736Q2581	ASE-2084	SE-2064	20 1/2	786.50
736Q9136	736Q2582	ASE-2085	SE-2065	20 1/2	786.50
736Q9137	736Q2583	ASE-2086	SE-2066	20 1/2	786.50
736Q9138	736Q2584	A30-2084	S30-2064	29 1/4	842.20
736Q9139	736Q2585	A30-2085	S30-2065	29 1/4	842.20
736Q9140	736Q2586	A30-2086	S30-2066	29 1/4	842.20

Open Relay Racks

Design Features: Heavy-duty racks capable of being bolted to overhead or floor (RR-1265). Base, two 1/4" angles, 3 1/2" x 4 1/2" x 20 1/2" cross bars, 1/8" x 2 1/2" x 19 1/2" angles. Uprights, 3" x 19 1/2". Panel mounting holes drilled and tapped 12-24. Base is 20 1/2" x 12 1/4". Available in steel and/or aluminum. Note: Drawing does not show overhead plates.

Steel — 19" Panel Space — (color black textured)

Stock No.	Mfr.'s Type	Panel Space	Height	EACH
736Q1290	RR-1265	19"	72 1/4"	208.95
736Q1291	RR-1269	19"	82 3/4"	219.35
736Q1292	RR-1270	19"	107 1/4"	241.75

Aluminum (No Finish)

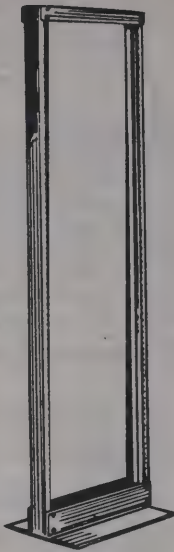
736-1293	ARR-1271	19"	72"	279.65
736-1294	ARR-1272	19"	84"	265.85
736-1295	ARR-1273	19"	108"	335.40

Steel — 23" Panel Space — (color black textured)

736Q1296	RR-1290	23"	72 1/4"	223.10
736Q1297	RR-1291	23"	82 3/4"	234.80
736Q1298	RR-1292	23"	107 1/4"	257.70

Aluminum (No Finish)

736-1299	ARR-1293	23"	72"	289.45
736-1290	ARR-1294	23"	84"	303.35
736-1291	ARR-1295	23"	108"	346.50



RR-1367 Series Open Relay Racks

Design Features: Extra-sturdy racks made of 14 and 12 gauge steel, 8" deep welded "U" member and triangular bracket hold uprights to base (12 gauge). Panel mounting rails tapped 10-32 on E.I.A. universal spacing. Chassis type base, 20 7/8" x 26", drilled for RC-7758 casters. Racks may be bolted together in Add-A-Rack fashion. Shipped knocked down. Finishes: Metallic gray (MG) and black textured (BT).

Stock No.		Mfr.'s Type	Panel Space	Height	Base Width	Wt. Lbs.	EACH
BT	MG						
736Q1368	736Q1367	RR-1367	61 1/4" x 19"	64 3/8"	20 7/8"	74	310.70
736Q1370	736Q1369	RR-1368	70" x 19"	73 3/8"	20 7/8"	77	330.55
736Q6380	736Q6382	RR-1369	77" x 19"	80 3/8"	20 7/8"	81	341.55



Table Top Relay Rack

Design Features: Chassis-type base holds heavy components for table mounting applications. Supporting angles provide strength, rigidity. Panel mounting rails tapped 10-32 on E.I.A. universal spacing. Standard 19" panel fits flush with front. Base 20 3/4" x 12". Shipped knocked down. Finishes: Metallic gray (MG) and black textured (BT).

Stock No.		Mfr.'s Type	Wt. Lbs.	EACH
MG	BT			
736-6200	736-6301	RR-1248	15	92.60
736-6203	736-6311	RR-1249	18	101.25

Classic II Portable Cabinets

Whether used independently or as a companion to the Classic II cabinet rack, the design of this distinctive cabinet harmonizes perfectly with the most sophisticated systems. While it's portable, it is equally effective for permanent installations. **Design Features:** Top, bottom and side panels .060 aluminum. Frame, 6063-T5 aluminum extrusions. Accommodates 19" panels. Doors and panels not included but are available. 1/8" aluminum alloy doors attach to mounting rails. Black thermoplastic flush-type latch. **Bonus Features:** Recessed brushed chrome handles are attached to two steel flanges extending the length of the cabinet. This added support assures carrying safety. Two 16 gauge steel vertically adjustable chassis supports included. Shipped completely assembled. Finishes: Royal Blue (RB) or Gray Textured (GT)).



Telecom/Open Relay Racks

Ideal for installations where easy access to components is a top priority. Each built for years of solid, trouble-free service, as well as obvious ease of service where frequency attention is desired (i.e. telephone switching systems, etc.)

RR-1263 Series

Design Features: Exceptionally strong structure made up of chassis-type base and supporting angles. Uprights, 7/8"; steel channels, 3" deep; top plate, 1 1/8" x 3 1/8". Rails tapped 10-32 on E.I.A. universal spacing. Base is 19 3/8" x 22" and drilled for RC-7758 casters. Shipped knocked down. Finishes: Metallic gray (MG) and black textured (BT).



Stock No.		Mfr.'s Type	Panel Space Inches	Overall H x W Inches	Wt. Lbs.	EACH
BT	MG					
736-6350	736-6352	RR-1363	36 3/4" x 19"	40 7/8" x 19 7/8"	36	151.25
736-6330	736-6332	RR-1264	66 1/2" x 19"	70 3/8" x 19 7/8"	46	170.70
736-6360	736-6362	RR-1364	71 3/4" x 19"	75 7/8" x 19 7/8"	48	174.40
736-6370	736-6372	RR-1366	77" x 19"	81 1/8" x 19 7/8"	49	178.30

Deluxe Relay Racks

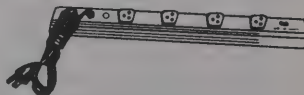
Versatile, economical enclosures house a wide range of electronic equipment and control system. **Design Features:** Well-ventilated racks take 19" panels. Rear door has two black thermoplastic catches. If casters are required, specify RC-7758. Top, bottom, sides and rear door, 16 gauge steel. Shipped knocked down. **Bonus Features:** Contoured front vertical members include 7/8" panel mounting supports drilled and tapped 10-32 on E.I.A. universal spacing. Finishes: Royal blue textured (RB) and metallic gray (MG).



Stock No.		Mfr.'s Type	Panel Space	Height	Width	Depth	Wt. Lbs.	EACH
RB	MG							
736Q3190	736Q3191	CR-1774	36 3/4" x 19"	42 1/8"	22"	17 1/8"	78	405.05
736Q3184	736Q3182	CR-1771	42" x 19"	47 3/8"	22"	17 1/8"	85	433.65
736Q3194	736Q3192	CR-1772	61 1/4" x 19"	66 9/16"	22"	17 1/8"	111	509.85
736Q3224	736Q3222	CR-1780	70" x 19"	75 5/16"	22"	17 1/8"	121	594.25
736Q3198	736Q3199	CR-1773	77" x 19"	82 9/16"	22"	17 1/8"	130	607.00
736Q3203	736Q3204	CR-2074	36 3/4" x 19"	42 1/8"	22"	22 1/8"	91	478.60
736Q3205	736Q3206	CR-2071	42" x 19"	47 3/8"	22"	22 1/8"	101	498.30
736Q3207	736Q3208	CR-2072	61 1/4" x 19"	66 9/16"	22"	22 1/8"	130	603.70
736Q3262	736Q3264	CR-2075	70" x 19"	75 5/16"	22"	22 1/8"	142	658.85
736Q3211	736Q3212	CR-2073	77" x 19"	82 9/16"	22"	22 1/8"	151	716.10

Power Outlet Strips

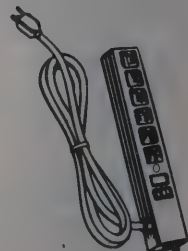
Power outlet strips can be used in cabinets, on walls or along work or test benches. Silver gray housings; no loose wires can come into contact with conductor wires. Strips snap into adjustable mounting clips. Grounding type 15 amp, 125 volt receptacles 15 amp thermal-type circuit breaker with reset. All have 14 gauge 3 wire power cord. All have 6 ft. cords. All components U.L. approved.



Stock No.	Mfr.'s Type	Number of Outlets	Length	Wt. Lbs.	EACH
736-1009	POS-4	4	17 1/2"	2	76.90
736-1010	POS-6	6	12 1/4"	1 3/4	54.20
736-1012	POS-7	7	48"	3 1/2	77.00
736-1013	POS-9	9	60"	4 1/4	88.20
736-1014	POS-11	11	72"	4 3/4	92.25

Surge Suppressor

Provides protection to data or word processing equipment and other sensitive electrical equipment from sudden "spikes" or high energy voltage. Prevents equipment damage, lost or distorted data. Clamps transient impulses in 5 Nanoseconds. Maximum "spike" current 1300 amps. 15 amp thermal type, circuit breaker with reset. 14 gauge, 3 wire, 6 foot power cord, all components U.L. approved. Note: New models available.



Stock No.	Mfr.'s Type	Number of Outlets	Length	Wt. Lbs.	EACH
736-1011	POS-66	6	12 1/4"	1 3/4	74.30



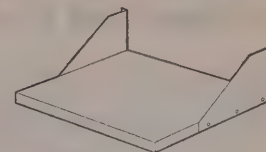
Open Relay Racks

Design Features: Six, seven and nine foot heights. Choice of 19" or 23" panel widths. Panel mounting holes tapped #12-24 on EIA universal spacing. Mounting holes located on both front and rear flanges. **Base Angle:** $\frac{1}{4} \times 3\frac{1}{2} \times 6$. **Top Angle:** $\frac{3}{16} \times 2 \times 2$.

Aluminum (Mill Finish)

Stock No.	Mfr.'s Type	Panel Space	Height	EACH
736-1293	ARR-1271-NF	19"	72 $\frac{1}{4}$ "	279.67
736-1294	ARR-1272-NF	19"	84 $\frac{1}{4}$ "	195.05
736-1295	ARR-1273-NF	19"	108 $\frac{1}{2}$ "	231.40
736-1299	ARR-1293-NF	23"	72 $\frac{1}{4}$ "	211.90
736-1200	ARR-1294-NF	23"	84 $\frac{1}{4}$ "	221.70
736-1201	ARR-1295-NF	23"	108 $\frac{1}{2}$ "	239.40

Relay Rack Shelves



Stock No.	Mfr.'s Type*	Fits Rack Width	Depth	EACH
736-1278	SA-1278-MG	19"	16"	80.40
736-1279	SA-1279-MG	19"	20"	86.60

*MG = Metallic Gray.

Datacom Cabinet Assembly

The Bud DC-8002-S Datacom Cabinet Consists of:

- ER-16615: Economizer Cabinet Rack, Louvered Side Panels and Rear Door, Ventilated Top Suitable for FM-1282, Exhaust Fan, Cable Access In Bottom
- Installed V-9066-L Locking Plexiglas Front Door
- Installed Extra Pair of PMR-9453 Panel Mounting Rails
- Included Two SH-2385-BT Ventilated Shelves
- Other Sizes and Colors Available Upon Request
- -S Is for Sand Texture

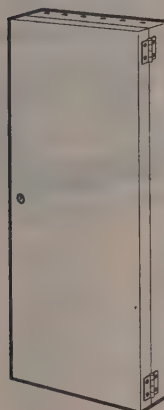
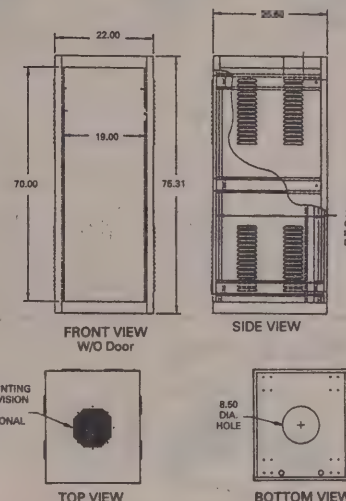
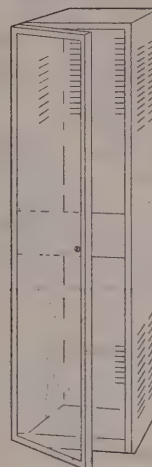
Datacom Cabinet Assembly

736Q8002. DC-8002-S. 19" x 70" Panel Size, 22"W x 75.31"H x 25.50"DEACH 1312.45

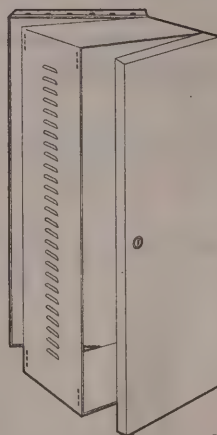
Optional Accessories

736-2381. 60-2381. Stationary Shelf, Non-Vented Black	EACH	49.70
736-2385. SH-2385. Stationary Shelf, Vented	EACH	51.40
736-2389. SH-2389. Sliding Shelf, Non-Vented	EACH	98.25
736-2393. SH-2393. Sliding Shelf, Vented	EACH	99.80
736-4402. POS-9-S. Power Outlet Strip, Surge Suppressed	EACH	104.65
736-1932. POS-193-S. Rackmount Power Outlet Strip, Surge Suppressed	EACH	129.90
736-2398. GB-2238. Grounding Bar	EACH	103.55
736-2399. FN-1282. 10" Exhaust Fan	EACH	115.75
736-6001. RC-7758. Casters, Swivel	EACH	13.50
736-7761. RC-7761. Caster, Swivel, Locking	EACH	31.70
736-7762. RC-7762. Caster, Swivel, Non-Locking	EACH	27.50
736-2400. RL-7770. Leveler Kit	EACH	37.65

— NEW —



Style A



Style B

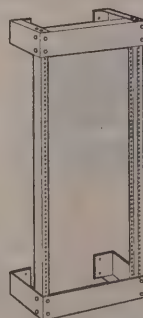
Wall Mount Cabinets

- Welded Heavy Duty 16-Gauge Steel Construction
- Integral 19" EIA Panel Mounting Rails in Both the Rear and Center Sections
- Six Knockouts in Both the Top and Bottom of the Rear Section Provide Access for Cabling
- Lockable Front Door for Security
- Durable Black Texture Powder Coat Finish Is Standard
- Available in Both Two Section (Style A) and Three Section (Style B) Versions; The Three Section Cabinets Have a Ventilated Swing Frame Center Section
- Removable Hinges Allow for Both Left Hand and Right Hand Applications

Stock No.	Mfr.'s Type	Style	Panel Space	Overall Height	A	EACH
736Q3800	WM-5402	A	21"	24.00"	—	218.40
736Q3805	WM-5404	A	45"	48.50"	—	293.20
736Q3810	WM-5412	B	21"	24.00"	11.00"	340.25
736Q3815	WM-5414	B	45"	48.50"	11.00"	352.60
736Q3820	WM-5422	B	21"	24.00"	16.00"	422.75
736Q3825	WM-5424	B	45"	48.50"	16.00"	443.60

Wall Mount Relay Rack

These racks provide open relay and distribution rack provisions when floor mounting space is not available. They feature 19" wide panel space, with mounting holes tapped with #12-24 thread on EIA universal spacing on both front and rear flanges, and are constructed of standard natural finish aluminum with heavy gauge aluminum wall mounting brackets. Includes all assembly and panel mounting hardware except for wall attachment fasteners.

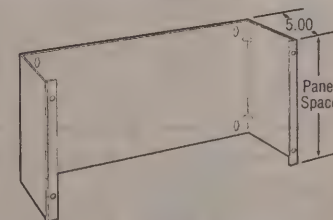


Stock No.	Mfr.'s Type	Panel Space	Depth	Weight	EACH
736-3830	WRR-1233	31 $\frac{1}{2}$ " x 19"	8"	25 lbs.	187.35
736-3835	WRR-1243	70" x 19"	8"	35 lbs.	248.25

Hinged Patch Panel Brackets

- Wall or 19" Rack Mountable
- Heavy Duty 16-Gauge Steel Construction
- Welded-On Heavy Duty Hinge
- Black Texture Finish Is Standard

These wall or rack mounted brackets accommodate all popular patch panel sizes and allow ready access to the rear of the panel.



Stock No.	Mfr.'s Type	Panel Space	EACH
736-3840	HWB-1790	3.50"	29.00
736-3845	HWB-1791	5.25"	34.60
736-3850	HWB-1792	7.00"	38.70
736-3855	HWB-1793	8.75"	41.50
736-3860	HWB-1794	10.50"	49.40
736-3865	HWB-1795	12.25"	53.60

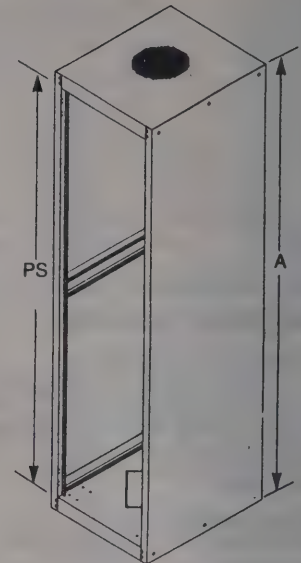
LPR Series — Low Priced Rack

— NEW —

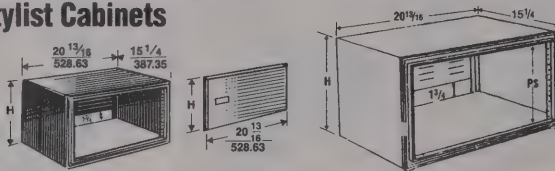
Design Features. Shipped ready-to-assemble complete with 16 gauge top and bottom, 18 gauge sides, assembly hardware and other features as described below. Integral, full height panel mounting rails with EIA Universal Spaced Mounting Holes. Recessed 1.00" at front of cabinet only. Welded-in support rails for optional adjustable panel mounting rails. Large 10" square and standard 1.109" knockouts in bottom for cable access. Bottom pierced for RC-7755 Casters or RL-7770 Leveler Kit. Top is ventilated and pierced to accept FN-1282 Exhaust Fan. Easily assembled with standard phillips screwdriver in minutes. **Accessories.** Basic rack accepts many optional accessories including standard Economizer Cabinet Rack doors (mounted front or rear.) When used with optional adjustable panel mounting rails, rack accepts all other standard BUD accessories. **Materials:** 16 gauge steel base and top; 18 gauge steel sides; 16 gauge steel support rails. **Finish:** Texture Paint — Royal Blue (RB) and Sand (S); Available in other BUD textured finishes at no additional cost. **Shipping:** Shipped knockdown in one carton.

Stock No.		Mfr.'s Type	Panel Space (PS) (In.)	Outside Height (A) (In.)	EACH
RB	S				
736-9033	736-9034	LPR-8212	42.00	47.312	392.60
736-9035	736-9036	LPR-8213	52.50	57.812	435.45
736-9037	736-9038	LPR-8214	61.25	66.562	461.55
736-9039	736-9040	LPR-8215	70.00	75.312	490.55
736-9041	736-9042	LPR-8216	78.75	84.062	524.25

Fits Rack	Optional Mounting Rails			Optional Steel Door				Optional Econoglass Door with Key Lock		
	Stock No.	Mfr.'s Type	PER PAIR	Stock No.		Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
				RB	S					
LPR-8212	736-9605	PMR-9450	58.10	736-9043	736-9610	ER-16532	144.30	736-9048	V-9763-L	129.30
LPR-8213	736-9606	PMR-9451	64.40	736-9044	736-9611	ER-16533	154.60	736-9049	V-9764-L	148.70
LPR-8214	736-9607	PMR-9452	71.95	736-9045	736-9612	ER-16534	174.80	736-9050	V-9765-L	176.85
LPR-8215	736-9608	PMR-9453	78.75	736-9046	736-9613	ER-16535	184.75	736-9051	V-9766-L	194.45
LPR-8216	736-9609	PMR-9454	83.45	736-9047	736-9614	ER-16536	191.30	736-9052	V-9767-L	215.45



The Stylist Cabinets



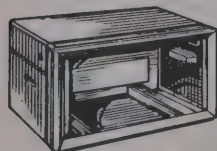
Heavy-Load-Bearing Cabinets
Decorative aluminum extrusion trim with black insert frames the front of the cleanly designed cabinet. Square corners enhance the unit's contemporary styling and, in turn, enhance the appearance and marketability of your product. **Design Features.** 16 gauge steel. Rear fitted with louvered panel; 13 1/4" high opening for cable access. Front and rear openings accept 19" panels or Stylist doors. Self-adhesive feet furnished. **Bonus Features.** Full-width box flanges at top and bottom eliminate tilt and sway even when unit is loaded to its full 500-pound capacity. Cold-rolled steel structure is self supporting, no internal framework. Bustle-type door allows placement of panel behind door for meters, knobs, etc. **Finishes:** Royal blue textured (RB) or gray textured (GT).

Cabinets

Stock No.		Mfr.'s Type	Overall Height (H) (In.)	Panel Space (PS) (In.)	Wt. (Lbs.)	EACH
GT	RB					
736Q6401	736Q6402	S-1639	7 1/16	5 1/4	23	174.10
736Q6400	736Q6405	S-1640	8 13/16	7	26 3/4	181.20
736Q6410	736Q6415	S-1641	10 9/16	8 3/4	29	192.00
736Q6420	736Q6425	S-1642	12 5/16	10 1/2	31	197.80
736Q6428	736Q6430	S-1643	14 1/16	12 1/4	33	210.45
736Q6433	736Q6435	S-1644	15 13/16	14	35 1/4	215.75
736Q6440	736Q6445	S-1645	17 9/16	15 3/4	37 1/4	226.85

Doors

Stock No.		Mfr.'s Type	Height (In.)	Wt. (Lbs.)	Fits Cabinet	EACH
GT	RB					
736-7031	736-7032	SD-539	5 1/4	3 1/2	S-1639	52.50
736-7030	736-7035	SD-540	7	4 3/4	S-1640	54.00
736-7040	736-7045	SD-541	8 3/4	5 1/2	S-1641	58.10
736-7050	736-7055	SD-542	10 1/2	6 1/4	S-1642	60.60
736-7058	736-7060	SD-543	12 1/4	7	S-1643	62.20
736-7063	736-7065	SD-544	14	7 3/4	S-1644	66.40
736-7070	736-7075	SD-545	15 3/4	8 1/2	S-1645	70.60



Streamlined Prestige Cabinets

Design Features. 16 gauge steel. Accommodates 19" panels. Two safety-shielded handle slots. Mounting rails tapped 10-32 on EIA universal spacing. **Bonus Features.** Supporting rails adjusted laterally to accept various width chassis. Available with solid or perforated hinged cover; gridded fingerholes for lifting. **Finish:** Metallic gray (MG).

Stock No.	Mfr.'s Type	Cover	Overall Height (In.)	Panel Space (In.)	Wt. (Lbs.)	EACH
736Q2440	C-1440	Solid	9 9/16	7	24	240.25
736Q2441	C-1441	Solid	11 5/16	8 1/4	26	237.80
736Q2442	C-1442	Solid	13 1/16	10 1/2	28	243.70

Sloping Panel Prestige Cabinets

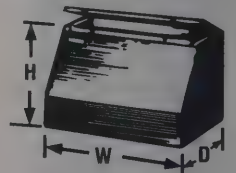
Design Features. 16 gauge steel. Safety-shielded slot handles. **Bonus Features.** Perforated hinged top opens completely. Remove 19" panels by simply removing panel trim bar. **Finish:** Metallic gray (MG).

Stock No.	Mfr.'s Type	Size H x D (In.)	EACH
736-1815	C-1557	14 25/32 x 16 1/4	208.25
736-1816	C-1555	11 29/32 x 14 3/16	183.30

Small Cabinets

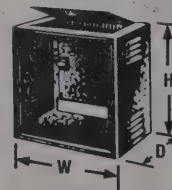
Sloping Panel Cabinets

Design Features. 9 sizes, each with removable front panel. **Bonus Features.** Hinged top opens completely for access to components mounted on chassis. **Finish:** Metallic gray (MG).



Stock No.	Mfr.'s Type	Size H x W x D (In.)	Wt. (Lbs.)	EACH
736-1855	C-1584	6 1/2 x 7 1/16 x 7 5/16	2 3/4	40.80
736-1865	C-1585	6 1/2 x 9 1/16 x 7 5/16	2 1/2	39.30
736-1875	C-1586	6 1/2 x 11 1/16 x 7 5/16	3 3/4	44.00
736-1935	C-1892	8 x 13 1/16 x 8 1/2	5 1/2	47.80
736-1945	C-1893	10 x 18 1/16 x 10 1/2	12 1/2	67.20
736-1885	C-1587	8 x 8 1/16 x 8	4	44.40
736-1895	C-1588	8 x 10 1/16 x 8	4 1/2	49.40
736-1955	C-1894	8 x 14 1/16 x 8	6	43.45
736-1965	C-1896	9 x 18 1/16 x 8 3/16	9 3/4	60.55

Cabinet Racks

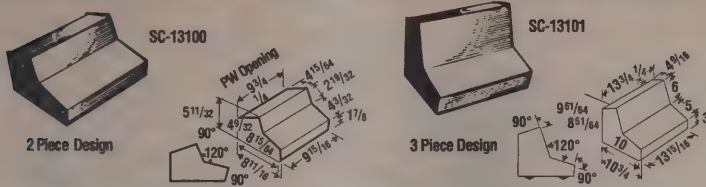


Deluxe

Design Features. All-welded 16 gauge steel construction. Front uprights are contoured. Ten sizes. All models have hinged top with sliding flush latch. Top cover clearance, 10 3/4" x 15 1/2". 19" wide panel space. Mounting rails tapped 10-32 on EIA universal spacing. **Finish:** Metallic gray (MG).

Stock No.	Mfr.'s Type	Height (In.)	Panel Space (In.)	Wt. (Lbs.)	EACH
736Q3052	CR-1726	8 13/16	7	28	140.85
736Q3132	CR-1741	10 9/16	8 3/4	30	154.70
736Q3122	CR-1740	12 5/16	10 1/2	34	159.15
736Q3142	CR-1742	14 1/16	12 1/4	37	170.95
736Q3112	CR-1739	15 13/16	14	40	215.90
736Q3152	CR-1743	19 5/16	17 1/2	47	227.30
736Q3062	CR-1727	22 13/16	21	51	243.85

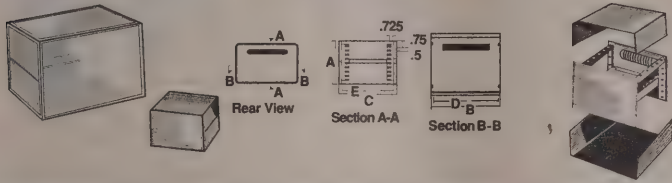
Compucab Series Small Cabinets



Another best-seller from Bud and for good reason. These standard dual-slope enclosures have that custom-designed keyboard styling and, equally important, they can be used for a variety of instruments. **Design Features:** Base and side, .090 aluminum; back panel and cover, .050 aluminum; rubber feet furnished; two configurations. **Shipping Weight:** SC-13100, 3 lbs. 4 oz.; SC-13101, 7 lbs. **Bonus Feature:** Maximum visibility, no exposed screws on front panel area. Knockouts in lowered rear panel. **Finish:** Base, black textured (BT), cover, smooth white.

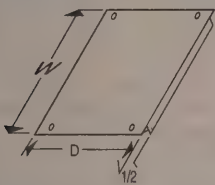
Stock No.	Mfr.'s Type	Dimensions in Inches						EACH	
		A	B	C	PW	PH	PD	1-14	15-25
736-7025	SC-13100	5 ¹¹ / ₁₆	10	8 ¹¹ / ₁₆	9 ³ / ₄	1 ⁷ / ₈	4 ³ / ₃₂	58.55	52.70
736-7026	SC-13101	9 ⁸¹ / ₆₄	14	10 ³ / ₄	13 ³ / ₄	3	5	67.05	60.35

Champion Series Desktop Cases



Design Features: Top, bottom, front and rear panels, .050 aluminum. Ventilation slots in bottom and rear panel. Easily assembled with eight self-threading screws. No screws on front or rear panels. Designed to allow for maximum interior space. Removable top and bottom provide easy access to components. Four self-adhesive rubber feet provided. **Finishes:** Two color combinations — Sand textured (S) or black textured (BT) top and bottom, both with smooth white front and rear panels.

Stock No.		Mfr.'s Type	Ht. A	Wth. B	Dth. C	Clear Inside Width D	Clear Inside Depth E	Wt. (Lbs.)	EACH	
Sand Texture	Black Texture								1-5	6-24
736-1202	736-1302	CS-11202	4"	6"	6"	5 3/8"	5 1/8"	1.5	54.80	45.75
736-1204	736-1304	CS-11204	4"	9"	8"	8 3/8"	7 1/8"	2.0	61.00	50.90
736-1206	736-1306	CS-11206	4"	12"	8"	11 3/8"	7 1/8"	2.5	64.60	53.90
736-1208	736-1308	CS-11208	6"	9"	8"	8 3/8"	7 1/8"	2.5	68.50	57.15
736-1210	736-1310	CS-11210	6"	12"	8"	11 3/8"	7 1/8"	3.0	69.70	58.15
736-1212	736-1312	CS-11212	6"	12"	10"	11 3/8"	9 1/8"	3.5	75.00	62.60
736-1214	736-1314	CS-11214	8"	9"	8"	8 3/8"	7 1/8"	3.0	73.20	61.10
736-1216	736-1316	CS-11216	8"	12"	10"	11 3/8"	9 1/8"	4.0	78.30	65.35



Chassis Kit

- Design Features**
- ▶ $1\frac{17}{32}$ " Clearance Between Chassis and Front and Rear Panels
 - ▶ Chassis May Be Moved to Front or Back by $\frac{1}{2}$ " Allowing Maximum Clearance for Components and Wire Routing
 - ▶ $\frac{1}{2}$ " Flange on Front and Rear of Chassis Provides Increased Stiffness

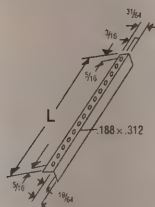
Complete with 1 chassis, 2 support angles, 8 screws, and 8 clip nuts. Made of .050 aluminum; natural finish.

Stock No.	Mfr.'s Type	Fits	Width	Depth	EACH	
					1-5	6-24
736-1242	CSC-11242	CS-11202	5 1/4"	4 1/16"	17.60	14.70
736-1244	CSC-11244	CS-11204, 08, 14	6 1/8"	4 1/16"	18.60	15.50
736-1246	CSC-11246	CS-11206, 10	11 1/4"	6 1/16"	21.00	17.50
736-1248	CSC-11248	CS-11212, 16	11 1/4"	8 1/16"	23.80	19.85

Support Angle Kit

- ### Design Features
- ▶ Support Angles Attach With Only Two Screws Per Angle
 - ▶ Component Mounting Holes Punched On 1/2" Centers
 - ▶ Angles May Be Adjusted Up and Down at 1/2" Increments
 - ▶ Support Angles, Attached to Front and Rear Panels, Allow Easy Assembly of Interior Components Before Attaching Top and Bottom.

Complete with 2 support angles, 4 screws, and 4 clip nuts. Made of .050 aluminum, natural finish.

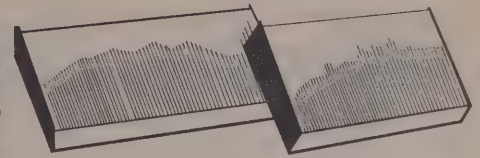


Stock No.	Mfr.'s Type	Fits	Length	PER PAIR	
				1-5	6-24
736-1262	CSA-11262	CS-11202	5 1/8"	10.60	8.85
736-1264	CSA-11264	CS-11204, 06, 08, 10, 14	7 1/8"	11.00	9.20
736-1266	CSA-11266	CS-11212, 16	9 1/8"	11.20	9.35
736-1280*	CSH-11280	—	—	3.60	3.00

*CSH-11280 is a hardware kit containing additional hardware for component mounting. Complete with (4) #6-32 x 5/16" screws and (4) #6-32 clip nuts.

Keyboard Enclosures

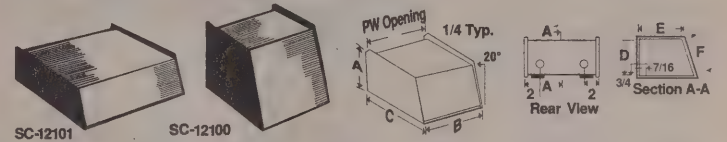
Lightweight, aluminum enclosures designed exclusively to house the most popular keyboard units available on the market today. These models have a gray textured base; .050" aluminum, white enamel finished cover; two rear knockouts; and four flat, self-adhesive black rubber feet.



Stock No.	Mfr.'s Type	Dia. Rear Knock-outs	Angle Oper. Surface	Overall Width	Overall Depth	Overall Height	Inner Front Height	Inner Depth	Inner Back Height	EACH	
										1-14	15-24
736-3200	KB-13200	1 1/8"	7°46'	71 1/2"	53 1/4"	21 5/8"	11 1/2"	5 1/2"	21 1/4"	43.20	36.05
736-3201	KB-13201	7/8"	7°40'	121 1/2"	7"	2 3/4"	11 1/2"	6 1/2"	23 5/8"	67.05	60.35
736-3202	KB-13202	7/8"	7°32'	121 1/2"	9"	3"	11 1/2"	6 1/2"	25 5/8"	81.80	73.60

Base cover attach: four 6-32 x 3/8" flat head, pozidrive, zinc-plated screws receptacles.

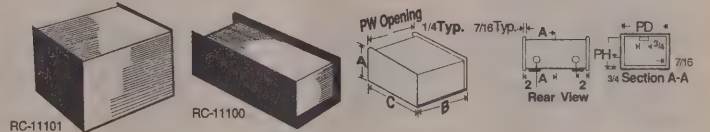
Small Cabinets/Slope Enclosures



Slope Enclosures. The clean, contemporary design of both units gives you excellent visibility of panel mounted components. **2 Piece Design:** Base, .090" aluminum; Cover, .050 aluminum. Rubber feet furnished. **Shipping Weight:** SC-12100, 1 lb. 4 oz.; SC-12101, 3 lbs. 8 oz. **Finish:** Base, black textured (BT), cover, smooth white.

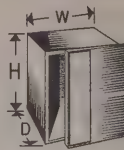
Stock No.	Mfr.'s Type	Dimensions in inches							EACH	
		A	B	C	PW	D	E	F	1-3	4-14
736-7000	SC-12100	4 1/4	4 15/16	5"	4 3/4	3 7/8	3 1/16	4 1/8	34.50	28.80
736-7001	SC-12101	3 1/4	11 15/16	10"	11 3/4	2 7/8	8 7/16	3 1/16	54.30	48.85

Linear Enclosures



Design practicality, plus sound styling equals an effective housing for your sub-systems and instrumentation. **2 Piece Design:** Base, .090" aluminum; 1 piece cover, .050 aluminum. Rubber feet furnished. **Shipping Weight:** RC-11100, 2 lbs.; RC-11101, 6 lbs. **Finish:** Base, black textured (BT); cover, smooth white.

Stock No.	Mfr.'s Type	Dimensions in Inches						EACH	
		A	B	C	PW	PH	PD	1-5	6-24
736-6024	RC-11100	3 1/4	4 15/16	10	4 3/4	2 7/8	9 1/2	42.10	35.15
736-6025	RC-11101	8	11 15/16	10	11 3/4	7 5/8	9 1/2	77.25	69.55



Metal Utility Cabinets

General-purpose cabinets for small area housings. Two removable panels, both front and rear, provide easy access to inside. Steel cabinets in Smooth Gray (SG) finish; aluminum cabinets in Natural Aluminum (NA) or Smooth Gray (SG) finish.

Steel

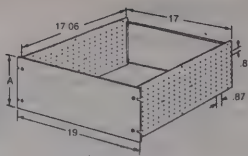
Stock No. (SG)	Mfr.'s Type	Sizes Inches H x W x D	Wt. Lbs.	EACH		
				1-5	6-49	50-99
736-3625	CU-883	4 x 4 x 2	3/4	11.80	9.85	8.85
736-3614	CU-728	4 x 5 x 3	1	12.00	10.05	9.05
736-3616	CU-729	5 x 6 x 4	1 3/4	15.30	12.75	11.50
736-3627	CU-1098	6 x 6 x 6	2 1/4	23.50	19.60	17.65
736-3630	CU-1099	9 x 6 x 5	3	25.40	21.20	19.10
736-3618	CU-879	10 x 8 x 7	3 1/4	38.40	32.05	28.85
736-3620	CU-880	10 x 10 x 8	6 1/4	49.50	41.35	37.20
736-3631	CU-1124	12 x 7 x 6	5	38.30	32.00	28.80
736-3622	CU-881	12 x 11 x 8	8 1/2	53.20	44.45	40.00
736-3624	CU-882	15 x 9 x 7	8 1/4	54.70	45.70	41.15

Aluminum

Mr.'s Type	Size Inches H x W x D	Stock No. (NA)	EACH			Stock No. (SG)	EACH		
			1-5	6-49	50-99		1-5	6-49	50-99
AU-1083	4 x 4 x 2	736-1008	9.90	8.25	7.45	—	13.90	11.60	10.45
AU-1028	4 x 5 x 3	736-1000	11.00	9.20	8.30	736-1001	16.60	13.80	12.40
AU-1029	5 x 6 x 4	736-1002	12.30	10.25	9.25	736-1003	19.40	16.20	14.60
AU-1039	6 x 6 x 6	736-1004	19.10	15.95	14.35	—	29.00	24.25	21.85
AU-1040	9 x 6 x 5	736-1006	21.10	17.60	15.85	736-1007	31.20	26.05	23.45

Rak•Mount Chassis

- ▶ Front Panels: 1/8" Thick Mill Finish Aluminum With "Surface Shield" Protection
- ▶ Side and Rear Panels: .090" Aluminum
- ▶ Finish: Natural; Other Finishes Available On Request
- ▶ Shipped Unassembled With All Necessary Assembly Hardware



Side Panel mounting holes are punched on 7/8" grid to allow total flexibility in mounting of components. Rear Panel is fully adjustable from front to rear. Standard 19" Front Panels feature "Surface Shield" protection which provides surface for laying out drilling and punching protection which provides surface for laying out drilling and punching positions. **Optional Accessories.** Internal Chassis — .090" aluminum, natural finish. Can be mounted vertically or horizontally. Handles — chrome plated steel. Solid top or bottom cover — .050" aluminum, natural finish. Can also be used on bottom as full depth chassis for mounting components. Ventilated top or bottom cover — .050" aluminum, natural finish, 1/8" x 3/4" slots for maximum ventilation. Slides — two-piece slide, 20" long with 15" travel. Friction disconnect allows removal of chassis from cabinet or rack. Supplied in pairs, order mounting brackets separately.

Stock No.	Mfr.'s Type	Height (A) (In.)	EACH
736-4212	RM-14212	5 1/4	52.55
736-4213	RM-14213	7	57.40
736-4214	RM-14214	8 3/4	68.90
736-4215	RM-14215	10 1/2	15.90

Optional Accessories

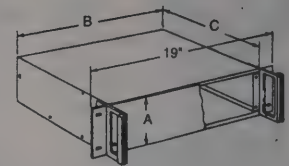
Fits Chassis	Internal Chassis			Handles		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	PER PAIR
RM-14212	736-4242	C-14242	17.70	736-4360	H-9160-B*	8.60
RM-14213	736-1424	C-14243	20.60	736-4311	H-9111	13.60
RM-14214	736-4244	C-14244	23.60	736-4312	H-9112	17.50
RM-14215	736-4245	C-14245	26.50	736-4313	H-9113	20.20

*Sold each not per pair.

736-1425, TBC-14252. Solid Top or Bottom Cover.....	EACH 28.70
736-1426, TBC-14262. Ventilated Top or Bottom Cover.....	EACH 32.10
736-0922, AS-5002-A. Slides (Pair).....	PER PAIR 44.35
736-5104, BAS-5104. Slide Brackets 4 Required.....	EACH 7.90

"Valu/Line" Series

Combines innovative engineering techniques with styling that is both classic and contemporary. Priced surprisingly low. May be used as an independent enclosure or in a standard EIA 19" cabinet rack. Adhesive paper protective covering of the .090" brushed aluminum panels provides an excellent surface for indicating position when drilling or punching panel areas. Base, rear and top are .050" aluminum with smooth white enamel finish. Sides are .090" aluminum with white textured enamel. Unassembled unit includes two separate detachable rack mounting brackets and rubber feet.



Stock No.	Mfr.'s Type	Dimensions (In.)			EACH	
		A	B	C	1-9	10-14
736-4451	HC-14101	3 1/2	17	13	153.10	137.80
736-4453	HC-14103	5 1/4	17	13	157.85	142.05
736-4454	HC-14104	7	17	13	165.65	149.10
736Q4455	HC-14105	8 3/4	17	13	173.70	156.35
736Q4456	HC-14106	10 1/2	17	13	181.65	163.50
736-4457	HC-14107	10 1/2	17	15	194.20	174.80
736Q4458	HC-14108	15	17	12 1/4	217.30	195.55
736Q4459	HC-14109	15	17	14	229.10	206.20

Bails

Stock No.	Mfr.'s Type	Width (In.)	EACH	
			1-9	10-24
736-1422	BC-14210	10	13.00	10.85
736-1423	BC-14215	15 1/2	15.90	13.30

Shelves

Desk Top Drawer

Type DD-2363. Front panel height, 3 1/2". Hinged panel top is plastic laminate bonded to aluminum. Front panel latch locks and releases drawer and top. Mount to "U" braces in cabinet. **Panel Finishes:** White textured (WH) and Metallic Gray (MG). Specify color suffix when ordering. **Size Inside:** 16 1/8" x 3" x 14 1/8". **Weight:** 19 lbs.

736Q9008, DD-2363, WH, 1-2.....	EACH 225.70
3-4.....	EACH 210.65
5-Up.....	EACH 188.05
736Q9019, DD-2363, MG, 1-2.....	EACH 225.70
3-4.....	EACH 210.65
5-Up.....	EACH 188.05

Sliding Desk Tops

Type DD-2361. 19" panel space and 15 1/8" x 17 3/8" inside. Working Area, 11" x 17 3/8". Formica surface. **Panel Finishes:** White textured (WH) and Metallic Gray (MG). Specify color suffix when ordering. **Weight:** 9 1/4 lbs.

736Q9009, 60-2361, WH, 1-2.....	EACH 114.20
3-4.....	EACH 106.55
5-Up.....	EACH 95.10
736Q9006, 60-2361, MG, 1-2.....	EACH 114.20
3-4.....	EACH 106.55
5-Up.....	EACH 95.10

Shelf Assembly

19" panel space. Can be attached over panel; mounting brackets slip into slides. Shelf, 16 gauge steel; supports, 1/8" steel. **Height:** 7 1/8". **Finishes:** Gray textured (GT) and Royal Blue (RB).

Stock No.		Mfr.'s Type	Width (In.)	Depth (In.)	Weight (Lbs.)	EACH
GT	RB					
736-6565	736-6560	SA-1719	22	16	13 1/4	74.55
736-6575	736-6570	SA-1720	22	20	15 1/4	75.25

Adjustable Slide Drawer

Type D-1721. 19" panel space. **Front Panel:** 8 3/4" high. Slide mechanism adjusts from 16 1/2" to 24 1/4"; can be installed in cabinet with depth up to 25 1/2". **Size Inside:** 16 3/8" x 6 3/8" x 16 1/8". **Finishes:** White textured (WH) and Metallic Gray (MG). Specify color suffix when ordering. **Weight:** 19 1/2 lbs.

736Q9010, D-1721, WH, 1-9.....	EACH 180.90
10-14.....	EACH 162.80
15-Up.....	EACH 144.70
736Q9100, D-1721, MG, 1-9.....	EACH 180.90
10-14.....	EACH 162.80
15-Up.....	EACH 144.70

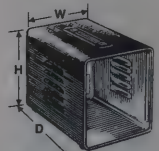
Drawer

Type DD-2368. Slides out 16". 18 gauge steel with 11 gauge panel, brackets. **Size inside:** 16 1/8" x 6 5/8" x 19 1/8". 8 3/4" panel space. **Panel Finishes:** White textured (WH) and Metallic Gray (MG). Specify color suffix when ordering. **Weight:** 24 1/2 lbs.

736Q9011, DD-2368, WH, 1-2.....	EACH 199.65
3-4.....	EACH 186.35
5-Up.....	EACH 166.35
736Q9060, DD-2368, MG, 1-2.....	EACH 199.65
3-4.....	EACH 186.35
5-Up.....	EACH 166.35

Portacabs

Design Features. .050" aluminum. Front panel recessed 1/2" and fits contour of cabinet. Louvered sides. Welded back has opening. Four plastic feet furnished. **Bonus Features.** Designed for bench or portable use. Light weight, yet strong. Reinforced flexible metal handle recessed to permit stacking. **Finish:** Metallic Gray (MG).



Stock No.	Mfr.'s Type	Depth (In.)	Width (In.)	Height (In.)	Recommended Bud Chassis (In.)	Panel Space (In.)	Rear Opening (In.)	Louvers Per Side	EACH
736-8210	WA-1540	8	6 1/8	8	AC-402 5 x 7 x 2	5 59/64 x 7 51/64	2 x 4 1/2	1 Set	54.75
736-8215	WA-1541	12	8 3/8	9	AC-407 7 x 11 x 2	7 59/64 x 8 51/64	2 x 6 1/2	2 Sets	75.55
736-8220	WA-1542	8	10 3/8	8	AC-406 7 x 9 x 2	9 59/64 x 7 51/64	2 x 8 1/2	1 Set	64.35
736-8225	WA-1543	18	11 1/8	11	AC-416 10 x 17 x 3	10 59/64 x 10 51/64	2 x 9 1/2	3 Sets	103.15
736-8230	WA-1544	18	14 1/8	12	AC-420 13 x 17 x 3	13 59/64 x 11 51/64	2 x 12 1/2	3 Sets	125.45

Sliding Shelves

Description. 16 gauge steel. Flanged on all 4 sides for added support. Black texture finish. Models to fit 19" and 24" panel widths, available in ventilated and non-ventilated versions (ventilated have 20% open area). Hardware supplied.

Non-Ventilated Shelves

Stock No.	Mfr.'s Type	Cabinet Racks		Shelves				EACH
		Panel Width (In.)	Max. Clear Inside Depth (In.)	Width (In.)	Depth (In.)	Load Rating	Travel (In.)	
736-2387	SH-2387	19	17	17	14 1/4	140	9	87.75
736-2388	SH-2388	19	20 1/2	17	17 3/4	128	12	93.15
736-2389	SH-2389	19	24	17	21 1/4	92	15	98.25
736-2390	SH-2390	19	29 1/4	17	26 1/2	70	19	105.05
736-2467	SH-2467	24	17	22	14 1/4	140	9	95.70
736-2468	SH-2468	24	20 1/2	22	17 3/4	128	12	101.40
736-2469	SH-2469	24	24	22	21 1/4	92	15	107.00
736-2490	SH-2490	24	29 1/4	22	26 1/2	70	19	114.30

Ventilated Shelves

736-2391	SH-2391	19	17	17	14 1/4	140	9	89.10
736-2392	SH-2392	19	20 1/2	17	17 3/4	128	12	94.55
736-2393	SH-2393	19	24	17	21 1/4	92	15	99.80
736-2394	SH-2394	19	29 1/4	17	26 1/2	70	19	106.80
736-2491	SH-2491	24	17	22	14 1/4	140	9	97.50
736-2492	SH-2492	24	20 1/2	22	17 3/4	128	12	103.35
736-2493	SH-2493	24	24	22	21 1/4	92	15	108.80
736-2494	SH-2494	24	29 1/4	22	26 1/2	70	19	116.40

Stationary Shelves

Description. 16 gauge steel. Supports 200 lbs. Flanged front and rear for added support. Black texture finish. Models to fit 19" and 24" panel widths, available in ventilated and non-ventilated versions (ventilated have 20% open area). Hardware supplied.

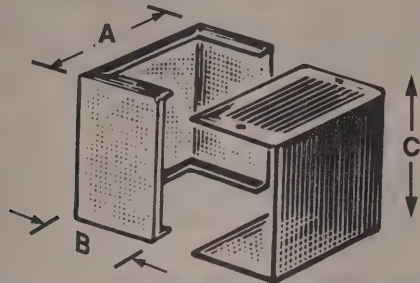
Non-Ventilated Shelves

Stock No.	Mfr.'s Type	Cabinet Racks		Shelves		EACH
		Panel Width (In.)	Max. Clear Inside Depth (In.)	Width (In.)	Depth (In.)	
736-2379	SH-2379	19	17	17 29/32	14 1/4	45.40
736-2380	60-2380	19	20 1/2	17 1/8	19 1/4	47.35
736-2381	60-2381	19	24	17 1/8	21 1/4	49.70
736-2382	SH-2382	19	29 1/4	17 29/32	26 1/2	53.30
736-2479	SH-2479	24	17	22 29/32	14 1/4	53.00
736-2480	SH-2480	24	20 1/2	22 29/32	17 3/4	55.30
736-2481	SH-2481	24	24	22 29/32	21 1/4	57.55
736-2482	SH-2482	24	29 1/4	22 29/32	26 1/2	61.75

Ventilated Shelves

736-2383	SH-2383	19	17	17 29/32	14 1/4	47.35
736-2384	SH-2384	19	20 1/2	17 29/32	17 3/4	49.60
736-2385	SH-2385	19	24	17 29/32	21 1/4	51.40
736-2386	SH-2386	19	29 1/4	17 29/32	26 1/2	55.75
736-2483	SH-2483	24	17	22 29/32	14 1/4	55.60
736-2484	SH-2484	24	20 1/2	22 29/32	17 3/4	58.00
736-2485	SH-2485	24	24	22 29/32	21 1/4	60.40
736-2486	SH-2486	24	29 1/4	22 29/32	26 1/2	64.90

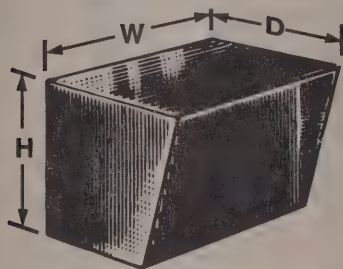
Aluminum 2-Piece Miniboxes



Self-contained units for use where shielding as well as protection from dust and dirt is desired. May be used for phono amplifiers, VHF and UHF converters, low-pass TVI filters, test and measurement units, etc. Two-piece construction permits installation of components or wiring modifications. Flanges assure low RF leakage and provide high rigidity. Choice of snap-lock fastening or screw fastening; all hardware supplied. Made of high-quality aluminum—Smooth Gray (SG) or Natural Finish (NF). Easy to cut, punch and drill.

Size In. A x C x B	Stock No. (SG)	Mfr.'s Type	EACH		Stock No. (NF)	Mfr.'s Type	EACH	
			1-5	6-99			1-5	6-99
2 3/4 x 2 1/8 x 1 5/8	736-3633	CU-2100-B	4.70	3.90	736-3651	CU-3000-A	3.10	2.60
3 1/4 x 2 1/8 x 1 5/8	736-3634	CU-2101-B	4.80	3.95	736-3652	CU-3001-A	3.60	3.00
4 x 2 1/8 x 1 5/8	736-3635	CU-2102-B	5.00	4.15	736-3653	CU-3002-A	3.90	3.25
4 x 2 1/4 x 2 1/4	736-3636	CU-2103-B	5.10	4.25	736-3654	CU-3003-A	4.20	3.50
5 x 2 1/4 x 2 1/4	736-3637	CU-2104-B	5.80	4.85	736-3655	CU-3004-A	5.00	4.15
5 x 4 x 3	736-3638	CU-2105-B	7.60	6.35	736-3656	CU-3005-A	6.50	5.40
5 1/4 x 3 x 2 1/8	736-3639	CU-2106-B	6.20	5.10	736-3657	CU-3006-A	5.10	4.20
6 x 5 x 4	736-3640	CU-2107-B	10.30	8.65	736-3658	CU-3007-A	9.20	7.70
7 x 5 x 3	736-3641	CU-2108-B	10.00	8.40	736-3659	CU-3008-A	8.30	6.95
8 x 6 x 3 1/2	736-3642	CU-2109-B	20.10	16.80	736-3660	CU-3009-A	13.00	10.85
10 x 6 x 3 1/2	736-3643	CU-2110-B	21.30	17.75	736-3661	CU-3010-A	16.40	13.65
12 x 7 x 4	736-3644	CU-2111-B	28.10	23.50	736-3662	CU-3011-A	20.80	17.35
12 x 2 1/2 x 2 1/4	736-3647	CU-2114-B	14.50	12.10	—	—	—	—

Cowl-Type Miniboxes



Projecting cover on this enclosure reduces glare on front panel from overhead light source. It also supplies protection for controls and dials. Cover has two box braces to which bottom is attached, with sheet metal screws. Made of .040 aluminum alloy. Available in either Natural Aluminum or Metallic Gray finish. See tables below.

Metal Gray

Stock No.	Mfr.'s Type	Base Dimensions H x W x D	Overall Dim. When Assembled H x W x D	EACH	
				1-5	6-99
736-6800	SC-2130	5 1/16 x 9 1/16 x 5 9/16	6 x 10 x 7	47.10	39.35
736-6901	SC-2131	6 1/16 x 11 1/16 x 5 1/16	7 x 12 x 8	55.20	45.05
736-6902	SC-2132	2 1/16 x 7 1/16 x 4	3 x 8 x 5	31.40	26.25

Natural Aluminum

Stock No.	Mfr.'s Type	Base Dimensions H x W x D	Overall Dim. When Assembled H x W x D	EACH	
				1-5	6-99
736-6904	SC-3030	5 1/16 x 9 1/16 x 5 9/16	6 x 10 x 7	29.60	24.75
736-6905	SC-3031	6 1/16 x 11 1/16 x 5 1/16	7 x 12 x 8	38.50	32.10
736-6906	SC-3032	2 1/16 x 7 1/16 x 4	3 x 8 x 5	20.50	17.10

Special Capabilities for Custom Enclosures

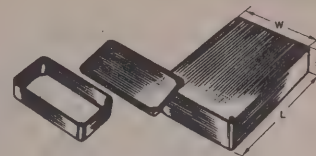
When precision products need to look their innovative best, take a look at Bud. High quality special enclosures create a distinctively functional advantage for sophisticated technical products. Bud, the best known and most preferred line of standard cabinets and enclosures for the electronics industry, has some very special fabrication capabilities that make unique products look as good as they perform.

The Bud reputation for customer service means more than quality products. From design assistance through fabrication and finishing to silk screening and engraving, Bud concentrates of the efficient, economical solution to unique application problems. Bud, the single source for factory value added, extends the industry's finest service policy through a national network of trained sales representatives and Allied. When precision products need to look their innovative best, depend on Bud.

Custom fabrication is standard at Bud. With nearly 3000 standard products in the Bud line, many times our engineers can modify a standard enclosure to meet your special needs. This can even further reduce costs and speed delivery. And, with Bud's extensive tool and die inventory, customers rarely pay tooling charges normally associated with custom fabrication.

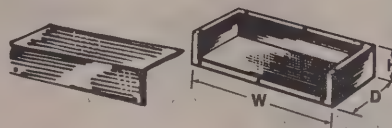
Econoboxes

Versatile die-cast utility boxes for applications requiring a sturdy structure. Especially desirable for concealed or other interior use where safety enclosure is required. Feature close-fitting flanged lids fastened to bosses in the body. The close fit of the lids and the thickness of the aluminum alloy combine to provide excellent screening properties. Cast of LM-380 aluminum.



Stock No.	Mfr.'s Type	Thickness In.	L x W x H	EACH
				1-5
736-3593	CU-123	1/16	3 5/8 x 1 1/2 x 1 7/32	8.20
736-3600	CU-124	1/16	4 3/8 x 2 3/8 x 1 7/32	8.70
736-3601	CU-234	3/32	4 11/16 x 3 11/16 x 2 7/32	13.80
736-3602	CU-247	3/32	7 3/8 x 4 11/16 x 2 7/32	23.40
736-3604	CU-347	3/32	7 3/8 x 4 11/16 x 3 3/32	27.30

Converta Boxes

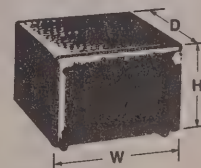


Converta Boxes made of tough 0.050 gauge aluminum with welded base and two-sided cover attached by self-tapping screws (included). Zinc plated and clear chromate. Mount sensitive components, controls to any surface of these enclosures.

Stock No.	Mfr.'s Type	Size Inches H x W x D	Wt. Lbs.	EACH	
				1-5	6-99
736-3603	CU-341-A	1 1/2 x 4 x 3	1/2	11.40	9.50
736-3605	CU-452-A	2 x 5 x 4	3/4	12.30	10.25
736-3608	CU-482-A	2 x 8 x 4	1 1/4	14.00	11.70
736-3611	CU-592-A	2 1/2 x 9 1/2 x 5	1 3/4	15.30	12.80
736-3612	CU-622-A	2 1/2 x 12 x 6	2 1/4	20.20	16.90
736-3613	CU-712-A	2 1/2 x 15 x 7	3	26.50	22.15

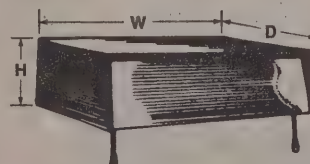
Contour Utility Cabinets

Made of 20-gauge steel. Rounded contoured corners, flanged panels have rounded corners. Rear panel is louvered. Solid front panel. Both front and rear panels attached with four 6-32 screws each. Body in Gray textured finish; panels are White textured finish providing handsome appearance. Shpg. wt.; CU-463, 1 1/2 lbs.; CU-465, 2 lbs.; CU-585, 3 lbs.; CU-587, 3 1/2 lbs.; CU-7125, 5 lbs.; CU-7127, 5 1/4 lbs.



Stock No.	Mfr.'s Type	Size Inches H x W x D	EACH
			1-5
736-3606	CU-463	4 1/4 x 6 1/4 x 3 3/4	34.80
736-3607	CU-465	4 1/4 x 6 1/4 x 5 3/4	41.40
736-3609	CU-585	5 1/4 x 8 1/4 x 5 3/4	43.50
736-3610	CU-587	5 1/4 x 8 1/4 x 7 3/4	47.70
736-3669	CU-7125	7 1/4 x 12 1/4 x 5 3/4	49.40
736-3670	CU-7127	7 1/4 x 12 1/4 x 7 3/4	53.30

Tilt-A-View Cabinets



Present selective angles of viewing for accurate reading of meters, dials and recorders. Viewpoints are obtained with the slanted front face and vertical rear face. The 2" detachable legs allow changing the position of the cabinet to a desired angle. Two-piece 18-gauge steel construction. Lower and upper portions of cabinet fastened with sheet metal screws. Gray textured cover (GT) with white textured body (WH).

Stock No.	Mfr.'s Type	Size, Ins. H x W x D	Wt. Lbs.	EACH		
				1-24	25-49	50-Up
736-7700	TV-2155	4 1/2 x 15 x 10	8	60.35	54.30	48.30
736-7701	TV-2156	6 1/2 x 16 x 12	11	71.55	64.40	57.25
736-7702	TV-2157	8 1/2 x 17 x 14	15	86.05	77.45	68.85

Panel-Mounting Chassis

Use where depth is limited or for access from front. .050" aluminum, reinforced corners, with flanges. Natural finish. Fits 19" panel space. Other sizes available on special order only.

Stock No.	Mfr.'s Type	Ht. In.	Wt. Lbs.	EACH		
				1-5	6-49	50-99
736-2277	CB-1370	1 3/4	3/4	21.50	18.00	16.20
736-2278	CB-1371	3 1/2	1 1/4	22.80	19.05	17.15
736-2279	CB-1372	5 1/4	1 1/2	28.30	23.65	21.30



Econocab

— NEW —

Low-Cost Cabinets

This new portable cabinet offers the same built-in quality as other Bud cabinets at economy pricing not found anywhere else in the industry. **Design Features.** All welded 18 gauge steel construction. Stationary panel mounting rails resulting in a 14.5" clear inside depth. Accepts standard 19" wide panels. Available in 5 panel space heights. Snap-in handles, feet and all panel mounting hardware are included. **Finish:** Standard finishes are black textured (BT) or sand textured (S). Special colors are available on request.

Stock No.		Mfr.'s Type	Height (A) (In.)	Width (B) (In.)	Depth (C) (In.)	Panel Space (PS) (In.)	Weight (Lbs.)	EACH
BT	S							
736-9012	736-9013	EC-9902	9 1/16	21 1/16	15 1/2	7	14	128.10
736-9014	736-9015	EC-9903	10 1/16	21 1/16	15 1/2	8 3/4	14 3/4	134.35
736-9016	736-9017	EC-9904	12 9/16	21 1/16	15 1/2	10 1/2	15 1/2	140.35
736-9018	736-9020	EC-9905	14 9/16	21 1/16	15 1/2	12 1/4	16 1/4	147.65
736-9021	736-9022	EC-9906	16 1/16	21 1/16	15 1/2	14	17	152.15

Small Portable Cabinets



Fig. A

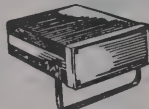


Fig. B

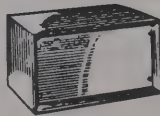


Fig. C

Fig. A. The Showcase. The design of this Bud unit makes it perfect for your portable instrumentation, yet the versatile, lightweight Showcase will do an effective job as a desktop instrument case, in systems or racks. Compounding its versatility is the fact that the Showcase comes in 10 sizes. **Design Features.** Top, sides and bottom, .050 aluminum; front panel, .090; rear panel, .050. Extruded aluminum frame. Side gussets provide added strength. Strong, flexible handle is recessed and secured firmly into top for safe handling. Ventilation slots under handle. **Bonus Features.** Use with chassis or PC boards. Front panel and chassis may be loaded from front or rear. Comes with front and rear panels and bail. **Finishes:** Two color combinations — black textured (BT) body with white frame or royal blue textured (RB) with white frame. Indicate color when ordering.

Stock No.		Mfr.'s Type	Height (In.)	Width (In.)	Depth (In.)	Panel Space (In.)		EACH
BT	RB					Front	Rear	
736-9023	736-1800	BB-1800	6 7/16	5 1/2	11	6 3/16	5 1/4	118.35
736-9024	736-1801	BB-1801	6 7/16	8 9/16	11	6 3/16	8 9/16	123.55
736-9025	736-1802	BB-1802	8 3/16	5 1/2	11	7 1/16	5 1/4	125.75
736-9026	736-1803	BB-1803	8 3/16	8 9/16	11	7 1/16	8 9/16	127.85
736-9027	736-1804	BB-1804	8 3/16	11 1/16	11	7 1/16	10 5/16	139.50
736-9028	736-1805	BB-1805	9 1/16	5 1/2	11	9 1/16	5 1/4	129.55
736-9029	736-1806	BB-1806	9 1/16	8 9/16	11	9 1/16	8 9/16	134.60
736-9030	736-1807	BB-1807	9 1/16	8 9/16	15	9 1/16	8 9/16	144.15
736-9031	736-1808	BB-1808	9 1/16	11 1/16	11	9 1/16	10 5/16	140.25
736-9032	736-1809	BB-1809	9 1/16	11 1/16	15	9 1/16	10 5/16	148.70

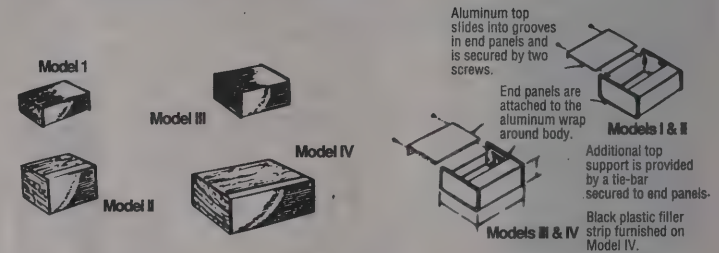
Fig. B. The TR Series. With the TR, you'll give your instrumentation a look that sets it far apart from the conventional. Its styling and versatility makes the TR ideal for your application whether it be a portable enclosure, a desk top instrument case or in systems. **Design Features.** Top and bottom, .050 aluminum; front panel, .090 aluminum. Extruded aluminum frame. Corner gussets for added support. Carrying handle may be used as tilting bail. Front panel, self-adhesive rubber feet and handle/bail included. **Bonus Features.** Since chassis is reversible, two configurations are possible with one unit. Top and bottom easily removed for access to dust-free interior. Will accommodate an accessory chassis or 1/16" thick PC boards. **Finish:** Royal Blue textured (RB) body with white frame, and bail.

Stock No.	Mfr.'s Type	Height (In.)	Width (In.)	Depth (In.)	Panel Space (In.)	EACH
736Q6100	TR-6100	3 1/2	8 5/16	10 3/4	3 1/4 x 8 3/16	161.25
736Q6101	TR-6101	5 1/4	8 5/16	13 1/4	5 x 8 3/16	172.25
736Q6102	TR-6102	7	11 1/16	13 1/4	6 3/4 x 10 5/16	197.65
736Q6103	TR-6103	8	12	18 3/4	7 3/4 x 11 3/16	239.10

Fig. C. Shadow Cabinets. Design Features. Tops, sides and bottom, 18 gauge steel panels, 16 gauge steel. Front, rear panels and bottom removable. Rubber feet furnished. **Bonus Features.** Recessed front panel and beveled edges of body provide handsome styling and, too, prevent accidental movement of controls, knobs, switches, etc. **Finish:** Metallic Gray (MG).

Stock No.	Mfr.'s Type	Overall Size (In.)			Front Panel Space (In.)	Use Bud Alum. Chassis	EACH
		Width	Height	Depth			
736-2140	SB-2140	14 1/4	8	10	12 1/16 x 9 9/16	AC-424	72.55
736-2141	SB-2141	13 1/4	7 1/2	9	11 1/16 x 6 1/16	AC-407	63.25
736-2142	SB-2142	17	9 1/2	11	15 9/16 x 8 1/16	AC-411	85.05
736-2143	SB-2143	15 1/2	6	9	14 1/16 x 4 9/16	AC-409	60.85

Contempo Series Small Cabinets



Small Cabinets

Here's a versatile line of Bud enclosures you can use for any number of applications, and their versatility is equalled by functional, modern styling. **Design Features.** Body, .062 aluminum; end panels, 9/16" molded cycloc plastic. **Bonus Features.** 22 sizes in four styles. Supplied with tie-bar, screws and four self-adhesive rubber feet. Top slides into grooves in end panels and is secured with two screws. Black plastic filler supplied on model IV only. **Finish:** The letter "B" in the prefix designates black pebble end panels with smooth gray body. The letter "W" in the prefix designates woodgrain finish on end panels and top, with smooth eggshell white body.

Contempo Series Model I

Inside Height: 2 1/8". Outside Height: 2 7/16". Inside Depth: 5 9/16". Outside Depth: 5 1/8".

Stock No.	Mfr.'s Type	Inside Width (In.)	Outside Width (In.)	Weight (Ozs.)	EACH
736-1650	JB-1650	3	4 1/8	11	22.80
736-1651	JB-1651	4 1/16	5 3/16	13	23.90
736-1652	JB-1652	5 1/16	6 3/16	15	25.00
736-1653	JB-1653	6 1/16	7 3/16	16	27.10
736-1654	JB-1654	7 1/16	8 3/16	18	30.20
736-1655	JB-1655	9 1/4	10 3/8	21	38.50
736-1700	JW-3200	3	4 1/8	11	23.70
736-1701	JW-3201	4 1/16	5 3/16	13	24.90
736-1702	JW-3202	5 1/16	6 3/16	15	26.40
736-1703	JW-3203	6 1/16	7 3/16	16	28.80
736-1704	JW-3204	7 1/16	8 3/16	18	32.50
736-1705	JW-3205	9 1/4	10 3/8	21	42.10

Contempo Series Model II

Inside Height: 3". Outside Height: 3 1/4". Inside Depth: 6 3/4". Outside Depth: 7".

736-1660	LB-1660	3 3/16	4 1/8	13	24.20
736-1661	LB-1661	4 1/16	5 3/16	14	25.00
736-1662	LB-1662	5 1/16	6 3/16	15	27.60
736-1663	LB-1663	6 1/16	7 3/16	17	32.30
736-1664	LB-1664	7 1/16	8 3/16	19	36.10
736-1665	LB-1665	9 1/16	10 3/8	24	44.80
736-1710	LW-3210	3 3/16	4 1/8	13	27.60
736-1711	LW-3211	4 1/16	5 3/16	14	28.20
736-1712	LW-3212	5 1/16	6 3/16	15	31.00
736-1713	LW-3213	6 1/16	7 3/16	17	34.80
736-1714	LW-3214	7 1/16	8 3/16	19	39.60
736-1715	LW-3215	9 1/16	10 3/8	24	47.50

Contempo Series Model III

Inside Height: 4 3/16". Outside Height: 4 7/16". Inside Depth: 6 5/16". Outside Depth: 6 9/16".

736-1670	MB-1670	4 1/4	5 3/16	16	28.40
736-1671	MB-1671	5 1/4	6 3/16	18	29.90
736-1672	MB-1672	6 1/4	7 3/16	20	33.60
736-1673	MB-1673	7 1/16	8 3/16	22	38.00
736-1674	MB-1674	9 1/16	10 3/8	27	39.80
736-1675	MB-1675	11 7/16	12 3/8	32	49.25
736-1720	MW-3220	4 1/4	5 3/16	16	34.10
736-1721	MW-3221	5 1/4	6 3/16	18	35.60
736-1722	MW-3222	6 1/4	7 3/16	20	36.60
736-1723	MW-3223	7 1/16	8 3/16	22	39.50
736-1724	MW-3224	9 1/16	10 3/8	27	47.50
736-1725	MW-3225	11 7/16	12 3/8	32	56.30

Contempo Series Model IV

Inside Height: 4 9/16". Outside Height: 4 7/16". Inside Depth: 10 1/4". Outside Depth: 10 1/2".

736-1680	DB-1680	7 5/16	8 5/16	32	48.85
736-1681	DB-1681	9 5/16	10 5/16	37	52.20
736-1682	DB-1682	11 5/16	12 5/16	44	57.05
736-1683	DB-1683	13 5/16	14 5/16	48	61.75
736-1730	DW-3230	7 5/16	8 5/16	32	54.70
736-1731	DW-3231	9 5/16	10 5/16	37	59.70
736-1732	DW-3232	11 5/16	12 5/16	44	66.05
736-1733	DW-3233	13 5/16	14 5/16	48	76.25

Plasticase

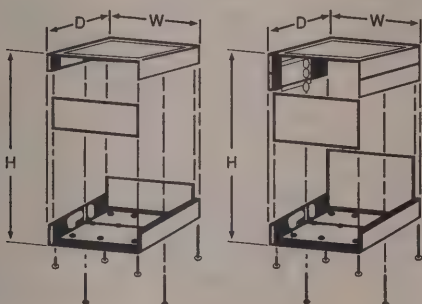
Offering 3 styles and 10 sizes of these sturdy enclosures constructed of high quality impact resistant ABS material. Molded-in card guides—Styles A and B—and mounting bosses—all styles—provide a variety of mounting options. Housing design allows complete accessibility to internal components.

Design Features for Styles A and B

- Impact Resistant ABS
- Molded-In Card Guides and Mounting Bosses
- Easy to Assemble—Comes complete with stainless steel screws and rubber feet
- Finish—Double-textured PC Bone Gray
- Shipped Assembled

Stock No.	Mfr.'s Type	Style	Height (H)	Width (W)	Depth (D)	Panel Size (.094 Thick) Height x Width	EACH	
							1-9	10-24
736-1402	PC-11402	A	1.53	5.08	5.30*	1.31 x 4.75*	12.90	10.75
736-1404	PC-11404	A	1.55	6.33	9.62	1.33 x 5.99	19.00	15.85
736-1406	PC-11406	A	2.52	6.12	6.32	2.31 x 5.75	16.50	13.75
736-1408	PC-11408	A	2.52	8.10	6.32	2.31 x 7.75	19.80	16.50
736-1410	PC-11410	B	3.30	6.12	6.32	3.09 x 5.75	20.40	17.00
736-1412	PC-11412	B	3.30	8.10	6.32	3.09 x 7.75	23.60	19.70
736-1414	PC-11414	B	4.04	6.12	6.32	3.83 x 5.75	21.50	17.95
736-1416	PC-11416	B	4.04	8.10	6.32	3.83 x 7.75	25.00	20.85

NOTE: All dimensions shown in inches. * Panel Thickness is .062.



Design Features for Style C

- Impact Resistant ABS with aluminum front and rear panels
- Internal Steel Channels provide extra strength and ease of assembly

- Formed Guide Tabs accept vertical or horizontal circuit boards
- Finish: Black with clear anodized aluminum front and rear panels
- Shipped assembled

Stock No.	Mfr.'s Type	Height (H)	Width (W)	Depth (D)	Panel Size (.047 Thick) Height x Width	EACH	
						1-9	10-24
736-1432*	PC-11432	1.61	3.54	5.71	1.42 x 3.28	20.40	17.00
736-1438†	PC-11438	4.02	9.72	8.66	3.83 x 9.46	51.40	42.90

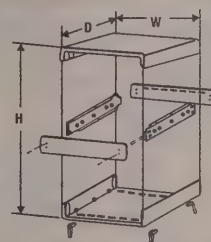
*No feet. †Folding type plastic feet supplied.

Accessories for Styles A and B

Handle/Bail Kits. Features 3 locking positions. Heavy-duty chrome plated steel. Kit includes molded ABS attachment buttons, mounting screws and over-size rubber feet.

Stock No.	Mfr.'s Type	Fits	EACH	
			1-9	10-24
736-1496	HB-11496	PC-11406, PC-11410, PC-11414	12.00	10.00
736-1498	HB-11498	PC-11408, PC-11412, PC-11416	12.90	10.75

NOTE: Handle/Bail Kits available for PC-11402 and PC-11404 on special request.



PlastiBox

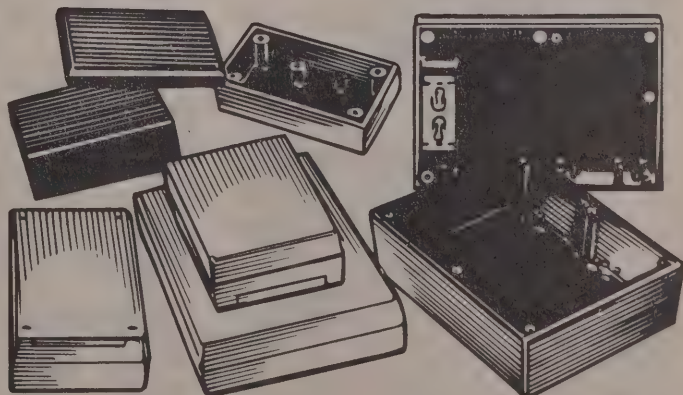
Available in 3 styles and a variety of sizes, these functional utility enclosures are made from UL rated high-impact ABS with scratch resistant finish. All PlastiBox models come with vertical card guides and are bossed for mounting horizontal circuit cards.

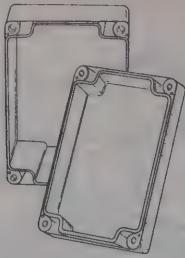
Three styles are offered to meet your specific needs:

- Textured body with smooth top for silk screening capabilities—Prefix PS
- Textured body with textured top—Prefix PT
- Textured body with smooth top and 9-volt battery compartment—Prefix PBS

Stock No.	Mfr.'s Type	Outside Length	Outside Width	Outside Height	Useable Inside Dimensions			EACH	
					Length	Width	Height	1-9	10-24
736-1101	PS-11301-G	3 5/8	2 1/4	1	3 1/4	1 7/8	3/4	5.20	4.35
736-1102	PT-11308-G	3 5/8	2 1/4	1 1/2	3 1/4	1 7/8	1 1/4	5.20	4.35
736-1103	PS-11317-G	4 3/8	3 1/4	1 1/2	4	2 3/4	1 1/4	6.50	5.40
736-1104	PBS-11319-G	4 3/8	3 1/4	1 1/2	3	2 3/4	1 1/4	7.60	6.35
736-1105	PS-11325-G	5 5/8	3 1/4	1 1/2	5 1/4	2 3/4	1 1/4	7.30	6.10
736-1106	PBS-11327-G	5 5/8	3 1/4	1 1/2	4 1/4	2 3/4	1 1/4	8.20	6.85
736-1107	PS-11333-G	6 7/8	4 7/8	1 1/2	6 1/2	4 1/2	1 1/4	8.90	7.45
736-1108	PT-11372-G	3 5/8	2 1/4	2 1/2	3 1/4	1 7/8	2 1/4	5.20	4.35
736-1109	PT-11380-G	4 3/8	3 1/4	2 1/2	4	2 3/4	2 1/4	7.10	5.90
736-1111	PT-11388-G	5 5/8	3 1/4	2 1/2	5 1/4	2 3/4	2 1/4	8.90	7.45
736-1112	PT-11396-G	6 7/8	4 7/8	2 1/2	6 1/2	4 1/2	2 1/4	7.90	8.25

All models are available in 2 molded-in colors, black and gray. All PlastiBox models come with four Non-Skid Feet which mount on bottom of enclosure for table top use. Allied stock is gray. Black available from factory.





Light Gray Polycarbonate Body and Cover

Stock No.	Mfr.'s Type	Weight oz. (approx.)	External Dimensions			EACH
			Length	Width	Height	
736-1320	PN-1320	2.5	2.56"	2.28"	1.38"	7.20
736-1321	PN-1321	4.0	4.53"	2.56"	1.57"	10.00
736-1322	PN-1322	5.0	4.53"	2.56"	2.17"	10.80
736-1323	PN-1323	5.5	4.53"	3.54"	2.17"	12.40
736-1324	PN-1324	10.0	6.73"	4.76"	2.17"	17.40
736-1325	PN-1325	15.5	8.74"	5.75"	2.17"	23.00
736-1338	PN-1327	13.0	6.73"	4.76"	3.15"	18.80

NEMA 4X Sealed Polycarbonate and ABS Enclosures

- Designed to IP 65 of IEC 529 and NEMA 4X
- Wall Mounting Holes and Cover Attaching Screws are Outside the Sealing Area, Preventing Ingress of Moisture and Dust
- Internal Bosses Allow Mounting of PCBs Horizontally or for Connection of Terminals, etc., into Threaded Brass Inserts
- Internal Guide Slots for Mounting PCB Assemblies Vertically

These polycarbonate and high-impact ABS molded enclosures meet NEMA 4X specifications and are ideal for use in the electrical and electronic industries. Available in six sizes, these molded enclosures are offered in three different versions:

- Light Gray Polycarbonate Body and Clear Polycarbonate Cover
- Light Gray Polycarbonate Body and Cover

Polycarbonate, an engineering thermoplastic, features good electrical insulation and heat resistance. The high-impact ABS material is easily drilled and punched. These enclosures are ideal for circuit enclosures and junction boxes. Wall Thickness: .118".

- Dark Gray ABS Body and Cover

Polycarbonate Light Gray Body and Clear Cover

Stock No.	Mfr.'s Type	Weight oz. (approx.)	External Dimensions			EACH
			Length	Width	Height	
736-1326	PN-1320-C	2.5	2.56"	2.28"	1.38"	7.50
736-1327	PN-1321-C	4.0	4.53"	2.56"	1.57"	10.30
736-1328	PN-1322-C	5.0	4.53"	2.56"	2.17"	11.10
736-1329	PN-1323-C	5.5	4.53"	3.54"	2.17"	12.80
736-1330	PN-1324-C	10.0	6.73"	4.76"	2.17"	18.00
736-1331	PN-1325-C	15.5	8.74"	5.75"	2.17"	23.60
736-1339	PN-1327-C	13.0	6.73"	4.76"	3.15"	18.80

Dark Gray ABS Cover and Body

Stock No.	Mfr.'s Type	Weight oz. (approx.)	External Dimensions			EACH
			Length	Width	Height	
736-1332	PN-1320-DG	2.5	2.56"	2.28"	1.38"	5.70
736-1333	PN-1321-DG	4.0	4.53"	2.56"	1.57"	7.00
736-1334	PN-1322-DG	5.0	4.53"	2.56"	2.17"	7.90
736-1335	PN-1323-DG	5.5	4.53"	3.54"	2.17"	9.50
736-1336	PN-1324-DG	10.0	6.73"	4.76"	2.17"	13.80
736-1337	PN-1325-DG	15.5	8.74"	5.75"	2.17"	18.60
736-1340	PN-1327-DG	13.0	6.73"	4.76"	3.15"	13.00

Polystyrene and ABS Molded Enclosures

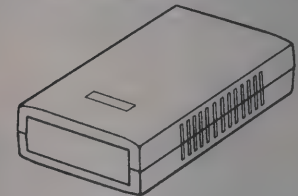
- Designed to IP 54 of IEC 529
- Two Part Design with Tongue and Groove Joint Between Top and Bottom Covers and Specially Designed End Panels of the Same Material
- Internal Guide Slots Provided for Vertical Mounting of PCBs
- Internal Bosses Provided for Horizontal Mounting of PCBs
- Top and Bottom Covers are Lightly Textured Providing a Scratch-Resistant, High Quality Finish

This line of molded enclosures is ideally suited for instrumentation and telecommunications equipment from hand-held to desk top sizes. Available in twelve sizes in either high-impact Polystyrene, which is flame retardant to UL94-V0, or high-impact ABS.

Stock No.	Mfr.'s Type	External Dimensions			EACH
		Length	Width	Height	
736-1900	PI-1900*	3.54"	1.97"	.63"	3.10
736-1901	PI-1901*	3.54"	1.97"	.94"	3.40
736-1902	PI-1902*	3.54"	1.97"	1.26"	3.60
736-1903	PI-1903*	4.72"	2.36"	1.18"	5.60
736-1904	PI-1904*	4.72"	2.36"	1.57"	6.40
736-1905	PI-1905*	4.72"	2.36"	1.97"	7.60
736-1906	PI-1906*	5.91"	3.15"	1.18"	8.10
736-1907	PI-1907*	5.91"	3.15"	1.77"	9.60

* Polystyrene, † ABS.

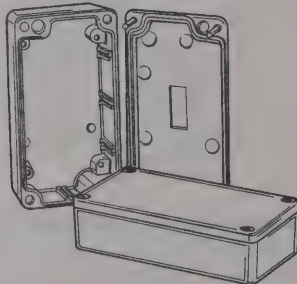
- Four M-3 Screws are Countersunk in the Bottom Cover and Thread into Brass Inserts to Secure the Top Cover and End Panels
- Polystyrene Top and Bottom Covers are Molded in Dark Gray with End Panels in Light Gray
- ABS Top and Bottom Covers are Molded in Light Gray with End Panels in Dark Gray



Stock No.	Mfr.'s Type	External Dimensions			EACH
		Length	Width	Height	
736-1908	PI-1908*	5.91"	3.15"	2.36"	11.10
736-1909	PI-1909*	7.48"	3.94"	1.57"	12.80
736-1910	PI-1910*	7.48"	3.94"	2.36"	14.20
736-1911	PI-1911*	7.48"	3.94"	3.15"	16.10
736-1912	PI-1900-LG†	3.54"	1.97"	.63"	2.80
736-1913	PI-1901-LG†	3.54"	1.97"	.94"	3.10
736-1914	PI-1902-LG†	3.54"	1.97"	1.26"	3.20
736-1915	PI-1903-LG†	4.72"	2.36"	1.18"	5.00

Stock No.	Mfr.'s Type	External Dimensions			EACH
		Length	Width	Height	
736-1916	PI-1904-LG†	4.72"	2.36"	1.57"	6.10
736-1917	PI-1905-LG†	4.72"	2.36"	1.97"	6.80
736-1918	PI-1906-LG†	5.91"	3.15"	1.18"	7.20
736-1919	PI-1907-LG†	5.91"	3.15"	1.77"	8.50
736-1920	PI-1908-LG†	5.91"	3.15"	2.36"	9.70
736-1921	PI-1909-LG†	7.48"	3.94"	1.57"	10.90
736-1922	PI-1910-LG†	7.48"	3.94"	2.36"	12.30
736-1923	PI-1911-LG†	7.48"	3.94"	3.15"	13.90

Sealed Die-Cast Aluminum Enclosures



- Designed to IP 65 of IEC 529 and NEMA 4
- Wall Mounting Holes and Cover Attaching Screws are Outside the Sealing Area thus Preventing Ingress of Moisture and Dust
- Cover Incorporates a Recessed Neoprene Gasket
- Internal Guide Slots for Mounting PCB Assemblies Vertically
- Internal Bosses for Mounting PCBs Horizontally or for Connecting Terminals, Ground, etc
- Screw Holes for Cover Mounting are Roll Threaded and Screws are Captivated and Recessed

Die cast in aluminum alloy and resistant to atmospheric and marine corrosion, these enclosures are ideal for housing sensitive electronic assemblies and pneumatic, hydraulic and electrical devices in both commercial and industrial environments. Specifications. Body and Cover: Aluminum Alloy #A380. Gasket: Neoprene. Cover Screws: M-4 Stainless Steel, non-magnetic. Ground Screw and Washer: Copper-plated. Finish: Natural finish or Gray (add suffix G).

Stock No.	Mfr.'s Type	Wt. oz.*	External Dimensions			Wall Thickness	EACH
			Length	Width	Height		
736-1300	AN-1300	5	3.54"	1.42"	1.18"	.130"	5.80
736-1301	AN-1301	5	2.52"	2.28"	1.38"	.138"	6.10
736-1303	AN-1302	8	4.53"	2.56"	1.18"	.134"	8.90
736-1305	AN-1303	12	4.53"	2.56"	2.17"	.130"	10.90
736-1307	AN-1304	14	4.53"	3.54"	2.17"	.130"	12.70
736-1309	AN-1305	24	5.83"	4.25"	2.95"	.130"	22.70
736-1311	AN-1306	24	6.73"	4.76"	2.17"	.130"	23.10
736-1313	AN-1307	30	8.74"	5.75"	2.17"	.130"	24.40

* Approximate.

Accessories

Power Outlet Strips Rackmount



- 15 Foot Black 14/3 SJT Power Cord
- 15 AMP, 125 Volt Rating
- Combination On/Off Switch and Pilot Light on Front Panel
- Black Painted Steel Housing
- 1.75" High x 2.37" Deep x 19.00" Wide Panel Space
- Meets UL Standard 1363
- Surge Protected Models also Meet UL Standard 1449

Designed for 19" panel space open relay racks and enclosed cabinet racks, these units are easily installed to the panel mounting surface of the racks. They provide instant power distribution from either the front or rear of the unit.

Stock No.	Mfr.'s Type	Weight Lbs. (approx.)	Outlet Location	Surge Protected	EACH
736-1929	POS-192	3.75	Front	No	108.45
736-1930	POS-193	3.75	Rear	No	111.85
736-1932	POS-193-S	3.75	Rear	Yes	129.90

Surge Suppressed Power Outlet Strips

Bud has also added four surge suppressed versions to the present line of power outlet strips. See full line catalog for complete specifications.

Stock No.	Mfr.'s Type	Weight Lbs.	No. of Outlets	Length	EACH
736-4400	POS-4-S	2.00	4	17½"	96.75
736-4401	POS-7-S	3.50	7	48"	96.75
736-4402	POS-9-S	4.25	9	60"	104.65
736-4404	POS-11-S	4.75	11	72"	110.25

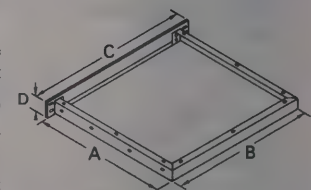
23" Aluminum Panels

½" thick (3003-H-14). Painted flat black.

Stock No.	Mfr.'s Type	Weight Lbs. (approx.)	Height	EACH
736-4441	PA-2441	.50	1¾"	11.20
736-4442	PA-2442	1.00	3½"	14.55
736-4443	PA-2443	1.50	5¼"	18.70
736-4444	PA-2444	2.00	7"	23.20
736-4445	PA-2445	2.38	8¾"	28.95

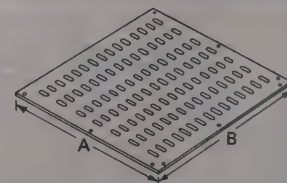
Small Rack Mount Chassis

Eight new sizes of aluminum rackmount chassis. 1U and 2U versions, each in two different depths and widths. Adaptable for slide mounting. Panels are .100" thick aluminum. Chassis are .050" thick aluminum.



Stock No.	Mfr.'s Type	Weight Oz. (approx.)	A	B	C	D	EACH
736-1401	CH-14401	1.50	8"	17"	19"	1.719"	40.40
736-1403	CH-14402	2.50	16"	17"	19"	1.719"	58.30
736-1405	CH-14403	2.00	8"	17"	19"	3.469"	59.60
736-1407	CH-14404	3.00	16"	17"	19"	3.469"	76.50
736-1409	CH-14411	2.00	8"	22"	24"	1.719"	47.30
736-1411	CH-14412	3.00	16"	22"	24"	1.719"	68.40
736-1413	CH-14413	2.75	8"	22"	24"	3.469"	68.60
736-1415	CH-14414	3.75	16"	22"	24"	3.469"	88.40

Small Rack Mount Chassis Covers



Ventilated chassis covers in .050" thick aluminum.

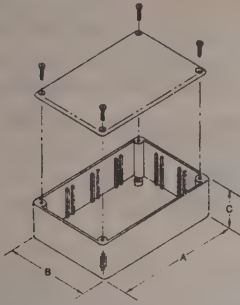
Stock No.	Mfr.'s Type	Weight Oz. (approx.)	A	B	EACH
736-1417	CH-14431	8.5	8"	17"	16.00
736-1418	CH-14432	17.0	16"	17"	25.60
736-1419	CH-14433	10.5	8"	22"	17.60
736-1420	CH-14434	21.0	16"	22"	32.30

Plastic Enclosures, Potting Boxes and Aluminum Chassis

Bud Plastic Enclosures—The Utilibox Series

Bud's Utilibox Series is the ultimate value in plastic utility boxes. Now available in 3 styles and 13 sizes.

Style A



- ▶ KJB Cylolac Thermoplastic with Flammability Rating of 94-V0 at .080" Thickness and Continuous Use Temperature of 70°C
- ▶ Card Guides Accept .062" Thick Cards
- ▶ Comes with Close Fitting Interlocking Lid and Assembly Hardware
- ▶ Finish—Black Is Standard; Special Colors and Finishes Are Available Upon Request

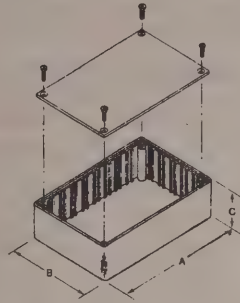
Stock No.	Mfr.'s Type	Dimensions			Weight Ozs.	EACH	
		A	B	C		1-5	6-99
736-3589	CU-281	4 1/2	3	1 3/4	4.5	7.00	5.85
736-3590	CU-282	4 1/2	4 1/2	2 1/4	6.5	7.40	6.20
736-3591	CU-283	6	4 1/2	2 1/4	8.5	8.90	7.45
736-3592	CU-284	7 1/2	4 1/2	2 1/4	10.5	10.30	8.60

Dimensions are ±.010".

With Mounting Brackets

Two styles of mounting brackets, depending on size of Utilibox needed. To order, add Suffix-MB to Utilibox catalog number. Brackets are fastened to Utilibox at the factory and shipped as one

Style B

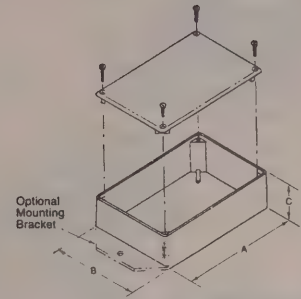


- ▶ Impact Resistant ABS
- ▶ Cover Panel, .050" Aluminum
- ▶ Card Guides Spaced at .53" Centers Allow Flexibility of Component Placement or Creation of Compartments for Potting; Guides Accept .062" Thick Cards
- ▶ Finish—Black Body with Anodized Aluminum Cover Panel
- ▶ Shipped Assembled

Stock No.	Mfr.'s Type	Dimensions			Weight Ozs.	EACH	
		A	B	C		1-5	6-99
736-1490	CU-1490	3.54	1.77	1.18	1.50	4.90	4.10
736-1491	CU-1491	4.33	2.17	1.38	3.00	5.60	4.65
736-1493	CU-1493	6.10	3.54	1.97	5.00	10.20	8.45
736-1495	CU-1495	8.66	5.32	2.95	7.50	19.70	16.40

Dimensions are ±.010".

Style C



- ▶ KJB Cylolac Plastic with 94V-0 Flammability Rating at .080" Thickness and Continuous Use Temperature of 70°C
- ▶ Comes with Close-Fitting Interlocking Lid and Assembly Hardware
- ▶ Lid Includes Special Corner Flange for Optional Bonding
- ▶ Finish—Mar-Resistant Black Textured Is Standard; Special Colors Available on Request

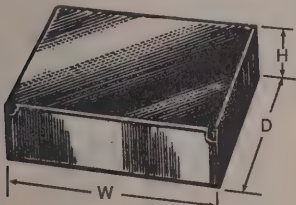
Stock No.	Mfr.'s Type	Dimensions			Weight Ozs.	EACH	
		A	B	C		1-5	6-99
736-1382	CU-382	3 1/4	2 3/4	1	2.00	4.50	3.75
736-1383	CU-383	4 1/4	2 3/4	1	3.00	4.80	4.00
736-1384	CU-384	3 1/4	3 1/4	1 1/4	3.00	4.90	4.10
736-1385	CU-385	4 1/2	3 1/4	1 1/4	3.50	5.70	4.75
736-1386	CU-386	5 1/2	3 3/4	1 1/4	4.50	6.60	5.50
736-1388	CU-387	5 1/2	4 1/4	1 3/4	5.60	7.00	5.85

Dimensions are ±.010".

With Mounting Brackets

Optional molded-in mounting brackets are available for all sizes of Style C. To order, add suffix-MB to catalog number.

Aluminum Chassis



Offer outstanding strength and rigidity for construction of amplifiers, meters and other components. Made from one piece of sheet metal. Welded on government-approved spot welders developed for aluminum. All sides folded in at the bottom for additional support assuring strength and durability. Natural finish aluminum alloy 5005 H-14. .040 Aluminum.

Stock No.	Mfr.'s Type	Size W x D x H	Wt. Lbs.	EACH	
				1-5	6-49
736-0015*	AC-415†	10 x 17 x 2"	1 1/4	25.20	21.05
736-0016*	AC-416†	10 x 17 x 3"	2	29.50	24.60
736-0027*	AC-427†	10 x 17 x 4"	3 1/2	42.60	35.60
736-0018*	AC-418†	12 x 17 x 3"	2 3/4	31.20	26.00
736-0019*	AC-419†	13 x 17 x 2"	2 1/4	31.90	26.60
736-0020*	AC-420†	13 x 17 x 3"	2 3/4	36.90	30.85
736-0028*	AC-428†	13 x 17 x 4"	3 3/4	44.80	37.35
736-0205	AC-1405	4 x 6 x 1 1/2"	1/4	8.50	7.15
736-0213	AC-1413	6 x 8 x 2"	1/2	10.80	9.00
736-0218	AC-1418	8 x 10 x 2 1/2"	1	17.40	14.55
736-0219	AC-1419	8 x 12 x 2 1/2"	1	21.60	18.00
736-0222*	AC-1422	10 x 17 x 5"	2 1/2	49.60	41.40
736-0226*	AC-1426	13 x 17 x 5"	3 1/2	57.10	47.70
736-0227*	AC-1427	14 x 17 x 3"	3	41.60	34.70
736-0228*	AC-1428	15 x 17 x 4"	3 1/2	56.50	47.15
736-0229*	AC-1429	15 x 17 x 6"	4 1/8	80.00	66.80
736-0230*	AC-1430	17 x 17 x 3"	3 1/4	48.50	40.50
736-0231*	AC-1431	17 x 17 x 4"	4	56.80	47.45

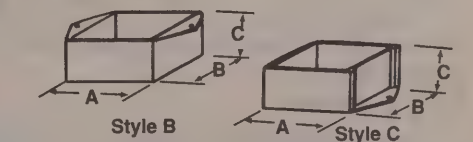
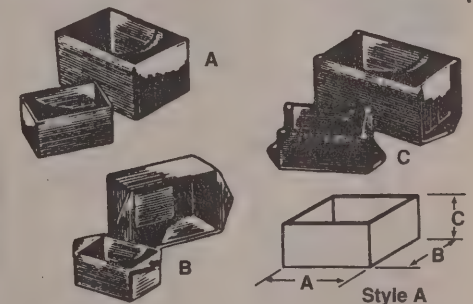
Stock No.	Mfr.'s Type	Size W x D x H	Wt. Lbs.	EACH	
				1-5	6-49
736-0031	AC-431	4 x 6 x 2"	1/2	8.70	7.25
736-0030	AC-430	4 x 6 x 3"	1/2	10.70	8.90
736-0002	AC-402	5 x 7 x 2"	1/2	9.40	7.80
736-0029	AC-429	5 x 7 x 3"	3/4	12.10	10.10
736-0003	AC-403	5 x 9 1/2 x 2"	1/2	11.40	9.45
736-0021	AC-421	5 x 9 1/2 x 3"	3/4	14.40	12.00
736-0004	AC-404	5 x 10 x 3"	3/4	14.50	12.10
736-0005	AC-405	7 x 7 x 2"	1/2	9.90	8.20
736-0006	AC-406	7 x 9 x 2"	1/2	11.90	9.90
736-0007	AC-407	7 x 11 x 2"	3/4	13.80	11.45
736-0008	AC-408	7 x 12 x 3"	1	18.30	15.30
736-0009	AC-409	7 x 13 x 2"	3/4	15.00	12.55
736-0011*	AC-411	7 x 15 x 3"	1 1/2	23.80	19.85
736-0024*	AC-424	8 x 12 x 3"	1 1/2	21.90	18.30
736-0012*	AC-412†	8 x 17 x 3"	1 3/4	24.80	20.75
736-0013*	AC-413	10 x 12 x 3"	1 1/2	27.80	23.30
736-0014*	AC-414	10 x 14 x 3"	1 3/4	28.30	23.70

*.050 Aluminum. †Prepunched for easy assembly of chassis mounting brackets.

Chassis Bottom Plates — .040 Aluminum

Stock No.	Mfr.'s Type	Fits Chassis		Wt. Ozs.	EACH	
		Width	Depth		1-5	6-49
736-1505	BPA-1505	4"	6"	2	4.40	3.65
736-1589	BPA-1589	5"	7"	2	4.30	3.60
736-1590	BPA-1590	5"	9 1/2"	2	4.40	3.70
736-1591	BPA-1591	5"	10"	4	4.30	3.60
736-1513	BPA-1513	6"	8"	3	6.20	5.10
736-1592	BPA-1592	7"	7"	3	4.30	3.60
736-1593	BPA-1593	7"	9"	4	5.20	4.35
736-1594	BPA-1594	7"	11"	4	5.40	4.50
736-1595	BPA-1595	7"	12"	5	6.00	5.00
736-1596	BPA-1596	7"	13"	8	7.10	5.95
736-1516	BPA-1516	7"	15"	8	7.80	6.55
736-1518	BPA-1518	8"	10"	4	7.60	6.35
736-1519	BPA-1519	8"	12"	6	9.20	7.70
736-1520	BPA-1520	8"	17"	8	9.50	7.95
736-1523	BPA-1523	10"	12"	8	9.20	7.70
736-1524	BPA-1524	10"	14"	8	9.20	7.70
736-1597	BPA-1597	10"	17"	10	9.80	8.20
736-1528	BPA-1528	12"	17"	12	13.20	11.05
736-1598	BPA-1598	13"	17"	14	13.60	11.30
736-1529	BPA-1529	14"	17"	15	13.40	11.20
736-1530	BPA-1530	15"	17"	16	17.50	14.60
736-1531	BPA-1531	17"	17"	17	18.50	15.45

Potting Boxes



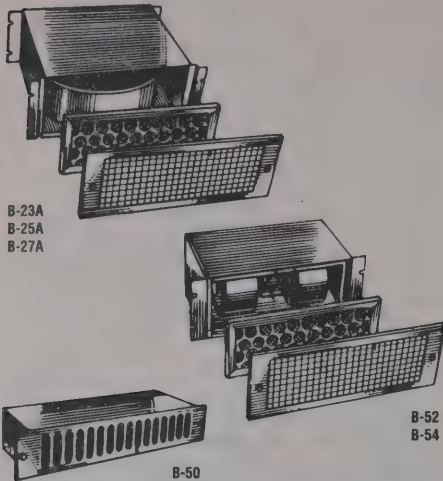
Available in 3 styles and six sizes, these low cost enclosures are made of tough, lightweight CYCOLAC ABS thermoplastic. Flammability Rating: 94V-0 at .062" thickness and continuous use temperature of 70°C. Optional close-fitting covers are available in all sizes. Finish: Black.

Stock No.	Mfr.'s Type	Style	Dimensions			Cover	PK/10
			A	B	C		
736-1558	PB-1558	A	2	1 1/2	1	H	11.30
736-1559	PB-1559	A	3	2	1 1/2	G	16.40
736-1550	PB-1558-TF	B	2	1 1/2	1	H	12.30
736-1551	PB-1559-TF	B	3	2	1 1/2	G	17.70
736-1552	PB-1558-BF	C	2	1 1/2	1	F	12.30
736-1553	PB-1559-BF	C	3	2	1 1/2	G	17.70

Cover

Stock No.	Mfr.'s Type	Cover Style	PK/10
736-1554	PBC-1558-C	F	6.50
736-1556	PBC-1559-C	G	7.60
736-1535	PBC-1558-CN	H	6.50

3



Blowers

Design Features. Panel heights: 3 1/2", 5 1/4" and 7". All units are 19" panel width with standard EIA notching for rack mounting. Dust filters removed through front panel, no tools needed. All U.L. approved. Guaranteed for 20,000 hours continuous service. 115 volts.

Model B-23A: Two-speed blower requires minimum panel space. Pressurizes or evacuates cabinet as desired. 1400/1150 RPM, 150/60 watt-shaded pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 18 lbs.

Model B-25A: Two-speed motor delivers turbulent air distribution to eliminate hot spots in cabinet. Recommended for minimum back pressure. 1135/675 RPM, 410/225 watt-shaded pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 30 lbs.

Model B-27A: Two-speed packaged blower. Noise level lower than found in comparable models with equal CFM. Recommended for use where densely packed electronic components require maximum cooling. 1350/850 RPM, 580/370 watt-shaded pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 34 lbs.

Model B-52: Designed for applications requiring higher back pressure. Two extra-wide, small-diameter centrifugal blower wheels supply a large volume of clean filtered air to pressurize enclosure. 3000 RPM shaded-pole motor. 70 watts. Permanently lubricated ball-bearings. 24" long, 2-wire power cord. 16 lbs.

Model B-54: Quiet, efficient with dual, slow-speed, low-velocity centrifugal blower wheels. Noise level below average DB level found in most business offices. 1550 RPM, fan-cooled, rubber-mounted 95 watt shaded-pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 22 lbs.

Model B-50: Requires only 3 1/2" panel height. Low audible noise level. Air stream delivered vertically through a 12 1/2" wide opening. Air velocity and pressure cool densely packed electronic equipment. 3100 RPM shaded-pole motor. 80 watts. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 13 lbs.

Stock No.	Mfr.'s Type	Panel Space	Depth	Air CFM		Motor RPM	EACH
				High	Low		
736-1150	B-23A	3 1/2" x 19"	12"	180	130	1400/1150	336.00
736-1110	B-25A	5 1/4" x 19"	14 1/2"	350	215	1135/675	444.55
736-1160	B-27A	7" x 19"	14 1/2"	550	345	1350/850	455.17
736-1130	B-50	3 1/2" x 19"	6 3/8"	150	—	3100	309.65
736-1170	B-52	5 1/4" x 19"	9"	125	—	3000	353.05
736-1180	B-54	7" x 19"	10 3/16"	300	—	1550	352.95

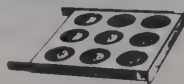
Stock No.	Mfr.'s Type	Used With	EACH
736-1100	BF-24	B-23A or B-50	6.80
736-1120	BF-26	B-25A	7.40
736-1161	BF-28	B-27A	5.90
736-1171	BF-53	B-52	5.20
736-1181	BF-55	B-54	5.40
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Fan Tray Assembly

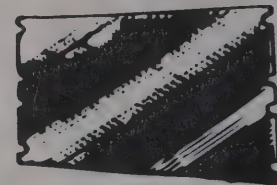
Fan Tray Assembly — FT-1170. Includes 9-position fan tray with preassembled front panel; a 9-outlet daisy chain cord and 6-foot power cord; adjustable support angles. **Materials:** Fan tray and support angles — 16-gauge steel; front panel — 12-gauge steel. **Finish:** Fan Tray, front panel, white textured (WH) or metallic gray (MG).

Fans — FN-1280. Order separately. Can be mounted in any pattern to suit individual cooling requirements. Each fan supplied with one hardware cloth finger guard. **Specifications:** 110-volt, AC; 105 CFM; -20°C to +60°C temperature range; UL approved. Optional Wire Form Finger Guard — FG-1281.

736-9635, Model FT-1170, Fan Tray Assembly	EACH 144.75
736-9636, Model FG-1281, Finger Guard	EACH 9.10
736-9637, Model FN-1280, Fans	EACH 36.40



Steel, Standard Aluminum and Hard Aluminum Panels



Available in 11 gauge steel; 1/8" and 3/16" aluminum alloy. Steel, standard and hard aluminum (6061-T6) panels come in 19" widths. Note: For metallic gray replace "N" with "5"; for white replace "N" with "7".

1/8" Aluminum (3003-H14)

Stock No.	Mfr.'s Type	Ht. In.	Wt. Lbs.	EACH		
				1-5	6-49	50-99
736-511N	PA-1101	1 3/4	3/8	10.30	8.65	7.80
736-512N	PA-1102	3 1/2	3/8	14.40	11.95	10.75
736-513N	PA-1103	5 1/4	1 1/8	19.70	16.40	14.75
736-514N	PA-1104	7	1 3/4	24.60	20.55	18.50
736-515N	PA-1105	8 3/4	2	29.70	24.80	22.30
736-516N	PA-1106	10 1/2	2 1/2	37.80	31.60	28.45
736-517N	PA-1107	12 1/4	2 3/4	41.50	34.60	31.15
736-518N	PA-1108	14	3 1/4	46.10	38.45	34.60
736-519N	PA-1109	15 3/4	3 3/8	51.30	42.75	38.50
736-520N	PA-1110	17 1/2	4	52.35	47.05	42.35
736-521N	PA-1111	19 1/4	4 1/4	55.35	50.85	45.75
736-534N	PA-1112	21	5	57.45	55.46	51.70

6061-T6 Aluminum 19" Panels 1/8" Thick

736-341N	PA-1131	1 3/4	3/8	16.00	13.30	11.95
736-342N	PA-1132	3 1/2	3/4	23.00	19.20	17.30
736-343N	PA-1133	5 1/4	1 1/8	33.60	28.05	25.25
736-344N	PA-1134	7	1 3/4	44.20	36.95	33.25
736-345N	PA-1135	8 3/4	2	54.50	45.50	40.95
736-346N	PA-1136	10 1/2	2 1/2	66.80	55.80	50.20
736-347N	PA-1137	12 1/4	2 3/4	68.00	64.10	57.00
736-348N	PA-1138	14	3 1/4	72.30	69.50	65.75
736-349N	PA-1139	15 3/4	3 3/8	83.05	79.80	74.75
736-351N	PA-1140	17 1/2	4	91.35	89.50	82.20
736-352N	PA-1141	19 1/4	4 1/4	100.10	99.50	90.10
736-353N	PA-1142	21	5	108.65	106.25	97.80

11 Gauge Steel

736-322N	PS-1250	1 3/4	1 1/4	9.30	7.75	7.00
736-323N	PS-1251	3 1/2	2 1/4	11.30	9.45	8.50
736-324N	PS-1252	5 1/4	3 1/4	17.70	14.70	13.25
736-325N	PS-1253	7	4 1/4	19.50	16.30	14.65
736-326N	PS-1254	8 3/4	6	23.60	19.65	17.70
736-327N	PS-1255	10 1/2	7	26.30	21.90	19.70
736-328N	PS-1256	12 1/4	8 1/4	30.10	25.20	22.70
736-329N	PS-1257	14	9 1/2	35.40	29.60	26.65
736-330N	PS-1258	15 3/4	10 3/4	38.30	31.95	28.75
736-331N	PS-1259	17 1/2	11 3/4	41.10	34.40	30.95
736-332N	PS-1260	19 1/4	13	49.00	40.90	36.80
736-333N	PS-1261	21	14 1/4	50.50	42.20	38.00

Accessories — Tem-Stat Temperature Controls

Prevent shut-downs caused by over-heating of electronic or electrical equipment in enclosures. Units react quickly to gradual or sudden temperature changes. **TS-15:** Contacts close when temperature reaches designated setting. Contacts remain closed until there is a 10° ±5°F drop in temperature. **TS-22:** Contacts open when temperature reaches designated setting. Contacts remain open until there is a 10° ±5°F drop in temperature. Can also be used for temperature control in convection and radiant heating applications. U.L. and C.S.A. listed. **Temperature Range:** 80° - 170°F. **Temperature Accuracy:** ±8°F.

UL Electrical Ratings

Cycles	Full Load Amps	Locked Rotor Amps	Pilot Duty VA	Volts
6,000	5.0	35.0	—	12 VDC
30,000	6.0	36.0	—	120 VAC
30,000	3.0	18.0	—	240 VAC
100,000	4.0	24.0	125	120 VAC
100,000	2.0	12.0	125	240 VAC

Stock No.	Mfr.'s Type	Contact Type	EACH
736-1015	TS-15	Normally open; Closed on temperature rise	23.00
736-1022	TS-22	Normally closed; Open on temperature rise	23.00

Accessories Standard Panels

For all cabinets, cabinet racks, relay racks and small enclosures, where applicable.

Surface Shield 19" Aluminum Panels (3003-H14)
Mill finish aluminum alloy panels. White, pressure-sensitive paper on one side protects and provides surface for laying out drilling space or punching position. Available in 1/8" and 3/16" thickness, 19" width.



1/8" Panels

Stock No.	Mfr.'s Type	Ht. In.	EACH	
			1-5	6-49
736-7200	SFA-1831	1 3/4	9.20	7.70
736-7201	SFA-1832	3 1/2	13.50	11.25
736-7202	SFA-1833	5 1/4	17.30	14.45
736-7203	SFA-1834	7	22.10	18.50
736-7204	SFA-1835	8 3/4	24.30	20.25
736-7205	SFA-1836	10 1/2	31.50	26.25
736-7206	SFA-1837	12 1/4	36.40	30.40
736-7207	SFA-1838	14	41.20	34.40
736-7208	SFA-1839	15 3/4	46.40	38.75
736-7209	SFA-1840	17 1/2	51.10	42.65
736-7210	SFA-1841	19 1/4	56.70	47.40
736-7211	SFA-1842	21	62.00	51.75

3/16" Panels

Stock No.	Mfr.'s Type	Ht. In.	EACH	
			1-5	6-49
736-7212	SFA-3161	1 3/4	14.80	12.35
736-7213	SFA-3162	3 1/2	20.70	17.30
736-7214	SFA-3163	5 1/4	27.20	22.70
736-7215	SFA-3164	7	34.40	28.70
736-7216	SFA-3165	8 3/4	40.30	33.65
736-7217	SFA-3166	10 1/2	47.20	39.45
736-7218	SFA-3167	12 1/4	49.95	44.95
736-7219	SFA-3168	14	56.90	51.20
736-7220	SFA-3169	15 3/4	63.55	57.20
736-7221	SFA-3170	17 1/2	66.50	59.85
736-7222	SFA-3171	19 1/4	77.50	69.75
736-7223	SFA-3172	21	83.90	75.50

Accessories

Caster

Heavy duty double level post swivel caster with 2" ball cushion rubber wheel. Riveted axle. Black steel hood $\frac{3}{8}$ " - 16 x 1" threaded steel pin.

Stock No.	Mfr.'s Type	Load Rating	Weight Each	EACH
736-7775	RC-7775	75 Lbs.	9 1/2 oz.	10.90



Swivel Caster



TYPE RC-7758. Heavy-duty casters with very sturdy construction for heavy loads. For use with Series 60 cabinets. Ball bearing wheels are hard tread composition for longer wear. Self-lubricating for convenience. **Wheel diameter:** 2 1/2". **Height:** 3 1/4". **Weight:** 1.5 lbs.

736-6001. 1-5.....	EACH 13.50
6-49.....	EACH 11.25 50-Up.....EACH 10.15



Locking Casters

- ▶ 4.00" diameter x 1.25" wide wheels
- ▶ Wheel material: hard tread rubber
- ▶ Load rating: 240 lbs./caster
- ▶ Ball-bearing swivel type casters
- ▶ Comes with formed 12 gauge adapter mounting bracket

- ▶ Mounts in all cabinet racks which presently accept RC-7758 caster
- ▶ Comes with all necessary mounting hardware
- ▶ Increases overall height of cabinet rack by approximately 4 inches

Stock No.	Mfr.'s Type	Description	EACH
736-7761	RC-7761	Swivel caster with brake	31.70
736-7762	RC-7762	Swivel caster only	27.50

Stem Levelers

Stem levelers. Nickel-plated steel cap and stem; $\frac{3}{8}$ "-16 thread. RL-7766, rubber base. RL-7767, white nylon base. RL-7771, gray non-skid rubber base. RL-7766 and RL-7767 furnished with 2 height-adjusting nuts.

Stock No.	Mfr.'s Type	A	B	C	EACH
					1-5 6-49
736-6005	RL-7766	3"	1"	1 5/8"	5.40 4.50
736-6006	RL-7767	3"	3/8"	1 5/8"	3.80 3.15
736-6008	RL-7771	2"	3/4"	1 5/8"	3.00 2.75



Rubber and Plastic Feet



F-8038



F-9653



F-7264-A
F-7600-A



F-3581
F-3599

F-8038. Self-adhesive sponge rubber pad. Can be applied to any surface. $\frac{3}{8}$ " diameter x $\frac{1}{8}$ " thick.

736-8038.....EACH .16

F-9653. Top-grade rubber, fits into $\frac{7}{16}$ " hole. Press-fit holds it firmly in place. **PER PKG/4 1.16**

F-7264-A. Made of high grade black plastic supplied with mounting hardware. Plastic portion is $\frac{3}{4}$ " diameter x $\frac{3}{8}$ " high. **EACH .60**

F-7600-A. Same as F-7264-A except plastic portion is $\frac{7}{8}$ " diameter x $\frac{1}{2}$ " high. **EACH .60**

F-3581. Rubber feet with self-adhesive backing. Can be applied to any surface. $\frac{1}{2}$ " sq. x $\frac{7}{32}$ " high. **EACH .30**

F-3599. Same as F-3581 except size is $\frac{1}{2}$ " sq. x $\frac{1}{8}$ " high. **EACH .40**

Non-Locking Latch Handle

Interchangeable with existing key lock. LH-9358 used on 60, All American and Economizer, front and rear doors and 2000 rear doors.

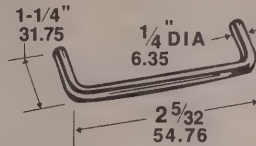
736-9358.....EACH 13.90



Handles

Styled for all types of applications, designed for long wear; quality construction equals that of high priced counterparts. Skin packed in pairs. Bulk available on special order.

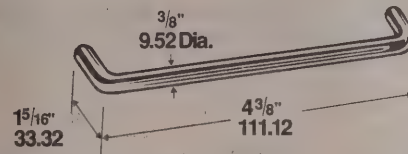
Type H-9166 Brass Handle



$\frac{1}{4}$ " (6.35 mm) diameter handle with chrome-plate finish. 1" (25.4 mm) hand clearance. Includes two screws. **Sold per pair.**

Stock No.	Mfr.'s Type	Mtg. Ctrs.	PER PAIR
		In. (mm)	1-5 6-49
736-4366	H-9166	1 29/32	49.21 10.00 8.40
736-4368	H-9168	3	76.20 9.40 7.75

Steel Handle Type H-9111



$\frac{3}{8}$ " (9.52 mm) diameter steel chrome-plated handle. 1" (25.4 mm) hand clearance, two screws included. **Sold per pair.**

736-4311	H-9111	4	101.60	13.60	11.35
736-4312	H-9112	6	152.40	17.50	14.65

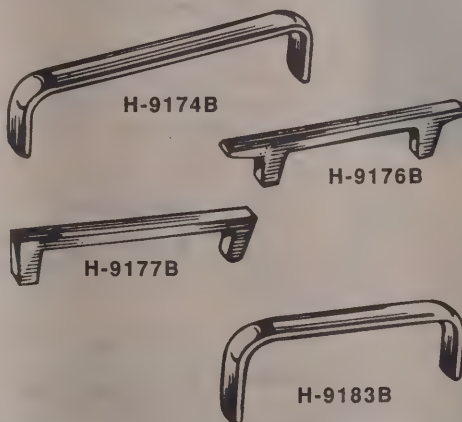
Steel Handle Type H-9110



$\frac{3}{8}$ " (9.52 mm) diameter steel chrome-plated handle. $1\frac{1}{4}$ " (31.7 mm) hand clearance. Includes two screws. **Sold per pair.**

736-4310	H-9110	6	152.40	22.30	18.70
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Die Cast Aluminum Handles

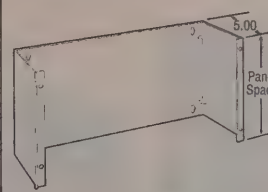


H-9174B. Clear anodized. 4" mounting center. Two 8-32 screws. $1\frac{1}{32}$ " hand clearance. **H-9176B.** Clear anodized. $3\frac{1}{4}$ " mounting center. Overall length 5". Two 8-32 screws. $\frac{3}{4}$ " hand clearance. **H-9177B.** Clear anodized. $4\frac{3}{8}$ " mounting center. Two 8-32 screws. $\frac{3}{4}$ " hand clearance. **H-9183B.** Clear anodized. $4\frac{1}{8}$ " mounting center. Two 8-32 screws. $1\frac{1}{32}$ " hand clearance.

Stock No.	Mfr.'s Type	EACH
		1-5 6-99
736-4374	H-9174B	9.60 8.05
736-4376	H-9176B	10.90 9.15
736-4377	H-9177B	10.90 9.15
736-4383	H-9183B	13.50 11.30

Additional handles and sizes available on Special Order.

Hinged Patch Panel Brackets



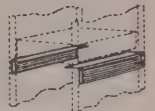
- ▶ Wall or 19" Rack Mountable
- ▶ Heavy Duty 16-Gauge Steel Construction
- ▶ Welded-On Heavy Duty Hinge
- ▶ Black Texture Finish Is Standard

These wall or rack mounted brackets accommodate all popular patch panel sizes and allow ready access to the rear of the panel.

Stock No.	Mfr.'s Type	Panel Space	EACH
736-3840	HWB-1790	3.50"	29.00
736-3845	HWB-1791	5.25"	34.60
736-3850	HWB-1792	7.00"	38.70
736-3855	HWB-1793	8.75"	41.50
736-3860	HWB-1794	10.50"	49.40
736-3865	HWB-1795	12.25"	53.60

Supporting Angles

Attach to rails in racks. Slotted for vertical adjustment. Supports heaviest load. Sold in pairs. **Finish:** Black.



Stock No.	Mfr.'s Type	Size	Wt. Lbs.	PER PAIR
736-2219	CE-2219	21" x 3" x 2 1/4"	6 1/2	38.50

Panel Mounting Rails

Use on Bud cabinet racks: Series 60, Series 2000, Valurack, All American Rack, Classic II Racks, Economizer and Style B Jaguar. 12 gauge steel. **Finish:** Black. Hardware furnished.

Stock No.	Mfr.'s Type	Fits Cabinet Rack with Panel Space	PER PAIR
736-2002	PMR-2002	35"	49.70
736-9306	PMR-9306	77"	81.55
736-2004	PMR-9448	21"	47.10
736-9615	PMR-9449	31 1/2"	53.60
736-9605	PMR-9450	42"	58.10
736-9606	PMR-9451	52 1/2"	64.40
736-9607	PMR-9452	61 1/4"	71.95
736-9608	PMR-9453	70"	78.75
736-9609	PMR-9454	78 3/4"	83.45

Sliding Mechanisms

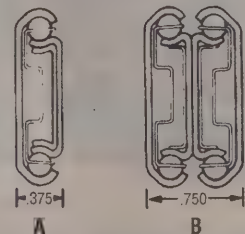


Fig. A. Two-piece slide with stationary delrin balls at front of the cabinet member for stabilization in closed position. $\frac{1}{4}$ " extension, friction disconnect. Recommended for light load requirements. Max. chassis width 17". **Mounting Provisions:** (not included) Two BAS-5100 front mounting and two BAS-5101 rear mounting brackets required per pair of slides to attach slides to E.I.A. rails, one NAS-5110 bar nut required with each mounting bracket.

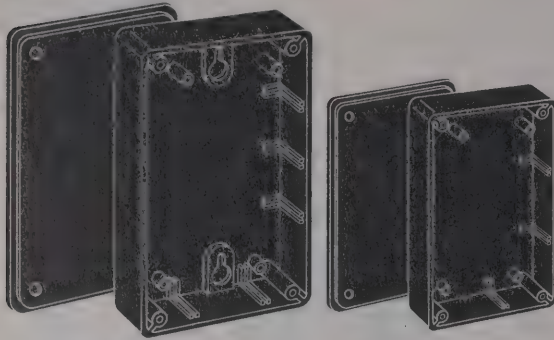
Stock No.	Mfr.'s Type	Slide Length	Travel	Load Wt. Lbs.	Ship Wt. Lbs.	PER PAIR
736-0900	AS-5000-A	12"	8"	140	1.3	32.15
736-0901	AS-5001-A	16"	12"	120	1.7	42.20
736-0922	AS-5002-A	20"	15"	92	2.3	44.35
736-0923	AS-5004-A	26"	19"	70	2.9	46.95

Fig. B. Three-piece slide, recommended for light loads. Positive stop at full extension. Front disconnect allows removal and reinsertion of chassis members without using tools. Full extension. **Mounting Provisions:** (not included); 2 each BAS-5102 front mounting brackets required per pair to attach slides to E.I.A. rails, 1 each NAS-5110 bar nut used with each mounting bracket. Maximum chassis width 17".

Stock No.	Mfr.'s Type	Slide Length	Travel	Load Wt. Lbs.	Ship Wt. Lbs.	PER PAIR
736-0907	AS-5040-A	12"	12 1/8"	119	2.5	89.15
736-0908	AS-5041-A	16"	16 7/8"	106	3.3	94.90
736-0909	AS-5042-A	20"	20 7/8"	91	4.2	100.55
736-0924	AS-5044-A	26"	26 7/8"	73	5.6	106.15

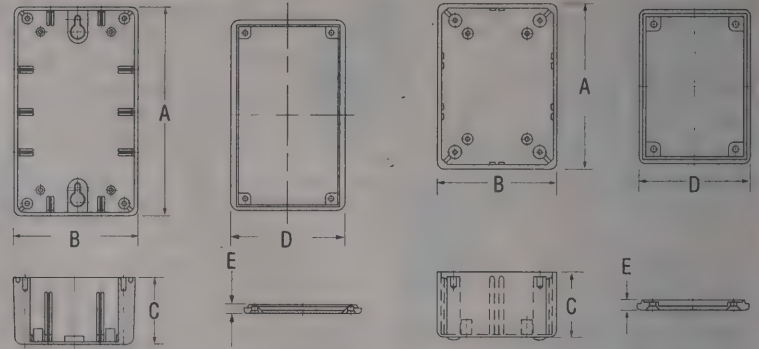
ABS Instrument Cases

3



Model 250

Model 225



Model 250 Case

Model 251 Cover

Model 225 Case

Model 226 Cover

Molded Plastic Cases and Matching Plastic Covers for Mounting Test Equipment. Meters Fit into Cases with Flanges. Engineering Drawing Available Upon Request.

- ▶ Satin Finish
- ▶ Available in Flame Retardant ABS (An Improved Thermoplastic with a Flammability Rating of 94 V-0 at .058")
- ▶ Four Plain Holes for Self Tapping Screws
- ▶ Partitions: Guides Can Be Used for Partitioning of Electric Components
- ▶ Printed Circuit Boards (for Model 225): Two Guides on Long Side; One Guide on Short Side; Guides Accept .062" Thick Cards
- ▶ Printed Circuit Boards (for Model 250): Three Guides on Long Side; Two Guides on Short Side; Guides Accept .062" Thick Cards
- ▶ Typical Wall Thickness: .080"

Cases

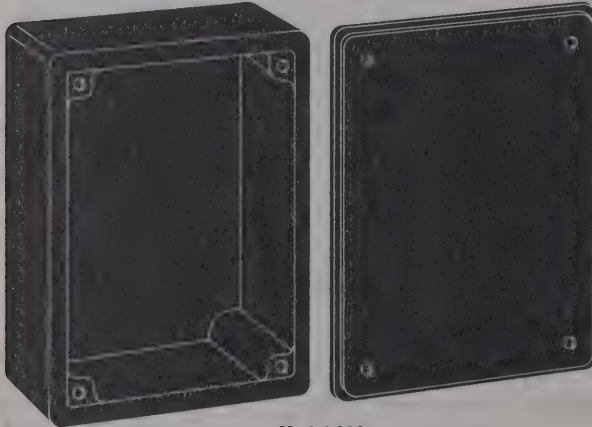
Stock No.	Mfr.'s Type	Outside Dimensions			Case Mounting Holes	Hardware	EACH		
		A Length	B Width	C Depth			1-49	50-249	250-999
543-0225	225	4	2 7/8	1 9/16	.099 x 5/16 — 4 Plain Holes	1/2" No. 4 *	1.45	1.20	1.00
543-0350	250	6 1/4	3 3/4	2	.120 x 1 1/32 — 4 Plain Holes	1/2" No. 6 *	3.35	3.05	2.75

*Self Tapping Screws. †Counter Sunk Holes. Hardware Not Included.

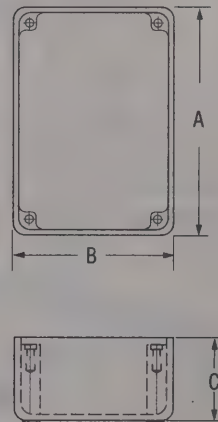
Covers

Stock No.	Mfr.'s Type	Outside Dim.		EACH		
		D Width	E Depth	1-49	50-249	250-999
543-0226	226†	2 59/64	1/4	.90	.75	.65
543-0351	251†	3 47/64	1/8	1.80	1.60	1.45

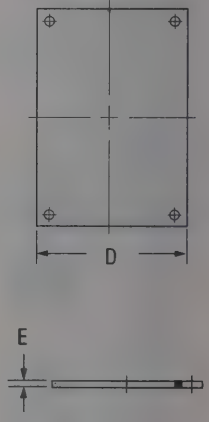
General Purpose Phenolic



Model 220



Model 220 Case



Model 221 Cover

- ▶ Glossy Black — Provide High Luster Finish
- ▶ Mar and Scratch Resistant
- ▶ Resistant to Most Chemicals
- ▶ Heat Resistant to 475°F
- ▶ Typical Wall Thickness: .080"

Cases

Stock No.	Mfr.'s Type	Outside Dimensions			Case Mounting Holes	Hardware	EACH		
		A Length	B Width	C Depth			1-49	50-249	250-999
543-0212	210A	3 1/2	2 1/2	1 1/4	4-40 x 5/16 — 4 Threaded Holes	4-40 x 1/2 Screw	1.85	1.65	1.50
543-0220	220	4	2 7/8	1 9/16	4-36 x 5/16 — 4 Threaded Holes	4-36 x 1/2 Screw	1.65	1.50	1.35
543-0201	220A	4	2 7/8	1 9/16	4-40 x 5/16 — 4 Threaded Holes	4-40 x 1/2 Screw	1.65	1.50	1.35
543-2200	220B	4	2 7/8	1 9/16	.099 x 5/16 — 4 Plain Holes	1/2" No. 4 *	1.35	1.20	1.05
543-0230	230	5	4 1/4	1 3/4	.099 x 5/16 — 4 Plain Holes	1/2" No. 4 *	3.05	2.75	2.45
543-0203	230A	5	4 1/4	1 3/4	6-32 x 5/16 — 4 Brass Female Inserts	6-32 x 3/8 Screw	3.95	3.55	3.20
543-0240	240	6 1/4	3 3/4	2	.113 x 1/2 — 4 Plain Holes	1/2" No. 6	3.00	2.70	2.45
543-0202	240B	6 1/4	3 3/4	2	6-32 x 5/16 — 4 Brass Female Inserts	6-32 x 3/8 Screw	4.20	3.75	3.40
543-0260	260	6 13/16	5 9/32	2 5/16	.089 x 1/2 — 4 Plain Plastic Holes	1/2" No. 4 *	4.70	4.20	3.80
543-0204	260K	6 13/16	5 9/32	2 5/16	6-32 x 5/16 — 4 Brass Female Inserts	6-32 x 3/8 Screw	5.35	4.85	4.35
543-0280	280	8 7/16	7 7/16	3 1/4	6-32 x 1/4 — 6 Brass Female Inserts	6-32 x 3/8 Screw	9.10	8.20	7.35

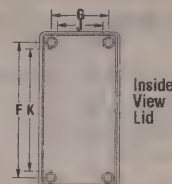
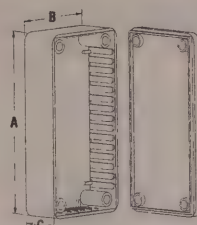
*Self Tapping Screws. †Counter Sunk Holes. Hardware Not Included.

Covers

Stock No.	Mfr.'s Type	Outside Dim.		EACH		
		D Width	E Depth	1-49	50-249	250-999
543-0211	211	1 9/64	1/32	.64	.58	.52
543-0221	221	2 19/64	1/32	.66	.59	.54
543-0221	221	2 19/64	1/32	.66	.59	.54
543-0221	221	2 19/64	1/32	.66	.59	.54
543-0231	231	4	1/32	1.22	1.10	.99
543-0231	231	4	1/32	1.22	1.10	.99
543-0240	241†	3 47/64	1/4	2.58	2.32	2.09
543-0240	241†	3 47/64	1/4	2.58	2.32	2.09
543-0261	261†	5 17/64	1/4	3.72	3.35	3.02
543-0261	261†	5 17/64	1/4	3.72	3.35	3.02
543-0281	281†	7 7/64	1/8	6.30	5.67	5.10

Flame Retardant ABS Boxes

- Carries A UL Flammability Rating Of 94 V-0 At 1.47 mm Thickness and A Continuous Use Temperature Rating Of 60°C
- Comes In Colors: Blue, Black, Gray, and Beige
- Interlocking Flange On The Lid
- Comes With M3 $\times$.5 $\times$ 10 mm, Phillips Head Screws, Countersunk Lid, and Tapped Integral Brass Bushings
- Integral Card Guides Accept .062" P.C. Cards
- Cat. No. 1591E Has Removable Center Brace
- Comes With FRABS Lid In Matching Color. Optional Clear Plastic Or Metal Lids Are Available
- EMI/RFI Shielding Factory Stock In Black
- Lid Adds 4.0 mm/.156" To Overall Height

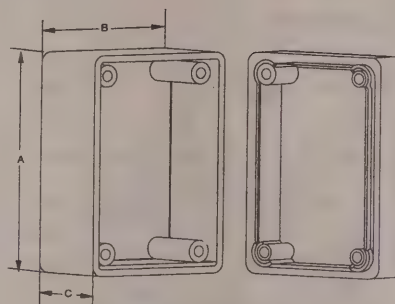


Black		Blue		Gray		Beige		Dimensions (Inches)					EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	A	B	C	J	K	
806-1595	1591LBK	806-1549	1591LBU	806-1559	1591LGY	806-1595	1591LBG	3.3	2.2	1.4	1.3	2.5	5.04
806-1590	1591ABK	806-1550	1591ABU	806-1560	1591AGY	806-1566	1591ABG	3.9	2.0	0.8	1.1	3.9	4.70
806-1591	1591BBK	806-1551	1591BBU	806-1561	1591BGY	806-1567	1591BBG	4.4	2.4	1.1	1.6	3.5	5.08
806-1592	1591CBK	806-1552	1591CBU	806-1562	1591CGY	806-1568	1591CBG	4.7	2.6	1.4	1.6	3.9	5.40
806-1593	1591DBK	806-1553	1591DBU	806-1563	1591DGY	806-1569	1591DBG	5.9	3.1	1.8	2.3	5.0	8.00
806-1594	1591EBK	806-1554	1591EBU	806-1564	1591EGY	806-1570	1591EBG	7.5	4.4	2.2	3.8	3.5	9.60
806-0501	1591GBK	806-0508	1591GBU	806-0516	1591GGY	806-0523	1591GBG	4.8	3.7	1.2	2.8	3.9	6.40
806-0502	1591HBK	806-0509	1591HBU	806-0517	1591HGY	806-0524	1591HBG	6.5	2.8	1.0	1.9	5.7	6.36
806-0503	1591SBK	806-0510	1591SBU	806-0518	1591SGY	806-0525	1591SBG	4.3	3.2	1.6	2.4	3.5	6.84
806-0504	1591TBK	806-0512	1591TBU	806-0519	1591TGY	806-0526	1591TBG	4.7	3.2	2.2	2.3	3.9	7.56
806-0505	1591UBK	806-0513	1591UBU	806-0520	1591UGY	806-0527	1591UBG	4.7	4.7	2.2	3.9	3.9	8.10
806-0506	1591VBK	806-0514	1591VBU	806-0521	1591VGY	806-0528	1591VBG	4.7	4.7	3.5	3.9	3.9	9.70
—	—	—	—	806-4175	1591XFGY	—	—	9.8	2.5	7.8	—	—	16.98
—	—	—	—	806-4176	1591XJGY	—	—	2.2	1.7	2.2	—	—	2.98
—	—	—	—	806-4177	1591XPGY	—	—	5.6	1.2	3.1	—	—	4.50

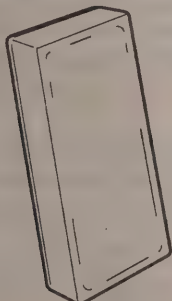
1591 Styrene Plastic Cases

- A Rugged Small Case Molded In High Impact Styrene Plastic
- Comes With Four Self-Tapping #4 $\times$ 1/2 Flat Head Screws Countersunk Into The Lid
- Standard Stock Items Available In Black
- Custom Colors Available
- Lid Adds 4.0 mm/.156" To Overall Depth Of Box

Stock No.	Mfr.'s Type	Dimensions (Inches)					PC Card Clearance		Color	EACH
		A	B	C	F	G	J	K		
806-1605	1591LSBK	3.34	2.20	1.38	2.79	1.65	1.34	2.48	Black	3.16
806-1600	1591ASBK	3.93	1.97	0.82	3.38	1.42	1.10	3.07	Black	2.94
806-1601	1591BSBK	4.41	2.44	1.06	3.85	1.89	1.57	3.54	Black	3.18
806-1602	1591CSBK	4.72	2.55	1.41	4.17	2.00	1.62	3.86	Black	3.38
806-1603	1591DSBK	5.90	3.14	1.80	5.35	2.59	2.28	5.04	Black	5.00
806-1604	1591ESBK	7.47	4.33	2.24	6.92	3.78	3.46	6.61	Black	6.00
806-0601	1591GSBK	4.75	3.69	1.18	4.17	3.11	2.80	3.86	Black	4.00
806-0602	1591HSBK	6.52	2.78	0.98	5.94	2.20	1.89	5.63	Black	3.98
806-0603	1591SSBK	4.33	3.23	1.58	3.78	2.67	2.36	3.46	Black	4.28
806-0604	1591TSBK	4.72	3.15	2.17	4.17	2.60	2.28	3.86	Black	4.72
806-0605	1591USBK	4.72	4.72	2.17	4.17	4.17	3.85	3.86	Black	5.06
806-0606	1591VSBK	4.72	4.72	3.54	4.17	4.17	3.85	3.86	Black	6.06



1599 Hand Held Plastics



- Molded In a Flame Retardant ABS High Impact Plastic — Meets UL 94 V-0. Finish Is a Light Texture to Resist Scratching. Available In Black or Gray
- Includes Integral Brass Inserts and Machine Screws (M3 Slot Head). This Provides Extra Strength for Repeated Assembly and Disassembly
- Recessed Top Panel Ideal for Membrane Display
- Extra Deep Top and Ultra Shallow Base Designed to Both Enhance Aesthetics and Improve Flexibility
- Twelve PCB Bosses (Six In Both Top and Bottom) and Vertical Mounting Slots Are Molded In

Black		Gray		Dimensions (Inches)						EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	A	B	C	D	F	G	1-9	10-99
806-3000	1599BBK	806-3003	1599BGY	5.12	2.56	0.98	0.69	0.28	0.25	7.68	6.40
806-3001	1599EBK	806-3004	1599EGY	6.70	3.35	1.38	1.03	0.32	0.27	9.30	7.75
806-3002	1599HBK	806-3005	1599HGY	8.66	4.33	1.77	1.38	0.36	0.30	11.44	9.53

806-4135. 1599 Clip. Belt/Pocket Clip. 1-9.....EACH 3.00
10-99.....EACH 2.50

- Molded In High Impact Polystyrene With Self Tapping Screws. Finish Is A Light Texture To Resist Scratching. Available In Gray Only
- Perfect For Applications Where Economy Is Important and Where Repetitive Assembly and Disassembly Is Not Important
- Recessed Top Panel Ideal For Membrane Display
- Extra Deep Top and Ultra Shallow Base Designed To Both Enhance Aesthetics and Improve Flexibility
- Twelve PCB Bosses (Six In Both Top and Bottom) and Vertical Mounting Slots Are Molded In

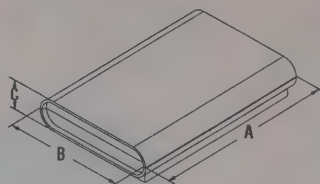
Stock No.	Mfr.'s Type	Dimensions (Inches)						EACH	
		A	B	C	D	F	G	1-9	10-99
806-3525	1599BSGY	5.12	2.56	0.98	0.69	0.28	0.25	5.88	4.90
806-3526	1599ESGY	6.70	3.35	1.38	1.03	0.32	0.27	6.78	5.65
806-3527	1599HSGY	8.66	4.33	1.77	1.38	0.36	0.30	7.90	6.58

806-4135. 1599 Clip. Belt/Pocket Clip. 1-9.....EACH 3.00
10-99.....EACH 2.50

Plastic Wallmount Cases — NEW —

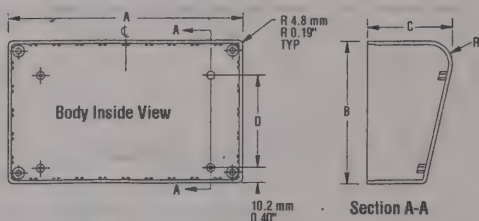
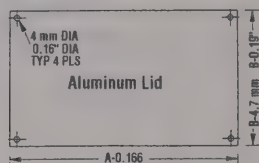
- ▶ Ideal For Wall Mounting Of Electronic Components
- ▶ ABS Plastic
- ▶ Two Piece Molded Construction
- ▶ Top and Bottom "Snap" Together
- ▶ Available In Grey

Two piece "Snap" together ABS plastic for wall mounting electronic components.



Stock No.	Mfr.'s Type	Dimensions			EACH
		A	B	C	
806-4165	1597CGY	5.5	4.3	1.4	10.00
806-4166	1597DGY	7.1	4.9	1.4	10.70

Plastic Sloping Console Cases — NEW —

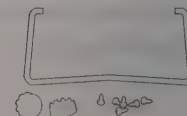
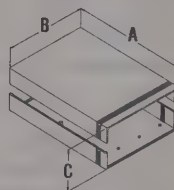


Medium impact FRABS plastic with a UL flammability rating of 94 V-0. Comes with 0.04" thick aluminum panel and four self adhesive feet. Factory stock in blue and black.

Stock No.	Mfr.'s Type	Dimensions			EACH
		A	B	C	
806-4167	1595CGY	6.34	3.78	2.29	11.96
806-4168	1595EGY	8.47	5.12	2.96	14.81

Plastic Instrument Cases

Two piece tongue and groove construction. Front and rear panels are 0.064" brushed aluminum. Case halves are secured by machine screws threaded into tapped integral bushings. Polystyrene version case halves secured with self tapping #4 x 5/8" screws. EMI/RFI Shielded Version the same as FRABS style box.



Flame Retardant ABS Version

Black		Blue		Dimensions			EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	A	B	C	
806-5050	1598ABK	806-5150	1598ABU	6.1	3.6	1.4	9.26
806-5051	1598BBK	806-5151	1598BBU	5.2	5.2	2.0	10.16
806-4152	1598BBBK	806-4175	1598BBBU	7.0	6.0	1.4	11.25
806-5052	1598CBK	806-5152	1598CBU	7.0	6.0	2.0	12.71
806-5053	1598DBK	806-5153	1598DBU	7.0	7.9	2.5	15.53
806-5054	1598EBK	806-5154	1598EBU	6.3	6.3	3.4	15.26
806-5055	1598FBK	806-5155	1598FBU	9.8	6.3	1.6	16.31
806-5056	1598GBK	806-5156	1598GBU	9.8	6.3	2.9	19.12
806-5057	1598HBK	806-5157	1598HBU	11.0	7.9	1.6	20.06
806-5058	1598JBK	806-5158	1598JBU	11.0	7.9	2.9	24.86

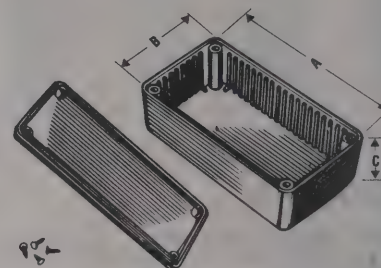
Dimensions			Polystyrene Version			EMI/RFI Shielded Version		
A	B	C	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
6.1	3.6	1.4	806-4153	1598ASBK	6.79	806-4163	1598RABK	22.44
5.2	5.2	2.0	806-4154	1598BSBK	7.61	806-4164	1598RBBK	22.95
7.0	6.0	1.4	806-4155	1598BSBGY	8.44	806-4165	1598RBBBK	24.00
7.0	6.0	2.0	806-4156	1598CSBK	8.93	806-4166	1598RCBK	25.59
7.0	7.9	2.5	806-4157	1598DSBK	10.69	806-4167	1598RDBK	27.84
6.3	6.3	3.4	806-4158	1598ESBK	10.65	806-4168	1598REBK	27.63
9.8	6.3	1.6	806-4159	1598FSBK	10.43	806-4169	1598RFBK	30.54
9.8	6.3	2.9	806-4160	1598GSBK	12.23	806-4170	1598RGBK	32.79
11.0	7.9	1.6	806-4161	1598HSBK	12.19	806-4171	1598RHBK	34.92
11.0	7.9	2.9	806-4162	1598JSBK	14.21	806-4172	1598RJBK	38.76

High Impact Polystyrene Version — NEW —

Countersunk lid is secured with self tapping #4 x 1" slotted screws. Stocked in Grey.

Stock No.	Mfr.'s Type	Dimensions			EACH
		A	B	C	
806-4130	1594ASGY	2.2	2.2	1.1	4.31
806-4131	1594BSGY	3.2	2.2	1.1	4.54
806-4132	1594CSGY	4.1	2.6	1.3	4.95
806-4133	1594DSGY	5.2	2.6	1.7	5.29
806-4134	1594ESGY	6.5	4.1	2.1	6.90

General Purpose Plastic Cases



A medium impact FRABS carries a flammability rating of 94 V-0 at .05" thickness. Lid is secured with four machine screws threaded into tapped integral brass bushing. Stocked in black, beige and blue. Also available in grey. Optional PC Card Guides, replacement screws, watertight gasket kit and belt clip available. Factory stock in EMI/RFI shielded FRABS in black and watertight FRABS in black.

Black		Blue		Beige		Dimensions			EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	A	B	C	
806-0607	1594ABK	806-0612	1594ABU	806-0617	1594ABG	2.2	2.2	1.1	6.90
806-0608	1594BBK	806-0613	1594BBU	806-0618	1594BBG	3.2	2.2	1.1	7.45
806-0609	1594CBK	806-0614	1594CBU	806-0619	1594CBG	4.1	2.6	1.3	8.36
806-0610	1594DBK	806-0615	1594DBU	806-0620	1594DBG	5.2	2.6	1.7	8.96
806-0611	1594EBK	806-0616	1594EBU	806-0621	1594EBG	6.5	4.1	2.1	11.60

Tilt Handles

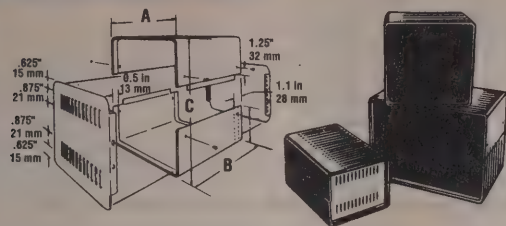
Stock No.	Mfr.'s Type	EACH
—	n/a	—
—	n/a	—
—	n/a	—
806-4173	1598TH1	9.67
806-4174	1598TH2	9.67
806-4173	1598TH1	9.67
806-4173	1598TH1	9.67
806-4173	1598TH1	9.67
806-4174	1598TH2	9.67
806-4174	1598TH2	9.67

Tilt Handles

Stock No.	Mfr.'s Type	EACH
—	n/a	—
—	n/a	—
—	n/a	—
806-4173	1598TH1	9.67
806-4174	1598TH2	9.67
806-4173	1598TH1	9.67
806-4173	1598TH1	9.67
806-4173	1598TH1	9.67
806-4174	1598TH2	9.67
806-4174	1598TH2	9.67

Aluminum, Instrument and Metal Utility Cases and Heavy Duty Chassis

1401 Series Instrument Cases



*Case is split in two equal halves

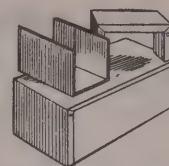
This 20-gauge CRS case has a sand-colored baked-on textured finish and .064"-thick aluminum (1 satin black, 1 sand) panels. The rear panel is vented top and bottom, 6-32 Phillips nickel-plated screws and self-adhesive rubber feet included.

Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH
		A	B	C	
806-3014	1401AAA	4	6	4.0	40.00
806-3015	1401AA	6	6	5.0	38.18
806-1200	1401A	6	10	5.0	36.36
806-1202	1401C	8	10	9.0	52.73
806-1204	1401E	8	8	8.0	49.09
806-1206	1401G	10	12	9.0	69.09
806-1208	1401K	10	14	6.5	61.82
806-1210	1401P	14	10	5.0	60.00

Note: Additional standard sizes available from factory.

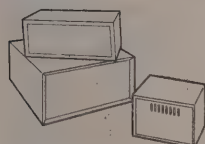
1411 Series Aluminum Cases

Constructed of .040" thick aluminum, ASA 61 gray, baked-on enamel finish (outside only). Four self-tapping screws included.

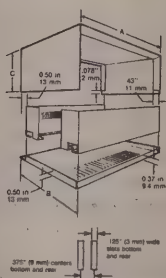


Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH	
		L	W	H	1-5	6-49
806-0011	1411B	2.7	2.2	1.6	4.32	3.65
806-0012	1411C	3.2	2.2	1.1	4.64	3.92
806-0013	1411D	3.2	2.2	1.6	4.70	3.98
806-0014	1411F	4.0	2.2	3.0	5.43	4.60
806-0015	1411G	4.0	2.2	1.6	4.86	4.12
806-0016	1411H	4.0	2.2	2.2	5.16	4.37
806-0017	1411K	5.0	2.2	2.2	5.50	4.65
806-0018	1411L	5.0	4.0	3.0	6.36	5.38
806-0019	1411M	6.0	3.0	3.0	6.55	5.54
806-0020	1411N	5.0	3.0	2.2	6.23	5.27
806-0021	1411P	6.0	5.0	4.0	8.18	6.92
806-0022	1411Q	7.0	5.0	3.0	8.57	7.25
806-0023	1411R	8.0	6.0	3.5	10.02	8.48
806-0024	1411S	8.0	4.0	3.0	8.55	7.23
806-0025	1411T	10.0	2.2	1.6	10.07	8.52
806-0026	1411U	10.0	6.0	3.5	11.73	9.92
806-0027	1411W	12.0	3.0	2.2	11.93	10.10
806-0028	1411X	12.0	7.0	4.0	15.75	13.33
806-0029	1411Z	17.0	5.0	4.0	18.23	15.42

Ventilated Low Profile Instrument Case



- 20 Gauge CRS Enclosure Finished in Sand Textured Paint
- .064" Thick Aluminum Panels Front and Rear
- Front Panel is Satin Black, Rear Panel Matches Case Color

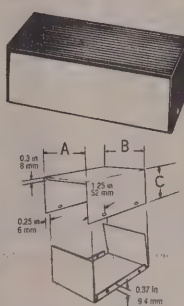


Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH
		A	B	C	
806-3006	1426K	6.0	5.0	4.0	34.55
806-3007	1426M	8.0	6.0	4.0	36.36
806-3008	1426O	10.0	7.0	4.0	38.18
806-3009	1426Q	11.0	11.7	5.5	49.09
806-3010	1426S	12.0	6.0	4.0	52.73
806-3011	1426V	12.0	8.0	4.0	49.09
806-3012	1426W	12.0	10.0	4.0	52.73
806-3013	1426Y	12.0	6.0	5.5	54.55

1454 Series Cases

- 20-Gauge CRS
- Sloping or Vertical Front Panels
- 6-32 Nickel-Plated Screws Furnished

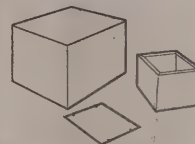
The 1454 series small cases are made of 20-gauge CRS. These cases have semigloss sand-colored panels with textured black covers. 6-32 Phillips nickel-plated screws and self-adhesive rubber feet are included. Reversing the case provides a choice of sloping or vertical front panels.



Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH	
		A	B*	C	1-5	6-49
806-1250	1454C	4.0	2.5	2.0	11.82	10.00
806-1255	1454E	4.0	5.0	2.0	12.73	10.77
806-1260	1454F	4.0	6.0	3.0	13.64	11.54
806-1265	1454H	5.0	7.5	2.5	14.55	12.31
806-1270	1454K	8.0	3.5	2.5	15.45	13.08
806-1275	1454L	5.0	6.0	4.0	14.55	12.31
806-1280	1454P	10.0	5.0	3.5	18.18	15.38

*Models with "B" dimension less than 5 inches have only one hole per side, center in "B".

Metal Utility Case

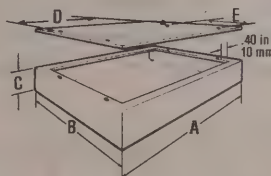
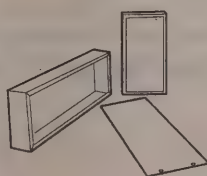


- Series A-E = 20 Ga. .036" Thick
- Series F-J = 18 Ga. .048" Thick
- ASA 61 Gray Baked Enamel
- Self Tapping Screws Included

Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH
		H	W	D	
806-3016	1415A	4	2	4	9.78
806-3017	1415B	4	3	5	12.12
806-3018	1415C	6	4	5	12.47
806-3019	1415D	6	6	6	15.74
806-3020	1415E	9	5	6	22.71
806-3021	1415F	10	7	8	29.03
806-3022	1415G	12	6	7	31.83
806-3023	1415H	8	10	10	39.23
806-3024	1415I	12	8	11	32.40
806-3025	1415J	7	9	15	42.47

Heavy Duty Chassis Cover and Cover Plates

- Spot Welded Heavy Duty Construction Chassis
- Aluminum Models Are Natural Finish
- Cover Plates Are Punched with 4 Holes (No Hardware Provided)

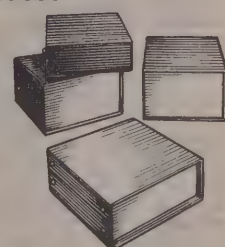


Dimensions (Inches)					Gauge	Chassis			Cover		
A	B	C	D	E		Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
4.0	4	2	3.62	3	.040	806-3026	1444-6	7.62	806-1400	1434-6	3.64
6.0	4	2	5.62	3	.040	806-3027	1444-8	7.88	806-1401	1434-8	3.75
8.0	4	1	7.62	3	.040	806-3028	1444-9	8.50	806-1402	1434-10	3.89
8.0	4	2	7.62	3	.040	806-3029	1444-10	9.72	806-1402	1434-10	3.89
7.0	5	2	6.62	3	.040	806-3030	1444-12	8.08	806-1403	1434-12	4.62
9.0	5	2	8.62	3	.040	806-3031	1444-14	8.82	806-1404	1434-14	4.73
10.0	6	1	9.62	4	.040	806-3032	1444-15	9.58	806-1405	1434-16	4.95
10.0	6	2	9.62	4	.040	806-3033	1444-16	11.10	806-1405	1434-16	4.95
13.5	5	2	13.12	3	.040	806-3034	1444-18	12.14	806-1406	1434-18	6.98
17.0	4	3	16.62	3	.040	806-3035	1444-20	15.66	806-1407	1434-20	7.09
12.0	8	2	11.62	6	.051	806-3036	1444-22	16.42	806-1408	1434-22	6.55
12.0	8	3	11.62	6	.051	806-3037	1444-24	16.70	806-1408	1434-22	6.55
16.0	8	2	15.62	6	.051	806-3038	1444-26	17.30	806-1409	1434-26	8.76
16.0	8	3	15.62	6	.051	806-3039	1444-28	20.06	806-1409	1434-26	8.76
12.0	10	2	11.62	8	.051	806-3040	1444-29	20.34	806-1410	1434-29	8.18
17.0	10	2	16.62	8	.051	806-3041	1444-30	19.02	806-1411	1434-30	9.89
17.0	10	3	16.62	8	.051	806-3042	1444-32	20.66	806-1411	1434-30	9.89
17.0	10	4	16.62	8	.051	806-3043	1444-33	31.30	806-1411	1434-30	9.89

Metal Instrument Cases

Low Profile Instrument Case

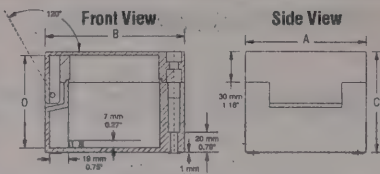
- 20 Gauge CRS Case With Gulf Blue Baked-On Textured Finish
- .064" Thick Aluminum Panels (One Satin Black and One Smoke White For Each Case)
- Symmetrical Design So Either End Can Be Front
- 6-32 Phillips Nickel Plated Screws and Self-Adhesive Rubber Feet Included



Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH
		W	L	H	
806-2090	1458A3B	4	4	3	24.75
806-2091	1458B4B	6	4	4	27.48
806-2092	1458C3B	6	6	3	28.13
806-2093	1458C4B	6	6	4	29.33
806-2094	1458D3B	8	8	3	30.60
806-2095	1458D4B	8	8	4	33.25
806-2096	1458D5B	8	8	5	34.58
806-2097	1458E3B	8	10	3	33.25
806-2098	1458E4B	8	10	4	35.92
806-2099	1458E5B	8	10	5	37.25
806-2100	1458G3B	10	8	3	34.58
806-2101	1458G4B	10	8	4	37.25
806-2102	1458G5B	10	8	5	38.57

Fiberglass Enclosures

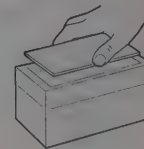
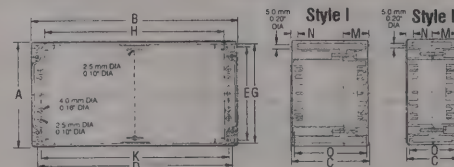
Two Piece molded fiberglass reinforced polyester construction. Comes with recessed neoprene gasket to meet NEMA type 1, 2, 3, 3R, 12, 13, 4, 4X and 5. Also, meets IEC 529, IP66. All metal parts are made of stainless steel. Optional accessories include inner panels and external mounting feet. Designed for use as instrument enclosures, electrical junction boxes or terminal wiring enclosures. Provides outstanding Protection against dust, oil and pressurized water. Impervious to atmospheric and marine corrosion. **Finish:** Light Beige.



Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH
		A	B	C	
806-0120	R130-120-000	4.7	5.5	3.9	53.79
806-0122	R130-122-000	4.7	7.9	3.9	61.18
806-0124	R130-124-000	4.7	10.2	3.9	68.72
806-4195	R130-160-000	6.3	7.1	3.9	76.38
806-4169	R130-162-000	6.3	10.2	3.9	94.51
806-4196	R130-164-000	6.3	13.4	3.9	112.88
806-4170	R130-200-000	7.9	8.7	4.7	109.79
806-4197	R130-202-000	7.9	12.6	4.7	132.14

Polycarbonate Water and Oil Tight Cases

Technocases are molded in a two piece high impact, smooth (ideal for labels, silk screens, decals, etc.) polycarbonate material with recessed gasket ideal for dust, water and oil tight applications. Polycarbonate material is rated UL94 V2. Units come complete with recessed polyurethane gasket, captive stainless steel screws and snap on screw covers for a clean finished appearance. ABS style watertight cases available from factory stock. **ABS Style:** 210 and 211 Series — Polycarbonate lid; 205 and 206 Series — Polycarbonate with transparent lid. **Finish:** Light Beige.



Polycarbonate

Stock No.	Mfr.'s Type	Style	Dimensions (Inches)			EACH
			A	B	C	
806-3125	R210-080-000	I	3.15	3.15	2.36	19.55
806-3126	R211-080-000	II	3.15	3.15	3.15	20.57
806-3127	R210-082-000	I	3.15	4.72	2.36	20.86
806-3128	R211-082-000	II	3.15	4.72	3.15	22.31
806-3129	R210-084-000	I	3.15	6.30	2.36	24.68
806-3130	R211-084-000	II	3.15	6.30	3.15	26.26
806-3131	R210-086-000	I	3.15	9.45	2.36	28.53
806-3132	R211-086-000	II	3.15	9.45	3.15	30.39
806-3133	R210-120-000	I	4.72	4.72	2.36	28.17
806-3135	R211-120-000	II	4.72	4.72	3.54	30.04
806-3136	R210-122-000	I	4.72	7.87	2.36	32.30
806-3137	R211-122-000	II	4.72	7.87	3.54	34.52
806-3138	R210-124-000	I	4.72	9.45	2.36	34.21
806-3139	R211-124-000	II	4.72	9.45	3.54	36.37
806-3140	R210-160-000	I	6.30	6.30	2.36	37.68
806-3141	R211-160-000	II	6.30	6.30	3.54	39.72
806-3142	R210-162-000	I	6.30	9.45	2.36	42.17
806-3143	R211-162-000	II	6.30	9.45	3.54	46.30

Polycarbonate With Transparent Lid

Stock No.	Mfr.'s Type	Style	Dimensions (Inches)			EACH
			A	B	C	
806-6500	R205-080-000	I	3.15	3.15	2.36	20.24
806-6501	R206-080-000	II	3.15	3.15	3.15	21.39
806-6502	R205-082-000	I	3.15	4.72	2.36	21.66
806-6503	R206-082-000	II	3.15	4.72	3.15	23.26
806-6504	R205-084-000	I	3.15	6.30	2.36	27.33
806-6505	R206-084-000	II	3.15	6.30	3.15	27.44
806-6506	R205-086-000	I	3.15	9.45	2.36	29.77
806-6507	R206-086-000	II	3.15	9.45	3.15	32.24
806-6508	R205-120-000	I	4.72	4.72	2.36	29.20
806-6509	R206-120-000	II	4.72	4.72	3.54	30.17
806-6510	R205-122-000	I	4.72	7.87	2.36	33.57
806-6511	R206-122-000	II	4.72	7.87	3.54	34.77
806-6512	R205-124-000	I	4.72	9.45	2.36	35.48
806-6513	R206-124-000	II	4.72	9.45	3.54	37.75
806-6514	R205-160-000	I	6.30	6.30	2.36	39.12
806-6515	R206-160-000	II	6.30	6.30	3.54	41.15
806-6516	R205-162-000	I	6.30	9.45	2.36	43.90
806-6517	R206-162-000	II	6.30	9.45	3.54	46.32

Accessories

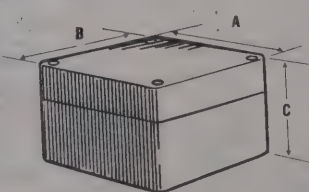
- Recessed Front Plates: Top and Bottom Are Recessed 0.8 mm To Accept Optional, Self Adhesive, Anodized Aluminum Front Plates
- Mounting Feet: Optional External Mounting Feet for 90 Degree To 90 Degree Adjustable Mounting

- Hinges: Unique Internal Hinges Are Completely Hidden From View When The Case Is Closed and Can Be Installed At Any Time

Type/Size	Front Plates			Mounting Feet			Internal Hinges		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	PER SET/4	Stock No.	Mfr.'s Type	PER SET/2
080	806-6518	R542-000-080	2.69	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
082	806-6519	R542-000-082	3.51	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
084	806-6520	R542-000-084	4.20	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
086	806-6521	R542-000-086	7.75	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
120	806-6522	R542-000-120	5.22	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
122	806-6523	R542-000-122	7.26	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
124	806-6524	R542-000-124	9.75	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
160	806-6525	R542-000-160	7.62	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84
162	806-6526	R542-000-162	12.55	806-6527	R541-000-000	1.93	806-6528	R546-000-000	1.84

ROLEC® Enclosures Aluminum NEMA 4X Enclosures

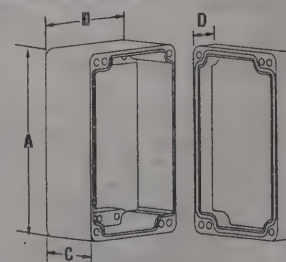
Enclosure Material: Aluminum G Al Si 12/DIN 1725. **Lid Screws:** Made of stainless steel. **Degree of Protection:** IP 65/DIN 40 050 (Watertight) Meet NEMA/IEC Type 1, 2, 3R, 4, 4X, 5, 12, 13 requirements. **External Mounting:** Special developed external mounting foot made from zinc-diecast. Can be turned through 90°. The fastening holes have engagement lugs for this purpose. **Internal Mounting:** All sizes with inner blind holes. An internal panel made of zinc-plated steel-plate is available. **Color:** Baked enamel finish, beige RAL 7032, Pantone No. 413. Special paint finishes are available in quantity on special request. **Gasket:** Oil and petroleum resistant Neoprene gasket.



Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH	
		A	B	C	1-5	6-99
806-0003	R100-060-000	2.6	2.0	1.6	14.33	12.28
806-0004	R100-062-000	2.6	2.6	1.6	16.48	14.13
806-0005	R100-064-000	2.6	3.9	1.6	19.84	17.01
806-0006	R100-080-000	3.1	3.1	2.4	24.15	20.70
806-0007	R100-082-000	3.1	4.7	2.4	31.61	27.10
806-0008	R100-084-000	3.1	6.3	2.4	35.99	30.85
806-0009	R100-102-000	3.9	5.9	3.1	44.83	38.43
806-0010	R100-104-000	3.9	7.9	3.1	52.99	45.42
806-0037	R100-120-000	4.7	4.7	3.9	55.81	47.84
806-0038	R100-160-000	6.3	6.3	3.9	73.23	62.77

Watertight Diecast Enclosures

— NEW —



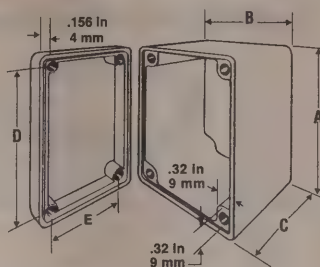
Watertight diecast comes with interlocking flange lid with recessed screws and neoprene gasket. Finished in natural aluminum.

Stock No.	Mfr.'s Type	Dimensions (Inches)				EACH
		A	B	C	D	
806-4145	1590Z110	2.95	3.14	1.57	0.47	36.75
806-4146	1590Z120	4.92	3.14	1.69	0.61	48.03
806-4147	1590Z130	6.89	3.14	1.57	0.47	53.05
806-4148	1590Z135	6.89	3.14	1.57	0.79	35.00
806-4149	1590Z150	8.70	4.74	2.40	0.81	100.12
806-4150	1590Z160	8.70	4.74	2.40	0.81	70.00

Diecast Aluminum Enclosures

1590 Diecast Aluminum Boxes

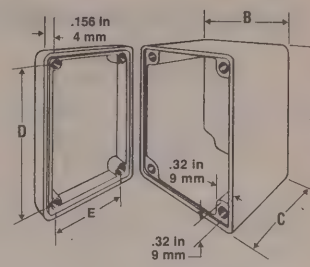
These diecast aluminum alloy boxes with tumbled surface come drilled and tapped with countersunk lid and four 6-32 x 1/2 Phillips screws (models "D" and "E" have two additional center posts and six screws). These boxes are excellent for RF/audio connectors because of their RF shielding capabilities due to an interlocking flange in the lid. The aluminum alloy allows for easy drilling and punching with the durability of metal.



Stock No.	Mfr.'s Type	Dimensions (Inches)					EACH	
		A	B	C	D	E	1-9	10-99
806-1530	1590A	3.62	1.50	1.07	3.24	1.12	6.00	5.00
806-1531	1590B	4.37	2.37	1.07	3.99	1.99	7.59	6.33
806-1532	1590BB	4.68	3.68	1.18	4.31	3.31	9.46	7.88
806-1533	1590C	4.68	3.68	2.06	4.31	3.31	10.18	8.48
806-1534	1590D	7.39	4.70	2.06	7.00	4.31	16.65	13.88
806-1535	1590E	7.39	4.70	3.06	7.00	4.31	17.82	14.85
806-1536	1590F	7.39	7.37	2.50	7.00	7.00	25.06	20.88
806-1537	1590LB	1.98	1.98	1.07	1.60	1.60	6.56	5.47
806-0701	1590S	4.33	3.23	1.58	3.96	2.85	9.60	8.00
806-0702	1590T	4.72	3.15	2.17	4.35	2.78	9.90	8.25
806-0703	1590U	4.72	4.72	2.17	4.35	4.35	14.56	12.13
806-0704	1590V	4.72	4.72	3.54	4.35	4.35	20.00	16.67

1590 Painted Aluminum Boxes

Same boxes as Diecast, except exterior painted with a durable, black textured baked enamel finish. Natural interior finish (to insure shielding/grounding properties). Other color painted boxes available — call your nearest Allied facility.

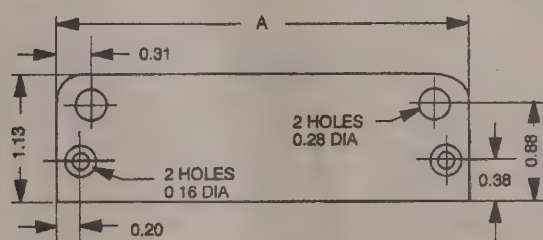


Stock No.	Mfr.'s Type	Dimensions (Inches)					EACH	
		A	B	C	D	E	1-9	10-99
806-3044	1590ABK	3.62	1.50	1.07	3.24	1.12	8.10	6.75
806-3045	1590BBK	4.37	2.37	1.07	3.99	1.99	8.92	7.43
806-3046	1590BBBK	4.68	3.68	1.18	4.31	3.31	12.30	10.25
806-3047	1590CBK	4.68	3.68	2.06	4.31	3.31	14.00	11.67
806-3048	1590DBK	7.39	4.70	2.06	7.00	4.31	22.64	18.87
806-3049	1590EBK	7.39	4.70	3.06	7.00	4.31	24.12	20.10
806-3050	1590FBK	7.39	7.37	2.50	7.00	7.00	32.58	27.15
806-3051	1590LBK	1.98	1.98	1.07	1.60	1.60	8.52	7.10
806-3052	1590SBK	4.33	3.23	1.58	3.96	2.85	12.48	10.40
806-3053	1590TBK	4.72	3.15	2.17	4.35	2.78	12.88	10.73
806-3054	1590UBK	4.72	4.72	2.17	4.35	4.35	18.92	15.77
806-3055	1590VBK	4.72	4.72	3.94	4.35	4.35	26.00	21.67

External Mounting Flanges

- ▶ 2 Per Package
- ▶ Mounting Hardware Included
- ▶ Stocked in Natural Finish
- ▶ For Use With 1590 Diecast Aluminum Boxes

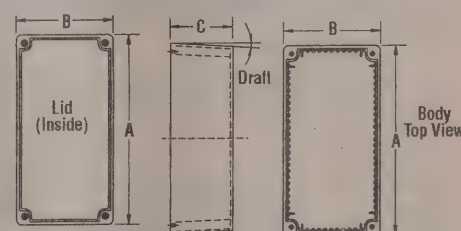
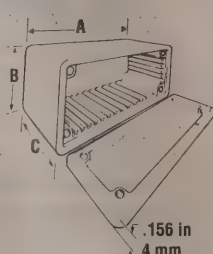
Stock No.	Mfr.'s Type	A	Use With Sizes	EACH
806-4136	1590B03	3.70	B/BB/C	1.50
806-4137	1590D03	4.72	D/E/U/V	1.62
806-4138	1590F03	7.41	F	2.10
806-4139	1590C03	3.23	S	2.10



PC Card Diecast Boxes

- ▶ Internal Slots On 0.2" Centers Hold 0.062" Thick PC Cards or Dividers

Diecast boxes come with 3 mm slot head screws, countersunk into lid and threaded in tapped holes. Rated to 600°C (112°F). Interlocking flange lid. Factory Stock in painted gray — optional lid gaskets available to provide seal against moisture.



Note: Assembled height=dimension "C" + 0.16" (4.0 mm)

Boxes

Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH
		A	B	C	
806-5045	1590L	4.00	2.00	0.84	7.67
806-5046	1590M	4.40	2.44	1.06	9.22
806-5047	1590N	4.75	2.56	1.40	10.44
806-5048	1590P	6.00	3.15	1.84	13.63
806-5049	1590R	7.50	4.33	2.22	21.22

Lid Gasket

Stock No.	Mfr.'s Type	EACH
806-4140	1590LG	3.85
806-4141	1590MG	4.77
806-4142	1590NG	5.47
806-4143	1590PG	6.30
806-4144	1590RG	7.08

Panel Screws and Washers

Stock No.	Mfr.'s Type	Description	Quantity Per Pack	PER PACK
806-5064	1421 E25B	Nickel plated 10-32 x .5" countersunk, slotted, oval-head screw	25	4.14
806-5065	1421 E100B	Nickel plated 10-32 x .5" countersunk, slotted, oval-head screw	100	9.86
806-5066	1421 A25B	Nickel plated 10-32 x .75" countersunk, Phillips, oval-head screw	25	4.70
806-5067	1421 A100B	Nickel plated 10-32 x .75" countersunk, Phillips, oval-head screw	100	17.53
806-5068	1421 G	Nickel plated 10-32 x .37" slotted, binding-head screw with flat nylon washer. Same as supplied on system rack side panels and turrets	8	3.18
806-5070	1421 A	10-32 x .75" Phillips, oval-head screw with plastic cup washer	4	3.02
806-5073	1421 E25W	Nickel plated metal cup washer for countersunk 10-32 screws	25	3.32
806-5074	1421 E100W	Nickel plated metal cup washer for countersunk 10-32 screws	100	12.91
806-5075	1421 A25W	Black plastic cup washer for countersunk 10-32 screws	25	8.26
806-5076	1421 A100W	Black plastic cup washer for countersunk 10-32 screws	100	31.85



1421 E25B



1421 E25W

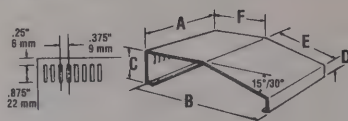
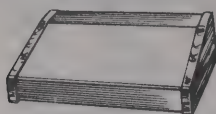


1421 A



1421 G

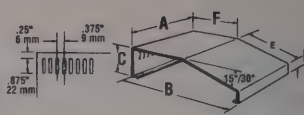
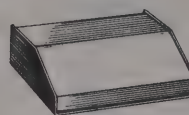
Desk Top Consoles Pre-Assembled



These walnut cases are made with solid oiled walnut side panels mounted on a ventilated steel base. Hardware and rubber feet are supplied. Panels are finished with satin off-white complete with rubber feet and necessary hardware.

Stock No.	Mfr.'s Type	Angle	Dimensions (Inches)						EACH
			A	B	C	D	E	F	
806-4119	CE2WHCWW	15°	4.0	5.5	2.0	1.1	3.3	2.2	36.36
806-4120	FH2WHCWW	15°	6.5	8.5	2.0	1.1	3.3	5.2	43.64
806-4121	KH3WHCWW	15°	10.0	8.3	3.0	1.3	6.3	2.2	50.91
806-4122	PH3WHCWW	15°	14.0	8.3	3.0	1.3	6.3	2.2	54.55
806-4123	PL3WHCWW	15°	14.0	11.3	3.0	1.3	6.3	5.2	60.00
806-4124	CE3WHCWW	30°	4.0	5.5	3.0	1.1	3.7	2.2	43.64
806-4125	PK4WHCWW	30°	14.0	10.2	4.0	1.1	3.7	5.2	61.82

Assembled 1456 Metal Consoles



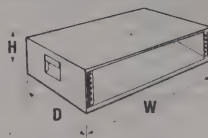
This case is formed .081" aluminum and has a textured baked-on blue enamel finish. The panel is aluminum and is finished with an off-white finish. The panel and the case are packaged together.

Stock No.*	Mfr.'s Type	Angle	Dimensions (Inches)						EACH
			A	B	C	D	E	F	
806-1348	CE2WHBU	15°	4.0	5.5	2.0	1.1	3.3	2.2	18.18
806-1344	FE2WHBU	15°	6.5	5.5	2.0	1.1	3.3	2.2	20.00
806-1346	KE3WHBU	30°	10.0	5.5	3.0	1.1	3.7	2.2	27.27
806-1350	PH3WHBU	15°	14.0	8.3	3.0	1.3	6.3	2.2	36.36
806-1352	PL3WHBU	15°	14.0	11.3	3.0	1.3	6.3	5.2	43.64
806-1354	FG4WHBU	30°	6.5	7.2	4.0	1.1	5.7	2.2	27.17
806-1356	KK4WHBU	30°	10.0	10.2	4.0	1.1	5.7	5.2	36.36
806-1358	PK4WHBU	30°	14.0	10.2	4.0	1.1	5.7	5.2	43.64

Note: Additional standard sizes available from factory.

RCBS Series Table Top Racks

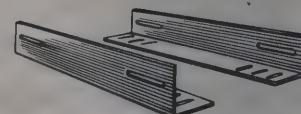
An economical table top rack constructed in 18 gauge steel. With fixed panel rails, recessed side lifting handles and rubber feet. Accepts standard 19" panels. Contempra Gray enamel.



Stock No.	Mfr.'s Type	Panel Ht. (Inches)	Dimensions (Inches)			EACH
			H	W	D	
806-4000	RCBS1900313CG1	3.50	4.50	20	13	98.81
806-4001	RCBS1900513CG1	5.25	6.25	20	13	106.32
806-4002	RCBS1900713CG1	7.00	8.00	20	13	144.97
806-4003	RCBS1900813CG1	8.75	9.75	20	13	130.26
806-4004	RCBS1901013CG1	10.50	11.50	20	13	136.26
806-4005	RCBS1901213CG1	12.25	13.25	20	13	148.23
806-4006	RCBS1901413CG1	14.00	15.00	20	13	185.66

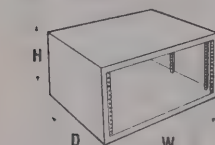
Adjustable Support Angles

Mount on accessory rails with either leg of angle used as support, depending upon requirements. Slots allow up-down or front-back adjustments. Color: gloss white.



Stock No.	Mfr.'s Type	Length (Inches)	EACH
806-2061	RASA12WH2	9.97	24.83
806-2062	RASA16WH2	14.95	27.07
806-2063	RASA22WH2	20.95	30.55

RCBS Series Table Top Racks



Heavy duty table top rack constructed in 18 gauge steel. With fixed punched rails front and rear to accept 19" and rail mount accessories. Contempra Gray finish.

Stock No.	Mfr.'s Type	Panel Ht. (Inches)	Dimensions (Inches)			EACH
			H	W	D	
806Q4007	RCHS1900817CG1	8.75	10.75	21	17.5	191.56
806Q4008	RCHS1901017CG1	10.50	12.50	21	17.5	221.53
806Q4009	RCHS1901417CG1	14.00	16.00	21	17.5	226.80
806Q4010	RCHS1901717CG1	17.50	19.50	21	17.5	235.51
806Q4011	RCHS1902217CG1	22.75	24.75	21	17.5	256.45
806Q4012	RCHS1902817CG1	28.00	30.00	21	17.5	301.45

Blank Rack Panels

Panels are made from high quality aluminum, .125". Color: CG2 gray; BK2 Black.

Gray		Black		Panel Height (Inches)	EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		
806-4013	PBPA19001CG2	806-3090	PBPA19001BK2	1.75	9.70
806-4014	PBPA19003CG2	806-3091	PBPA19003BK2	3.50	14.31
806-4015	PBPA19005CG2	806-3092	PBPA19005BK2	5.25	20.44
806-4016	PBPA19007CG2	806-3093	PBPA19007BK2	7.00	25.54
806-4017	PBPA19008CG2	806-3094	PBPA19008BK2	8.75	30.21
806-4018	PBPA19010CG2	806-3095	PBPA19010BK2	10.50	34.05
806-4019	PBPA19012CG2	806-3096	PBPA19012BK2	12.25	40.85
806-4020	PBPA19014CG2	806-3097	PBPA19014BK2	14.00	45.97
806-4021	PBPA19015CG2	806-3098	PBPA19015BK2	15.75	49.37
806-4022	PBPA19017CG2	806-3099	PBPA19017BK2	17.50	56.20
806-4023	PBPA19019CG2	806-3100	PBPA19019BK2	19.25	65.13
806-4024	PBPA19021CG2	806-3101	PBPA19021BK2	21.00	69.81
806-4025	PBPA19022CG2	806-3102	PBPA19022BK2	22.75	74.07
806-4026	PBPA19024CG2	806-3103	PBPA19024BK2	24.50	80.88
806-4027	PBPA19026CG2	806-3104	PBPA19026BK2	26.25	86.85
806-4028	PBPA19028CG2	806-3105	PBPA19028BK2	28.00	92.80
806-4029	PBPA19029CG2	806-3106	PBPA19029BK2	29.75	97.05
806-4030	PBPA19031CG2	806-3107	PBPA19031BK2	31.50	99.63

Nylon Casters

Twin nylon swivel wheel with zinc axle and hood, 2.37" wheel dia. with 2.75" mounted height, 5/16-18 threaded stem, 400 lbs. capacity per set. Set of 4.



806-3108. 1425 P. Nylon Caster Set.....PER SET/4 77.18



Contempra II Electronic Rack Systems, Economy Racks, Relay Racks and Accessories

Economy Racks

A knock-down cabinet that couldn't be simpler to assemble — only one bolt in each corner locks the cabinet sides to the top or bottom. The strength comes from the interlocking structure. The two combination panel-accessory rails are fully adjustable. Four adjustable leveling glides are standard on all models. All cabinets are shipped complete except for front and back doors or panels. **Color:** GY2 gray or CG1 contempra gray. **Depth:** 24.5".



Gray		Contempra Gray		Panel Height (Inches)	EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		
806Q2000	REFK1903524GY2	806Q4090	REFK1903524CG1	35	415.09
806Q2001	REFK1904224GY2	806Q4091	REFK1904224CG1	42	446.40
806Q2002	REFK1904924GY2	806Q4092	REFK1904924CG1	49	509.06
806Q2003	REFK1906324GY2	806Q4093	REFK1906324CG1	63	563.88
806Q2004	REFK1907024GY2	806Q4094	REFK1907024CG1	70	626.55



Rack Doors

Solid flush doors that provide 2-point keyed locking, recessed handles. Instant removal by means of spring-loaded hinge pins and choice of hinge sides by means of inverting the door. The flush doors fit either side of the Economy racks, fill the panel space and close flush with the cabinet frame. **Color:** GY2 gray or CG1 contempra gray.

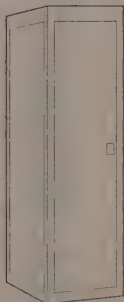
Gray		Contempra Gray		Panel Height (Inches)	EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		
806Q2010	RSDF19035GY2	806Q4095	RSDF19035CG1	35	109.64
806Q2011	RSDF19042GY2	806Q4096	RSDF19042CG1	42	129.24
806Q2012	RSDF19049GY2	806Q4097	RSDF19049CG1	49	143.31
806Q2013	RSDF19063GY2	806Q4098	RSDF19063CG1	63	166.06
806Q2014	RSDF19070GY2	806Q4099	RSDF19070CG1	70	175.43

Louvered Rack Doors

Flush louvered doors that provide 2-point keyed locking, recessed handles. Instant removal by means of spring-loaded hinge pins. The flush doors fit either side of the Economy racks, fill the panel space and close flush with the cabinet frame. **Color:** GY2 gray or CG1 contempra gray.



Gray		Contempra Gray		Panel Height (Inches)	EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		
806Q3080	RSDL19035GY2	806Q4100	RSDL19035CG1	35	124.32
806Q3081	RSDL19042GY2	806Q4102	RSDL19042CG1	42	142.06
806Q3082	RSDL19049GY2	806Q4103	RSDL19049CG1	49	159.87
806Q3083	RSDL19063GY2	806Q4104	RSDL19063CG1	63	190.29
806Q3084	RSDL19070GY2	806Q4105	RSDL19070CG1	70	202.99

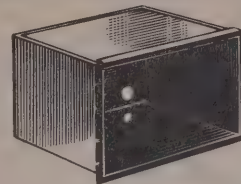


Contempra II Electronic Rack System

— NEW —

Extremely sturdy unit which is capable of handling 1200 lbs. of evenly loaded equipment. This system is fully assembled with frame, side panels, one solid door, solid top, four full height combination rails, four adjustable leveling feet and clip nuts.

Stock No.	Mfr.'s Type	Panel Height (Inches)	EACH
806Q4106	C2RR196323CG1	63.00	1198.13
806Q4107	C2RR197023CG1	70.00	1301.12
806Q4108	C2RR197823CG1	78.75	1407.79



Equipment Shelf

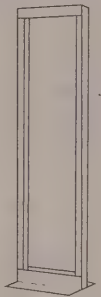
A closed utility shelf with cord access holes 1.5" diameter in each bottom corner. Finished in WH2 White. **NOTE:** Inside width is 17.2". Inside Depth: 15.0". Inside Height: 1.0" less than panel space.

Stock No.	Mfr.'s Type	Panel Height (Inches)	EACH
806-1900	RASE1900815WH2	8.75	80.48
806-1902	RASE1901015WH2	10.50	83.26
806-1901	RASE1901215WH2	12.25	93.42

Heavy Duty Relay Racks

- Accepts 19" Panels
- Drilled and Tapped #10-32 E.I.A. Spacing On Front Flange Only
- Formed 10 Ga. Steel 3" x 1.4" Rails
- Finished In Black Satin Baked Enamel

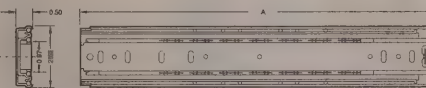
Perfect where space is limited or easy equipment access is required. Available in Heavy Duty steel construction.



Stock No.	Mfr.'s Type	Panel Height		EACH
		In.	U	
806Q5001	DNRR63HDW	63	36	257.37
806Q5005	DNRR70HDW	70	40	261.35
806Q5003	DNRR77HDW	77	44	270.94
806Q5004	DNRR84HDW	84	48	274.72

Equipment Slides

— NEW —

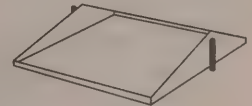


- Mounts On Combination Rail Front Flange (Not Included)
- Sold In Pairs
- Hardware Included

Stock No.	Mfr.'s Type	Length A (Inches)	Capacity (Pair)	PER PAIR
806-4109	RSLIDE12	12	120	121.98
806-4110	RSLIDE16	16	130	126.07
806-4111	RSLIDE22	22	120	135.90

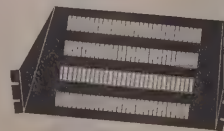
Rail-Mounted Dual Modem Shelf

- For Convenient 19" Mounting For Front and Rear Access Of Modems On Relay Racks
- Formed 14 Ga. Steel
- Painted ASA 61 Grey
- Mounting Hardware Not Included — Please Order Separately



806-5023. DNDMS19GY2. Dual Modem Shelf EACH 63.23

Rail-Mounted Modem Shelf Unit — Ventilated

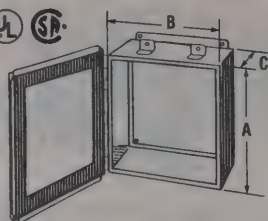


- An Economical Internal Or External Shelf Or Work Space
- 14 Ga. Steel
- 15" Depth
- Textured Black Finish
- Mounting Hardware Not Included — Please Order Separately

Stock No.	Mfr.'s Type	Panel Height		EACH
		In.	U	
806-5024	RASV190515BK1	5.25	3	76.73



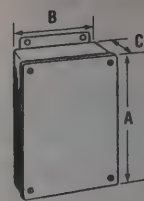
NEMA Type 12 Hinged Cover



- Machine Tool Control Transformers Available; See Transformer Section
- Suitable For Transformer Or Instrument Housings
- Protects From Dirt, Dust, Oil and Water
- Used As Electrical Junction, Terminal Wiring Boxes
- For Mounting Pneumatic Or Hydraulic Instruments Or As A Junction Point For Control Tubing

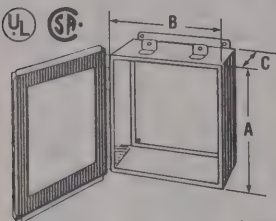
Stock No.	Mfr.'s Type	Box Size (In.)			Panel Size (In.)		Shipping Weight (Lbs.)	EACH
		A	B	C	Length	Width		
806-1500	1414PHG	8	6	3.5	6.75	4.88	6.0	45.16
806-1505	1414PHI	10	8	4.0	8.75	6.88	10.0	56.46
806-1510	1414PHK	12	10	5.0	10.75	8.88	13.0	72.53
806-1514	1414PHA	4	4	3.0	No Panel		2.0	29.24
806-1515	1414PHM6	14	12	6.0	12.87	10.87	19.0	91.89
806-1516	1414PHC	6	4	3.0	4.87	2.87	3.0	36.15
806-1517	1414PHE	6	6	4.0	4.87	4.87	4.7	42.25
806-1518	1414PHO6	16	14	6.0	14.87	12.87	23.0	109.43
806-1519	1414PHM8	14	12	8.0	12.87	10.87	20.0	101.33
806-1520	1414PHO10	16	14	10.0	14.87	12.87	25.0	131.37

NEMA Type 12 Screw Cover



- Machine Tool Control Transformers Available; See Transformer Section
- Suitable For Transformer Or Instrument Housings
- Protects From Dirt, Dust, Oil and Water
- Used As Electrical Junction, Terminal Wiring Boxes
- For Mounting Pneumatic Or Hydraulic Instruments Or As A Junction Point For Control Tubing

Stock No.	Mfr.'s Type	Box Size (In.)			Panel Size (In.)		Shipping Weight (Lbs.)	EACH
		A	B	C	Length	Width		
806-1521	1414SCA	4	4	3.0	No Panel		2	30.15
806-1522	1414SCC	6	4	3.0	4.87	2.87	3	37.31
806-1523	1414SCG	8	6	3.5	6.75	4.87	6	46.57
806-1524	1414SCE	6	6	4.0	4.87	4.87	5	43.60
806-1525	1414SCI	10	8	4.0	8.75	6.87	10	58.36
806-1526	1414SCK	12	10	5.0	10.75	8.87	14	74.95
806-1527	1414SCM6	14	12	6.0	12.75	10.87	19	94.93
806-1528	1414SCC6	16	14	6.0	14.75	12.87	24	113.03
806-1529	1414SCM8	14	12	8.0	12.75	10.87	22	133.01
806-1540	1414SCO10	16	14	10.0	14.75	12.87	29	181.18

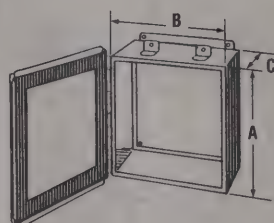


NEMA Type 4 Hinged Cover

- Machine Tool Control Transformers Available; See Transformer Section
- Suitable For Transformer Or Instrument Housings
- Protects From Dirt, Dust, Oil and Water
- Used As Electrical Junction, Terminal Wiring Boxes
- For Mounting Pneumatic Or Hydraulic Instruments Or As A Junction Point For Control Tubing

Stock No.	Mfr.'s Type	Box Size (In.)			Panel Size (In.)		Shipping Weight (Lbs.)	EACH
		A	B	C	Length	Width		
806-1541	1414N4PHA	4	4	3.0	No Panel		2	41.83
806-1542	1414N4PHC	6	4	3.0	4.88	2.88	3	49.94
806-1543	1414N4PHG	8	6	3.5	6.75	4.88	6	61.94
806-1544	1414N4PHE	6	6	4.0	4.88	4.88	5	58.23
806-1545	1414N4PHI	10	8	4.0	8.75	6.88	10	77.41
806-1546	1414N4PHI6	10	8	6.0	8.75	6.88	12	86.82
806-1547	1414N4PHK	12	10	5.0	10.75	8.88	15	99.39
806-1548	1414N4PHL6	12	12	6.0	10.75	8.88	25	105.49
806-1571	1414N4PHM6	14	12	6.0	12.75	10.88	21	125.49
806-1572	1414N4PHO6	16	14	6.0	14.75	12.88	26	149.14
806-1573	1414N4PHM8	14	12	8.0	12.75	10.88	22	135.12
806-1574	1414N4PHO10	16	14	10.0	14.75	12.88	28	176.38

NEMA 4X Stainless Steel Type 304 Hinged Cover



- Machine Tool Control Transformers Available; See Transformer Section
- Suitable For Transformer Or Instrument Housings
- Perfect For Applications Where Serious Corrosion Exists
- Protects From Dirt, Oil, Water
- Provides Protection Where Equipment May Be Hosed Down Or Very Wet

Stock No.	Mfr.'s Type	Box Size (In.)			Panel Size (In.)		Mfg. Ctrs. (In.)		Shipping Weight (Lbs.)	EACH
		A	B	C	Length	Width	E	D		
806-3110	1414N4PHSSC4	6	4	4.0	4.88	2.88	6.75	2	5	143.89
806-3111	1414N4PHSSC6	6	6	4.0	4.88	4.88	6.75	4	6	162.06
806-3112	1414N4PHSSG4	8	6	3.5	6.75	4.88	8.75	4	6	180.72
806-3113	1414N4PHSSG6	8	6	4.0	6.75	4.88	8.75	4	7	180.08
806-3114	1414N4PHSSI	10	8	4.0	8.75	6.88	10.75	6	10	223.47
806-3115	1414N4PHSSK	12	10	5.0	10.75	8.88	12.75	8	15	313.48
806-3116	1414N4PHSSL6	12	12	6.0	10.75	10.88	12.75	10	20	345.77
806-3117	1414N4PHSSM6	14	12	6.0	12.75	10.88	14.75	10	21	378.27
806-3118	1414N4PHSSO6	16	14	6.0	14.75	12.88	16.75	12	26	451.26
806-3119	1414N4PHSSM8	14	12	8.0	12.75	10.88	14.75	10	22	401.42
806-3120	1414N4PHSSO10	16	14	10.0	14.75	12.88	16.75	12	28	500.96

Series 2000 Single Door Enclosures

- Machine Tool Control Transformers Available; See Transformer Section

NEMA 2000

The Series 2000 enclosure offers the latest in enclosure technology and design for improved aesthetics, convenience and value. Available in two finishes, these enclosures provide flexibility for electrical and electronic applications with UL and CSA listings. Perfect for equipment protection from dust, oil, water and other contaminants. Simply pick the series that matches your protection level. Available in 304 stainless steel from the factory.

NEMA 12 — Oil and Dust Tight

Stock No.	Mfr.'s Type	Box Size (Inches)			EACH
		H	W	D	
806-3150	2R12126	12	12	6	155.44
806-3151	2R16126	16	12	6	165.92
806-3152	2R16166	16	16	6	178.74
806-3153	2R20166	20	16	6	191.56
806-3154	2R20206	20	20	6	206.71
806-3155	2R20168	20	16	8	202.04
806-3156	2R24168	24	16	8	216.03
806-3157	2R16208	16	20	8	202.04
806-3158	2R20208	20	20	8	218.36
806-3159	2R24208	24	20	8	234.07

NEMA 4 — Watertight

Stock No.	Mfr.'s Type	H	W	D	EACH
806-3170	2P12126	12	12	6	162.85
806-3171	2P16126	16	12	6	173.82
806-3172	2P16166	16	16	6	187.25
806-3173	2P20166	20	16	6	200.69
806-3174	2P20206	20	20	6	216.55
806-3175	2P20168	20	16	8	211.66
806-3176	2P24168	24	16	8	226.32
806-3177	2P16208	16	20	8	211.66
806-3178	2P20208	20	20	8	228.75
806-3179	2P24208	24	20	8	245.84

Steel Inner Panels

Stock No.	Mfr.'s Type	Inner Panel (Inches)		EACH
		H	W	
806-3160	18P0909	9	9	12.74
806-3161	18P1309	13	9	17.41
806-3162	18P1313	13	13	21.41
806-3163	18P1713	17	13	25.47
806-3164	18P1717	17	17	30.76
806-3163	18P1713	17	13	25.47
806-3166	18P2113	21	13	29.62
806-3163	18P1713	17	17	25.47
806-3164	18P1717	17	17	30.76
806-3169	18P2117	21	17	39.85

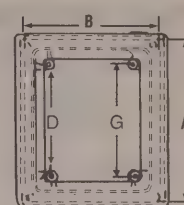
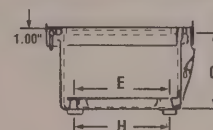
Steel Inner Panels

Stock No.	Mfr.'s Type	H	W	EACH
806-3160	18P0909	9	9	12.74
806-3161	18P1309	13	9	17.41
806-3162	18P1313	13	13	21.41
806-3163	18P1713	17	13	25.47
806-3164	18P1717	17	17	30.76
806-3163	18P1713	17	13	25.47
806-3166	18P2113	21	13	29.62
806-3163	18P1713	17	17	25.47
806-3164	18P1717	17	17	30.76
806-3169	18P2117	21	17	39.85

NEMA Type Enclosures and Nema Wallmount Enclosures

PJ Series Non-Metallic Enclosures NEMA Type 4, 4X

- Application**
- Designed To Insulate and House Electrical and Electronic Controls, Instruments Or Components
 - Protects From Dirt, Dust, Oil and Water
- Construction**
- Strong Molded Fiberglass Reinforced Polyester Construction With Matching Cover
 - Continuous Stainless Steel Hinge Where Provided
 - Captive Stainless Steel Cover Screws
 - Stainless Steel Wall Mounting Hardware Included
- Especially Well Suited To Higher Temperature Or Corrosive Environments
- Machine Tool Control Transformers Available; See Transformer Section
- Threaded Integral Bushings Provided For Optional Inner Panel Or Terminal Kits
- JIC Sizing
- Fiberglass Material Is Easily Punched, Drilled Or Sawn



Snap Latch

Stock No.	Mfr.'s Type	Overall Dimensions (In.)			Panel Size (In.)		Mtg. Ctr. (In.)		EACH
		A	B	C	D	E	G	H	
806-1580	PJ664L	7.04	7.04	4.13	4.88	4.88	5.01	5.01	54.73
806-1581	PJ864L	8.94	7.06	4.13	6.75	4.88	5.01	6.89	57.05
806-1582	PJ1086L	11.08	9.20	6.13	8.75	6.88	7.01	8.89	61.19
806-1583	PJ12106L	13.08	11.20	6.13	10.75	8.88	9.01	10.89	73.61
806-1584	PJ14126L	15.08	13.20	6.13	12.75	10.88	11.01	12.89	86.39
806-1585	PJ16148L	17.22	15.34	8.13	14.75	12.88	13.01	14.89	98.59
806-1586	PJ18168L	19.34	17.34	8.13	16.88	14.88	14.97	16.97	124.57
806-1587	PJ20168L	20.94	16.94	8.13	18.44	14.44	14.54	18.54	181.66

Optional Panel

Stock No.	Mfr.'s Type	Panel Size (In.)		EACH
		D	E	
806-1588	14R0505	4.88	4.88	3.16
806-1589	14R0705	6.75	4.88	3.64
806-1575	14R0907	8.75	6.88	4.97
806-1576	14R1109	10.75	8.88	6.74
806-1577	14R1311	12.75	10.88	8.82
806-1578	14R1513	14.75	12.88	11.71
806-1579	P1868	16.88	14.88	30.57
806-1599	P2068	18.44	14.44	30.57

Hinged Screw Cover

— NEW —

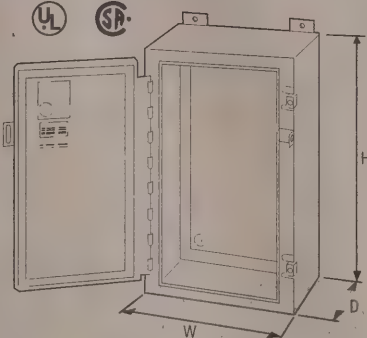
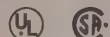
Stock No.	Mfr.'s Type	Overall Dimensions (In.)			Panel Size (In.)		Mtg. Ctr. (In.)		EACH
		A	B	C	D	E	G	H	
806-4130	PJ664H	7.04	7.04	4.13	4.88	4.88	5.01	5.01	44.93
806-4131	PJ864H	8.94	7.06	4.13	6.75	4.88	5.01	6.89	47.24
806-4132	PJ1086H	11.08	9.20	6.13	8.75	6.88	7.01	8.89	52.16
806-4133	PJ12106H	13.08	11.20	6.13	10.75	8.88	9.01	10.89	64.63
806-4134	PJ14126H	15.08	13.20	6.13	12.75	10.88	11.01	12.89	73.93
806-4135	PJ16148H	17.22	15.34	8.13	14.75	12.88	13.01	14.89	86.13
806-4136	PJ18168H	19.34	17.34	8.13	16.88	14.88	14.97	16.97	112.08
806-4137	PJ20168H	20.94	16.94	8.13	18.44	14.44	14.54	18.54	166.65

Optional Panel

Stock No.	Mfr.'s Type	Panel Size (In.)		EACH
		D	E	
806-1588	14R0505	4.88	4.88	3.16
806-1589	14R0705	6.75	4.88	3.64
806-1575	14R0907	8.75	6.88	4.97
806-1576	14R1109	10.75	8.88	6.74
806-1577	14R1311	12.75	10.88	8.82
806-1578	14R1513	14.75	12.88	11.71
806-1579	P1868	16.88	14.88	30.57
806-1599	P2068	18.44	14.44	30.57

NEMA12 Wallmount Enclosures

- Machine Tool Control Transformers Available; See Transformer Section

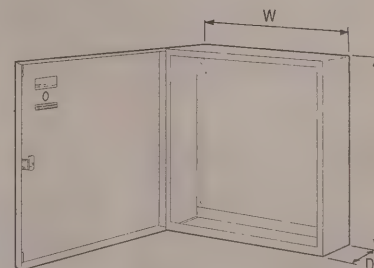


Enclosures are designed to house electrical, electronic, hydraulic or pneumatic controls and instruments. They are NEMA 12 rated to provide a degree of protection from falling dirt, dust and oil. The inner panel is included. The exterior is finished in ANSI/ASA 61 gray recoatable baked enamel. The panel and interior is finished in white baked enamel. UL and CSA listed.

Stock No.	Mfr.'s Type	Dimensions			EACH
		H	W	D	
806-4031	1418B6	16	12	6	203.33
806-4032	1418C6	20	16	6	240.11
806-4033	1418D6	20	20	6	262.29
806-4034	1418E6	24	20	6	288.34
806-4035	1418J6	24	24	6	313.96
806-4036	1418K6	30	24	6	352.97
806-4037	1418B8	16	12	8	212.46
806-4038	1418C8	20	16	8	251.89
806-4039	1418D8	20	20	8	275.41
806-4040	1418E8	24	20	8	302.69
806-4041	1418J8	24	24	8	329.54
806-4042	1418K8	30	24	8	370.55
806-4043	1418M8	36	30	8	477.83
806-4044	1418P8	42	36	8	594.46
806-4045	1418S8	48	36	8	653.01
806-4046	1418T8	60	36	8	770.36
806-4047	1418E10	24	20	10	317.14
806-4048	1418J10	24	24	10	345.24
806-4049	1418K10	30	24	10	388.15
806-4050	1418L10	36	24	10	432.38
806-4051	1418O10	42	30	10	551.20
806-4052	1418S10	48	36	10	680.42
806-4053	1418E12	24	20	12	331.47
806-4054	1418J12	24	24	12	360.84
806-4055	1418KK12	30	30	12	469.33
806-4056	1418O12	42	30	12	574.59
806-4057	1418P12	42	36	12	645.43
806-4058	1418S12	48	36	12	707.87
806-4059	1418T12	60	36	12	832.67

NEMA 1 Wallmount Enclosures

- Machine Tool Control Transformers Available; See Transformer Section



Enclosures are designed for indoor use to house controls, instruments and components not requiring oil-tight or dust-tight protection. The inner panel is included. The enclosure is finished in ANSI/ASA 61 gray recoatable baked enamel inside and out. The inner panel is finished in white baked enamel.

Stock No.	Mfr.'s Type	Dimensions			EACH
		H	W	D	
806-4060	N1A16127	16	12	7	115.14
806-4061	N1A16167	16	16	7	130.21
806-4062	N1A16207	16	20	7	145.31
806-4063	N1A20167	20	16	7	145.31
806-4064	N1A20207	20	20	7	163.22
806-4065	N1A24167	24	16	7	160.34
806-4066	N1A24207	24	20	7	181.07
806-4067	N1A24247	24	24	7	201.71
806-4068	N1A30207	30	20	7	207.83
806-4069	N1A30247	30	24	7	232.57
806-4070	N1A36247	36	24	7	263.52
806-4071	N1A36307	36	30	7	306.67
806-4072	N1A16129	16	12	9	124.65
806-4073	N1A20169	20	16	9	157.68
806-4074	N1A20209	20	20	9	176.88
806-4075	N1A20249	20	24	9	196.04
806-4076	N1A24209	24	20	9	196.15
806-4077	N1A24249	24	24	9	218.21
806-4078	N1A30209	30	20	9	225.03
806-4079	N1A30249	30	24	9	250.99
806-4080	N1A242012	24	20	12	211.16
806-4081	N1A242412	24	24	12	250.95
806-4082	N1A302412	30	24	12	288.06
806-4083	N1A363012	36	30	12	374.59
806-4084	N1A423012	42	30	12	543.37
806-4085	N1A423612	42	36	12	619.62
806-4086	N1A483612	48	36	12	657.43

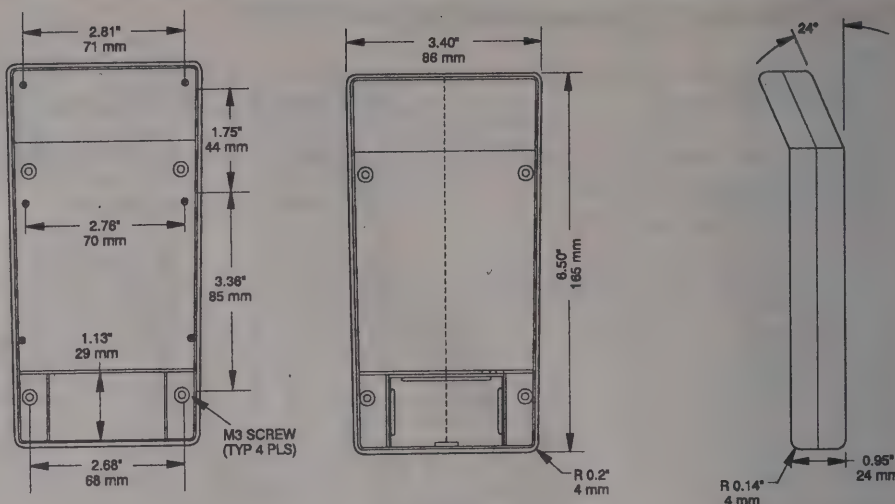
*Larger sizes available — call your local Allied branch for a complete listing.



Plastic Hand Held Case

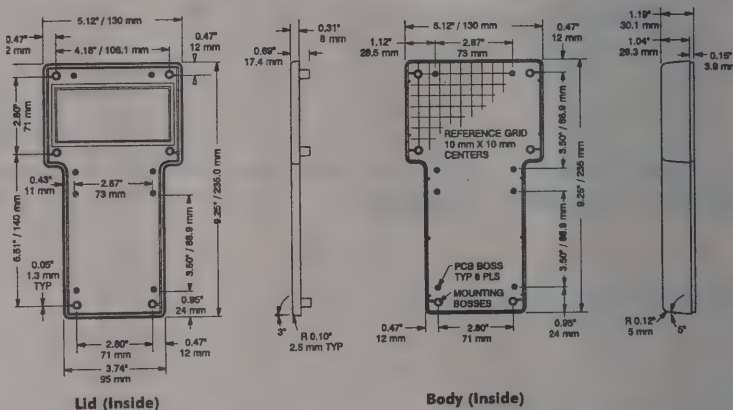
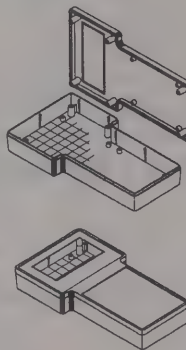
- ▶ 9 Volt Battery Compartment with Removable Lid
- ▶ Two Part Construction Secured with Four M3 Screws into Brass Inserts
- ▶ 24 Degree Angled Display — 2.9" × 1.25"
- ▶ Four Inserted Rubber Feet
- ▶ Key Pad Area 2.9" × 3.98"
- ▶ Four PCB Mounting Bosses In Key Pad Area and Two in Sloped Display Area
- ▶ Stocked in Black and Mid-Grey ABS Plastic

Stock No.	Mfr.'s Type	Dimensions	EACH
806-6000	1592XCBK	6.5" × 3.4" × .96"	15.32
806-6005	1592XCGY	6.5" × 3.4" × .96"	15.32



1592 T-Case Hand Held Display Cases

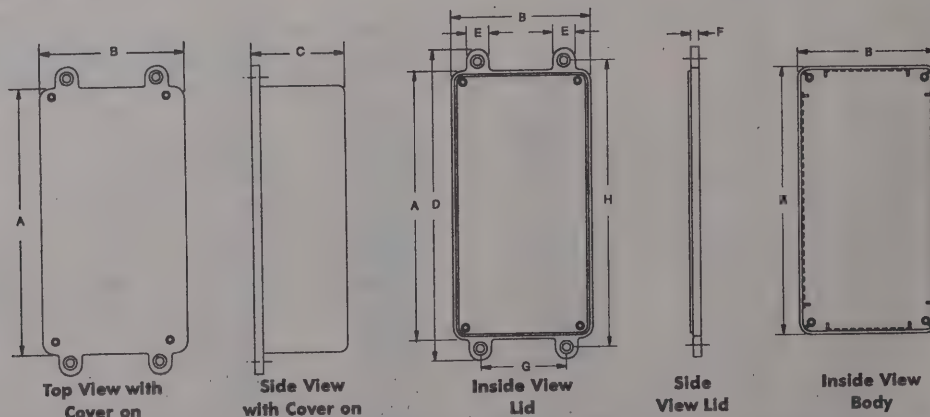
The "T" case is available with two different types of displays. The solid display has an area of 4.8" × 3.4" that will accommodate display boards up to 4.6" × 2.37". The clear polycarbonate lens has an area of 4.0" × 1.77" and a plain mylar mask kit which allows the installation of a wide variety of display boards with the protection of the clear lens and dressed by the mylar frame. The lens can be easily glued snugly into the case and provides protection from dust and dirt. The back of the case has been designed to accommodate a magnetic strip which will allow an operator to affix the case to a suitable work surface. The finish is a light texture which will resist wear but allow high quality silk screening or pad printing. The "T" case is molded in flame-retardant ABS with a UL rating of VO and is stocked in grey or black.



Stock No.	Mfr.'s Type	Description	EACH
806-6010	1592ETSDGY	Solid Display	19.06
806-6020	1592ETSDBK	Solid Display	19.06
806-6030	1592ETCDGY	Open Display and Clear Lens Kit	23.76
806-6040	1592ETCDBK	Open Display and Clear Lens Kit	23.76

Stock No.	Mfr.'s Type	Description	EACH
806-6050	1592ETG	30° Gasket Material	1.68
806-6060	1592ETRF	Bag of 6 Rubber Feet	2.00
806-6070	1592ETM	3" × 3" Magnetic Strip Material	4.80
806-6075	1592ETV	Velcro Holding Strip	2.20

ABS Boxes with Lugged Lids



- ▶ Lugged Lids for Ease of Mounting or As A Deterrent to Tampering

- ▶ Two Part Construction Secured with 3 mm Machine Screws into Brass Inserts

- ▶ Vertical Slots for .062" PCVB on 0.2" Centers
- ▶ Stocked in Mid-Grey ABS Plastic Rated at 85°C

Stock No.	Mfr.'s Type	Dimensions (Inches)								EACH
		A (L)	B (W)	C (D)	D	E	F	G	H	
806-6080	1591XBLGY	4.4	2.4	1.2	5.2	.04	.01	1.2	4.8	5.15
806-6085	1591XCLGY	4.7	2.5	1.6	5.5	.04	.01	1.3	5.5	5.66
806-6090	1591XDLGY	5.9	3.1	2.0	6.8	.05	1.80	1.9	6.3	6.47

Black Boxes

Dimensions in Inches

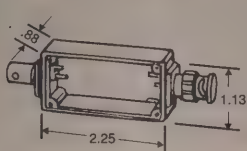


Fig. A

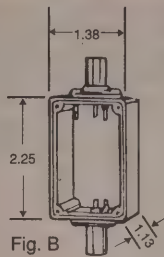


Fig. B

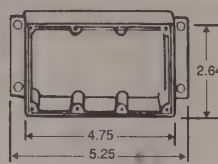


Fig. C

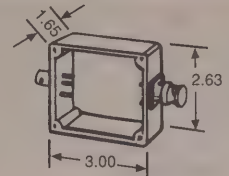


Fig. D

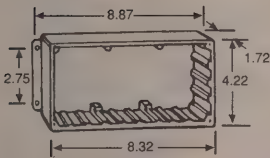


Fig. E

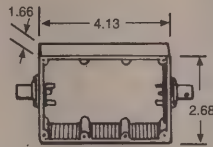


Fig. F

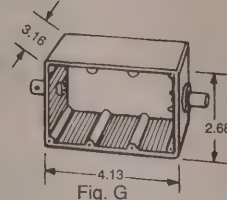


Fig. G

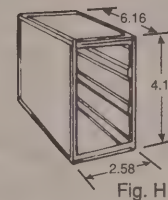
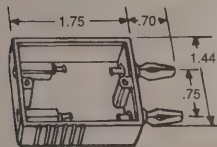
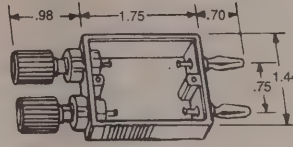


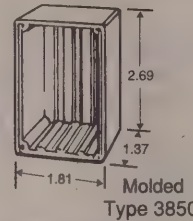
Fig. H



Type 2098
Type 2096



Type 2259



Molded
Type 3850

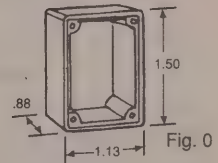


Fig. O

Diecast Aluminum RFI/EMI Protection Black Boxes

Shielded "black boxes" fulfill requirements for RF applications. Available with blue baked enamel finish per federal standard 595 #25109 over primer wash per DOD-P-15328, or with no finish. Boxes include aluminum cover with clear anodized finish per MIL-A-8625 and cover screws.

Stock No.	Mfr.'s Type	Fig.	Description	EACH
885-2397	2397	A	Blue Finish	5.80
885-2400	2400	A	No Finish	5.33
885-0550	2417	B	Blue Finish	5.96
885-2428	2428	B	No Finish	5.70
885-0665	2901	C	Blue Finish	14.75
885-2906	2906	C	No Finish	12.46
885-3601	3601	D	Blue Finish	10.65
885-3606	3606	D	No Finish	10.33
885-4227	4226	E	Blue Finish	37.75
885-5186	5186	E	No Finish	35.62
885-3753	3753	O	Blue Finish	5.80
885-3754	3754	O	No Finish	5.59

Diecast Aluminum RFI/EMI Black Boxes

These RFI/EMI shielding boxes have all the features of the models listed above, with the additional feature of component mounting capabilities. All rated 500 VRMS, +150°C.

Stock No.	Mfr.'s Type	Fig.	Description	EACH
885-2390	2390	A	BNC Female Each End	18.48
885-0525	2391	A	BNC Female to BNC Male	20.82
885-2902	2902	C	BNC Female Each End	29.34
885-3230	3230	B'	BNC Female Each End	18.26
885-3231	3231	B	BNC Male to BNC Female	22.15
885-3602	3602	D	BNC Female Each End	24.39
885-3603	3603	D	BNC Female to BNC Male	28.22
885-3752	3752	O	BNC Female to BNC Male	21.25

Extruded Aluminum RFI/EMI Shielded Black Boxes with Card Guides

These boxes are slotted to accept .062" circuit boards and shielding dividers. Provide excellent RFI/EMI protection. Blue baked enamel finish per federal standard 595 #25109 over primer wash per DOD-P-15328. Includes covers with clear anodized finish per MIL-A-8625 and screws.

Stock No.	Mfr.'s Type	Fig.	Description	EACH
885-0001	3311	G	Blue Finish	27.42
885-3742	3742	H	Blue Finish	33.81
885-3306	3306	F	Blue Finish	21.09

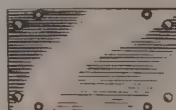
Component Mounting Box, Double Banana Plug. 1st End: None. 2nd End: Double Banana Plug. Brass body, beryllium copper spring, nickel plated. (Supplied with cover and cover screws). **Rating:** 5000 WVDC; 15 Amps +150°C. (+302°F) Max.

885-2096. 2096.....EACH 6.34

Mounting Cover

Clear anodized per MIL-A-8625 miniature mounting cover for 28.72 (1.13) wide x 38.10 (1.50) long boxes. **Mounting Holes:** 21.41 (.843) center to center x 55.73 (2.194) center to center.

885-3729. 3729.....EACH 3.04



Nonshielded Phenolic Black Boxes

Create passive and active networks, voltage dividers, isolation networks or attenuators with these units. All come complete with XP laminated paper base phenolic cover and screws. Type 2259 rated 2500WVDC, 15 amps, +115°C. All others rated +150°C, with types 2098 and 2224 also rated 5000WVDC and 15 amps.

Stock No.	Mfr.'s Type	H	W	D	Description	EACH
885-2098	2098	1.75"	1.44"	.70"	Junior Size, Double Banana Jack/Double Banana Plug	11.02
885-2103	2103	2.25"	1.00"	1.00"	Queen Size, Black	2.70
885-2104	2104	2.38"	1.53"	1.53"	King Size, Black	2.75
885-2105	2105	1.75"	1.44"	.69"	Junior Size, Black	2.80
885-2224	2224	2.38"	1.53"	1.53"	King Size, Double Banana Jack/Double Banana Plug	10.44
885-2259	2259	1.75"	1.44"	.70"	Junior Size, Binding Posts to Double Banana Plug	13.74

Molded Thermoplastic Black Box with Card Guides

Molded glass-filled nylon box with cover, virtually indestructible under normal use, is easily machined as well. Three slots are provided for .062" circuit boards. Includes four self-tapping 2-32 cover screws. Rated +102°C.

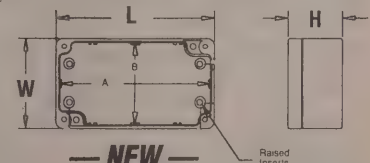
Stock No.	Mfr.'s Type	Color	H	W	D	EACH
885-3850	3850-0	Black	2.69"	1.81"	1.37"	3.83
885-3851	3850-6	Blue	2.69"	1.81"	1.37"	3.83

Black Box Size Code

Size	Height	Width	Depth
O	1.50"	1.13"	.88"
A	1.13"	2.25"	.88"
B	1.38"	2.25"	1.13"
C	2.64"	4.75"	1.71"
D	3.00"	2.63"	1.65"
E	4.22"	8.32"	1.72"
F	4.13"	2.68"	1.66"
G	4.13"	2.68"	3.16"
H	4.13"	2.68"	6.16"

Sealed Polycarbonate Enclosures

Circuitry and interconnections stay dry inside these enclosures. IP 65 of IEC 529 and NEMA 4 (dust and hoseproof) standards. **Operating Temp.:** -40°C to +100°C. M4 stainless steel lid fixing screws.

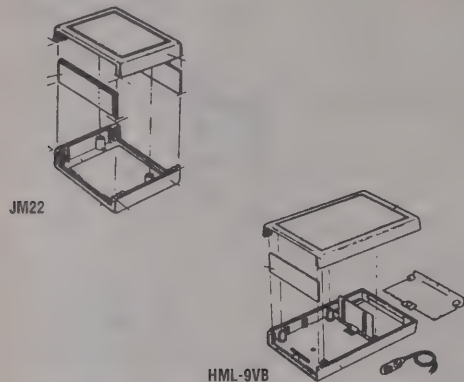


885-6117. 6023. 2.56 x 2.28 x 1.38 (L x W x H).....	EACH	5.85
885-6118. 6024. 4.53 x 2.56 x 1.57 (L x W x H).....	EACH	7.80
885-6119. 6025. 4.53 x 2.56 x 2.17 (L x W x H).....	EACH	8.40
885-6120. 6026. 4.53 x 3.54 x 2.17 (L x W x H).....	EACH	9.60
885-6121. 6027. 6.73 x 4.76 x 2.17 (L x W x H).....	EACH	13.30
885-6122. 6028. 8.74 x 5.75 x 2.17 (L x W x H).....	EACH	17.40

PacTec Instrument Enclosure Kits are molded in medium impact, ABS (Acrylonitrile Butadiene Styrene - 94HB - 1/8" Thick). PacTec provides built in mounting features which save design and assembly steps and extra hardware. All Standard Kits are individually packaged and include all necessary component parts and assembly hardware to build a prototype unit. The Standard Kits are available in Black and PC Bone; Gray and Tan are available by request on some items. *To order a desired color, insert the number of the

color where "N" appears in the Allied stock number — 1 = Black; 2 = PC Bone; 3 = Tan; 4 = Gray. All products are available in UL 94-VO flame retardant material. PacTec enclosures are easily and economically modified using our unique insert tooling methods, or machined secondarily modified by request, as a special order. All PacTec products can be screen printed for custom identification, or have a custom overlay or nameplate provided by LaFrance.

HM/JM Series

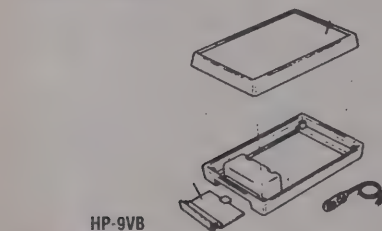


For applications in the 2 sq." to 10 sq." the JM and HM are an ideal choice. The JM22, 42 series consists of four pieces — top and bottom cover, front and rear panel. JM24 is 2 pieces — top and bottom cover. The HM and HML series are 3 pieces — top and bottom cover, and 1 panel. The covers and panels can be inexpensively custom molded or modified to your specifications. **Additional Options Available:** Belt clip.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-110N	JM12-1E†	0.80	1.60	2.40	4.49	4.13
508-250N	JM22†	1.00	2.40	2.27	5.03	4.63
508-120N	JM22-1E†	1.00	2.40	2.27	4.49	4.13
508-275N	JM24†	1.00	2.40	3.80	5.80	5.34
508-130N	JM42†	1.00	3.80	2.40	5.92	5.45
508-700N	HM	0.90	2.40	3.80	5.80	5.34
508-140N	HM-ET†	1.20	2.40	3.80	6.38	5.87
508-150N	HM-2AAA†	1.00	2.40	3.80	6.45	5.93
508-720N	HM-9VB	0.90	2.40	3.80	6.45	5.93
508-160N	HM-ET-9VB†	1.30	2.40	3.80	7.10	6.53
508-740N	HML	0.90	2.75	4.60	5.90	5.43
508-170N	HML-EB†	1.00	2.75	4.60	5.90	5.43
508-760N	HM-9VB	1.00	2.75	4.60	6.68	6.15
508-920N	HML-ET†	1.40	2.75	4.60	6.98	6.42
508-910N	HML-ET-9VB†	1.50	2.75	4.60	7.75	7.13

†Available in Black and PC Bone only.

HP/HPL Series

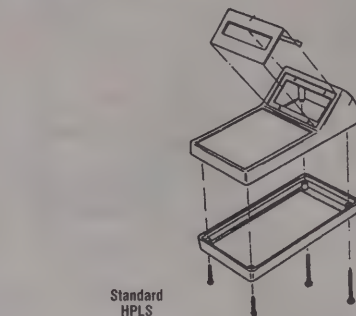


The HP and HPL are ideally suited for 20" sq. to 30" sq. PCB applications. The series is a 2 piece assembly, consisting of top and bottom covers. **Additional Options Available:** Height expanders and belt clips.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-780N	HP	1.12	3.60	5.75	6.55	6.03
508-790N	HP-LP†	0.81	3.60	5.75	6.23	5.73
508-180N	HP-TB†	1.50	3.60	5.75	6.87	6.32
508-800N	HP-9VB	1.29	3.60	5.75	7.42	6.83
508-515N	HP-4AA†	1.29	3.60	5.75	7.75	7.13
508-840N	HPL	1.12	4.00	7.50	9.48	8.72
508-190N	HPL-TB†	1.50	4.00	7.50	9.95	9.15
508-860N	HPL-9VB	1.29	4.00	7.50	10.35	9.52
508-520N	HPL-4AA†	1.29	4.20	5.75	10.57	9.72
508-122N	HR-9VB†	1.29	4.00	7.50	7.42	6.83

†Available in Black and PC Bone only.

HPS/HPLS Series

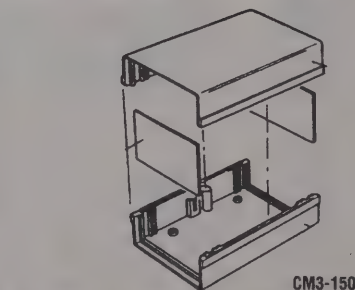


For applications requiring 20"-30" sq. in PCB space. The HPS, HPLS and SH kits are composed of 3 pieces. The HP and HPLS include display panel. **Additional Options Available:** Expander piece for extra height, display panel bezels, belt clips and wrist straps.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-870N	HPS	1.12/1.92	3.60	5.75	9.64	8.87
508-850N	HPS-LP†	0.81/1.61	3.60	5.75	9.15	8.42
508-133N	HPS-TB†	1.50	3.60	5.75	10.12	9.31
508-830N	HPS-9VB	1.12/1.92	3.60	5.75	10.50	9.66
508-870N	HPS-4AA†	1.12/1.92	3.60	5.75	10.83	9.96
508-880N	HPLS	1.12/1.92	4.00	7.50	10.35	9.52
508-144N	HPLS-TB†	1.50	4.00	7.50	10.86	9.99
508-880N	HPLS-9VB	1.29/2.26	4.00	7.50	11.21	10.31
508-901N	HPLS-4AA†	1.29/2.26	4.00	7.50	11.53	10.61
508-516N	SH†	1.12	3.68	5.75	6.55	6.03
508-517N	SH-LP†	0.81	3.60	5.75	6.23	5.73
508-155N	SH-TB†	1.50	3.60	5.75	6.87	6.32
508-518N	SH-9VB†	1.29	3.60	5.75	7.42	6.83
508-519N	SH-4AA†	1.29	3.60	5.75	7.75	7.13

†Available in Black and PC Bone only.

CM/EE Series

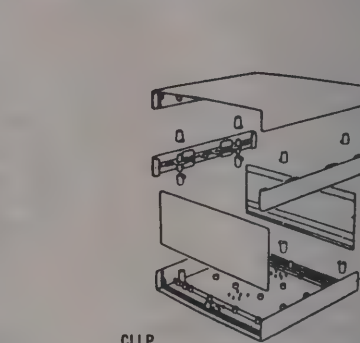


CM Series are suitable for PCB areas of 20" sq. to 70" sq. CM Series is composed of four pieces — top, bottom, front and rear panels. **Additional Options Available:** Bail stand, height expander strips and standard venting on top and bottom.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-199N	CM3-100†	1.20	3.33	5.25	9.29	8.55
508-112N	CM3-150	1.75	3.33	5.25	10.24	9.42
508-123N	CM5-125	1.50	5.08	5.25	10.62	9.77
508-401N	CM5-200	2.25	5.08	5.25	12.19	11.21
508-403N	CM6-150	1.70	6.08	6.25	13.40	12.33
508-404N	CM6-225	2.50	6.08	6.25	14.73	13.55
508-132N	CM6-300	3.25	6.08	6.25	16.09	14.80
508-430N	CM59-135†	1.56	5.57	8.78	17.88	16.45
508-400N	CM69-120	1.38	6.33	9.50	18.25	16.79
508-415N	CM69-180	1.99	6.33	9.50	19.39	17.84
508-411N	CM69-240	2.59	6.33	9.50	21.20	19.50
508-412N	CM69-300†	3.20	6.08	6.25	26.30	24.20
508-413N	CM79-125†	1.25	7.45	9.36	17.71	16.29
508-145N	CM86-175†	2.00	8.08	6.25	16.45	15.13
508-156N	CM86-225	2.50	8.08	6.25	19.06	17.54
508-461N	EE59-135†	1.56	5.57	8.78	15.98	14.70

†Available in Black and PC Bone only.

C and CL Series

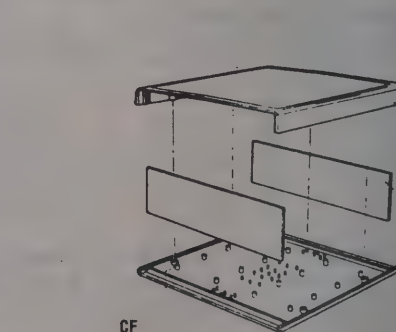


C, CL and CLLP enclosures are modular units with expandable sides. By changing the side expanders, filler panels, spacers and panels, you can build more than 64 different models from a C, CL or CLLP unit. There are handles (H) and bail (B) variations for each basic case. **Additional Options Available:** Vents.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-151N	C-23	3.69	8.50	9.25	41.11	37.82
508-421N	CB-23	3.69	8.50	9.25	44.15	40.62
508-101N	CH-23	3.69	8.50	9.25	47.18	43.41
508-103N	CL-45	5.76	12.50	11.63	67.70	62.28
508-100N	CLB-45	5.76	12.50	11.63	72.45	66.65
508-200N	CLH-45	5.76	12.50	11.63	88.78	81.68
508-203N	CLLP-34	4.26	12.50	11.63	72.82	66.99
508-201N	CLLPB-34	4.26	12.50	11.63	78.12	71.87
508-600N	CLLPH-34	4.26	12.50	11.63	92.93	85.50

Available in all colors.

CF Series



CF Series are composed of 4 pieces — top cover, bottom cover and 2 end panels. This series offers options which include: bail tilt stands, and a standard venting pattern. Additionally extra height expanders, which provide further .125", is available for all CF models. The series is best suitable for 76" sq. in PCB applications.

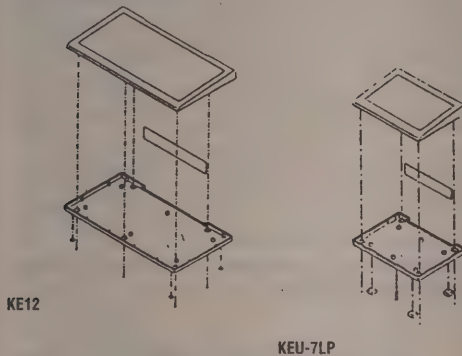
Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-189N	CF-125	1.65	8.36	9.11	30.22	27.80
508-113N	CF-175	2.15	8.36	9.11	30.77	28.31
508-650N	CF-225†	2.65	8.36	9.11	31.31	28.81
508-660N	CF-275	3.45	8.36	9.11	32.83	30.20
508-670N	CF-325	3.65	8.36	9.11	34.47	31.71

†Available in Black and PC Bone only.

PacTec Instrument Enclosure Kits are molded in medium impact, ABS (Acrylonitrile Butadiene Styrene - 94HB - 1/8" Thick). PacTec provides built in mounting features which save design and assembly steps and extra hardware. All Standard Kits are individually packaged and include all necessary component parts and assembly hardware to build a prototype unit. The Standard Kits are available in Black and PC Bone; Gray and Tan are available by request on some items. *To order a desired color, insert the number of the

color where "N" appears in the Allied stock number — 1 = Black; 2 = PC Bone; 3 = Tan; 4 = Gray. All products are available in UL 94-VO flame retardant material. PacTec enclosures are easily and economically modified using our unique insert tooling methods, or machined secondarily modified by request, as a special order. All PacTec products can be screen printed for custom identification, or have a custom overlay or nameplate provided by LaFrance.

KE/KEU Series

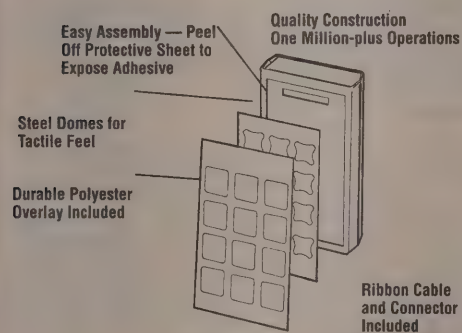


KE, KEU Sloped top stylized keyboard enclosures are composed of four pieces — top cover, bottom cover, aluminum keyboard panel and rear aluminum I/O panel. Newly designed "LP" versions have a molded in, recessed keyboard panel and a matching color I/O panel in KJW 94 VO material.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-610N	KEU-7	3.10	7.00	5.00	23.94	22.02
508-620N	KEU-7LP†	2.60	7.00	5.00	21.53	19.81
508-630N	KEU-10	4.20	10.00	8.03	30.23	27.81
508-124N	KEU-10LP†	2.70	10.00	8.03	27.20	25.02
508-640N	KE-12†	2.79	12.08	8.68	32.57	29.96
508-131N	KE-17†	2.79	17.08	8.68	39.84	36.65
508-141N	KE-20	2.79	20.08	8.68	41.55	38.23

†Available in Black and PC Bone only.

Switch Pac Series

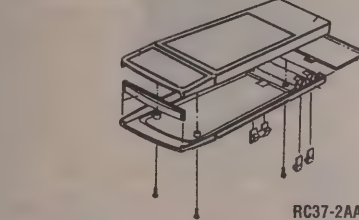


Switch Pac's include 1 enclosure with 9VB compartment, standard membrane switch with ribbon connector, blank overlay, and a user diagram. Membrane switches utilize a durable steel dome design for tactile feel, and are made to withstand one million operations. Switches include flexible ribbon cable and connector. The polyester overlay is ready for you to create switch legends, graphics, transfer type, screen printing, typewriting or hand printing. Custom printed overlays and switches are available through Allied.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-500N	K-HM-9VB-SP	1.95	3.34	3.34	15.50	14.26
508-152N	K-HPS-9VB-SP	3.08	3.08	3.08	29.10	26.77
508-161N	K-HPLS-9VB-SP	4.8	4.28	4.28	29.70	27.32
508-171N	K-HPL-9VB-SP	3.48	6.98	6.98	29.90	27.51
508-181N	K-RC24-9VB-SP	2.11	3.93	3.93	17.10	15.73
508-191N	K-RC37-2AA-SP	2.33	3.98	3.98	19.63	10.06

Available in Black only.

RC Series

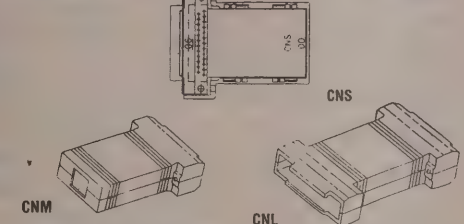


The RC unit is a low profile, hand held device with a ruby lens for remote control type applications. The RC unit consists of 3 pieces — top and bottom cover, standard front panel or ruby lens.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-165N	RC24-9VB	0.90	2.70	4.60	6.66	6.13
508-521N	RC37-2AA	0.80	2.75	6.50	5.61	5.16
508-188N	RF37	5.83	2.95	6.77	6.55	6.03

Available in Black and PC Bone only.

CN Series



Connector/Interface housings feature top and bottom covers that snap together, molded-in connector openings, and customization options for top, bottom, sides and ends. PacTec offers 27 variations of these standard connector enclosures. The height for the body of the housings is .080", the body width is 1.67" and the length varies depending on end.

Small 1.5" Center

Stock No.*	Mfr.'s Type	Standard Ends	EACH	
			1-24	25-Up
508-117N	CNS-0000	2 Blank ends	2.08	1.91
508-118N	CNS-0101	DB-9 — DB-9	2.08	1.91
508-119N	CNS-0103	DB-9 — DB-25	2.08	1.91
508-125N	CNS-0407	DB-9 w/ears — RJ-11/45	2.08	1.91
508-126N	CNS-0303	DB-25 — DB-25	2.08	1.91
508-127N	CNS-0607	DB-25 w/ears — RJ-11/45	2.08	1.91
508-128N	CNS-0307	DB-25 — RJ-11/45	2.08	1.91
508-129N	CNS-0307	DB-25 — Strain Relief	2.08	1.91
508-134N	CNS-0709	RJ-11/45 — Centronics w/ears	2.08	1.91

Medium 2.0" Center

508-135N	CNM-0000	2 Blank ends	2.13	1.96
508-136N	CNM-0101	DB-9 — DB-9	2.13	1.96
508-137N	CNM-0103	DB-9 — DB-25	2.13	1.96
508-138N	CNM-0407	DB-9 w/ears — RJ-11/45	2.13	1.96
508-139N	CNM-0303	DB-25 — DB-25	2.13	1.96
508-146N	CNM-0607	DB-25 w/ears — RJ-11/45	2.13	1.96
508-147N	CNM-0307	DB-25 — RJ-11/45	2.13	1.96
508-148N	CNM-0310	DB-25 — Strain Relief	2.13	1.96
508-149N	CNM-0709	RJ-11/45 — Centronics w/ears	2.13	1.96

Long 2.5" Center

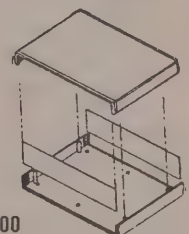
508-157N	CNL-0000	2 Blank ends	2.18	2.01
508-158N	CNL-0101	DB-9 — DB-9	2.18	2.01
508-159N	CNL-0103	DB-9 — DB-25	2.18	2.01
508-168N	CNL-0407	DB-9 w/ears — RJ-11/45	2.18	2.01
508-169N	CNL-0303	DB-25 — DB-25	2.18	2.01
508-173N	CNL-0607	DB-25 w/ears — RJ-11/45	2.18	2.01
508-174N	CNL-0307	DB-25 — RJ-11/45	2.18	2.01
508-175N	CNL-0310	DB-25 — Strain Relief	2.18	2.01
508-176N	CNL-0709	RJ-11/45 — Centronics w/ears	2.18	2.01

Available in Black and PC Bone only.

LH Series

The LH Series features a low profile, light textured surface, rounded corners, radiused sides and flush panels. LH Series is composed of four pieces — top, bottom, front and rear panels. The LH is ideally suited for 13" sq. to 56" sq.

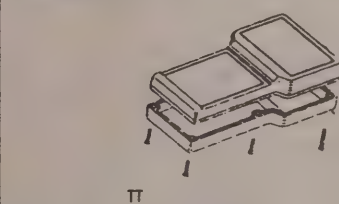
LH 96-200



Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-182N	LH34-100	1.00	3.08	4.07	8.90	8.10
508-183N	LH55-130	1.50	5.08	5.07	10.62	9.77
508-184N	LH55-200	2.25	5.08	5.07	12.19	11.21
508-185N	LH64-130	1.50	6.08	4.26	10.09	9.28
508-186N	LH64-200	2.25	6.08	4.26	11.58	10.65
508-187N	LH84-130	1.50	8.08	4.26	13.98	12.86
508-192N	LH84-200	2.25	8.08	4.26	15.98	14.70
508-193N	LH96-130	1.50	9.08	6.26	20.42	19.25
508-194N	LH96-200	2.25	9.08	6.26	22.10	20.15

Available in Black and PC Bone only.

T Series



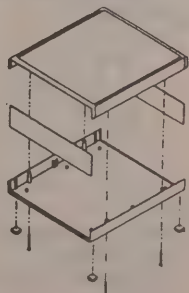
The T Series styles are 2 pieces — top and bottom cover. Additional Options Available: Provisions for 9VB and gasketing to NEMA 4X.

Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-195N	TS	1.35	3.29	7.29	9.48	8.72
508-197N	TT	1.80	4.44/3.29	8.52	9.59	9.15

†Available in Black and PC Bone only.

DM/CML Series

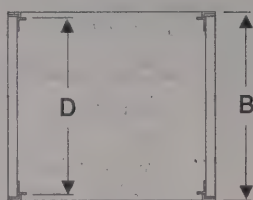
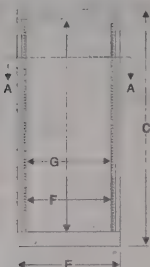
PacTec new larger enclosures offer high style and flexibility. The DM and CML Series are a four piece series, offering top and bottom covers, and 2 end panels. Handles and tilt bails are available. The handle version of the DM Series can be used as a tilt stand or for carrying.



Stock No.*	Mfr.'s Type	Outside Dimensions (In.)			EACH	
		Height	Width	Length	1-24	25-Up
508-703N	DM-2	2.38	10.40	11.46	31.02	28.54
508-510N	DM-3	4.48	10.40	11.46	36.36	33.45
508-513N	DM-4	3.38	10.40	11.46	34.78	32.00
508-462N	CML912-200	2.25	9.33	11.80	31.62	29.09

Available in Black and PC Bone only. †Handle version can be used for carrying or as a Tilt Stand.

Economy Vertical Enclosures



SECTION A-A



I. EVE 194218 BLACK

Stock No.	Mfr.'s Type	Description	Qty. To Order	Dimensions							EACH
				A	B	C	D	E	F	G	
724-5040	EVESD4218PA	Side Panel (Pair)	1 Pr.	42.125	19.39	47.12	17.80	21.57	18.31	17.87	231.65
724-5041	EVETB1918SOA	Solid Top/Open Bottom	1 Set								117.25
724-1222	VMR42	Vertical Mounting Rails	2 Sets								45.75

II. EVE 194222 BLACK

724-5043	EVESD4222PA	Side Panel (Pair)	1 Pr.	42.125	23.39	47.12	21.80	21.57	18.31	17.87	247.45
724-5044	EVETB1922SOA	Solid Top/Open Bottom	1 Set								125.25
724-1222	VMR42	Vertical Mounting Rails	2 Sets								45.75

III. EVE 196118 BLACK

724-5045	EVESD6118PA	Side Panel (Pair)	1 Pr.	61.375	19.39	66.38	17.80	21.57	18.31	17.87	258.50
724-5041	EVETB1918SOA	Solid Top/Open Bottom	1 Set								117.25
724-1223	VMR61	Vertical Mounting Rails	2 Sets								48.25

IV. EVE 196122 BLACK

724-5048	EVESD6122PA	Side Panel (Pair)	1 Pr.	61.375	23.39	66.38	21.80	21.57	18.31	17.87	278.95
724-5044	EVETB1922SOA	Solid Top/Open Bottom	1 Set								125.25
724-1223	VMR61	Vertical Mounting Rails	2 Sets								48.25

V. EVE 197018 BLACK

724-5050	EVESD7018PA	Side Panel (Pair)	1 Pr.	70.125	19.39	75.12	17.80	21.57	18.31	17.87	283.05
724-5041	EVETB1918SOA	Solid Top/Open Bottom	1 Set								117.25
724-1224	VMR70	Vertical Mounting Rails	2 Sets								51.75

VI. EVE 197022 BLACK

724-5053	EVESD7022PA	Side Panel (Pair)	1 Pr.	70.125	23.39	75.12	21.80	21.57	18.31	17.87	310.00
724-5044	EVETB1922SOA	Solid Top/Open Bottom	1 Set								125.25
724-1224	VMR70	Vertical Mounting Rails	2 Sets								51.75

V. EVE 197718 BLACK

724-5055	EVESD7718PA	Side Panel (Pair)	1 Pr.	77.125	19.39	82.12	17.80	21.57	18.31	17.87	330.50
724-5044	EVETB1918SOA	Solid Top/Open Bottom	1 Set								117.25
724-2224	VMR77	Vertical Mounting Rails	2 Sets								62.15

VI. EVE 197722 BLACK

724-5058	EVESD7722PA	Side Panel (Pair)	1 Pr.	77.125	23.39	82.12	21.80	21.57	18.31	17.87	359.45
724-5044	EVETB1922SOA	Solid Top/Open Bottom	1 Set								125.25
724-2224	VMR77	Vertical Mounting Rails	2 Sets								62.15

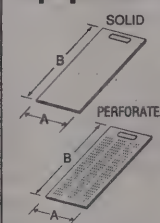
NOTE: All Dimensions are in inches. See Optional Door Packs and Accessories on this page.

Doors For Economy Vertical Enclosures

Stock No.	Mfr.'s Type	Description	Use With	EACH
724-5000	EVESD1942PA	Solid Short Door	EVE194218	94.95
724-5001	EVESD1942LA	Louvered Short Door	EVE194218 or EVE194222	115.10
724-5002	EVELD1942PA	Solid Long Door		168.95
724Q5003	EVELD1942LA	Louvered Long Door		195.95
724-5004	EVESD1961PA	Solid Short Door	EVE196118	114.85
724-5005	EVESD1961LA	Louvered Short Door	EVE196118 or EVE196122	128.60
724-5006	EVELD1961PA	Solid Long Door		189.90
724Q5007	EVELD1961LA	Louvered Long Door		217.00
724-5008	EVESD1970PA	Solid Short Door	EVE197018	121.35
724-5009	EVESD1970LA	Louvered Short Door	EVE197018 or EVE197022	145.85
724Q5010	EVELD1970PA	Solid Long Door		209.95
724Q5011	EVELD1970LA	Louvered Long Door		238.00
724-5012	EVESD1977PA	Solid Short Door	EVE197718	158.10
724-5013	EVESD1977LA	Louvered Short Door	EVE197718 or EVE197722	175.50
724Q5014	EVELD1977PA	Solid Long Door		274.25
724Q5015	EVELD1977LA	Louvered Long Door		301.35

NOTE: Plexi Glass Doors also available for all models.

Equipment Shelves



- ▶ 16 gauge cold rolled steel
- ▶ Smooth ash white finish in stock
- ▶ Rated at 200 lbs. capacity
- ▶ Mounts to EVE vertical rails
- ▶ Hardware included in pack
- ▶ Perforated shelves have three 5" wide bands of .250" diamond shaped perforations on .50" centers
- ▶ 1" x 6" oround cable opening in rear

Stock No.	Mfr.'s Type	Description	A Width	B Depth	EACH
724-5025	ES1918SA	Solid	17.72"	18.16"	32.75
724-5026	ES1918PA	Perforated	17.72"	18.16"	39.55
724-5027	ES1922SA	Solid	17.72"	22.16"	36.85
724-5028	ES1922PA	Perforated	17.72"	22.16"	44.35

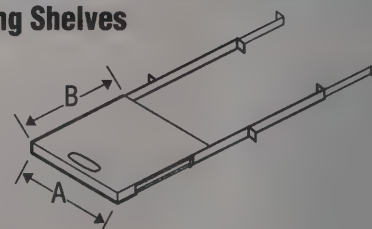
Center Weight Equipment Shelves

- ▶ 16 gauge steel
- ▶ Rated for 50 lbs. capacity
- ▶ Rated for 75 lbs. capacity with optional mounting brackets (included with each shelf)
- ▶ 10-32 mounting hardware included



Stock No.	Mfr.'s Type	Description	A Width	B Depth	EACH
724-5016	CWS1919SA	Solid	19	19	50.50
724-5017	CWS1919PA	Perforated	19	19	60.75
724-5018	CWS2419SA	Solid	24	19	66.85
724-5019	CWS2419PA	Perforated	24	19	80.00

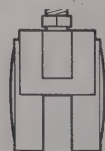
Sliding Shelves



- ▶ 16 gauge cold rolled steel
- ▶ Smooth ash white finish in stock
- ▶ Rated for 85 lbs. capacity
- ▶ Slides have lock out feature
- ▶ Brackets, hardware, slides, and shelf included in kit

Stock No.	Mfr.'s Type	A Width	B Depth	EACH
724-5029	SS1914SH	16.75"	14.00"	102.75
724-5030	SS1916SH	16.75"	16.00"	107.95

Casters



- ▶ 2" diameter
- ▶ Matte black plastic caster and cover
- ▶ Each caster rated for 75 lbs
- ▶ Each kit includes four locking casters and special mounting hardware
- ▶ Sold in set of 4

Type MNFCA75L
724-5031SET 43.75

Casters



- ▶ 2 Locking and 2 non-locking casters included in each kit
- ▶ Stemmed caster with 1/2-13 thread
- ▶ Mounts directly to EVE bottom, no hardware required
- ▶ 140 lb. capacity
- ▶ Sold in set of 4

Type EVECA150
724-5032 ...SET 39.95

Conversion Adapter Brackets



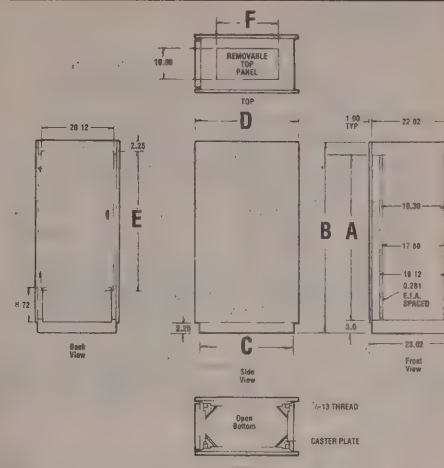
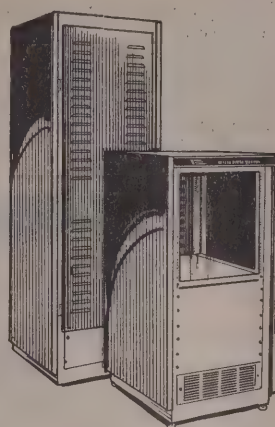
- ▶ 14 gauge steel
- ▶ Zinc plated
- ▶ 10/32 tapped holes
- ▶ Hole pattern meets EIA standard

Stock No.	Mfr.'s Type	A	B	Rack Units	EACH
724-5020	AB01	1.719"	3.125"	1U	9.90
724-5021	AB02	3.469"	3.125"	2U	12.15
724-5022	AB03	5.219"	3.125"	3U	14.45
724-5023	AB04	6.969"	3.125"	4U	16.60
724-5024	AB05	8.719"	3.125"	5U	18.90

P.F.T. Modular Vertical Enclosures

PFT Special Features

- Rack ships knockdown in four cartons
- Frame is 14 gage steel; corner posts are 13 gage steel
- Removable side panels made from 18 gage steel
- Lift-off rear door; 18 gage steel mounts L.H. side of frame
- Royal blue texture finish on rear door and side panels
- Ash white texture finish on the frame
- Multi-bay capability
- Knockdown concept saves up to 66% on freight cost



Unique Corner Post Design.

PFT combines two unique design features to provide strength and rigidity associated only with expensive welded units. Interlocking tab and slot construction in the corner joints omits torsional movement of the corner posts. A heavy-gage mounting plate is

welded (slightly recessed) into the top and bottom of each corner post. Thus, when the corner bolt is tightened, the cabinet base (or top) flexes slightly, ensuring that the joint is always preloaded in tension, providing additional rigidity.

I. Modular Vertical Enclosure 19"W x 42"H x 25"D

Stock No.	Mfr.'s Type	Description	Color	Shipping Weight	EACH
724-0005	MVETB1925LOH	Louvered top/open bottom	Ash white	55 lbs.	294.70
724-0006	MVECP42PH	Corner post pack	Ash white	32 lbs.	150.10
724-0007	MVESD1942PRH	Solid rear door	Royal blue/Ash white	20 lbs.	97.75
724-0008	MVESP4225PR	Side panel pack (1pr.)	Royal blue	48 lbs.	177.85

II. Modular Vertical Enclosure 19"W x 42"H x 30"D

724-0009	MVETB1930LOH	Louvered top/open bottom	Ash white	55 lbs.	323.10
724-0006	MVECP42PH	Corner post pack	Ash white	32 lbs.	150.10
724-0007	MVESD1942PRH	Solid rear door	Royal blue/Ash white	20 lbs.	97.75
724-0012	MVESD4230PR	Side panel pack (1pr.)	Royal blue	58 lbs.	186.15

III. Modular Vertical Enclosure 19"W x 61"H x 25"D

724-0005	MVETB1925LOH	Louvered top/open bottom	Ash white	55 lbs.	294.70
724-0014	MVECP61PH	Corner post pack	Ash white	43 lbs.	189.95
724-0015	MVESD1961PRH	Solid rear door	Royal blue/Ash white	28 lbs.	118.25
724-0016	MVESP6125PR	Side panel pack (1pr.)	Royal blue	68 lbs.	198.65

IV. Modular Vertical Enclosure 19"W x 61"H x 30"D

724-0009	MVETB1930LOH	Louvered top/open bottom	Ash white	55 lbs.	323.10
724-0014	MVECP61PH	Corner post pack	Ash white	43 lbs.	189.95
724-0015	MVESD1961PRH	Solid rear door	Royal blue/Ash white	28 lbs.	118.25
724-0020	MVESP6130PR	Side panel pack (1pr.)	Royal blue	80 lbs.	249.05

V. Modular Vertical Enclosure 19"W x 70"H x 25"D

724-0005	MVETB1925LOH	Louvered top/open bottom	Ash white	55 lbs.	294.70
724-0022	MVECP70PH	Corner post pack	Ash white	48 lbs.	201.35
724-0023	MVESD1970PRH	Solid rear door	Royal blue/Ash white	30 lbs.	124.95
724-0024	MVESP7025PR	Side panel pack (1pr.)	Royal blue	78 lbs.	232.25

VI. Modular Vertical Enclosure 19"W x 70"H x 30"D

724-0009	MVETB1930LOH	Louvered top/open bottom	Ash white	55 lbs.	323.10
724-0022	MVECP70PH	Corner post pack	Ash white	48 lbs.	201.35
724-0023	MVESD1970PRH	Solid rear door	Royal blue/Ash white	30 lbs.	124.95
724-0028	MVESP7030PR	Side panel pack (1pr.)	Royal blue	96 lbs.	282.35

VII. Modular Vertical Enclosure 19"W x 77"H x 25"D

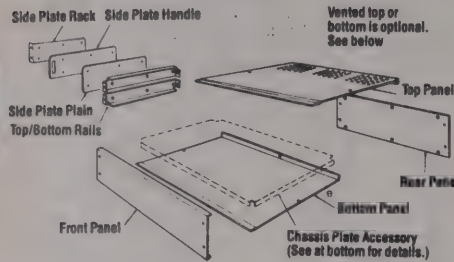
724-0005	MVETB1925LOH	Louvered top/open bottom	Ash white	55 lbs.	294.70
724-0030	MVECP77PH	Corner post pack	Ash white	55 lbs.	241.85
724-0031	MVESD1977PRH	Solid rear door	Royal blue/Ash white	30 lbs.	162.70
724-0032	MVESP7725PR	Side panel pack (1pr.)	Royal blue	85 lbs.	301.95

VIII. Modular Vertical Enclosure 19"W x 77"H x 30"D

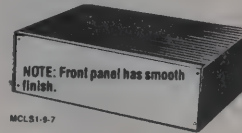
724-0009	MVETB1930LOH	Louvered top/open bottom	Ash white	55 lbs.	323.10
724-0030	MVECP77PH	Corner post pack	Ash white	55 lbs.	241.85
724-0031	MVESD1977PRH	Solid rear door	Royal blue/Ash white	30 lbs.	162.70
724-0036	MVESP7730PR	Side panel pack (1pr.)	Royal blue	105 lbs.	366.95

Also available in 24" sizes. Ask your Allied sales representative.

PFT Features



- .062 aluminum chassis/.125 aluminum side panels
- Texture finish
- Knockdown construction
- Accessibility to internal components
- Replacement parts available
- Modularity allows for ease of modifications
- Chassis consists of one front panel, one rear panel, one top panel, one bottom panel, four top bottom rails, and hardware.



Standard Colors

Color	Color Code	Fed. Std.
Exterior, Rear Panels		
Dark Grey	(C)	595A-26081
Sky Blue*	(B)	595A-25109
Black	(A)	595A-27038
Tan	(T)	595A-23448
Royal Blue	(R)	595A-25045

Front Panels

Light Grey	(G)	595A-26493
Off White*	(W)	595A-27722
Tan	(T)	595A-23448
Black	(A)	595A-27038
Ash White	(H)	595A-26622

*Sky Blue and Off White in Allied stock; other standard colors from factory sight lead time.

Mod-U-Line Cabinet Less Sides (MCLS)

1 Inch MCLS

Stock No.*	Mfr.'s Type	Size			Matching Panel	EACH		
		H"(")	W"(")	D"(")		1-9	10-24	25-Up
724-1000	MCLS010907BW	1 1/16	8 5/8	6 7/8	A	37.74	34.84	32.35
724-1001	MCLS011707BW	1 1/16	16 5/8	6 7/8	A	43.44	40.09	37.23
724-1002	MCLS011709BW	1 1/16	16 5/8	8 7/8	B	45.30	41.82	38.83

2 Inch MCLS

724-1003	MCLS020809BW	2 1/16	8 5/8	8 7/8	C	38.51	35.54	33.01
724-1004	MCLS021709BW	2 1/16	16 5/8	8 7/8	C	52.95	48.88	45.39
724-1005	MCLS021712BW	2 1/16	16 5/8	11 7/8	D	57.29	52.88	49.11

3 Inch MCLS

724-1006	MCLS030707BW	3 5/16	6 5/8	6 7/8	E	39.70	36.64	34.02
724-1007	MCLS030907BW	3 5/16	8 5/8	6 7/8	E	40.38	37.27	34.61
724-1008	MCLS030909BW	3 5/16	8 5/8	8 7/8	F	42.50	39.23	36.43
724-1009	MCLS031207BW	3 5/16	11 5/8	6 7/8	E	44.46	41.40	38.11
724-1010	MCLS031209BW	3 5/16	11 5/8	8 7/8	F	46.75	43.16	40.07
724-1011	MCLS031212BW	3 5/16	11 5/8	11 7/8	G	49.90	46.06	42.77
724-1012	MCLS031707BW	3 5/16	16 5/8	6 7/8	E	50.24	46.37	43.06
724-1013	MCLS031709BW	3 5/16	16 5/8	8 7/8	F	50.92	47.00	43.64
724-1014	MCLS031712BW	3 5/16	16 5/8	11 7/8	G	58.48	54.00	50.13
724-1015	MCLS031714BW	3 5/16	16 5/8	13 7/8	H	62.56	57.75	53.62

5 Inch MCLS

724-1016	MCLS050707BW	5 5/16	6 5/8	6 7/8	J	40.63	37.51	34.83
724-1017	MCLS050907BW	5 5/16	8 5/8	6 7/8	J	41.65	38.45	35.70
724-1018	MCLS050909BW	5 5/16	8 5/8	8 7/8	K	43.61	40.25	37.38
724-1019	MCLS050912BW	5 5/16	8 5/8	11 7/8	M	46.16	42.60	39.56
724-1020	MCLS051207BW	5 5/16	11 5/8	6 7/8	J	47.01	43.39	40.29
724-1021	MCLS051209BW	5 5/16	11 5/8	8 7/8	K	48.54	44.80	41.60
724-1022	MCLS051212BW	5 5/16	11 5/8	11 7/8	M	51.51	47.55	44.15
724-1023	MCLS051707BW	5 5/16	16 5/8	6 7/8	J	51.51	47.55	44.15
724-1024	MCLS051709BW	5 5/16	16 5/8	8 7/8	K	54.74	50.53	46.92
724-1025	MCLS051712BW	5 5/16	16 5/8	11 7/8	M	64.18	59.24	55.01
724-1026	MCLS051714BW	5 5/16	16 5/8	13 7/8	N	66.05	60.96	56.61

7 Inch MCLS

724-1027	MCLS070912BW	6 13/16	8 5/8	11 7/8	Q	52.96	48.88	45.39
724-1028	MCLS071209BW	6 13/16	11 5/8	8 7/8	P	54.74	50.53	46.92
724-1029	MCLS071212BW	6 13/16	11 5/8	11 7/8	Q	62.22	57.43	53.33
724-1030	MCLS071709BW	6 13/16	16 5/8	8 7/8	P	63.92	59.00	54.79
724-1031	MCLS071712BW	6 13/16	16 5/8	11 7/8	Q	71.74	66.22	61.49
724-1032	MCLS071714BW	6 13/16	16 5/8	13 7/8	R	75.48	69.67	64.70

8 Inch MCLS

724-1033	MCLS081712BW	8 5/16	16 5/8	11 7/8	S	82.96	76.58	71.11
724-1034	MCLS081714BW	8 5/16	16 5/8	13 7/8	T	90.44	83.48	77.52

10 Inch MCLS

724-1035	MCLS101714BW	10 5/16	16 5/8	13 7/8	V	96.14	88.74	82.80
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*Allied stocks sky blue with white front panels only.

Mod-U-Line Side Panels (Priced As Pairs)

NOTE: Must be specified with the cabinet at left.

Stock No.*	Mfr.'s Type	Panel Type	Fits Cabinet	PER PAIR		
				1-9	10-24	25-Up
724-1036	SPP0107B	Plain	A	12.52	11.48	10.61
724-1037	SPR0107B	Rack	A	12.98	11.90	10.98
724-1038	SPP0109B	Plain	B	13.82	12.67	11.69
724-1039	SPR0109B	Rack	B	13.26	12.16	11.22
724-1040	SPP0209B	Plain	C	14.65	13.43	12.40
724-1041	SPR0209B	Rack	C	15.58	14.28	13.18
724-1042	SPP0212B	Plain	D	16.92	15.62	14.50
724-1043	SPR0212B	Rack	D	19.10	17.51	16.16
724-1044	SPP0307B	Plain	E	14.37	13.81	12.16
724-1045	SPH0307B	Handle	E	15.58	14.28	13.18
724-1046	SPR0307B	Rack	E	15.02	13.77	12.71
724-1047	SPP0309B	Plain	F	15.95	14.62	13.50
724-1048	SPH0309B	Handle	F	18.17	16.66	15.38
724-1049	SPR0309B	Rack	F	17.43	15.98	14.75
724-1050	SPP0312B	Plain	G	21.14	19.38	17.89
724-1051	SPH0312B	Handle	G	22.25	20.40	18.83
724-1052	SPR0312B	Rack	G	22.25	20.40	18.83
724-1053	SPR0314B	Plain	H	22.25	20.40	18.83
724-1054	SPH0314B	Handle	H	23.27	21.34	19.69
724-1055	SPR0314B	Rack	H	22.72	20.83	19.22
724-1056	SPP0507B	Plain	J	17.80	16.32	15.06
724-1057	SPH0507B	Handle	J	17.90	16.41	15.14
724-1058	SPR0507B	Rack	J	18.45	16.92	15.61
724-1059	SPP0509B	Plain	K	20.59	18.87	17.42
724-1060	SPH0509B	Handle	K	21.14	19.38	17.89
724-1061	SPR0509B	Rack	K	21.61	19.81	18.28
724-1062	SPP0512B	Plain	M	27.35	25.07	23.15
724-1063	SPH0512B	Handle	M	28.47	26.10	24.09
724-1064	SPR0512B	Rack	M	27.35	25.07	23.15
724-1065	SPP0514B	Plain	N	28.47	26.10	24.09
724-1066	SPH0514B	Handle	N	29.49	27.03	24.95
724-1067	SPR0514B	Rack	N	30.14	27.63	25.50
724-1068	SPP0709B	Plain	P	23.92	21.93	20.24
724-1069	SPH0709B	Handle	P	27.35	25.07	23.15
724-1070	SPR0709B	Rack	P	24.20	22.19	20.48
724-1071	SPP0712B	Plain	Q	32.55	29.84	27.54
724-1072	SPH0712B	Handle	Q	34.96	32.05	29.58
724-1073	SPR0712B	Rack	Q	33.29	30.52	28.17
724-1074	SPP0714B	Plain	R	35.33	32.39	29.89
724-1075	SPH0714B	Handle	R	37.18	34.09	31.46
724-1076	SPR0714B	Rack	R	42.65	39.10	36.09
724-1077	SPP0812B	Plain	S	39.41	36.13	33.35
724-1078	SPH0812B	Handle	S	42.01	38.51	35.54
724-1079	SPR0812B	Rack	S	39.59	36.30	33.50
724-1080	SPP0814B	Plain	T	44.14	40.46	37.35
724-1081	SPH0814B	Handle	T	48.31	44.29	40.88
724-1082	SPR0814B	Rack	T	48.31	44.29	40.88
724-1083	SPP1014B	Plain	V	52.48	48.11	44.41
724-1084	SPH1014B	Handle	V	56.56	51.85	47.86
724-1085	SPR1014B	Rack	V	53.60	49.13	45.35

*Stocked in sky blue only.

Mod-U-Line Venting

Moduline cabinets can be ordered with 3 venting options. Specify a vented top panel use part number suffix "VT". Use "VB" to order an MCLS with vented bottom panel. When both top and bottom panels are to be vented, use suffix "VTB". In each case a 1" wide strip of ventilation holes .125" dia. on .25" centers is provided. Ventilation can be provided to customer specifications.

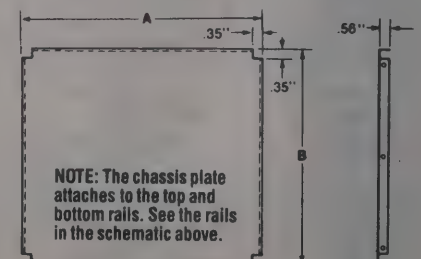
Modifications

PFT does a significant amount of modifications to its standard moduline chassis and modubox instrument cases.

- 25 piece min. quantity
- Cut outs, rounds, squares
- Connector openings
- Press in studs, standoffs
- Lead times generally 5-6 weeks after receipt of order.
- Weld in studs, standoffs
- Silkscreening
- Special paint capability
- Dimensional changes

Mod-U-Line Chassis Plates

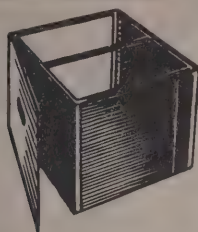
Stock No.	Mfr.'s Type	A Width	B Length	EACH
724-1120	CP0707	6.63	5.12	13.10
724-1121	CP0809	8.19	7.12	18.10
724-1122	CP0907	8.63	5.12	14.95
724-1123	CP0909	8.63	7.12	15.75
724-1124	CP0912	8.63	10.12	20.30
724-1125	CP1207	11.63	5.12	17.35
724-1126	CP1209	11.63	7.12	20.30
724-1127	CP1212	11.63	10.12	25.50
724-1128	CP1707	16.63	5.12	19.50
724-1129	CP1709	16.63	7.12	22.35
724-1130	CP1712	16.63	10.12	25.90
724-1131	CP1714	16.63	12.12	28.50



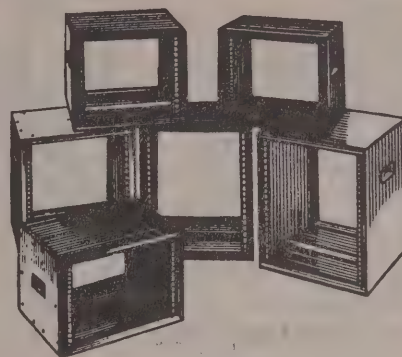
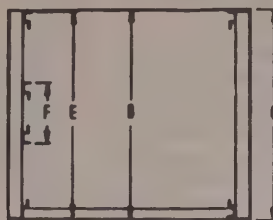
NOTE: The chassis plate is typically used as a substrate to mount power supplies and printed circuit boards.

PFT Mod-U-Desk Racks, Enclosures, and Accessories

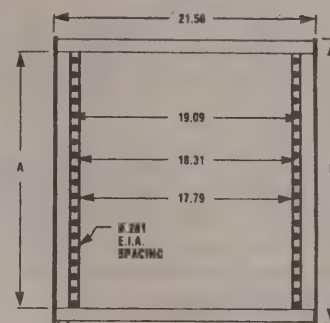
PFT Mod-U-Desk Racks



Top View



Front View



Design Features

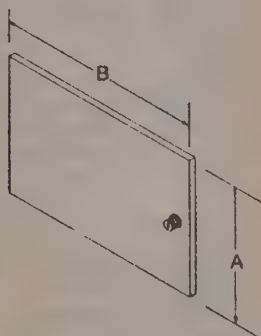
- Knockdown—UPS shippable assemblies in minutes
- Freight savings
- Top, bottom, and internal side panels made from .060" aluminum
- External dress sides—.125 aluminum
- .060 internal cross bars are zinc plated with gold chromate finish
- .060 mounting rails are adjustable front to back on 1" increments
- ABS plastic handles provided
- Non-marring rubber feet
- Black oxide screws for assembly
- 16 clip nuts and cup head screws are provided

Stock No.*	Mfr.'s Type	A Vertical Opening	B Internal Depth	C Overall Depth	D Overall Height	E Maximum Rail Spacing	F Minimum Rail Spacing	EACH
724-1912	MDR 191217 PRR	12.38	17.25	17.50	14.62	17.00	5.00	312.25
724-1915	MDR 191517 PRR	15.88	17.25	17.50	18.12	17.00	5.00	334.85
724-1919	MDR 191917 PRR	19.38	17.25	17.50	21.62	17.00	5.00	364.85
724-1922	MDR 192217 PRR	22.88	17.25	17.50	25.12	17.00	5.00	411.90
724-1923	MDR 191223 PRR	12.38	23.25	23.50	14.62	23.00	11.00	357.30
724-1924	MDR 191523 PRR	15.88	23.25	23.50	18.12	23.00	11.00	389.35
724-1925	MDR 191923 PRR	19.38	23.25	23.50	21.62	23.00	11.00	432.50
724-1926	MDR 192223 PRR	22.88	23.25	23.50	25.12	23.00	11.00	459.10

Stocked in royal blue only. Other colors also available. (Off white, black, ash white, blue, light grey, charcoal, and tan). See color chart on page 76. Top and bottom panels can be vented. PFT standard venting consists of 2-3.375" strips of .125" x .375" obround holes on .250" centers.

PFT Door Packs

— NEW —



- 18 Gauge Steel
- Formed Door Flush Mount to Front Surface
- Push Button Handle With Lock
- Mounting Rails, Hardware and Hinge Included

Stock No.	Mfr.'s Type	Dimensions		Door Type	EACH
		A	B		
724-4500	MDRFD1909R	9"	19"	Steel	87.40
724-4501	MDRFD1912R	12"	19"	Steel	91.15
724-4502	MDRFD1915R	15"	19"	Steel	94.50
724-4503	MDRFD1919R	19"	19"	Steel	97.65
724-4504	MDRFD1922R	22"	19"	Steel	100.90
724-4505	MDRPD1912	12"	19"	Plexiglass	96.15
724-4506	MDRPD1915	15"	19"	Plexiglass	99.40
724-4507	MDRPD1919	19"	19"	Plexiglass	102.65
724-4508	MDRPD1922	22"	19"	Plexiglass	105.85

NOTE: Equipment must be installed 2" deep into cabinet to allow for door mounting hardware. All dimensions approximate.

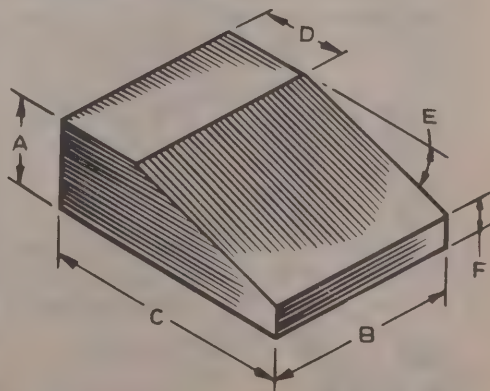
PFT Modubox Enclosures

Construction. Modubox enclosures are of high quality construction. Each enclosure has two parts: a sturdy texture painted wrapper of .090" aluminum and a smooth finished insert of .062" aluminum. The inserts are typically modified with cut-outs and silkscreening. Part numbers reflect the basic shapes offered. **MBK:** Modubox Keyboard style. **MBS:** Modubox Sloped front style. **MBL:** Modubox Linear (rectangular) style. Part numbers follow the rough outside dimensions. For example, an MBS030706BW is a Sloped front Modubox 3" high, 7" wide, and 6" deep with a Blue wrapper and White insert.

Stock No.	Mfr.'s Type	Size						EACH		
		Base			Insert					
		A	B	C	D	E	F	1-9	10-24	25-Up
724-1086	MBK020505BW	1 ¹³ / ₁₆	4 ¹³ / ₁₆	4 ¹⁵ / ₁₆	1.05	15	1.05	18.30	16.75	15.50
724-1087	MBS030406BW	2 ³ / ₄	4 ¹ / ₄	6 ¹³ / ₁₆	N/A	15	1.10	18.30	16.75	15.50
724-1088	MBK020706BW	2 ¹⁵ / ₁₆	6 ¹ / ₂	5 ¹³ / ₁₆	2.91	35	.50	19.10	17.50	16.20
724-1089	MBS030706BW	3 ¹ / ₈	6 ³ / ₄	5 ³ / ₈	N/A	15	1.68	20.50	18.80	17.35
724-1090	MBS050606BW	4 ¹³ / ₁₆	5 ¹³ / ₁₆	5 ¹³ / ₁₆	4.46	75	N/A	22.35	20.50	18.95
724-1091	MBL040610BW	3 ¹³ / ₁₆	5 ¹³ / ₁₆	9 ¹³ / ₁₆	9.81	90	3.81	26.45	24.25	22.35
724-1092	MBS041211BW	3 ¹³ / ₁₆	11 ¹³ / ₁₆	10 ¹³ / ₁₆	9.73	75	N/A	40.60	37.25	34.35
724-1093	MBS041010BW	3 ¹ / ₂	10	10	8.00	50	1.06	38.55	35.35	32.65
724-1094	MBK051010BW	4 ¹³ / ₁₆	9 ¹³ / ₁₆	9 ¹³ / ₁₆	1.94	21	1.78	40.60	37.25	34.40
724-1095	MBK061210BW	5 ³ / ₄	11 ¹³ / ₁₆	9 ¹⁵ / ₁₆	3.03	23	2.82	46.75	42.85	39.55
724-1096	MBK031011BW	2 ¹³ / ₁₆	9 ¹³ / ₁₆	10 ¹³ / ₁₆	5.03	13	1.48	38.55	35.35	32.65
724-1097	MBK031311BW	2 ¹³ / ₁₆	12 ¹³ / ₁₆	10 ¹³ / ₁₆	5.03	13	1.48	40.60	37.25	34.35
724-1098	MBK031711BW	2 ¹³ / ₁₆	16 ¹³ / ₁₆	10 ¹³ / ₁₆	5.03	13	1.48	50.75	46.50	42.95
724-1099	MBK032011BW	2 ¹³ / ₁₆	19 ¹³ / ₁₆	10 ¹³ / ₁₆	5.03	13	1.48	54.80	50.25	46.40

- EPA approved polyurethane finishes

- Venting, cutouts, other modifications, and silkscreening available



Sky Blue wrapper/Offwhite insert in Allied stock. Other colors from factory with slight additional lead time. See color chart and modifications, page 76.

Plexidoors

- Lift off hinge design
- 3/16" thick acrylic plexiglass
- Full length magnetic strip
- Smoked plexiglass style in stock
- Mounts on either side of frame
- Panel clearance of .88 is provided; VMR rail series should be used if a bezel or knob exceeding .88 exists on the rack mount equipment.

Stock No.	Mfr.'s Type	A Width	B Height	EACH
724-1204	PD1942NS	20.12"	43.63"	245.65
724-1202	PD1961NS	20.12"	62.88"	255.40
724-1203	PD1970NS	20.12"	71.63"	284.85
724-1305	PD1977NS	20.12"	78.63"	342.80

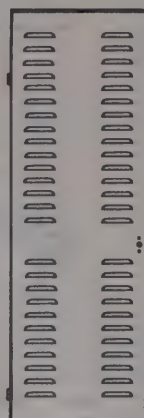


Louvered Short Doors

- 18 gauge cold rolled steel
- Louver size is .625" x 4.50"; opening .250"
- Lift off hinge design
- Panel clearance 1.38" provided
- Door mounts to left corner post only
- Louvered door packs are short doors and include 8.72" x 19.00" access panel
- Latch, adhesive-backed gasketing, 5/32 Allen wrench, and all hardware provided in pack
- Textured royal blue finish in stock

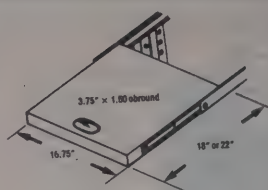
Stock No.	Mfr.'s Type*	A Width	B Height	EACH
724-1207	1942LRH	20.12"	34.88"	129.25
724-1205	1961LRH	20.12"	54.13"	144.35
724-1206	1970LRH	20.12"	62.88"	163.75
724-1214	1977LRH	20.12"	69.88"	197.15

*Add MVESD before manufacturer's type number.



Sliding Shelves

- 16 gauge cold rolled steel
- Smooth ash white finish in stock
- Rated for 85 lbs capacity
- Slides have lock out feature
- Brackets, hardware, slides, and shelf included in pack



Stock No.	Mfr.'s Type	A Width	B Height	EACH
724-1301	SS1918SH	16.75"	18.00"	127.05
724-1302	SS1922SH	16.75"	22.00"	144.95

Solid Long Doors

- 18 gauge cold rolled steel
- Lift off hinge design
- Panel clearance 1.38" provided
- Door mounts to left corner post only
- Can be used as a front or a rear door
- Latch, adhesive-backed gasketing, 5/32 Allen wrench, and all hardware provided in pack
- Textured royal blue finish in stock

Stock No.	Mfr.'s Type*	A Width	B Height	EACH
724-1212	1942PR	20.12"	43.63"	189.55
724-1210	1961PR	20.12"	62.88"	213.15
724-1211	1970PR	20.12"	71.63"	235.75
724-1213	1977PR	20.12"	78.63"	307.95

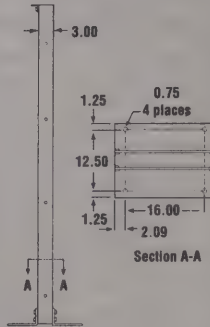
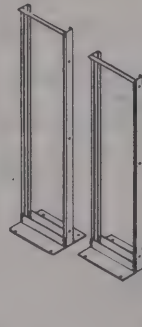
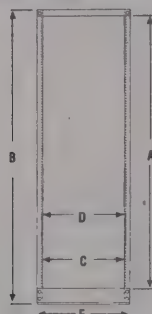
*Add MVESD before manufacturer's type number.

Identification Strip

- Royal blue formica to accent side panels
- Ideal for silkscreening
- Other standard colors available
- Strip fits into aluminum extrusion

Stock No.	Mfr.'s Type	Description	EACH
724-0001	ID01	Single Bay	6.05
724-0002	ID02	Double Bay	9.75
724-0003	ID03	Triple Bay	13.65

Modular Relay Racks



PFT Special Features

- Heavy duty aluminum extrusion construction utilizing 6061-T6 aluminum alloy
- 10-32 dia. tapped holes on front and rear flanges
- EIA hole spacing full height of vertical uprights

Each PFT Modular Relay Rack Consists Of:

- 2 fully tapped vertical uprights
- 2 mounting bases (front and rear)

- Available in smooth black oven baked finish
- Designed for multi-bay configurations
- UPS shippable for economical freight costs
- Designed to accommodate a variety of PFT accessories

- Top angle
- Assembly hardware

Now available from PFT—Modular Relay Racks that are UPS shippable! These all aluminum open frame racks are available in 19" and 24" rack mount widths with standard EIA hole spacing. PFT Modular Relay Racks are ideal for mounting electronic and test equipment, patch panels, shelves, data-communications and telecommunications products as well as other cabling and rack mount products. PFT Modular Relay Racks offer an economical alternative to your rack mount needs at a fraction of the cost of a fully enclosed vertical enclosure. These racks are ideal when a fully enclosed cabinet is not required. All PFT Modular Relay Racks are shipped unassembled for a significant freight savings. Assembly is easily accomplished in a matter of minutes using standard socket or adjustable wrenches. Racks are designed to bolt to the floor for extra stability.

How To Order

Step One: Select the width, height and depth Modular Rack desired. **Step Two:** Refer to the dimensional chart below to obtain Allied part # and cost. **Step Three:** Refer to accessory items needed to complement your Modular Relay Rack.

Stock No.	Mfr.'s Type	A	B	C	D	E	Rack Units	EACH
724-1978	MNF1978A	78.125	84.00	17.81	18.31	20.18	45U	175.10
724-1970	MNF1970A	70.125	75.25	17.81	18.31	20.18	40U	166.45
724-1961	MNF1961A	61.375	66.50	17.81	18.31	20.18	35U	154.80
724-1942	MNF1942A	42.125	47.25	17.81	18.31	20.18	24U	139.50
724-2478	MNF2478A	78.125	84.00	22.81	23.31	25.18	45U	189.65
724-2470	MNF2470A	70.125	75.25	22.81	23.31	25.18	40U	180.80
724-2461	MNF2461A	61.375	66.50	22.81	23.31	25.18	35U	169.35
724-2442	MNF2442A	42.125	47.25	22.81	23.31	25.18	24U	148.85

All dimensions in inches. Note: 24" rack mount widths are available at slight leadtime. Contact your local Allied sales office for more details.

Cup Head Screws

- 10/32 cup head screws
- Nickel plated with nylon washer
- Twenty per kit

Model CHS 1032F. 10/32 x 5/8" long.
724-1256. PK/20 3.95

Model CHS 1032K. 10/32 x 1 1/8" long.
724-1253. PK/20 3.95



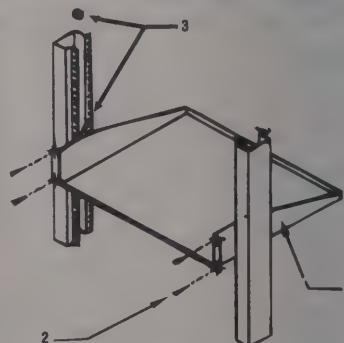
Multi-Bay Joining Kit

- Used to join modular relay racks together to form double bays, triple bays, etc.

724-0100. JK05 EACH 7.15



Cantilevered Equipment Shelf

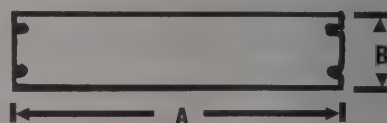


- 16 Gauge solid steel shelf
- Mounts to front vertical uprights of rack
- Rated for 50 lb. load capacity
- Smooth black polyurethane finish
- Mounting hardware included

For 19" Wide Relay Rack
724-1913. CS1914SA EACH 42.35

For 24" Wide Relay Rack
724-2414. CS2414SA EACH 60.85

Flat Filler Panels



- .125" thick aluminum
- Textured black finish in stock

19" Panels

Stock No.	Mfr.'s Type	"A" Width	"B" Height	Color	EACH
724-1901	FL1901A	19"	1.75"	Black	8.65
724-1903	FL1903A	19"	3.50"	Black	10.75
724-1905	FL1905A	19"	5.25"	Black	15.10
724-1907	FL1907A	19"	7.00"	Black	17.15
724-1908	FL1908A	19"	8.75"	Black	21.40
724-1910	FL1910A	19"	10.50"	Black	25.60

24" Panels

Stock No.	Mfr.'s Type	"A" Width	"B" Height	Color	EACH
724-2401	FL2401A	24"	1.75"	Black	11.85
724-2402	FL2402A	24"	3.50"	Black	14.85
724-2403	FL2403A	24"	5.25"	Black	20.65
724-2404	FL2404A	24"	7.00"	Black	23.45
724-2405	FL2405A	24"	8.75"	Black	29.30
724-2406	FL2410A	24"	10.50"	Black	35.20

PFT Modular Vertical Enclosure Accessories

PFT Modular Vertical Enclosure Accessories

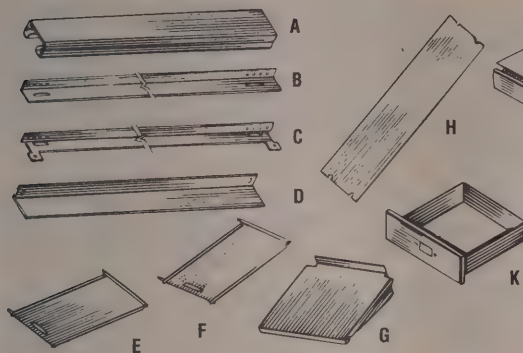


Fig. A — Horizontal Mounting Rail Kit

16 gauge cold rolled steel channels. Used in conjunction with 90° tapped mounting rails, multi-formed rails and vertical conversion rail kits. Zinc plated with gold chromate finish. Sold in pairs.

Stock No.	Mfr.'s Type	Rail Length (in.)	Cabinet Depth (in.)	PER PAIR
724-1220	HMR25	20.25	25	29.30
724-1221	HMR30	26.25	30	31.95

Fig. B — 90° Tapped Mounting Rail Kit

12 gauge cold rolled steel. Must be used in conjunction with horizontal mounting rail kits. Zinc plated with gold chromate finish. Fully adjustable from front to rear of cabinet. Sold in pairs.

Stock No.	Mfr.'s Type	Rail Length (in.)	Cabinet Height (in.)	PER PAIR
724-1222	VMR42	42.06	42	45.75
724-1223	VMR61	61.31	61	48.25
724-1224	VMR70	70.06	70	51.75
724-1224	VMR77	77.06	77	62.15

Fig. C — Vertical Corner Tapped Mounting Rail Kit

12 gauge cold rolled steel. Zinc plated with gold chromate finish. Vertical tapped rails permit use of cup head screws without clip nuts or cage nuts. 10-32 tapped holes. Rails attach to inside of MVE corner post. Sold in pairs.

Stock No.	Mfr.'s Type	Rail Length (in.)	Cabinet Height (in.)	PER PAIR
724-3505	CTR35	34.93	35	40.55
724-1225	CTR42	41.93	42	45.75
724-1226	CTR61	61.18	61	49.55
724-1227	CTR70	69.93	70	53.30
724-1227	CTR77	76.93	77	64.00

Fig. D — Equipment Mounting Angle Kit

11 gauge cold rolled steel. Zinc plated with gold chromate finish. Rated for 400 lb. load capacity. Attach directly to MVE corner posts. Sold in pairs.

Stock No.	Mfr.'s Type	Rail Length (in.)	Cabinet Depth (in.)	PER PAIR
724-1228	EMA25	20.25	25	23.80
724-1229	EMA30	26.31	30	27.40

Fig. E and F — Equipment Shelves: Solid and Perforated

16 gauge cold rolled steel. Smooth ash white finish in stock. Rated at 200 lbs. capacity. Mounts to MVE cabinet corner posts. Hardware included in pack. Perforated shelves have three 5" wide bands of .250" diamond shaped perforations on .50" centers. 1" x 6" obround cable opening in rear.

Stock No.	Mfr.'s Type*	Depth (in.)	Width (in.)	Cabinet Depth (in.)	EACH
724-1230	ESI925SH	24.50	17.72	25	40.40
724-1231	ESI925PH	24.50	17.72	25	49.50
724-1232	ESI930SH	30.50	17.72	30	51.25
724-1233	ESI930PH	30.50	17.72	30	62.25
724-3506	ES2425SH	24.50	22.72	25	51.25
724-3507	ES2425PH	24.50	22.72	25	63.40
724-3508	ES2430SH	30.50	22.72	30	64.25
724-3509	ES2430PH	30.50	22.72	30	76.35

*SH—Solid Shelf Type, PH—Perforated Shelf Type.

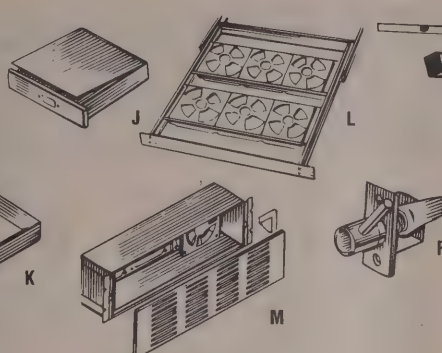


Fig. G — Fixed Writing Shelf

16 gauge cold rolled steel. Smooth ash white finish in stock. Rated at 200 lbs. capacity. Uses 7" of panel opening space. 14 gauge brackets and hardware included. Mounts to MVE cabinet corner posts.

Stock No.	Mfr.'s Type	Width (in.)	Depth (in.)	EACH
724-1234	FWS19	22.00	16.25	89.65
724-3500	FWS24	26.00	16.25	118.35

Fig. H — Flat Filler Panels

.125" thick aluminum. Textured ash white finish in stock. Solid or perforated.

Stock No.	Mfr.'s Type	Approx. Height (in.)	Actual Height (in.)	Actual Width (in.)	EACH
724-1235	FL1901H	1.75	1.71	19.00	8.65
724-1236	FL1903H	3.50	3.46	19.00	10.75
724-1237	FL1905H	5.25	5.21	19.00	15.15
724-1238	FL1907H	7.00	6.96	19.00	17.15
724-1239	FL1908H	8.75	8.71	19.00	21.45
724-1240	FL1910H	10.00	10.46	19.00	25.60

Fig. J and K — Sliding Drawers

18 gauge cold rolled steel. Ash white finish in stock. Rated for 200 lbs. capacity. All front panels to standard 19" EIA specifications. Brackets, slides, and hardware included. Writing shelf size is 16.25" wide by 15.00" deep.

Stock No.	Mfr.'s Type	With Writing Shelf	Approx. Height (in.)	Actual Height (in.)	Actual Depth (in.)	EACH
724-1241	SD1903WH	Yes	3.43	15.67	16.00	190.15
724-1242	SD1907OH	No	6.93	15.67	16.00	184.45
724-1243	SD1910OH	No	10.43	15.67	16.00	196.65

Fig. L — 630 CFM Fan Tray Assembly

Uses 1.75" of panel space. Designed for front mount racking into any standard 19" or 24" EIA rack. To mount in 24" rack use AB360 adapter bracket. Exhausts air through the top of the MVE. Specify louvered top panel if this fan tray assembly is desired. 6" long 115 V power cord. Consists of 6 — 105 CFM muffin fans. 18" actual depth/17" actual width.

724Q1244. FN630.....EACH 436.75

Fig. M — 315 CFM Fan Assembly

Draws air into the equipment rack. Consists of three 105 CFM muffin fans. Fans mounted into a painted housing. Utilizes washable air filter. 5.22" x 19.00" stainless steel grill. 6" long 115 V power cord. Rack mountable on front or rear of any 19" or 24" standard EIA rack. To mount in 24" rack use AB315 adapter bracket.

724-1245. FN315.....EACH 258.25

Fig. N — Electrical Outlet Strips

Components all UL approved. 15 A, 125 V receptacles. 6" power cord. Attach to MVE corner posts. OS2406 has on/off switch.

Stock No.	Mfr.'s Type	Length (in.)	No. of Outlets	EACH
724-6030	OS2406	24.00	6	86.15
724-1246	OS6006	60.00	6	121.15

Rack Mount Power Strips

Stock No.	Mfr.'s Type	Length (in.)	No. of Outlets	EACH
724-3501	PS1906	—	6	103.65
724-3010	PS1910S*	—	10	143.15

*With surge.

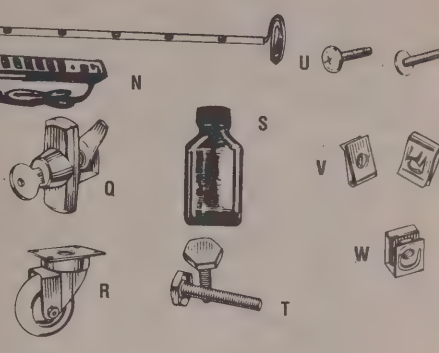


Fig. P — T-Door Handle

Fits in all PFT long and short door series. Zinc plated knurled handle.

724-1247. TDH01.....EACH 10.70

Fig. Q — Lock Assembly

Fits in all PFT long and short door series. Chrome plated steel. Keyed alike. Latch can be adjusted to create vibration-free environment.

724-1248. LK01.....EACH 21.30

Fig. R — Casters

3 1/2" diameter. Hard rubber wheels. Each caster rated at 200 lbs. capacity. Sold in sets of four.

724-1249. CA200.....PK./4 47.95

Fig. S — Touch Up Paint

One ounce bottle with applicator brush. No mixing required. Quick drying.

Stock No.	Mfr.'s Type	Color	EACH
724-1250	TUBR	Royal Blue	10.50
724-1251	TUBH	Ash White	10.50
724-1257	TUBB	Sky Blue	10.50
724-1258	TUBW	Off White	10.50

Fig. T — Leg Levelers

Threaded steel construction. Nickel plated. 3" tall. Sold as a set of four.

724-1252. LL03S.....PK./4 9.55

Fig. U — Cup Head Screws

10-32 cup head screws. Nickel plated or black oxide with nylon washer. Twenty per pack.

Stock No.	Mfr.'s Type	Size	PER PK./20
724-1256	CHS1032F	10-32 x 9/8" long	4.15
724-1253	CHS1032K	10-32 x 1 1/8" long	4.15
724-3503	CHS1032FA	10-32 x 9/8" long — black oxide	4.15
724-3504	CHS1032KA	10-32 x 1 1/8" long — black oxide	4.15

Fig. V — Clip Nuts

10-32 U type clip nut. Used in conjunction with CHS1032F and CHS1032K screws. Used in conjunction with .281" EIA holes on MVE cabinet corner posts. Twenty per pack.

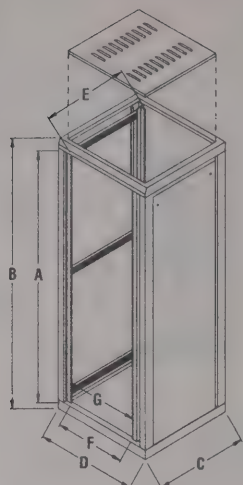
724-1254. CLP1032.....PK./20 5.70

Fig. W — Cage Nuts

10-32 clip nut for heavy duty applications. Used in conjunction with .281" EIA holes on MVE cabinet corner posts. Twenty per pack.

724-1255. CAG1032.....PK./20 15.10

3



Welded Vertical Enclosures

Each unit contains: frame with 2 sets of adjustable rails, locking plexiglass front door, locking louvered rear door, louvered top, 2 locking and 2 non-locking double wheel casters, removable solid side panels, open bottom, and side security screws to prevent side panel removal. (Install only if you desire to eliminate the ability to remove side panels from outside of cabinet.) **Features.** Equipment Mounting for many applications can be easily accomplished. The WVE comes equipped with 2 sets of adjustable mounting rails. Fully adjustable, front to back, two sets of 10-32 drilled and tapped mounting rails are infinitely adjustable between the front and the rear of the cabinet frame. Access to internal electronics is fast and simple. Modular design enables access from front, rear and both sides. Side panels lift off easily or can be secured to prevent removal from outside. Finish color is textured polyurethane ivory to harmonize with any plush office environment and other office equipment. Two locking and two non-locking double wheel casters are included. Front plexiglass door and rear louvered steel door have convenient lift-off hinges. The WVE comes with a standard louvered top and an open bottom for plenty of wire and cable access. Multi-bay add-ons in any quantity are quickly assembled using a PFT joining kit (JK02). A full line of accessories for Welded Vertical Enclosures are available, including PFT's sliding tower shelf. Drawers, shelves, filler panels, fans and many other accessories are available from stock for immediate shipment.

Stock No.	Mfr.'s Type	Vertical Opening (A)	Rack Units	Overall Height (B)*	Overall Depth (C)**	Overall Width (D)	Maximum Rail Spacing (E)	Inside Mounting Rail Opening (F)	Front Opening Hole Center (G)	EACH
724Q3550	WVE197725I	77.125	44	82.125	26.120	23.292	24.5	17.75	18.31	1365.90
724Q3551	WVE197730I	77.125	44	82.125	32.120	23.292	30.5	17.75	18.31	1429.75
724Q3552	WVE197025I	70.125	40	75.125	26.120	23.292	24.5	17.75	18.31	1300.85
724Q3553	WVE197030I	70.125	40	75.125	32.120	23.292	30.5	17.75	18.31	1361.65
724Q3554	WVE196125I	61.375	35	66.375	26.120	23.292	24.5	17.75	18.31	1226.55
724Q3555	WVE196130I	61.375	35	66.375	32.120	23.292	30.5	17.75	18.31	1284.50
724Q3556	WVE194225I	42.125	24	47.125	26.120	23.292	24.5	17.75	18.31	1075.75
724Q3557	WVE194230I	42.125	24	47.125	32.120	23.292	30.5	17.75	18.31	1126.75

All dimensions in inches. *Casters add 3" to the overall height of the cabinet. **The door hinges add 1.32" to the overall depth of the cabinet.

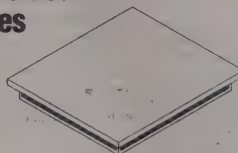
Tower Shelf For Welded Vertical Enclosures



PFT's tower shelf installs to the bottom of any WVE series cabinet. The shelves slide independently from their stored position to ease access to towers for maintenance, installation or any purpose where access is important. Packed in pairs. Each shelf rated for 90 lbs. capacity. Smooth polyurethane paint coat finish in ivory to match cabinet cosmetics. All assembly hardware included.

724Q3558. TS0820I PER PAIR 233.35

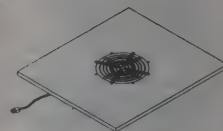
Pagoda Top For Welded Vertical Enclosures



The pagoda top is ideal for applications where air flow through the top of a cabinet is required but where preventing internal cabinet contamination is a priority. Fits in same opening as top filler (Remove filler and install pagoda top). All hardware included. Texture finished to cosmetically match standard WVE series.

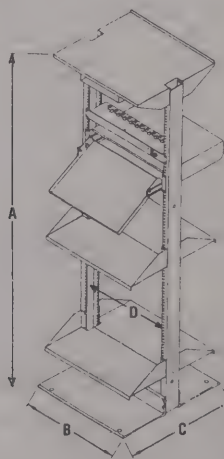
Stock No.	Mfr.'s Type	Cabinet Width (In.)	Cabinet Depth (In.)	EACH
724-3559	PT1925I	19	25	122.55
724-3560	PT1930I	19	30	129.30

Filler Fan Assembly For Welded Vertical Enclosures



Designed for mounting in the top of WVE cabinet (Remove filler and install filler/fan assembly). Solid panel with fan installed. 550 CFM rating. 40" cord. Chrome finger guard.

Stock No.	Mfr.'s Type	Cabinet Width (In.)	Cabinet Depth (In.)	EACH
724-3561	FF1925I	19	25	219.15
724-3562	FF1930I	19	30	229.05



Mod-U-Serv

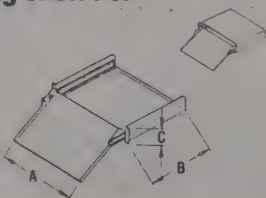
Now available from PFT — Mod-U-Serv, a fashionably organized networking frame complete with shelves to organize your monitor, keyboard, switch, CPU and towers. A variety of styles and power strips are available. The upright channels are drilled and tapped with universal EIA spacing for excellent durability of mounted equipment. This heavy-duty design is constructed of an extruded aluminum base and upright channels with steel shelves for excellent durability. The Mod-U-Serv is finished with baked polyurethane paint to complement any office atmosphere. **Each Complete Unit Includes:** one monitor shelf with switch compartment, four CPU shelves that mount back-to-back, one surge-protected rackmount outlet strip with ten receptacles and 10' cord, one 23" rackmount sliding keyboard shelf with multiple tilt feature, two heavy-duty extruded aluminum drilled and tapped uprights, and two heavy duty extruded aluminum freestanding bases. **Features.** Organize servers or towers. Ten receptacle surge-protected outlet strip with 10' power cord that uses only one rack space. Full line of accessories available including casters, filler panels and more. 23" deep freestanding base for extra rack stability. Monitor shelf with switch compartment standard. UPS shippable. All shelves fully adjustable.

23" x 61" Mod-U-Serv Featuring 12/24" Tapped Mounting Holes

Stock No.	Mfr.'s Type	Height (A) (In.)	Width (B) (In.)	Depth (C) (In.)	Inside Width (D) (In.)	EACH
724-3565	MST2361I	66.50	24.18	23.00	21.81	867.15

Keyboard Sliding Shelf For Mod-U-Serv

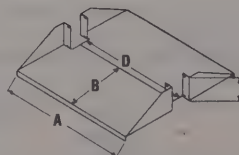
Designed for installation in 23" relay racks. Shelf mounts flush to rack in set position. Multiple tilt positions available when extended. Ivory polyurethane finish standard. All assembly hardware included.



Stock No.	Mfr.'s Type	Width (A) (In.)	Depth (B) (In.)	Height (C) (In.)	Finish	EACH
724-3566	KS2312SI	20 5/8	11.75	3.5	Ivory	115.90

CPU Shelf For Mod-U-Serv

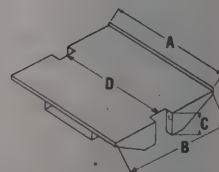
Designed to mount back-to-back on rack. Each shelf rated for 100 lbs. capacity. 16 gauge steel. Smooth ivory finish. All assembly hardware included.



Stock No.	Mfr.'s Type	Width (A) (In.)	Depth (B) (In.)	Height (C) (In.)	Inside Width (D) (In.)	EACH
724-3568	CPU2310SI	23.25	10.00	3.59	21.562	125.75

Monitor Shelf For Mod-U-Serv

Designed for installation in 23" relay racks. 16 gauge steel. Rated for 75 lbs. capacity. Smooth ivory finish. All assembly hardware included.

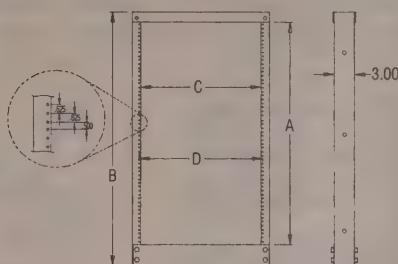


Stock No.	Mfr.'s Type	Width (A) (In.)	Depth (B) (In.)	Height (C) (In.)	Inside Width (D) (In.)	EACH
724-3570	MOS2318SI	24.18	18.00	3.59	21.437	83.55

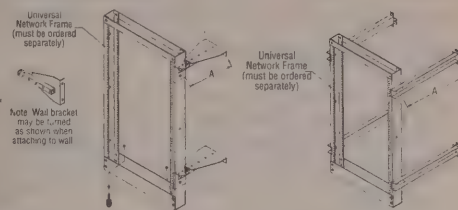
Universal Networking Frames

- Available with $\frac{10}{32}$ " or $\frac{12}{24}$ " Tapped Holes
- Mounting Holes on Both Front and Rear Flanges
- All-Aluminum Construction
- Hole Patterns per Universal EIA Spacing
- All Sizes UPS Shippable
- Available in 19" or 23" Rack Mount Widths
- Equipped with Two $\frac{3}{16}$ " $\times$ $\frac{1}{4}$ " Cross Bars Across the Top of the Unit

PFT Universal Networking Frames are used in conjunction with either the Swing Gate Bracket or Stationary Wall Bracket Kits. These frames utilize the same innovative features offered in other PFT Networking Frames.



Bracket Kits



Swing Gate Bracket Kits — Fig. A

- Ball Casters for Weight Support
- 180° Rotation with Five Locking Pivot Points
- Universal Mounting for Right or Left Hand Hinging
- Polyurethane Baked Finish
- Packed as Pairs

PFT Swing Gate Bracket Kits offer you an economical method for wall mounting a Universal Networking Frame while providing a hinging mechanism for swinging the frame out for maintenance and installation purposes.

Stock No.	Mfr.'s Type	Depth Range Front of Frame to Wall	PER PAIR
724-4060	SGBK 57S*	11.25" - 15.25"	65.88
724-4161	SGBK 57A†	11.25" - 15.25"	65.88

Stationary Wall Bracket Kits — Fig. B

- Four Heavy Duty 14 Gauge Brackets for Wall Mounting
- Hardware to Mount to Universal Rack Included
- Side Mount to Allow Hanging of Racks Together
- Polyurethane Baked Finish

PFT Stationary Wall Bracket Kits offer you a cost-effective method of wall mounting a Universal Networking Frame with enough working space for repair and installation.

724-4165	SWB 18S*	21"	50.15
724-4166	SWB 18A†	21"	50.15
724-4167	SWB 12S*	15"	43.09
724-4168	SWB 12A†	15"	43.09

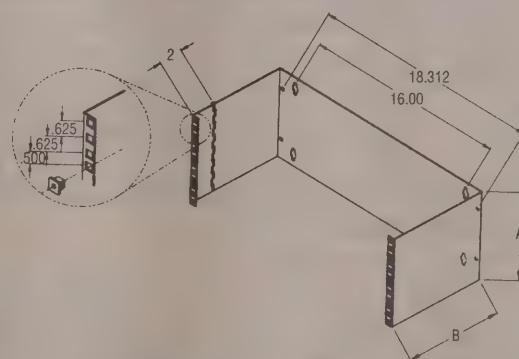
*A=Black polyurethane finish; U=Popular mill finish. † $\frac{10}{32}$ ". ‡ $\frac{12}{24}$ ".

*Silver. †Black.

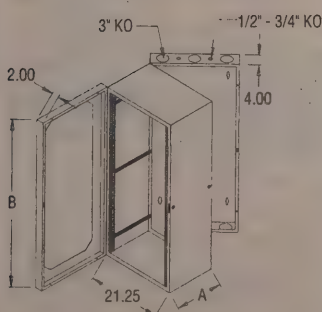
Wall Mount Patch Panel Brackets

- Manufactured with 16 Gauge Steel
- Designed for 19" Patch Panel Mounting
- Finished with a Black Polyurethane Baked Paint
- Accepts Either 12-24 or 10-32 Screw Size

Stock No.	Mfr.'s Type	Height A	Depth B	Rack Units	Color	EACH
724-4070	WPB 190304A	3.50	4.00	2	Black	19.89
724-4072	WPB 190504A	5.25	4.00	3	Black	21.93
724-4074	WPB 190704A	7.00	4.00	4	Black	23.89
724-4076	WPB 190308A	3.50	8.00	2	Black	20.40
724-4078	WPB 190508A	5.25	8.00	3	Black	22.86
724-4080	WPB 190708A	7.00	8.00	4	Black	24.99



Wall Mount Cabinets



- Unique Universal Mounting Rails Featuring Both $\frac{10}{32}$ " and $\frac{12}{24}$ " Tapped Holes (Fully Adjustable Front to Back)
- Designed for 19" Rack Equipment
- Manufactured with Heavy Duty 14 and 16 Gauge Steel, Textured Finish with a Durable Polyurethane Baked Paint
- Shipped Fully Assembled with Locking Doors and Universal Hinging — Right or Left Hand Hinging
- Knock Outs in Both Top and Bottom for Wire and Cable Access
- Packed One per Carton and available for Immediate Shipment

Stock No.	Mfr.'s Type*	Depth A	Height B	Rack Units	EACH
724Q2000	WC192110PLA	10.15	23.62	12	395.25
724Q2005	WC192110PSA	10.15	23.62	12	385.13
724Q2010	WC192110SLA	10.15	23.62	12	350.45
724Q2020	WC192110SSA	10.15	23.62	12	340.43
724Q2025	WC192114PLA	14.15	23.62	12	401.45
724Q2030	WC192114PSA	14.15	23.62	12	391.26
724Q2035	WC192114SLA	14.15	23.62	12	356.75
724Q2040	WC192114SSA	14.15	23.62	12	346.55
724Q2045	WC194510PLA	10.15	48.12	26	571.97
724Q2050	WC194510PSA	10.15	48.12	26	551.14
724Q2055	WC194510SLA	10.15	48.12	26	512.30
724Q2060	WC194510SSA	10.15	48.12	26	500.56
724Q2065	WC194514PLA	14.15	48.12	26	585.31
724Q2070	WC194514PSA	14.15	48.12	26	585.57
724Q2075	WC194514SLA	14.15	48.12	26	525.73
724Q2080	WC194514SSA	14.15	48.12	26	514.00

*In the Mfr.'s Type Number: "PLA" is a cabinet that is painted black with plexiglass doors and louvered cabinet sides; "PSA" is a cabinet that is painted black with plexiglass doors and solid cabinet sides; "SLA" is a cabinet that is painted black with a solid steel door and louvered cabinet sides; "SSA" is a cabinet that is painted black with a solid steel door and solid cabinet sides.

PFT, Inc. manufactures economical, high-quality desk top and wall mount cabinets, vertical enclosures, chassis products, small instrument boxes, and a variety of data comm products.

PFT has the capability to complete modifications, including hole punching, silkscreening, or size changes. Modifications can be completed on quantities as few as 25 pieces.

Cable Management Rack

- ▶ Drilled and Tapped with 10/32" or 12/24" Mounting Holes per EIA Universal Spacing on Both Front and Rear Flanges
- ▶ Designed for 19" Rack Equipment, 45 Rack Units in An Overall Height of 84 Inches
- ▶ All Aluminum construction with Black Polyurethane Finish
- ▶ Double Bolted Design at Front and Rear; Top and Bottom for Extra Rigidity and to Assure Squareness
- ▶ A PFT Proprietary Designed Hanger Which Allows for 45 Degree Rotation
- ▶ All Assembly Hardware Plus Accessory Pack that Includes: 20 Cable Ties, 16 Cable Hangers, 40 Cuphead Screws, Grommeting for Cutouts and Plastic Plugs for 2" Diameter Holes
- ▶ Lance Mechanism for Attaching Ties Inside the Channel
- ▶ Cable Tie Slots on Rear of Unit for Additional Cable Management Capability
- ▶ Large Round Cable Access Cutouts on Rear of Unit
- ▶ Round Cable Access Holes on Front of Unit

Now available from PFT — a unique Cable Management Rack that combines all the attributes of a relay rack, raceway and cable routing into one complete unit. This rack features PFT's new proprietary cable management hanger, which is mountable in 45 degree increments.

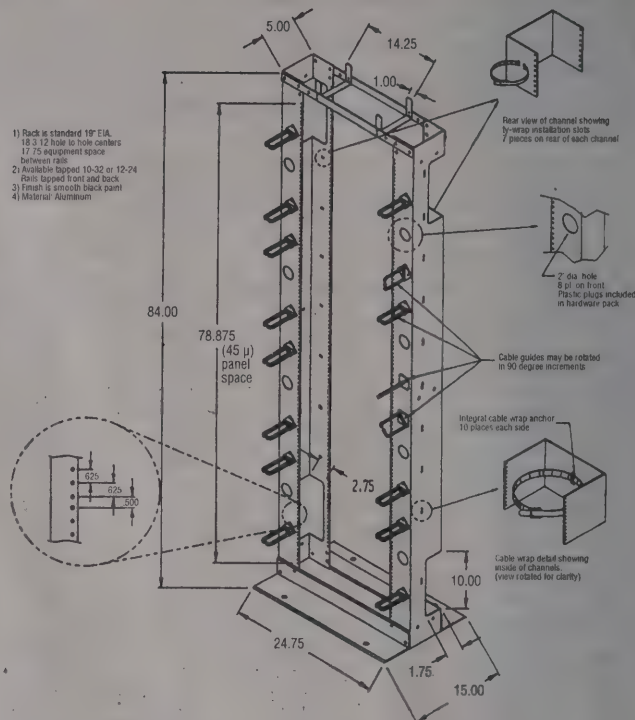
This all aluminum Cable Management Rack allows mounting of a variety of standard 19" wide patch panels, hubs, concentrators and other data comm equipment in a single rack with built in cable ties, cable hangers and provisions for organized routing of wire and cable. Each rack is shipped knock down for exceptional freight savings in a single carton.

Model CMR1977A. 19" x 77" Cable Management Rack featuring 10/32" tapped mounting holes. Finish: black.

724-3000. Model CMR1977A **EACH 312.15**

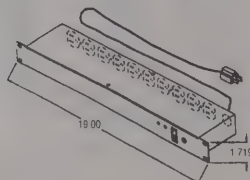
Model CMRT1977A. 19" x 77" Cable Management Rack featuring 12/24" tapped mounting holes. Finish: black.

724-3005. Model CMRT1977A **EACH 312.15**



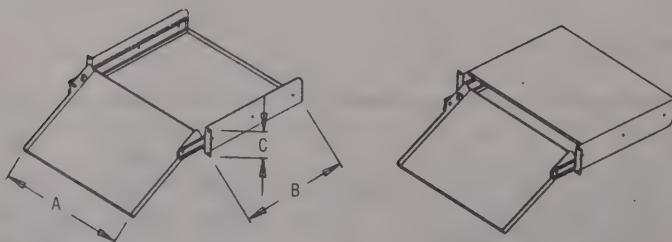
Rack Mount Power Strip

- ▶ 10 Surge Protected Outlets
- ▶ 10' Power Cord
- ▶ 15 Amps, 1875 Watts @ 125 VAC
- ▶ 360 Joules of Surge Protection
- ▶ Surge/Power Protection Indicator (LED)
- ▶ Triple-Line Protection
- ▶ Meets UL Standard 1363 and 1449



Stock No.	Mfr.'s Type	Color	No. of Outlets	EACH
724-3010	PS1910S	Black	10	140.30

Keyboard Sliding Shelf

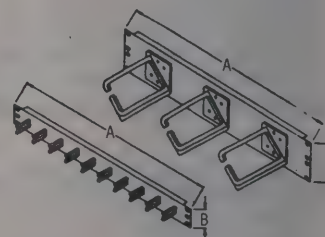


- ▶ Shelf Can Be Mounted with Flat Rack Tray Mounted Above Sliding Shelf to Serve as Storage Platform
- ▶ Designed for Installation in 19" (KS1912SA) or 23" (KS2312SA) relay racks
- ▶ Shelf Mounts Flush to Rack In Set Position
- ▶ Multiple Tilt Positions Available When Extended
- ▶ Black Polyurethane Finish Standard (8 Other Colors Available Upon Request)
- ▶ All Assembly Hardware Included

Stock No.	Mfr.'s Type	Width (A)	Depth (B)	Rack Space (C)	Finish	EACH
724-3035	KS1912SA	16 5/8"	11.75"	2U	Black	108.85
724-3040	KS2312SA	20 5/8"	11.75"	2U	Black	115.90

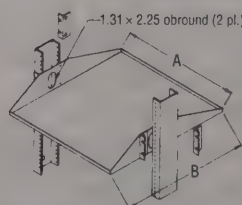
Cable Management Panel

- ▶ 18 Gauge Steel
- ▶ In 19" or 23" Widths
- ▶ Completely Assembled at Factory with Small Latch Gates Or Cable Hangers
- ▶ Mounting Holes Available for Vertical Positioning of Large Cable Hangers
- ▶ Black Polyurethane Finish; Other Colors Available Upon Request



Stock No.	Mfr.'s Type	Width (A)	Height (B)	Finish	Qty. of Hangers	Qty. of Latch Gates	EACH
724-3015	19CP01001A	19"	1.71"	Black	0	10	8.35
724-3020	23CP01002A	23"	1.71"	Black	0	12	8.55
724-3025	19CP03003A	19"	3.46"	Black	3	0	31.00
724-3030	23CP03004A	23"	3.46"	Black	3	0	31.75

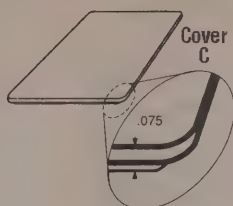
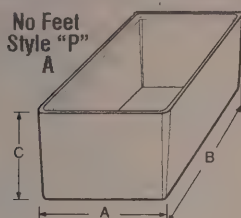
Center Weight Equipment Shelves



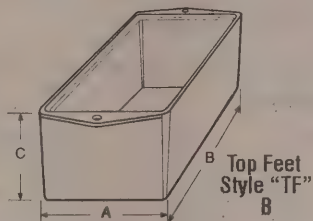
- ▶ 16 Gauge Steel
- ▶ Rated for 50 lbs. Capacity
- ▶ Rated for 75 Lbs. Capacity with Optional Mounting Brackets (Included with Each Shelf)
- ▶ 10/32" Mounting Hardware Included

Stock No.	Mfr.'s Type	Type	A Width	B Depth	EACH
724-5016	CWS 1919SA	Solid	19"	19"	49.50
724-3045	CWS 1919PA	Perforated	19"	19"	77.85
724-3050	CWS 2319SA	Solid	23"	19"	65.50
724-3055	CWS 2319PA	Perforated	23"	19"	77.85

Textured Enclosures



- Ideal For Potting and Encapsulating
- 2 Styles — Plain or Top Mounting Feet
- U/L 94V-0 Flame Retardant ABS
- Textured Finish
- Exact Fitting, Flush Mount Covers
- Stocked In Black



Boxes

Plain (A)		Top Feet (B)*		Size — Inches			EACH			
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	A	B	C	1-9	10-49	50-99	100
883-0915	P-1175TX	883-0421	TF-1175TX	1.000	1.00	.75	.69	.58	.51	.42
883-0900	P-1521TX	883-0905	TF-1521TX	1.500	2.00	1.00	.90	.76	.66	.55
883-0901	P-2215TX	883-0906	TF-2215TX	2.000	2.00	1.50	1.02	.87	.77	.63
883-0902	P-2309TX	883-0907	TF-2309TX	2.000	3.00	.90	1.13	.93	.83	.69
883-0903	P-2315TX	883-0908	TF-2315TX	2.000	3.00	1.50	1.27	1.06	.93	.78
883-0904	P-3315TX	883-0909	TF-3315TX	3.000	3.00	1.50	1.72	1.43	1.25	1.04
883-0916	P-2420TX	883-0918	TF-2420TX	2.125	4.00	2.00	1.99	1.85	1.64	1.48

*There is no additional charge for the top feet Style.

Covers (C)

Stock No.	Mfr.'s Type	Size — Inches		EACH			
		A	B	1-9	10-49	50-99	100
883-0917	C-0101-N	1.000	1.00	.36	.31	.26	.22
883-0911	C-1502-N	1.500	2.00	.52	.45	.38	.32
883-0912	C-0202-N	2.000	2.00	.60	.50	.43	.36
883-0913	C-0203-N	2.000	3.00	.66	.55	.47	.39
883-0914	C-0303-N	3.000	3.00	.92	.78	.66	.55
883-0918	C-0204-N	2.125	4.00	1.04	.86	.69	.57

Bottom Foot Style

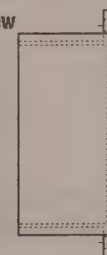
- Ideal For Potting and Encapsulating
- U/L 94V-0 Flame Retardant ABS
- Exact Fitting Covers, Glue-On
- Stocked In Black

Stock No.	Mfr.'s Type	Size — Inches			EACH			
		A	B	C	1-9	10-49	50-99	100
883-0422	BF-010175	1.00	1.00	.75	.76	.64	.55	.46
883-0432	BF-150201	1.50	2.00	1.00	.90	.76	.66	.55
883-0442	BF-020215	2.00	2.00	1.50	1.23	1.02	.91	.75
883-0452	BF-020315	2.00	3.00	1.50	1.43	1.20	1.06	.88
883-0462	BF-030315	3.00	3.00	1.50	1.91	1.67	1.47	1.22

Top View



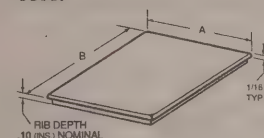
Side View



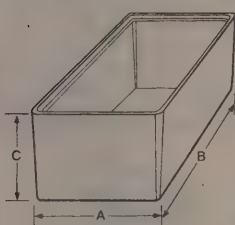
End View



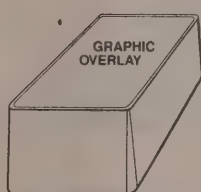
Cover



Select Series



— NEW —



Recessed Area 1-7/8" x 3-3/4"
Depth .010"



- 2 Styles — Plain or Top Mounting Foot
- Includes Screw-On Cover and Hardware; Cover is Close-Fitting Interlocking Design
- U/L 94V-0 Flame Retardant ABS
- Recessed Area Is Ideal For Graphic Overlay
- Stocked In Black
- Choice of .010" Deep Smooth Recessed (-R) or Textured (-T) Top

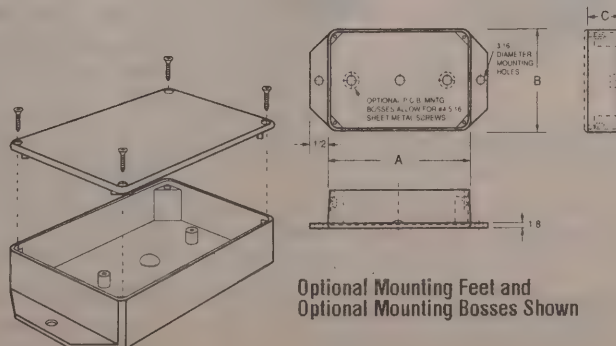
Stock No.	Mfr.'s Type	Size — Inches			EACH			
		A	B	C	1-9	10-49	50-99	100
883-0920	P-2420TX-T-SC	2.125	4.00	2.00	3.31	2.98	2.58	2.26
883-0921	TF-2420TX-T-SC	2.125	4.00	2.00	3.31	2.98	2.58	2.26
883-0922	P-2420TX-R-SC	2.125	4.00	2.00	3.31	2.98	2.58	2.26
883-0923	TF-2420TX-R-SC	2.125	4.00	2.00	3.31	2.98	2.58	2.26

Low Profile Enclosures

- 2 Styles — With Molded-On Mounting Feet or Without
- U/L 94V-0 Flame Retardant ABS
- Screw-On Covers Included
- Textured Surface and Contemporary Low Profile Styling
- Optional Internal P/C bd. Mounting Bosses
- Standard Color Is Black

Plain		Mounting Foot*		Sizes — Inches			EACH			
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	A	B	C	1-9	10-49	50-99	100
883-1020	LP-20	883-1120	LP-20F	3.250	2.375	1.08	2.59	2.42	2.33	2.20
883-1030	LP-30	883-1130	LP-30F	4.125	2.750	1.08	2.77	2.58	2.49	2.36
883-1040	LP-40	883-1140	LP-40F	3.250	3.250	1.33	2.85	2.67	2.57	2.43
883-1050	LP-50	883-1150	LP-50F	4.500	3.250	1.33	3.36	3.14	3.02	2.86
883-1060	LP-60	883-1160	LP-60F	5.500	3.750	1.33	3.90	3.63	3.51	3.31
883-1070	LP-70	883-1170	LP-70F	5.500	4.250	1.75	3.99	3.72	3.60	3.40

*Mounting foot style slightly higher.



Optional Mounting Feet and
Optional Mounting Bosses Shown

Designers Choice Enclosures

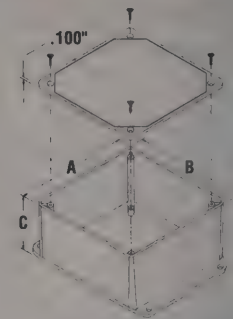
— NEW —

- ▶ 2 Styles — With Molded On Mounting Feet or Without Mounting Feet
- ▶ UL 94 V-0 Flame Retardant ABS
- ▶ Heavy Duty Design, .100" Wall Thickness
- ▶ Screw-On Covers Included

- ▶ Brass Inserts For Unlimited Cover Removing and Refastening
- ▶ Textured Surface
- ▶ Covers Available With Smooth Recessed Area
- ▶ Standard Color Is Black and Light Gray

Plain			Mounting Foot*			Sizes (In.)			EACH			
Stock No.		Mr.'s Type	Stock No.		Mr.'s Type	A	B	C	1-9	10-49	50-99	100
Light Gray	Black		Light Gray	Black								
883-2500	883-2520	DC-34	883-2540	883-2560	DC-34F	3.10	4.60	1.77	5.68	4.80	4.21	3.69
883-2505	883-2525	DC-44	883-2545	883-2565	DC-44F	4.60	4.60	2.25	6.22	5.25	4.64	4.06
883-2510	883-2530	DC-46	883-2550	883-2570	DC-64F	4.60	6.11	2.25	7.17	6.05	5.35	4.68
883-2515	883-2535	DC-47	883-2555	883-2575	DC-74F	4.60	7.61	2.25	8.60	7.33	6.43	5.65

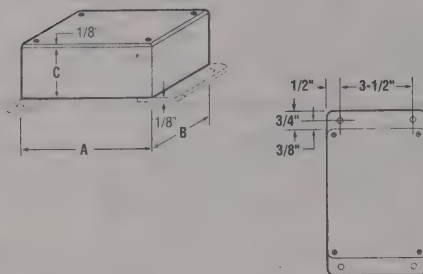
*Mounting foot style slightly higher. Standard cover is textured. To order the smooth recessed cover add -R to the stock number. There is no additional charge for this option.



General Purpose Enclosures

- ▶ 4 Sizes — With or Without Mounting Feet
- ▶ UL 94 V-0 Flame Retardant ABS
- ▶ Screw-On Covers Included

- ▶ Brass Inserts For Unlimited Cover Removing and Refastening
- ▶ Standard Color Is Black



Stock No.*	Mr.'s Type	Sizes (In.)			EACH			
		A	B	C	1-9	10-49	50-99	100
883-0600	EP-6	4.50	3.00	1.75	5.51	4.66	4.09	3.58
883-0601	EP-7	4.50	4.50	2.25	6.04	5.10	4.50	3.94
883-0602	EP-8	6.00	4.50	2.25	6.96	5.87	5.19	4.54
883-0603	EP-9	7.50	4.50	2.25	8.35	7.12	6.24	5.49
883-1600	EP-6/F	4.50	3.00	1.75	5.51	4.66	4.09	3.58
883-1601	EP-7/F	4.50	4.50	2.25	6.04	5.10	4.50	3.94
883-1602	EP-8/F	6.00	4.50	2.25	6.96	5.87	5.19	4.54
883-1603	EP-9/F	7.50	4.50	2.25	8.35	7.12	6.24	5.49

*/F are with mounting feet.

Versatile Power Supply Styled Plug-In Enclosures

— NEW —

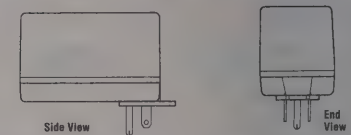
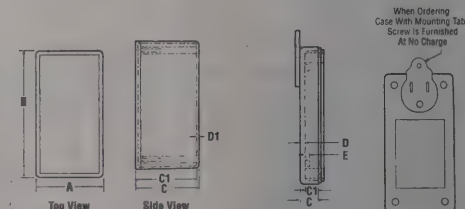
- ▶ UL Recognized Component Listed
- ▶ Design Permits PCB To Be Soldered Directly To Blades and Ground Pin
- ▶ Choice Of Textured (-T) or Recessed (-R) Top Surface

- ▶ Optional Hole In The Top Surface For Snap-In Female Receptacle -0, -1 or -2 For Number Of Receptacle Holes
- ▶ Standard Color Is Black and P.C. Bone

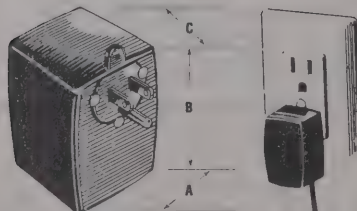
Stock No.		Mr.'s Type	Sizes (In.)			EACH			
P.C. Bone	Black		A	B	C	1-9	10-49	50-99	100
883-2580	883-2585	PM-2425T-0-3X-WT	2.125	4.000	2.000	4.34	4.06	3.79	3.51
883-2587	883-2590	PM-2425R-0-3X-WT	2.125	4.000	2.000	4.34	4.06	3.79	3.51

Desktop Style

Stock No.	Mr.'s Type	Sizes (In.)			EACH			
		A	B	C	1-9	10-49	50-99	100
883-2595	DT-2425T-0	2.125	4.000	2.000	3.67	3.39	3.20	3.00
883-3000	DT-2425R-0	2.125	4.000	2.000	3.67	3.39	3.20	3.00



Universal Plug-In Modules

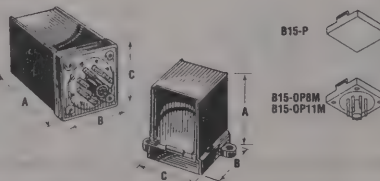


- ▶ ABS CYCOLAC® Flame Retardant Material (UL 94 V-0)
- ▶ UL Recognized Components
- ▶ 2 or 3 Pole Grounded Base Easily Drilled or Punched

Stock No.*	Mr.'s Type	Sizes (In.)			EACH			
		A	B	C	1-9	10-49	50-99	100
883-0500	M-0202-7	2.00	2.00	1.75	3.39	2.89	2.50	2.05
883-0505	M-0203-6	3.00	3.00	1.00	3.39	2.89	2.50	2.05
883-0510	M-0203-10	2.00	3.00	1.75	3.61	3.08	2.65	2.19
883-0515	M-0203-13	2.00	3.00	2.25	3.77	3.20	2.77	2.28

*All items come standard in black, but are available in beige from factory.

Type 15



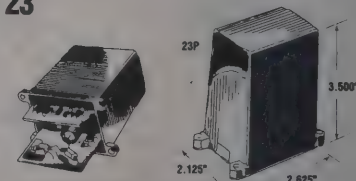
- ▶ 2 Styles — Plain or Mounting Feet
- ▶ 4 Standard Snap-In Bases
- ▶ Flame-Retardant 6/6 NYLON (UL 94 V-2)
- ▶ Internal Slots For PC Boards

Stock No.	Mr.'s Type	Sizes (In.)			EACH			
		A	B	C	1-9	10-49	50-99	100
883-0010	15-F2	2.00	1.625	1.625	1.67	1.41	1.21	1.00
883-0020	15-P2	2.00	1.625	1.625	1.67	1.41	1.21	1.00
883-0030	15-F3	3.00	1.625	1.625	1.68	1.47	1.22	1.18
883-0040	15-P3	3.00	1.625	1.625	1.68	1.47	1.22	1.18

Plain and Plug Type Bases

Stock No.	Mr.'s Type	Description	EACH			
			1-9	10-49	50-99	100
883-0050	B15-P	Plain Base	.53	.43	.38	.33
883-0060	B15-OPBM	8-Pin	1.74	1.44	1.25	1.20
883-0070	B15-OP11M	11-Pin	2.17	1.69	1.51	1.32

Type 23



- ▶ Flame Retardant POLY-PROPYLENE (UL 94 V-2)
- ▶ Internal Slots For PC Boards
- ▶ 6 Standard Bases

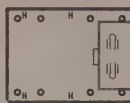
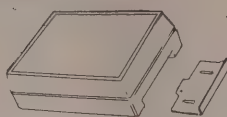
Stock No.	Mr.'s Type	Enclosure Description	EACH			
			1-9	10-49	50-99	100
883-0220	23P	Plain	2.57	2.19	1.96	1.62

Stock No.	Mr.'s Type	Base Description	EACH			
			1-9	10-49	50-99	100
883-0250	B23PH	Plain	.78	.64	.57	.47
883-0260	B23OP-8	8-Pin	2.17	1.79	1.65	1.47
883-0270	B23OP-11	11-Pin	2.45	1.91	1.77	1.59
883-0090	B23RP-12	12-Pin	3.36	2.77	2.49	2.05

9V Standard and I-Series Enclosures

- Applications**
- Industrial Test Equipment
 - Computer Interface
 - Field Measurement
 - Industrial Control
 - Telecommunications
 - Prototype Enclosure

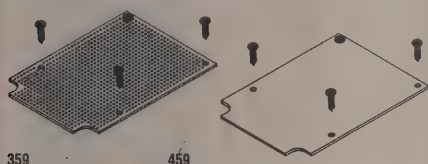
- Features**
- ABS GSM Standard Material
 - 5 Standard Colors Black, Gray, Blue, White, Almond
 - Circuit Board Bosses



- Accessories**
- Perimeter Seal
 - Grid and Clad Prototyping Circuit Boards
 - Press In Feet
 - Pocket Clip

Stock No.*	Mfr.'s Type	Overall Dimensions			EACH
		W	L	H	
882-X211	211	2.610	4.115	1.510	5.18
882-X231	231	3.250	4.380	1.515	6.47
882-X232	232	3.250	4.380	2.015	6.88
882-X233	233	3.250	4.380	2.515	7.21
882-X251	251	3.250	5.635	1.510	8.05
882-X252	252	3.250	5.635	2.015	8.62
882-X253	253	3.250	5.635	2.515	9.03
882-X271	271	4.880	6.876	1.510	10.91
882-X272	272	4.880	6.876	2.020	11.72
882-X273	273	4.880	6.876	2.515	11.94
882-X274	211-I	2.610	4.115	1.525	5.18
882-X321	231-I	3.250	4.380	1.515	6.47
882-X521	251-I	3.250	5.635	1.510	8.05
882-X721	271-I	4.880	6.876	1.510	10.91
882-X275	272-I	4.880	6.876	2.020	11.72
882-X276	273-I	4.880	6.876	2.515	11.94

*Insert color where X appears in Stock No.: 0=Gray, 1=Black, 2=White, 3=Almond, 4=Blue.



Prototyping Circuit Boards (Grid and Clad Boards)

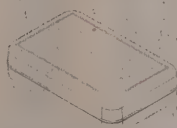
- Thickness Is 1/16" (1.6 mm)
- Natural Color

Serpac manufactures prototyping grid (.100 sq.) and clad (2/0, 2 oz. copper foil) boards. Both comply with FR-4 and MIL-P-13949 specifications.

Stock No.	Mfr.'s Type	Description	Fits	EACH
882-0319	319	Prototyping Grid Board (Horiz.)	211, 211-1	11.46
882-0419	419	Prototyping Clad Board (Horiz.)	211, 211-1	5.72
882-0339	339	Prototyping Grid Board (Horiz.)	231, 232, 233	11.46
882-0439	439	Prototyping Clad Board (Horiz.)	All Corresponding Wall Mount and I Series	6.30
882-0359	359	Prototyping Grid Board (Horiz.)	251, 252, 253, 25-S	13.37
882-0459	459	Prototyping Clad Board (Horiz.)	All Corresponding Wall Mount and I Series	6.88
882-0379	379	Prototyping Grid Board (Horiz.)	271, 272, 273, 27-S	17.18
882-0479	479	Prototyping Clad Board (Horiz.)	All Corresponding Wall Mount and I Series	8.78
882-0331	331	Prototyping Grid Board (Vert.)	231, 251	8.40
882-0431	431	Prototyping Clad Board (Vert.)	231, 251	6.68
882-0332	332	Prototyping Grid Board (Vert.)	232, 252	8.40
882-0432	432	Prototyping Clad Board (Vert.)	232, 252	6.68
882-0333	333	Prototyping Grid Board (Vert.)	233, 253	8.78
882-0433	433	Prototyping Clad Board (Vert.)	233, 253	6.68
882-0371	371	Prototyping Grid Board (Vert.)	271	8.78
882-0471	471	Prototyping Clad Board (Vert.)	271	6.11
882-0372	372	Prototyping Grid Board (Vert.)	272	9.36
882-0472	472	Prototyping Clad Board (Vert.)	272	6.11
882-0373	373	Prototyping Grid Board (Vert.)	273	10.12
882-0473	473	Prototyping Clad Board (Vert.)	273	6.11

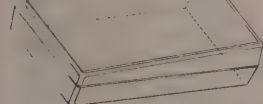
C Series

- Applications**
- Security
 - Personal Communications
 - Computer Interface
- Field Measurement**
- Industrial Control
 - Telecommunications
 - Prototype Enclosure



882-610X. Model C-4. 1.375 x 2.125 x 0.580. (L x W x H)	EACH 2.81
882-620X. Model C-6. 1.613 x 2.263 x 0.753. (L x W x H)	EACH 2.81
882-630X. Model C-8. 1.850 x 2.400 x 0.925. (L x W x H)	EACH 2.81

Slant-Series Enclosures



Features

- ABS GSM Standard Material
- 5 Standard Colors Black, Gray, Blue, White, Almond
- Circuit Board Bosses

Stock No.*	Mfr.'s Type	Overall Dimensions			EACH
		W	L	H	
882-X055	05-S	3.260	5.635	.900	7.01
882-X077	07-S	4.880	6.895	1.865	12.84
882-X056	15-S	3.260	5.635	1.500	7.01
882-X017	17-S	4.885	6.885	2.450	12.84

Slant 9-V Series Enclosures

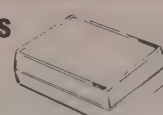
882-X057	25-S	3.250	5.635	1.500	8.05
882-X059	27-S	4.880	6.876	2.450	14.52

*Insert color where X appears in Stock No.: 0=Gray, 1=Black, 2=White, 3=Almond, 4=Blue.

Standard and I-Series Enclosures

- Applications**
- Industrial Test Equipment
 - Computer Interface
 - Field Measurement

- Industrial Control
- Telecommunications
- Prototype Enclosure

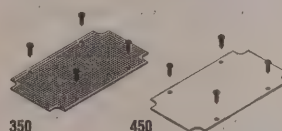


Options. I designates: A recessed top .015 typical to accept graphic or membrane labels and a user customization area.

- Features**
- ABS GSM Standard Material
 - 5 Standard Colors Black, Gray, Blue, White, Almond
 - Circuit Board Bosses
- Accessories**
- Feet
 - Prototyping Grid and Clad Board
 - Pocket Clip
 - Perimeter Seal (Not All Enclosures)

Stock No.*	Mfr.'s Type	Overall Dimensions			EACH
		W	L	H	
882-003X	031	3.250	4.380	.910	5.42
882-203X	032	3.250	4.380	1.410	5.86
882-303X	033	3.250	4.380	1.910	6.18
882-X051	051	3.260	5.625	.910	7.01
882-X052	052	3.260	5.625	1.410	7.58
882-X053	053	3.260	5.625	1.910	8.01
882-210X	071	4.890	6.895	.920	9.89
882-310X	072	4.890	6.895	1.435	10.70
882-410X	073	4.890	6.895	1.925	11.27
882-530X	091	6.340	9.520	.910	16.20
882-X111	111	2.275	3.610	1.510	4.15
882-X112	112	2.290	3.640	2.015	4.44
882-X113	113	2.275	3.680	2.510	4.68
882-X131	131	3.250	4.380	1.510	5.42
882-X132	132	3.250	4.380	2.010	5.86
882-X133	133	3.250	4.380	2.510	6.18
882-X151	151	3.260	5.630	1.505	7.01
882-X152	152	3.260	5.630	2.005	7.58
882-X153	153	3.260	5.630	2.500	8.01
882-X171	171	4.885	6.885	1.510	9.89
882-X172	172	4.885	6.885	2.025	10.70
882-X173	173	4.885	6.885	2.520	11.27
882-X191	191	6.340	9.500	1.510	16.20
882-X163	031-I	3.250	4.380	.910	5.42
882-X054	051-I	3.260	5.625	.910	7.01
882-X164	071-I	4.890	6.895	.920	9.89
882-X165	072-I	4.890	6.895	1.435	10.70
882-X166	073-I	4.890	6.895	1.925	11.27
882-X167	091-I	6.340	9.520	.910	16.20
882-X110	110-I	2.275	3.620	1.010	3.51
882-X141	131-I	3.250	4.380	1.510	5.42
882-X121	151-I	3.260	5.630	1.505	7.01
882-X161	171-I	4.885	6.885	1.510	9.89
882-X162	172-I	4.885	6.885	2.025	10.70
882-X168	173-I	4.885	6.885	2.520	11.27
882-X169	191-I	6.340	9.500	1.510	16.20

*Insert color where X appears in Stock No.: 0=Gray, 1=Black, 2=White, 3=Almond, 4=Blue.



Prototyping Circuit Boards (Grid and Clad Boards)

- Thickness Is 1/16" (1.6 mm)
- Natural Color

Serpac manufactures prototyping grid (.100 sq.) and clad (2/0, 2 oz. copper foil) boards. Both comply with FR-4 and MIL-P-13949 specifications.

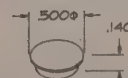
Stock No.	Mfr.'s Type	Description	Fits	EACH
882-0310	310	Prototyping Grid Board (Horiz.)	110-1, 111, 112, 113	5.72
882-0410	410	Prototyping Clad Board (Horiz.)	110-1, 111, 112, 113	5.72
882-0330	330	Prototyping Grid Board (Horiz.)	031, 032, 033, 131, 132, 133	11.46
882-0430	430	Prototyping Clad Board (Horiz.)	031, 032, 033, 131, 132, 133	6.30
882-0350	350	Prototyping Grid Board (Horiz.)	051, 052, 053, 151, 152, 153	13.37
882-0450	450	Prototyping Clad Board (Horiz.)	051, 052, 053, 151, 152, 153	6.88
882-0370	370	Prototyping Grid Board (Horiz.)	071, 072, 073, 171, 172, 173	17.18
882-0470	470	Prototyping Clad Board (Horiz.)	071, 072, 073, 171, 172, 173	8.78
882-0311	311	Prototyping Grid Board (Vert.)	111	7.07
882-0411	411	Prototyping Clad Board (Vert.)	111	6.11
882-0312	312	Prototyping Grid Board (Vert.)	112	3.28
882-0412	412	Prototyping Clad Board (Vert.)	112	4.33
882-0313	313	Prototyping Grid Board (Vert.)	113	7.82
882-0413	413	Prototyping Clad Board (Vert.)	113	6.11
882-0331	331	Prototyping Grid Board (Vert.)	131, 151	8.40
882-0431	431	Prototyping Clad Board (Vert.)	131, 151	6.68
882-0332	332	Prototyping Grid Board (Vert.)	132, 152	8.40
882-0432	432	Prototyping Clad Board (Vert.)	132, 152	6.68
882-0333	333	Prototyping Grid Board (Vert.)	133, 153	8.78
882-0433	433	Prototyping Clad Board (Vert.)	133, 153	6.68
882-0371	371	Prototyping Grid Board (Vert.)	171	8.78
882-0471	471	Prototyping Clad Board (Vert.)	171	6.11
882-0372	372	Prototyping Grid Board (Vert.)	172	9.36
882-0472	472	Prototyping Clad Board (Vert.)	172	6.11
882-0373	373	Prototyping Grid Board (Vert.)	173	10.12
882-0473	473	Prototyping Clad Board (Vert.)	173	6.11

Perimeter Seal Kit. Perimeter Seals are elastomer gaskets that fit Serpac standard enclosures. Perimeter Seals provide a barrier against ingress of moisture and dust.

882-0011	PS-11	Perimeter Seal Kit	111, 112, 113	4.13
882-0013	PS-13	Perimeter Seal Kit	131, 131-1, 132, 133	4.69
882-0015	PS-15	Perimeter Seal Kit	151, 151-1, 152, 153	5.62

Feet

Serpac's non-skid feet (#50) press into assembly holes Standard (0XX series excluded). Serpac can also provide press on feet (#51) for the 0XX Series.



882-0050	50	Feet	All Standard Model (Model 0XX Excluded)	2.74*
882-5100	51	Feet	Model Number 0XX Standard	2.74*

*Per PK/4.

A-Series

- ▶ Clam Shell
- ▶ Interchangeable End Panels
- ▶ Durable ABS UL 94 HB Standard Plastic
- ▶ Battery Access Panels Available (AC Units)
- ▶ Colors: Black, Gray, Almond

Accessories

- ▶ Press on Feet
- ▶ Infrared Panels
- ▶ Transparent Red Panels
- ▶ Aluminum Panels
- ▶ 9V Access Panels

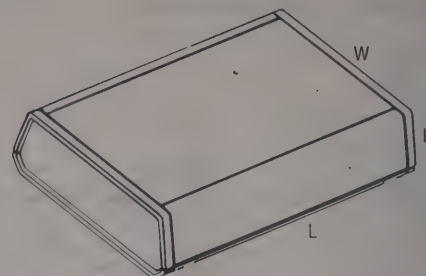
Stock No.	Mfr.'s Type	Description	Fits	PER PK./4
882-5100	51	Feet	A-27, A-31, A-41, A-42	2.74
882-5200	52	Feet	A-20, A-21	2.74

A-Series

Stock No.*	Mfr.'s Type	Overall Dimensions			EACH
		W	L	H	
882-430X	A-20	2.600	4.250	.875	5.89
882-002X	A-21	2.600	4.250	1.125	6.10
882-007X	A-27	3.350	5.310	1.500	12.84
882-008X	A-31	5.100	5.300	1.710	12.84
882-009X	A-41	5.000	7.100	1.300	14.70
882-420X	A-42	5.000	7.100	1.620	16.54

*Insert color where X appears in Stock No.: 0=Gray, 1=Black, 3=Almond.

Stock No.	Mfr.'s Type	Description	Fits	PER PK./25
882-2003	2003	End Panel (Black only) Std.	A-20	46.75
882-2004	2003,CL	End Panel Clear	A-20	46.75
882-2005	2003,IR	End Panel Infrared	A-20	46.75
882-2006	2003,AL	End Panel Aluminum	A-20	46.75
882-2015	2005	End Panel (Black only) Std.	A-21	46.75
882-2016	2005,CL	End Panel Clear	A-21	86.25
882-2017	2005,IR	End Panel Infrared	A-21	146.75
882-4000	2005,AL	End Panel Aluminum	A-21	146.75
882-4001	2010	End Panel (Black only) Std.	A-27	54.50
882-4002	2010,CL	End Panel Clear	A-27	146.75
882-4003	2010,IR	End Panel Infrared	A-27	163.50
882-2013	2010,AL	End Panel Aluminum	A-27	163.50



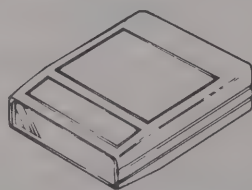
A-Series 9V

Stock No.*	Mfr.'s Type	Overall Dimensions			EACH
		W	L	H	
882-500X	A-219V	2.600	4.250	1.125	7.80
882-501X	A-279V	3.350	5.310	1.500	14.52
882-502X	A-319V	5.100	5.300	1.710	14.52
882-503X	A-419V	5.000	7.100	1.300	16.20
882-504X	A-429V	5.000	7.100	1.620	18.82

*Insert color where X appears in Stock No.: 0=Gray, 1=Black, 3=Almond.

Stock No.	Mfr.'s Type	Description	Fits	PER PK./25
882-2025	2015	End Panel (Black only) Std.	A-31	54.50
882-2026	2015,CL	End Panel Clear	A-31	146.75
882-2027	2015,IR	End Panel Infrared	A-31	163.50
882-2028	2015,AL	End Panel Aluminum	A-31	163.50
882-2020	2020	End Panel (Black only) Std.	A-41	146.75
882-2021	2020,CL	End Panel Clear	A-41	58.00
882-2022	2020,IR	End Panel Infrared	A-41	163.50
882-2023	2020,AL	End Panel Aluminum	A-41	163.50
882-2028	2024	End Panel (Black only) Std.	A-42	86.25
882-2029	2024,CL	End Panel Clear	A-42	54.50
882-2030	2024,IR	End Panel Infrared	A-42	198.50
882-2031	2024,AL	End Panel Aluminum	A-42	198.50

M-Series



Features

- ▶ Interlocking Assembly
- ▶ Interchangeable Front Panel
- ▶ Battery Access
- ▶ Durable ABS UL 94HB
- ▶ 5 Standard Colors Black, Gray, Blue, White, Almond

Accessories

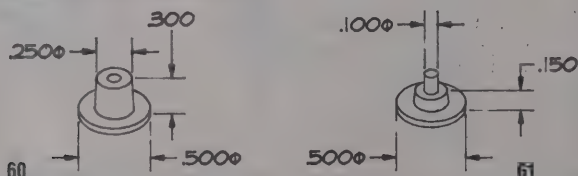
- ▶ Clear Front Panel
- ▶ Transparent Red Panel
- ▶ Infrared Front Panel

Stock No.*	Mfr.'s Type	Overall Dimensions			EACH
		W	L	H	
882-X042	M-4	2.200	2.800	.710	6.88
882-X058	M-6	2.400	4.155	.860	8.68
882-X060	M-8	2.400	6.974	.860	10.42

*Insert color where X appears in Stock No.: 0=Gray, 1=Black, 2= White, 3=Almond, 4=Blue.

Stock No.	Mfr.'s Type	Description	Fits	EACH
882-4004	4004	Face Plate	M-4	1.16
882-4005	4004CL	Face Plate Clear	M-4	1.16
882-4006	4004IR	Face Plate Infrared	M-4	1.16
882-4007	4004R	Face Plate Red	M-4	1.16
882-4008	4008	Face Plate	M-6, M-8	1.16
882-4009	4008CL	Face Plate Clear	M-6, M-8	1.16
882-4015	4008IR	Face Plate Infrared	M-6, M-8	1.16
882-4011	4008R	Face Plate Red	M-6, M-8	1.16

Accessories and Hardware



Stand Off Posts and Stand Off Holes

Stand off post and holes give you the flexibility of locating the supports you need where you need them.

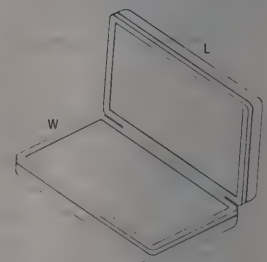
Stock No.	Mfr.'s Type	Description	Fits	EACH
882-0064	60	Stand off hole	All Enclosures	17.19*
882-0065	61	Stand off post	All Enclosures	15.53*
882-0062	60-Kit	100 Stand off holes, 100 screws, instant adhesive	All Enclosures	33.32
882-0067	61-Kit	100 Stand off post and instant adhesive (P/N 65)	All Enclosures	32.13

*Per PK/100.

V-Series

Features

- ▶ Dual Pivot Hinge
- ▶ Two Separate Circuit Board Areas
- ▶ Snap Lock Latch
- ▶ Removable End Panels
- ▶ Access Panel (Optional)
- ▶ 3 Polycarbonate Colors (Black, Gunmetal, Blue)
- ▶ UL 94 VO Rating
- ▶ Ribbon Cable Through Hinge



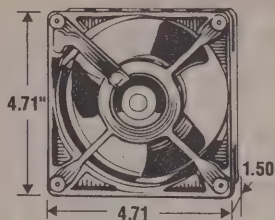
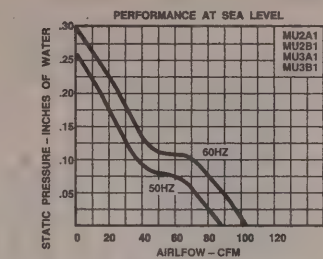
Stock No.*	Mfr.'s Type†	Overall Dimensions			EACH
		W	L	H	
882-80X5	V-15	3.250	5.500	1.200	17.85
882-801X	V-15AC	3.250	5.500	1.200	18.80

*Insert color where X appears in Stock No.: 1=Black, 4=Blue, 5=Gunmetal. †AC designates the outer shell with an access cover in it. Will receive (1) bottom #10 with an access panel in place of (1) outer shell without the access panel #4.

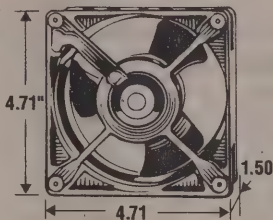
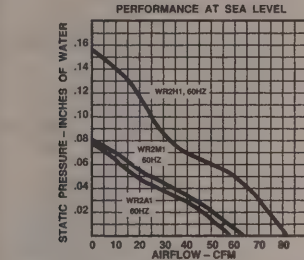
Muffin® AC Fans

The most requested cooling fan available. At 105 CFM (free air), this 4.71" square x 1.50" deep fan is available in either sintered bronze sleeve or stainless steel ball bearings. UL recognized and CSA certified. Flame retardant plastic housing and propeller. Impedance protected. Terminal versions only.

Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-24	25-Up
599-0150	MU2A1	028021	Sleeve	115	2650/3100	88/105	23.61	21.48	19.71
599-0155	MU3A1	028023	Sleeve	220/230	2650/3100	88/105	24.23	22.05	20.23
599-0160	MU2B1	028027	Ball	115	2650/3100	88/105	35.88	32.66	29.90
599-0165	MU3B1	028029	Ball	220/230	2650/3100	88/105	36.50	33.23	30.42



3



Whisper® AC Fans

The silent airmover, from 57 to 80 CFM, this fan is similar in construction and bearing design to the Muffin®. UL recognized and CSA certified. Impedance protected. Acoustic rated as low as 30 dBA. Terminal versions only.

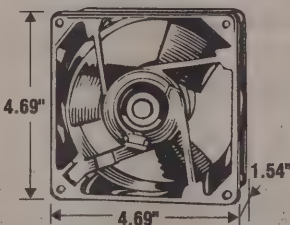
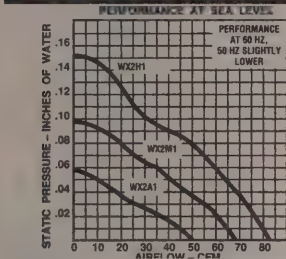
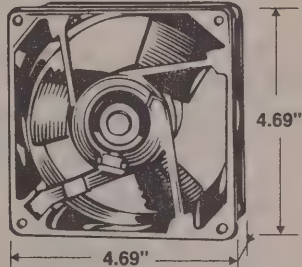
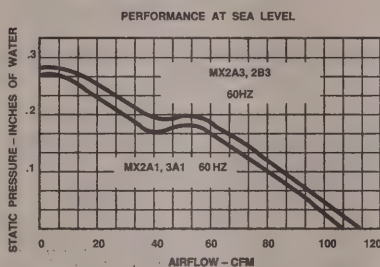
Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-24	25-Up
599-0170	WR2A1	027117	Sleeve	115	1640/1660	55/57	24.98	22.72	20.80
599-0175	WR2H1	027119	Sleeve	115	2100/2400	70/80	26.21	23.87	21.84
599-0176	WR2M1	028291	Sleeve	115	2000/1960	63/63	27.46	25.96	23.80
599-0177	WR3A1	028171	Sleeve	220/230	1590/2000	53/62	27.46	24.96	22.88

Muffin® XL AC Fans

The zinc diecast, plastic, propeller partner to the Muffin employs identical bearing systems and features the unique Feathered Edge™ propeller. UL recognized, CSA certified, VDE approved. Reverse flow models have airflow entering motor-strut side, exits propeller side.

Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-24	25-Up
599-0180	MX2A1*	028318	Sleeve	115	2700/3100	92/108	24.86	22.62	20.75
599-0185	MX2A3	028316	Sleeve	115	2700/3100	98/115	24.86	22.62	20.75
599-0190	MX2B3	028422	Ball	115	2700/3100	98/115	37.75	34.32	31.46
599-0191	MX3A1*	028326	Sleeve	220/230	2700/3100	92/108	25.69	23.35	21.42
599-0192	MX3A3	028324	Sleeve	220/230	2700/3100	98/115	25.69	23.35	21.42
599-0193	MX3B3	028423	Ball	220/230	2700/3100	98/115	38.38	34.89	31.98

*Reverse flow models



Whisper® XL AC Fans

The zinc diecast partner to the Whisper® featuring the Feathered Edge™ plastic propeller. Uses sintered bronze sleeve bearings for long, quiet life. UL recognized, CSA certified and VDE approved. Impedance protected.

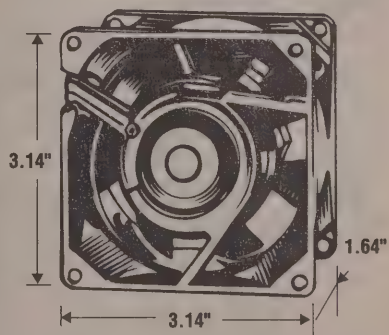
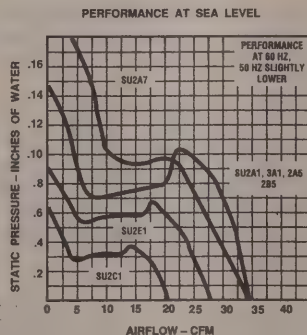
Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-24	25-Up
599-0195	WX2A1	028778	Sleeve	115	1450/1500	48/50	27.14	24.70	22.62
599-0200	WX2H1	028858	Sleeve	115	2200/2500	70/83	26.42	24.02	22.05
599-0205	WX2M1	028322	Sleeve	115	1900/2000	65/70	26.62	24.23	22.20

Sprite® AC Fans

The run-away favorite of small tubeaxial fans. Only 3.14" square x 1.645" deep, this airmover uses sintered bronze sleeve or stainless steel bearings. UL recognized, CSA certified, and VDE approved. Terminal or leadwire versions, as well as reverse flow models, are all available.

Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-24	25-Up
599-0210	SU2A1†	028267	Sleeve	115	2750/3250	28/34	24.13	21.94	20.12
599-0220	SU2C1†	028270	Sleeve	115	1750/1900	17/20	25.38	23.09	21.16
599-0225	SU2E1†	028275	Sleeve	115	2200/2600	23/27	26.21	23.89	21.84
599-0230	SU2G1†	028278	Sleeve	115	2700/3150	27/32	25.06	22.83	20.90
599-0235	SU3A1†	028269	Sleeve	220/230	2750/3250	28/34	25.17	22.88	21.01
599-0240	SU2A5‡	028279	Sleeve	115	2750/3250	28/34	25.69	23.35	21.42
599-0245	SU2B5‡	028410	Ball	115	2750/3250	28/34	36.92	33.59	30.78
599-0250	SU2A7*†	030272	Sleeve	115	2780/3350	27/33	24.13	21.94	20.12
599-0255	SU2E7*†	030271	Sleeve	115	2370/2750	23/27	26.21	23.87	21.84

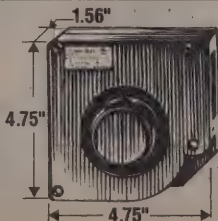
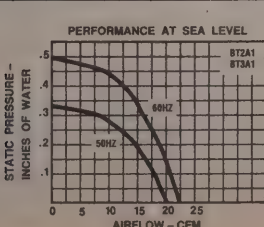
*Reverse flow model. †With leadwires. ‡With terminals.



Biscuit® AC Blowers

The Integral motor centrifugal blower producing 22 CFM (free air). 4.75" square x 1.56" deep, with sintered bronze sleeve bearings. UL94V-0 plastic housing, UL94V-2 propeller. UL recognized and CSA certified. Impedance protected.

Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-24	25-Up
599-0260	BT2A1	028448	Sleeve	115	2500/2700	20/22	32.97	30.00	27.51
599-0265	BT3A1	028449	Sleeve	220/230	2500/2700	20/22	33.70	30.63	28.08



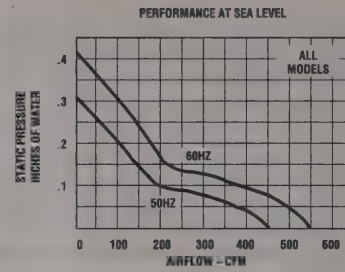
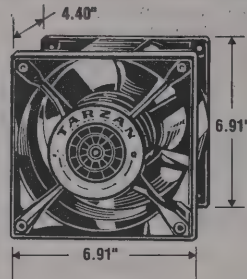
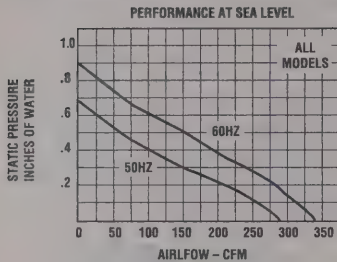
Caravel® AC Fans

Features Feathered Edge™ blade design for low noise. Auto reset thermal protector. 9.688" mounting center holes. For ambient of -30° to +60°C. Die-cast aluminum housing. **Weight:** 4.4 lbs. (2kg). Ball bearing, UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-24	25-Up
599-0270*	CL2L2	020188	115	1400/1650	455/550	62.50	56.84	52.10
599-0275†	CL2T2	020189	115	1400/1650	455/550	64.38	58.71	53.82
599-0280*	CL3L2	020190	220/230	1400/1650	455/550	63.96	58.19	53.30
599-0285†	CL3T2	020191	220/230	1400/1650	455/550	66.04	60.06	55.07

*With Leadwire.

†With .110" Solder Terminals.



Tarzan® AC Fans

Features auto reset thermal protector. 6" mounting hole centers. For ambients of -18° to +60°C. Flame retardant black phenolic housing. **Weight:** 5 lbs. (2.27kg). Ball bearing, UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-24	25-Up
599-0290†	TN3A2	020174	115	2820/3350	280/340	86.63	78.78	72.23
599-0295†	TN3A3	020172	220/230	2820/3350	280/340	88.30	80.29	73.58
599-0300*	TN3C2	020169	115	2820/3350	280/340	84.66	76.96	70.56

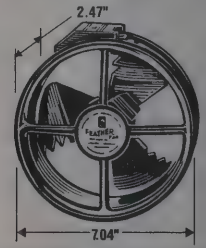
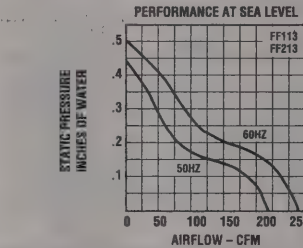
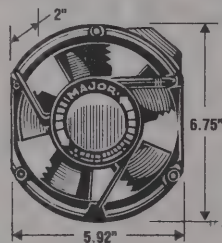
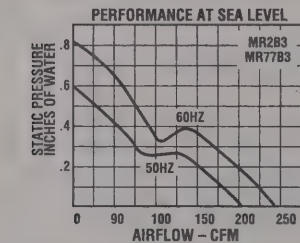
*With Leadwire.

†With Terminals.

Feather® AC Fans

Features Feathered Edge™ blade design for low noise and auto reset thermal protector. For ambients of -54° to +65°C. Flame retardant black polycarbonate housing. **Weight:** 1.5 lbs. (0.68 kg). Ball bearing, UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-24	25-Up
599-0310	FF113	026165	115	2700/3200	200/245	87.15	79.25	72.64
599-0315	FF213	026166	220/230	2700/3200	200/245	95.26	86.63	79.40



Major® AC Fans

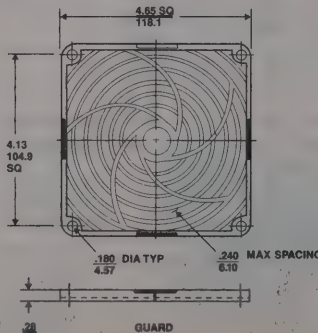
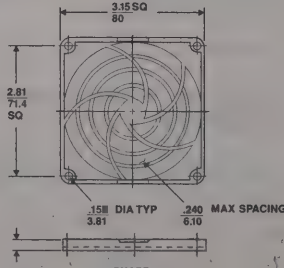
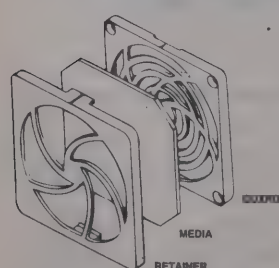
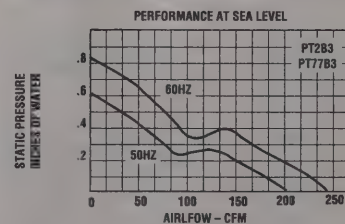
Features Feathered Edge™ blade design for low noise and auto reset thermal protector. For ambients of -10° to +70°C. Die-cast aluminum housing. UL recognized, CSA certified, VDE approved. **Weight:** 1.84 lbs. (0.84 kg). Ball bearing.

Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-24	25-Up
599-0320	MR2B3	028245	115	2850/3350	200/240	59.07	53.72	49.24
599-0325	MR77B3	028309	220/230	2850/3350	200/240	61.15	55.59	50.96

Patriot® AC Fans

Features Feathered Edge™ blade design for low noise and auto reset thermal protector. For ambients of -10° to +70°C. Die-cast aluminum housing. UL approved, CSA certified, VDE approved. **Weight:** 1.84 lbs. (0.84 kg). Ball bearing.

Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-24	25-Up
599-0330	PT2B3	028254	115	2850/3350	200/240	59.07	53.72	49.24
599-0335	PT77B3	028312	220/230	2850/3350	200/240	61.15	55.59	50.96



Filter Guard Assemblies

TYPE 554141. For Flight 80, Sprint DC Sprite Fans.

599-0480. 1-9.....EACH 2.52

10-23.....EACH 2.31

24-47.....EACH 2.10

48-95.....EACH 1.94

TYPE 554148. For Flight 120, Muffin DC, Muffin XL DC, Whisper, Whisper XL, Muffin, and Muffin XL Fans.

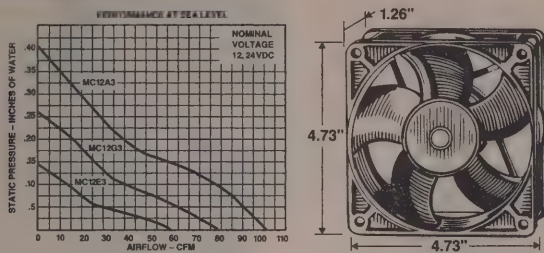
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10-23.....EACH 3.10

24-47.....EACH 2.84

48-95.....EACH 2.63

Muffin® DC Fans

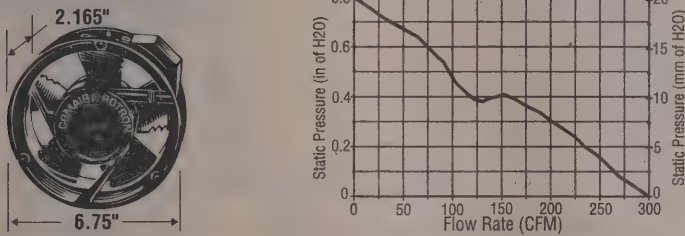


Muffin fans feature low noise, electronic locked rotor protection, and polarity protection. 58 to 102 CFM (27 to 48 L/Sec.); 12VDC nominal. For ambients of -10°C to +60°C. Encased in black plastic UL 94V-0 housing. Meets FCC and VDE EMI requirements: 4.73" square x 1.26" deep; 8.5 oz. (.24kg). 4.125" mounting hole centers. Ball bearing and sleeve bearing versions available.

Stock No.	Mfr.'s Type	Bearing	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
							1-9	10-24	25-Up
599-0065	MC12A3	SB	032207	9-14	3700	102	19.24	17.52	16.07
599-0070	MC12E3	SB	032140	10-14	2150	58	19.24	17.52	16.07
599-0075	MC12G3	SB	032141	8-14	2850	80	19.24	17.52	16.07

*Airflow will vary proportional to voltage.

Falcon® DC and AC

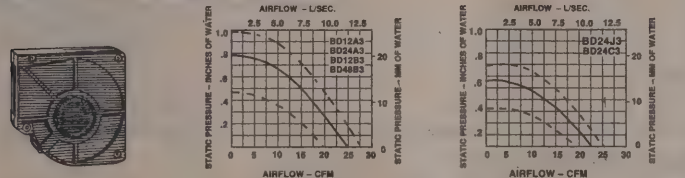


- ▶ RPMs: 3400; CFM: 300
- ▶ DC Version: Brushless Electronic Commutation Provided by Dependable Solid State Circuitry
- ▶ AC Version: 2 Pole Permanent Split Capacitor, 1 Phase, 50/60 Hz, Stainless Steel Ball Bearings
- ▶ DC Version: Dielectric Tested At 600 VAC/1 Sec./500 Microamps Maximum Leakage
- ▶ AC Version: Dielectric Tested At 1800 VAC/1 Sec./500 Microamps Maximum Leakage
- ▶ DC Version: Electronic Locked Rotor Protection, Polarity Protected
- ▶ AC Version: Impedance Protected, Automatic Restart Capability
- ▶ AC Version: Dry Film Capacitor

Featuring Feathered Edge™ blade design for lower noise with rugged die-cast aluminum housing. Operating Temperature Range: -10°C to +70°C.

Stock No.	Mfr.'s Type	Part No.	Voltage Range	Nominal Voltage	EACH		
					1-9	10-24	25-Up
599-0510	FD12B3	031654	6-14	12 VDC	95.64	87.03	79.86
599-0515	FD24B3	031653	12-28	24 VDC	95.64	87.03	79.86
599-0520	FD48B3	031652	24-56	48 VDC	95.64	87.03	79.86
599-0525	FA2B32	031659	—	115 VAC	78.62	71.54	65.65
599-0530	FA7B3	031660	—	230 VAC	78.62	71.54	65.65

Biscuit® DC Brushless Blowers

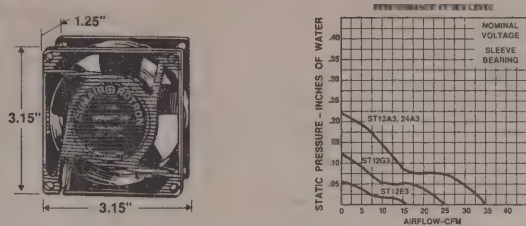


- ▶ Features
- ▶ Size: 4.75" square x 1.22" deep
- ▶ 18 to 28 CFM (8.5 to 13.2 L/Sec.)
- ▶ 12, 24, and 48 VDC (Nominal)
- ▶ High reliability ball or sleeve bearings
- ▶ Low noise level
- ▶ Operating temp. range: -10°C to +70°C
- ▶ Weight: 10 oz. (.28 Kg)
- ▶ UL Yellow Card Recognized file No.E31293
- ▶ CSA certified—file No.LR52898
- ▶ TUV Approved to IEC 950, VDE 0730
- ▶ RPM: 2650 to 03050

Stock No.	Mfr.'s Type	Part No.	VDC Range	EACH		
				1-9	10-24	25-Up
599-0321	BD12A3	032176	9-14	32.76	29.80	27.30
599-0322	BD24A3	032179	18-28	32.76	29.80	27.30
599-0324	BD24J3	032230	18-28	32.76	29.80	27.30
599-0326*	BD12B3	030619	9-14	36.92	33.59	30.78
599-0327*	BD24B3	030621	18-28	36.92	33.59	30.78
599-0328*	BD24C3	030623	18-28	36.92	33.59	30.78

*Tachometer output model.

SPRINT® DC Fans

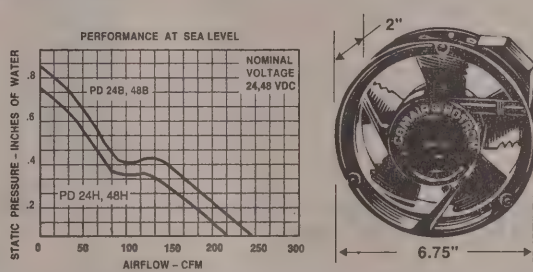


Sprint fans feature low noise, electronic locked rotor protection or impedance protection, and polarity protection. 12 to 39 CFM (8.0 to 18 L/Sec.); 12 or 24VDC nominal. For ambients of -10°C to +70°C. Encased in a black plastic UL94V-0 housing. Meets FCC and VDE EMI requirements. 3.15" square x 1.25" deep; 6.3 oz. (.18kg). 2.812" mounting hole centers. Features sleeve bearing models, with stainless steel ball bearing models available.

Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-24	25-Up
599-0080	ST12A3	032107	9-14	3400	34	17.47	15.91	14.56
599-0085	ST12G3	032126	10-14	2500	25	17.47	15.91	14.56
599-0090	ST12E3	032162	10-14	1700	16	17.47	15.91	14.56
599-0095	ST24A3	032127	18-28	3400	34	17.47	15.91	14.56

*CFM (Airflow) will vary proportional to voltage.

Patriot® DC Fans

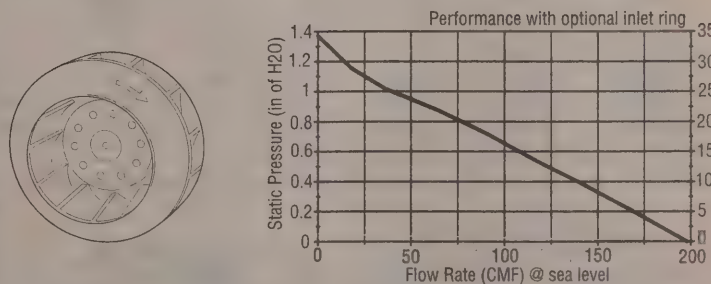


Features the famous Feathered Edge™ blade design for lower noise level. Electronic locked rotor protection; polarity protected. 6.375" mounting hole centers. For ambients of -10°C to +70°C. Cased in a die-cast aluminum housing. Meets FCC and VDE/EMI requirements. UL Yellow Card Recognized; CSA Certified. Weight: 1.84 lbs. (.84kg).

Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-24	25-Up
599-0100	PD24B2	032032	12-28	3350	240	68.43	62.24	61.58
599-0105	PD48B2	032033	24-56	3350	240	79.90	70.30	61.85
599-0110	PD24H2	032016	12-28	3000	210	84.66	76.20	68.58
599-0115	PD48H2	032017	24-56	3100	210	69.50	64.16	59.58

*Airflow will vary proportional to voltage.

Diplomat™ DC

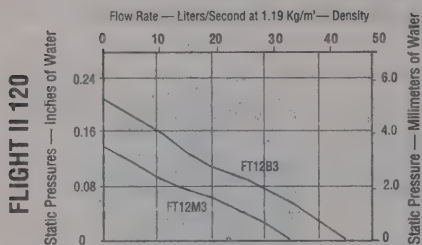
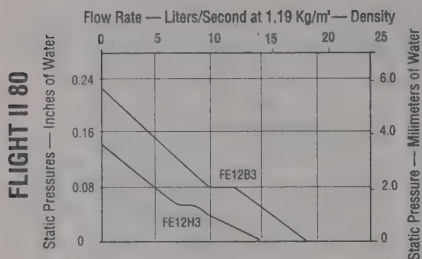
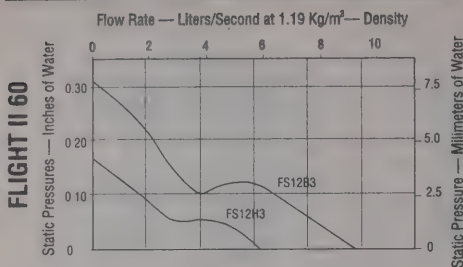


▶ RPMs: 3400

▶ CFM: 200

Brushless electronic commutation by dependable solid state circuitry. Stainless steel ball bearings. Electronic locked rotor protection, polarity protected, and automatic restart. Impeller: Polycarbonate, black, UL94V-0 Flammability rating. Motor Base: Diecast aluminum. Operating Temperature Range: -10°C +70°C. UL, CSA, and TUV (VDE) pending.

Stock No.	Mfr.'s Type	Part No.	Voltage Range	Nominal Voltage	EACH		
					1-9	10-24	25-Up
599-0540	DDF12B1	031604	6-14	12 VDC	90.00	81.90	75.15
599-0545	DDF24B1	031605	12-28	24 VDC	90.00	81.90	75.15
599-0550	DDF48B1	031598	24-56	48 VDC	90.00	81.90	75.15



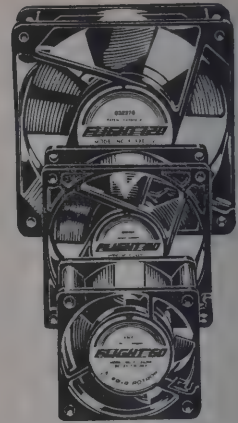
FLIGHT® II DC Fans

Solid-state circuitry for brushless electronic commutation. Features stainless steel ball bearings, 100% dielectric (tested at 600VAC/1 sec., 500 microamps maximum leakage), low noise, electronic locked rotor protection, and polarity protection. UL recognized and CSA certified. **Operating Temperature Range:** -10 to +60°C. 12/24VDC nominal. **Venturi:** PBT with glass; black; meets UL94V-0. **Propeller:** PBT; black; meets UL94V-0. Designed to EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emissions, and per VDE Specification 0871/6.78 for category A and B requirements.

FLIGHT 60. 8 to 21 CFM (3.7 to 9.9 L/Sec.); 2.36" square × 1.00" deep; 3.5oz. (.10 kg).

FLIGHT 80. 20 to 40 CFM (9 to 19 L/Sec.); 3.15" square × 1.00" deep; 4.3oz. (.12 kg).

FLIGHT 120. 45 to 95 CFM (21.2 to 44.8 L/Sec.); 4.73" square × 1.00" deep; 7.1 oz. (.20 kg).



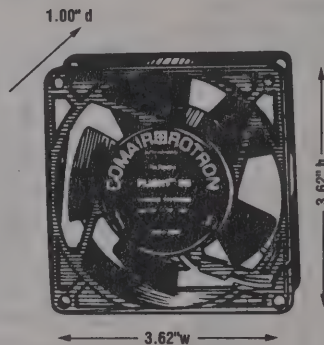
Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-24	25-Up
599-0005	FS12B3	031156	6-14	5000	18	16.25	15.35	14.30
599-0010	FS24B3	031157	12-28	5000	18	16.25	15.35	14.30
599-0015	FS12H3	031158	9-14	3630	13	16.25	15.35	14.30
599-0020	FS24H3	031159	18-28	3630	13	16.25	15.35	14.30
599-0025	FE12B3	031162	6-14	3700	37	17.30	16.30	15.25
599-0030	FE24B3	031163	12-28	3700	37	17.30	16.30	15.25
599-0035	FE12H3	031164	9-14	2800	29	17.30	16.30	15.25
599-0040	FE24H3	031165	18-28	2800	29	17.30	16.30	15.25
599-0045	FT12B3	031174	6-14	3000	90	20.75	19.40	18.25
599-0050	FT24B3	031175	12-28	3000	90	20.75	19.40	18.25
599-0055	FT12M3	031176	9-14	2000	60	20.75	19.40	18.25
599-0060	FT24M3	031177	18-28	2000	60	20.75	19.40	18.25

*CFM will vary proportional to voltage.

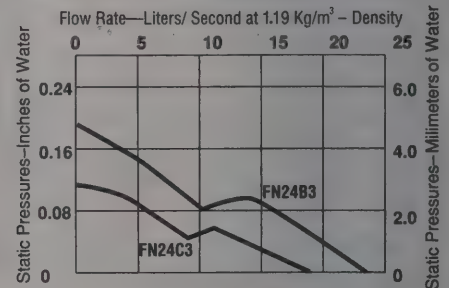
FLIGHT® II 90 Series DC Fans

- ▶ 20 to 50 CFM (9 to 24 L/Sec)
- ▶ 12 and 24 VDC (Nominal)
- ▶ Low Noise Level
- ▶ Operating Temperature Range: -10° to +60°
- ▶ Ball Bearing

Venturi: PBT with glass; black; meets UL94V-0. **Propeller:** PBT; black; meets UL94V-0. Designed to EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emissions, and per VDE Specification 0871/6.78 for category A and B requirements. **Dimensions:** 3.62" square × 1.0" deep (92mm × 25.4mm). **Weight:** 4.9 oz. (.14 kg).



FLIGHT II 90

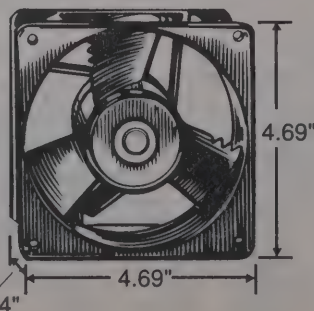
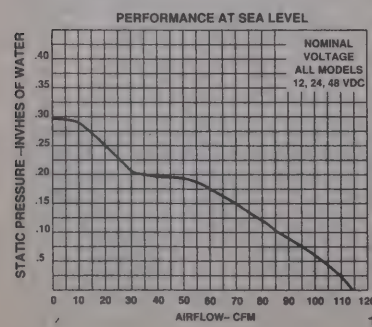


Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-24	25-Up
599-0031	FN12B3	031168	6-14	2900	46	18.15	17.05	16.00
599-0032	FN24B3	031169	8-28	2900	46	18.15	17.05	16.00
599-0033	FN12C3	031170	6-14	2350	38	18.15	17.05	16.00
599-0034	FN24C3	031171	8-28	2350	38	18.15	17.05	16.00

*CFM (Airflow) will vary proportional to voltage.

Muffin XL® DC Fans

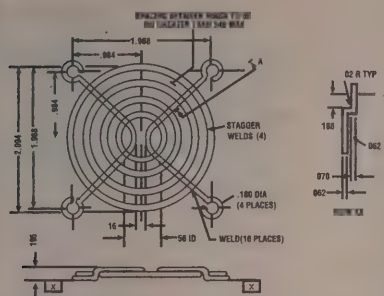
These ball-bearing fans feature the famous Feathered Edge™ blade design for lower noise. Electronic locked rotor protection; polarity protected. 4.125" mounting hole centers. For ambients of -10° to +70°C. Cased in a die-cast zinc housing. Meets FCC and VDE EMI requirements. UL Yellow Card Recognized; CSA Certified. **Weight:** 21.5 oz. (.61 kg).



Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-23	24-Up
599-0120	MD12B1	028865	6-14	3100	110	43.58	39.62	37.49
599-0125	MD24B1	028866	12-28	3100	110	43.58	39.62	37.49
599-0130	MD48B1	028867	22-56	3100	110	43.58	39.62	37.49

*Airflow will vary proportional to voltage.

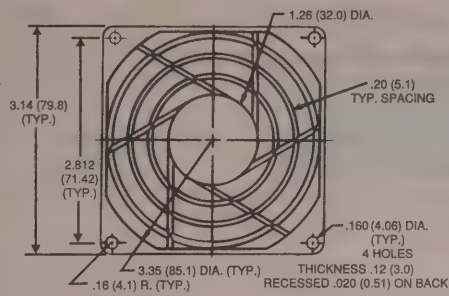
Finger Guard (60mm)



For Flight 60. Meets U.L. 0.250 dia. plug gage test finish—bright nickel chrome 0.0005 min. 0.010 over wire dia. max. at butt joints, 0.005 max. depth of serration on wire. **Ribs:** 0.062 dia. **Rings:** 0.062 dia. Surface X to be flat within 0.060

599-0460. Type 572621. 1-9.....EACH 2.63
10-24.....EACH 2.42 25-49.....EACH 2.21

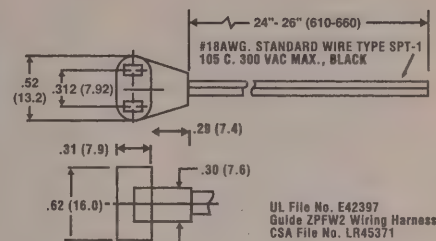
Finger Guard (80mm)



For Flight 80. Sprint DC, and Sprite. Meets U.L. CSA 0.250/6.35 spacing. Made of Fiberte RTP 305 glass reinforced polycarbonate or GE Valox 420 polyester rated UL 94V-0.

599-0400. Type 550648. 1-9.....EACH 1.00
10-24.....EACH .89 25-49.....EACH .79

Plug and Cord

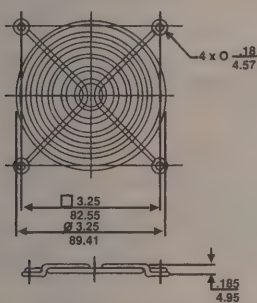


UL File No. E42397
Guide ZPFW2 Wiring Harness
CSA File No. LR45371

For Sprite, Whisper, Whisper XL, Muffin, Muffin XL, Skeleton, Major, Patriot, Caravel, Tarzan, and Biscuit. U.L. File #E42397, GUIDE ZPFW2 wiring harness. CSA File #LR45371.

599-0440. Type 428056. 1-9.....EACH 1.26
10-24.....EACH 1.16 25-49.....EACH 1.05

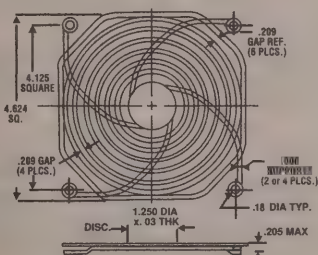
Finger Guard (90mm)



For Flight 90. Welded steel wire, nickel chrome finish. Meets U.L., CSA 0.250/6.35 spacing.

599-0465. Type 554172. 1-9.....EACH 1.68
10-24.....EACH 1.58 25-49.....EACH 1.47

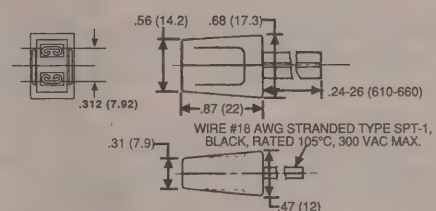
Finger Guard (120mm)



For Flight 120, Muffin DC, Muffin XL DC, Whisper, Whisper XL, Muffin, Muffin XL, and Skeleton. Meets U.L., CSA 0.250/6.35 spacing. Center Disc: 0.03 (0.76) thk. C.R.S. Wire Rings: 0.062 (1.57) dia. steel. Support: 0.080 (2.03) dia. steel. Finish: Bright zinc plate with chromate treatment.

599-0415. Type 552934. 1-9.....EACH 2.36
10-24.....EACH 2.10 25-49.....EACH 1.94

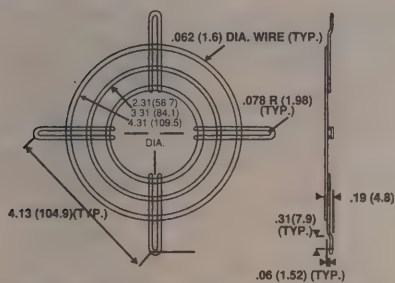
Plug and Cord



For Sprite, Whisper XL, Muffin XL, Skeleton, Major, Patriot, Caravel, Tarzan, and Biscuit. U.L. File #E42397, GUIDE ZPFW2 wiring harness. CSA File #LR45371.

599-0445. Type 550440. 1-9.....EACH 1.58
10-24.....EACH 1.47 25-49.....EACH 1.37

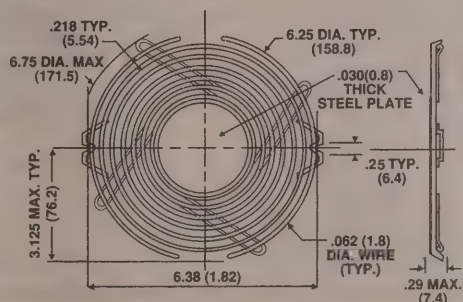
Finger Guard (120mm)



For Flight 120, Muffin DC, Muffin XL DC, Whisper, Whisper XL, Muffin, Muffin XL, and Skeleton. Welded steel wire, bright zinc plated.

599-0470. Type 476042. 1-9.....EACH 1.58
10-24.....EACH 1.47 25-49.....EACH 1.37

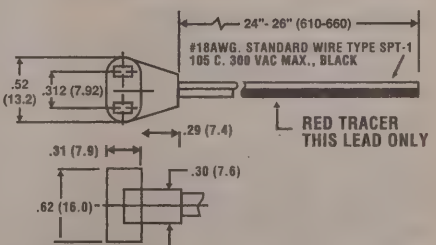
Finger Guard (6")



For Major DC and Major. Welded steel wire, bright zinc plated.

599-0390. Type 550272. 1-9.....EACH 3.78
10-24.....EACH 3.47 25-49.....EACH 3.20

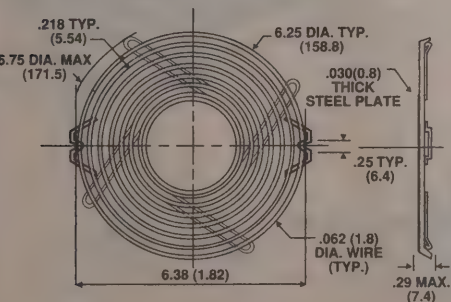
Plug and Cord



For Muffin XL DC. Polarized with red tracer.

599-0450. Type 571064. 1-9.....EACH 2.00
10-24.....EACH 1.84 25-49.....EACH 1.68

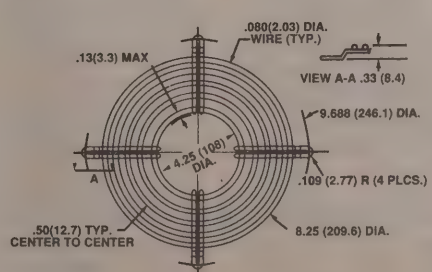
Finger Guard (6")



For Patriot DC and Patriot. Welded steel wire, bright zinc plated.

599-0410. Type 551199. 1-9.....EACH 3.36
10-24.....EACH 3.10 25-49.....EACH 2.84

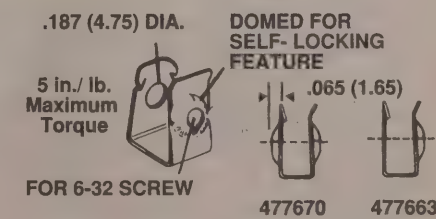
Finger Guard (10")



For Caravel. Made of steel wire with bright zinc finish. Mountings using #8 machine screws in the 4 legs equally spaced on 9.688 (246.1) dia.

599-0380. Type 476323. 1-9.....EACH 4.83
10-24.....EACH 4.41 25-49.....EACH 4.04

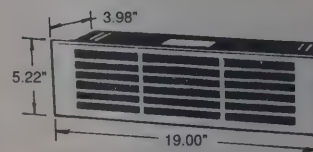
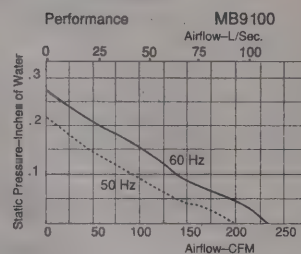
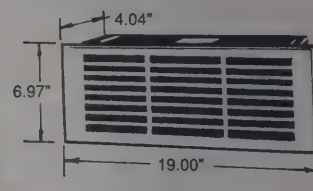
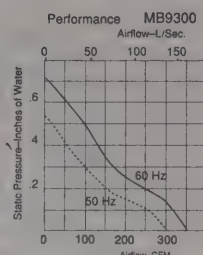
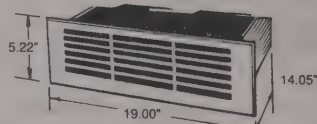
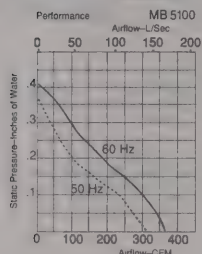
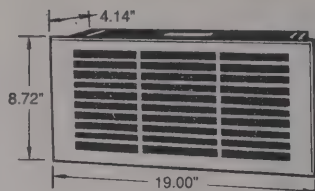
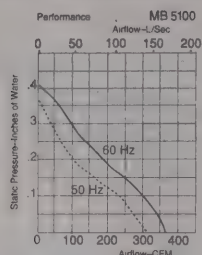
Mounting Clips



For Major DC, Patriot DC, Whisper, Muffin, Major, and Patriot. 0.017 (0.43) thick tempered spring steel finished in black phosphate with oil dip. Fits over flanges from 0.22 (5.59) to 0.30 (7.62). 5 in./lb. max. torque

599-0425. Type 477663 (Flush). 1-9.....EACH .17
10-24.....EACH .16 25-49.....EACH .15
599-0430. Type 477670 (Standoff). 1-9.....EACH .25
10-24.....EACH .23 25-49.....EACH .21

Modulair™ Cabinet Blowers



Designed for use in EIA 19" racks. Each blower includes grill, cleanable airfilter, and finger guards. **Model MB5100** is powered by 2 Feather fans; continuous duty life of 6 years at 25°C. **Model MB9100** is powered by 3 Muffin fans; continuous duty life of 10

years at 25°C. **Model MB 9200** is powered by 2 Feather fans; continuous duty life of 6 years at 25°C. **Model MB9300** is powered by 2 Major fans; continuous duty life of 5 years at 70°C.

MB 9200 AC

Stock No.	Mfr.'s Type	Bearing Type	Volts/ HZ	RPM	CFM	EACH		
						1	2-5	6-9
599-0350	024488	Ball	115/60	2830/3350	310/370	256.20	232.42	213.52
599-0351	024489	Ball	220/60	2830/3350	310/370	267.65	243.34	223.07

MB 9300 AC

Stock No.	Mfr.'s Type	Bearing Type	Volts/ HZ	RPM	CFM	EACH		
						1	2-5	6-9
599-0355	027384	Ball	115/60	2850/3350	300/350	238.04	216.41	198.40
599-0356	029069	Ball	220/60	2850/3350	300/350	255.78	241.24	221.76

MB 5100 AC

Stock No.	Mfr.'s Type	Bearing Type	Volts/ HZ	RPM	CFM	EACH		
						1	2-5	6-9
599-0340	020099	Ball	115/60	2830/3350	275/320	263.03	239.14	219.19
599-0341	020100	Ball	220/60	2830/3350	275/320	297.57	270.53	248.01

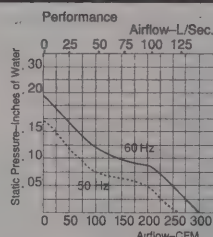
MB 9100 AC

Stock No.	Mfr.'s Type	Bearing Type	Volts/ HZ	RPM	CFM	EACH		
						1	2-5	6-9
599-0345	024475	Sleeve	115/60	2700/3100	200/235	176.93	160.86	147.47
599-0346	024476	Sleeve	220/60	2700/3100	200/235	181.76	165.27	151.46

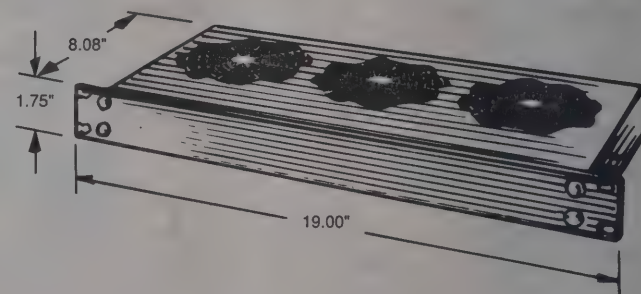
MB 100 Cabinet Blowers

Features

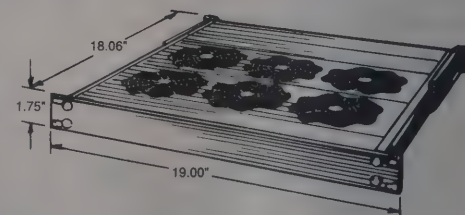
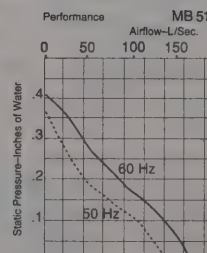
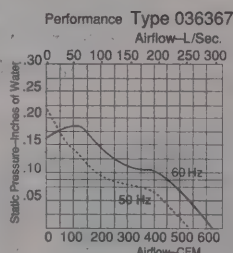
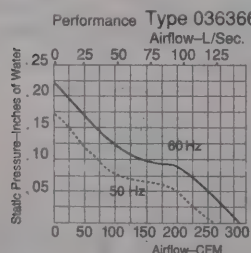
- Performance of 3 Muffin® Fans
- Fits EIA 19" rack cabinets
- Sleeve bearings



Stock No.	Mfr.'s Type	No. of Fans	RPM	CFM	EACH		
					1	2-5	6-9
599-0313	031038	3	2700/3100	250/300	194.88	177.19	162.44



MB 1000 Cabinet Blowers



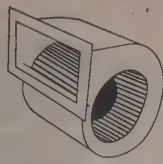
Features

- Muffin® Fans
- Fits EIA 19" rack cabinets
- Sleeve bearings

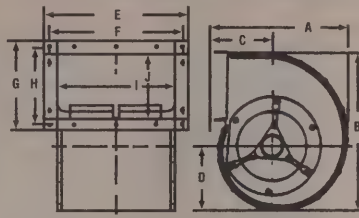
Stock No.	Mfr.'s Type	No. of Fans	RPM	CFM	EACH		
					1	2-5	6-9
599-0366	036368	3	2700/3100	250/300	295.47	268.64	246.23
599-0367	036367	6	2700/3100	530/600	372.75	338.89	310.64
599-0368	036366	9	2700/3100	800/900	446.78	406.19	372.33

Blowers, Impellers and Axial Fans

Dual Inlet Centrifugal Blowers



Dual inlet blowers offer a large discharge from a quiet, compact unit. The external rotor motor is inside the forward curved impeller. 115 VAC, 50/60 Hz. See wiring diagram A.



Dimensions

Mfr.'s Type	Dimensions (Inches)									
	A	B	C	D	E	F	G	H	I	J
D2E097-BE	6.38	6.50	3.39	2.68	7.09	6.61	3.94	3.47	5.75	2.64
D2E133-DB	8.03	8.39	3.80	3.68	10.63	10.00	5.59	4.96	9.13	4.02
D4E146-AA	8.11	8.62	3.81	3.86	10.63	10.00	5.59	4.96	9.13	4.02

Stock No.	Mfr.'s Type	Flange	Rotation*	CFM @ 0"	dBA	Watts	Wt. Lbs.	Cap. (µf)	EACH		
									1-9	10-24	25-49
600-2002	D2E097-BE11-77	Yes	L	156	49	54	3.5	8	121.27	111.16	100.05
600-2004	D2E133-DB21-47	Yes	R	353	55	195	9.0	16	170.00	155.84	140.25
600-2006	D4E146-AA25-34	Yes	R	400	50	120	8.5	8	188.00	172.34	155.10

*Rotation as viewed from side opposite the lead exit.

Single Inlet Centrifugal Blowers

Dimensions

Mfr.'s Type	Notes	Dimensions (Inches)																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
G2S097-DB	1	5.63	5.39	2.95	2.44	—	—	—	—	1.57	1.81	1.57	1.57	N/A	N/A	3.15	3.78	11.8
G2E120-AR	2	6.85	7.48	3.23	3.23	4.53	3.94	3.26	2.68	2.99	1.97	3.23	3.86	M4	276	3.94	5.20	17.7
G2E140-AC	2	8.90	10.28	4.05	4.21	5.12	4.53	4.70	4.13	3.70	3.62	3.94	3.94	M4	248	4.65	6.22	17.7
G4E160-AB	2	8.90	10.28	4.05	4.21	5.12	4.53	4.70	4.13	3.70	3.62	3.94	3.94	M4	248	5.12	6.89	17.7

Note 1: Sheet metal housing. Note 2: Sheet metal housing available on special order.

Stock No.	Mfr.'s Type	CFM @ 0"	dBA	Watts	Wt. Lbs.	Cap. (µf)	Wiring Diagram	EACH		
								1-9	10-24	25-49
600-2012	G2S097-DB61-08	29	45	33	2.0	—	B	79.82	73.10	65.86
600-2014	G2E120-AR54-43	152	62	100	4.5	6	A	133.09	122.00	109.80
600-2016	G2E140-AC13-42	251	67	200	7.5	16	A	174.37	159.84	143.85
600-2018	G4E160-AB15-09	262	67	90	7.0	7	A	216.73	198.67	178.80

*Rotation as viewed from side opposite the lead exit.

Backward Curved Motorized Impellers

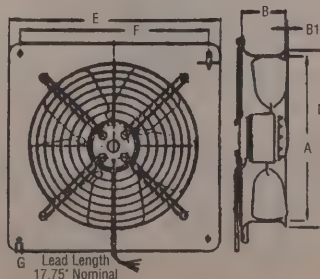
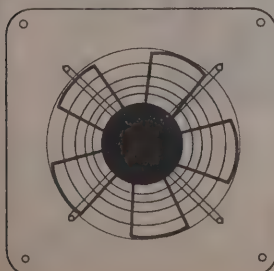
The narrow profile of backward curved motorized impellers provides excellent space utilization. The impellers can be used in either evacuating or pressurizing applications and can be mounted horizontally or vertically. Impellers do not require a scrollhousing although an inlet ring is recommended on air inflow. 115 VAC, 50/60 Hz. See wiring diagram A.

Dimensions

Mfr.'s Type	Dimensions (Inches)						No. of Holes
	A	B	C	D	E	F	
R2E133-AA	5.24	2.34	3.58	3.56	2.13	M4	4 × 90°
R2E175-AE	6.89	1.85	2.15	5.16	2.28	M4	4 × 90°
R2E190-AE	7.48	2.46	2.70	5.16	2.28	M4	4 × 90°
R2E220-AA	8.66	2.48	2.80	6.26	2.28	M4	4 × 90°
R2E225-AK	8.94	3.50	4.29	6.02	2.28	M4	4 × 90°

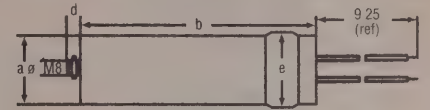
Stock No.	Mfr.'s Type	CFM @ 0"	dBA	Watts	Wt. Lbs.	Cap. (µf)	Impeller Material	EACH		
								1-9	10-24	25-49
600-4202	R2E133-AA30-13	180	53	35	2.0	4	Plastic	70.19	64.33	57.90
600-4204	R2E175-AE47-16	280	65	70	3.0	6	Galv. Steel	81.28	74.50	67.05
600-4206	R2E190-AE50-29	365	62	85	3.0	8	Plastic	75.10	68.83	61.95
600-4208	R2E220-AA44-23	530	70	100	3.5	10	Plastic	81.28	76.33	68.70
600-4210	R2E225-AK05-10	710	77	200	6.0	16	Galv. Steel	129.92	119.00	107.10

Axial Fans



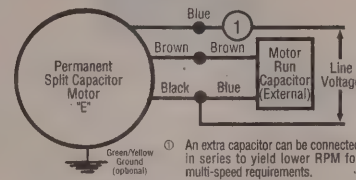
Capacitors and Wiring Diagrams

Capacitors

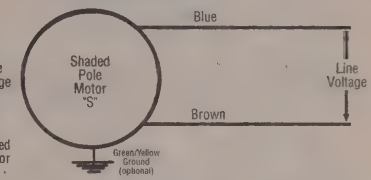


Motor Wiring Diagrams

A. PSC "Type E" Motor

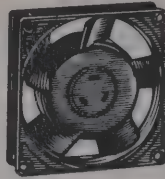
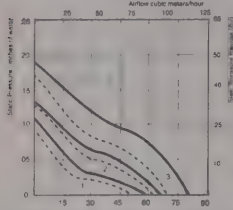


B. Shaded Pole Motor



Stock No.	Mfr.'s Type	Size (µf)	Temperature Range (°C)	Dimensions (Inches)				EACH
				a	b	d	e	
600-2022	2161-4-7320	4	-25+85	1.2	3.9	0.51	1.32	12.00
600-2024	2163-4-7320	6	-25+85	1.4	3.9	0.51	1.52	15.20
600-2026	2164-4-7320	7	-25+85	1.6	3.9	0.51	1.72	22.80
600-2028	2165-4-7320	8	-25+85	1.4	3.9	0.51	1.52	17.20
600-2030	2166-4-7320	10	-25+85	1.4	3.9	0.51	1.52	20.20
600-2032	2168-4-7320	16	-25+85	1.8	6.3	0.51	1.90	30.40
600-2034	2169-4-7320	20	-25+85	1.8	6.3	0.51	1.90	35.60

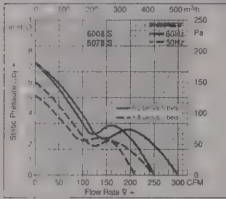
Models 3906 and 3906L Fans



1 in. flat axial fans. Metal fan housing, impeller of fiberglass reinforced plastic (PC). Internal rotor shaded pole motor. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ120 plug and cord set, or soldered. Mass 10 oz. (280 g). $3.62'' \times 3.62'' \times .98''$ (92 mm $\times$ 92 mm $\times$ 25 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-3906	3906	115/60	40	3150	41	38.30	35.10	32.40
600-3907	3906L	115/60	27	1850	23	40.99	37.57	34.68

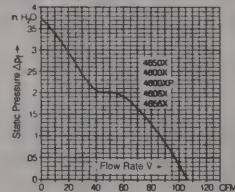
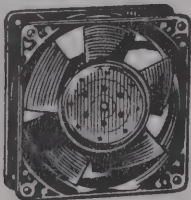
Models 6078S and 6008S Fans



Metal fan housing, impeller of fiberglass reinforced plastic (PPD). Capacitor motor, with thermal switch. Running capacitor integrated into housing. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 39.6 oz. (1100 g). Ball bearing. $6.75''$ dia. $\times$ $2.16''$ (172 mm dia. $\times$ 55 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-6078	6078S	230/60	57	3300	294.3	76.85	70.92	64.02
600-6008	6008S	115/60	54	3400	206.0	72.75	67.14	60.60

Models 4600X/4606X/4650X/4656X/4600XP* Fans

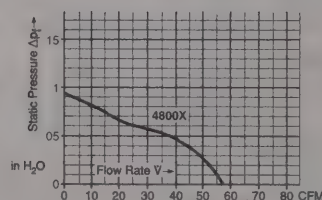
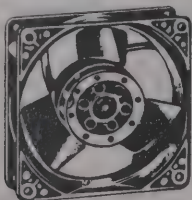


Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 19.8 oz. (550 g). $4.68'' \times 4.68'' \times 1.5''$ (119 mm $\times$ 119 mm $\times$ 38 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4600	4600X	115/60	50	3100	105.9	24.60	22.14	19.93
600-4506	4606X	115/60	51	3100	105.9	34.50	31.84	28.74
600-4650	4650N	230/60	50	3100	105.9	23.01	21.23	20.50
600-4657	4656N	230/60	51	3100	105.9	36.45	33.64	30.36
600-4601*	4600XP	115/60	50	3100	105.9	27.60	25.47	22.99

*5 year warranty

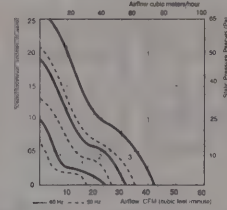
Model 4800X Fan



Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 18.7 oz. (520 g). $4.68'' \times 4.68'' \times 1.5''$ (119 mm $\times$ 119 mm $\times$ 38 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4800	4800X	115/60	32	1800	58.9	23.10	21.32	19.24

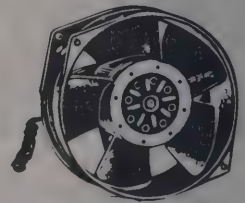
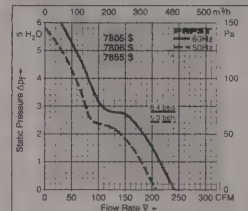
Models 9906 and 9906L Fans



Metal fan housing, impeller of fiberglass reinforced plastic (PC). Internal rotor shaded pole motor. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 11.5 oz. (320 g). Ball bearing. $4.69'' \times 4.69'' \times 1.0''$ (119 mm $\times$ 119 mm $\times$ 25 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-9999	9906	115/60	42	2850	79	39.87	36.55	33.74
600-9890	9906L	115/60	35	2100	59	42.56	39.02	36.01

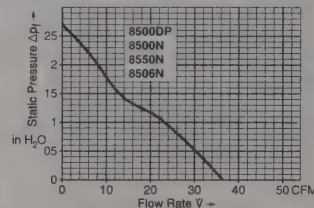
Models 7805/7806/7855 Fans



Metal housing and impeller. Shaded pole motor, with thermal switch (only for models with sleeve bearings). Counterclockwise rotation viewed from rotor, air input over struts. Elec. connection via 2 leads AWG 18, 14.3 in. (363mm). Mass 39.6 oz. (1100 g). $5.9''$ dia. $\times$ $2.16''$ (150 mm dia. $\times$ 55 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-7500	7805S	115/60	55	3350	241.3	75.00	67.50	60.75
600-7506	7806S	115/60	55	3350	241.3	65.30	60.27	54.39
600-7855	7855S	230/60	55	3350	241.3	83.65	80.28	72.72

Models 8500N/8506N/8550N/8500DP* Fans

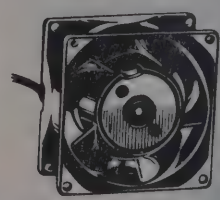
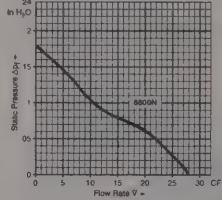


Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 18, 12 in. (310 mm). Mass 17.3 oz. (480 g). $3.13'' \times 3.13'' \times 1.5''$ (80 mm $\times$ 80 mm $\times$ 38 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8500	8500N	115/60	34	3150	35.9	21.10	20.06	18.50
600-8506	8506N	115/60	35	3300	35.9	34.90	32.21	29.07
600-8550	8550N	230/60	34	3150	35.9	24.95	22.18	20.12
600-8501*	8500DP	115/60	34	3150	35.9	28.10	25.84	23.32

*5 year warranty

Model 8800N Fan



Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection via 2 leads AWG 18, TR 64, 17 in. (440 mm). Mass 17.3 oz. (480 g). $3.13'' \times 3.13'' \times 1.5''$ (80 mm $\times$ 80 mm $\times$ 38 mm).

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8800	8800N	115/60	28	2550	27.7	23.55	21.73	19.62

AC and DC Fans, Blower and Accessories

Models RL90-18/00, RL90-18/12 and RL90-18/24 Blowers

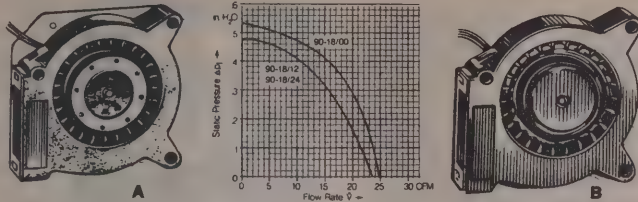


Fig. A Model RL90-18/00 Blower

Housing of fiberglass reinforced plastic (PC) and metal plate, impeller of fiberglass reinforced plastic (PA). Shaded pole motor. Clockwise rotation viewed from rotor, air output through housing window. Elec. connection via 2 leads AWG 18, TR 64, 12 in. (310 mm). Mass 24.5 oz. (680 g).

4.75" x 4.75" x 1.45" (121 mm x 121 x 37 mm)

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-1005	RL90-18/00	115/60	51	2600	23.5	32.25	29.76	27.65

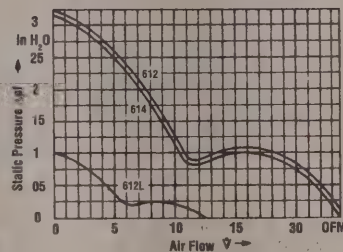
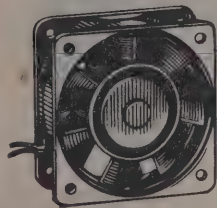
Fig. B Model RL90-18/24 or 12 Blower

Housing of fiberglass reinforced plastic (PC) or metal plate, impeller of fiberglass reinforced plastic (PA). Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output through housing window. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (210mm). Mass 23.8 oz. (660 g). Ball bearing.

4.75" x 4.75" x 1.45" (121 mm x 121 x 38 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-1010	RL90-18/24	24	51	2500	23.5	70.05	64.65	58.35
600-1015	RL90-18/12	12	51	2500	23.5	70.05	64.65	58.35

600 Series Multifans

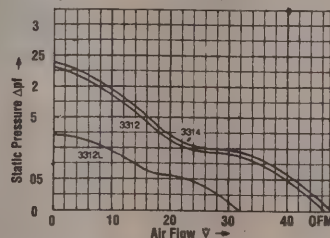
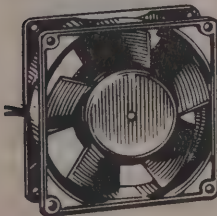


Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 3 oz. (85 g). Ball bearing.

2.44" x 2.44" x 1.0" (62 mm x 62 x 25 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-0811	612L	12	26	3000	12.3	25.20	23.26	20.99
600-0812	612	12	40	5300	23.3	25.20	23.26	20.99
600-0814	614	24	40	5300	23.3	25.20	23.26	20.99

3300 Series Multifans

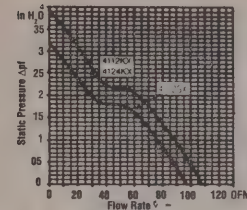
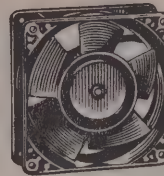


Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 6.8 oz. (190 g). Ball bearing.

3.62" x 3.62" x 1.26" (92 mm x 92 x 32 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-3312	3312	12	37	3000	47.0	25.25	23.30	21.03
600-3314	3314	24	37	3000	47.0	25.25	23.30	21.03
600-3311	3312L	12	29	2150	33.0	25.25	23.30	21.03

4100 Series Fans



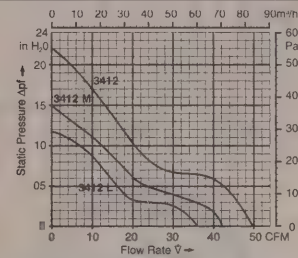
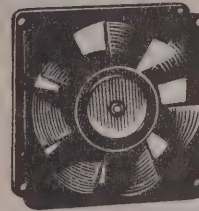
Metal fan housing, impeller of fiberglass reinforced plastic (PA). Electronically commutated DC motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 17.3 oz. (480 g). Model 4112GX and 4124GX: Mass 18 oz. (500 g).

4.68" x 4.68" x 1.5" (119 mm x 119 x 38 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4113†	4112GX	12	44	2800	94.0	40.20	37.10	33.49
600-4124†	4124GX	24	44	2800	94.0	40.20	37.10	33.49
600-4111†	4112GX	12	44	2800	94.0	40.20	37.10	33.49
600-4114*	4112KX	12	49	3200	106.0	45.10	41.62	37.57
600-4125*	4124KX	24	49	3200	106.0	45.10	41.62	37.57

*Ball Bearing. †Sleeve Bearing.

Model 3400 Series Fans

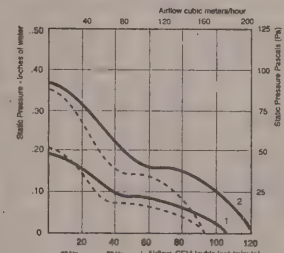
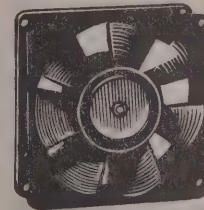


Fan of fiberglass reinforced plastic. PBTP housing, PA impeller. Electronically commutated external rotor DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 150 g.

3.62" x 3.62" x 1.26" (119 mm x 119 x 32 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-3415	3412	12	36	3050	49.4	18.20	16.80	15.60
600-3413	3412M	12	32	2650	42.4	18.20	16.80	15.60
600-3412	3412L	12	27	2200	35.8	18.20	16.80	15.60

W2K121 Series Fans



Housing is metal with plastic impellers. Connection terminates with two flat pins, .118" x .02". Air exhaust — over struts. Mounting is either face using four .169" (4.3 mm) holes.

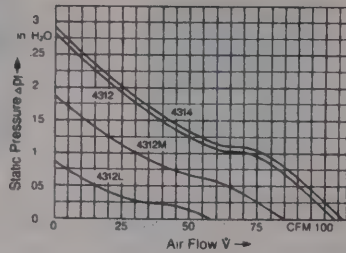
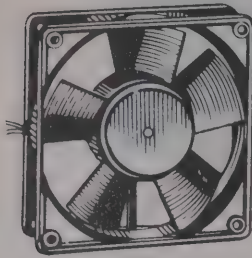
5.00" x 5.00" x 1.50" (127 mm x 127 x 38 mm)

Stock No.	Mfr.'s Type	AC Volts	dB (Noise)	Bearing Type	CFM	EACH		
						1-9	10-24	25-49
600-0902	W2K121-AA15-13	115	47	Ball	121	40.80	37.40	34.52
600-0904	W2K121-AA15-39	115	47	Sleeve	121	31.06	28.48	26.28
600-0906	W2K121-AA15-01	115	47	Ball	121	31.06	28.48	26.28
600-0908	W2K121-AA15-03	115	47	Sleeve	121	31.06	28.48	26.28
600-0910	W2K121-AA01-13	230	47	Ball	121	40.80	37.40	34.52
600-0912	W2K121-AA01-39	230	47	Sleeve	121	31.06	28.48	26.28
600-0914	W2K121-AA01-01	230	47	Ball	121	40.80	37.40	34.52
600-0916	W2K121-AA01-03	230	47	Sleeve	121	31.06	28.48	26.28

Accessories

Stock No.	Mfr.'s Type	Description	Fits Series	EACH
600-5508	LZ22N	Metal Finger Guard	8000	2.67
600-5500	LZ23	Metal Finger Guard	3000	2.89
600-5506	LZ24	Metal Finger Guard	6000	5.33
600-5507	LZ28	Metal Finger Guard	800	2.72
600-5504	LZ30	Metal Finger Guard	2500S/4000	3.10
600-5512	LZ30P	Plastic Finger Guard	2500S/4000	2.67
600-5501	LZ40	Hardware	2500S/4000	1.93
600-5503	LZ40N	Screen	2500S/4000	8.25
600-5502	LZ60	Filter	2500S/4000	4.32
600-5505	LZ120	Plug and Cord Set	300/4000/6000	2.10

4300 Series Multifans

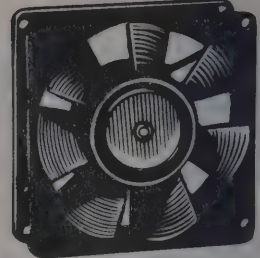
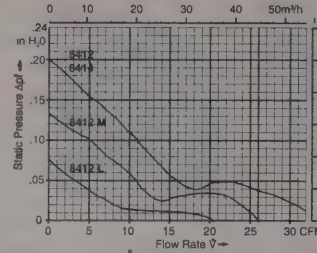


Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 8 oz. (220 g). Ball bearing.

4.68" x 4.68" x 1.26" (119 mm x 119 mm x 32 mm)

Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4312	4312	12	45	2800	100.0	28.25	26.07	23.53
600-4314	4314	24	45	2800	100.0	28.25	26.07	23.53
600-4310	4312L	12	30	1550	55.9	28.25	26.07	23.53
600-4311	4312M	12	40	2300	82.4	28.25	26.07	23.53

8400 Series Fans

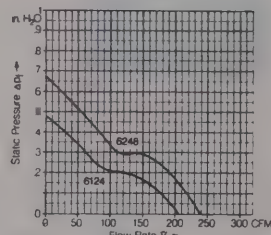
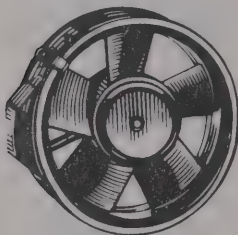


Fan of fiberglass reinforced plastic, with PBTP housing, PA impeller. Electronically commutated external rotor DC motor, with electronic protection against blocking and reverse polarity. Air exhaust over struts. Counterclockwise rotation viewed from rotor. Elec. connection via 2 leads AWG 22, TR 64, 310 mm (12.2 in.). Mass 145 g.

3 1/8" x 3 1/8" x 1" (80 mm x 80 mm x 25 mm)

Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8412	8412L	12	21	2000	20.6	17.08	15.77	14.65
600-8413	8412M	12	29	2600	26.5	17.08	15.77	14.65
600-8410	8412	12	35	3150	32.8	17.08	15.77	14.65
600-8414	8414	24	35	3150	32.8	17.08	15.77	14.65

6100/6200 Series Fans

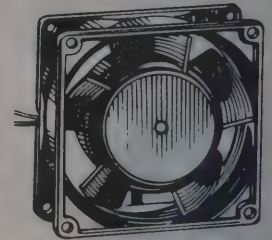
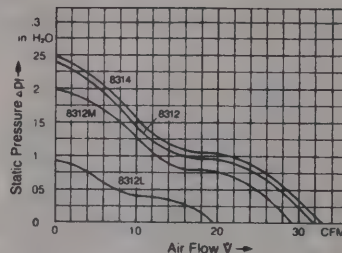


Metal fan housing, impeller of fiberglass reinforced plastic (PPO). Electronically commutated DC motor. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ 120 plug and cord set, or soldered. **6100 Series:** Mass 36 oz. (1000 g). **6200 Series:** Mass 30.6 oz. (850 g). Ball bearing.

6100: 6.75" dia. x 2.16" (1.72 mm dia. x 55 mm)
6200: 6.75" dia. x 2.00" (1.72 mm dia. x 51 mm)

Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-6124	6224M	24	50	2850	206.0	81.25	74.99	67.68
600-6148	6248M	48	50	2850	206.0	81.25	74.99	67.68
600-6224	6224	24	55	3400	241.3	81.25	74.99	67.68
600-6248	6248	48	55	3400	241.3	81.25	74.99	67.68

8300 Series Multifans

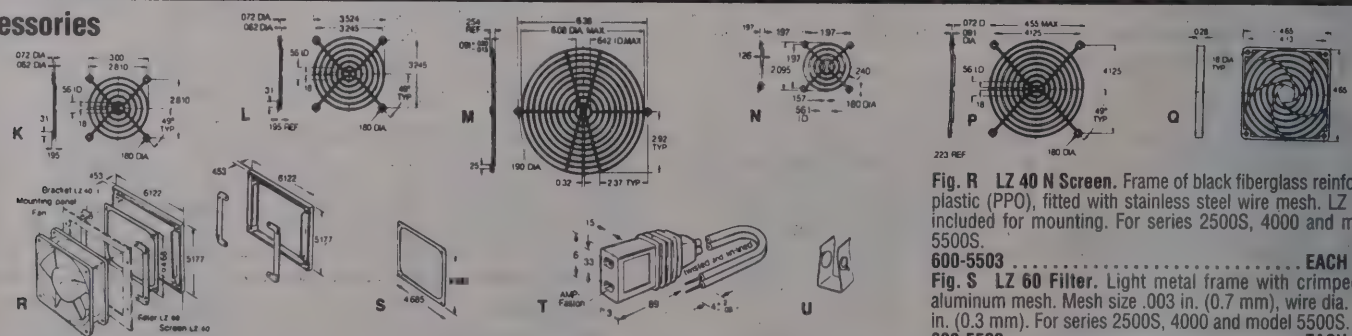


Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 6.1 oz. (170 g). Ball bearing.

3.13" x 3.13" x 1.26" (80 mm x 80 mm x 32 mm)

Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8312	8312	12	36	3300	31.8	24.90	22.98	20.74
600-8314	8314	24	36	3300	31.8	24.90	22.98	20.74
600-8310	8312L	12	26	2000	18.8	24.90	22.98	20.74
600-8311	8312M	12	34	3000	28.3	24.90	22.98	20.74

Accessories



Finger Guards
Fig. K LZ 22 N. Welded, nickel chrome-plated steel wire, .062 in. (1.6 mm) diameter. For series 8000. **EACH 2.67**
Fig. L LZ 23. Welded, nickel chrome-plated steel wire, .062 in. (1.6 mm) diameter. For series 3000. **EACH 2.89**
Fig. M LZ 24. Welded, nickel chrome-plated steel wire, .072 in. (1.8 mm) diameter. For series 6000. **EACH 5.33**

Fig. N LZ 28. Welded, chrome-plated steel wire, .063 in. (1.6 mm) dia. For 800 MULTIFAN. **EACH 2.72**
Fig. P LZ 30. Welded, nickel chrome-plated steel wire, .072 in. (1.8 mm) diameter. For series 2500S, 4000 and model 5500S. **EACH 3.10**
Fig. Q LZ 30 P. Fiberglass reinforced plastic (PPO). For series 2500S, 4000 and model 5500S. **EACH 2.67**

Fig. R LZ 40 N Screen. Frame of black fiberglass reinforced plastic (PPO), fitted with stainless steel wire mesh. LZ 40-1 included for mounting. For series 2500S, 4000 and model 5500S. **EACH 8.25**
Fig. S LZ 60 Filter. Light metal frame with crimped-on aluminum mesh. Mesh size .003 in. (0.7 mm), wire dia. .012 in. (0.3 mm). For series 2500S, 4000 and model 5500S. **EACH 4.32**
Fig. T LZ 120 Plug and Cord Set. 24 in. (610 mm) long. UL-approved. Connecting cable with molded plug. PVC, black. For series 3000, 4000 and 6000. **EACH 2.10**
Fig. U LZ 210 Screw Clip. For mounting fans with self-tapping screw 6-32 UNC or 3.5 DIN 7970. Made of hardened and tempered steel, deburred surface lightly oiled. For series 2500S, 4000, 7000 and model 5500S. (Not for MULTIFAN series 4300). **EACH .29**

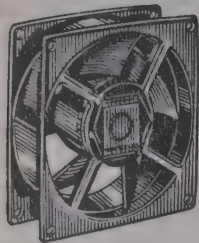
Fan	Mir.'s Type	Part No.	Bearings	Volts	Hz	Watts	Line Amps	Locked Rotor Amps	Cap. Mfd.	PH.	RPM	CFM	L/Sec.	Max. Amb. °C
Invertafan Spartan	IFR24SP1035	010313	Ball	24 DC	—	11.0	0.560	0.600	10.00	1	3080	104	50.0	70
	IFR48SP1780	010276	Ball	48 DC	—	15.4	0.280	0.400	3.00	1	3200	111	52.0	70
	IFR28SP1035	010314	Ball	28 DC	—	18.2	0.650	0.800	10.00	1	3100	105	50.0	70
Spartan	682YF	020284 (M) 020027 (L) 020028 (T)	Ball	115	50/60	13.0	0.120	0.150	1.00	1	3250	113	53.0	100
	810DF	026985 (L) 026984 (T)	Ball	115	400	13.0	0.120	0.130	0.39	1	3750	132	62.0	100
	778YF	026983 (L) 026982 (T)	Ball	115	50/60/400	13.0	0.120	0.130	0.25	1	2250	75	35.0	90
	942WF	026987 (L) 026986 (T)	Ball	200	400	37.0	0.140	0.220	—	3	5300	185	87.0	72
	1395YF	026989 (L) 026988 (T)	Ball	115	400	45.0	0.390	0.410	0.50	1	5300	198	96.0	75
	340ZH	026990 (T)	Ball	115	50/60	24.0	0.210	0.310	2.00	1	3300	280	132.0	125
	650JH	026991 (T)	Ball	200	400	33.0	0.150	0.220	—	3	3970	330	142.0	125
Saucer	656JH	026992 (T)	Ball	115	400	34.0	0.270	0.400	—	3	3800	336	146.0	125
	654DH	026993 (T)	Ball	115	400	30.0	0.280	0.320	1.00	1	3600	310	146.0	125
	654DH	02596 (M)	Ball	115	400	30.0	0.280	0.320	1.00	1	3600	310	146.0	125
	340ZH	020743 (M)	Ball	115	50/60	24.0	0.210	0.310	2.00	1	3300	280	132.0	125
	623YH	026942 (T)	Ball	115	400	18.0	0.160	0.400	0.25	1	22000	21	10.0	125
	367JH	026943 (T)	Ball	200	400	18.0	0.100	0.300	—	3	22500	21	10.0	125
Aximax 1	464YH	026944 (T)	Ball	115	400	9.0	0.100	0.170	0.15	1	11100	10	4.7	125
	606NH	026958 (T)	Ball	115	50/60	7.0	0.060	0.060	1.00	1	3000	7	3.3	100
Aximax 2	464YH	026952 (T)	Ball	115	400	10.0	0.090	0.090	1.00	1	4800	12	5.7	100
	368YH	026948 (T)	Ball	115	400	11.0	0.110	0.160	0.15	1	10200	28	13.0	125
	367JH	026950 (T)	Ball	200	400	38.0	0.330	0.450	0.50	1	20000	57	27.0	125
	415YH**	026954 (T)	Ball	115	400	34.0	0.130	0.310	—	3	20500	57	27.0	125
	395JH**	026956 (T)	Ball	200	400	18.0	0.180	0.190	0.15	1	11000	32	15.0	100
						22.0	0.110	0.130	—	3	12000	34	16.0	125
Aximax 2H	415YH	027686 (L)	Ball	115	400	18.0	0.180	0.190	0.15	1	11000	32	15.0	100
	606NH	026959 (T)	Ball	115	50/60	7.0	0.060	0.060	1.00	1	3000	7	3.0	100
						10.0	0.090	0.090	1.00	1	4800	12	5.7	100
	464YH	026953 (T)	Ball	115	400	11.0	0.110	0.160	0.15	1	10200	28	13.0	125
	367JH	026951 (T)	Ball	200	400	34.0	0.130	0.310	—	3	20500	57	27.0	125
	368YH	026949 (T)	Ball	115	400	38.0	0.330	0.450	0.50	1	20000	57	27.0	125
	415YH	026955 (T)	Ball	115	400	18.0	0.180	0.190	0.15	1	11000	32	15.0	100
	395JH	026957 (T)	Ball	200	400	22.0	0.110	0.130	—	3	12000	34	16.0	125
	528YH	026963 (T)	Ball	115	400	135.0	1.200	2.100	2.00	1	22300	155	73.0	100
	422DH	026964 (T)	Ball	115	400	26.0	0.310	0.710	1.00	1	11200	76	56.0	125
Aximax 3	341JH	020372 (T)	Ball	200	400	125.0	0.430	1.730	—	3	22200	160	76.0	125
	599NH	026965 (T)	Ball	115	50/60	3.0	0.040	0.050	0.50	1	3300	21	10.0	125
	400YH**	026961 (T)	Ball	115	400	38.0	0.330	0.360	0.50	1	10700	75	35.0	100
	387JH**	026962 (T)	Ball	200	400	58.0	0.260	0.370	—	3	13700	97	46.0	100
	500JH**	020297 (T)	Ball	200	400	70.0	0.240	0.460	—	3	16200	114	54.0	100
	366ZH	026966 (T)	Ball	115	400	41.0	0.400	0.510	0.75	1	21000	120	57.0	100
	464ZH	026967 (T)	Ball	115	400	11.0	0.110	0.160	0.15	1	10500	58	27.0	125
Propimax 2	367JH	026968 (T)	Ball	200	400	34.0	0.130	0.290	—	3	20400	118	56.0	100
	704WH	026969 (T)	Ball	200	400	22.0	0.120	0.200	—	3	11300	64	43.0	100
	606NH	026970 (T)	Ball	115	50/60/400	6.5	0.060	0.060	1.00	1	3200	17	8.0	100
	415ZH**	026971 (T)	Ball	115	400	18.0	0.170	0.180	0.15	1	11600	65	31.0	100
	395JH**	026972 (T)	Ball	200	400	18.0	0.090	0.110	—	3	12100	64	30.0	125
	341JH	026974 (T)	Ball	200	400	80.0	0.320	1.700	—	3	22800	220	104.0	125
	409ZH	026973 (T)	Ball	115	400	105.0	1.000	2.000	2.50	1	21900	220	104.0	100
Propimax 3B	473JH	026976 (T)	Ball	200	400	62.0	0.280	0.750	—	3	10900	190	90.0	125
	718ZH	026977 (T)	Ball	115	400	27.0	0.310	0.480	0.25	1	7200	120	57.0	125
	754DH	026975 (T)	Ball	115	400	63.0	0.610	1.250	2.00	1	11100	190	90.0	115
	763ZH	026978 (T)	Ball	115	60	13.0	0.130	0.180	0.50	1	3450	56	26.0	125
	805ZH	026979 (T)	Ball	115	50/60/400	23.0	0.240	0.280	0.25	1	3300	52	25.0	100
	387JH	026981 (T)	Ball	200	400	69.0	0.300	0.360	—	3	8200	140	66.0	125
	400ZH	026980 (T)	Ball	115	400	37.0	0.330	0.340	0.50	1	5950	100	47.0	125
Propimax 3BM	473JH	021086 (M)	Ball	200	400	62.0	0.280	0.740	—	3	10900	190	89.0	125
	754DH	023303 (M)	Ball	115	400	63.0	0.610	1.250	2.00	1	11100	190	89.0	115
MIL 901	1790YF	033037 (L)	Ball	115	60	35.0	0.300	0.550	3.00	1	3250	225	106.0	125
Model D Blower	†	033461 (M)	Ball	115	60	138.0	1.200	2.400	4.00	1	3200	140	66.0	100
MIL 80	1891DF	033559 (L)	Ball	115	400	10.0	0.090	0.155	0.39	1	5650	58	28.0	125
	682ZF	033561 (L)	Ball	115	50/60	13.9/13.3	.123/.117	.143/.147	1.00	1	2915	28	13.5	100
	1891DF	033587 (T)	Ball	115	400	10.0	0.090	0.155	0.39	1	5650	58	28.0	125
	682ZF	033588 (T)	Ball	115	50/60	13.9/13.3	.123/.117	.143/.147	1.00	1	2915	28	13.5	100
	1891DF	033589 (M)	Ball	115	400	10.0	0.090	0.155	0.39	1	5650	58	28.0	125
	682ZF	033590 (M)	Ball	115	50/60	13.9/13.3	.123/.117	.143/.147	1.00	1	2915	28	13.5	100
Spartan ECDC	1940SF	011032 (T)	Ball	12 DC	—	7.56	0.540	2.400†	—	—	3200	108	52.0	100
	1943SF	011035 (T)	Ball	26 DC	—	9.1	0.350	0.770†	—	—	3200	108	52.0	100
	1928SF	011036 (T)	Ball	26 DC	—	11.7	0.450	1.470†	—	—	3800	133	65.0	100
MIL 80 ECDC	1929SF	011066 (T)	Ball	12 DC	—	2.2	0.180	1.400†	—	—	3200	30	14.4	100
	1930SF	011067 (T)	Ball	12 DC	—	3.2	0.270	2.300†	—	—	3800	38	18.3	100
	1933SF	011068 (T)	Ball	12 DC	—	9.6	0.800	3.900†	—	—	5800	60	28.8	75
	1934SF	011070 (T)	Ball	26 DC	—	3.1	0.120	0.630†	—	—	3200	30	14.4	100
	1935SF	011064 (T)	Ball	26 DC	—	3.9	0.150	0.800†	—	—	3800	38	18.3	100
	1936SF	011072 (T)	Ball	26 DC	—	10.4	0.400	2.600†	—	—	6400	65	28.8	100
	1959SF	011073 (T)	Ball	48 DC	—	8.6	0.180	0.600†	—	—	4200	43	18.3	100
Saucer ECDC	1950SF	011056 (T)	Ball	12 DC	—	9.6	0.800	4.000†	—	—	3000	250	120.0	100
	1945SF	011058 (T)	Ball	26 DC	—	12.5	0.480	2.200†	—	—	3200	270	130.0	100
	1960SF	011071 (T)	Ball	26 DC	—	20.8	0.800	3.200†	—	—	3800	325	156.3	70
	1949SF	011075 (T)	Ball	48 DC	—	16.3	0.340	1.200†	—	—	3200	270	130.0	100
	1974SF	011087 (T)	Ball	48 DC	—	24.0	0.500	2.700†	—	—	3800	325	156.3	72

†DRFPI (X)/KS-505-CW-329XF **Altivar (high altitude motor) (L)=leadwire models (T)=terminal models (M)=MS connector ‡Starting Amps

MIL Grade Brushless DC Fans

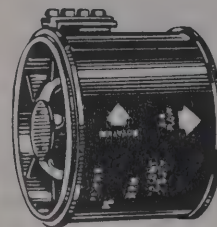
These Electronically Commutated Direct Current (ECDC) fans are designed to meet the tough requirements of defense and aerospace users, as well as others requiring top caliber performance. There are no brushes to wear out, so you get long life and low maintenance. Features low power consumption, low EMI/RFI, and high operating temperature capability (to 100° on some models). The rotational speed

(RPM) change is accomplished by simply varying the voltage. Included as a built-in, standard feature, the performance sensor monitors fan rotation. This, coupled with the optional Low Speed Warning Detector, ensures state of the art reliability.



Spartan ECDC Fan

These fans give up to 135 cfm (65 L/Sec) free air delivery at 12 VDC and 180 cfm (86.5 L/Sec) at 26 VDC. Designed to meet applicable military specs, these 12 and 26 VDC models withstand ambients from -54°C to 100°C. Dimensionally interchangeable with Muffin and Spartan AC and DC fans. Features built-in performance sensor and the same housing, ball bearing suspension system, and lubricant in proven high reliability AC designs. Low maintenance because there are no brushes to wear out. See the Selection Guide on page 97 for specifications. **Call your nearest Allied facility for pricing.**



AxiMax® 2H and 3 Air Movers

These miniature air movers meet all applicable military specifications and are made for airborne and other critical space/weight/performance applications. Features free air delivery from 10 cfm to 155 cfm (4.7 to 73 L/Sec), and life expectancies from 10,000 hours at 72°C, at 22,000 RPM. Withstands ambients up to 257°F (125°C). For 115 VAC, 1 phase, 400 Hz; 200 VAC, 3 phase, 400 Hz; 115 VAC, 1 phase, 60 Hz. **Size and Weight:** AxiMax 2H—2 × 1 1/2" (50.8 mm × 38.1 mm), 4 1/2 oz. (128g); AxiMax 3—3 × 2 5/16" (76.2 mm × 58.7 mm), 14 oz. (4 kg). Optional Altivar motors automatically increase speed with altitude. See selection guide on page 97 for specifications.

Stock No.	Mfr.'s Type	Model No.
598-1350*	011035	1943SF
598-1355*	011036	1928SF

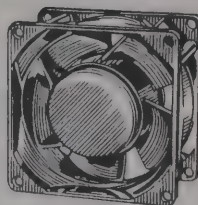
*Non-stocking item at Allied—Call Allied for price and delivery.

Stock No.	Mfr.'s Type	Model No.	Description
598-1170*	026955	415YH	AxiMax 2H
598-1190*	020372	341JH	AxiMax 3

*Non-stocking item at Allied—Call Allied for price and delivery.

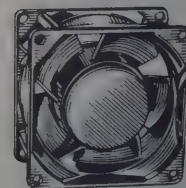
MIL 80 ECDC Fan

Dimensionally interchangeable with Sprite and MIL 80 AC fans, the MIL 80 ECDC models provide up to 65 cfm (28.8 L/Sec) free air delivery at 12 V and 26 VDC; and 38 cfm (18.3 L/Sec) at 48 VDC. 12, 26 and 48 VDC models are designed to meet all applicable military specs. Feature built-in fan performance sensor and low maintenance (without any brushes to wear out). Withstand ambients from -54°C to 100°C. Housing, ball bearing suspension system and lubricant are the same as those supplied in high reliability AC designs. See the Selection Guide on page 97 for specifications. **Call your nearest Allied facility for pricing.**



MIL 80 Fan

The MIL SPEC version of the Sprite fan provides free air delivery from 28 to 58 cfm (13 to 27 L/Sec). Features pressure building capability up to .5" (12.7 mm) H₂O at cut-off. Withstands ambients up to 257°F (125°C). Meets all applicable military specifications. See selection guide on page 97 for specifications.

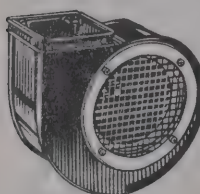


Stock No.	Mfr.'s Type	Model No.
598-1365*	011067	1930SF
598-1380*	011064	1935SF

*Non-stocking item at Allied—Call Allied for price and delivery.

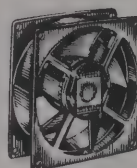
Stock No.	Mfr.'s Type	Model No.
598-1230*	033588	682ZF

*Non-stocking item at Allied—Call Allied for price and delivery.



Model D Blower

Model DRFP (X)/KS-505-CW-329XF. This rugged centrifugal blower, designed for defense/aerospace applications, provides free air delivery to 130 cfm (61 L/Sec). Features pressure building capability up to 2.0" (50.8 mm) H₂O at cut-off. Handles pressure building with relatively less noise than fans. QPL accepted under MIL-B-23071/9-001 and -002. Allow for extra lead time—not a stocking item. See the Selection Guide on page 97 for specifications. **Call your nearest Allied facility for pricing.** 598-1430. Type 033461.

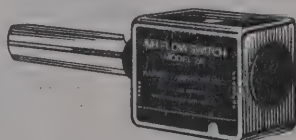


Spartan Fans

This MIL SPEC version of the famous Muffin fan gives 113 cfm (53 L/Sec) free air delivery, up to 188 cfm (89 L/Sec) for some 400 Hz models. Offers an efficient multi-slot motor, double shielded stainless steel ball bearings, and high pressure characteristics of up to .8" (20.3 mm) H₂O. These fans are dimensionally interchangeable with the Muffin fan, 4.71" sq. × 1.50" (119.6 mm × 38.1 mm). Venturi, spiders, and hub are single aluminum casting for shock and vibration resistance. Withstands ambients from -60° to +212°F (-54° to +100°C). Some models are lower. Lubricated for life. Meet all applicable military specs. See selection guide on page 97 for specifications.

Airflow Interlock Switch

Model 2A. This SPDT 5 amp, 250 VAC switch features 8 velocity ratings and interchangeable actuating vanes. Mounts on round and flat ducts with a single screw. Life expectancy is 500,000 operations. **Weight:** 4.5 oz. (0.13 kg).



Stock No.	Mfr.'s Type	Model No.
598-1470	035651	2B/1002
598-1471	035652	2B/1352
598-1472	035653	2B/1602
598-1461	035655	2B/2002

Stock No.	Mfr.'s Type	Model No.	Description
598-1015	020284	682YF	Spartan
598-1020	020027	682YF	Spartan
598-1025	020028	682YF	Spartan
598-1035	026984	810DF	Spartan
598-1040	026983	778YF	Spartan
598-1060*	026989	1395YF	Spartan

*Non-stocking item at Allied—Call Allied for price and delivery.

U.S. Government Specified Products

Mfr.'s Type	Fan/Blower	Connector	Slash Sheets	NSN
020743	Saucer 340ZH*	MS3112E8-4P	MIL-B-23071/1-001	4140-925-5188
020284	Spartan 682YF*	MS3112E8-4P	MIL-B-23071/7-001	4140-236-0730
021086	Propimax 3BM 473JH*	MS3112E8-4P	MIL-B-23071/8-001	4140-437-7858
033461	Model D*	MS3112E8-4P	MIL-B-23071/9-001	4140-143-9301
033037	MIL 901 1790YF*	Leads	MIL-B-23071/29-001	—

Accessories

Stock No.	Mfr.'s Type	Description	For	EACH
598-1480	272261	Finger Guard, mil. finish	Spartan, Spartan ECDC	15.70
598-1490	501578	Rim Mount Guard	Saucer, Saucer ECDC	35.45
598-1495	501579	Panel Mount Guard	Saucer, Saucer ECDC	35.20
598-1510	501577	Panel Mounting Clip	Saucer, Saucer ECDC	1.50
598-1515	271167*	Synclamp	Saucer, Saucer ECDC	14.85
598-1520	271166*	Reverse Synclamp	Saucer, Saucer ECDC	14.85
598-1530	476771	Finger Guard, mil. finish	Propimax 3, 3B, 3BM	88.00
598-1535	503206	Mounting Clip (3 required)	Propimax 3, 3B, 3BM	15.20
598-1540	502657	Finger Guard, mil. finish	MIL 80, MIL 80 ECDC	15.45
598-1545	502656	Finger Guard, stainless steel	MIL 80, MIL 80 ECDC	73.90
598-1550	020039	Determinator Kit (includes switch)	Airflow Switch	280.05
598-1555	476665	Terminal Boot (to cover terminals)	All products with terminals	5.65

*Also used on AxiMax and Propimax .3 per fan required.

Plastic Fan Filter Assemblies

Fig. A

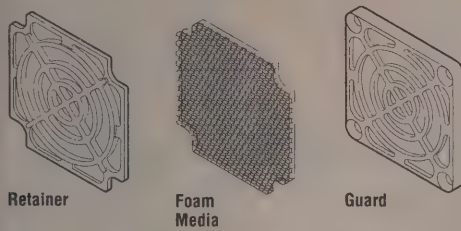
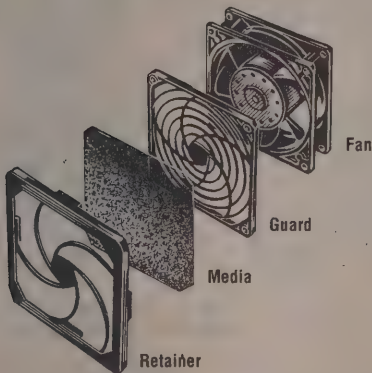


Fig. B



Fan-S offers a unique fan filter package consisting of a guard, foam filter media and media retainer, manufactured with UL listed 94-V0 material for 80 mm - 3/8", 92 mm - 3/8" and 120 mm - 4/2" tubeaxial fans for the removal of dust and contaminating particles. Installation is quick and simple: four mounting screws secure the guard portion, then snap on the retainer and filter media with no extra hardware or brackets required.

The two major features of our filter package are safety and low down time. When the filter media requires maintenance, simply taking the retainer off, the media is exposed for cleaning or replacement thus leaving the guard attached to the fan assuring employee protection and eliminating possible damage of the fan component during handling. This leaves the fan operational during servicing thus eliminating down time.

60 mm — 2 1/2" — Fig. A

Stock No.	Mfr.'s Type	Description	Size (mm) L x W x H	EACH		
				1-24	25-99	100-Up
609-0925	09250-G	Guard Only, Mounting Centers 1.97 inches	59.9 x 59.9 x 6.35	1.63	1.31	.85
609-0926	09250-R	Retainer Only	56.4 x 56.4 x 2.8	1.63	1.31	.85
609-0927*	09250-M/30	Foam Media, 30 Pores Per Inch	56.3 x 56.3 x 2.8	2.77	2.17	1.60
609-0928*	09250-M/45	Foam Media, 45 Pores Per Inch	56.3 x 56.3 x 2.8	2.77	2.17	1.60
609-0929*	09250-M/60	Foam Media, 60 Pores Per Inch	56.3 x 56.3 x 2.8	2.77	2.17	1.60
609-0930*	09250-M/100	Foam Media, 100 Pores Per Inch	56.3 x 56.3 x 2.8	2.77	2.17	1.60
609-0931	09250-F/30	Filter Assembly, Guard, Retainer, and Media, 30 Pores Per Inch	59.9 x 59.9 x 6.35	4.16	3.33	2.50
609-0932	09250-F/45	Filter Assembly, Guard, Retainer, and Media, 45 Pores Per Inch	59.9 x 59.9 x 6.35	4.16	3.33	2.50
609-0933	09250-F/60	Filter Assembly, Guard, Retainer, and Media, 60 Pores Per Inch	59.9 x 59.9 x 6.35	4.16	3.33	2.50
609-0934	09250-F/100	Filter Assembly, Guard, Retainer, and Media, 100 Pores Per Inch	59.9 x 59.9 x 6.35	4.16	3.33	2.50

80 mm — 3 1/8" — Fig. B

Stock No.	Mfr.'s Type	Description	Size (") H x W x T	MC	EACH		
					1-24	25-99	100-Up
609-5600	09325-F/30	Guard, Retainer, Media	3.29 x 3.29 x .39	2.81	3.14	2.62	2.42
609-5601	09325-F/45	Guard, Retainer, Media	3.29 x 3.29 x .39	2.81	3.14	2.62	2.42
609-5632	09325-F/60	Guard, Retainer, Media	3.29 x 3.29 x .39	2.81	3.14	2.62	2.42
609-5633	09325-F/100	Guard, Retainer, Media	3.29 x 3.29 x .39	2.81	3.14	2.62	2.42
609-5602	09325-G	Guard Only	3.15 x 3.15 x .26	2.81	1.17	1.03	.95
609-5603	09325-R	Retainer Only	3.29 x 3.29 x .39	—	1.43	1.32	1.22
609-5604*	09325-M/30*	30 Pores Per Inch Media Only	—	—	1.94	1.67	1.57
609-5605*	09325-M/45*	45 Pores Per Inch Media Only	—	—	1.94	1.67	1.57

92 mm — 3 5/8" — Fig. B

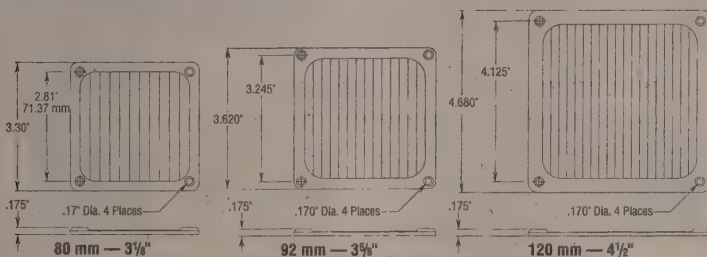
Stock No.	Mfr.'s Type	Description	Size (") H x W x T	MC	EACH		
					1-24	25-99	100-Up
609-5606	09362-F/30	Guard, Retainer, Media	3.80 x 3.80 x .39	3.25	3.40	2.80	2.39
609-5607	09362-F/45	Guard, Retainer, Media	3.80 x 3.80 x .39	3.25	3.40	2.80	2.39
609-5618	09362-F/60	Guard, Retainer, Media	3.80 x 3.80 x .39	3.25	3.40	2.80	2.39
609-5619	09362-F/100	Guard, Retainer, Media	3.80 x 3.80 x .39	3.25	3.40	2.80	2.39
609-5608	09362-G	Guard Only	3.62 x 3.62 x .25	3.25	1.50	1.30	1.14
609-5609	09362-R	Retainer Only	3.80 x 3.80 x .39	—	1.50	1.30	1.14
609-5610*	09362-M/30*	30 Pores Per Inch Media Only	—	—	2.38	2.11	1.84
609-5611*	09362-M/45*	45 Pores Per Inch Media Only	—	—	2.38	2.11	1.84

120 mm — 4 1/2" — Fig. B

Stock No.	Mfr.'s Type	Description	Size (") H x W x T	MC	EACH		
					1-24	25-99	100-Up
609-5612	09450-F/30	Guard, Retainer, Media	4.87 x 4.87 x .42	4.13	4.22	3.63	2.89
609-5613	09450-F/45	Guard, Retainer, Media	4.87 x 4.87 x .42	4.13	4.22	3.63	2.89
609-0945	09450-F/60	Guard, Retainer, Media	4.87 x 4.87 x .42	4.13	4.22	3.63	2.89
609-5654	09450-F/100	Guard, Retainer, Media	4.87 x 4.87 x .42	4.13	4.22	3.63	2.89
609-5614	09450-G	Guard Only	4.65 x 4.65 x .28	4.13	2.16	1.72	1.40
609-5615	09450-R	Retainer Only	4.87 x 4.87 x .42	—	2.16	1.72	1.40
609-5616*	09450-M/30*	30 Pores Per Inch Media Only	—	—	3.35	2.65	2.20
609-5617*	09450-M/45*	45 Pores Per Inch Media Only	—	—	3.35	2.65	2.20

*Per pack of 5.

Aluminum Fan Filters



These tested and proven filters provide maximum airflow with effective filtering. Mill and iridite finishes are offered to enhance EMI/RFI shielding as well as an anodized finish for aesthetic purposes. The tightly woven aluminum corrugated mesh screen is encased in a formed aluminum frame built for ruggedness and durability. The units are easily washed in a solvent or degreaser and can be mounted directly to the fan or to a panel.

80 mm — 3 1/8"

Stock No.	Mfr.'s Type	Finish	EACH		
			1-24	25-99	100-Up
609-5620	06325-B	Anodized (Black)	4.73	3.78	3.25
609-5621	06325-C	Iridite (Clear)	4.73	3.78	3.25
609-5622	06325-G	Iridite (Gold)	4.73	3.78	3.25
609-5623	06325-M	Mill (No Finish)	3.93	3.14	2.70

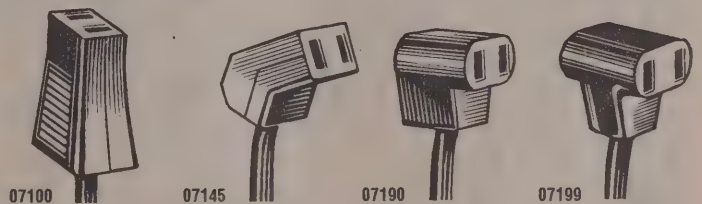
92 mm — 3 5/8"

Stock No.	Mfr.'s Type	Finish	EACH		
			1-24	25-99	100-Up
609-5624	06362-B	Anodized (Black)	5.23	4.18	3.59
609-5625	06362-C	Iridite (Clear)	5.23	4.18	3.59
609-5626	06362-G	Iridite (Gold)	5.23	4.18	3.59
609-5627	06362-M	Mill (No Finish)	4.34	3.47	2.98

120 mm — 4 1/2"

Stock No.	Mfr.'s Type	Finish	EACH		
			1-24	25-99	100-Up
609-5628	06450-B	Anodized (Black)	5.91	4.73	4.07
609-5629	06450-C	Iridite (Clear)	5.91	4.73	4.07
609-5630	06450-G	Iridite (Gold)	5.91	4.73	4.07
609-5631	06450-M	Mill (No Finish)	4.90	3.92	3.37

Fan Power Cords



Fan-S offers a complete line of high quality fan power cords designed to be used with tubeaxial fans. Available in four configurations. A strain relief is incorporated for added safety. Standard cord lengths are 12", 24", 36", 40", 50", 60" and 80".

Straight Style

Stock No.	Mfr.'s Type	Cord Length	EACH		
			1-24	25-99	100-Up
609-5640	07100-12	12"	1.58	1.42	1.30
609-5641	07100-24	24"	1.68	1.51	1.36
609-5642	07100-36	36"	2.13	1.71	1.47

45-Degree Style

Stock No.	Mfr.'s Type	Cord Length	EACH		
			1-24	25-99	100-Up
609-5643	07145-12	12"	1.58	1.40	1.28
609-5644	07145-24	24"	1.68	1.50	1.38
609-5645	07145-36	36"	1.80	1.62	1.46

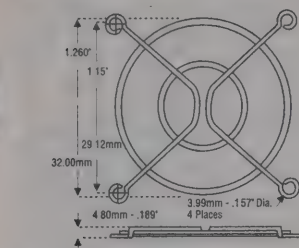
90-Degree Style

Stock No.	Mfr.'s Type	Cord Length	EACH		
			1-24	25-99	100-Up
609-5646	07190-12	12"	1.60	1.40	1.18
609-5647	07190-24	24"	1.68	1.51	1.36
609-5648	07190-36	36"	1.80	1.62	1.45

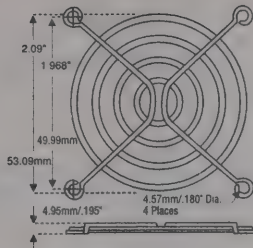
T-Plug Style

Stock No.	Mfr.'s Type	Cord Length	EACH		
			1-24	25-99	100-Up
609-5649	07199-12	12"	1.58	1.40	1.28
609-5650	07199-24	24"	1.70	1.45	1.38
609-5651	07199-36	36"	1.80	1.62	1.46

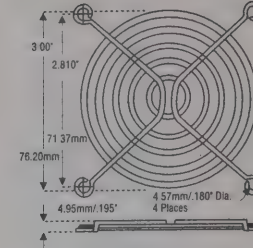
Wire Form Fan Guards



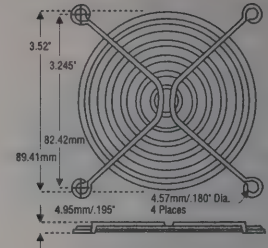
08149 — 40 mm - 1 1/2"
 Ribs — 1.60 mm/.063" Dia.; Rings — 1.60 mm/.063" Dia.



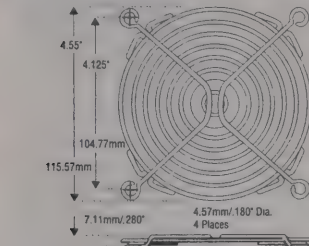
08147 — 60 mm - 2 1/2"
 Ribs — 1.60 mm/.063" Dia.; Rings — 1.60 mm/.063" Dia.



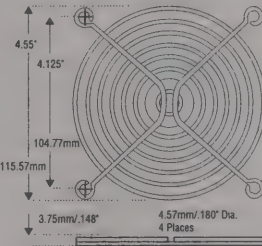
08172 — 80 mm - 3 1/8"
 Ribs — 1.60 mm/.063" Dia.; Rings — 1.60 mm/.063" Dia.



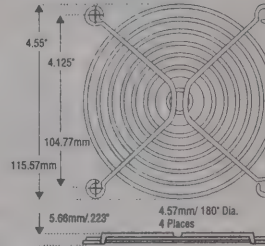
08174 — 92 mm - 3 5/8"
 Ribs — 1.60 mm/.063" Dia.; Rings — 1.60 mm/.063" Dia.



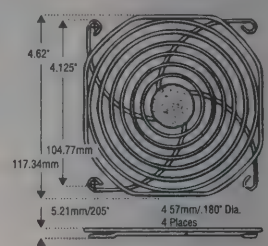
08128 — 120 mm - 4 1/2"
 Ribs — 2.31 mm/.091" Dia.; Rings — 1.80 mm/.071" Dia.



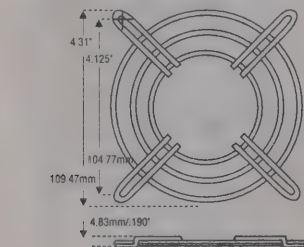
08129 — 120 mm - 4 1/2"
 Ribs — 2.31 mm/.091" Dia.; Rings — 1.80 mm/.071" Dia.



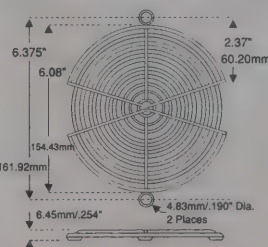
08170 — 120 mm - 4 1/2"
 Ribs — 1.80 mm/.071" Dia.; Rings — 1.80 mm/.071" Dia.



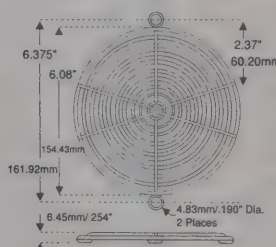
08141 — 120 mm - 4 1/2"
 Ribs — 2.03 mm/.080" Dia.; Rings — 1.60 mm/.063" Dia.



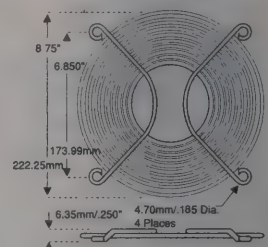
08146 — 120 mm - 4 1/2"
 Ribs — 1.60 mm/.063" Dia.; Rings — 1.60 mm/.063" Dia.



08125 — 150 mm - 6"
 Ribs — 2.31 mm/.091" Dia.; Rings — 1.80 mm/.071" Dia.



08126 — 150 mm - 6"
 Ribs — 2.31 mm/.091" Dia.; Rings — 1.80 mm/.071" Dia.



08127 — 254 mm - 10"
 Ribs — 2.31 mm/.091" Dia.; Rings — 2.31 mm/.091" Dia.

The 08 series wire form fan guards are designed for use with tubaxial fan sizes 40 mm - 1 1/2", 50 mm - 2", 60 mm - 2 1/2", 80 mm - 3 1/8", 92 mm - 3 5/8", 120 mm - 4 1/2", 127 mm - 5", 150 mm - 6" and 254 mm - 10". Our 3/16" and 1/4" maximum ring spacing designs were developed to assist our customers in complying with domestic and international safety agency requirements that are in effect today or that may develop in the future. We maintain the highest level of quality control by insuring that we use only the highest grade of materials that must pass a very stringent level of incoming inspection prior

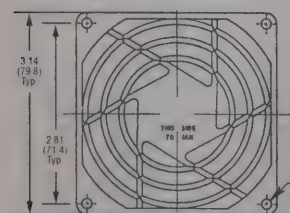
to being accepted to our manufacturing inventory. All wire form fan guards are inspected during the manufacturing process to assure compliance to our rigid specifications. They receive an additional final inspection prior to shipment that insures compliance with both mechanical and esthetic parameters. **Specifications.** All guards are designed to ensure safe operation and comply with U.L., CSA and VDE requirements. Nickel chrome plating is standard finish for all wire formed guards. All wire form fan guards listed above are also available in zinc or black electro deposit.

Stock No.	Mfr.'s Type	Use with Fan Size		Mounting Hole Centers (In.)	EACH		
		mm	in.		1-24	25-99	100-Up
609-0240	08125	150	6	6.38	5.49	4.38	3.77
609-5506	08126	150	6	6.38	5.32	4.25	3.66
609-5525	08127	254	10	6.85	9.01	7.24	6.22
609-5530	08128	120	4 1/2	4.13	3.62	2.61	2.61
609-5535	08129	120	4 1/2	4.13	2.96	2.38	2.02
609-5540	08170	120	4 1/2	4.13	2.15	1.82	1.71

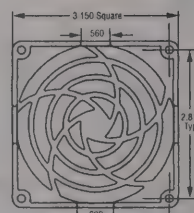
* Does not meet 1/4" max. ring spacing.

Stock No.	Mfr.'s Type	Use with Fan Size		Mounting Hole Centers (In.)	EACH		
		mm	in.		1-24	25-99	100-Up
609-5545	08172	80	3 1/8	2.81	1.54	1.38	1.27
609-5555	08174	92	3 5/8	3.25	1.60	1.49	1.39
609-5580	08141	120	4 1/2	4.13	2.20	1.96	1.78
609-5590	08147	60	2 1/2	1.97	2.30	1.98	1.68
609-5595	08149	40	1 1/2	1.15	2.00	1.83	1.56
609-5581*	08146	120	4 1/2	1.60	1.44	1.37	1.26

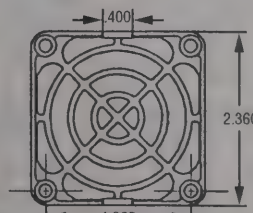
Plastic Fan Guards



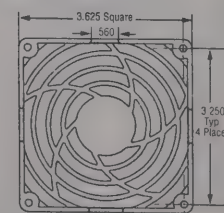
09080-G — 80 mm - 3 1/8"
 .120" Thick



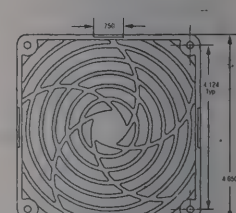
09325-G — 80 mm - 3 1/8"
 .257" Thick



09250-G — 60 mm - 2 1/2"
 .250" Thick



09362-G — 92 mm - 3 5/8"
 .250" Thick



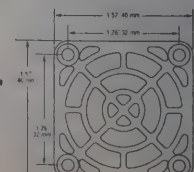
09450-G — 120 mm - 4 1/2"
 .279" Thick

The 09 Series of plastic fan guards offer customers maximum airflow while meeting compliance to safety regulations. The guard attaches to either side of the tubaxial fan without creating pure tones due to blade passing frequencies. Each guard was tooled with ring spacing that is in compliance with UL 1/4" probe requirements. The material is UL rated 94 V0 high impact plastic.

Stock No.	Mfr.'s Type	Fan Size		Mounting Hole Centers (In.)	EACH		
		mm	in.		1-24	25-99	100-Up
609-0250	09080-G	80	3 1/8	2.810	.84	.83	.72
609-5602	09325-G	80	3 1/8	2.810	1.02	.92	.85
609-0925	09250-G	60	2 1/2	1.960	.89	.85	.74

Stock No.	Mfr.'s Type	Fan Size		Mounting Hole Centers (In.)	EACH		
		mm	in.		1-24	25-99	100-Up
609-5608	09362-G	92	3 5/8	3.245	1.05	.95	.88
609-5614	09450-G	120	4 1/2	4.124	1.36	1.22	1.10
609-0260	09150-G	40	1 1/2	1.260	.87	.83	.72

09150-G — 40 mm - 1 1/2"
 .250" Thick



AC and DC Cooling Fans

GLOBE MOTORS

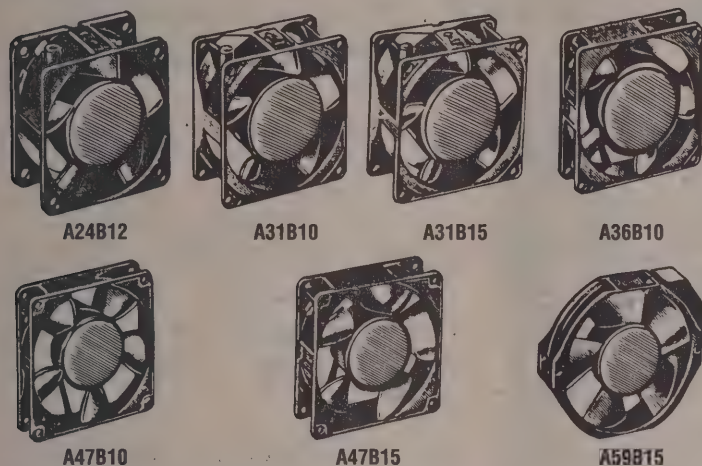
The Globe Motors commercial cooling fan product line provides cooling solutions for industrial applications from office copiers, micro-computers and laboratory instrumentation to industrial control cabinets.

Through the use of CAD/CAM and strict statistical process controls (SPC), our fans have

a life expectancy of 60,000 hours and a 0.005% field failure rate (50 parts per million).

Special care has been taken to design-in long operating life and low acoustical noise. All fans use precision, life-lubricated ball bearings.

AC Cooling Fans



Dimensions-Inches (mm): 2.36 sq. x 1.18 (60 sq. x 30)

Stock No.	Mfr.'s Type	Nominal Voltage VAC	Acoustic Noise dBA	RPM	CFM	EACH
965-0100	A24-B12A-15W3-000	115	28/29	2350/2900	8/10	20.60

Dimensions-Inches (mm): 3.15 sq. x 1.00 (80 sq. x 25)

965-0105	A31-B10A-15W3-000	115	37/40	2700/3250	17/20	20.60
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Dimensions-Inches (mm): 3.15 sq. x 1.50 (80 sq. x 38) on all models

965-0110	A31-B15A-15T1-000	115	23/25	1750/2050	18/21	20.60
965-0115	A31-B15A-15T2-000	115	27/31	2200/2500	21/25	20.60
965-0120	A31-B15A-15T3-000	115	33/38	2750/3250	28/33	20.60
965-0125	A31-B15A-15W1-000	115	23/25	1750/2050	18/21	20.60
965-0130	A31-B15A-15W2-000	115	27/31	2200/2500	21/25	20.60
965-0135	A31-B15A-15W3-000	115	33/38	2750/3250	28/33	20.60
965-0140	A31-B15A-23W1-000	230	23/26	1900/2300	19/24	20.60
965-0145	A31-B15A-23W2-000	230	29/34	2300/2700	22/27	20.60
965-0150	A31-B15A-23W3-000	230	33/38	2750/3300	27/33	20.60

Dimensions-Inches (mm): 3.64 sq. x 1.00 (92 sq. x 25) on all models

965-0155	A36-B10A-15T1-000	115	22/25	1600/2000	18/23	20.00
965-0160	A36-B10A-15T2-000	115	30/35	2300/2700	25/30	20.00
965-0165	A36-B10A-15T3-000	115	33/38	2650/3200	29/36	20.00
965-0170	A36-B10A-23T1-000	230	22/26	1700/2250	20/25	20.00
965-0175	A36-B10A-23T2-000	230	30/35	2300/2700	25/30	20.00
965-0180	A36-B10A-23T3-000	230	34/39	2650/3200	30/36	20.00

Dimensions-Inches (mm): 4.69 sq. x 1.00 (119 sq. x 25) on all models

965-0185	A47-B10A-15T2-000	115	29/30	2050/2250	52/57	20.25
965-0190	A47-B10A-15T3-000	115	34/38	2550/2950	68/77	20.25
965-0195	A47-B10A-23T2-000	230	29/30	2050/2300	52/58	20.25
965-0200	A47-B10A-23T3-000	230	34/38	2500/2850	65/74	20.25

Dimensions-Inches (mm): 4.69 sq. x 1.50 (119 sq. x 38) on all models

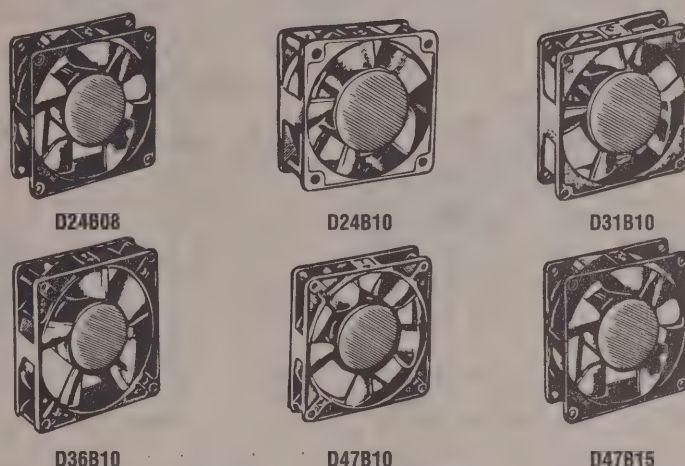
965-0205	A47-B15A-15T1-000	115	28/28	1650/1650	53/53	22.25
965-0210	A47-B15A-15T2-000	115	40/43	2600/2900	85/95	22.25
965-0215	A47-B15A-15T3-000	115	42/46	2750/3200	90/105	22.25
965-0220	A47-B15A-23T1-000	230	28/28	1770/1770	58/58	22.25
965-0225	A47-B15A-23T2-000	230	40/43	2600/2850	85/95	22.25
965-0230	A47-B15A-23T3-000	230	43/47	2750/3150	90/105	22.25

Dimensions-Inches (mm): 5.91 sq. x 6.78 x 1.50 Deep (150 sq. x 172 x 38) on all models

965-0235	A59-B15A-15T1-000	115	35/38	1450/1720	86/105	48.60
965-0240	A59-B15A-15T2-000	115	46/50	2360/2750	144/170	48.60
965-0245	A59-B15A-15T3-000	115	52/56	2800/3370	178/215	48.60
965-0250	A59-B15A-23T1-000	230	35/38	1450/1600	86/105	49.25
965-0255	A59-B15A-23T2-000	230	46/50	2420/2800	144/170	49.25
965-0260	A59-B15A-23T3-000	230	52/56	2870/3400	178/215	49.25

Note Capacitor Values: 115 VAC Series—3.0 mF at 250 VAC; 230 VAC Series—1.0 mF at 350 VAC. W=Lead wires. T=Terminals.

DC Cooling Fans



Dimensions-Inches (mm): 2.36 sq. x 0.79 (60 sq. x 20) on all models

Stock No.	Mfr.'s Type	Nominal Voltage VDC	Acoustic Noise dBA	RPM	CFM	EACH
965-0265	D24-B08A-04W3-000	12	22.0	3000	10.6	20.25
965-0270	D24-B08A-04W4-000	12	25.5	3800	14.1	20.25
965-0275	D24-B08A-05W3-000	24	22.0	3000	10.6	20.25
965-0280	D24-B08A-05W4-000	24	25.5	3800	14.1	20.25

Dimensions-Inches (mm): 2.36 sq. x 1.00 (60 sq. x 25) on all models

965-0285	D24-B10A-04W3-000	12	29	4000	16.6	16.25
965-0290	D24-B10A-04W4-000	12	33	4600	19.4	16.25
965-0295	D24-B10A-05W3-000	24	29	4000	16.6	16.25
965-0300	D24-B10A-05W4-000	24	33	4600	19.4	16.25

Dimensions-Inches (mm): 3.15 sq. x 1.00 (80 sq. x 25) on all models

965-0310	D31-B10A-04W2-000	12	23	2150	26.5	17.25
965-0315	D31-B10A-04W3-000	12	25	2450	30.0	17.25
965-0320	D31-B10A-05W2-000	24	23	2150	26.5	17.25
965-0325	D31-B10A-05W3-000	24	25	2450	30.0	17.25

Dimensions-Inches (mm): 3.62 sq. x 1.00 (92 sq. x 25) on all models

965-0330	D36-B10A-04W2-000	12	27	2300	35.3	18.00
965-0335	D36-B10A-04W3-000	12	36	3100	51.2	18.00
965-0340	D36-B10A-05W2-000	24	27	2300	35.3	18.00
965-0345	D36-B10A-05W3-000	24	36	3100	51.2	18.00

Dimensions-Inches (mm): 4.69 sq. x 1.00 (119 sq. x 25) on all models

965-0350	D47-B10A-04W2-000	12	34	1900	70	20.60
965-0355	D47-B10A-04W3-000	12	39	2400	90	20.60
965-0360	D47-B10A-05W2-000	24	34	1900	70	20.60
965-0365	D47-B10A-05W3-000	24	39	2400	90	20.60

Dimensions-Inches (mm): 4.69 sq. x 1.50 (119 sq. x 38) on all models

965-0410	D47-B15A-04T2-100	12	41.0	2650	97	20.00
965-0412	D47-B15A-04T3-100	12	42.5	2950	108	20.00
965-0414	D47-B15A-05T2-100	24	41.0	2650	97	20.00
965-0416	D47-B15A-05T3-100	24	42.5	2950	108	20.00
965-0418	D47-B15A-04W2-100	12	41.0	2650	97	20.00
965-0420	D47-B15A-04W3-100	12	42.5	2950	108	20.00
965-0422	D47-B15A-05W2-100	24	41.0	2650	97	20.00
965-0424	D47-B15A-05W3-100	24	42.5	2950	108	20.00

AC Fans

E47145 LR35886

Designed for maximum performance with the minimum noise in a wide range of sizes, from 3.15" square to 10" diameter with air flow ranges from 17 CFM to 560 CFM. Features include rugged cast aluminum venturi blocks for strength and cool operation. Impellers are made from thermoplastic with a UL 94V0 rating. All fans are impedance or thermal protected and are UL/CSA and VDE or TUV listed. Fans are designed for 10 years of continuous use without lubrication at 25°C (78°F).

4.69" x 4.69" x 1.5" AC Fans (Series 3-15-25XX/35XX/44XX Sleeve Bearings)

Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Fig.	AC Volts	dB Noise	RPM	CFM	EACH		
									1-24	25-49	50-Up
—	—	613-0320†	2450	D	115	21/24	1600/1900	60	20.10	18.98	17.55
—	—	613-0350†	2455	D	115	24/28	1700/2100	70	20.50	19.34	17.85
613-2532*	2532	613-2544†	2544	A	115	34/31	1700/1600	50	25.36	22.83	20.50
613-2537*	2537	613-2547†	2547	A	115	36/38	1950/2100	70	25.30	22.80	20.50
613-2538*	2538	613-2539†	2539	A	115	36/38	1950/2100	70	25.30	22.80	20.50
—	—	613-0340†	3450	D	115	34/38	2500/3000	100	21.78	19.07	18.90
613-3508*	3508	613-3510†	3510	A	115	44/47	2550/2900	100	25.40	22.85	20.55
613-3509*	3509	613-3511†	3511	A	230	44/47	2550/2900	100	39.46	26.55	24.87
613-4486*	4486	613-4488†	4488	B	115	51/53	2600/3100	110	32.65	29.40	26.45
613-4485*	4485	613-4487†	4487	B	230	51/53	2600/3100	110	34.00	30.60	27.55

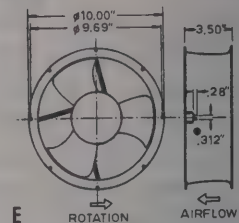
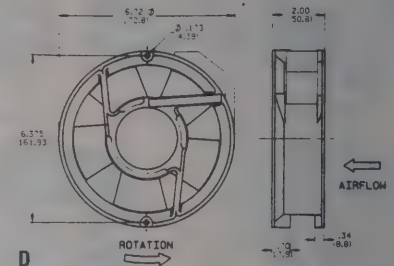
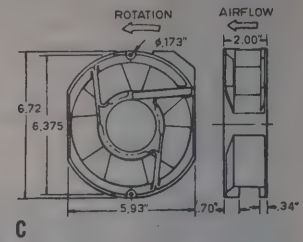
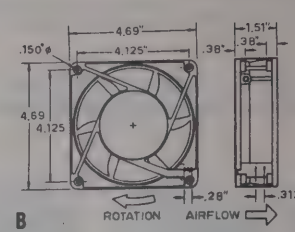
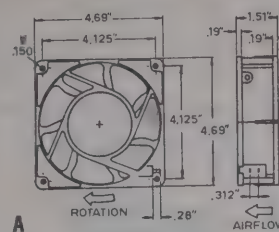
6.72" x 5.93" x 2" Stackable and 6.72" dia. x 2" Round AC Fans (Series 3-15-5XXX/6XXX)

Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Fig.	AC Volts	dB Noise	RPM	CFM	EACH		
									1-24	25-49	50-Up
613-6000•	6000	613-6050†	6050	C/D	115	38/42	1450/1700	120	71.10	63.99	57.60
613-5610•	5610	—	—	—	115	49/49	2400/2300	180	74.80	67.35	60.55
613-5617•	5617	613-5806†	5806	C/D	115	53/57	2900/3400	240	78.34	70.51	63.46
613-5618•	5618	613-5807†	5807	C/D	230	53/57	2900/3400	240	80.02	72.02	68.82

10" dia. x 2" AC Fans (Series 5-50-XXXX Ball Bearings)

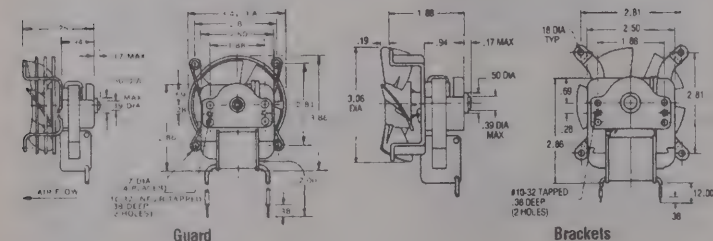
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Fig.	AC Volts	dB Noise	RPM	CFM	EACH		
									1-24	25-49	50-Up
613-0101*	0101	613-0100†	0100	E	115	49/53	1400/1650	560	68.25	64.48	60.00
613-5101*	5101	613-5100†	5100	E	230	49/53	1400/1650	560	90.95	81.85	73.65

*Lead Versions. †Terminal Versions. •Stackable. ‡Round.



Open Fans 30-47 CFM

— NEW —

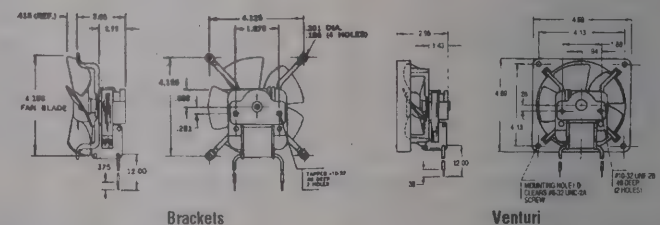


- ▶ Unit Bearing Motor
- ▶ Face Mounts 2.81" Center
- ▶ Can Also Be Rear Mounted
- ▶ Impedance Protected
- ▶ Durable, All Metal Construction
- ▶ Blades Keyed for True Alignment
- ▶ Weight: 19 Oz.
- ▶ Motor Recognized Under UL No. E30511A

Stock No.	Mfr.'s Type	Mount Type	Volts	RPM	CFM	EACH
613-1620	3-90-8442	Guard	115	2000/1950	30	23.55
613-1621	3-90-8807	Bracket	115	1950/1950	30	22.54
613-1622	3-90-8177	Guard	115	2650/3050	47	23.25
613-1626	3-90-8178	Bracket	230	2650/3050	47	24.11
613-1630	3-90-8364	Guard	115/230	2650/3050	47	26.51

Open Fans 105 CFM

— NEW —



- ▶ Super Quiet Operation — Noise Level Lower than Industry Standards
- ▶ Sturdy, All Metal Construction Provides Own Heat Sink
- ▶ Models Available With or Without Venturi and Guards
- ▶ Impedance Protected
- ▶ Face Mount on 4 1/4" Centers
- ▶ Motor Lubricated for Life
- ▶ Filter Pack and Replaceable Inserts Available
- ▶ Dual Voltage Units Available

Stock No.	Mfr.'s Type	Mount Type	Volts	RPM	CFM	EACH
613-1635	3-90-8201	Bracket	115	2500/2750	105	25.61
613-1636	3-90-8190	Venturi	115	2650/3000	105	27.71
613-1637	3-90-8207	Bracket	230	2500/2750	105	25.54
613-1638	3-90-8133	Venturi	230	2650/3000	105	27.64
613-1639	3-90-8356	Bracket	115/230	2500/2750	105	27.98
613-1640	3-90-8358	Venturi	115/230	2650/3000	105	29.93

Blowers

— NEW —

Advanced design forward-curved centrifugal blower models offer a variety of CFM ratings for specific air flow requirements and feature proven aerodynamic and acoustic qualities under peak operating conditions.

Stock No.	Mfr.'s Type	Volts	RPM	CFM	EACH
613-1650	3-20-1257	115	2675/3100	14	34.43
613-1651	3-20-1251	230	2675/3100	14	34.99

Stock No.	Mfr.'s Type	Volts	RPM	CFM	EACH
613-1652	3-20-1272	230	2675/3100	14	38.81
613-1653	3-90-8528	115	2750/3200	20	32.20
613-1654	3-90-8529	115	2750/3200	20	32.66
613-1655	3-90-8580	230	2750/3200	20	32.89
613-1656	3-15-2804	115	2450/3500	26	42.90
613-1657	3-15-2805	230	2450/2500	26	43.35
613-1658	3-15-2818	115	2400/2500	26	43.31
613-1659	3-15-2820	230	2400/2500	26	43.35

Globe Motor Division

Globe Motor Division approved modification centers in Dallas, Texas and San Jose, California are staffed with Globe factory-trained personnel, some of whom have been meeting customer needs for more than 20 years.

This experience allows us to provide additional services in the following areas:

- Computerized motor performance data under load and temperature conditions
- Machine shop capabilities
- Inventory support for small and large product needs
- Custom configuration of any Globe Motor
- Design assistance

While serving customers through 32 nationwide locations, we also provide engineering assistance through our Motorvation Hot Lines at 1-800-541-4105 or (in Texas only) 214-343-5000.

Give us a call. Hundreds of satisfied customers do each day. We're the company that cares about your needs.

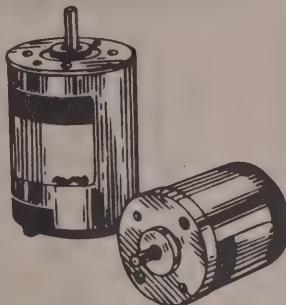
Motors for Industrial Applications

For computer peripherals, machine tools, instrumentation, robotics, office equipment and medical equipment.

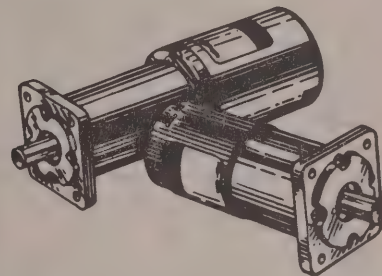
Manufacturers of everything from handheld tools to robotics are finding Globe is a competitive source for quality miniature motors, gearmotors and blowers.

When you need precise, reliable motion in minimum space, Globe can give you the design options and the quality you need to meet rigid material and testing standards.

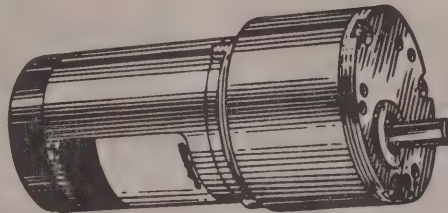
Strategically located distribution modification/assembly centers can make thousands of variations from our basic motor modules, including options in EMI filters, special mounting, tachometers, special couplings and lubrication. With 48-hour delivery of standard units direct from our distributors.



FRACTIONAL HP DC PLANETARY GERMOTORS
Standard Gear Ratios: from 4:1 to 46,656:1
Continuous Torque: from .75 oz. in. to 1,250 oz. in.

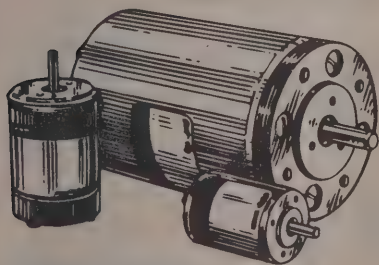


FRACTIONAL HP DC MOTORS
Continuous Torque: from .25 oz. in. to 43.0 oz. in.
Diameter: from 1.3" to 2.6"
VDC: 4, 6, 12, 24, 50, 115

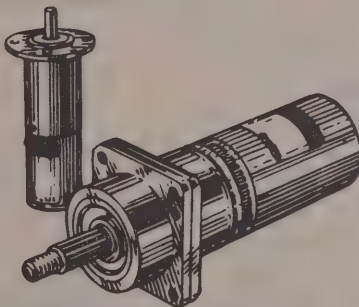


IM-13 SPUR GERMOTORS
Standard Gear Reduction: from 3.97:1 to 1,276.09:1
Continuous Torque: from 3.0 oz. in. to 60.0 oz. in.

Motors for Military Applications



FRACTIONAL HP DC PM MOTORS
Continuous Torque: from 0.20 oz. in. to 16.0 oz. in.
Diameter: from .75" to 2.25"
VDC: 5, 12, 27, 50, 115



FRACTIONAL HP DC PM GERMOTORS
Standard Gear Ratios: from 3.82:1 to 36,873:1
Continuous Torque: from 1.0 oz. in. to 550 lb. in.

For missile guidance and control systems, missile fin actuation, aircraft instruments, control systems, aircraft actuation systems, land track vehicles-in-line fuel pumps—transfer and bilge pumps—cabin ventilation.

Globe can help you meet rigorous quality, material and testing standards for motors, gearmotors, and blowers.

We can give you custom capabilities and options in actuators (linear and rotary), pumps with leakproof magnetic couplings, torquers, and blowers.

Strategically-located distribution modification/assembly centers can make thousands of variations from our basic motor modules, including options in EMI filters, special mounting, tachometers, special couplings and lubrications, with 48-hour delivery of standard units direct from our distributors.

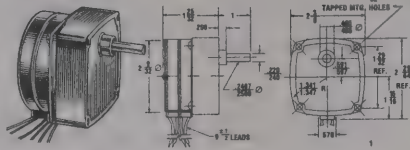


MINIATURE FANS AND BLOWERS
CFM: from 6 CFM to 600 CFM



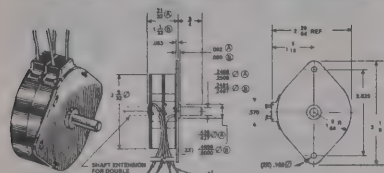
Stepping, Geared, SAS Series Motors

Geared SAS Series motors have step angles ranging from 0.0125° to 0.75° and torque ratings from 200 ounce inches (maximum gear train loading) to 35 ounce inches. All at 200 p/s. Gear trains are industrial quality throughout. Dual sleeve bearings. **Input Power:** 8 Watts. **Winding Resistance:** 36 ohms. **Weight:** 16 oz.



Stock No.	Mfr.'s Type	Step Angle	Output Speed @ 200 p/s (rpm)	Torque @ 200 p/s* (Oz.-in.)	Steps Per Rev.	EACH	
						1-24	25-Up
542-0005	SAS4004-001	.0125°	0.42	200†	28,800	56.50	52.14
542-0010	SAS4004-002	.0250°	0.83	200†	14,400	57.63	53.20
542-0015	SAS4004-009	.2000°	6.67	121	1,800	40.66	34.53
542-0020	SAS4004-014	.7500°	25.00	35	480	36.00	33.23

*Torque measured at nominal voltage with L/R drive. †Max. gear train loading.



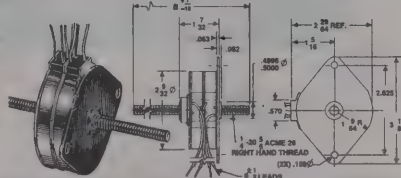
Stepping, Direct Drive, SAS Series Motors

Industrial quality, economical SAS Series direct stepping motors have excellent torque/size ratio: 7.5 ounce inches at 4-5 p/s. Unipolar operation at 12 VDC is standard. Step angle is 7.5°. Dual sleeve bearings. 48 steps per revolution. **2-Phase Holding Torque (oz.-in.):** 10.5. **Winding Resistance:** 36 Ohms. **Weight:** 8 oz.

Stock No.	Mfr.'s Type	Steps Angle	Rated Torque @ 4-5 p/s (Oz.-in.)	Input Power (Watts)	Rotor Inertia (Oz.-in.)	EACH	
						1-24	25-Up
542-0025	SAS4003-002	7.5°	7.5	8	0.17	26.83	24.76

Stepping, Linear Actuator, SLS Series Actuator

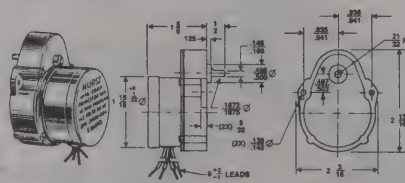
Stepping SLS Linear actuator has a reversible, permanent magnet rotor with unipolar operations. Rotor assembly features sintered bronze nut for extended life. Nut accepts 1/4" diameter, .048 pitch Acme screw that provides linear motion for pushing, pulling, lifting and positioning applications. Standard 8" screw with maximum travel of 6.75" and maximum thrust of 15 pounds. Ball bearings. **Winding Resistance:** 25 ohms. **Weight:** 10.5 oz. (with screw).



Stock No.	Mfr.'s Type	Steps Inch	Max. Rec. Load	Input Power (Watts)	Nominal Voltage (DC)	EACH	
						1-24	25-Up
542-0030	SLS4014-002	1000	15 lbs.	11.5	12	81.77	75.48

Stepping, Geared, AS and ABS Series Motors

Geared AS and ABS stepping motors have a die cast housing, hardened steel gears and pinions running on ground, and hardened steel studs. No plastic or fiber parts are used. These dependable motors are used in precision instruments and computer peripherals. **Winding Resistance:** Models 3004-1001 and -008, 100 ohms; Models 3008-005, 53 ohms.



Stock No.	Mfr.'s Type	Steps Angle	Output Speed @ 200 p/s (rpm)	Torque @ 200 p/s* (Oz.-in.)	Input Power (Watts)	EACH	
						1-24	25-Up
542-0035	AS3004-001	.025°	0.83	150†	3.5	54.66	50.46
542-0040	ABS3008-003	.200°	6.70	86	4.5	48.83	45.07
542-0045	ABS3008-005	.750°	25.00	23	4.5	44.71	41.27
542-0050	AS3004-008	1.800°	60.00	5	3.5	47.16	43.53

*Torque measured at nominal voltage with L/R drive. †Max. gear train loading.

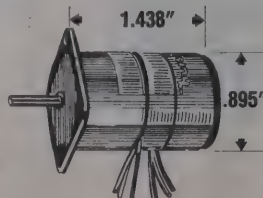
SUPERSMALL Synchronous Motor

This instrument-grade, SUPERSMALL, synchronous motor is reversible and operates at 720 rpm on 115 VAC, 60 Hz. It weighs just 2.1 ounces and is less than an inch in diameter.

The new BA Series synchronous motor is a practical solution to control problems in equipment where space is at a premium. It also is suited to products employing variable frequency AC controls. **Note:** Capacitor is furnished with motor, 115 V.

Model: BA. **Speed at Output Shaft:** 720 rpm. **Rated Torque:** 0.625 oz.-in. **Input Power:** 1.5 watts. **Capacitor Value:** 0.15 ±10%, 400 VDC. **Full Load Temperature Rise:** 30°C. **Weight:** 2.1 oz. **Shaft Bearing:** Sleeve.

542-0200. Type BA 4201-001. 1-24.....EACH 40.66
25-Up.....EACH 37.53



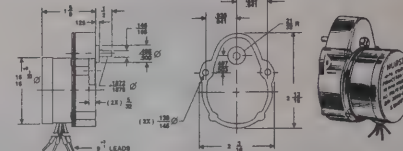
Stepping Motor Control with Display

Model EPC-015. General purpose controller with step frequency display. Operates from a single external 6-24 VDC power supply. Will drive 4-phase stepping motors requiring up to 1.0 Amp per phase. Also includes adjustable step frequency, and phase driver disable control. Continuous, single step, or jog operation. Bi-directional control.

542-0060. 1-24.....EACH 234.67
25-Up.....EACH 211.20



Synchronous, Geared, A and AB Series Motors

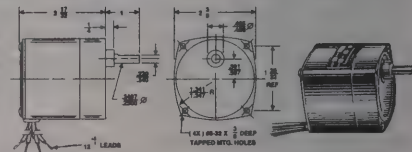


Permanent magnet, reversible, A and AB Series synchronous motors have gear trains engineered for heavy-duty industrial use. Both pinion and gear teeth are case hardened for wear resistance and rotate upon hardened and ground steel studs. No plastic or fiber parts are used. Capacitor furnished. **Weight:** 11 oz.

Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz.-in.)	Input Power (Watts)	Cap. Value (mfd)	EACH	
						1-9	10-Up
542-0075	A3002-001	1	150	3	.25	41.50	38.30
542-0080	A3002-003	2	131	3	.25	48.00	44.30
542-0085	A3002-005	4	110	3	.25	49.86	45.84
542-0090	AB3006-002	6	105	5	.50	59.16	54.61
542-0095	AB3006-004	10	88	5	.50	46.00	42.46
542-0100	AB3006-009	30	29	5	.50	47.16	43.53
542-0105	AB3006-013	60	16	5	.50	44.16	40.76

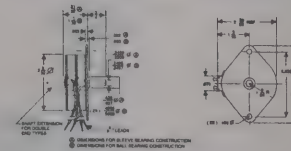
Synchronous, Geared, T Series Motors

Enclosed in a rugged die cast housing, T Series permanent magnet, reversible, synchronous motors have a rated torque of 233 ounce-inches (maximum gear train loading) at 2 rpm. Sleeve bearings. 24 poles. When operated at 60 Hz, rotor speed is 300 rpm. Capacitor is furnished. 115 V, 60 Hz.



Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz.-in.)	Input Power (Watts)	Cap. Value (mfd)	EACH	
						1-9	10-Up
542-0115	T2602-004	2	233	7	.68	72.33	66.76
542-0120	T2602-013	6	210	7	.68	76.00	70.15
542-0125	T2602-015	120	16	7	.68	75.33	69.53

Synchronous, Direct Drive, SA Series Motors

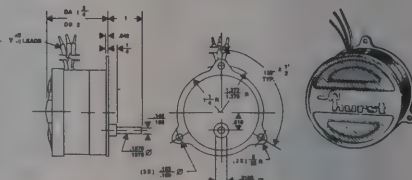


Compact, low cost SA Series direct drive, reversible AC, synchronous motors have a rotor speed of 300 rpm when operated at 60 Hz. Sleeve bearings. Full load temperature rise is 28°C. These permanent magnet motors are ideal for use where space is at a premium and dependable, long-life service is demanded. Capacitor furnished. **Weight:** 8 oz.

Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz.-in.)	Input Power (Watts)	Cap. Value (mfd)	EACH	
						1-9	10-Up
542-0130	SA4001-001	300	6	5	.50	31.00	28.61

Hysteresis Synchronous, Geared, Reversible, DA Series

Heavy duty DA Series gearmotors maintain timing accuracy and are available in shaft speeds from 1 to 120 rpm. Recommended for applications requiring high gear torque rating. Rated pull-out torque is as great as 100 ounce inches (maximum gear train loading) at 1 rpm. Capacitor furnished. All motors are 115V, 60 Hz models. **Temperature Rise:** 40°C above ambient. **Weight:** 14 oz.



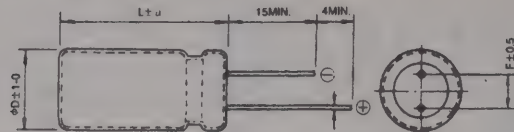
Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz.-in.)	Input Power (Watts)	Cap. Value (mfd)	EACH	
						1-9	10-Up
542-0135	DA990182	1	100.00	5	.50	55.66	51.38
542-0140	DA990181	2	75.00	5	.50	63.50	58.61
542-0145	DA990184	4	37.50	5	.50	64.33	59.38
542-0150	DA990185	6	25.00	5	.50	62.66	57.84
542-0155	DA990195	30	5.00	5	.50	59.33	54.76
542-0160	DA990263	60	2.50	5	.50	60.52	55.86
542-0165	DA990200	120	1.25	5	.50	45.47	40.88

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Radial Lead Electrolytic Capacitors



Compact, electrolytic capacitors for original equipment or replacement use in all kinds of communications equipment. Operating Temperature: -40° to +85°C. Capacitance Tolerance: ±20%. Life: 2000 hours at +85°C. Rated Working Voltage Range: 10 VDC to 100 VDC. Capacitance Range: 0.47 mfd to 10,000 mfd. Straight leads. Solvent proof type, long life.

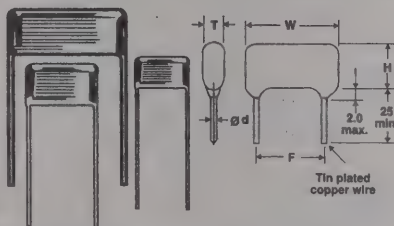
Lead Spacing and Lead Diameter $L \leq 20.0a = 1.5$, $L > 20.0a = 2$

Body Dia.	ØD	5.0	6.3	8.0	10.0	13.0	16.0	18.0
Lead Dia.	Ød	0.5	0.5	0.6	0.6	0.6	0.8	0.8
Lead Spacing	F	2.0	2.5	3.5	5.0	5.0	7.5	7.5

Stock No.	Mfr.'s Type	Cap µF	WV DC	Dimensions (mm)		EACH			
				D	L	1-99	100-499	500-999	1000-9999
998-1327	10MR100	100	10	5.0	11.0	.13	.12	.10	.08
998-1345	10MR220	220	10	6.3	11.0	.16	.15	.12	.10
998-1378	10MR470	470	10	8.0	11.5	.22	.20	.18	.15
998-1382	10MR1000	1000	10	10.0	16.0	.30	.28	.24	.22
998-1385	10MR2200	2200	10	12.5	20.0	.53	.49	.42	.36
998-1388	10MR3300	3300	10	12.5	25.0	.68	.61	.55	.47
998-1391	10MR4700	4700	10	16.0	25.0	.87	.79	.69	.59
998-1393	10MR6800	6800	10	16.0	31.5	1.31	1.12	.97	.84
998-1398	10MR10000	10000	10	18.0	35.5	1.75	1.52	1.32	1.13
998-1356	16MR330	330	16	8.0	11.5	.22	.20	.17	.15
998-1339	16MR470	470	16	10.0	12.5	.30	.28	.23	.20
998-1341	16MR1000	1000	16	10.0	20.0	.40	.36	.31	.27

Type MDD Film Capacitors

- ▶ Non-Inductive Construction
- ▶ Non-Combustible, Epoxy Coated
- ▶ Capacitance Tolerance ±10%
- ▶ 250 VDC Rated (130 VAC), 400 VDC (200 VAC), and 630 VDC (250 VAC)
- ▶ MDD Series Crosses to Panasonic ECQ-XXXXXZ, S Series



These resin coated metallized polyester film capacitors are rated 250 VDC and 130 VAC at 60 Hz. Capacitance Tolerance: ±10%. Operating Temperature: -40°C to +85°C. Non-inductive construction. Non-combustible and epoxy coated. Insulation Resistance: Less than 0.33 µF ≥ 10,000 MΩ × µF. Dissipation Factor: ≤ 1% at 1 kHz. Stress Voltage Test: Rated voltage × 1.5 for one minute.

250 VDC (130 VAC at 60 Hz)

Stock No.	Mfr.'s Type	Mfd.	Dimensions (mm)					EACH			
			W max.	T max.	H max.	d max.	F max.	1-99	100-499	500-999	1000-4999
998-2101	MDD-22E103K	0.010	12.5	5.0	9.0	0.6	10.0	.18	.16	.14	.13
998-2102	MDD-22E123K	0.012	12.5	5.0	9.5	0.6	10.0	.18	.16	.14	.13
998-2103	MDD-22E153K	0.015	12.5	5.0	9.5	0.6	10.0	.18	.16	.14	.13
998-2104	MDD-22E183K	0.018	12.5	5.0	9.5	0.6	10.0	.18	.16	.14	.13
998-2105	MDD-22E223K	0.022	12.5	5.0	9.5	0.6	10.0	.18	.16	.14	.13
998-2106	MDD-22E273K	0.027	12.5	5.0	9.5	0.6	10.0	.18	.16	.14	.13
998-2107	MDD-22E333K	0.033	12.5	5.0	9.5	0.6	10.0	.18	.16	.14	.13
998-2108	MDD-22E393K	0.039	12.5	5.0	9.5	0.6	10.0	.18	.16	.14	.13
998-2109	MDD-22E473K	0.047	12.5	5.0	9.5	0.6	10.0	.15	.14	.12	.11
998-2110	MDD-22E563K	0.056	12.5	5.5	9.5	0.6	10.0	.18	.16	.14	.13
998-2111	MDD-22E683K	0.068	12.5	5.5	9.5	0.6	10.0	.17	.15	.14	.13
998-2112	MDD-22E823K	0.082	12.5	5.5	10.5	0.6	10.0	.17	.15	.14	.13
998-2113	MDD-22E104K	0.100	12.5	5.5	11.0	0.6	10.0	.16	.15	.14	.13
998-2114	MDD-22E124K	0.120	17.5	5.5	10.0	0.6	15.0	.21	.19	.17	.16
998-2115	MDD-22E154K	0.150	17.5	6.0	10.5	0.6	15.0	.21	.19	.18	.17
998-2116	MDD-22E184K	0.180	17.5	6.0	11.0	0.6	15.0	.23	.21	.19	.18
998-2117	MDD-22E224K	0.220	17.5	6.5	12.5	0.6	15.0	.24	.22	.20	.18
998-2118	MDD-22E274K	0.270	23.0	6.0	11.5	0.8	20.0	.29	.26	.24	.22
998-2119	MDD-22E334K	0.330	23.0	6.0	12.0	0.8	20.0	.30	.28	.25	.22
998-2120	MDD-22E394K	0.390	23.0	6.5	12.5	0.8	20.0	.34	.31	.28	.24
998-2121	MDD-22E474K	0.470	23.0	7.0	13.0	0.8	20.0	.33	.30	.27	.23
998-2122	MDD-22E564K	0.560	23.0	7.5	13.5	0.8	20.0	.38	.34	.31	.27
998-2123	MDD-22E684K	0.680	23.0	8.5	14.0	0.8	20.0	.40	.37	.34	.29
998-2124	MDD-22E824K	0.820	31.0	7.5	13.5	0.8	27.5	.46	.42	.38	.33
998-2125	MDD-22E105K	1.000	31.0	8.5	14.0	0.8	27.5	.47	.43	.39	.33
998-2126	MDD-22E125K	1.200	31.0	8.5	16.5	0.8	27.5	.57	.52	.48	.41
998-2127	MDD-22E155K	1.500	31.0	9.5	17.0	0.8	27.5	.67	.61	.56	.48
998-2128	MDD-22E185K	1.800	31.0	9.5	19.5	0.8	27.5	.72	.66	.60	.52
998-2129	MDD-22E225K	2.200	31.0	10.5	20.5	0.8	27.5	.79	.72	.66	.57

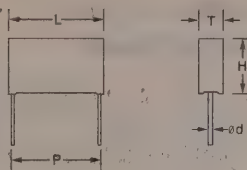
Stock No.	Mfr.'s Type	Cap µF	WV DC	Dimensions (mm)		EACH			
				D	L	1-99	100-499	500-999	1000-9999
998-1310	16MR2200	2200	16	12.5	25.0	.75	.67	.59	.50
998-1389	16MR3300	3300	16	16.0	25.0	.96	.88	.76	.65
998-1312	16MR4700	4700	16	16.0	31.5	1.34	1.17	1.17	.87
998-1338	16MR6800	6800	16	18.0	35.5	1.98	1.52	1.20	1.11
998-1324	25MR47	47	25	5.0	11.0	.13	.12	.10	.08
998-1358	25MR100	100	25	6.3	11.0	.16	.15	.12	.11
998-1334	25MR220	220	25	8.0	11.5	.23	.21	.19	.16
998-1357	25MR330	330	25	10.0	12.5	.30	.28	.23	.20
998-1359	25MR470	470	25	10.0	16.0	.38	.35	.30	.26
998-1383	25MR1000	1000	25	12.5	20.0	.54	.49	.42	.36
998-1386	25MR2200	2200	25	16.0	25.0	.53	.49	.42	.36
998-1390	25MR3300	3300	25	16.0	31.5	1.44	1.25	1.09	.93
998-1392	25MR4700	4700	25	18.0	35.5	1.88	1.63	1.41	1.21
998-1362	35MR33	33	35	5.0	11.0	.12	.11	.09	.08
998-1374	35MR100	100	35	8.0	11.5	.19	.17	.15	.13
998-1335	35MR220	200	35	10.0	12.5	.30	.28	.23	.20
998-1375	35MR330	330	35	10.0	16.0	.38	.35	.31	.28
998-1380	35MR470	470	35	10.0	20.0	.57	.51	.44	.36
998-1380	35MR1000	1000	35	12.5	25.0	.79	.63	.56	.51
998-1387	35MR2200	2200	35	16.0	31.5	1.44	1.25	1.09	.95
998-1363	35MR3300	3300	35	18.0	35.5	1.90	1.52	1.32	1.13
998-1307	50MR22	22	50	5.0	11.0	.13	.12	.10	.09
998-1325	50MR47	47	50	6.3	11.0	.16	.15	.12	.11
998-1352	50MR100	100	50	8.0	11.5	.22	.20	.18	.17
998-1347	50MR220	220	50	10.0	16.0	.48	.37	.30	.27
998-1376	50MR330	330	50	10.0	20.0	.45	.41	.36	.33
998-1321	50MR470	470	50	12.5	20.0	.61	.56	.49	.45
998-1354	50MR1000	1000	50	16.0	25.0	1.02	.89	.78	.72
998-1343	50MR2200	2200	50	18.0	35.5	1.74	1.52	1.33	1.24
998-1369	63MR10	10	63	5.0	11.0	.12	.11	.09	.08
998-1370	63MR22	22	63	6.3	11.0	.18	.14	.11	.10
998-1371	63MR33	33	63	6.3	11.0	.15	.14	.12	.11
998-1372	63MR47	47	63	8.0	11.5	.22	.21	.17	.16
998-1373	63MR100	100	63	10.0	12.5	.32	.30	.26	.24
998-1379	63MR220	220	63	10.0	20.0	.56	.45	.35	.31
998-1384	63MR330	330	63	12.5	20.0	.63	.53	.46	.43
998-1395	63MR470	470	63	12.5	25.0	.89	.79	.70	.67
998-1329	100MR0R47	.47	100	5.0	11.0	.16	.14	.12	.11
998-1397	100MR1R0	1	100	5.0	11.0	.12	.11	.09	.08
998-1330	100MR2R2	2.2	100	5.0	11.0	.12	.11	.09	.08
998-1331	100MR3R3	3.3	100	5.0	11.0	.15	.12	.10	.08
998-1337	100MR4R7	4.7	100	5.0	11.0	.13	.12	.10	.08

400 VDC/200 VAC

Stock No.	Mfr.'s Type	Mfd.	Dimensions (mm)					EACH			
			W max.	T max.	H max.	d max.	F max.	1-99	100-499	500-999	1000-4999
998-0401	MDD-22G103K	0.010	14.0	5.0	9.0	0.6	10.5	.19	.18	.16	.15
998-0402	MDD-22G123K	0.012	14.0	5.5	9.0	0.6	10.5	.19	.18	.16	.15
998-0403	MDD-22G153K	0.015	14.0	5.0	9.5	0.6	10.5	.19	.18	.16	.15
998-0404	MDD-22G183K	0.018	14.0	5.5	9.0	0.6	10.5	.20	.18	.16	.14
998-0405	MDD-22G223K	0.022	14.0	5.5	10.0	0.6	10.5	.22	.20	.18	.15
998-0406	MDD-22G273K	0.027	14.0	5.5	10.5	0.6	10.5	.27	.23	.20	.18
998-0407	MDD-22G333K	0.033	14.0	6.0	11.0	0.6	10.5	.27	.23	.20	.18
998-0408	MDD-22G393K	0.039	14.0	6.5	11.5	0.6	10.5	.28	.26	.22	.20
998-0409	MDD-22G473K	0.047	14.0	7.0	12.0	0.6	10.5	.31	.29	.24	.21
998-0410	MDD-22G563K	0.056	17.0	6.5	11.0	0.6	13.5	.30	.28	.23	.20
998-0411	MDD-22G683K	0.068	17.0	7.0	12.0	0.6	13.5	.32	.28	.25	.21
998-0412	MDD-22G823K	0.082	17.0	7.5	12.5	0.6	13.5	.31	.29	.25	.21
998-0413	MDD-22G104K	0.100	17.0	7.5	14.5	0.6	13.5	.33	.31	.27	.25
998-0414	MDD-22G124K	0.120	17.0	8.5	15.5	0.6	13.5	.33	.30	.26	.22
998-0415	MDD-22G154K	0.150	17.0	9.0	16.5	0.6	13.5	.38	.35	.30	.26
998-0416	MDD-22G184K	0.180	17.0	10.0	17.0	0.6	13.5	.43	.39	.34	.29
998-0417	MDD-22G224K	0.220	24.5	8.5	15.5	0.8	20.5	.45	.41	.35	.30
998-0418	MDD-22G274K	0.270	24.5	9.0	16.5	0.8	20.5	.52	.48	.41	.35
998-0419	MDD-22G334K	0.330	24.5	10.0	17.0	0.8	20.5	.56	.52	.45	.38
998-0420	MDD-22G394K	0.390	29.5	9.5	16.5	0.8	25.5	.58	.53	.50	.45
998-0421	MDD-22G474K	0.470	29.5	10.0	17.5	0.8	25.5	.62	.56	.49	.42
998-0422	MDD-22G564K	0.560	29.5	11.0	18.0	0.8	25.5	.73	.65	.57	.49
998-0423	MDD-22G684K	0.680	29.5	12.0	19.0	0.8	25.5	.93	.84	.74	.63
998-0424	MDD-22G824K	0.820	29.5	13.0	21.0	0.8	25.5	1.19	1.03	.90	.77
998-0425	MDD-22G105K	1.000	29.5	15.0	22.0	0.8	25.5	1.25	1.09	.94	.81

Type CF-KC Film Capacitors

UL, CSA, VDE, SEMCO SEV, EIA/MILCO, DEMKO and NEMKO recognized for across-the-line, antenna-isolation and line-bypass capacitors. These metallized plastic film capacitors are non-inductively wound in a plastic case and sealed in resin. The radial leads are tin plated copper. Markings are on the top and side in approved standards. **Temperature Range:** -40°C to +85°C. **Rated Voltage:** 250 VAC. **Tolerance:** 20%. **Dissipation Factor:** 0.01 or less at 25°C (1 kHz).

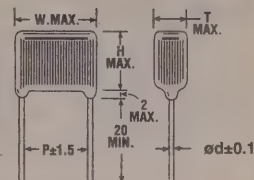


Stock No.	Mfr.'s Type	Dimensions (mm)					EACH			
		T	H	L	P	ød	1-99	100-499	500-999	1000-4999
998-1100	CF-KC22E103M	4.5	11.0	17.5	15.0	0.6	.48	.38	.32	.30
998-1102	CF-KC22E153M	4.5	11.0	17.5	15.0	0.6	.48	.38	.34	.32
998-1104	CF-KC22E223M	5.0	12.0	17.5	15.0	0.6	.50	.40	.35	.32
998-1106	CF-KC22E333M	6.0	13.5	17.5	15.0	0.6	.50	.40	.33	.32
998-1108	CF-KC22E473M	7.0	14.5	17.5	15.0	0.6	.50	.40	.33	.30
998-1110	CF-KC22E683M	7.5	15.5	17.5	15.0	0.6	.57	.45	.38	.35
998-1112	CF-KC22E104M	9.0	17.0	18.0	15.0	0.8	.62	.49	.43	.40
998-1114	CF-KC22E154M	7.5	16.5	25.5	22.5	0.8	.69	.55	.46	.42
998-1116	CF-KC22E224M	9.0	18.0	25.5	22.5	0.8	.78	.62	.52	.47
998-1118	CF-KC22E334M	9.5	18.5	30.5	27.5	0.8	1.00	.80	.67	.59
998-1120	CF-KC22E474M	11.5	20.5	30.5	27.5	0.8	1.22	.97	.81	.73
998-1122	CF-KC22E684M	13.5	23.5	30.5	27.5	0.8	1.58	1.26	1.05	.98
998-1124	CF-KC22E105M	16.5	27.0	30.5	27.5	0.8	2.04	1.63	1.36	1.25

Type CF-MH Film Capacitors

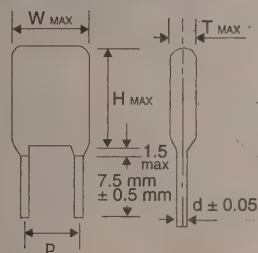
► UL, CSA and European Safety Standard Film Capacitors

UL, CSA, VDE, and SEMCO recognized for across-the-line, Type CF-MH capacitors are constructed of metallized plastic film enclosed in a noncombustible resin. **Temperature Range:** -40°C to +85°C. **Capacitance Range:** 0.01 µF to 0.22 µF. **Capacitance Tolerance:** ±20%. **Rated Voltage:** 250 VAC (50, 60 Hz). **Withstand Voltage:** Between terminals, 1000VAC for 1 min.; between terminals and enclosure, 2000 VAC for 1 min. **Insulation Resistance:** Between terminals, more than 12,000 MΩ at 100 VDC after 1 min. **Dissipation Factor:** 1% or less than 1% (1 kHz 25°C).



Stock No.	Mfr.'s Type	Cap.	Dimensions (mm)					EACH			
			T	H	W	P	ød	1-99	100-499	500-999	1000-4999
998-0002	CF-MH22E103M	0.010	7.5	12.5	18.0	13.5	0.65	.35	.28	.25	.23
998-0003	CF-MH22E153M	0.015	7.5	14.0	18.0	13.5	0.65	.43	.35	.29	.27
998-0004	CF-MH22E223M	0.022	7.5	13.5	20.0	15.5	0.65	.46	.37	.34	.31
998-0005	CF-MH22E333M	0.033	8.5	16.0	20.0	15.5	0.65	.55	.44	.40	.38
998-0006	CF-MH22E473M	0.047	7.5	14.0	26.5	21.5	0.65	.59	.47	.43	.39
998-0007	CF-MH22E683M	0.068	8.5	16.0	26.5	21.5	0.65	.65	.52	.47	.42
998-0008	CF-MH22E104M	0.100	8.5	16.0	31.5	26.5	0.80	.74	.59	.54	.50
998-0009	CF-MH22E154M	0.150	9.0	19.0	31.5	26.5	0.80	.89	.71	.64	.55
998-0010	CF-MH22E224M	0.220	10.0	21.5	31.5	26.5	0.80	1.08	.86	.72	.69

Epoxy Coated Polyester Film Capacitors



Design and Construction

- Dielectric: Polyester Film (Polyethylene Terephthalate Film)
- Electrode: Aluminum Foil — Inductive Wind — Welded Tabs
- Winding: Fully Automatic
- Terminals: Copper Plated Steel Wire with Solder Coat (Straight Leads)
- Coverage: Coated with Epoxy Resin (Dipping Method)

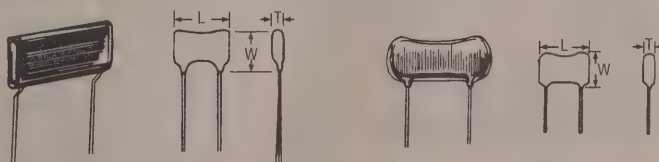
Rated Values and Characteristics

- Nominal Capacitance: 0.001 mfd. to 0.47 mfd.
- Capacitance Tolerance: ±10%
- Rated DC Voltage: 100 V
- Temperature Range: -40°C to +85°C
- Test Voltage: 200% of Rated DC Voltage for 60 Sec.
- Insulation Resistance: More Than 9,000 M Ohms, Avg. 100,000 M Ohms at 20°C
- Dissipation Factor (Tan Theta): Below 0.8%, Avg. 0.4% at 1,000 Hz, 20°C

Stock No.	Mfr.'s Type	Capacitance Mfd.	Dimensions (mm)					EACH			
			W Max.	H Max.	T Max.	P Max.	d	1-99	100-499	500-999	1000-4999
998-0044	DEP100V102KB	0.0010	5.5	11.5	3.0	3.0±1.0	0.5	.08	.06	.04	.03
998-0045	DEP100V122KB	0.0012	5.5	11.5	3.0	3.0±1.0	0.5	.08	.07	.06	.05
998-0046	DEP100V152KB	0.0015	5.5	11.5	3.0	3.0±1.0	0.5	.08	.06	.04	.03
998-0047	DEP100V182KB	0.0018	5.5	11.5	3.0	3.0±1.0	0.5	.08	.06	.04	.03
998-0048	DEP100V222KB	0.0022	5.5	11.5	3.0	3.0±1.0	0.5	.08	.06	.04	.03
998-0049	DEP100V272KB	0.0027	5.5	11.5	3.0	3.0±1.0	0.5	.08	.06	.04	.03
998-0050	DEP100V332KB	0.0033	5.5	11.5	3.0	3.0±1.0	0.5	.08	.06	.04	.03
998-0051	DEP100V392KB	0.0039	5.5	11.5	3.0	3.0±1.0	0.5	.08	.06	.04	.03
998-0052	DEP100V472KB	0.0047	6.0	11.5	3.0	3.5±1.0	0.5	.08	.06	.04	.03
998-0053	DEP100V562KB	0.0056	6.0	11.5	3.0	3.5±1.0	0.5	.08	.06	.04	.03
998-0054	DEP100V682KB	0.0068	6.0	11.5	3.0	3.5±1.0	0.5	.08	.06	.04	.03
998-0055	DEP100V823KB	0.0082	6.5	12.0	3.5	3.5±1.0	0.5	.08	.06	.04	.03
998-0056	DEP100V103KB	0.0100	6.5	12.0	3.5	4.0±1.0	0.5	.09	.07	.05	.04
998-0057	DEP100V123KB	0.0120	6.5	12.0	3.5	4.0±1.0	0.5	.09	.07	.05	.04
998-0058	DEP100V153KB	0.0150	7.0	12.0	3.5	4.0±1.0	0.5	.09	.07	.05	.04
998-0059	DEP100V183KB	0.0180	7.0	12.0	4.0	4.0±1.0	0.5	.10	.08	.06	.05
998-0060	DEP100V223KB	0.0220	8.0	12.0	4.0	4.0±1.0	0.5	.10	.08	.06	.05
998-0061	DEP100V273KB	0.0270	8.0	12.0	4.0	4.0±1.0	0.5	.12	.09	.06	.05
998-0062	DEP100V333KB	0.0330	9.0	12.5	4.5	6.0±1.0	0.5	.12	.09	.06	.05
998-0063	DEP100V393KB	0.0390	9.0	12.5	4.5	6.0±1.0	0.5	.12	.09	.06	.05
998-0064	DEP100V473KB	0.0470	9.0	12.5	5.0	6.0±1.0	0.5	.13	.10	.07	.06
998-0065	DEP100V563KB	0.0560	9.5	12.5	5.0	6.0±1.0	0.5	.14	.11	.07	.06
998-0066	DEP100V683KB	0.0680	10.0	12.5	5.5	7.0±1.0	0.5	.15	.11	.08	.06
998-0067	DEP100V823KB	0.0820	10.5	12.5	6.0	7.0±1.0	0.5	.15	.11	.08	.06
998-0068	DEP100V104KB	0.1000	11.0	12.5	6.5	7.0±1.0	0.5	.15	.13	.09	.07
998-0069	DEP100V124KB	0.1200	11.0	13.0	7.0	7.0±1.0	0.5	.16	.14	.09	.07
998-0070	DEP100V154KB	0.1500	12.5	13.5	7.5	7.0±1.0	0.6	.17	.16	.10	.09
998-0071	DEP100V184KB	0.1800	13.5	15.5	7.5	8.5±1.0	0.6	.19	.18	.12	.10
998-0072	DEP100V224KB	0.2200	14.0	16.0	7.5	8.5±1.0	0.6	.25	.22	.14	.12
998-0073	DEP100V274KB	0.2700	14.5	20.0	7.5	8.5±1.0	0.6	.25	.22	.14	.12
998-0074	DEP100V334KB	0.3300	15.0	20.0	8.0	9.5±1.0	0.6	.28	.25	.17	.14
998-0075	DEP100V394KB	0.3900	15.5	20.0	8.5	9.5±1.0	0.6	.34	.25	.17	.14
998-0076	DEP100V474KB	0.4700	16.5	21.0	9.5	10.0±1.0	0.6	.39	.29	.19	.16

Dipped Mica Dielectric Capacitors

Dipped Mica Dielectric Capacitors in miniature styles (CD6 and CD7) use in delay lines and IF transformers. Other styles are larger and higher rated capacitors. All types feature a dipping process to impart high moisture and humidity resistance. All leads are copper wire for improved solderability. They are available in a wide range of sizes and ratings to meet application requirements. Units are marked with Manufacturers name or symbol, nominal capacitance in pF and percent tolerance, and DC working voltage. Miniature units (CD6 and CD7) are marked with capacitance in pF and tolerance letter designation. All have operating temperature range of -55°C to +125°C.



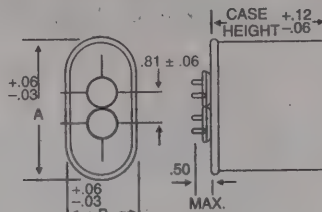
Stock No.	Mfr.'s Type	Cap. pF	VDC	Dimension (In.)			EACH	
				L	W	T	1-99	100-499
862-3001	CD5CC020C03	2	300	0.270	0.190	0.110	.45	.32
862-3002	CD5CC030C03	3	300	0.270	0.190	0.110	.45	.32
862-3005	CD5CC050C03	5	300	0.270	0.190	0.110	.45	.32
862-3004	CD5CC060C03	6	300	0.270	0.190	0.110	.45	.32
862-3006	CD5CC070C03	7	300	0.270	0.190	0.110	.45	.32
862-3011	CD5CC100J03	10	300	0.270	0.190	0.110	.45	.32
862-3016	CD5EC240J03	24	300	0.270	0.190	0.110	.45	.32
862-3017	CD5EC270J03	27	300	0.270	0.190	0.110	.46	.33
862-3019	CD5EC330J03	33	300	0.270	0.190	0.110	.55	.38
862-3020	CD5EC360J03	36	300	0.270	0.190	0.110	.55	.38
862-3025	CD5EC560J03	56	300	0.270	0.190	0.110	.66	.45
862-3026	CD5EC620J03	62	300	0.270	0.190	0.110	.69	.48
862-3028	CD5EC750J03	75	300	0.270	0.190	0.110	.79	.53
862-3029	CD5EC820J03	82	300	0.270	0.190	0.110	.82	.57
862-3031	CD5FC101J03	100	300	0.270	0.190	0.110	.91	.63
862-3100	CD6CD010C03	1	500	0.265	0.135	0.095	.71	.51
862-3102	CD6CD030C03	3	500	0.265	0.135	0.095	.71	.51
862-3103	CD6CD040C03	4	500	0.265	0.135	0.095	.67	.48
862-3112	CD6CD180J03	18	500	0.265	0.135	0.095	1.18	.82
862-3122	CD6ED470J03	47	500	0.265	0.135	0.095	.88	.66
862-3155	CD7FC221J03	220	300	0.265	0.260	0.110	1.49	1.09

Stock No.	Mfr.'s Type	Cap. pF	VDC	Dimension (In.)			EACH	
				L	W	T	1-99	100-499
862-3169	CD7FA821J03	820	100	0.265	0.260	0.110	2.97	2.05
862-3211	CD10ED200J03	20	500	0.360	0.330	0.190	.37	.26
862-3227	CD10FD151J03	150	500	0.380	0.360	0.210	.47	.32
862-4000	CD15CD100J03	10	500	0.450	0.360	0.170	.32	.22
862-4002	CD15CD150J03	15	500	0.450	0.360	0.170	.32	.22
862-1512	CD15CD180J03	18	500	0.449	0.358	0.169	.33	.23
862-4004	CD15ED200J03	20	500	0.450	0.360	0.170	.33	.27
862-4005	CD15ED220J03	22	500	0.450	0.360	0.170	.33	.23
855-1515	CD15ED240J03	24	500	0.449	0.358	0.169	.33	.23
862-4006	CD15ED270J03	27	500	0.450	0.360	0.170	.33	.23
862-4009	CD15ED390J03	39	500	0.450	0.360	0.170	.33	.28
862-4010	CD15ED430J03	43	500	0.450	0.360	0.170	.32	.22
862-4012	CD15ED510J03	51	500	0.450	0.360	0.170	.32	.22
862-4013	CD15ED560J03	56	500	0.450	0.360	0.170	.32	.22
862-4018	CD15FD121J03	120	500	0.460	0.370	0.180	.46	.32
862-4023	CD15FD201J03	200	500	0.460	0.380	0.190	.44	.30
862-4024	CD15ED221J03	220	500	0.460	0.380	0.200	.46	.32
862-4026	CD15FD271J03	270	500	0.470	0.390	0.210	.53	.37
862-4027	CD15FD301J03	300	500	0.470	0.390	0.210	.67	.46
862-4063	CD19FD102J03	1000	500	0.650	0.520	0.220	.69	.45
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X387S Metallized Polypropylene

- Motor Run Capacitors
- Extremely Low Losses and Heat Dissipation
- Non-PCB Oil Filled
- Self-Healing Ability
- UL Approved Internal Protection Device

ASC oil-filled capacitors employ high quality metallized polypropylene film dielectric. They are non-PCB oil-filled in metal cases designed for industrial applications, motor run applications in refrigeration and air conditioning equipment, power factor correction, power supplies, and general purpose AC applications. Non-inductive wound metallized polypropylene, oil-filled (non-toxic, disposable) construction. Non-corrosive seamless can, with double roll lock aluminum cover, suitable for outdoor applications. Terminals are tin plated, 1/4 inch quick disconnect tines. Marking include logo, capacitance, tolerance, voltage, capacitor type, EIA date code. 10% tolerance.



330 Volts AC

Stock No.	Mfr.'s Type	MFD	Dim.		Case Height	EACH	
			A	B		1-99	100-499
225-2200	X387S-5-10-330	5.0	2.16	1.31	2.38	5.46	4.33
225-2202	X387S-6-10-330	6.0	2.16	1.31	2.38	5.46	4.33
225-2204	X387S-7.5-10-330	7.5	2.16	1.31	2.38	5.74	4.56
225-2206	X387S-10-10-330	10.0	2.16	1.31	3.88	6.58	5.22
225-2208	X387S-12.5-10-330	12.5	2.16	1.31	3.88	7.12	5.65
225-2210	X387S-15-10-330	15.0	2.91	1.91	2.88	8.58	6.81
225-2212	X387S-17.5-10-330	17.5	2.91	1.91	2.88	9.28	7.37
225-2214	X387S-20-10-330	20.0	2.91	1.91	2.88	10.02	7.95
225-2216	X387S-25-10-330	25.0	2.91	1.91	2.88	11.14	8.84
225-2218	X387S-27.5-10-330	27.5	2.91	1.91	3.88	11.62	9.22
225-2220	X387S-30-10-330	30.0	2.91	1.91	3.88	12.24	9.71
225-2222	X387S-35-10-330	35.0	2.91	1.91	3.88	13.74	10.90
225-2224	X387S-40-10-330	40.0	2.91	1.91	3.88	14.86	11.79
225-2226	X387S-45-10-330	45.0	2.91	1.91	4.75	16.26	12.90
225-2228	X387S-50-10-330	50.0	2.91	1.91	4.75	17.02	13.51
225-2230	X387S-55-10-330	55.0	3.66	1.97	4.75	13.16	10.45
225-2232	X387S-60-10-330	60.0	3.66	1.97	4.75	19.56	15.52

370 Volts AC

Stock No.	Mfr.'s Type	MFD	Dim.		Case Height	EACH	
			A	B		1-99	100-499
225-2236	X387S-5-10-370	5.0	2.16	1.31	2.38	3.82	2.89
225-2238	X387S-7.5-10-370	7.5	2.16	1.31	2.88	5.74	4.56
225-2240	X387S-10-10-370	10.0	2.16	1.31	3.88	4.38	3.48
225-2242	X387S-12.5-10-370	12.5	2.16	1.31	3.88	7.12	5.65
225-2244	X387S-15-10-370	15.0	2.91	1.91	2.88	8.68	6.89
225-2246	X387S-17.5-10-370	17.5	2.91	1.91	2.88	9.36	7.43
225-2248	X387S-20-10-370	20.0	2.91	1.91	3.88	10.36	8.22
225-2250	X387S-25-10-370	25.0	2.91	1.91	3.88	11.44	9.08
225-2252	X387S-30-10-370	30.0	2.91	1.91	3.88	12.54	9.95

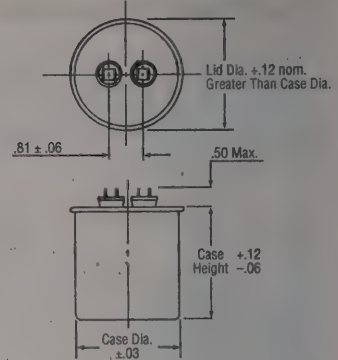
440 Volts AC

Stock No.	Mfr.'s Type	MFD	Dim.		Case Height	EACH	
			A	B		1-99	100-499
225-2262	X387S-5-10-440	5.0	2.16	1.31	2.88	5.94	4.71
225-2264	X387S-7.5-10-440	7.5	2.16	1.31	3.88	6.90	5.48
225-2266	X387S-10-10-440	10.0	2.16	1.31	3.88	5.22	4.14
225-2268	X387S-12.5-10-440	12.5	2.91	1.91	2.88	5.22	4.14
225-2270	X387S-15-10-440	15.0	2.91	1.91	2.88	9.36	7.43
225-2272	X387S-17.5-10-440	17.5	2.91	1.91	3.88	10.48	8.32
225-2274	X387S-20-10-440	20.0	2.91	1.91	3.88	10.96	8.70
225-2276	X387S-25-10-440	25.0	2.91	1.91	4.75	13.30	10.56
225-2286	X387S-50-10-440	50.0	3.66	1.97	4.75	19.90	17.94

X386S Metallized Polypropylene

- Standard Operating Temperature Range: -40°C to +70°C
- Non-PCB Oil Filled
- Self-Healing Ability for Enhanced Reliability and Long Life
- Extremely Low Loss and Heat Dissipation
- Other Capacitance Values, Dual Capacitance Values, Tolerances, and Operating Temperature Ranges Available Upon Request
- UL Approved Internal Protective Device and CSA Approved

ASC oil-filled capacitors employ high quality metallized polypropylene film dielectric. They are non-PCB oil filled in metal cases designed for industrial applications, motor run applications in refrigeration and air conditioning equipment, power factor correction, power supplies, HID lighting applications, and general purpose AC applications. They use non-inductive wound metallized polypropylene and oil-filled construction. Short circuits are virtually eliminated due to the self-healing properties of the metallized polypropylene film. They are non-toxic and disposable. Non-corrosive seamless can, with double roll lock aluminum cover, suitable for outdoor applications. Terminals are four 1/4" quick tines. 50% size and weight reduction over conventional designs. 10% tolerance. Other capacitance values, tolerances, temperature ranges, and dual capacitors available upon request. Call for price, delivery and minimums.



330 Volts

Stock No.	Mfr.'s Type	MFD	Dimensions		EACH
			Dia.	Height	
225-5000	X386S-15-10-330	15.0	1.75	2.88	5.20
225-5002	X386S-17.5-10-330	17.5	1.75	2.88	5.62
225-5004	X386S-20-10-330	20.0	1.75	2.88	6.07
225-5006	X386S-25-10-330	25.0	1.75	2.88	6.75
225-5010	X386S-30-10-330	30.0	1.75	3.88	7.42
225-5012	X386S-35-10-330	35.0	1.75	3.88	8.33
225-5018	X386S-50-10-330	50.0	1.75	4.75	10.31
225-5020	X386S-55-10-330	55.0	2.00	4.75	11.40
225-5022	X386S-60-10-330	60.0	2.00	4.75	11.85

370 Volts

Stock No.	Mfr.'s Type	MFD	Dimensions		EACH
			Dia.	Height	
225-5026	X386S-17.5-10-370	17.5	1.75	3.88	5.67
225-5028	X386S-20-10-370	20.0	1.75	3.88	6.27
225-5032	X386S-30-10-370	30.0	1.75	4.75	7.60
225-5034	X386S-35-10-370	35.0	2.00	4.75	8.67
225-5036	X386S-40-10-370	40.0	2.00	4.75	9.91
225-5038	X386S-45-10-370	45.0	2.00	4.75	10.47
225-5040	X386S-50-10-370	50.0	2.50	4.75	11.00
225-5044	X386S-60-10-370	60.0	2.50	4.75	12.04

440 Volts

Stock No.	Mfr.'s Type	MFD	Dimensions		EACH
			Dia.	Height	
225-5046	X386S-15-10-440	15.0	1.75	3.88	5.67
225-5050	X386S-20-10-440	20.0	1.75	3.88	6.64
225-5054	X386S-30-10-440	30.0	1.75	4.75	8.91
225-5058	X386S-40-10-440	40.0	2.00	4.75	10.71
225-5062	X386S-50-10-440	50.0	2.50	4.75	12.05
225-5064	X386S-55-10-440	55.0	2.50	4.75	12.67

Hardware

- Round or Oval Bracket Style
- Economical and Easy to Use
- Made to Hold Above Capacitors Securely in Place

Designed in either oval or round bracket styles, these clamps will hold motor run capacitors securely and accurately in place. Made of coated steel, they will withstand vibration, corrosion, and dirty environments.

Round Style Brackets Type B

Stock No.	Mfr.'s Type	Cap. Size	EACH
225-0005	RS752001	1.75	.77
225-0010	RS752051	2.00	1.00

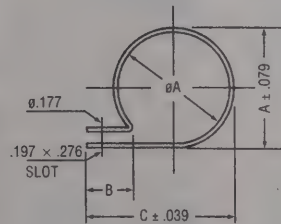
Round Style Brackets Type C

Stock No.	Mfr.'s Type	Cap. Size	EACH
225-0020	RS752002	1.75	.84
225-0025	RS752052	2.00	.82
225-0030	RS752152	2.50	.87

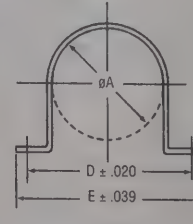
Oval Style

Stock No.	Mfr.'s Type	Cap. Size	EACH
225-0035	RK752301	1.25	.52
225-0045	RK752303	1.75	.56
225-0050	RK752304	2.00	.82

Round Style Brackets

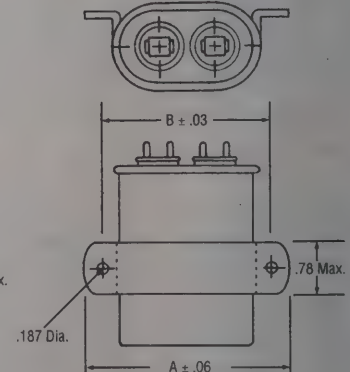


Type B



Type C

Oval Style Brackets



Specifications

Round Dia.	Mfr.'s Type		Dimensions				
	Type B	Type C	A	B	C	D	E
1.75	RS752001	RS752002	1.76	5.91	2.20	2.56	2.94
2.00	RS752051	RS752052	1.99	.630	2.44	2.75	3.13
2.50	—	RS752152	2.50	—	—	3.25	3.63

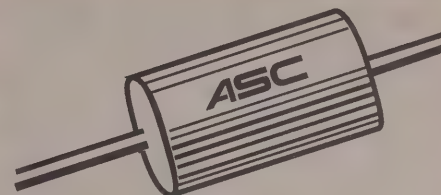
Oval Size	Mfr.'s Type	Mounting Dimensions	
		A	B
1.25	RK752301	2.94	2.56
1.75	RK752303	3.69	3.31
2.00	RK752304	4.44	4.06

X363 Metallized Polypropylene

- ▶ Long Stable Life
- ▶ Lowest Dissipation Factor

- ▶ Very High Insulation Resistance
- ▶ Fully Rated At 105°C

Non-inductive wound metallized polypropylene construction. Case is polyester tape wrap and epoxy end fill. Leads are solder coated or tinned solid wire. Excellent stability plus outstanding electrical properties make the X363 ideal for use in timing and integrating circuitry in instrumentation. The X363 exhibits negligible capacitance drift and electrical property degradation under environmental conditions normally requiring hermetically sealed encasements with other dielectrics. Temperature must be limited to 105°C. The X363 is ideal where close tolerance is required because of inherent stability with service conditions and life. The inherent long life characteristics and reliable performance capability of the X363 render it suitable for a wide variety of military applications where hermetic sealing or temperature capability higher than 105°C are not requirements. Markings include logo, capacitance, tolerance, and voltage. When space permits, capacitor type and EIA date code will be marked. 5% tolerance.



100 Volt DC

Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-1100	X363-.01-5-100	.010	0.156	0.438	1.34	1.06
225-1102	X363-.012-5-100	.012	0.156	0.438	1.34	1.06
225-1104	X363-.015-5-100	.015	0.156	0.438	1.34	1.06
225-1106	X363-.022-5-100	.022	0.172	0.438	1.36	1.08
225-1108	X363-.033-5-100	.033	0.203	0.438	1.36	1.08
225-1110	X363-.047-5-100	.047	0.219	0.438	1.38	1.10
225-1112	X363-.068-5-100	.068	0.219	0.500	1.40	1.11
225-1114	X363-1-5-100	.100	0.250	0.500	1.44	1.14
225-1116	X363-1.5-5-100	.150	0.250	0.563	1.46	1.16
225-1118	X363-2.2-5-100	.220	0.297	0.563	1.50	1.19
225-1122	X363-3.3-5-100	.330	0.297	0.688	1.58	1.25
225-1124	X363-4.7-5-100	.470	0.344	0.688	1.66	1.32
225-1126	X363-6.8-5-100	.680	0.359	0.813	1.78	1.41
225-1128	X363-1-5-100	1.000	0.422	0.813	1.96	1.56
225-1130	X363-1.5-5-100	1.500	0.453	0.938	2.90	2.30
225-1132	X363-3-5-100	3.000	0.531	1.250	3.66	2.90
225-1134	X363-4-5-100	4.000	0.609	1.250	4.40	3.49
225-1136	X363-5-5-100	5.000	0.672	1.250	5.16	4.10
225-1138	X363-8-5-100	8.000	0.750	1.500	7.40	5.87
225-1140	X363-10-5-100	10.000	0.828	1.500	8.88	7.05

200 Volt DC (continued)

Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-1158	X363-.22-5-200	.220	0.391	0.688	1.48	1.17
225-1160	X363-.33-5-200	.330	0.406	0.813	1.56	1.24
225-1162	X363-.47-5-200	.470	0.422	0.938	1.64	1.30
225-1164	X363-.68-5-200	.680	0.500	0.938	1.76	1.40
225-1166	X363-1-5-200	1.000	0.516	1.250	1.94	1.54
225-1168	X363-1.25-5-200	1.250	0.562	1.250	2.76	2.19
225-1170	X363-1.5-5-200	1.500	0.609	1.250	2.76	2.19
225-1172	X363-2-5-200	2.000	0.688	1.250	2.76	2.19
225-1174	X363-3-5-200	3.000	0.734	1.500	3.38	2.68
225-1176	X363-5-5-200	5.000	0.844	1.500	4.60	3.65

400 Volt DC

Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-1178	X363-.01-5-400	.010	0.234	0.438	1.34	1.06
225-1180	X363-.015-5-400	.015	0.234	0.500	1.34	1.06
225-1182	X363-.022-5-400	.022	0.266	0.500	1.36	1.08
225-1184	X363-.033-5-400	.033	0.266	0.556	1.36	1.08
225-1186	X363-.047-5-400	.047	0.266	0.688	1.38	1.10
225-1190	X363-1-5-400	.100	0.328	0.813	1.44	1.14
225-1192	X363-1.5-5-400	.150	0.375	0.813	1.48	1.17
225-1194	X363-2.2-5-400	.220	0.406	0.938	1.54	1.22
225-1196	X363-3.3-5-400	.330	0.484	0.938	1.62	1.29
225-1198	X363-4.7-5-400	.470	0.500	1.250	1.74	1.38
225-1200	X363-6.8-5-400	.680	0.562	1.250	1.90	1.51
225-1202	X363-1-5-400	1.000	0.609	1.500	2.16	1.71
225-1204	X363-1.5-5-400	1.500	0.734	1.500	3.14	2.49
225-1206	X363-2-5-400	2.000	0.766	1.750	3.14	2.49
225-1208	X363-4-5-400	4.000	0.875	2.250	5.08	4.03
225-1210	X363-5-5-400	5.000	0.984	2.250	6.06	4.81

200 Volt DC

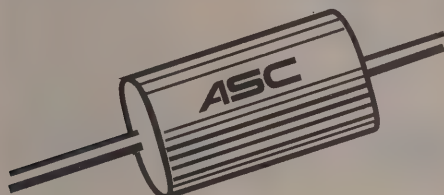
Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-1142	X363-.01-5-200	.010	0.188	0.438	1.34	1.06
225-1144	X363-.015-5-200	.015	0.219	0.438	1.34	1.06
225-1146	X363-.022-5-200	.022	0.203	0.500	1.36	1.08
225-1148	X363-.033-5-200	.033	0.234	0.500	1.36	1.08
225-1150	X363-.047-5-200	.047	0.250	0.563	1.38	1.10
225-1154	X363-1-5-200	.100	0.281	0.688	1.42	1.13
225-1156	X363-1.5-5-200	.150	0.328	0.688	1.44	1.14

X465 Metallized Polycarbonate

- ▶ Round Axial Wrap And Fill Construction
- ▶ Cost Effective
- ▶ Miniature Size And Light Weight

- ▶ Rated Up To 125°C Without Degradation
- ▶ Auto Insertable

Non-inductive wound metallized polycarbonate construction with polyester tape wrap and epoxy end fill case. Leads are either solder coated or tinned solid wire. The X465 is ideal for circuits requiring NPO type characteristics. Rated up to 125°C without derating. Low dissipation factor makes polycarbonate ideal for pulse circuit applications up to 250 KHz. Stability and retrace capabilities of polycarbonate make this an excellent choice where long term precision is a requirement, such as timing, precision and other circuits requiring long term stability. Markings to include logo, capacitance, tolerance, voltage. Where space permits, capacitor type and EIA date code will be marked. 5% tolerance.



50 Volt DC

Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-3100	X465-.068-5-50	.0680	0.15	0.40	1.34	1.06
225-3102	X465-1-5-50	.1000	0.15	0.40	1.36	1.08
225-3104	X465-1.5-5-50	.1500	0.16	0.40	1.40	1.11
225-3106	X465-2.2-5-50	.2200	0.15	0.53	1.46	1.16
225-3108	X465-2.7-5-50	.2700	0.16	0.53	1.56	1.24
225-3110	X465-3.3-5-50	.3300	0.18	0.53	1.56	1.24
225-3112	X465-3.9-5-50	.3900	0.19	0.53	1.68	1.33
225-3114	X465-4.7-5-50	.4700	0.20	0.53	1.68	1.33
225-3116	X465-5.6-5-50	.5600	0.22	0.53	1.74	1.38
225-3118	X465-6.8-5-50	.6800	0.24	0.53	1.84	1.46
225-3120	X465-1-5-50	1.0000	0.30	0.53	2.12	1.68
225-3122	X465-1.5-5-50	1.5000	0.28	0.65	2.98	2.37
225-3124	X465-2-5-50	2.0000	0.30	0.78	2.98	2.37
225-3126	X465-3-5-50	3.0000	0.37	0.78	3.64	2.89
225-3128	X465-4-5-50	4.0000	0.37	0.90	4.30	3.41
225-3130	X465-5-5-50	5.0000	0.36	1.15	1.94	3.92
225-3132	X465-10-5-50	10.0000	0.50	1.15	8.20	6.51

100 Volt DC

Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-3134	X465-.022-5-100	.0220	0.15	0.40	1.28	1.02
225-3136	X465-.033-5-100	.0330	0.15	0.40	1.30	1.03
225-3138	X465-.047-5-100	.0470	0.15	0.40	1.30	1.03
225-3140	X465-.056-5-100	.0560	0.16	0.40	1.30	1.03
225-3142	X465-1-5-100	.1000	0.16	0.53	1.32	1.05
225-3146	X465-2.2-5-100	.2200	0.22	0.53	1.40	1.11
225-3148	X465-3.3-5-100	.3300	0.26	0.53	1.48	1.17
225-3154	X465-1-5-100	1.000	0.34	0.78	1.96	1.56
225-3160	X465-3-5-100	3.000	0.40	1.15	3.30	2.62
225-3162	X465-4-5-100	4.000	0.52	1.15	3.88	3.08
225-3164	X465-5-5-100	5.000	0.58	1.15	4.46	3.54

200 Volt DC

Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-3166	X465-.01-5-200	.0100	0.15	0.40	1.28	1.02

200 Volt DC (continued)

Stock No.	Mfr.'s Type	Mfd	Diameter	Length	EACH	
					1-99	100-499
225-3168	X465-.015-5-200	.0150	0.15	0.40	1.28	1.02
225-3170	X465-.022-5-200	.0220	0.17	0.40	1.30	1.03
225-3172	X465-.033-5-200	.0330	0.15	0.53	1.30	1.03
225-3174	X465-.047-5-200	.0470	0.17	0.53	1.32	1.05
225-3176	X465-.068-5-200	.0680	0.21	0.53	1.34	1.06
225-3178	X465-1-5-200	.1000	0.24	0.53	1.38	1.10
225-3180	X465-1.5-5-200	.1500	0.29	0.53	1.42	1.13
225-3182	X465-2.2-5-200	.2200	0.29	0.65	1.48	1.17
225-3184	X465-3.3-5-200	.3300	0.33	0.78	1.58	1.25
225-3186	X465-4.7-5-200	.4700	0.39	0.78	1.70	1.35
225-3190	X465-1-5-200	1.0000	0.43	1.15	2.16	1.71
225-3194	X465-2-5-200	2.0000	0.59	1.15	3.10	2.46
225-3198	X465-4-5-200	4.0000	0.60	1.90	4.56	3.62
225-3200	X465-5-5-200	5.0000	0.67	1.90	5.28	4.19

400 Volt DC

225-3202	X465-.001-5-400	.0010	0.15	0.40	1.26	1.00
225-3206	X465-.0022-5-400	.0022	0.15	0.40	1.28	1.02
225-3210	X465-.0033-5-400	.0033	0.15	0.40	1.32	1.05
225-3212	X465-.0047-5-400	.0047	0.17	0.40	1.36	1.08
225-3214	X465-.0068-5-400	.0068	0.15	0.53	1.40	1.11
225-3216	X465-.01-5-400	.0100	0.17	0.53	1.48	1.17
225-3218	X465-.015-5-400	.0150	0.20	0.53	1.50	1.19
225-3220	X465-.022-5-400	.0220	0.24	0.53	1.52	1.21
225-3224	X465-.047-5-400	.0470	0.27	0.65	1.62	1.29
225-3226	X465-.068-5-400	.0680	0.28	0.78	1.70	1.35
225-3228	X465-1-5-400	.1000	0.34	0.78	1.82	1.44
225-3230	X465-1.5-5-400	.1500	0.35	0.90	1.94	1.54
225-3232	X465-2-5-400	.2200	0.38	1.15	2.12	1.68
225-3234	X465-3-5-400	.3300	0.46	1.15	2.40	1.90
225-3236	X465-4-5-400	.4700	0.54	1.15	2.74	2.17
225-3238	X465-6-5-400	.6800	0.57	1.40	3.26	2.59
225-3240	X465-1-5-400	1.0000	0.57	1.90	4.06	3.22
225-3244	X465-2-5-400	2.0000	0.81	1.90	6.98	5.54

Surface Mount Ceramic Capacitor Kit

Large Surface Mount Ceramic Capacitor Kit

AVX multilayer ceramic chip capacitors in a sampler kit. Capacitance, voltage, tolerance, temperature coefficient, chip sizes and quantities as noted below. Quantities listed are for large kit.

881-6700.....EACH 300.00

Small Surface Mount Ceramic Capacitor Kit. Same as above, but with 1/2 the quantity of each value of capacitor.

881-6705.....EACH 170.00

Replacement Parts for Above Kits (Packs of 100 Pieces Only)

Stock No.	Mfr.'s Type	pF	VDC	Tol %	Coeff	Pcs/Kit	PK./100	
							1-49	
881-6500	08051A100JATMA	10	100	5	NPO	50	9.20	
881-6501	08051A220JATMA	22	100	5	NPO	50	9.20	
881-6502	08051A470JATMA	47	100	5	NPO	50	9.20	
881-6503	08051A101JATMA	100	100	5	NPO	100	9.20	

Stock No.	Mfr.'s Type	pF	VDC	Tol %	Coeff	Pcs/Kit	PK./100	
							1-49	
881-6504	12061A471JATMA	470	100	5	NPO	50	12.00	
881-6505	12061A102JATMA	1000	100	5	NPO	50	13.20	
881-6506	12061C102KATMA	1000	100	10	X7R	50	10.00	
881-6507	08055C103KATMA	10000	50	10	X7R	100	10.00	
881-6508	08055C103MATMA	10000	50	20	X7R	50	9.00	
881-6509	12061C103MATMA	10000	100	20	X7R	50	9.80	
881-6510	12061C103KATMA	10000	100	10	X7R	100	10.80	
881-6511	12065C473KATMA	47000	50	10	X7R	50	15.80	
881-6512	12065C104KATMA	100000	50	10	X7R	100	17.60	
881-6513	12065C104MATMA	100000	50	20	X7R	50	16.00	
881-6514	12065E104MATMA	100000	50	20	Z5U	50	11.60	
881-6515	12065E104ZATMA	100000	50	+80-20	Z5U	100	11.00	
881-6516	12105C104KATMA	100000	50	10	X7R	100	12.24	

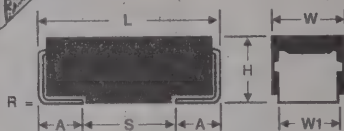
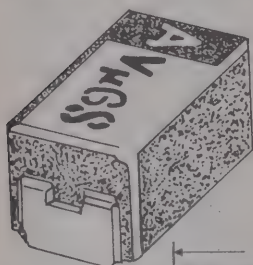
Surface Mount Tantalum Capacitor Kit

A sampler kit of surface mount tantalum chip capacitors. These chip capacitors are standard EIA surface mount technology.

881-6710. Surface Mount Tantalum Capacitor Kit.....EACH 100.00

Replacement Parts for Above Kit (Packs of 100 Pieces Only)

Stock No.	Mfr.'s Type	μF	VDC	Tol %	Case Code	Pcs/Kit	PK./100	
							1-49	
881-6122	TAJA105K016R	1.0	16	10	A	40	24.00	
881-6152	TAJB105K035R	1.0	35	10	B	40	46.00	
881-6175	TAJA225K010R	2.2	10	10	A	40	60.00	
881-6132	TAJB225K020R	2.2	20	10	B	40	27.00	
881-6116	TAJB475K010R	4.7	10	10	B	40	46.00	
881-6127	TAJC106K016R	10.0	16	10	C	10	46.00	
881-6144	TAJD106K025R	10.0	25	10	D	10	60.00	
881-6110	TAJC226K006R	22.0	6	10	C	10	46.00	
881-6137	TAJD226K020R	22.0	20	10	D	10	65.00	
881-6130	TAJD336K016R	33.0	16	10	D	10	60.00	
881-6121	TAJD476K010R	47.0	10	10	D	10	65.00	
881-6114	TAJD107K006R	100.0	6	10	D	10	75.00	



Resin Dipped Radial Capacitors

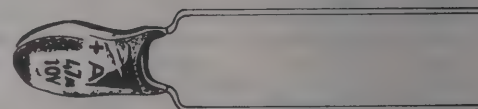
TAP Series Solid Tantalum Resin Dipped Capacitors

TAP is a professional device manufactured with a flame retardant coating and featuring ultra low leakage current and impedance, very small physical sizes and exceptional temperature stability. It is designed and conditioned to operate to +85°C without derating. The 15 case sizes with wide capacitance and working voltage ranges means the TAP can accommodate almost any requirement. Also available on Tape and Reel for auto insertion.

Case Dimensions-Inches (mm)

Case	H	D
A	0.33 (8.5)	0.18 (4.5)
B	0.35 (9.0)	0.18 (4.5)
C	0.39 (10.0)	0.20 (5.0)
D	0.41 (10.5)	0.20 (5.0)
E	0.41 (10.5)	0.22 (5.5)
F	0.45 (11.5)	0.24 (6.0)
G	0.45 (11.5)	0.26 (6.5)
H	0.47 (12.0)	0.28 (7.0)

Case	H	D
J	0.51 (13.0)	0.31 (8.0)
K	0.55 (14.0)	0.33 (8.5)
L	0.55 (14.0)	0.35 (9.0)
M	0.57 (14.5)	0.35 (9.0)
N	0.63 (16.0)	0.35 (9.0)
P	0.67 (17.0)	0.39 (10.0)
R	0.73 (18.5)	0.39 (10.0)



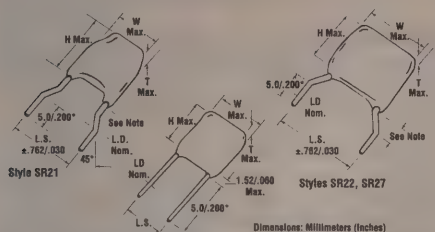
Stock No.	Mfr.'s Type	Cap μF	VDC	Tol %	Case Code	EACH		
						1-49	50-99	100-Up
881-7102	TAP685K006SCS	6.80	6	10	A	.33	.28	.22
881-7103	TAP106K006SCS	10.00	6	10	B	.40	.34	.26
881-7104	TAP156K006SCS	15.00	6	10	C	.50	.42	.32
881-7105	TAP226K006SCS	22.00	6	10	D	.57	.48	.36
881-7106	TAP336K006SCS	33.00	6	10	E	.67	.56	.42
881-7107	TAP476K006SCS	47.00	6	10	F	.60	.51	.39
881-7108	TAP686K006SCS	68.00	6	10	G	.63	.53	.42
881-7109	TAP107K006SCS	100.00	6	10	H	1.66	1.32	1.05
881-7115	TAP475K010SCS	4.70	10	10	A	.33	.28	.22
881-7116	TAP685K010SCS	6.80	10	10	B	.45	.35	.27
881-7117	TAP106K010SCS	10.00	10	10	C	.43	.36	.27
881-7118	TAP156K010SCS	15.00	10	10	D	.50	.42	.32
881-7119	TAP226K010SCS	22.00	10	10	E	.57	.48	.36
881-7121	TAP476K010SCS	47.00	10	10	G	1.19	.94	.75
881-7122	TAP686K010SCS	68.00	10	10	H	1.66	1.32	1.10
881-7123	TAP107K010CCS	100.00	10	10	K	1.76	1.56	1.23
881-7124	TAP227K010CCS	220.00	10	10	P	4.18	3.48	2.78
881-7129	TAP335K016SCS	3.30	16	10	A	.30	.26	.20
881-7130	TAP475K016SCS	4.70	16	10	B	.40	.34	.27
881-7131	TAP685K016SCS	6.80	16	10	C	.46	.38	.30
881-7132	TAP106K016SCS	10.00	16	10	D	.46	.38	.30
881-7133	TAP156K016SCS	15.00	16	10	E	.60	.51	.40
881-7134	TAP226K016SCS	22.00	16	10	F	.60	.51	.40
881-7135	TAP336K016SCS	33.00	16	10	F	1.16	.91	.70
881-7136	TAP476K016CCS	47.00	16	10	J	1.70	1.50	1.25
881-7137	TAP686K016CCS	68.00	16	10	L	1.88	1.56	1.21
881-7139	TAP157K016CCS	150.00	16	10	N	4.12	3.43	2.75
881-7140	TAP227K016CCS	220.00	16	10	R	5.12	4.26	3.41
881-7151	TAP476K020CCS	47.00	20	10	K	1.97	1.57	1.21
881-7153	TAP107K020CCS	100.00	20	10	N	4.12	3.43	2.75

Stock No.	Mfr.'s Type	Cap μF	VDC	Tol %	Case Code	EACH		
						1-49	50-99	100-Up
881-7156	TAP225K025SCS	2.20	25	10	A	.34	.29	.22
881-7157	TAP335K025SCS	3.30	25	10	B	.40	.34	.26
881-7158	TAP475K025SCS	4.70	25	10	C	.47	.39	.30
881-7159	TAP685K025SCS	6.80	25	10	D	.54	.45	.35
881-7160	TAP106K025SCS	10.00	25	10	E	.57	.48	.38
881-7161	TAP156K025SCS	15.00	25	10	F	1.28	1.02	.83
881-7162	TAP226K025SCS	22.00	25	10	H	1.65	1.31	1.05
881-7163	TAP336K025SCS	33.00	25	10	J	1.96	1.56	1.25
881-7165	TAP686K025SCS	68.00	25	10	N	4.12	3.43	2.75
881-7170	TAP474K035SCS	.47	35	10	A	.24	.19	.16
881-7171	TAP684K035SCS	.68	35	10	A	.31	.29	.24
881-7172	TAP105K035SCS	1.00	35	10	A	.27	.22	.18
881-7173	TAP155K035SCS	1.50	35	10	A	.37	.31	.25
881-7174	TAP225K035SCS	2.20	35	10	B	.40	.34	.26
881-7175	TAP335K035SCS	3.30	35	10	C	.47	.39	.30
881-7176	TAP475K035SCS	4.70	35	10	E	.50	.42	.35
881-7177	TAP685K035SCS	6.80	35	10	F	.57	.48	.38
881-7178	TAP106K035SCS	10.00	35	10	F	.91	.75	.59
881-7179	TAP156K035SCS	15.00	35	10	H	1.83	1.45	1.15
881-7180	TAP226K035CCS	22.00	35	10	K	1.83	1.45	1.15
881-7181	TAP336K035HSB	33.00	35	10	M	3.53	2.94	2.35
881-7182	TAP476K035CCS	47.00	35	10	N	4.12	3.43	2.75
881-7183	TAP104K050SCS	.10	50	10	A	.34	.29	.23
881-7186	TAP334K050SCS	.33	50	10	A	.27	.22	.18
881-7189	TAP105K050SCS	1.00	50	10	C	.34	.29	.22
881-7191	TAP225K050SCS	2.20	50	10	E	.71	.51	.40
881-7193	TAP475K050SCS	4.70	50	10	G	.78	.64	.51
881-7195	TAP106K050CCS	10.00	50	10	J	2.32	1.94	1.50
881-7196	TAP156K050CCS	15.00	50	10	K	2.68	2.13	1.68
881-7197	TAP226K050CCS	22.00	50	10	L	4.78	3.98	3.25

Capacitors



Radial Leads/SkyCap



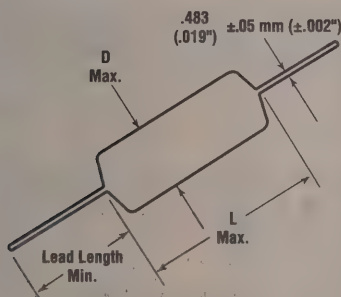
Note: Coating clean .784/.031 min. above sealing plane.
 *Lead length tolerance = +1.5 mm (.060") - 0.
 Also available with lead length of 31.75 mm (1.25") minimum.

Radials

Mfr.'s Type	Size (in.)			
	T	W	H	LS
SR15	.100	.150	.150	.100
SR20	.125	.200	.200	.100
SR21	.125	.200	.300	.200
SR30	.150	.300	.300	.200

NOTE: Additional Values and Tolerances are available. Call your Local Allied Office for Price and Delivery.

Axial Leads/SpinGuard



► Note: Sold in Multiples Of 500 Pieces Only. Other Values, Tolerances and Voltages Available. Call For Price, Delivery, and Minimums.

General Information AVX SR Series

- Conformally Coated Radial Leaded MLC
- Temperature Coefficients: NPO, X7R, Z5U
- 50 V, 100 V (200 V Available On Request)
- Case Material: Epoxy (Flame Retardant to UL Bulletin 492, Par. 280)
- Lead Material: Solderable

X7R Characteristic

Stock No.	Mfr.'s Type	pF	Voltage (V)	EACH	
				1-24	25-99
881-3310	SR151C102KAA	1000	100	.12	.10
881-3341	SR211C102KAA	1000	100	.17	.14
881-3314	SR151C222KAA	2200	100	.15	.12
881-3316	SR151C332KAA	3300	100	.15	.12
881-3318	SR151C472KAA	4700	100	.17	.13
881-3420	SR151C103KAA	10000	100	.19	.14
881-3322	SR155C103KAA	10000	50	.14	.12
881-3353	SR211C103KAA	10000	100	.16	.14
881-3332	SR201C223KAA	22000	100	.19	.16
881-3334	SR201C333KAA	33000	100	.19	.17
881-3361	SR211C473KAA	47000	100	.21	.17
881-3336	SR201C473KAA	47000	100	.21	.17
881-3422	SR211C104KAA	100000	100	.22	.19
881-3340	SR205C104KAA	100000	50	.20	.18
881-3365	SR215C104KAA	100000	50	.23	.18
881-3382	SR305C474KAA	470000	50	1.14	.88
881-3386	SR305C105KAA	1000000	50	1.69	1.32

NPO Characteristic

Stock No.	Mfr.'s Type	pF	Voltage (V)	EACH	
				1-24	25-99
881-3400	SR151A100JAA	10	100	.19	.15
881-3500	SR151A100KAA	10	100	.15	.12
881-3401	SR151A220JAA	22	100	.19	.15
881-3402	SR151A330JAA	33	100	.19	.15
881-3403	SR151A470JAA	47	100	.19	.17
881-3404	SR151A680JAA	68	100	.19	.17
881-3405	SR151A101JAA	100	100	.19	.17
881-3406	SR151A221JAA	220	100	.22	.17
881-3407	SR151A331JAA	330	100	.22	.18
881-3408	SR151A471JAA	470	100	.25	.19
881-3409	SR151A681JAA	680	100	.28	.22
881-3410	SR201A102JAA	1000	100	.31	.24
881-3411	SR21A102JAA	1000	100	.28	.22

Z5U Characteristic

Stock No.	Mfr.'s Type	pF	Voltage (V)	EACH	
				1-24	25-99
881-3114	SR155E103MAA	10000	50	.14	.11
881-3133	SR201E104MAA	100000	100	.20	.16
881-3155	SR211E104MAA	100000	100	.20	.16
881-3136	SR205E104MAA	100000	50	.17	.16
881-3162	SR215E104MAA	100000	50	.15	.11
881-3140	SR205E224MAA	220000	50	.21	.17
881-3166	SR215E224MAA	220000	50	.21	.17
881-3142	SR205E334MAA	330000	50	.25	.19
881-3168	SR215E334MAA	330000	50	.25	.19
881-3206	SR305E105MAA	1000000	50	.46	.36

Axials

SpinGuard Conformal	D x I
SA10	.100 x .170
SA11	.120 x .170
SA20	.100 x .260
SA30	.150 x .290

NPO Characteristic

Stock No.	Mfr.'s Type	pF	Voltage (V)	PER PK./500	
				1-9	10-19
881-4011	SA102A100JAA	10	200	70.00	55.00
881-4015	SA102A220JAA	22	200	70.00	55.00
881-4017	SA102A330JAA	33	200	70.00	55.00
881-4019	SA102A470JAA	47	200	70.00	55.00
881-4021	SA102A680JAA	68	200	70.00	55.00
881-4022	SA102A101JAA	100	200	70.00	55.00
881-4024	SA101A221JAA	220	100	70.00	55.00
881-4029	SA101A331JAA	330	100	70.00	55.00
881-4031	SA101A471JAA	470	100	70.00	55.00
881-4033	SA101A681JAA	680	100	70.00	55.00
881-4120	SA105A102JAA	10000	50	70.00	55.00

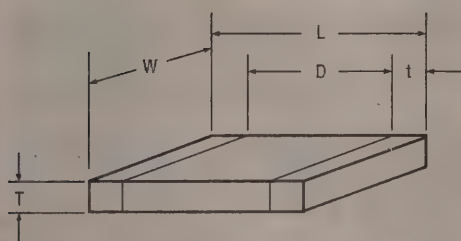
X7R Characteristic

Stock No.	Mfr.'s Type	pF	Voltage (V)	PER PK./500	
				1-9	10-19
881-4048	SA101C102KAA	1000	100	66.00	51.00
881-4051	SA101C222KAA	2200	100	66.00	51.00
881-4053	SA101C332KAA	3300	100	66.00	51.00
881-4055	SA101C472KAA	4700	100	66.00	51.00
881-4057	SA101C682KAA	6800	100	66.00	51.00
881-4059	SA105C103KAA	10000	50	66.00	51.00
881-4063	SA105C223KAA	22000	50	71.00	51.00
881-4071	SA205C333KAA	33000	50	86.00	57.00
881-4073	SA205C473KAA	47000	50	80.00	60.00
881-4064	SA115C104KAA	100000	50	81.00	54.00

Z5U Characteristic

Stock No.	Mfr.'s Type	pF	Voltage (V)	PER PK./500	
				1-9	10-19
881-4091	SA101E103MAA	10000	100	51.00	41.00
881-4094	SA105E103MAA	10000	50	51.00	41.00
881-4098	SA105E473MAA	47000	50	51.00	41.00
881-4100	SA105E104MAA	100000	50	55.00	40.00
881-4101	SA115E224MAA	220000	50	80.00	67.00
881-4102	SA115E334MAA	330000	50	92.00	76.00
881-4125	SA305E474MAA	470000	50	153.00	122.00
881-4111	SA305E105MAA	1000000	50	210.00	175.00

AVX Ceramic Chip Capacitors

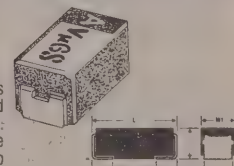


AVX ceramic surface mount capacitors, available in NPO, X7R and Z5U, have historically been one of the most reliable electronic components available. NPO and Z7R have temperature coefficients of -55°C to +125°C. NPO is the most popular formulation of the "temperature-compensating" EIA Class I ceramic materials. They show little capacitance change with frequency and dielectric absorption is typically less than 0.6% which is similar to mica and most films. The X7R is the most popular intermediate dielectric-constant formulation that is called "temperature-stable" in ceramics and fall into EIA Class II materials. Capacitance for X7R varies under the influence of electrical operating conditions such as voltage, frequency and time (approximately 5% change in 10 years). Z5U formulations are "general purpose" ceramics which are meant for use in limited temperature applications where small size and cost are important. They provide the highest capacitance density possible in a given size for the three most popular formulations. They show wide variations in electrical operating conditions. Despite their capacitance instability, Z5U formulations are very popular because of their small size, low ESL, low ESR and excellent frequency response. These features are particularly important for decoupling applications where only a minimum capacitance value is required.

Size	Dimensions (mm)			Terminal Width	
	Length	Width	Thickness (Max.)	Min.	Max.
	L	W	T	t	t
0805	2.0 ± 0.2	1.2 ± 0.2	1.27	0.25	0.71
1206	3.2 ± 0.2	1.6 ± 0.2	1.27	0.25	0.76

Stock No.	Mfr.'s Type	Size	Value (pF)	Volt. (V)	Temp. Coef.	PER PK./100		
						1-9	10-24	25-49
213-2000	12061A100JATMA	1206	10	100	NPO	15.00	12.00	11.00
213-2002	12061A150JATMA	1206	15	100	NPO	14.00	11.00	10.00
213-2004	12061A220JATMA	1206	22	100	NPO	14.00	11.00	10.00
213-2006	12061A330JATMA	1206	33	100	NPO	14.00	11.00	10.00
213-2008	12061A390JATMA	1206	39	100	NPO	14.00	11.00	10.00
213-2010	12061A470JATMA	1206	47	100	NPO	14.00	11.00	10.00
213-2012	12061A680JATMA	1206	68	100	NPO	14.00	11.00	10.00
213-2014	12061A101JATMA	1206	82	100	NPO	14.00	11.00	10.00
213-2016	12061A151JATMA	1206	100	100	NPO	14.00	11.00	10.00
213-2018	12061A151JATMA	1206	150	100	NPO	15.00	12.00	11.00
213-2020	12061A221JATMA	1206	220	100	NPO	16.00	13.00	12.00
213-2022	12061A331JATMA	1206	330	100	NPO	14.00	11.00	10.00
213-2024	12061A471JATMA	1206	470	100	NPO	16.00	13.00	11.00
213-2026	12061A681JATMA	1206	680	100	NPO	18.00	14.00	12.00
213-2028	12061A102JATMA	1206	1000	100	NPO	18.00	15.00	13.00
213-2030	12061C102JATMA	1206	1000	100	X7R	20.00	17.00	14.00
213-2032	12061C222JATMA	1206	2200	100	X7R	20.00	16.00	14.00
213-2034	12061C332JATMA	1206	3300	100	X7R	20.00	16.00	14.00
213-2036	12061C472JATMA	1206	4700	100	X7R	22.00	17.00	15.00
213-2038	12061C103JATMA	1206	10000	100	X7R	22.00	19.00	15.00
213-2044	08051A100JATMA	0805	10	100	NPO	12.00	10.00	8.00
213-2046	08051A150JATMA	0805	15	100	NPO	12.00	10.00	8.00
213-2048	08051A220JATMA	0805	22	100	NPO	12.00	10.00	8.00
213-2050	08051A330JATMA	0805	33	100	NPO	12.00	10.00	8.00
213-2052	08051A470JATMA	0805	47	100	NPO	12.00	10.00	8.00
213-2054	08051A680JATMA	0805	68	100	NPO	12.00	10.00	8.00
213-2056	08051A101JATMA	0805	100	100	NPO	12.00	10.00	8.00
213-2058	08051A151JATMA	0805	150	100	NPO	12.00	10.00	8.00
213-2060	08051A221JATMA	0805	220	100	NPO	12.00	10.00	8.00
213-2062	08051A331JATMA	0805	330	100	NPO	12.00	10.00	8.00
213-2064	08051A471JATMA	0805	470	100	NPO	12.00	10.00	8.00
213-2068	08051C222JATMA	0805	2200	100	X7R	16.00	14.00	12.00
213-2074	08051C103JATMA	0805	10000	100	X7R	20.00	16.00	14.00

AVX Tantalum Chip Capacitors



AVX offers solid tantalum capacitors in a wide range of sizes, styles and ratings to meet any design needs. The four case sizes offered here are the most popular and conform to EIA standard EIA-35BAAAC. The TAJ Series is qualified as MIL-style CWR11. The TAJ Series is temperature rated at -55°C to +85°C.

How to Order (Commercial):

TAJ Mfr.'s Type	B Case Code	335 Cap Code	M Tol. %	016 Volt DC	R Packaging	
Case Code	Dimensions					
	L	W	H	W1	A	S (min.)
A	3.2	1.6	1.6	1.2	0.8	1.1
B	3.5	2.8	1.9	2.2	0.8	1.4
C	6.0	3.2	2.6	2.2	1.3	2.9
D	7.3	4.3	2.9	2.4	1.3	4.4

W1 dimensions applies to the termination width for "A" dimension area only.

Stock No.

Capacitor Kits

TSD-150, TSD-300 Tantalum Capacitor Kits. Both kits contain high quality Hitachi resin dipped tantalum capacitors. TSD-150 has 5 pieces each of 30 values — total 150 pieces. TSD-300 has 10 pieces of 30 values — total 300 pieces. All in 15 quick select drawers. **Kit Dimensions:** 10 × 8 × 6½". **Kit Includes:** 10 V, 16 V, 20 V and 35 V in .1 MFD through 47 MFD capacitance ranges. **777-0150. TSD-150.....EACH 192.95**
777-0300. TSD-300.....EACH 259.94

CEC-410 Low Leakage and Sub-Miniature Capacitor Kit. Features Include: 10 pieces per type. High quality Nichicon product. Tantalum like performance levels. **Kit Dimensions:** 10 × 8 × 6½". **Kit Includes:** 10 V, 16 V, 25 V, 35 V and 50 V super miniature lytics; 35 V and 50 V super miniature low leakage lytics. **777-0410. CEC-410.....EACH 145.95**

CC-540-12 Multi-Layered Ceramic Chip Capacitor Kit. 10 pieces each — 43 values. Ultra-miniature size, light in weight and thin body thickness. Highly reliable performance. 9 × 7.5 × 1.6" styrene case with chip types clearly marked. **Includes:** EIA 1206 case sizes, NPO, X7R and Z5U types, 10 pF-1 MFD capacitance ranges at 50 volts. **777-5412. CC-540-12.....EACH 174.95**

NAC-400 Capacitor Kit. Includes: Miniature aluminum electrolytic, ceramic disc and film capacitors in 15 clearly labeled drawers. 10 × 8 × 6½" kit holds aluminum electrolytics — axial - 17 values, 16, 25, 35, 50 VDC; radial - 16 values; ceramic discs — 11 values - .001 pF-1 MFD 12 V, 50 VDC; polyester film — 9 values - 100 VDC; metallized film — 9 values - 250, 400, 630 V. **777-0400. NAC-400.....EACH 169.95**

CC-540-08 Multi-Layered Ceramic Chip Capacitor Kit. 10 pieces each — 43 values. Ultra-miniature size. Thin body thickness, light in weight with highly reliable performance 9 × 7.5 × 1.6" styrene case with see through locking lid, and clearly marked chip types. 10pF-1mF capacitance ranges at 50 volts. EIA 0805 case size, NPO, X7R, and Z5U types. **777-5408. CC-540-08.....EACH 174.95**

CEC-360 Surface Mount Kit. One of a kind organizer kit containing 120 pieces of surface mount electrolytic capacitors. 4-50 VDC; 0.1-220 MFD. Packed in compartments in clear plastic polystyrene case. **777-0360. CEC-360.....EACH 182.95**

CEC-181 SMD Ceramic Chip Capacitor Kit. EIA 1206 size multi-layer ceramic chip capacitors. 10pF-1mF capacitance ranges at 50 volts. 5 pieces each — 18 values. NPO, X7R and Z5U types. **777-0181. CEC-181.....EACH 44.20**

CEC-182 SMD Ceramic Chip Capacitor Kit. EIA 0805 size multi-layer ceramic chip capacitors. 10pF-1mF capacitance ranges at 50 volts. 5 pieces each — 18 values. NPO, X7R and Z5U types. **777-0182. CEC-182.....EACH 44.20**

CEC-123 Electrolytic SMD Capacitor Kit. Surface mounting construction. Miniaturized down to 5.5 mm heights. Load Life: 2000 hours at 85°C. **Operating Temperature Range:** -40° to +85°C. **Capacitance Range:** .1 mF to 220 mF. **Voltage Range:** 4 V to 50 V. **Capacitance Tolerance:** ±20% at 120 Hz, 20°C. Quantity of 10 pieces each of 12 values for total of 120 capacitors. **777-0123. CEC-123.....EACH 73.10**

CEC-51 Axial Aluminum Electrolytic Capacitor Kit. Easy to read label clearly shows capacitor type, capacitance and voltage. Lower body and smaller case sizes. 12 values from 1 mF to 2200 mF in voltages from 16 to 50 VDC. Total of 51 capacitors. ±20% tolerance. Sturdy, clear, see-through plastic case with 12 individual compartments. **Operating Temperature Range:** -40° to +85°C. **777-0051. CEC-51.....EACH 46.75**

CEC-59 Radial Aluminum Electrolytic Capacitor Kit. Easy to read label clearly shows capacitor type, capacitance and voltage. Lower body and smaller case sizes. 12 values from 1 mF to 2200 mF in voltages from 25 to 50 VDC. Total of 59 capacitors. ±20% tolerance. Sturdy, clear, see-through plastic case with 12 individual compartments. **Operating Temperature Range:** -40° to +85°C. **777-0059. CEC-59.....EACH 39.10**

CEC-60 Radial Tantalum Capacitor Kit. 12 of the most requested resin dipped radial tantalum capacitance values. The resin coating provides solvent-proofing and excellent flame retardant characteristics with special emphasis on low leakage current, humidity proofing, resistance to heat shocks and low temperature characteristics. 16 and 35 VDC in .1 mF through 47 mF. Total of 60 capacitors. Easy to read label clearly shows capacitor type, capacitance and voltage. Sturdy, clear, see-through plastic case with 12 individual compartments. **777-0060. CEC-60.....EACH 64.60**

CEC-121 Ceramic Disc Radial Capacitor Kit. 12 of the most popular 500 V radial NPO, Y5F and Z5U ceramic disc capacitors. Excellent heat and moisture resistance. Resin dipped and was impregnated. Barium Titanate ceramic dielectric. Quantity of 10 each of 12 different values for a total of 120 capacitors. Easy to read label clearly shows capacitor type, capacitance and voltage. ±5%, ±10% and ±20% tolerance. **777-0121. CEC-121.....EACH 34.00**

CEC-62 Tantalum SMD Chip Capacitor Kit. Ultra-small case sizes. High soldering heat resistance. Excellent reliability. 5 pieces each of the 12 most popular capacitance values of .047 mF to 68 mF and 4 V to 35 V for a total of 60 capacitors. ±20% tolerance. Sturdy, clear, see-through plastic case with 12 individual compartments. Easy to read label clearly shows capacitor type, capacitance and voltage. **777-0062. CEC-62.....EACH 67.92**

CEC-100 Radial Metallized Film Capacitor Kit. Highly reliable and superior performance in high frequency applications. Inside and outside double epoxy resin coating provides excellent humidity resistance. **Operating Temperature Range:** -40° to +85°C. Easy to read label clearly shows capacitor type, capacitance and voltage. .022 mF to 1 mF and 250 to 630 V. Total of 100 capacitors. ±10% tolerance. **777-0100. CEC-100.....EACH 51.85**

CEC-105 Polyester Film Radial Capacitor Kit. Polyethylene terephthalate film used for better performance. Coated with epoxy resin for superior heat, humidity and solvent resistance. Latest miniaturized type. **Operating Temperature Range:** -40° to +85°C. 12 of the most popular values of .001 mF to .1 mF in 100 V for a total of 105 capacitors. ±10% tolerance. **777-0105. CEC-105.....EACH 43.35**

CEC-122 Miniature Low Leakage Radial Capacitor Kit. Tantalum-like performance levels. Very low leakage current of .002 CV or 0.2 µA (whichever is greater). **Operating Temperature Range:** -40° to +85°C. 10 pieces each of 12 of the most popular values of .1 mF to 100 mF in 25 and 50 V for a total of 120 capacitors. ±10% tolerance. Sturdy, clear, see-through plastic case with 12 individual compartments. **777-0122. CEC-122.....EACH 45.90**

Vitramon Ceramic Chip Kits

KV-VJKTNPO Vitramon Monolithic Ceramic Chip Capacitor Kit. Ceramic chip capacitors in 0805 and 1206 size package with NPO characteristics. 5 pieces per value of 35 different values for total of 175 pieces. 50 and 100 VDC. From 1 to 4700 pF. Tolerances from 0.25% to 5%. Sturdy, clear, see-through plastic case with 35 individual compartments. **777-0772. KV-VJKTNPO.....EACH 96.90**

KV-VJKT7R Vitramon Monolithic Ceramic Chip Capacitor Kit. Ceramic chip capacitors in 0805, 1206 and 1210 size package with X7R characteristics. 10 pieces per value of 30 different values for a total of 300 pieces. 25 and 50 VDC. From 0.01 to 6800 pF. 10% tolerance. Sturdy, clear, see-through plastic case with 30 individual compartments. **777-0773. KV-VJKT7R.....EACH 100.30**

KV-VJKTZ5U Vitramon Monolithic Ceramic Chip Capacitor Kit. Ceramic chip capacitors in 0805, 1206, 1210 and 1812 size package with Z5U characteristics. 5 pieces per value of 30 different values for a total of 150 pieces. 50 VDC. From 0.01 to 6800 pF. 20% tolerance. Sturdy, clear, see-through plastic case with 30 individual compartments. **777-0774. KV-VJKTZ5U.....EACH 100.30**

KV-VJKTPOP Vitramon Monolithic Ceramic Chip Capacitor Kit. Ceramic chip capacitors in 0805 and 1206 size package with X7R characteristics. 5 pieces per value of 30 different values for a total of 150 pieces. 25 and 50 VDC. From 0.1 to 1000 pF. From 0.25% to 20% tolerance. Sturdy, clear, see-through plastic case with 25 individual compartments. **777-0775. KV-VJKTPOP.....EACH 93.50**

KV-VJKTTHQ Vitramon Monolithic Ceramic Chip Capacitor Kit. Ceramic chip capacitors in 0805 and 1206 size package with X7R characteristics. 5 pieces per value of 40 different values for a total of 200 pieces. 100 and 200 VDC. From 1 to 680 pF. From 0.1% to 5% tolerance. Sturdy, clear, see-through plastic case with 40 individual compartments. **777-0776. KV-VJKTTHQ.....EACH 127.50**

KV-VJKT0603 Vitramon Monolithic Ceramic Chip Capacitor Kit. Ceramic chip capacitors in 0805 and 1206 size package with NPO and X7R characteristics. 20 pieces per value of 30 different values for a total of 600 pieces. 25 and 50 VDC. From 0.01 to 8200 pF. From 0.1% to 10% tolerance. Sturdy, clear, see-through plastic case with 30 individual compartments. **777-0777. KV-VJKT0603.....EACH 130.90**

Call Allied for Replacement Parts.

► Additional Product Can Be Found On Page 132

Dale Inductor Kits

KD-IMC1812 Dale Surface Mount IMC-1812 Inductors. Molded construction provides superior strength and moisture resistance. Compatible with vapor phase and infrared reflow soldering. Surface mount inductors in 1812 packaging. 5 pieces per value of 18 values for a total of 90 pieces. From 0.33 to 220 µH. Packed in notebook style plastic case. **777-1812. KD-IMC1812.....EACH 130.90**

KD-ISC1812 Dale Surface Mount ISC-1812 Shielded Inductors. Molded construction provides superior strength and moisture resistance. Compatible with vapor phase and infrared reflow soldering. Surface mount inductors in 1812 packaging. 5 pieces per value of 18 values for a total of 90 pieces. From 0.33 to 100 µH. Packed in notebook style plastic case. **777-1813. KD-ISC1812.....EACH 132.60**

KD-IMC1210 Dale Surface Mount IMC-1210 Inductors. Molded construction provides superior strength and moisture resistance. Compatible with vapor phase and infrared reflow soldering. Surface mount inductors in 1210 packaging. 5 pieces per value of 18 values for a total of 90 pieces. From 0.033 to 100 µH. Packed in notebook style plastic case. **777-1210. KD-IMC1210.....EACH 130.90**

KD-ISC1210 Dale Surface Mount ISC-1210 Shielded Inductors. Molded construction provides superior strength and moisture resistance. Compatible with vapor phase and infrared reflow soldering. Surface mount inductors in 1210 packaging. 5 pieces per value of 18 values for a total of 90 pieces. From 0.1 to 100 µH. Packed in notebook style plastic case. **777-1211. KD-ISC1210.....EACH 132.60**

Computer Grade Capacitors

MALLORY



CGS Computer Grade Capacitors

High performance computer grade capacitor. Long life expectancy available in high or low post configurations. **Operating Temperature:** -40°C to +85°C. Low ESR high ripple capabilities. **Voltage Range:** 10 WVDC 450 WVDC. **Tolerance:** -10% +75% up to 150 WVDC, -10% +50%, 200-450 WVDC.

Stock No.	Mfr.'s Type	MFD	WV DC	Case Size (In.) Dia. x L	EACH		
					1-24	25-49	50-99
857-0200	CGS123U010R2C	12000	10	1 1/8 x 2 1/8	9.11	8.41	7.81
857-0201	CGS183U010R2C	18000	10	1 3/8 x 2 1/8	9.55	8.82	8.19
857-0204	CGS263U010R3C	26000	10	1 3/8 x 3/8	10.47	9.67	8.98
857-0051	CGS153U016R2L	15000	16	1 3/8 x 2 5/8	9.52	8.70	8.16
857-0052	CGS173U016R3C	17000	16	1 3/8 x 3/8	10.86	10.03	9.31
857-0053	CGS233U016V3C	23000	16	2 x 3/8	12.91	11.40	10.34
857-0054	CGS253U016V2C	25000	16	2 x 2 1/8	14.23	12.56	11.84
857-0055	CGS343U016R4C	34000	16	1 3/8 x 4 1/8	12.78	11.19	10.15
857-0056	CGS383U016V3C	38000	16	2 x 3/8	15.55	13.71	12.43
857-0121	CGS503U016V3C	50000	16	2 x 3/8	18.60	15.50	14.06
857-0216	CGS553U016V3L	55000	16	2 x 3/8	17.47	15.41	13.97
857-0058	CGS703U016V4C	70000	16	2 x 4 1/8	19.11	16.87	15.85
857-0220	CGS104U016X5C	100000	16	3 x 5/8	41.89	36.97	33.52
857-0160	CGS114U016W4C	110000	16	2 1/2 x 4 1/8	29.23	25.79	23.38
857-0110	CGS124U016X3L	120000	16	3 x 3/8	38.52	33.99	30.81
857-0224	CGS214U016X5R	210000	16	3 x 5/8	45.27	39.94	36.21
857-0006	CGS562U025R3C	5600	25	1 1/8 x 3/8	9.45	8.33	7.56
857-0007	CGS892U025R3C	8900	25	1 1/8 x 3/8	9.88	8.72	7.90
857-0226	CGS103U025R3C	10000	25	1 1/8 x 3/8	9.88	8.72	7.91
857-0008	CGS123U025V3C	12000	25	2 x 3/8	12.92	10.40	10.33
857-0230	CGS163U025R4C	16000	25	1 1/8 x 4 1/8	11.38	10.04	9.11
857-0010	CGS203U025V3C	20000	25	2 x 3/8	14.45	12.75	11.56
857-0065	CGS283U025V3C	28000	25	2 x 3/8	19.96	16.62	15.34
857-0068	CGS573U025X5C	57000	25	3 x 5/8	42.09	37.15	33.68
857-0236	CGS653U025W4C	65000	25	2 1/2 x 4 1/8	27.44	24.21	22.34
857-0070	CGS123U030R4C	12000	30	1 1/8 x 4 1/8	11.28	9.95	9.05
857-0128	CGS153U030R4L	15000	30	1 1/8 x 4 1/8	12.10	10.67	9.68
857-0072	CGS303U030V4C	30000	30	2 x 4 1/8	17.90	15.80	14.32
857-0129	CGS104U030X5L	100000	30	3 x 5/8	49.78	43.93	39.82
857-0270	CGS822U035R3C	8200	35	1 1/8 x 3/8	13.20	11.00	10.15
857-0272	CGS103U035V2C	10000	35	2 x 2 1/8	13.53	11.94	10.83
857-0274	CGS123U035R4C	12000	35	1 1/8 x 4 1/8	11.62	10.25	9.29
857-0276	CGS213U035V3C	21000	35	2 x 3/8	15.95	14.08	12.76
857-0278	CGS303U035W3C	30000	35	2 1/2 x 4 1/8	28.27	24.95	22.61
857-0280	CGS703U035X4C	70000	35	3 x 4 1/8	42.72	37.69	34.18
857-0012	CGS222U040R2C	2200	40	1 1/8 x 2 1/8	8.38	7.79	7.07
857-0047	CGS272U040R2C	2700	40	1 1/8 x 2 1/8	8.83	7.80	7.07
857-0013	CGS422U040R3C	4200	40	1 1/8 x 3/8	10.21	9.01	8.18
857-0014	CGS512U040R3C	5100	40	1 1/8 x 3/8	9.80	8.64	7.84
857-0073	CGS602U040R3C	6000	40	1 1/8 x 3/8	10.38	9.16	8.30
857-0075	CGS752U040R4C	7500	40	1 1/8 x 4 1/8	10.95	9.66	8.76
857-0130	CGS902U040R4C	9000	40	1 1/8 x 4 1/8	12.15	10.71	9.72
857-0076	CGS932U040V3C	9300	40	2 x 3/8	14.01	12.36	11.22
857-0015	CGS113U040V3C	11000	40	2 x 3/8	14.50	12.80	11.60
857-0077	CGS133U040V4C	13000	40	2 x 4 1/8	14.88	13.13	12.61
857-0016	CGS173U040V4C	17000	40	2 x 4 1/8	15.50	13.72	12.44
857-0078	CGS203U040V5L	20000	40	2 x 5/8	19.74	17.41	15.78
857-0131	CGS223U040V3C	22000	40	2 x 3/8	17.97	15.85	14.37
857-0133	CGS353U040V5L	35000	40	2 x 5/8	23.94	22.09	20.52
857-0036	CGS403U040W4C	40000	40	2 1/2 x 4 1/8	34.94	30.84	27.96
857-0282	CGS473U040W4C	47000	40	2 1/2 x 4 1/8	32.68	33.25	30.15
857-0081	CGS162U050R2C	1600	50	1 1/8 x 2 1/8	8.44	7.44	7.11
857-0017	CGS222U050R2C	2200	50	1 1/8 x 2 1/8	8.83	7.79	7.07
857-0083	CGS292U050R3C	2900	50	1 1/8 x 3/8	12.81	10.94	9.26
857-0018	CGS412U050R3C	4100	50	1 1/8 x 3/8	10.75	9.48	8.59
857-0084	CGS492U050R3L	4900	50	1 1/8 x 3/8	11.14	9.82	8.90
857-0134	CGS502U050R3C	5000	50	1 1/8 x 3/8	12.11	10.63	9.74
857-0020	CGS612U050R4C	6100	50	1 1/8 x 4 1/8	11.00	9.71	8.80

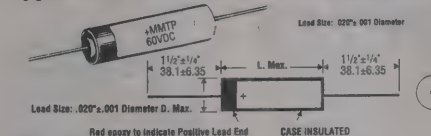
Stock No.	Mfr.'s Type	MFD	WV DC	Case Size (In.) Dia. x L	EACH		
					1-24	25-49	50-99
857-0086	CGS652U050V3C	6500	50	2 x 3/8	14.06	12.41	11.22
857-0284	CGS682U050R3C	6800	50	1 1/8 x 3/8	11.62	10.24	9.24
857-0286	CGS752U050R4C	7500	50	1 1/8 x 4 1/8	12.15	10.72	9.72
857-0021	CGS962U050V4C	9600	50	2 x 4 1/8	15.05	13.27	12.79
857-0136	CGS103U050R4C	10000	50	1 1/8 x 4 1/8	13.02	12.02	11.16
857-0088	CGS153U050V4C	15000	50	2 x 4 1/8	17.56	15.50	14.06
857-0139	CGS203U050V4C	20000	50	2 x 4 1/8	20.17	17.80	16.13
857-0288	CGS483U050X4C	48000	50	3 x 4 1/8	49.01	45.24	42.01
857-0290	CGS603U050X5C	60000	50	3 x 5/8	54.97	48.50	43.97
857-0292	CGS104U050X8L	100000	50	3 x 8 1/8	83.24	73.44	72.86
857-0089	CGS152U075R3C	1500	75	1 1/8 x 3 1/8	9.75	9.18	8.52
857-0091	CGS292U075R3C	2900	75	1 1/8 x 3 1/8	10.26	9.67	8.98
857-0092	CGS422U075R4C	4200	75	2 1/2 x 4 1/8	11.95	11.03	10.24
857-0023	CGS482U075V3C	4800	75	2 x 3/8	14.55	13.65	12.68
857-0142	CGS103U075V3C	10000	75	2 x 3/8	19.40	18.27	15.52
857-0143	CGS103U075V4C	10000	75	2 x 4 1/8	20.91	18.45	17.25
857-0294	CGS153U075V5C	15000	75	2 x 5/8	27.93	24.63	22.35
857-0296	CGS253U075W5L	25000	75	2 1/2 x 5 5/8	45.37	40.03	36.30
857-0144	CGS373U075X5L	37000	75	3 x 5/8	60.00	52.94	49.60
857-0095	CGS122U100R3C	1200	100	1 1/8 x 3/8	9.93	9.62	8.93
857-0024	CGS402U100V4C	4000	100	2 x 4 1/8	16.69	14.73	13.36
857-0252	CGS902U100V5L	9000	100	2 x 5/8	23.95	21.14	19.16
857-0145	CGS103U100W4C	10000	100	2 1/2 x 4 1/8	37.61	32.00	29.71
857-0254	CGS153U100X4C	15000	100	3 x 4 1/8	39.41	36.37	33.78
857-0098	CGS401U150R2L	400	150	1 1/8 x 2 1/8	9.32	8.22	7.45
857-0100	CGS352U150V5C	3500	150	2 x 5/8	21.80	19.24	17.44
857-0101	CGS572U150X4C	5700	150	3 x 4 1/8	35.52	31.33	28.42
857-0146	CGS422U150X5R	8700	150	3 x 5/8	47.08	41.54	37.67
857-0102	CGS5912200R3C	590	200	1 1/8 x 3/8	11.08	10.44	9.69
857-0103	CGS1022200R4C	1000	200	1 1/8 x 4 1/8	13.52	13.15	12.04
857-0148	CGS2722200V4C	2700	200	2 x 4 1/8	25.92	22.87	20.73
857-0298	CGS4622200X4C	4600	200	3 x 4 1/8	46.60	41.11	37.28
857-0300	CGS5022200W5C	5000	200	2 1/2 x 5 1/8	51.82	46.67	45.71
857-0302	CGS7422200X5L	7400	200	3 x 5/8	73.01	68.51	63.62
857-0304	CGS7722200X5L	7700	200	3 x 5/8	74.73	65.94	59.79
857-0042	CGS2012250R2C	200	250	1 1/8 x 2 1/8	10.13	8.93	8.27
857-0306	CGS2512250R2C	250	250	1 1/8 x 2 1/8	10.42	9.19	8.33
857-0028	CGS5512250R4C	550	250	1 1/8 x 4 1/8	12.53	11.57	10.59
857-0030	CGS1222250V3C	1200	250	2 x 3/8	19.30	17.03	15.44
857-0149	CGS2522250V5L	2500	250	2 x 5/8	28.99	26.09	25.37
857-0308	CGS4222250W5L	4200	250	2 1/2 x 5 1/8	54.43	48.03	43.55
857-0150	CGS6022250X5L	6000	250	3 x 5/8	69.06	67.32	56.53
857-0151	CGS4022300X5L	4000	300	3 x 5/8	69.06	62.04	58.04
857-0152	CGS5112300R3C	250	350	1 1/8 x 3/8	11.95	10.54	9.56
857-0106	CGS3813300R4C	380	350	1 1/8 x 4 1/8	14.35	12.66	11.48
857-0130	CGS6513300V3C	650	350	2 x 3/8	20.25	17.87	16.12
857-0153	CGS1023300V4C	1000	350	2 x 4 1/8	25.87	22.82	20.69
857-0156	CGS3323300X5L	3300	350	3 x 5/8	73.43	64.78	58.75
857-0312	CGS7504250R2C	75	450	1 1/8 x 2 1/8	9.70	8.55	7.75
857-0107	CGS1014250R2C	100	450	1 1/8 x 2 1/8	10.26	9.06	8.22
857-0157	CGS1414250R3C	140	450	1 1/8 x 3/8	11.60	10.24	9.50
857-0260	CGS2114250R4C	210	450	1 1/8 x 4 1/8	13.57	11.97	10.85
857-0108	CGS3214250V3C	320	450	2 x 3/8	18.38	16.23	14.71
857-0159	CGS3514250R5C	350	450	1 1/8 x 5/8	20.02	17.66	16.01
857-0160	CGS4014250R5L	400	450	1 1/8 x 5/8	19.78	17.45	15.83
857-0161	CGS4814250V3C	450	450	2 x 3/8	21.83	19.26	17.47
857-0109	CGS4814250V4C	480	450	2 x 4 1/8	23.13	20.41	18.51
857-0162	CGS6514250V4C	650	450	2 x 4 1/8	26.84	23.64	23.32
857-0262	CGS8014250V4L	800	450	2 x 4 1/8	24.95	22.02	19.96
857-0264	CGS1024250W4C	1000	450	2 1/2 x 4 1/8	48.10	42.44	38.48
857-0163	CGS1124250X4C	1100	450	3 x 4 1/8	54.43	48.03	43.55
857-0164	CGS1524250X5C	1500	450	3 x 5/8	56.35	49.72	45.08
857-0166	CGS1824250X5R	1800	450	3 x 5/8	63.12	55.69	50.49
857-0268	CGS2024250X5C	2000	450	3 x 5/8	63.28	59.11	53.76

Epoxy Dipped Solid Tantalum Capacitors

Type TDC capacitors offer the long life electrical stability characteristics of solid tantalum at low cost. The tough epoxy coating provides uniform lead spacing and protection against mechanical damage and moisture. These capacitors are ideal for industrial and consumer applications where premium performance, minimum size, and low cost are essential. **Operating Temperature:** -55°C to +125°C (with voltage derating above 85°C). The TDC dip-coated solid tantalum capacitor has leads 0.187" maximum in length. A tolerance of ±20% is indicated by an "M" in the Mfr.'s type number; a tolerance of ±10% is indicated by a "K" in the Mfr.'s type number. **Leads:** Diameter: .020" (.51 mm). **Leads Space S (Using Last 3 Letters in Mfr.'s Type):** NSE, NSF — .125" (3.17 mm); WSG — .250" (6.35 mm).

Stock No.	Mfr.'s Type	WVDC / Surge VDC	Cap. µF	Case (In.)		EACH	
				D	H	1-49	50-99
852-5614	TDC226K01NSF	10/13	22	.250	.500	.96	.87
852-5656	TDC336K01NSF	10/13	33	.250	.500	1.28	1.05
852-5613	TDC476K01NSF	10/13	47	.250	.500	2.52	2.07
852-5657	TDC107M01WSG	10/13	100	.350	.650	3.57	2.60
852-5615	TDC107K01OWSG	10/13	100	.350	.650	3.14	2.05
852-5616	TDC227K01OWSG	10/13	220	.350	.650	7.73	6.33
852-5661	TDC106K01NSF	10/13	10	.250	.500	.99	.81
852-5618	TDC226K01NSF	10/13	22	.250	.500	1.08	.95
852-5660	TDC226M01NSF	10/13	22	.250	.500	.98	.90
852-5619	TDC686K01WSG	10/13	68	.350	.650	3.30	2.88
852-5620	TDC686M01WSG	10/13	68	.350	.650	2.98	2.60
852-5617	TDC157K01WSG	10/13	150	.350	.650	6.32	5.79
852-5663	TDC225M02NSF	20/16	2.2	.175	.350	.46	.42
852-5622	TDC225K02NSF	20/16	2.2	.175	.350	.58	.53
852-5625	TDC475K02NSF	20/16	4.7	.175	.350	.73	.67
852-5665	TDC106K02NSF	20/16	10	.250	.500	.92	.84
852-5621	TDC156K02NSF	20/16	15	.250	.500	1.15	1.01
852-5623	TDC226M02NSF	20/16	22	.250	.500	1.79	1.56
852-5624	TDC336M02WSG	20/16	33	.350	.650	2.46	2.14
852-5667	TDC476K02WSG	20/16	47	.350	.650	2.95	2.57
852-5666	TDC476M02WSG	20/16	47	.350	.650	1.92	1.54
852-5672	TDC107K02OWSG	20/16	100	.350	.650	6.83	6.26
852-5668	TDC107M02OWSG	20/16	100	.350	.650	5.71	5.27
852-5669	TDC686K02NSF	20/16	68	.350	.650	.94	.86
852-5633	TDC686M02NSF	20/16	68	.350	.650	.88	.80
852-5632	TDC825K02NSF	20/16	8.2	.250	.500	1.09	.98
852-5673	TDC106K02NSF	20/16	10	.250	.500	.80	.58
852-5670	TDC106M02NSF	20/16	10	.250	.500	.95	.88
852-5671	TDC226M02NSF	20/16	22	.250	.500	1.37	1.20
852-5627	TDC336K02WSG	20/16	33	.350	.650	2.98	2.60
852-5628	TDC336M02WSG	20/16	33	.350	.650	3.14	2.74
852-5629	TDC476K02WSG	20/16	47	.350	.650	4.92	4.51
852-5631	TDC686K02WSG	20/16	68	.350	.650	6.83	6.26
852-5640	TDC474K03NSF	30/16	47	.175	.350	.66	.61
852-5677	TDC105K03NSF	30/16	1	.175	.350	1.21	1.11
852-5674	TDC105M03NSF	30/16	1	.175	.350	.73	.68
852-5635	TDC155K03NSF	30/16	1.5	.175	.350	.63	.57
852-5676	TDC225M03NSF	30/16	2.2	.175	.350	.63	.57
852-5637	TDC225K03NSF	30/16	2.2	.175	.350	.60	.53
852-5639	TDC335K03NSF	30/16	3.3	.250	.500	.80	.73
852-5690	TDC475K03NSF	30/16	4.7	.250	.500	1.29	1.16
852-5678	TDC475M03NSF	30/16	4.7	.250	.500	.81	.74
852-5681	TDC685K03NSF	30/16	68	.250	.500	.93	.73
852-5679	TDC685M03NSF	30/16	68	.250	.500	.98	.91
852-5683	TDC106K03NSF	30/16	10	.250	.500	.96	.71
852-5680	TDC106M03NSF	30/16	10	.250	.500	1.41	1.24
852-5636	TDC156K03WSG	30/16	15	.350	.650	2.85	2.49
852-5686	TDC226K03WSG	30/16	22	.350	.650	3.41	2.96
852-5682	TDC226M03WSG	30/16	22	.350	.650	3.02	2.64
852-5687	TDC476K03WSG	30/16	47	.350	.650	6.33	5.80
852-5684	TDC476M03WSG	30/16	47	.350	.650	6.22	5.71
852-5685	TDC104K05NSF	50/16	.10	.175	.350	.55	.42
852-5642	TDC104M05NSF	50/16	.10	.175	.350	.89	.81
852-5649	TDC334K05NSF	50/16	.33	.175	.350	.48	.44
852-5689	TDC474K05NSF	50/16	.47	.175	.350	.57	.53
852-5691	TDC105K05NSF	50/16	1	.175	.350	.45	.41
852-5643	TDC105M05NSF	50/16	1	.175	.350	.60	.55
852-5646	TDC225K05NSF	50/16	2.2	.250	.500	.94	.83
852-5651	TDC475K05NSF	50/16	4.7	.250	.500	1.07	.91
852-5644	TDC106K05WSG	50/16	10	.350	.650	3.46	3.03
852-5645	TDC106M05WSG	50/16	10	.350	.650	3.35	2.91
852-5647	TDC226K05WSG	50/16	22	.350	.650	7.32	6.71
852-5648	TDC226M05WSG	50/16	22	.350	.650	7.19	6.59

Type MTP Subminiature Capacitors



Case Code Dimensions

Case Code	Diameter	Length	Max. DCL at Max. WVDC in µA	
			+25°C	+85°C
A	.115"	.403"	2.0	6.0
B	.145"	.600"	2.0	8.0
C	.225"	.778"	2.0	10.0
D	.115"	.300"	2.0	6.0

Stock No.	Mfr.'s Type	Cap µF	WVDC @ 85°C	Max. DF @ 25°C	Case Code	EACH	
						1-24	25-49
852-0716	MTP476M006P1A	47	6	24	A	7.34	6.73
852-0718	MTP157M006P1B	150	6	25	B	11.96	9.96
852-0720	MTP187M006P1B	180	6	26	B	9.35	8.80
852-0722	MTP477M006P1C	450	6	35	C	19.24	17.63
852-0724	MTP106M010P1D	470	6	35	C	16.50	15.24
852-0725	MTP106M010P1D	10	10	16	D	8.01	6.67
852-0728	MTP336M010P1A	33	10	21	A	8.55	7.12
852-0730	MTP107M010P1A	100	10	21	B	9.35	8.58
852-0732	MTP127M010P1A	120	10	24	B	9.35	8.80
852-0734	MTP307M010P1C	300	10	26	C	17.50	14.58
852-0736	MTP337M010P1C	330	10	27	C	19.25	16.04
852-0738	MTP226M015P1A	22	15	18	A	7.34	6.73
852-0740	MTP686M015P1B	68	15	19	B	10.88	9.06
852-0742	MTP806M015P1B	80	15	21	B	10.88	9.06
852-0744	MTP207M015P1C	200	15	21	C	19.25	16.04
852-0746	MTP227M015P1C	220	15	23	C	15.00	13.75
852-0748	MTP685M020P1D	68	20	14	D	6.88	6.31
852-0750	MTP156M020P1A	15	20	16	A	9.41	7.84
852-0752	MTP476M020P1B	47	20	18	B	9.89	8.36
852-0754	MTP606M020P1B	60	20	18	B	10.88	9.06
852-0756	MTP157M020P1C	150	20	20	C	19.25	16.04
852-0758	MTP106M030P1A	10	30	14	A	9.42	7.84
852-0760	MTP456M030P1B	45	30	18	B	11.46	9.96
852-0762	MTP127M030P1C	120	30	21	C	16.50	15.13
852-0764	MTP475M035P1D	4.7	35	12	D	8.01	6.67
852-0766	MTP106M035P1A	10	35	14	A	7.34	6.48
852-0768	MTP107M035P1A	100	35	17	C	16.50	15.13
852-0770	MTP685M050P1A	68	50	14	A	7.34	6.73
852-0772	MTP306M050P1B	30	50	14	B	9.35	8.58
852-0774	MTP336M050P1B	33	50	18	B	9.35	8.58
852-0776	MTP686M050P1C	68	50	15	C	19.25	16.04
852-0780	MTP335M060P1D	3.3	60	10	D	8.01	6.67
852-0782	MTP106M060P1B	10	60	17	B	9.35	8.58
852-0784	MTP156M060P1B	15	60	18	B	10.88	9.06
852-0786	MTP226M060P1B	22	60	10	B	8.56	7.13
852-0788	MTP476M060P1C	47	60	14	C	16.50	15.13
852-0790	MTP686M060P1C	68	60	14	C	16.50	15.13

Capacitor Kits In Plastic Storage Cabinets

MONO151A Monolithic Capacitor Malloin. A collection of Monolithic ceramic capacitors with voltages to 200 WVDC. Values from 10 pF to 1 µF. **852-2610. MONO151A. EACH 179.83**

SKR151A. A selection of single ended aluminum electrolytic capacitors with voltages to 450 WVDC. Values to 1 µF to 6800 µF. **852-2604. SKR151A. EACH 64.55**

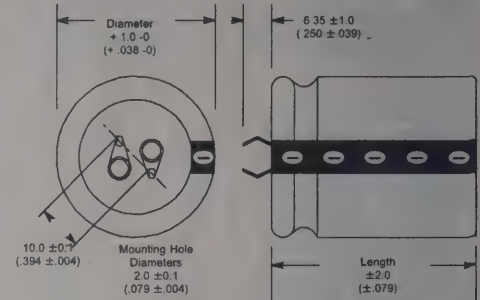
TC151A. Assorted axial leaded aluminum electrolytic capacitors with voltages to 450 WVDC. Values from 10 pF to 200 µF. **852-2601. TC151A. EACH 62.98**

TDC151A. An assortment of epoxy dipped solid tantalum capacitors. Voltages to 50 WVDC. Values from .1 µF to 220 µF. **Tolerance: ±10%. EACH 137.30**

TAC151A Solid Tantalum. An assortment of 78 axial leaded molded solid tantalum capacitors. Six each of 24 popular ratings from .1 µF to 47 µF. Voltages to 50 WVDC. **852-2620. TAC151A. EACH 180.00**



Radial Lead Snap-In Capacitors



This high capacitance general purpose aluminum electrolytic capacitor has radial snap-in leads. These are ideal for input filter in SMPS. PVC insulating sleeve. **Tolerance: 20%. Temperature Range: -40 to +85°C.**

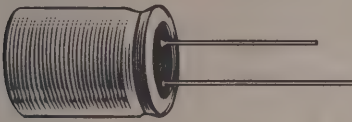
Case Codes Dimensions

Diameter	Length							
	25 (1.00)	30 (1.18)	35 (1.38)	40 (1.57)	45 (1.77)	50 (2.00)		
mm	Inches	A1	A3	A5	A7	A4	A9	
25	1.00	C1	C3	C5	C7	C4	C9	
30	1.18	E1	E3	E5	E7	E4	E9	
35	1.38	H1	H3	H5	H7	H4	H9	

Stock No.	Mfr.'s Type	MFD	VDC	Size	EACH	
					1-24	25-49
852-1400	LPX391M200C1P3	390	200	25 x 25	7.17	6.62
852-1404	LPX471M200C3P3	470	200	25 x 30	7.95	6.82
852-1406	LPX561M200C5P3	560	200	25 x 35	8.99	8.30
852-1410	LPX821M200E5P3	820	200	30 x 35	12.25	10.51
852-1412	LPX102M200E7P3	1000	200	30 x 40	16.66	13.88
852-1414	LPX102M200H3P3	1000	200	35 x 30	14.40	13.29
852-1416	LPX122M200E4P3	1200	200	30 x 45	17.45	15.17
852-1418	LPX122M200H5P3	1200	200	35 x 35	16.52	15.28
852-1420	LPX152M200H7P3	1500	200	35 x 40	19.64	17.09
852-1424	LPX222M200H9P3	2200	200	35 x 50	26.94	23.10
852-1430	LPX331M250C3P3	330	250	25 x 30	7.75	6.65
852-1432	LPX471M250C5P3	470	250	25 x 35	9.84	8.43
852-1434	LPX471M250E3P3	470	250	30 x 30	10.24	8.78
852-1436	LPX561M250E3P3	560	250	30 x 30	17.00	14.57
852-1438	LPX561M250H1P3	560	250	35 x 25	17.00	14.57
852-1440	LPX681M250H3P3	680	250	30 x 35	13.26	11.53
852-1442	LPX681M250H3P3	680	250	35 x 30	13.65	11.87
852-1444	LPX102M250E4P3	1000	250	30 x 45	17.00	15.69
852-1446	LPX102M250H7P3	1000	250	35 x 40	18.24	16.84
852-1448	LPX122M250H4P3	1200	250	35 x 45	25.50	21.85
852-1450	LPX152M250H9P3	1500	250	35 x 50	25.36	22.55
852-1452	LPX121M350C1P3	120	350	25 x 25	7.29	6.26
852-1454	LPX331M350E5P3	330	350	30 x 35	12.35	10.58
852-2456	LPX391M350E7P3	390	350	30 x 40	13.85	11.88
852-1458	LPX471M350E4P3	470	350	30 x 45	16.00	13.91
852-1460	LPX561M350H7P3	560	350	35 x 40	18.90	16.44
852-1462	LPX681M350H4P3	680	350	35 x 45	22.10	18.94
852-1466	LPX221M400C7P3	220	400	25 x 40	9.02	7.85
852-1468	LPX331M400E7P3	330	400	30 x 40	15.03	13.07
852-1470	LPX391M400E4P3	390	400	30 x 40	27.20	23.31
852-1472	LPX471M400H7P3	470	400	35 x 40	35.69	31.83
852-1476	LPX681M400H9P3	680	400	35 x 50	33.93	29.04
852-1478	LPX820M450C1P3	820	450	25 x 25	6.78	6.07
852-1480	LPX101M450C3P3	100	450	25 x 30	7.16	6.73
852-1484	LPX221M450E7P3	220	450	30 x 40	12.17	11.07
852-1486	LPX271M450E4P3	270	450	30 x 45	15.64	13.57
852-1488	LPX331M450E9P3	330	450	30 x 50	18.34	15.72
852-1490	LPX331M450H7P3	330	450	35 x 40	18.81	16.12
852-1492	LPX391M450H4P3	390	450	35 x 45	21.50	18.44
852-1494	LPX471M450H9P3	470	450	35 x 50	25.57	21.86

Miniature Radial Electrolytic Capacitors

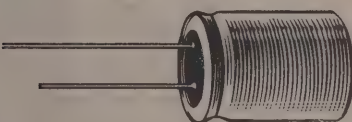
Type SKR Miniature Aluminum Electrolytic Capacitors



The SKR series is a radial lead, high CV miniature aluminum electrolytic capacitor which is smaller in case size than other general use products. This series is suitable for those electronic products requiring small size. It is suitable for consumer electronic equipment, such as stereo radios, TV sets, etc. The aluminum case is enclosed in a vinyl sleeve. **Tolerance: ±20%. Operating Temperature Range: -40 ~ +85°C.**

Stock No.	Mfr.'s Type	MFD	VDC	Size (mm)	EACH	
					1-49	50-99
852-1500	SKR470M1AD11	47	10	5 × 11	.10	.06
852-1502	SKR101M1AD11	100	10	5 × 11	.13	.08
852-1504	SKR221M1AE11V	220	10	6 × 11	.16	.11
852-1506	SKR471M1AF11V	470	10	8 × 11	.26	.18
852-1508	SKR102M1AG16V	1000	10	10 × 16	.39	.27
852-1510	SKR222M1AJ21V	2200	10	13 × 21	.82	.46
852-1512	SKR332M1AJ21V	3300	10	13 × 21	1.04	.70
852-1514	SKR472M1AK25V	4700	10	16 × 25	1.31	.89
852-1518	SKR682M1AK32V	6800	10	16 × 32	1.94	1.47
852-1520	SKR103M1AL35V	10000	10	18 × 35	2.66	2.01
852-1524	SKR153M1AL42V	15000	10	18 × 42	3.31	2.50
852-1516	SKR220M1CD11	22	16	5 × 11	.10	.07
852-1518	SKR330M1CD11	33	16	5 × 11	.10	.07
852-1520	SKR470M1CE11V	47	16	5 × 11	.10	.07
852-1522	SKR101M1CF11V	100	16	6 × 11	.14	.09
852-1524	SKR221M1CF11V	220	16	8 × 11	.22	.15
852-1526	SKR331M1CF11V	330	16	8 × 11	.28	.19
852-1528	SKR471M1CG13V	470	16	10 × 13	.32	.21
852-1530	SKR102M1CG21V	1000	16	10 × 21	.49	.33
852-1532	SKR222M1CJ21V	2200	16	13 × 21	.88	.60
852-1534	SKR332M1CJ26V	3300	16	13 × 26	1.17	.80
852-1536	SKR472M1CK32V	4700	16	16 × 32	1.99	1.35
852-1538	SKR682M1CL35V	6800	16	16 × 35	2.69	1.83
852-1540	SKR103M1CL42V	10000	16	18 × 42	3.17	2.16
852-1542	SKR100M1ED11	10	25	5 × 11	.10	.07

Type TKR Miniature High Temperature Electrolytic Capacitors



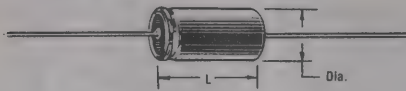
The TKR series is a radial lead, high temperature, general use miniature electrolytic capacitor. The TKR series is suitable for consumer electronic equipment, telecommunication equipment and general industry products requiring high temperatures. The aluminum case is enclosed in a vinyl sleeve. **Tolerance: ±20%. Operating Temperature Range: -40 ~ +105°C.**

Stock No.	Mfr.'s Type	MFD	VDC	Size (mm)	EACH	
					1-49	50-99
852-1700	TKR330M1CD11	33	16	5 × 11	.13	.09
852-1702	TKR470M1CD11	47	16	5 × 11	.12	.08
852-1704	TKR101M1CF11V	100	16	6 × 11	.14	.10
852-1706	TKR221M1CF11V	220	16	8 × 11	.23	.16
852-1708	TKR331M1CF11V	330	16	8 × 11	.34	.23
852-1710	TKR471M1CG13V	470	16	10 × 13	.34	.23
852-1712	TKR102M1CG21V	1000	16	10 × 21	.52	.35
852-1714	TKR222M1CJ21V	2200	16	13 × 21	.92	.69
852-1716	TKR332M1CJ26V	3300	16	13 × 26	1.23	.93
852-1718	TKR472M1CK32V	4700	16	16 × 32	2.01	1.37
852-1720	TKR682M1CL35V	6800	16	18 × 35	2.33	1.58
852-1722	TKR220M1ED11	22	25	5 × 11	.11	.07
852-1724	TKR330M1ED11	33	25	5 × 11	.13	.09
852-1726	TKR470M1ED11	47	25	5 × 11	.13	.09
852-1728	TKR101M1EE11V	100	25	6 × 11	.18	.12
852-1730	TKR221M1EF11V	220	25	8 × 11	.32	.21
852-1732	TKR331M1EG13V	330	25	10 × 13	.41	.31
852-1734	TKR471M1EG16V	470	25	10 × 16	.43	.32
852-1736	TKR102M1EJ21V	1000	25	13 × 21	.77	.58

Stock No.	Mfr.'s Type	MFD	VDC	Size (mm)	EACH	
					1-49	50-99
852-1544	SKR220M1ED11	22	25	5 × 11	.10	.07
852-1546	SKR330M1ED11	33	25	5 × 11	.10	.07
852-1548	SKR470M1ED11	47	25	5 × 11	.11	.07
852-1550	SKR101M1EE11V	100	25	6 × 11	.21	.14
852-1552	SKR221M1EF11V	220	25	8 × 11	.23	.15
852-1554	SKR331M1EG13V	330	25	10 × 13	.39	.27
852-1556	SKR471M1EG16V	470	25	10 × 16	.39	.27
852-1558	SKR102M1EJ21V	1000	25	13 × 21	.67	.46
852-1560	SKR222M1EJ26V	2200	25	13 × 26	1.06	.67
852-1562	SKR332M1EK32V	3300	25	16 × 32	1.54	.98
852-1564	SKR472M1EL35V	4700	25	18 × 35	1.91	1.27
852-1566	SKR100M1VD11	10	35	5 × 11	.19	.15
852-1568	SKR220M1VD11	22	35	5 × 11	.11	.07
852-1570	SKR330M1VD11	33	35	5 × 11	.11	.07
852-1572	SKR470M1VE11V	47	35	6 × 11	.14	.10
852-1574	SKR101M1VF11V	100	35	8 × 11	.31	.21
852-1576	SKR221MVG13V	220	35	10 × 13	.32	.22
852-1578	SKR331M1VG16V	330	35	10 × 16	.40	.27
852-1580	SKR471M1VG21V	470	35	10 × 21	.50	.34
852-1582	SKR102M1VJ21V	1000	35	13 × 21	.90	.61
852-1584	SKR222M1VK32V	2200	35	16 × 32	1.73	1.18
852-1586	SKR332M1VL35V	3300	35	18 × 35	2.64	1.79
852-1588	SKR472M1VL42V	4700	35	18 × 42	3.04	2.07
852-1590	SKR100M1HD11	1	50	5 × 11	.10	.07
852-1592	SKR2R2M1HD11	2.2	50	5 × 11	.10	.07
852-1594	SKR3R3M1HD11	3.3	50	5 × 11	.10	.07
852-1596	SKR4R7M1HD11	4.7	50	5 × 11	.10	.07
852-1598	SKR100M1HD11	10	50	5 × 11	.10	.07
852-1600	SKR220M1HD11	22	50	5 × 11	.11	.08
852-1602	SKR330M1HE11V	33	50	6 × 11	.14	.10
852-1604	SKR470M1HE11V	47	50	6 × 11	.16	.11
852-1606	SKR101M1HF11V	100	50	8 × 11	.31	.21
852-1608	SKR221M1HG16V	220	50	10 × 16	.43	.29
852-1610	SKR331M1HG21V	330	50	10 × 21	.54	.37
852-1612	SKR471M1HJ21V	470	50	13 × 21	.70	.47
852-1614	SKR102M1HK25V	1000	50	16 × 25	1.29	.88
852-1616	SKR222M1HL35V	2200	50	18 × 35	2.35	1.60
852-1618	SKR332M1HL42V	3300	50	18 × 42	4.06	2.76
852-1620	SKR472M1JD11	4.7	63	5 × 11	.10	.07
852-1622	SKR100M1JD11	10	63	5 × 11	.12	.07
852-1624	SKR220M1JE11V	22	63	6 × 11	.14	.10
852-1626	SKR330M1JE11V	33	63	6 × 11	.15	.10
852-1628	SKR470M1JF11V	47	63	8 × 11	.22	.15
852-1630	SKR101M1JG13V	100	63	10 × 13	.35	.23
852-1632	SKR221M1JG21V	220	63	10 × 21	.52	.35
852-1634	SKR331M1JJ21V	330	63	13 × 21	.74	.50
852-1636	SKR471M1JJ26V	470	63	13 × 26	.95	.64
852-1638	SKR102M1JK3V	1000	63	16 × 32	1.75	1.19

Stock No.	Mfr.'s Type	MFD	VDC	Size (mm)	EACH	
					1-49	50-99
852-1640	SKR472M2AD11	0.47	100	5 × 11	.10	.07
852-1642	SKR101M2AD11	1	100	5 × 11	.10	.07
852-1644	SKR2R2M2AD11	2.2	100	5 × 11	.09	.07
852-1646	SKR4R7M2AD11	4.7	100	5 × 11	.10	.07
852-1650	SKR100M2AE11V	10	100	6 × 11	.15	.10
852-1652	SKR220M2AF11V	22	100	8 × 11	.22	.15
852-1654	SKR330M2AG13V	33	100	10 × 13	.37	.25
852-1656	SKR470M2AG16V	47	100	10 × 16	.38	.26
852-1658	SKR101M2AJ21V	100	100	13 × 21	.66	.45
852-1660	SKR221M2AK25V	220	100	16 × 25	1.25	.85
852-1662	SKR331M2AK25V	330	100	16 × 25	1.65	1.12
852-1664	SKR471M2AK32V	470	100	16 × 32	1.82	1.24
852-1666	SKR100M2DE11V	1	200	6 × 11	.17	.11
852-1668	SKR220M2DE11V	2.2	200	6 × 11	.17	.11
852-1670	SKR330M2DE11V	3.3	200	6 × 11	.19	.13
852-1672	SKR470M2DF11V	4.7	200	8 × 11	.28	.19
852-1674	SKR100M2DG13V	10	200	10 × 13	.38	.26
852-1676	SKR220M2DG21V	22	200	10 × 21	.57	.39
852-1678	SKR330M2DJ21V	33	200	13 × 21	.79	.54
852-1680	SKR470M2DJ21V	47	200	13 × 21	1.03	.70
852-1682	SKR101M2DK25V	100	200	16 × 25	1.73	1.18
852-1684	SKR221M2DL42V	220	200	18 × 42	3.46	2.61
852-1686	SKR100M2EE11V	1	250	6 × 11	.17	.12
852-1688	SKR2R2M2EE11V	2.2	250	6 × 11	.18	.12
852-1690	SKR3R3M2EF11V	3.3	250	8 × 11	.31	.21
852-1692	SKR470M2EF11V	4.7	250	8 × 11	.31	.21
852-1694	SKR100M2EG16V	10	250	10 × 16	.44	.30
852-1696	SKR220M2EJ21V	22	250	13 × 21	.84	.57
852-1698	SKR330M2EJ21V	33	250	13 × 21	.91	.62
852-1700	SKR470M2EJ26V	47	250	13 × 26	1.14	.77
852-1702	SKR101M2EK32V	100	250	16 × 32	2.12	1.44
852-1704	SKR2R2M2VF11V	1	350	8 × 11	.23	.16
852-1706	SKR3R3M2VF11V	3.3	350	8 × 11	.29	.20
852-1708	SKR470M2VG13V	4.7	350	10 × 13	.38	.29
852-1710	SKR100M2VG13V	10	350	10 × 13	.43	.29
852-1712	SKR220M2VJ21V	22	350	13 × 21	.65	.44
852-1714	SKR330M2VJ21V	33	350	13 × 21	.91	.74
852-1716	SKR470M2VJ26V	47	350	13 × 26	1.50	1.13
852-1718	SKR100M2VK25V	4.7	350	16 × 25	2.06	1.56
852-1720	SKR2R2M2VL35V	100	350	18 × 35	3.72	2.63
852-1722	SKR100M2WF11V	1	450	8 × 11	.27	.21
852-1724	SKR2R2M2WG13V	2.2	450	10 × 13	.39	.26
852-1726	SKR3R3M2WG16V	3.3	450	10 × 16	.44	.30
852-1728	SKR470M2WG16V	4.7	450	10 × 18	.55	.37
852-1730	SKR100M2WJ21V	10	450	13 × 21	.93	.70
852-1732	SKR220M2WK25V	22	450	16 × 25	1.74	1.19
852-1734	SKR330M2WK32V	33	450	16 × 32	2.31	1.76
852-1736	SKR470M2WL35V	47	450	18 × 35	3.14	2.13

Aluminum Electrolytic Capacitors



Type SKA Axial Miniature

The SKA series is an axial lead, general purpose, miniature electronic capacitor. This series is suitable for those electronic products requiring small size. It is suitable for consumer electronic equipment, such as stereo radios, TV sets, etc. The aluminum case is enclosed in a vinyl sleeve. **Tolerance: ±20%. Operating Temperature Range: -40 to +85°C.**

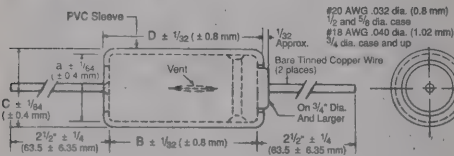
Stock No.	Mfr.'s Type	MFD	VDC	Case Size D x L (mm)	EACH	
					1-49	50-99
852-1800	SKA470M1AE13V	47	10	6.3 x 13	.31	.24
852-1802	SKA101M1AE16V	100	10	6.3 x 16	.35	.27
852-1804	SKA471M1AF16V	470	10	8.0 x 16	.44	.34
852-1806	SKA102M1AG22V	1000	10	10.0 x 22	.67	.52
852-1808	SKA222M1AJ27V	2200	10	13.0 x 27	1.11	.86
852-1810	SKA470M1CE13V	47	16	6.3 x 13	.31	.24
852-1812	SKA101M1CE16V	100	16	6.3 x 16	.40	.31
852-1814	SKA221M1CF16V	220	16	8.0 x 16	.43	.33
852-1816	SKA331M1CF16V	330	16	8.0 x 16	.44	.34
852-1818	SKA471M1CF21V	470	16	8.0 x 21	.50	.39
852-1820	SKA102M1CG27V	1000	16	10.0 x 27	.92	.71
852-1822	SKA222M1CJ32V	2200	16	13.0 x 32	1.23	.96
852-1824	SKA332M1CJ35V	3300	16	13.0 x 35	1.54	1.20
852-1826	SKA330M1EE13V	33	25	6.3 x 13	.32	.25
852-1828	SKA470M1EE16V	47	25	6.3 x 16	.35	.27
852-1830	SKA101M1EE16V	100	25	6.3 x 16	.40	.31
852-1832	SKA221M1EF16V	220	25	8.0 x 16	.43	.34

TC Aluminum Electrolytic Capacitors

TC capacitors are single section metal tubulars with plastic insulating sleeve. Sizes are for bare unsleeved cans; add .015" to the diameter and .062" to the length to allow for plastic sleeve. TC capacitors have etched cathode construction and 2.25" min. tin leads. **Specifications. Operating Temperature: -40°C to +85°C. Tolerance: -10% to 75% up to 350 WVDC, -10% to +50% for 450 WVDC.**

Stock No.	Mfr.'s Type	Cap. µF	WVDC	Case Size D x L (mm)	EACH		
					1-24	25-49	50-99
852-9039	TC50100	1000	50	.875 x 2.625	8.07	7.40	6.83
852-9040	TC50200	2000	50	1.000 x 2.625	10.50	9.61	8.86
852-9042	TC50300	3000	50	1.000 x 3.625	11.41	10.46	9.65
852-9043	TC50500	5000	50	1.000 x 3.625	12.72	11.66	10.76
852-9067	TC493	100	150	.750 x 1.625	7.29	6.68	6.17
852-9068	TC495	150	150	.875 x 1.625	7.46	6.83	6.31
852-9070	TC499	300	150	1.000 x 2.125	9.48	8.69	8.02
852-9073	TC52	10	250	.625 x 1.125	6.95	6.38	5.88
852-9076	TC55	20	250	.750 x 1.125	7.16	6.56	6.06
852-9079	TC59	50	250	.750 x 1.625	7.51	6.89	6.36
852-9048	TC1267	225	250	1.000 x 3.125	9.33	8.55	7.89
852-9086	TC62	10	350	.625 x 1.375	8.14	7.46	6.89
852-9186	TC69	100	350	.875 x 2.625	9.94	9.27	8.54
852-9088	TC695	2	450	.625 x 1.125	7.62	6.99	6.45
852-9095	TC697	4	450	.625 x 1.125	7.82	7.21	6.65
852-9089	TC72	10	450	.875 x 1.375	8.07	7.40	6.83
852-9100	TC74	16	450	.750 x 1.625	6.71	6.15	5.68
852-9101	TC75	20	450	.875 x 1.625	6.37	5.88	5.46
852-9107	TC77	30	450	1.000 x 1.625	7.42	6.80	6.28
852-9103	TC78	40	450	1.000 x 2.125	7.84	7.31	6.64
852-9192	TC79	50	450	1.000 x 2.125	9.92	9.10	8.40
852-9190	TC80	80	450	1.000 x 3.125	10.53	9.66	8.91
852-9191	TC807	100	450	1.000 x 3.125	15.76	14.45	13.34

TCG Series



Long Life, Axial Leads. The TCG is a small tubular axial version of the Mallory Type CG capacitor. The TCG features long life and low ESR and utilizes a PVC insulating sleeve as well as a safety vent on diameters .5 inches and larger. 7th digit of part number indicates tolerance. **Specifications. Capacitance Range: 10 to 10,000 µF. Voltage Range: 10 to 450 WVDC. Capacitance Tolerance: T = -10%, +50%; U = -10%, +75%. Operating Temperature: -40°C to +85°C.**

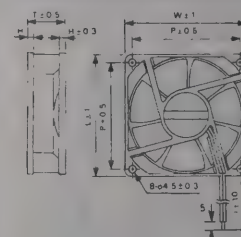
Stock No.	Mfr.'s Type	Cap. µF	WVDC	Case Size D x L (mm)	EACH		
					1-24	25-49	50-99
852-1212	TCG6320U15L2L	6300	15	.875 x 2.625	6.05	5.54	5.12
852-1214	TCG1030U15N2L	10000	15	1.000 x 2.625	6.77	6.21	5.73
852-1220	TCG1020U25N1C	1000	25	1.000 x 1.125	5.08	4.66	4.30
852-1222	TCG2220U25J2L	2200	25	.750 x 2.625	4.86	4.45	4.11
852-1224	TCG4020U25L3C	4000	25	.875 x 3.125	6.55	6.00	5.54
852-1230	TCG6010U50L1G	600	50	.875 x 1.375	4.67	4.28	3.95
852-1232	TCG1220U50L2C	1200	50	.875 x 2.125	6.27	5.75	5.30
852-1240	TCG101T250L2C	100	250	.875 x 1.125	4.77	4.37	4.03
852-1242	TCG101T250N2L	200	250	1.000 x 2.625	8.20	7.51	6.94
852-1244	TCG200T350G1C	20	350	.625 x 1.625	5.77	5.29	4.88
852-1243	TCG300T350G2C	30	350	.625 x 2.125	5.66	5.19	4.79
852-1246	TCG500T350N1G	50	350	1.000 x 1.375	6.34	5.81	5.37
852-1248	TCG101T350N2C	100	350	1.000 x 2.125	6.95	6.38	5.88
852-1252	TCG161T350N2L	160	350	1.000 x 2.625	8.40	7.70	7.11
852-1250	TCG181T350N3C	180	350	1.000 x 3.125	7.34	6.73	6.21
852-1254	TCG100T450J1C	10	450	.750 x 1.125	6.08	5.57	5.05
852-1256	TCG200T450N1C	20	450	1.000 x 1.125	6.92	6.45	5.85
852-1258	TCG500T450N2C	50	450	1.000 x 2.125	10.88	9.96	9.18

DC Voltage Rotary Fans

— NEW —

- Solid State Brushless DC Motors
- Low Current, Low Noise and Low Interference
- Ball or Sleeve Bearings Available
- CPU Cooling Module Available For The 40 mm Fan
- CPU and TÜV Approvals

Operating Temperature: -10°C to +65°C. Operating Voltage: At 12 VDC — 6 to 13.8 range; at 24 VDC — 14 to 27.6 range. Expected Life: 30,000 hours at 40°C. Wire Material: Red — (+) UL 1007, 22 AWG; Black — (-) UL 1007, 22 AWG. Plastic Material: Impeller — PBT UL94V-0 or ABS UL94HB; Frame — PBT UL94V-0.



Stock No.	Mfr.'s Type	Rated Voltage (DCV)	Start Voltage (DCV)	Rated Current (A)	Input Power (W)	Air Flow (CFM)	Airpressure H _s (mm H ₂ O)	Noise Distance/m (dB)	Max. Rotary Speed (rpm)/letter	Approx. Weight (g)	Dimensions (mm)						EACH	
											W	L	T	P	H	I	1-99	100-499
852-2500	JF0413B1M	12	5	.09	1.08	3.80	4.82	26	5000 M	20	40	40	13	32.0	2.0	400	15.73	13.31
852-2502	JF0413B1MCM	12	5	.09	1.08	3.80	4.82	26	5000 M	20	40	40	13	32.0	2.0	400	17.83	16.45
852-2504	JF0413S1MC	12	5	.09	1.08	3.80	4.82	26	5000 M	20	40	40	13	32.0	2.0	400	9.54	8.80
852-2506	JF0413S1MCM	12	5	.09	1.08	3.80	4.82	26	5000 M	20	40	40	13	32.0	2.0	400	12.95	11.96
852-2508	JF0625B1M	12	5	.20	2.40	15.19	3.20	24	3900 M	65	60	60	25	50.0	4.0	260	14.18	13.09
852-2510	JF0625B2M	24	10	.13	3.12	15.19	3.20	24	3900 M	63	60	60	25	50.0	4.0	260	15.64	14.40
852-2512	JF0625S1M	12	5	.20	2.40	15.19	3.20	24	3900 M	63	60	60	25	50.0	4.0	260	9.28	8.57
852-2514	JF0625S2M	24	10	.13	3.12	15.19	3.20	24	3900 M	63	60	60	25	50.0	4.0	260	11.50	9.93
852-2516	JF0825B1M	12	5	.15	1.80	25.20	3.10	26	2500 M	80	80	80	25	71.5	4.0	260	13.19	12.18
852-2518	JF0825B2M	24	10	.13	3.12	25.20	3.10	26	2500 M	80	80	80	25	71.5	4.0	260	14.38	13.12
852-2520	JF0825S1M	12	5	.15	1.80	25.20	3.10	26	2500 M	80	80	80	25	71.5	4.0	260	8.31	7.67
852-2522	JF0825S2M	24	10	.13	3.12	25.20	3.10	26	2500 M	80	80	80	25	71.5	4.0	260	9.78	9.02
852-2524	JF0925B1M	12	5	.20	2.40	34.65	3.00	34	2100 M	95	90	90	25	82.5	4.0	250	14.42	13.31
852-2526	JF0925S1M	12	5	.20	2.40	34.65	3.00	34	2100 M	95	90	90	25	82.5	4.0	250	9.54	8.80
852-2528	JF0825B1H	12	5	.23	2.76	18.13	4.70	28	4500 H	65	60	60	25	50.0	4.0	260	14.18	13.09
852-2530	JF0825B2H	24	10	.17	4.08	18.13	4.70	28	4500 H	65	60	60	25	50.0	4.0	260	15.64	14.44
852-2532	JF0825S1H	12	5	.23	2.76	18.13	4.70	28	4500 H	65	60	60	25	50.0	4.0	260	9.44	8.57
852-2534	JF0825S2H	24	10	.17	4.08	18.13	4.70	28	4500 H	65	60	60	25	50.0	4.0	260	11.50	9.93
852-2536	JF0825B1H	12	5	.19	2.28	34.65	4.60	31	3000 H	80	80	80	25	71.5	4.0	260	13.19	12.18
852-2538	JF0825B2H	24	10	.15	3.60	34.65	4.60	31	3000 H	80	80	80	25	71.5	4.0	260	14.67	13.54
852-2540	JF0825S1H	12	5	.19	2.28	34.65	4.60	31	3000 H	80	80	80	25	71.5	4.0	260	8.45	7.67
852-2542	JF0925B2H	24	10	.15	3.60	34.65	4.60	31	3000 H	80	80	80	25	71.5	4.0	260	9.78	9.02
852-2544	JF0925S2H	24	10	.19	4.56	38.85	4.60	37	3200 H	95	90	90	25	82.5	4.0	250	15.88	14.66
852-2546	JF0825B1L	12	6	.10	1.20	19.95	1.90	22	2000 L	80	80	80	25	71.5	4.0	260	11.00	10.15
852-2552	JF0825S1L	12	6	.10	1.20	19.95	1.90	22	2000 L	80	80	80	25	71.5	4.0	260	13.19	12.18

Radial Ceramic and Electrolytic Capacitors

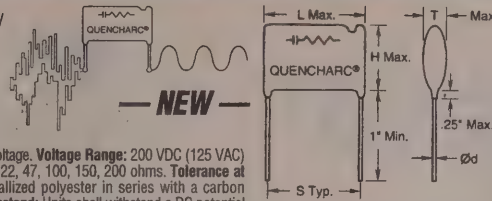
MALLORY

Q/QLR Series (QUENCHARC®) Metallized Polyester Arc Suppressor/ Snubber Network

- ▶ Noise and Arc Suppression
- ▶ RC Snubber Network
- ▶ Relay Contact Protection
- ▶ EMI/RFI Reduction
- ▶ Noise Reduction on Controllers/ Drivers
- ▶ Type QRL: UL/CSA Version

"ARCING", "SPARKING", and "TRANSIENTS" often cause premature failures in relays, switches, thyristors, triacs, contactors, and related products. QUENCHARC® extends operating life when properly selected and applied.

General Specifications. Operating Temperature: -55°C to +85°C at full rated voltage. **Voltage Range:** 200 VDC (125 VAC) to 600 VDC (250 VAC). **Capacitance Values:** 0.1, 0.5, 1.0 µF. **Resistor Values:** 22, 47, 100, 150, 200 ohms. **Tolerance at 100 KHz:** Capacitance: ±20%; Resistance: ±10%. **Construction:** Metallized polyester in series with a carbon composition resistor. **Case:** Coated with a flame retardant epoxy. **Dielectric Withstand:** Units shall withstand a DC potential of 1.5 times the DC voltage rating. Testing conducted at +25°C. **Test Method and Performance. DC Life Test:** Units shall withstand a test potential of 125°C of the rated voltage for a period of 500 hours at 85°C. A failure shall consist of capacitance change >5% or of R greater than original limits. **Long Term Stability:** The capacitance shall not change more than 2% when stored at ambient temperature and humidity for a period of two years or less.



200 VDC/125 VAC

Stock No.	Mfr.'s Type	Cap. µF	Resistor		Dimensions										EACH	
			Watts	Ohms ±10%	L Max.		T Max.		H Max.		S Typ.		Ød		1-99	100-249
					In.	mm	In.	mm	In.	mm	In.	mm	In.	mm		
852-7500	504M02QA100	.50	1/2	100	1.080	27.4	.370	9.4	.640	16.3	.820	20.8	.032	.8	3.13	2.89
852-7502	504M02QA220	.50	1/2	220	1.080	27.4	.370	9.4	.640	16.3	.820	20.8	.032	.8	3.13	2.89
852-7504	105M02QB47	1.00	1/2	47	1.450	36.8	.390	9.9	.660	16.8	1.200	30.5	.032	.8	3.74	3.45

600 VDC/250 VAC

Stock No.	Mfr.'s Type	Cap. µF	Watts	Ohms ±10%	L Max. In.	L Max. mm	T Max. In.	T Max. mm	H Max. In.	H Max. mm	S Typ. In.	S Typ. mm	Ød In.	Ød mm	1-99	100-249
852-7506	104M06QC22	.10	1/2	22	1.080	27.4	.390	9.9	.660	16.8	.820	20.8	.032	.8	3.09	2.86
852-7508	104M06QC47	.10	1/2	47	1.080	27.4	.390	9.9	.660	16.8	.820	20.8	.032	.8	3.09	2.86
852-7510	104M06QC100	.10	1/2	100	1.080	27.4	.390	9.9	.660	16.8	.820	20.8	.032	.8	3.09	2.86
852-7512	104M06QC150	.10	1/2	150	1.080	27.4	.390	9.9	.660	16.8	.820	20.8	.032	.8	3.09	2.86

UL/CSA Recognized Across-the-Line Applications (Complies with UL1414/CSA-C22.2 No. 1)

Stock No.	Mfr.'s Type	Cap. µF	Watts	Ohms ±10%	L Max. In.	L Max. mm	T Max. In.	T Max. mm	H Max. In.	H Max. mm	S Typ. In.	S Typ. mm	Ød In.	Ød mm	1-99	100-249
852-7514	104MACQLR150*	.10	1/2	150	1.080	27.4	.440	11.2	.660	16.8	.820	20.8	.032	.8	3.74	3.45

*UL Recognized for 125 VAC across-the-line. UL File No. E33628. CSA Certified for 125 VAC across-the-line. CSA File No. LR32208.

Series 158X Metallized Polyester Suppressors

- ▶ Capacitance: .01 µF to 1.0 µF (Other Cap Values Available On Special Order)
- ▶ Voltage: 250 VAC
- ▶ Temperature: -55°C to +125°C (With Voltage Derating Above +85°C)
- ▶ International Agency Approvals Including UL1414 and CSA
- ▶ Short Leads Available As Special Order Item. Add "S" to Part Number (Lead Configuration: .138" Min.)
- ▶ 10% Tolerance Available As Special Order Item by Adding "K" to Mfr.'s Type

The Series 158X is a radial leaded metallized polyester, AC line suppression capacitor, housed in a flame-retardant pre-molded plastic case with epoxy resin fill. **Temperature Range:** -55°C to +125°C with voltage derating above 85°C. **Capacitor Range:** 0.1 µF to 1.0 µF. **Lead Configuration:** .591" min. length. Suggested applications are energy storage, filtering, pulse discharge, discrimination, and suppression.

20% Tolerance, 250 WVDC

Stock No.	Mfr.'s Type	Cap. MFD	Dimensions (In.)			Lead Spac.	EACH			
			L	T	H		1-99	100-499	50-99	100-249
852-0474	158X103	.010	.699	.197	.472	.591	.56	.51		
852-0483	158X333	.033	.699	.197	.472	.591	.56	.51		
852-0484	158X473	.047	.699	.197	.492	.591	.59	.54		
852-0475	158X104	.100	.699	.315	.591	.591	.62	.57		
852-0478	158X224	.220	.984	.315	.689	.866	1.06	.93		
852-0485	158X474	.470	1.180	.197	.866	1.083	1.51	1.40		
852-0482	158X105	1.000	1.201	.630	1.102	1.083	2.80	2.59		

Series 168 Metallized Polyester

- ▶ Capacitance: .001 µF to 1.0 µF (Other Cap Values Available On Special Order)
- ▶ Voltage: 50 V, 63 V, and 100 V (250, 400 Voltages Available On Special Order)
- ▶ Temperature: -55°C to +125°C (With Voltage Derating Above +85°C)

The Series 168 is a radial leaded metallized polyester self healing film capacitor. Non-inductively wound. Housed in a molded, flame-retardant case with epoxy fill. **Temperature range:** -55°C to 125°C with voltage derating above 85°C. Suggested applications are blocking, bypass, decoupling, smoothing, timing and tuning.

5% Tolerance, .197" Lead Spacing

Stock No.	Mfr.'s Type	Cap. MFD	WVDC	Dimen. (In.)			EACH			
				L	T	H	1-99	100-499	50-99	100-249
852-1615	168104J50A	.1000	50	.283	.098	.256	.49	.41		
852-0433	168474J50H	.4700	50	.283	.177	.335	1.16	.92		
852-0434	168105J06G	1.0000	50	.283	.236	.433	2.86	2.19		
852-0448	168473J63A	.0470	63	.283	.098	.256	.33	.28		
852-0435	168104J63A	.1000	63	.283	.098	.256	.47	.37		
852-0437	168224J63C	.2200	63	.283	.138	.295	.73	.59		
852-0432	168474J63H	.4700	63	.283	.177	.335	.75	.61		
852-0436	168102J100A	.0010	100	.283	.098	.256	.51	.39		
852-0438	168222J100A	.00220	100	.283	.098	.256	.51	.40		
852-0450	168332J100A	.00330	100	.283	.098	.256	.29	.26		
852-0442	168103J100A	.0100	100	.283	.098	.256	.47	.37		
852-0444	168222J100A	.00220	100	.283	.098	.256	.49	.39		
852-0445	168104J100H	.1000	100	.283	.177	.335	.67	.53		

Monolithic Ceramic Capacitors

These Molded Case Monolithic Ceramic Capacitors are constructed to MIL-C-11015. **Tolerance:** ±10%. **Operating Temperature Range:** -55°C to +125°C. Capacitors are .09 ±.01" (2.29 ±.25 mm) thick; lead spacing is 2 ±.015" (5.08 ±.38 mm); lead length is 1.25" (31.75 mm) minimum. Made from ferroelectric, barium titanate material.

Stock No.	Mfr.'s Type	Cap. pF	WVDC	EACH			
				1-24	25-49	50-99	100-249
852-1161	CK05BX223K	22000	50	.68	.47	.34	.29
852-1163	CK05BX333K	33000	50	.72	.50	.41	.36
852-1165	CK05BX473K	47000	50	.74	.51	.34	.29
852-1170	CK05BX104K	100000	50	.74	.51	.39	.29
852-1147	CK05BX152K	1500	100	.49	.34	.22	.19
852-1149	CK05BX222K	2200	100	.52	.37	.24	.21
852-1150	CK05BX272K	2700	100	.49	.34	.22	.21
852-1151	CK05BX332K	3300	100	.49	.34	.22	.18
852-1153	CK05BX472K	4700	100	.48	.33	.22	.18
852-1155	CK05BX682K	6800	100	.52	.35	.24	.21
852-1156	CK05BX822K	8200	100	.52	.35	.24	.21
852-1157	CK05BX103K	10000	100	.57	.39	.26	.22
852-1121	CK05BX100K	10	200	.49	.34	.22	.19

Stock No.	Mfr.'s Type	Cap. pF	WVDC	EACH			
				1-24	25-49	50-99	100-249
852-1123	CK05BX150K	15	200	.49	.34	.22	.19
852-1125	CK05BX220K	22	200	.47	.34	.21	.18
852-1126	CK05BX270K	27	200	.49	.34	.22	.19
852-1127	CK05BX330K	33	200	.49	.34	.22	.19
852-1129	CK05BX470K	47	200	.49	.34	.22	.19
852-1133	CK05BX101K	100	200	.49	.34	.22	.19
852-1132	CK05BX121K	120	200	.49	.34	.22	.19
852-1134	CK05BX151K	150	200	.49	.34	.22	.19
852-1136	CK05BX181K	180	200	.49	.34	.22	.19
852-1137	CK05BX221K	220	200	.52	.34	.22	.19
852-1138	CK05BX271K	270	200	.49	.34	.22	.19
852-1139	CK05BX331K	330	200	.49	.34	.22	.19
852-1141	CK05BX471K	470	200	.49	.34	.22	.19
852-1142	CK05BX561K	560	200	.49	.34	.22	.19
852-1143	CK05BX681K	680	200	.46	.31	.21	.17
852-1144	CK05BX821K	820	200	.49	.34	.22	.19
852-1145	CK05BX102K	1000	200	.47	.32	.22	.19
852-1196	CK06BX224K	220000	50	.99	.74	.60	.51
852-1197	CK06BX474K	470000	50	1.64	1.16	1.00	.91
852-1198	CK06BX684K	680000	50	4.07	2.65	1.68	1.40
852-1194	CK06BX105K	1000000	50	3.71	2.42	1.75	1.45
852-1189	CK06BX473K	47000	100	.68	.47	.38	.36
852-1193	CK06BX104K	100000	100	.79	.54	.39	.35
852-1195	CK06BX103K	10000	200	.53	.36	.26	.21

PSU Series AC Motor Start Capacitors

- ▶ For Motor Starting and Other Intermittent Duty AC Applications
- ▶ Dual Quick Connect Terminals
- ▶ Rugged Bakelite Case
- ▶ Compact Size; Easily Mounted
- ▶ Meets EIA RS-463 Type 2

— NEW —

Temperature: Operating: -40°C to +65°C; Storage: -55°C to +85°C. **Voltage Range:** 110 to 330 VAC. **Capacitance Range:** 21 µF to 1280 µF. **Operating Frequency:** 50 to 60 Hz. **Power Factor:** 10% max. (12% ≤30 µF).



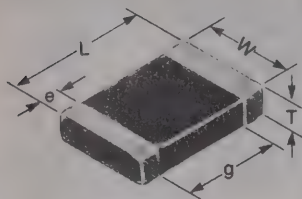
110/125 Volts

Stock No.	Mfr.'s Type	Cap. µF	Dia. (In.)	Length (In.)	EACH	
					1-24	25-49
852-3720	PSU8815	88-106	1.4375	2.750	4.69	3.75
852-3722	PSU10815	108-130	1.4375	2.750	4.69	3.75
852-3724	PSU12415	124-149	1.4375	2.750	4.90	4.00
852-3726	PSU13015	130-156	1.4375	2.750	4.65	3.82
852-3728	PSU14515	145-174	1.4375	2.750	4.65	3.82
852-3730	PSU16115	161-193	1.4375	2.750	5.15	4.15
852-3732	PSU18915A	189-227	1.4375	2.750	5.05	4.15
852-3734	PSU21615	216-259	1.4375	3.375	5.85	4.71
852-3736	PSU23315A	233-280	1.4375	3.375	6.05	4.85
852-3738	PSU24315A	243-324	1.4375	3.375	6.00	4.80
852-3740	PSU27015	270-324	1.4375	3.375	6.20	5.15
852-3742	PSU34015	340-408	1.8125	3.375	7.38	5.95
852-3744	PSU37815	378-454	1.8125	3.375	7.80	6.53
852-3746	PSU40015	400-480	1.8125	3.375	8.02	6.59
852-3748	PSU43015A	430-516	1.8125	3.375	8.40	6.76
852-3750	PSU46015A	460-552	1.8125	3.375	8.56	6.95
852-3752	PSU504015B	504-648	1.8125	4.375	10.30	8.36
852-3754	PSU59015A	590-708	1.8125	4.375	11.00	9.00
852-3756	PSU70815	708-850	1.8125	4.375	12.00	9.75
852-3758	PSU80015	800-960	1.8125	4.375	12.00	9.90
852-3760	PSU100015A	1000-1200	2.0625	4.375	14.00	11.50

220/250 Volts

852-3762	PSU6435	64-77	1.4375	3.375	8.00	6.59
852-3764	PSU8835	88-106	1.8125	3.375	9.00	7.20
852-3766	PSU11035A	100-130	1.8125	3.375	10.25	9.00
852-3768	PSU12435	124-149	1.8125	4.125	11.00	9.00
852-3770	PSU13035	130-156	1.8125	4.375	11.00	9.00
852-3772	PSU14535	145-174	1.8125	4.375	12.00	10.00
852-3774	PSU16135A	161-193	2.0625	4.375	15.00	12.00
852-3778	PSU21635A	216-269	2.0625	4.375	15.00	12.35
852-3780	PSU23335A	233-280	2.0625	4.375	19.50	14.15
852-3782	PSU27035A	270-324	2.0625	4.375	15.00	15.25

GRM Series Chip Capacitors

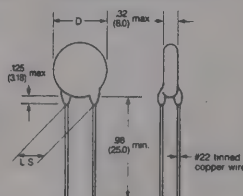


Non-polarized and miniature size chip capacitors have uniform dimensions and configuration. Flow and reflow solderable. Nickel barrier termination is highly resistant to metal migration. They have minimum series inductance.

Stock No.	Mfr.'s Type	EIA Size	Cap (pF)	WVDC	Tol. %	Length	Width	PER PK/100
711-1201	GRM39C0G100C050AD	0603	10	50	25PF	0.060	0.030	9.00
711-1203	GRM39C0G150J050AD	0603	15	50	5	0.060	0.030	9.00
711-1205	GRM39C0G180J050AD	0603	18	50	5	0.060	0.030	9.00
711-1207	GRM39C0G220J050AD	0603	22	50	5	0.060	0.030	9.00
711-1227	GRM39C0G270J050AD	0603	27	50	5	0.060	0.030	9.00
711-1209	GRM39C0G330J050AD	0603	33	50	5	0.060	0.030	9.00
711-1211	GRM39C0G470J050AD	0603	47	50	5	0.060	0.030	9.00
711-1215	GRM39C0G680J050AD	0603	68	50	5	0.060	0.030	9.00
711-1217	GRM39C0G820J050AD	0603	82	50	5	0.060	0.030	9.00
711-1219	GRM39X7R331K050AD	0603	330	50	10	0.060	0.030	8.00
711-1223	GRM39X7R471K050AD	0603	470	50	10	0.060	0.030	8.00
711-1225	GRM39X7R102K050AD	0603	1000	50	10	0.060	0.030	8.00
711-1227	GRM39X7R103K050AD	0603	10000	50	10	0.060	0.030	8.00
711-1229	GRM39X7R223K016AD	0603	22000	16	10	0.060	0.030	8.00
711-1231	GRM39X7R223K025AD	0603	22000	25	10	0.060	0.030	8.00
711-1233	GRM39X7R473K016AD	0603	47000	16	10	0.060	0.030	8.00
711-1235	GRM39Y5V103Z050AD	0603	10000	50	-20 +80	0.060	0.030	9.00
711-1237	GRM39Y5V473Z016AD	0603	47000	16	-20 +80	0.060	0.030	9.00
711-1239	GRM39Y5V473Z050AD	0603	47000	50	-20 +80	0.060	0.030	9.00
711-1241	GRM39Y5V104Z016AD	0603	100000	16	-20 +80	0.060	0.030	9.00
711-1242	GRM39Y5V104Z025AD	0603	100000	25	-20 +80	0.060	0.030	9.00
711-1243	GRM40C0G100C050BD	0805	10	50	25PF	0.080	0.050	15.00
711-1229	GRM40C0G150J050BD	0805	15	50	5	0.080	0.050	15.00
711-1245	GRM40C0G220J050BD	0805	22	50	5	0.080	0.050	6.00
711-1231	GRM40C0G270J050BD	0805	27	50	5	0.080	0.050	6.00
711-1247	GRM40C0G330J050BD	0805	33	50	5	0.080	0.050	6.00
711-1233	GRM40C0G470J050BD	0805	47	50	5	0.080	0.050	6.00
711-1249	GRM40C0G560J050BD	0805	56	50	5	0.080	0.050	6.00
711-1251	GRM40C0G680J050BD	0805	68	50	5	0.080	0.050	6.00
711-1253	GRM40C0G101J050BD	0805	100	50	5	0.080	0.050	6.00
711-1257	GRM40C0G151J050BD	0805	150	50	5	0.080	0.050	6.00
711-1259	GRM40C0G221J050BD	0805	220	50	5	0.080	0.050	7.00
711-1261	GRM40C0G271J050BD	0805	270	50	5	0.080	0.050	7.00
711-1263	GRM40C0G331J050BD	0805	330	50	5	0.080	0.050	8.00
711-1265	GRM40C0G471J050BD	0805	470	50	5	0.080	0.050	8.00
711-1267	GRM40C0G102J050BL	0805	1000	50	5	0.080	0.050	8.00
711-1269	GRM40X7R102J050BD	0805	1000	50	5	0.080	0.050	5.00
711-1271	GRM40X7R102J100BD	0805	1000	100	5	0.080	0.050	6.00
711-1273	GRM40X7R472K050BL	0805	4700	50	10	0.080	0.050	7.00
711-1275	GRM40X7R103K050BD	0805	10000	50	10	0.080	0.050	6.00
711-1277	GRM40X7R223K050BL	0805	22000	50	10	0.080	0.050	7.00
711-1279	GRM40X7R473K050BL	0805	47000	50	10	0.080	0.050	20.00
711-1281	GRM40X7R104K025BL	0805	100000	25	10	0.080	0.050	15.00
711-1283	GRM40Z5U104M050BL	0805	100000	50	20	0.080	0.050	9.00
711-1385	GRM42-6C0G220J050BD	1206	22	50	5	0.125	0.063	8.00
711-1387	GRM42-6C0G270J050BD	1206	27	50	5	0.125	0.063	16.00
711-1389	GRM42-6C0G330J050BD	1206	33	50	5	0.125	0.063	8.00
711-1391	GRM42-6C0G470J050BD	1206	47	50	5	0.125	0.063	20.00
711-1393	GRM42-6C0G101J050BD	1206	100	50	5	0.125	0.063	7.00
711-1395	GRM42-6C0G221J050BD	1206	220	50	5	0.125	0.063	8.00
711-1397	GRM42-6C0G331J050BD	1206	330	50	5	0.125	0.063	9.00
711-1399	GRM42-6C0G471J050BD	1206	470	50	5	0.125	0.063	9.00
711-1301	GRM42-6C0G102J050BD	1206	1000	50	5	0.125	0.063	13.00
711-1303	GRM42-6C0G222J050BL	1206	2200	50	5	0.125	0.063	18.00
711-1305	GRM42-6X7R102K050BD	1206	1000	50	10	0.125	0.063	9.00
711-1307	GRM42-6X7R103K050BD	1206	10000	50	10	0.125	0.063	9.00
711-1309	GRM42-6X7R473K050BL	1206	47000	50	10	0.125	0.063	9.00
711-1311	GRM42-6X7R104K050BL	1206	100000	50	10	0.125	0.063	9.00
711-1313	GRM42-6Y5V105Z016BL	1206	1000000	16	-20 +80	0.125	0.063	24.00
711-1315	GRM42-6Z5U103M050BD	1206	10000	50	20	0.125	0.063	8.00
711-1317	GRM42-6Z5U104M050BD	1206	47000	50	20	0.125	0.063	18.00
711-1319	GRM42-6Z5U104M050BD	1206	100000	50	20	0.125	0.063	9.00
711-1321	GRM42-2X7R104K050BL	1210	100000	50	10	0.125	0.100	25.00
711-1323	GRM42-2X7R224K050BL	1210	220000	50	10	0.125	0.100	25.00
711-1325	GRM42-2Z5U334M050BL	1210	330000	50	20	0.125	0.100	31.00

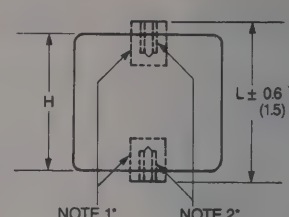
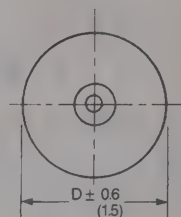
Safety Ceramic Disc Capacitors

Safety recognized ceramic disc capacitors are 125VAC rated and have -25°C to +85°C temperature characteristics. Used for across the line or line by-pass applications. Available in ammo pack for automatic insertion as custom order. Call for price and delivery.



Stock No.	Mfr.'s Type	Cap (pF)	VAC	Tol. %	Dia.	L.S.	EACH	
							1-99	100-499
711-1400	DE7090B221KVA1-KC	220	125	10	.394	.300	.22	.17
711-1402	DE7090B102KVA1-KC	1000	125	10	.394	.300	.22	.17
711-1404	DE7100F222MVA1-KC	2200	125	20	.472	.300	.30	.21
711-1406	DE7120F332MVA1-KC	3300	125	20	.551	.394	.35	.27
711-1408	DE7150F472MVA1-KC	4700	125	20	.669	.394	.42	.32
711-1410	DE7150F2103PVA1-KC	10000	125	-0 +100	.669	.394	.48	.35
711-1412	DE7150F103MVA1-KC	10000	125	20	.669	.394	.60	.44

High Voltage Ceramic Capacitors



NOTE 1: This terminal may extend up to 0.100 (2.5) above insulated surface.

NOTE 2: No. 8-32 NC-28 Tapped holes.

EIA class I and II high voltage capacitors. **CAUTION:** Some chemicals such as Freon, oil, etc. may be harmful to this series when used as an insulation medium. **Tolerance:** M = ±20%; Z = -20% +80%.

Stock No.	Mfr.'s Type	Cap (pF)	WKVDC	Tol. %	Dia.	Length	Height	EACH	
								1-24	25-49
711-1450	DHS30N4700122M10KV	1200	10K	20	1.180	.630	.470	14.06	12.98
711-1452	DHS38N4700192M15KV	1900	15K	20	1.490	.710	.550	19.15	17.68
711-1454	DHS20N4700281M20KV	280	20K	20	.787	.950	.787	13.71	12.71
711-1456	DHS60N4700402M20KV	4000	20K	20	2.360	.950	.787	44.06	40.67
711-1458	DHS20N4700191M30KV	190	30K	20	.787	1.100	.950	13.36	12.33
711-1460	DHS30N4700591M30KV	590	30K	20	1.180	1.100	.950	17.47	16.13
711-1462	DHS60N4700272M30KV	2700	30K	20	2.360	1.100	.950	57.19	52.79
711-1464	DHS60N4700202M40KV	2000	40K	20	2.360	1.420	1.260	58.12	53.65
711-1466	DHS30Z5V102Z20KV	1000	20K	-20 +80	1.180	1.020	.940	17.47	16.13
711-1468	DHS24Z5V461Z30KV	460	30K	-20 +80	1.940	1.330	1.250	17.47	16.13
711-1470	DHS30Z5V781Z30KV	780	30K	-20 +80	1.180	1.330	1.250	19.80	18.28
711-1472	DHS43Z5V132Z40KV	1300	40K	-20 +80	1.690	1.610	1.530	25.53	23.56
711-1474	DHS60Z5V27Z240KV	2700	40K	-20 +80	2.360	1.610	1.530	63.13	58.70

Kits

These kits are specifically designed to aid the design engineer in prototyping applications. Each kit contains a wide selection of commonly used values and sizes that meet a variety of circuit design requirements.

Capacitors

Stock No.	Mfr.'s Type	Description	Pieces Each	Values per Kit	Temp. Coefficient	Volts	EACH
711-2000	KIT-GRM36	GRM36 0402 Ceramic Chip	100	25	COG	50	600.00
			200	21	X7R	50	
			200	8	Y5V	50	
711-2002	KIT-GRM39	GRM39 0603 Ceramic Chip	50	13	COG	100	340.00
			50	15	COG	50	
			50	11	X7R	50	
			50	3	X7R	25	
			50	8	Y5V	50	
711-2004	KIT-GRM40	GRM40 0805 Ceramic Chip	50	29	COG	50	325.00
			100	22	X7R	50	
			100	6	Z5U	50	
			100	1	Y5V	25	
711-2006	KIT-GRM42-6	GRM42-6 1206 Ceramic Chip	50	24	COG	50	365.00
			100	31	X7R	50	
			100	5	Z5U	50	
711-2008	KIT-RPE	Radial Lead Capacitors	50	16	COG	50	250.00
			50	8	X7R	100	
			50	4	Z5U	100	

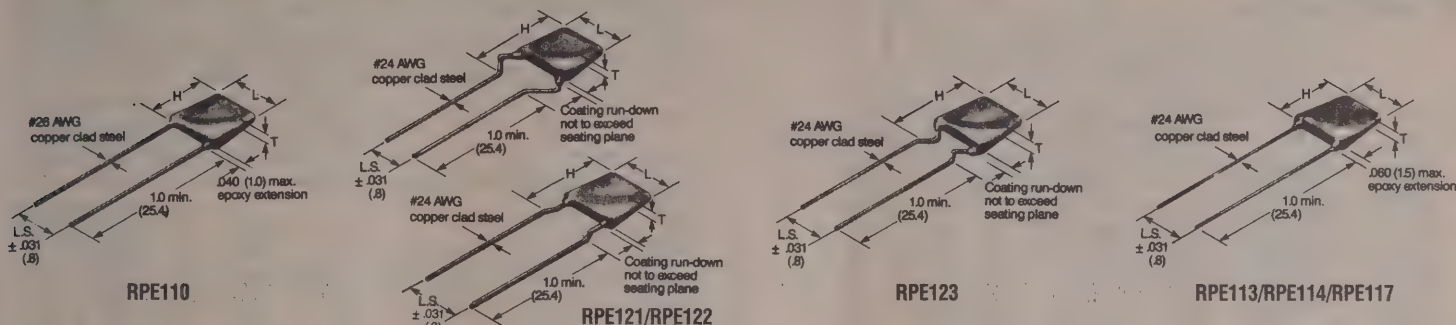
Inductors

Stock No.	Mfr.'s Type	Description	Pieces Each	Values per Kit	Part Series	EACH
711-2010	KIT-EKLQ015A	Chip Inductors	50	14	LQN2A	442.00
			40	7	LQH3N	
			30	9	LQH3C	
711-2012	KIT-EKLQ016A	Chip Inductors	20	9	LQP31A	612.00
			20	12	LQN1A	
			20	10	LQH1N	
			20	10	LQH1C	
711-2014	KIT-EKLQ025A	Chip Inductors	30	30	LQH3N	510.00
			20	8	LQH4N	
			20	2	LQN4N	
			50	9	LQH3C	
711-2016	KIT-EKLQ026A	Chip Inductors	20	25	LQH1N	578.00
			20	10	LQH1C	
			20	9	LQH3C	
			20	3	LQM32C	

RPE Radial Lead Ceramic Capacitors



RPE Radial Lead Ceramic Capacitors



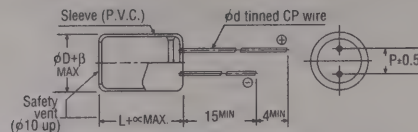
These monolithic ceramic capacitors have industry standard sizes and an epoxy coating meeting UL94V-0. Leads are tinned copper clad steel wire. Additional values, voltages,

temperature coefficients, tolerances and markings available, as well as additional lead spacing and tape and reel option available as custom order. Call for price and delivery.

Stock No.	Mfr.'s Type	Value pF	VDC	Tol. %	Temp. Coeff.	EACH	
						1-99	100-249
711-1500	RPE110COG100C050V	10	50	.25pF	COG	.10	.09
711-1502	RPE110COG180J050V	18	50	5	COG	.10	.09
711-1504	RPE110COG220J050V	22	50	5	COG	.10	.09
711-1506	RPE110COG270J050V	27	50	5	COG	.10	.09
711-1508	RPE110COG330J050V	33	50	5	COG	.10	.09
711-1510	RPE110COG390J050V	39	50	5	COG	.10	.08
711-1512	RPE110COG470J050V	47	50	5	COG	.10	.08
711-1514	RPE110COG101J050V	100	50	5	COG	.09	.08
711-1516	RPE110COG181J050V	180	50	5	COG	.10	.09
711-1518	RPE110COG221J050V	220	50	5	COG	.10	.09
711-1520	RPE110COG271J050V	270	50	5	COG	.11	.09
711-1522	RPE110COG331J050V	330	50	5	COG	.11	.09
711-1524	RPE110COG391J050V	390	50	5	COG	.11	.09
711-1526	RPE110COG471J050V	470	50	5	COG	.11	.10
711-1528	RPE110COG102J050V	1000	50	5	COG	.11	.10
711-1530	RPE110X7R471K050V	470	50	10	X7R	.09	.07
711-1532	RPE110X7R102K050V	1000	50	10	X7R	.10	.09
711-1534	RPE110X7R103K050V	10000	50	10	X7R	.09	.08
711-1536	RPE110X7R223K050V	2200	50	10	X7R	.10	.09
711-1538	RPE110Z5U102M050V	1000	50	20	Z5U	.09	.08
711-1540	RPE110Z5U103M050V	10000	50	20	Z5U	.08	.07
711-1542	RPE113COG103J050V	10000	50	5	COG	.92	.76
711-1544	RPE113X7R474K050V	470000	50	10	X7R	.64	.54
711-1546	RPE113X7R105K050V	1000000	50	10	X7R	.96	.79
711-1548	RPE113Z5U105M050V	1000000	50	20	Z5U	.70	.58
711-1550	RPE114X7R104K500V	100000	500	10	X7R	1.35	1.06
711-1552	RPE114X7R155K050V	1500000	50	10	X7R	1.75	1.44
711-1554	RPE114X7R155K050V	1500000	50	10	X7R	1.84	1.44
711-1556	RPE114Z5U104M500V	100000	500	20	Z5U	1.35	1.06
711-1558	RPE114Z5U225M050V	2200000	50	20	Z5U	1.86	1.41
711-1560	RPE114Z5U335M050V	3300000	50	20	Z5U	1.62	1.27
711-1562	RPE117X7R224K500V	220000	500	10	X7R	2.92	2.30
711-1564	RPE117X7R225K050V	2200000	50	10	X7R	2.95	2.32
711-1566	RPE117Z5U475M050V	4700000	50	20	Z5U	3.06	2.41
711-1568	RPE121COG151J050V	150	50	5	COG	.14	.12
711-1570	RPE121COG102J050V	1000	50	5	COG	.14	.12
711-1572	RPE121X7R103K050V	10000	50	10	X7R	.10	.08
711-1574	RPE121X7R473K050V	47000	50	10	X7R	.12	.10
711-1576	RPE121X7R104K050V	100000	50	10	X7R	.14	.12
711-1578	RPE121Z5U103M050V	10000	50	20	Z5U	.10	.09
711-1580	RPE121Z5U104M050V	100000	50	20	Z5U	.08	.07
711-1582	RPE121Z5U224M050V	220000	50	20	Z5U	.16	.13
711-1584	RPE121Z5U334M050V	330000	50	20	Z5U	.20	.17
711-1586	RPE122COG220J050V	22	50	5	COG	.11	.09
711-1588	RPE122COG470J050V	47	50	5	COG	.11	.09
711-1590	RPE122COG151J050V	150	50	5	COG	.14	.12
711-1592	RPE122COG331J050V	330	50	5	COG	.14	.12
711-1594	RPE122COG102J050V	1000	50	5	COG	.14	.12
711-1596	RPE122X7R471K050V	470	50	10	X7R	.10	.08
711-1598	RPE122X7R472K050V	4700	50	10	X7R	.10	.08
711-1600	RPE122X7R103K050V	10000	50	10	X7R	.10	.08
711-1602	RPE122X7R473K050V	47000	50	10	X7R	.11	.10
711-1604	RPE122X7R104K050V	100000	50	10	X7R	.14	.12
711-1606	RPE122Z5U103M050V	10000	50	20	Z5U	.10	.09

Stock No.	Mfr.'s Type	Value pF	VDC	Tol. %	Temp. Coeff.	EACH	
						1-99	100-249
711-1608	RPE122Z5U104M050V	100000	50	20	Z5U	.08	.07
711-1610	RPE122Z5U224M050V	220000	50	20	Z5U	.16	.13
711-1612	RPE122Z5U334M050V	330000	50	20	Z5U	.21	.17
711-1614	RPE123Z5U474M050V	470000	50	20	Z5U	.21	.18
711-1616	RPE123Z5U105M050V	1000000	50	20	Z5U	.27	.22
711-1650	RPE110COG100C100V	10	100	.25pF	COG	.10	.09
711-1652	RPE110COG120J100V	12	100	5	COG	.10	.09
711-1654	RPE110COG150J100V	15	100	5	COG	.10	.08
711-1656	RPE110COG180J100V	18	100	5	COG	.10	.08
711-1658	RPE110COG220J100V	22	100	5	COG	.10	.08
711-1660	RPE110COG270J100V	27	100	5	COG	.10	.08
711-1662	RPE110COG330J100V	33	100	5	COG	.10	.09
711-1664	RPE110COG390J100V	39	100	5	COG	.10	.09
711-1666	RPE110COG470J100V	47	100	5	COG	.10	.09
711-1668	RPE110COG101J100V	100	100	5	COG	.10	.08
711-1670	RPE110COG121J100V	120	100	5	COG	.11	.09
711-1672	RPE110COG151J100V	150	100	5	COG	.11	.09
711-1674	RPE110COG181J100V	180	100	5	COG	.11	.09
711-1676	RPE110COG221J100V	220	100	5	COG	.11	.09
711-1678	RPE110COG331J100V	330	100	5	COG	.11	.09
711-1680	RPE110COG391J100V	390	100	5	COG	.12	.10
711-1682	RPE110COG471J100V	470	100	5	COG	.12	.10
711-1684	RPE110X7R331K100V	330	100	10	X7R	.09	.07
711-1686	RPE110X7R471K100V	470	100	10	X7R	.09	.08
711-1688	RPE110X7R102K100V	1000	100	10	X7R	.09	.07
711-1690	RPE110X7R222K100V	2200	100	10	X7R	.09	.08
711-1692	RPE110X7R332K100V	3300	100	10	X7R	.09	.08
711-1694	RPE110X7R472K100V	4700	100	10	X7R	.09	.08
711-1696	RPE110X7R103K100V	10000	100	10	X7R	.09	.08
711-1698	RPE110Z5U103M100V	10000	100	20	Z5U	.10	.08
711-1700	RPE113X7R224K100V	220000	100	10	X7R	.68	.56
711-1702	RPE114X7R474K100V	470000	100	10	X7R	1.46	1.15
711-1704	RPE114X7R564K100V	560000	100	10	X7R	1.42	1.17
711-1706	RPE114X7R105K100V	1000000	100	10	X7R	1.65	1.30
711-1708	RPE114Z5U105M100V	1000000	100	20	Z5U	1.55	1.22
711-1710	RPE117Z5U225M100V	2200000	100	20	Z5U	3.89	3.06
711-1712	RPE121COG102J100V	1000	100	5	COG	.15	.12
711-1714	RPE121COG152J100V	1500	100	5	COG	.17	.14
711-1716	RPE121X7R103K100V	10000	100	10	X7R	.11	.09
711-1718	RPE121X7R104K100V	100000	100	10	X7R	.26	.20
711-1720	RPE121Z5U104M100V	100000	100	20	Z5U	.13	.11
711-1722	RPE122COG220J100V	22	100	5	COG	.11	.09
711-1724	RPE122COG330J100V	33	100	5	COG	.11	.09
711-1726	RPE122COG101J100V	100	100	5	COG	.12	.10
711-1728	RPE122COG471J100V	470	100	5	COG	.14	.12
711-1730	RPE122COG102J100V	1000	100	5	COG	.15	.12
711-1732	RPE122X7R102K100V	1000	100	10	X7R	.10	.08
711-1734	RPE122X7R222K100V	2200	100	10	X7R	.11	.09
711-1736	RPE122X7R103K100V	10000	100	10	X7R	.11	.09
711-1738	RPE122X7R223K100V	22000	100	10	X7R	.12	.10
711-1740	RPE122X7R104K100V	100000	100	10	X7R	.26	.20
711-1742	RPE122Z5U103M100V	10000	100	20	Z5U	.10	.08
711-1744	RPE122Z5U104M100V	100000	100	20	Z5U	.13	.11

UVX Series Radial Capacitors



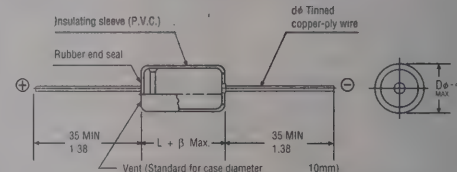
UVX miniature electrolytic capacitor for general purpose features reduced case size anti-solvent through 100 volts. The VX series is most suitable for electronic equipment where a smaller case size is required. The small case size makes it ideal for use with high speed automatic insertion equipment. Load life of 2000 hours at 85°C. Units with $\phi 6.3$ mm or more are provided with our unique safety case vent. **Capacitance Tolerance:** $\pm 20\%$ at 120 Hz. 20°C. **Operating Temperature Range:** -40° approximately $+85^\circ\text{C}$.

Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM(D x L)	EACH			
					1-99	100-499	500-999	1000-Up
859-0500	UVX0J101MDA	100	6.3	5 x 11	.17	.13	.09	.08
859-0502	UVX0J221MEA	220	6.3	6.3 x 11	.24	.17	.14	.11
859-0504	UVX0J471MPA	470	6.3	8 x 11.5	.29	.22	.16	.13
859-0506	UVX0J102MPA	1000	6.3	10 x 12.5	.51	.38	.27	.22
859-0508	UVX0J222MHA	2200	6.3	12.5 x 20	.72	.54	.37	.31
859-0510	UVX1A220MDA	22	10	5 x 11	.14	.11	.08	.06
859-0512	UVX1A330MDA	33	10	5 x 11	.17	.12	.09	.07
859-0514	UVX1A470MDA	47	10	5 x 11	.17	.14	.09	.07
859-0518	UVX1A221MEA	220	10	6.3 x 11	.26	.19	.17	.14
859-0520	UVX1A331MPA	330	10	8 x 11.5	.30	.23	.16	.13
859-0522	UVX1A471MPA	470	10	8 x 12.5	.42	.32	.24	.19
859-0524	UVX1A102MPA	1000	10	10 x 16	.51	.38	.27	.22
859-0526	UVX1A222MHA	2200	10	12.5 x 20	.83	.62	.43	.35
859-0528	UVX1C100MDA	10	16	5 x 11	.14	.11	.08	.06
859-0530	UVX1C220MDA	22	16	5 x 11	.17	.12	.09	.07
859-0532	UVX1C330MDA	33	16	5 x 11	.17	.14	.09	.07
859-0534	UVX1C470MDA	47	16	5 x 11	.21	.16	.11	.09
859-0536	UVX1C101MEA	100	16	6.3 x 11	.27	.19	.14	.11
859-0538	UVX1C221MPA	220	16	8 x 11.5	.29	.22	.16	.13
859-0540	UVX1C331MPA	330	16	8 x 12.5	.42	.32	.23	.19
859-0542	UVX1C471MPA	470	16	10 x 12.5	.47	.36	.25	.20
859-0544	UVX1C102MPA	1000	16	10 x 20	.58	.45	.31	.26
859-0546	UVX1C222MHA	2200	16	12.5 x 25	1.32	.95	.66	.54
859-0548	UVX1C332MHA	3300	16	16 x 25	1.80	1.27	.89	.73
859-0550	UVX1C472MHA	4700	16	16 x 31.5	2.54	1.82	1.27	1.04

Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM(D x L)	EACH			
					1-99	100-499	500-999	1000-Up
859-0552	UVX1E47MDA	47	25	5 x 11	.14	.11	.08	.06
859-0554	UVX1E100MAA	10	25	5 x 11	.17	.14	.09	.07
859-0556	UVX1E220MDA	22	25	5 x 11	.21	.16	.11	.09
859-0560	UVX1E470MDA	47	25	5 x 11	.27	.19	.14	.11
859-0562	UVX1E101MEA	100	25	6.3 x 11	.30	.22	.15	.13
859-0564	UVX1E221MPA	220	25	8 x 12.5	.42	.32	.25	.20
859-0566	UVX1E471MPA	470	25	10 x 16	.61	.47	.34	.28
859-0568	UVX1E102MHA	1000	25	12.5 x 20	.94	.71	.50	.41
859-0570	UVX1E222MHA	2200	25	16 x 25	1.80	1.27	.88	.72
859-0572	UVX1E472MHA	4700	25	18 x 35.5	3.32	2.37	1.65	1.35
859-0574	UVX1H010MDA	1	50	5 x 11	.14	.11	.09	.07
859-0576	UVX1H2R2MDA	2.2	50	5 x 11	.17	.13	.09	.07
859-0578	UVX1H4R7MDA	4.7	50	5 x 11	.21	.16	.11	.09
859-0580	UVX1H100MDA	10	50	5 x 11	.21	.16	.11	.09
859-0582	UVX1H220MDA	22	50	5 x 11	.27	.19	.14	.11
859-0584	UVX1H470MDA	47	50	6.3 x 11	.33	.22	.16	.13
859-0586	UVX1H101MPA	100	50	8 x 12.5	.40	.30	.23	.19
859-0588	UVX1H221MPA	220	50	10 x 16	.58	.45	.32	.26
859-0590	UVX1H471MHA	470	50	12.5 x 20	.95	.72	.50	.41
859-0592	UVX1H102MHA	1000	50	16 x 25	1.83	1.30	.91	.74
859-0594	UVX2A100MPA	10	100	6.3 x 11	.27	.20	.14	.11
859-0596	UVX2A220MPA	22	100	8 x 11.5	.30	.22	.16	.13
859-0598	UVX2A470MPA	47	100	10 x 16	.43	.33	.23	.19
859-0599	UVX2A101MHA	100	100	12.5 x 20	.63	.48	.37	.31

TVX Series Axial Capacitors

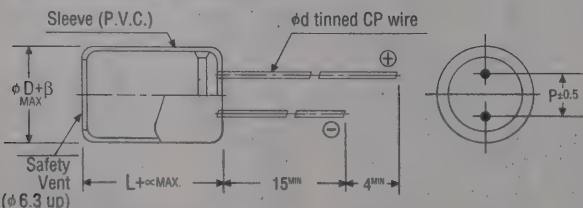
TVX Compact Series miniature aluminum electrolytic capacitors provide higher component density in solid-state circuitry. Features further miniaturization of both body length and diameter for greater CV density when compared to conventional type aluminum electrolytic lines. **Capacitance:** $\pm 20\%$. **Operating Temperature Range:** -40°C approximately $+85^\circ\text{C}$.



Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM(D x L)	EACH			
					1-99	100-499	500-999	1000-Up
859-0104	TVX1A470MAA	47	10	6 x 12	.28	.20	.15	.12
859-0106	TVX1A101MAA	100	10	6 x 16	.34	.26	.18	.15
859-0108	TVX1A221MAA	220	10	8 x 16	.40	.29	.20	.17
859-0112	TVX1A102MCA	1000	10	10 x 26	.63	.48	.34	.28
859-0114	TVX1A222MCA	2200	10	13 x 31.5	1.23	.88	.63	.52
859-0118	TVX1C220MAA	22	16	5 x 12	.28	.20	.15	.12
859-0119	TVX1C330MAA	33	16	6 x 12	.30	.22	.16	.13
859-0120	TVX1C470MAA	47	16	6 x 12	.34	.26	.18	.15
859-0122	TVX1C101MAA	100	16	8 x 16	.38	.29	.20	.17
859-0124	TVX1C221MAA	220	16	8 x 16	.47	.35	.25	.20
859-0126	TVX1C471MAA	470	16	10 x 21	.53	.39	.28	.23
859-0128	TVX1C102MCA	1000	16	13 x 36	.91	.68	.49	.40
859-0130	TVX1C222MCA	2200	16	16 x 40	1.42	1.01	.73	.59
859-0132	TVX1C472MCA	4700	16	18 x 40	3.10	2.22	1.55	1.27
859-0134	TVX1C682MCA	6800	16	22 x 40	3.63	2.60	1.81	1.48
859-0136	TVX1E100MAA	10	25	22 x 52	4.34	3.25	2.39	1.95
859-0138	TVX1E220MAA	22	25	5 x 12	.20	.15	.12	.10
859-0140	TVX1E471MAA	47	25	6 x 12	.31	.23	.16	.15
859-0142	TVX1E101MAA	100	25	8 x 16	.35	.26	.18	.15
859-0144	TVX1E221MAA	220	25	8 x 16	.40	.31	.21	.17
859-0146	TVX1E471MCA	470	25	10 x 26	.48	.36	.25	.20
859-0148	TVX1E102MCA	1000	25	13 x 26	1.27	.91	.63	.53
859-0150	TVX1E222MCA	2200	25	16 x 41.5	2.49	1.77	1.24	1.01
859-0151	TVX1E332MCA	3300	25	18 x 40	3.15	2.47	1.81	1.48
859-0152	TVX1E472MCA	4700	25	22 x 40	3.63	2.60	1.80	1.48
859-0154	TVX1V100MAA	10	35	5 x 12	.28	.21	.15	.12
859-0156	TVX1V220MAA	22	35	6 x 12	.35	.26	.18	.15

Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM(D x L)	EACH			
					1-99	100-499	500-999	1000-Up
859-0158	TVX1V470MAA	47	35	8 x 16	.35	.27	.18	.15
859-0160	TVX1V011MAA	100	35	8 x 20	.41	.31	.21	.17
859-0162	TVX1V221MAA	220	35	10 x 21	.47	.37	.25	.21
859-0164	TVX1V471MCA	470	35	13 x 26	.53	.40	.29	.24
859-0166	TVX1V102MCA	1000	35	13 x 31.5	1.46	1.04	.73	.59
859-0168	TVX1V222MCA	2200	35	16 x 34.5	2.92	2.08	1.45	1.19
859-0170	TVX1V472MCA	4700	35	22 x 52	4.22	3.17	2.32	1.90
859-0172	TVX1V103MDA	10000	35	30 x 61	8.27	6.20	4.55	3.73
859-0174	TVX1H47MAA	47	50	5 x 12	.30	.20	.15	.12
859-0176	TVX1H010MAA	1	50	5 x 12	.28	.21	.15	.12
859-0178	TVX1H2R2MAA	2.2	50	5 x 12	.28	.21	.15	.12
859-0179	TVX1H3R3MAA	3.3	50	5 x 12	.28	.21	.15	.12
859-0180	TVX1H4R7MAA	4.7	50	5 x 12	.28	.21	.15	.12
859-0181	TVX1H100MAA	10	50	6 x 12	.35	.26	.18	.16
859-0182	TVX1H220MAA	22	50	6 x 16	.35	.27	.18	.15
859-0183	TVX1H470MAA	47	50	8 x 16	.41	.31	.21	.17
859-0184	TVX1H101MAA	100	50	8 x 20	.54	.40	.28	.23
859-0185	TVX1H221MCA	220	50	10 x 26	.67	.50	.35	.28
859-0186	TVX1H471MCA	470	50	13 x 26	.93	.70	.49	.40
859-0187	TVX1H102MCA	1000	50	16 x 31.5	2.33	1.66	1.16	.95
859-0188	TVX1H222MCA	2200	50	22 x 40	4.07	3.05	2.13	1.74
859-0189	TVX1H332MCA	3300	50	22 x 52	4.98	3.73	2.63	2.15
859-0190	TVX1H472MCA	4700	50	25.4 x 52	6.12	4.59	3.38	2.76
859-0192	TVX2A100MAA	10	100	8 x 16	.35	.26	.18	.15
859-0194	TVX2A470MAA	47	100	10 x 21	.57	.42	.29	.24
859-0196	TVX2A101MAA	100	100	13 x 26	.93	.70	.49	.40
859-0198	TVX2A471MCA	470	100	16 x 41.5	2.92	2.08	1.45	1.19

UKL Series Radial Capacitors



UKL low leakage current electrolytic capacitor has anti-solvent feature and small size. The UKL series will exhibit only a slight increase in leakage current when subjected to no load at high temperature or shelved for long periods of time at normal temperature. Standard units have capacitance tolerance of $\pm 20\%$ at 120 Hz 20°C. The Nichicon safety vent is standard on capacitors with diameters ≥ 6.3 mm. **Operating Temperature Range:** -40°C to approximately $+105^\circ\text{C}$. **Leakage Current:** After one minute of application at rated voltage, leakage current will be no more than 0.002CV or 0.2 μA , whichever is greater. Other values, tolerances and voltages available as custom orders. Call for pricing and delivery. Manufacturer's literature available upon request.

Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM(D × L)	EACH			
					1-99	100-499	500-999	1000-Up
859-1000	UKL1A470MDAANA	47	10	5 × 11	.26	.19	.12	.10
859-1002	UKL1A101MEANA	100	10	6.3 × 11	.31	.24	.14	.12
859-1004	UKL1C100MDAANA	10	16	5 × 11	.22	.17	.11	.09
859-1006	UKL1C220MDAANA	22	16	5 × 11	.26	.19	.12	.10
859-1008	UKL1C470MEANA	47	16	6.3 × 11	.31	.24	.14	.12
859-1010	UKL1C101MPAANA	100	16	8 × 11.5	.32	.24	.16	.13
859-1012	UKL1C221MPAANA	220	16	8 × 11.5	.42	.32	.21	.18
859-1014	UKL1E47R7MDAANA	4.7	25	5 × 11	.21	.16	.11	.09
859-1016	UKL1E100MDAANA	10	25	5 × 11	.24	.18	.12	.10
859-1018	UKL1E220MDAANA	22	25	5 × 11	.29	.22	.14	.12
859-1020	UKL1E470MEANA	47	25	6.3 × 11	.32	.24	.16	.13
859-1022	UKL1E101MPAANA	100	25	8 × 11.5	.37	.28	.19	.16
859-1024	UKL1V220MEANNA	22	35	6.3 × 11	.29	.22	.14	.12
859-1026	UKL1V330MEANA	33	35	6.3 × 11	.32	.24	.16	.13
859-1028	UKL1V470MPAANA	47	35	8 × 11.5	.32	.24	.16	.13
859-1030	UKL1V101MPAANA	100	35	8 × 11.5	.42	.32	.21	.18
859-1032	UKL1H010MDAANA	1	50	5 × 11	.21	.16	.11	.09
859-1034	UKL1H2R2MDAANA	2.2	50	5 × 11	.21	.16	.11	.09
859-1036	UKL1H3R3MDAANA	3.3	50	5 × 11	.21	.16	.11	.09
859-1038	UKL1H4R7MDAANA	4.7	50	5 × 11	.24	.18	.12	.10
859-1040	UKL1H100MDAANA	10	50	5 × 11	.29	.22	.14	.12
859-1042	UKL1H220MEANA	22	50	6.3 × 11	.32	.24	.16	.13
859-1044	UKL1H470MPAANA	47	50	8 × 11.5	.37	.28	.19	.16

Pre-Packaged Resistor and Capacitor Kits

Features:

- Each Kit Contains the Top 30 most popular resistors or capacitors for group specified
- Cabinets stack together to build a component storage center
- One piece frame is lightweight and virtually unbreakable
- Keyhole slots for wall mounting
- Frame measures 9 1/8"W x 7 1/2"H x 6 1/2"D
- Contains 15 drawers, each divided in half

Resistor Kits

RK-01 Metal Film 1/8-W Resistors, 6 each

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
10	100	220	470	1.5K	2.2K	6.8K	20K	33K	220K
22	120	330	680	1.8K	3.3K	10K	22K	47K	330K
47	150	390	1K	2K	4.7K	15K	27K	100K	1M

635-0100 **EACH 37.50**

RK-02 Metal Film 1/4-W Resistors, 4 each

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.0	22	75	150	390	680	1.5K	2.7K	8.2K	33K
10	47	100	220	470	1K	2K	3.3K	10K	47K
15	56	120	330	560	1.2K	2.2K	4.7K	22K	100K

635-0110 **EACH 30.00**

RK-03 Metal Film 1/2-W Resistors, 6 each

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.0	10	47	150	470	1K	2.2K	4.7K	22K	220K
1.5	22	100	220	560	1.5K	3.3K	10K	47K	470K
2.2	33	120	330	680	1.8K	3.9K	15K	100K	1M

635-0120 **EACH 45.00**

RK-04 Metal Oxide 1-W Resistors, 4 each

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
0.22	1.5	4.7	24	68	150	470	1.5K	4.7K	100K
0.47	2.0	10	33	100	220	510	2.0K	5.6K	220K
1.0	2.2	22	47	120	330	1K	2.2K	47K	1M

635-0130 **EACH 45.00**

RK-05 Metal Oxide 2-W Resistors, 2 each

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
0.10	0.47	10	22	51	130	220	680	3.3K	18K
0.22	1.0	15	30	100	150	470	1.0K	5.6K	22K
0.33	4.7	20	47	120	200	560	1.5K	10.0K	100K

635-0140 **EACH 37.50**

RK-06 Wire Wound 5-W Resistors, 2 each

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
0.10	0.33	1.5	3.3	5.0	8.2	22	39	150	1K
0.22	0.47	2.2	3.9	5.1	10	27	47	220	4.7K
0.27	1.0	2.7	4.7	6.8	15	33	100	270	10K

635-0150 **EACH 39.00**

RK-07 Wire Wound 10-W Resistors, 2 each

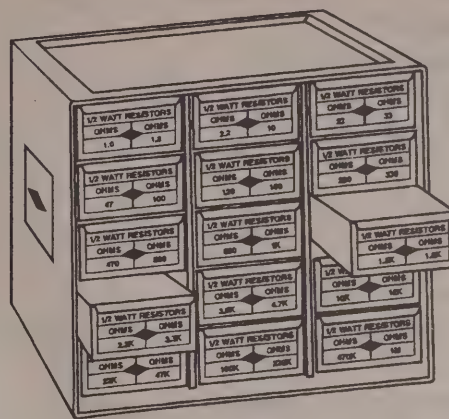
Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
0.33	2.0	3.3	5.1	10	22	47	150	330	3.3K
1.0	2.2	3.9	6.8	12	27	68	180	1K	4.7K
1.5	2.7	4.7	8.2	15	33	100	220	2.2K	10K

635-0160 **EACH 51.00**

RK-08 Wire Wound 25-W Resistors, 1 each

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.0	2.0	3.0	4.7	8.2	20	39	100	220	1K
1.2	2.2	3.3	5.1	10	27	47	150	270	1.2K
1.5	2.7	3.9	6.8	15	30	75	180	470	1.5K

635-0170 **EACH 37.50**



Capacitor Kits

CK-01 Aluminum Electrolytic Capacitors, 2 each (*Denotes Axial Leads)

µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts
100/10*	47/25*	1000/25*	100/35*	0.33/50	2.2/50*	10/50*	100/50*	1000/50*	100/63*
220/16*	100/25*	10/35*	0.1/50	0.47/50	3.3/50*	22/50*	220/50*	22/63*	1000/63*
22/25*	220/25*	47/35*	0.22/50	1.0/50*	4.7/50*	47/50*	470/50*	47/63*	10/100*

635-0200 **EACH 45.00**

CK-02 High Voltage Aluminum Electrolytic Capacitors, 1 each (*Denotes Axial Leads)

µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts
1.0/160	4.7/160	33/160	100/160*	3.3/250	22/250	1.0/350	4.7/350*	47/350	4.7/450
2.2/160	10/160	47/160	1.0/250	4.7/250	33/250	2.2/350	10/350	100/350	10/450
3.3/160	22/160	100/160	2.2/250	10/250	47/250	3.3/350	33/350	1.0/450	10/450*

635-0210 **EACH 45.00**

CK-03 Non-Polarized Aluminum Electrolytic Capacitors, 2 each (*Denotes Axial Leads)

µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts
4.7/25	1.0/50*	3.3/50	4.7/50*	22/50	47/50*	2.2/100*	4.7/100	10/100*	33/100*
10/25	2.2/50	3.3/50*	10/50	22/50*	1.0/100	3.3/100	4.7/100*	22/100*	47/100*
1.0/50	2.2/50*	4.7/50	10/50*	47/50	2.2/100	3.3/100*	10/100	33/100	100/100*

635-0220 **EACH 45.00**

CK-04 Tantalum Capacitors, 2 each

µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts
10/10	10/16	1.0/25	10/25	0.22/35	1.0/35	4.7/35	22/35	0.33/50	2.2/50
2.2/16	22/16	2.2/25	22/25	0.47/35	2.2/35	6.8/35	0.1/50	0.47/50	4.7/50
4.7/16	10/20	4.7/25	0.1/35	0.68/35	3.3/35	10/35	0.22/50	1.0/50	10/50

635-0230 **EACH 52.50**

CK-05 50V Ceramic Disc Capacitors, 4 each

pf	pf	pf	pf	pf	pf	pf	pf	pf	pf
1.0	6.0	15	33	56	100	470	1200	3300	22,000
2.0	10	18	39	68	120	680	1500	4700	47,000
5.0	12	22	47	82	330	1000	2200	10,000	100,000

635-0240 **EACH 30.00**

CK-06 1000V Ceramic Disc Capacitors, 4 each

pf	pf	pf	pf	pf	pf	pf	pf	pf	pf
3.3	10	20	47	100	220	500	1000	4700	47,000
5.0	15	22	56	150	330	560	1500	5000	50,000
6.8	18	39	68	180	470	680	2200	10,000	100,000

635-0250 **EACH 37.50**

CK-07 Mylar/Film Capacitors, 1 each. All values are radial lead.

µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts	µf/Volts
.01/50	.01/100	.047/100	.47/100	.33/250	.01/400	.0033/630	.015/630	.05/630	.15/630
.1/50	.022/100	.1/100	.047/250	1.0/250	.1/400	.0047/630	.022/630	.068/630	.22/630
.001/100	.033/100	.22/100	.1/250	1.5/250	.001/630	.01/630	.047/630	.1/630	.47/630

635-0260 **EACH 48.00**



Series Capacitors

MONO-Kap® Ceramic Capacitors

Size Code*	Max. Length	Max. Width	Max. Thickness	Lead Space	Lead	
					Diameter	AWG
15	.150 (3.81)	.150 (3.81)	.100 (2.54)	.100 (2.54)	.016 (0.40)	26
20	.200 (5.08)	.200 (5.08)	.125 (3.17)	.100 (2.54)	.020 (0.50)	24
30	.300 (7.62)	.300 (7.62)	.150 (3.81)	.200 (5.08)	.020 (0.50)	24

* Size Chart. Code based on first 2 digits in Mfr.'s Type No.

The CW-Series capacitors are designed to provide reliable temperature stable performance over an extremely wide temperature range in bypass, coupling and blocking operations. The CY- and CZ- Series capacitors are ideally suited for a wide range of non-critical general purpose bypass, coupling and filtering applications. Note:

CW Series — Temperature Stable and Epoxy Coated

Stock No.	Mfr.'s Type†	WVDC	Capacitance	EACH			
				1-99	100-999	1000-9999	10000-Up
748-2003	CW15C221K	50	220 pf	.43	.33	.25	.20
748-2008	CW15C471K	50	470 pf	.43	.33	.25	.20
748-2009	CW15C561K	50	560 pf	.43	.33	.25	.20
748-2010	CW15C681K	50	680 pf	.43	.33	.25	.20
748-2011	CW15C821K	50	820 pf	.43	.33	.25	.20
748-2012	CW15C102K	50	.0010 mfd	.43	.33	.25	.20
748-2013	CW15C102M	50	.0010 mfd	.43	.33	.25	.20
748-2017	CW15C222K	50	.0022 mfd	.43	.33	.25	.20
748-2019	CW15C332K	50	.0033 mfd	.43	.33	.25	.20
748-2021	CW15C472K	50	.0047 mfd	.43	.33	.25	.20
748-2024	CW15C103K	50	.01 mfd	.45	.34	.26	.21
748-2025	CW15C103M	50	.01 mfd	.43	.33	.25	.20
748-2027	CW15C153K	50	.015 mfd	.57	.42	.33	.28
748-2030	CW15C223K	50	.022 mfd	.63	.51	.42	.36
748-2034	CW20C473K	50	.047 mfd	.62	.50	.41	.35
748-2035	CW20C473M	50	.047 mfd	.59	.48	.38	.30
748-2037	CW20C683K	50	.068 mfd	.59	.48	.38	.30

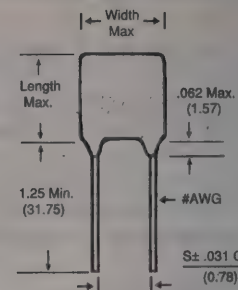
CY-CZ Series — General-Purpose Miniature Size Capacitors with High Capacitance, Epoxy Coated

Stock No.	Mfr.'s Type†	WVDC	Capacitance	EACH			
				1-99	100-999	1000-9999	10000-Up
748-4009	CY15C103M	50	.01 mfd	.49	.39	.29	.25
748-4012	CY15C223M	50	.022 mfd	.49	.39	.29	.25
748-4016	CY15C104M	50	.1 mfd	.35	.30	.28	.25
748-4018	CY15C104Z	50	.1 mfd	.35	.30	.25	.20
748-3001	CZ15C102M	50	.001 mfd	.35	.30	.20	.15
748-3002	CZ15C103Z	50	.010 mfd	.25	.20	.18	.15
748-3003	CZ15C473Z	50	.047 mfd	.25	.20	.18	.15
748-3004	CZ15C104M	50	.1 mfd	.35	.25	.20	.15
748-3005	CZ15C104Z	50	.1 mfd	.35	.25	.20	.15
748-4019	CY20C154M	50	.15 mfd	.48	.38	.28	.18
748-4020	CY20C224M	50	.22 mfd	.50	.40	.30	.20

CN Series — Ultra Stable COG (NPO) Rated

Stock No.	Mfr.'s Type†	WVDC	Capacitance	Tolerance	Temperature Coefficient	EACH	
						1-9	10-24
748-1022	CN15C101K	50	100 pf	.44	.34	.24	.18
748-1020	CN30C103K	50	.01 mfd	.80	.90	.60	.50
748-1021	CN30C103J	50	.01 mfd	.90	.82	.70	.50
748-1001	CN15A100K	100	10 pf	.57	.48	.36	.28
748-1002	CN15A150K	100	15 pf	.57	.48	.36	.28
748-1003	CN15A220K	100	22 pf	.57	.48	.36	.28
748-1004	CN15A330K	100	33 pf	.57	.48	.36	.28
748-1005	CN15A470K	100	47 pf	.57	.48	.36	.28
748-1006	CN15A680K	100	68 pf	.57	.48	.36	.28
748-1023	CN15A101J	100	100 pf	.50	.40	.30	.20
748-1007	CN15A101K	100	100 pf	.50	.40	.36	.20
748-1008	CN15A151K	100	150 pf	.50	.40	.36	.20

† Last letter of Mfr.'s Type No. indicates tolerance: K — ±10%; M — ±20%; P — +100%, -0%; J — ±5%.



CN types have COG (NPO) temperature characteristic and are ideally suited for RC network, pulse and RF tuned circuit applications where extremely stable performance is required.

Stock No.	Mfr.'s Type†	WVDC	Capacitance	EACH			
				1-99	100-999	1000-9999	10000-Up
748-2039	CW20C104K	50	.1 mfd	.51	.40	.32	.29
748-2040	CW20C104M	50	.1 mfd	.51	.40	.32	.29
748-2043	CW20C154K	50	.15 mfd	.60	.54	.48	.41
748-2044	CW20C224K	50	.22 mfd	.80	.70	.60	.50
748-2050	CW15A471K	100	470 pf	.39	.33	.20	.18
748-2052	CW15A681K	100	680 pf	.43	.33	.25	.20
748-2054	CW15A102K	100	.001 mfd	.39	.33	.20	.18
748-2058	CW15A222K	100	.0022 mfd	.39	.33	.20	.18
748-2060	CW15A332K	100	.0033 mfd	.39	.33	.20	.18
748-2062	CW15A472K	100	.0047 mfd	.40	.30	.20	.18
748-2066	CW15A103M	100	.01 mfd	.40	.30	.28	.20
748-2067	CW20A123K	100	.012 mfd	.40	.30	.28	.20
748-2070	CW20A223K	100	.022 mfd	.65	.55	.44	.38
748-2072	CW20C333K	100	.033 mfd	.40	.30	.28	.20
748-2074	CW20A473K	100	.047 mfd	.40	.30	.25	.20
748-2080	CW30A224K	100	.22 mfd	1.25	1.10	.90	.83
748-2091	CW30A334K	100	.33 mfd	1.90	1.42	1.14	.95

Stock No.	Mfr.'s Type†	WVDC	Capacitance	EACH			
				1-99	100-999	1000-9999	10000-Up
748-3006	CZ20C224M	50	.22 mfd	.50	.40	.30	.20
748-3007	CZ20C224Z	50	.22 mfd	.50	.40	.30	.20
748-3009	CZ20C334M	50	.33 mfd	.50	.40	.30	.20
748-4022	CZ30C474M	50	.47 mfd	.50	.40	.35	.30
748-4023	CY30C684M	50	.68 mfd	1.60	1.40	1.10	1.00
748-4024	CY30C105M	50	1.0 mfd	1.08	.92	.83	.60
748-4025	CY30C105P	50	1.0 mfd	1.08	.92	.83	.60
748-3010	CZ30C474Z	50	.47 mfd	.90	.80	.70	.60
748-3011	CZ30C105M	50	1.0 mfd	.90	.80	.70	.60
748-3008	CZ20A104M	100	.1 mfd	.74	.64	.54	.44
748-4041	CZ30A224M	100	.22 mfd	.70	.60	.50	.40

Stock No.	Mfr.'s Type†	WVDC	Capacitance	Tolerance	Temperature Coefficient	EACH	
						1-9	10-24
748-1009	CN15A221K	100	220 pf	.50	.39	.29	.20
748-1012	CN15A331K	100	330 pf	.50	.39	.29	.20
748-1011	CN15A471K	100	470 pf	.50	.39	.29	.20
748-1024	CN20A102J	100	.001 mfd	.50	.39	.29	.20
748-1013	CN20A102K	100	.001 mfd	.50	.39	.29	.20
748-1014	CN20A152K	100	.0015 mfd	.60	.50	.40	.30
748-1015	CN20A222K	100	.0022 mfd	.60	.50	.40	.30
748-1016	CN20A332K	100	.0033 mfd	1.73	1.32	.95	.75
748-1017	CN20A472K	100	.0047 mfd	1.90	1.44	.96	.86
748-1018	CN30A682J	100	.0068 mfd	1.60	1.20	.96	.80
748-1025	CN30A103K	100	.01 mfd	1.67	1.25	1.00	.83

sensitivity to voltage and frequency may be tolerated. Their temperature characteristics are non-linear and may be best described as a maximum tolerance envelope over a rated temperature range. Available on Tape/Reel of 1000 pieces. Call your local Allied branch for price and delivery.

Stock No.	Mfr.'s Type	WVDC	Capacitance	Tolerance	Temperature Coefficient	EACH	
						1-9	10-24
748-0119	A41A102K	100	.001 mf	10%	X7R	110.00	94.29
748-0120	A41A152K	100	.0015 mf	10%	X7R	110.00	94.29
748-0141	A41A222K	100	.0022 mf	10%	X7R	110.00	94.29
748-0122	A41C332K	50	.0033 mf	10%	X7R	111.67	95.71
748-0123	A41C472K	50	.0047 mf	10%	X7R	111.67	95.71
748-0124	A41C103K	50	.01 mf	10%	X7R	81.67	70.00
748-0125	A41C153K	50	.015 mf	10%	X7R	123.33	105.71
748-0126	A41C223K	50	.022 mf	10%	X7R	133.33	114.29
748-0127	A41C333K	50	.033 mf	10%	X7R	141.67	121.43
748-0128	A41C473K	50	.047 mf	10%	X7R	145.00	124.29
748-0129	A41C104K	50	.1 mf	10%	X7R	280.00	240.00
748-0130	A43C103M	50	.01 mf	20%	Z5U	80.00	68.57
748-0131	A43C223M	50	.022 mf	20%	Z5U	90.00	77.14
748-0132	A43C333M	50	.033 mf	20%	Z5U	90.00	77.14
748-0133	A43C473M	50	.047 mf	20%	Z5U	93.33	80.00
748-0134	A43C104M	50	.1 mf	20%	Z5U	80.00	68.57
748-0135	A43C224M	50	.22 mf	20%	Z5U	163.33	140.00
748-0136	A43C334M	50	.33 mf	20%	Z5U	278.33	238.57

Mono-Axial Conformal Coated Ceramic Capacitors

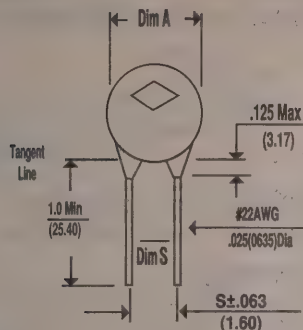
These devices enable the electronic manufacturer and assembler to increase the printed circuit board density and allow use of both sides of the board for greater productivity. Class I dielectrics (COG or NPO) have a stable, predictable, linear change over their operating temperature range and typically are neither voltage nor frequency sensitive. Class II (X7R) and Class III (Z5U) typically are used for bypass and coupling applications, where their

Stock No.	Mfr.'s Type	WVDC	Capacitance	Tolerance	Temperature Coefficient	EACH	
						1-9	10-24
748-0137	A40A100J	100	10 pf	5%	NPO	113.33	97.14
748-0138	A40A150J	100	15 pf	5%	NPO	113.33	97.14
748-0139	A40A180J	100	18 pf	5%	NPO	113.33	97.14
748-0140	A40A220J	100	22 pf	5%	NPO	113.33	97.14
748-0104	A40A270J	100	27 pf	5%	NPO	113.33	97.14
748-0105	A40A330J	100	33 pf	5%	NPO	113.33	97.14
748-0106	A40A470J	100	47 pf	5%	NPO	115.00	98.57
748-0107	A40A680J	100	68 pf	5%	NPO	116.67	100.00
748-0108	A40A820J	100	82 pf	5%	NPO	118.33	101.43
748-0109	A40A101J	50	100 pf	5%	NPO	118.33	101.43
748-0110	A40C221J	50	220 pf	5%	NPO	123.33	105.71
748-0111	A40C331J	50	330 pf	5%	NPO	123.33	105.71
748-0112	A40C471J	50	470 pf	5%	NPO	123.33	105.71
748-0113	A40C681J	50	680 pf	5%	NPO	123.33	105.71
748-0114	A40C102J	50	1000 pf	5%	NPO	133.33	114.29
748-0115	A41A221K	100	220 pf	10%	X7R	110.00	94.29
748-0116	A41A331K	100	330 pf	10%	X7R	110.00	94.29
748-0117	A41A471K	100	470 pf	10%	X7R	110.00	94.29
748-0118	A41A681K	100	680 pf	10%	X7R	110.00	94.29



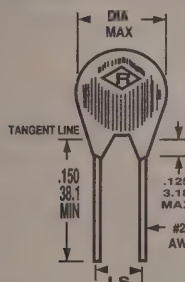
Ceramic Disc Capacitors

Capacitors



Code	Dim. A		Dim. S		Thk.	
	In.	mm	In.	mm	In.	mm
A	.197	7.37	.250	6.35	.177	4.50
B	.290	7.74	.250	6.35	.177	4.50
C	.394	10.29	.250	6.35	.177	4.50
D	.472	12.70	.250	6.35	.177	4.50
E	.256	6.50	.250	6.35	.177	4.50
F	.310	7.87	.250	6.35	.177	4.50
G	.750	19.05	.375	9.52	.177	4.50
H	.930	23.62	.375	9.52	.177	4.50

Philips General Purpose capacitors provide a wide choice of 1000 Volt DC rated units for general purpose applications. These high dielectric ceramic discs offer small physical size, tighter tolerances and a rugged humidity resistant coating. Capacitors are primarily designed for non-critical coupling, bypass and filter applications found in all types of entertainment, industrial and medical equipment. **Capacitance Tolerance:** $\pm 10\%$, (*) $\pm 20\%$ or (+) $+100-0\%$ (GMV) or ($\pm$) $+80-20\%$ as listed. **Working Voltage:** 1000 volts DC except ($\pm$) 500 DC. **Dielectric Strength:** 200% of rated working voltage. **Operating Temperature Range:** -55°C to $+85^{\circ}\text{C}$. **Encapsulation:** Phenolic coated. **Insulation Resistance:** 10,000 megohms minimum. Tested at 500 volts DC maximum. Centralab diamond, capacitance value, capacitance tolerance or code letter (D = ± 0.5 pf, K = $\pm 10\%$, M = $\pm 20\%$, P = $+100-0\%$) working voltage and EIA temperature characteristic code as space permits.



Series DD High-Voltage Disc Ceramics

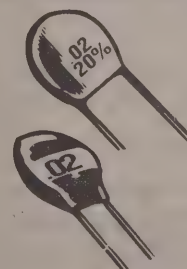
Designed for non-critical coupling, by-pass and filter applications. **Operating Temperature Range:** -55°C to $+85^{\circ}\text{C}$. Tinned wire leads. **Encapsulation:** Phenolic coated. **Dielectric Strength:** 200% of rated working voltage. These high dielectric ceramic discs offer small size, tighter tolerances and a rugged humidity resistant coating. **Weight:** 2 oz.

Stock No.	Mfr.'s Type	pF	WVDC	% Tol.	Size In. D x T x Spac.	EACH	
						1-99	100-999
748-0865	DD30-101	100	3000	± 20	.350 x .236 x .250	.62	.53
748-0867	DD30-102	1000	3000	± 20	.430 x .236 x .250	.69	.59
748-0912	DD30-502	5000	3000	± 20	.730 x .236 x .375	.80	.69
748-0977	DD60-501	500	6000	± 20	.660 x .313 x .375	.87	.71
748-0944	DD60-102	1000	6000	± 20	.660 x .313 x .375	.80	.69
748-0955	DD60-202	2000	6000	± 20	.760 x .313 x .375	1.15	1.06

Low-Voltage Ceramic Disc Capacitors

Working voltage is 50 VDC to 150 VDC. Tolerance of type CK is -20% to $+80\%$. Tolerance of type DC is $\pm 20\%$. Dielectric strength is 250% of rated marking voltage. **Operating Temperature Range:** -55°C to $+80^{\circ}\text{C}$. All have Z5V characteristic $+22\%$ to -82% max. capacitance change from $+25^{\circ}\text{C}$ reading over temperature range of $+10^{\circ}\text{C}$ to $+85^{\circ}\text{C}$. **Weight:** 2 oz.

Stock No.	Mfr.'s Type	pF	WVDC	Size In. Max. Dia. x Max. Thick.	EACH	
					1-99	100-999
748-6385	CK-502	.005	50	.197 x .157	.49	.39
748-6365	CK-103	.010	50	.256 x .157	.49	.39
748-6373	CK-203	.020	50	.290 x .157	.61	.55
748-6389	CK-503	.050	50	.398 x .157	.57	.47
748-6369	CK-104	.100	50	.590 x .218	1.01	.90
748-6430	DC-103	.010	100	.300 x .157	.29	.24



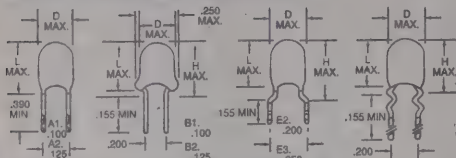
UK Miniature Disc Capacitors



Philips Ultra-Kap capacitors provide many advantages when compared to ordinary ceramic capacitors. Their unique semiconductor design allows for the maximum in capacitance while retaining the miniature size required for today's low voltage applications. Dissipation factor at 1 kHz, 5-10%. **Tolerance:** 10 and 20 WVDC, -20% to $+80\%$, 12, 16, 25 and 50 WVDC tolerance is $\pm 20\%$. Tinned wire leads #22 AWG. **Weight:** 1 ounce.

Stock No.	Mfr.'s Type	pF	WVDC	Size In. Max. Dia. x Spacing	EACH	
					1-99	100-999
748-6057	UK12-503	.050	12	.290 x .250	.43	.36
748-6055	UK12-104	.100	12	.256 x .250	.49	.41
748-6060	UK16-103	.010	16	.197 x .250	.43	.36
748-6067	UK16-503	.050	16	.256 x .250	.49	.39
748-6061	UK16-104	.100	16	.310 x .375	.63	.48
748-6110	UK25-103	.010	25	.197 x .250	.43	.36
748-6113	UK25-223	.022	25	.256 x .250	.43	.36
748-6122	UK25-503	.050	25	.290 x .250	.49	.36
748-6111	UK25-104	.100	25	.490 x .375	.65	.49
748-6165	UK50-103	.010	50	.197 x .250	.43	.35
748-6170	UK50-104	.100	50	.590 x .375	.62	.51
748-6180	UK50-223	.022	50	.256 x .250	.62	.51
748-6190	UK50-473	.047	50	.394 x .375	.62	.51
748-6195	UK50-503	.050	50	.394 x .375	.62	.51

Type 199D Tantalex® Resin-Coated Solid-Tantalum Capacitors



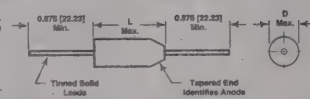
Designed for use in entertainment and commercial equipment and many other minimum-cost applications. Priced competitively with any other capacitor of this type, domestic or offshore. Capacitors listed below are standard stock items; numbers ending with A1 have lead spacing of .100". Other lead styles available on special order. Drawing above shows those styles available. **Tolerance:** $\pm 20\%$; for $\pm 10\%$ tolerance, change 9th character in Mfr.'s Type from 0 to 9; prices available on request. **Operating Temperature Range:** -55°C to $+85^{\circ}\text{C}$.

Code	Terminal Codes Available	Dimensions		
		D	L	H
A	A1, B1, E2, E3, G2	.177"	.280"	.340"
B	A1, B1, E2, E3, G2	.196"	.300"	.360"
C	A1, B1, E2, E3, G2	.216"	.360"	.420"
D	A1, B1, E2, E3, G2	.236"	.400"	.460"
E	E2, E3	.340"	.492"	.552"
F	E2, E3	.380"	.650"	.710"

Terminal A1, A2 Terminal B1, B2 Terminal E2, E3 Terminal G2

Stock No.	Mfr.'s Type	Cap., μF	WVDC	Case Code	EACH	
					1-24	25-49
926-1914	199D475X06R3AA1	4	6.3	A	.41	.31
926-1916	199D106X06R3BA1	10	6.3	B	.49	.35
926-1920	199D476X06R3DA1	47	6.3	D	.53	.41
926-1924	199D227X06R3EE2	220	6.3	E	2.05	1.78
926-1925	199D337X06R3FE2	330	6.3	F	3.07	2.61
926-1929	199D106X0010BA1	10	10	B	.29	.24
926-1933	199D476X0010DA1	47	10	D	.90	.75
926-1935	199D107X0010EE2	100	10	E	1.90	1.50
926-1936	199D157X0010EE2	150	10	E	2.67	2.13
926-1937	199D227X0010FE2	220	10	F	3.95	3.07
926-1938	199D225X0016AA1	2.2	16	A	.66	.59

173D Series Tantalum Capacitors



Solid tantalum capacitors are designed for auto, industrial and consumer electronic equipment. Made of precision-molded thermosetting flame-retardant epoxy resin. Supplied lead taped. **Temperature Range:** -55°C to $+85^{\circ}\text{C}$. **Capacitance Tolerance:** $\pm 10\%$. **Leakage Current:** Type suffix U, 0.5 μA ; type suffix V, 0.7 to 1 μA ; type suffix W, 1.4 to 2 μA ; type suffix X, 2.4 to 5 μA . **Dissipation Factor:** (A + 25°C) 6 through 20 WVDC capacitors, 4 to 6%; 25 through 50 WVDC capacitors, 3 to 4%.

Dimensions

Case Code	D (Max.)	L (Max.)	Lead Diameter
U	0.095 (2.41)	0.260 (6.60)	0.020 (0.51)
V	0.110 (2.79)	0.290 (7.37)	0.020 (0.51)
W	0.180 (4.57)	0.345 (8.76)	0.020 (0.51)
X	0.180 (4.57)	0.420 (10.67)	0.020 (0.51)

10% Tolerance

Stock No.	Mfr.'s Type	Cap., μF	WVDC	Case Code	EACH	
					1-24	25-49
926-1149	173D686X9006X	68	6	X	.83	.65
926-1151	173D106X9010V	10	10	V	.38	.29

109D Series Sintered-Anode Tantalex® Tantalum Electrolytic Capacitors

109D Series fills the basic requirements for applications in the industrial, automotive and tele-communications design field. Meet requirements of Military Specification, MIL-C-39006, Style CLR65 (E Seal). Other sizes available.

Dimensions

Case Code	Bare Tube		With Plastic-Film Insulating Sleeve	
	D ± 0.016	L ± 0.016	D ± 0.016	L (Max.)
C	0.187 (.475 $\pm$.006)	0.453 (11.51 $\pm$.006)	0.203 $\pm$ 0.031 (5.16 $\pm$ 0.787 $\pm$.006)	0.515 (13.08)
F	0.281 (7.14 $\pm$.006)	0.640 (16.26 $\pm$.006)	0.296 $\pm$ 0.031 (7.52 $\pm$ 0.787 $\pm$.006)	0.703 (17.86)
T	0.375 (9.53 $\pm$.006)	0.765 (19.43 $\pm$.006)	0.390 $\pm$ 0.031 (9.91 $\pm$ 0.787 $\pm$.006)	0.828 (21.03)

Terminal A1, A2 Terminal B1, B2 Terminal E2, E3 Terminal G2

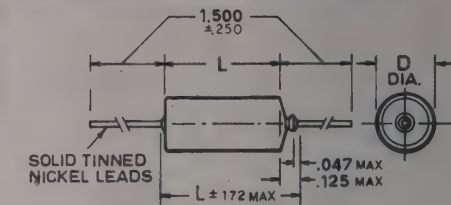
Stock No.	Mfr.'s Type	Cap., μF	WVDC	Case Code	EACH	
					1-24	25-49
926-1940	199D475X0016BA1	4.7	16	B	.34	.27
926-1941	199D685X0016BA1	6.8	16	B	.41	.32
926-1942	199D106X0016CA1	10	16	C	.63	.53
926-1943	199D156X0016CA1	15	16	C	.82	.67
926-1944	199D226X0016DA1	22	16	D	.54	.42
926-1945	199D336X0016DA1	33	16	D	.96	.75
926-1946	199D686X0016EE2	68	16	E	1.90	1.00
926-1947	199D107X0016FE2	100	16	E	3.00	2.50
926-1948	199D157X0016FE2	150	16	F	4.00	3.75
926-1949	199D106X0020CA1	10	20	C	.71	.51
926-1954	199D156X0020DA1	15	20	D	1.63	1.40
926-1959	199D107X0020FE2	100	20	F	5.51	3.83
926-1960	199D105X0025AA1	1	25	A	.28	.25
926-1961	199D155X0025AA1	1.5	25	A	.25	.23
926-1962	199D225X0025AA1	2.2	25	A	.34	.23
926-1963	199D335X0025BA1	3.3	25	B	.28	.34
926-1964	199D475X0025BA1	4.7	25	B	.57	.41
926-1965	199D685X0025CA1	6.8	25	C	1.02	.74
926-1966	199D106X0025CA1	10	25	C	.78	.55
926-1967	199D156X0025DA1	15	25	D	1.25	1.15
926-1968	199D226X0025DA1	22	25	D	1.55	1.35
926-1970	199D476X0025EE2	47	25	E	3.05	2.85
926-1972	199D104X0035AA1	0.1	35	A	.33	.23
926-1974	199D224X0035AA1	0.22	35	A	.33	.23
926-1975	199D334X0035AA1	0.33	35	A	.33	.23
926-1976	199D474X0035AA1	0.47	35	A	.26	.23
926-1977	199D684X0035AA1	0.68	35	A	.22	.18
926-1978	199D105X0035AA1	1	35	A	.28	.23
926-1980	199D225X0035BA1	2.2	35	B	.45	.35
926-1982	199D335X0035BA1	3.3	35	B	.50	.41
926-1983	199D475X0035CA1	4.7	35	C	.64	.45
926-1984	199D685X0035DA1	6.8	35	D	.68	.52
926-1985	199D106X0035DA1	10	35	D	.95	.85
926-1986	199D156X0035EE2	15	35	E	1.90	1.54
926-1987	199D226X0035EE2	22	35	E	1.90	1.55
926-1988	199D336X0035FE2	33	35	F	3.00	2.53
926-1989	199D476X0035FE2	47	35	F	4.50	3.91
926-1990	199D104X0050AA1	0.1	50	A	.28	.23
926-1992	199D224X0050AA1	0.22	50	A	.28	.21
926-1996	199D105X0050BA1	1	50	B	.34	.28
926-1998	199D225X0050CA1	2.2	50	C	.53	.41
926-2000	199D475X0050DA1	4.7	50	D	.98	.70
926-2001	199D685X0050FE2	6.8	50	F	1.85	1.55
926-2002	199D106X0050FE2	1	50	F	2.25	1.85
926-2004	199D226X0050FE2	22	50	F	2.77	1.98

Stock No.	Mfr.'s Type	Cap., μF	WVDC	Case Code	EACH	
					1-24	25-49
926-1153	173D226X9010W	22	10	W	.71	.55
926-1154	173D476X9010X	47	10	X	.83	.65
926-1155	173D225X9015U	2.2	15	U	.36	.28
926-1157	173D685X9015V	6.8	15	V	.43	.33
926-1159	173D156X9015W	15	15	W	.71	.55
926-1161	173D336X9015X	33	15	X	.83	.65
926-1163	173D475X9020V	47	20	V	.43	.33
926-1165	173D226X9020X	22	20	X	.83	.65
926-1167	173D105X9025U	10	25	U	.36	.28
926-1169	173D225X9025V	2.2	25	V	.43	.33
926-1171	173D335X9025V	3.3	25	V	.43	.33
926-1172	173D685X9025W	6.8	25	W	.71	.55
926-1173	173D106X9025W	10	25	W	.71	.55
926-1177	173D126X9025X	12	25	X	.83	.65
926-1179	173D156X9025X	15	25	X	.83	.65
926-1185	173D104X9035U	0.10	35	U	.36	.28
926-1189	173D334X9035U	0.33	35	U	.36	.28
926-1191	173D474X9035U	0.47	35	U	.36	.28
926-1197	173D105X9035V	1.0	35	V	.38	.29
926-1199	173D225X9035W	2.2	35	W	.71	.55
926-1240	173D475X9035W	4.7	35	W	.71	.55
926-1343	173D685X9035X	6.8	35	X	.77	.66
926-1183	173D106X9035X	10	35	X	.83	.65
926-1185	173D104X9050U	0.10	50	U	.40	.31
926-1187	173D224X9050U	0.22	50	U	.40	.31
926-1189	173D105X9050V	1.0	50	V	.48	.38
926-1373	173D225X9050W	2.2	50	W	.80	.63
926-1191	173D475X9050X	4.7	50	X	.99	.77

10% Tolerance

Stock No.	Mfr.'s Type	Cap., μF	WVDC	Case Code	EACH	
					1-24	25-49
926-1091	109D127X9010C2	120	10	C	8.18	7.44
926-1093	109D477X9010F2	470	10	F	10.87	9.88
926-1095	109D107X9015C2	100	15	C	8.18	7.44
926-1097	109D397X9015F2	390	15	F	10.87	9.88
926-1099	109D827X9015T2	820	15	T	15.89	14.45
926-1103	109D567X9025T2	560	25	T	15.89	14.45
926-1107	109D336X9050C2	33	50	C	8.18	7.44
926-1109	109D127X9050F2	120	50	F	10.87	9.88
926-1113	109D126X9075C2	12	75	C	8.18	7.44
926-1115	109D156X9075C2	15	75	C	8.18	7.44
926-1119	109D476X9075F2	47	75	F	10.87	9.88
926-1123	109D826X9075F2	82	75	F	10.87	9.88
926-1125	109D187X9075T2	180	75	T	15.89	14.45
926-1129	109D106X9100C2	10	100	C	8.94	8.12
926-1133	109D396X9100F2	39	100	F	11.67	10.61
926-1137	109D686X9100T2	68	100	T	16.69	15.57
926-1141	109D175X9150C2	1.7	150	C	13.38	12.17
926-1145	109D226X9150F2	22	150	F	17.48	15.89

Type 150D Axial Solid Tantalum Capacitors



- Hermetically Sealed Metal Cases
- Recommended for Industrial, Military, and Commercial Applications
- Capacitors Listed Have Outer Plastic-Film Insulation
- Capacitors Listed Have Capacitance Tolerance of $\pm 10\%$
- Operating Temperature Range: -80°C to $+85^{\circ}\text{C}$; to $+125^{\circ}\text{C}$ with Voltage Derating

Dimensions

Size	D	L
A	0.135"	0.286"
B	0.185"	0.474"
R	0.289"	0.686"
S	0.351"	0.786"

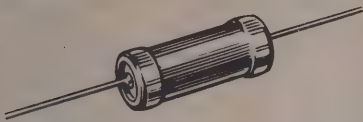
For quantities in excess of 100 pieces, call for pricing and delivery at 1-800-433-5700.

6 WVDC, 8 VDC Surge

Stock No.	Mfr.'s Type	μ F	Size Code	EACH	
				1-24	25-49
926-1524	150D226X9006B2	22	B	1.45	.99
926-1528	150D476X9006B2	47	B	1.00	.95
926-1529	150D566X9006B2	56	B	1.39	.99
926-1536	150D227X9006S2	220	S	5.25	4.08

Orange Drop® Capacitors

192P Pacer Filmite "E" Axial Capacitors



Extended foil film sections are terminated in end caps with wire leads, to assure the best possible non-inductive section. Protected by heat shrinkable plastic sleeve or epoxy coating. Designed for operation to 85°C. Tolerance: ±10%.

80 WVDC

Stock No.	Mfr.'s Type	µF	Dia. x L (In.)	EACH		
				1-49	50-99	100-499
926-4007	192P103X9080	.01000	.170 x 3/8	.57	.51	.39
926-4015	192P473X9080	.04700	.204 x 9/16	.57	.57	.42
926-4019	192P104X9080	.10000	.290 x 1/2	.82	.68	.49
926-4022	192P224X9080	.22000	.318 x 5/8	1.28	1.03	.80

200 WVDC

Stock No.	Mfr.'s Type	µF	Dia. x L (In.)	EACH		
				1-49	50-99	100-499
926-4040	192P102X9200	.00100	.138 x 5/16	.48	.39	.29
926-4047	192P562X9200	.00560	.170 x 7/16	.73	.58	.45
926-4041	192P682X9200	.00680	.170 x 7/16	.52	.45	.35
926-4052	192P103X9200	.01000	.170 x 1/2	.52	.45	.34
926-4055	192P223X9200	.02200	.204 x 9/16	.60	.50	.37
926-4059	192P473X9200	.04700	.290 x 1/2	.69	.55	.42
926-4063	192P104X9200	.10000	.318 x 5/8	.77	.63	.44
926-4067	192P224X9200	.22000	.318 x 13/16	1.08	.88	.69

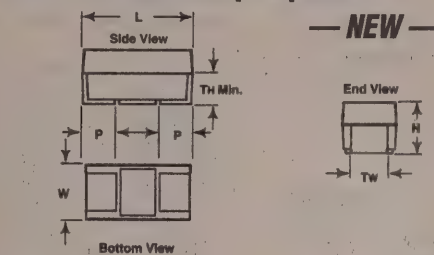
400 WVDC

Stock No.	Mfr.'s Type	µF	Dia. x L (In.)	EACH		
				1-49	50-99	100-499
926-4077	192P222X9400	.00220	.170 x 7/16	.71	.55	.41
926-4085	192P103X9400	.01000	.225 x 9/16	.92	.79	.61

Type PS Orange Drop Dipped Tubular Capacitors

- ▶ Double Dipped in Bright Orange Epoxy Resin — Beats Heat and Humidity
- ▶ Outside Foil On All Units Identified by Black Striping
- ▶ Crimped Wire Leads for Correct Spacing When Mounted on Printed Wiring Boards
- ▶ Dual Dielectric (Polyester Film-Paper) Solidly Impregnated with Exclusive HCX — Produces Rock-hard Capacitor Section
- ▶ Other Values and Voltages Available Upon Request

Type 293D Solid Tantalum Chip Capacitors



Dimensions

Case Code	EIA Size	L	W	H	P	Tw	Th (Min.)
A	3216	.126 ± .008 (3.2 ± .20)	.063 ± .008 (1.6 ± .20)	.063 ± .008 (1.6 ± .20)	.031 ± .012 (.80 ± .30)	.047 ± .004 (1.2 ± .10)	.028 (.7)
B	3228	.138 ± .008 (3.5 ± .20)	.110 ± .008 (2.8 ± .20)	.075 ± .008 (1.9 ± .20)	.031 ± .012 (.80 ± .30)	.087 ± .004 (2.2 ± .10)	.028 (.7)
C	6032	.236 ± .012 (6.0 ± .30)	.126 ± .012 (3.2 ± .30)	.098 ± .012 (2.5 ± .30)	.051 ± .012 (1.3 ± .30)	.087 ± .004 (2.2 ± .10)	.039 (1.0)
D	7343	.287 ± .012 (7.3 ± .30)	.170 ± .012 (4.3 ± .30)	.110 ± .012 (2.8 ± .30)	.051 ± .012 (1.3 ± .30)	.095 ± .004 (2.4 ± .10)	.039 (1.0)

- ▶ Molded Case Available In Four Case Codes
- ▶ Compatible With All Popular "High Voltage" Automatic Pick and Place Equipment
- ▶ Optical Character Recognition Qualified
- ▶ Meets IEC Specification QC300801/US0001 and EIA 535BAAC
- ▶ 8 mm, 12 mm Tape Available Per EIA-81-1 and Reeling Per IEC 286-3; 13" (330 mm) Standard; 7" (178 mm) or Full Reels Available
- ▶ ±10% Tolerance

Performance/Electrical Characteristics. Operating Temperature: -55°C to +85°C (to +125°C with voltage derating.) Capacitance Range: 0.1 µF to 330 µF. Capacitance Tolerance: ±20%, ±10% standard; ±5% available as special. Voltage Rating: 4 WVDC to 50 WVDC. Resistance to Solder Heat: 260°C ±5°C for 30 ±5 seconds. Coefficient Thermal Expansion: 75 x 10⁻⁶ inch/inch/°C. Molded Body: Semiconductor grade molding material. Compilant Terminals: 60/40 Sn/Pb finish, standard. Automatic Redundant Screening: Capacitance, DF, DCL and ESR. (Data shipped with product on request.)

Stock No.	Mfr.'s Type	WVDC	Cap. µF	Case Code	PER PK./100	
					1-9	10-Up
926-1055	293D685X96R3B2T	6.3	6.80	B	30.34	24.28
926-1053	293D105X9010A2T	10	1.00	A	26.01	20.81
926-1051	293D475X9010B2T	10	4.70	B	30.34	24.28
926-1069	293D106X9010C2T	10	10.00	C	50.00	42.58
926-1027	293D226X9010C2T	10	22.00	C	48.96	39.17
926-1066	293D336X9010D2T	10	33.00	D	60.00	54.31
926-1067	293D476X9010D2T	10	47.00	D	60.00	54.31
926-1049	293D105X9016A2T	16	1.00	A	26.01	23.12
926-1047	293D335X9016B2T	16	3.30	B	30.34	26.97
926-1031	293D106X9016B2T	16	10.00	B	34.93	31.05
926-1068	293D106X9016C2T	16	10.00	C	50.00	42.58
926-1065	293D226X9016D2T	16	22.00	D	54.31	42.58
926-1064	293D336X9016D2T	16	33.00	D	54.31	42.58
926-1029	293D476X9016D2T	16	47.00	D	62.48	49.49
926-1045	293D105X9020A2T	20	1.00	A	26.01	23.12
926-1043	293D225X9020B2T	20	2.20	B	30.34	26.97
926-1063	293D106X9020D2T	20	10.00	D	54.31	42.58
926-1062	293D226X9020D2T	20	22.00	D	54.31	42.58
926-1041	293D474X9025A2T	25	0.47	A	26.01	23.12
926-1039	293D105X9025B2T	25	1.00	B	30.34	26.97
926-1061	293D475X9025C2T	25	4.70	C	54.13	42.18
926-1060	293D106X9025D2T	25	10.00	D	54.13	42.18
926-1059	293D156X9025D2T	25	15.00	D	54.13	42.18
926-1033	293D226X9025D2T	25	22.00	D	62.48	55.53
926-1037	293D104X9035A2T	35	0.10	A	26.01	23.12
926-1035	293D105X9035B2T	35	1.00	B	30.34	26.97
926-1070	293D685X9035D2T	35	6.80	D	54.13	42.18
926-1058	293D106X9035D2T	35	10.00	D	54.13	42.18
926-1057	293D105X9050C2T	50	1.00	C	60.00	42.08
926-1056	293D475X9050D2T	50	4.70	D	67.83	54.26

200 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH	
				1-24	25-49
926-2104	2PSP10	.1000	D1	1.24	1.00
926-2107	2PSP22	.2200	D2	1.76	1.30
926-2108	2PSP25	.2500	C2	2.07	1.70
926-2110	2PSP47	.4700	C2	2.78	1.66
926-2111	2PSP50	.5000	C2	2.78	1.76

400 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH	
				1-24	25-49
926-2112	4PSS10	.0100	A2	.98	.54
926-2118	4PSS33	.0330	E2	1.11	.66
926-2124	4PSP10	.1000	D4	1.36	.84
926-2127	4PSP22	.2200	C3	2.18	1.25
926-2128	4PSP25	.2500	C3	2.48	1.42

600 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH	
				1-24	25-49
926-2129	6PSD10	.0010	A4	.80	.52
926-2133	6PSD20	.0020	A1	.80	.52
926-2134	6PSD22	.0022	A1	.84	.53
926-2136	6PSD27	.0027	A2	.94	.59
926-2138	6PSD33	.0033	A2	1.07	.71
926-2142	6PSD50	.0050	A5	.88	.73
926-2149	6PSS10	.0100	E2	.94	.60
926-2150	6PSS12	.0120	E2	1.06	.63
926-2151	6PSS15	.0150	E2	1.06	.66
926-2152	6PSS20	.0200	E3	1.12	.68
926-2153	6PSS22	.0220	E3	1.12	.92
926-2157	6PSS33	.0330	D3	1.28	1.06
926-2159	6PSS39	.0390	D3	1.49	.93
926-2161	6PSS47	.0470	D5	1.50	.93

Dimensions (In.)

Size Code	D	L	Size Code	D	L	Size Code	D	L
A1	.343	0.703	C6	.812	1.609	D7	.656	1.203
A2	.359	0.703	C9	.859	1.609	E2	.406	0.906
A4	.312	0.703	D1	.406	1.203	E3	.454	0.906
A5	.390	0.703	D2	.500	1.203	E6	.484	0.906
C2	.562	1.609	D3	.453	1.203	F1	.828	1.812
C3	.598	1.609	D4	.531	1.203	F2	.890	1.812
C5	.703	1.609	D5	.562	1.203	H1	.812	1.625

600 WVDC (continued)

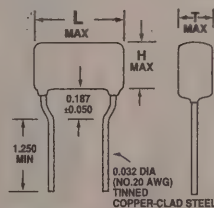
Stock No.	Mfr.'s Type	µF	Size Code	EACH	
				1-24	25-49
926-2162	6PSS50	.0500	D5	1.60	1.05
926-2168	6PSP10	.1000	D7	1.82	1.27
926-2169	6PSP15	.1500	C5	2.46	1.79
926-2170	6PSP20	.2000	C6	2.46	2.07
926-2171	6PSP22	.2200	C6	3.44	2.29
926-2172	6PSP25	.2500	F1	3.50	2.09
926-2173	6PSP33	.3300	F2	4.32	2.84
926-2174	6PSP47	.4700	H1	7.13	4.28

1000 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH	
				1-24	25-49
926-2183	10PSS10	.0100	E6	1.36	.80
926-2185	10PSS22	.0220	C3	1.71	.97
926-2191	10PSP10	.1000	C9	3.15	1.89

Type 225P Orange Drop® Polyester Capacitors

Type 225 capacitors are designed for PC boards and are furnished with radial leads to facilitate insertions. Used in TV sets, radios, instruments and commercial electronic equipment. Sections are wound from polyester film and thin gauge foil. Wax-free conformal epoxy coating protects against moisture. For operation up to 85°C. Tolerance: ±10%.



100 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH	
				1-24	25-49
926-2250	225P10291WD3	.0010	AB	.66	.43
926-2256	225P33291WD3	.0033	AB	.55	.40
926-2257	225P33291WD3	.0039	AB	.50	.40
926-2258	225P47291WD3	.0047	AB	.50	.43
926-2259	225P56291WD3	.0056	AB	.50	.43
926-2260	225P68291WD3	.0068	AB	.50	.43
926-2262	225P10391WD3	.0100	AB	.51	.44
926-2266	225P22391WD3	.0220	AD	.54	.40
926-2270	225P47391WD3	.0470	AD	.54	.40
926-2274	225P10491WD3	.1000	AF	.83	.53
926-2278	225P22491XD3	.2200	BD	.97	.80

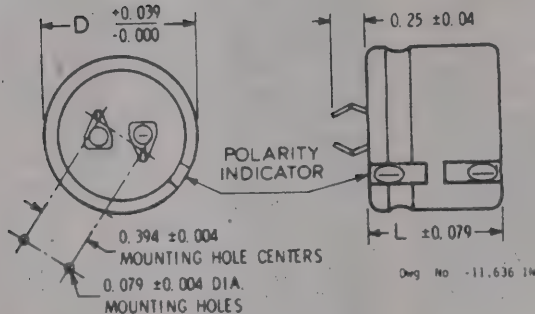
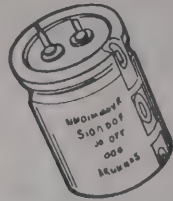
100 WVDC (continued)

Stock No.	Mfr.'s Type	µF	Size Code	EACH	
				1-24	25-49
926-2279	225P27491XD3	.2700	BE	1.13	.95
926-2280	225P33491XD3	.3300	BF	1.14	.92
926-2282	225P47491XD3	.4700	BF	1.69	1.34
926-2284	225P68491YD3	.6800	EB	2.09	1.64
926-2286	225P10591YD3	1.0000	ED	2.72	1.94

200 WVDC

926-2293	225P10392XD3	.0100	CB	.57	.47
926-2299	225P10492XD3	.1000	CE	.71	.58
926-2300	225P15492XD3	.1500	CF	.80	.63

Snap Lock Aluminum Capacitors

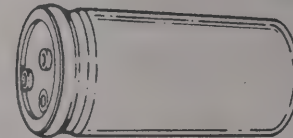


Ideally suited for use in input and output filters, power supplies, computer equipment and other industrial or commercial applications. The 80D series is a two pin snap-in/lock-in capacitor. The snap-lock terminals securely snap into and hold onto a PC board for soldering and physical stability. It has high ripple capability. Capacitors have PVC insulating sleeve with resin end seal to withstand halogenated cleaning solvents.* Leads are tinned copper-clad steel. The capacitance tolerance is -10% to +30%. The operating temperature is -40°C to +85°C. Other capacitance values, voltages, and sizes available as custom order. Call for price and delivery. *Not available on 22 mm dia. size.

Stock No.	Mfr.'s Type	Cap μ F	WVDC	Size (In.)		EACH		
				Dia.	Len.	1-49	50-99	100-499
926-4101	80D392P016HA2D	3900	16	22.0	25.0	3.57	3.01	2.47
926-4102	80D103P016JC5D	10000	16	25.0	35.0	3.15	2.89	2.67
926-4104	80D153P016JE5D	15000	16	25.0	50.0	3.60	3.30	3.04
926-4106	80D333P016ME5D	33000	16	35.0	50.0	4.80	4.40	4.06
926-4107	80D272P025HA2D	2700	25	22.0	25.0	2.32	2.13	1.96
926-4109	80D332P025HB2D	3300	25	22.0	30.0	2.32	2.13	1.96
926-4112	80D682P025KB5D	6800	25	30.0	30.0	3.38	3.10	2.86
926-4116	80D103P025JE5D	10000	25	25.0	50.0	3.52	3.25	3.02
926-4114	80D103P025MB5D	10000	25	35.0	30.0	3.94	3.59	3.31
926-4118	80D153P025KE5D	15000	25	30.0	50.0	4.51	4.13	3.81
926-4120	80D223P025ME5D	22000	25	35.0	50.0	4.64	4.25	3.92
926-4122	80D472P035KB5D	4700	35	30.0	30.0	3.34	3.06	2.82
926-4124	80D682P035KC5D	6800	35	30.0	35.0	3.64	3.33	3.08
926-4126	80D103P035MC5D	10000	35	35.0	35.0	4.21	3.86	3.56
926-4128	80D123P035KE5D	12000	35	35.0	35.0	4.41	4.05	3.74
926-4130	80D153P035ME5D	15000	35	35.0	50.0	5.06	4.64	4.28
926-4136	80D332P050JD5D	3300	50	25.0	40.0	3.38	3.10	2.86
926-4138	80D332P050KB5D	3300	50	30.0	40.0	3.43	3.15	2.90
926-4140	80D472P050KD5D	4700	50	30.0	40.0	4.19	3.84	3.55
926-4142	80D682P050KE5D	6800	50	30.0	50.0	4.99	4.57	4.22
926-4146	80D332P063MB5D	3300	63	35.0	30.0	4.34	3.98	3.67
926-4148	80D472P063KE5D	4700	63	30.0	50.0	5.08	4.66	4.30
926-4150	80D221P200KA5D	220	200	30.0	25.0	2.86	2.62	2.42
926-4152	80D331P200KC5D	330	200	30.0	35.0	3.75	3.44	3.17
926-4154	80D471P200KD5D	470	200	30.0	40.0	4.53	4.15	3.83
926-4156	80D821P200ME5D	820	200	35.0	50.0	5.60	5.13	4.74
926-4158	80D102P200ME5D	1000	200	35.0	50.0	5.64	5.17	4.77
926-4160	80D122P200ME5D	1200	200	35.0	50.0	6.40	5.87	5.41
926-4162	80D101P250JA5D	100	250	25.0	25.0	3.01	2.76	2.54
926-4164	80D221P250JD5D	220	250	25.0	40.0	3.67	3.37	3.11
926-4166	80D681P250ME5D	680	250	35.0	50.0	5.99	5.49	5.07

36D Series Powerlytic Electrolytic Capacitors

Excellent for use in power supply filters, computer related equipment, and other industrial or commercial applications. They have high capacitance per case size, high ripple current, low leakage current, long shelf life and operating life. Low screw insert terminals. **Operating Temperature:** 36D and 36DX — -40°C to +85°C; 36DE — -40°C to +95°C. **Capacitance Tolerance:** 10-100VDC — -10% to +75%; 200-450 VDC — -10% to +50%. Other capacitance values, voltages, and sizes available as custom order. Call for price and delivery.

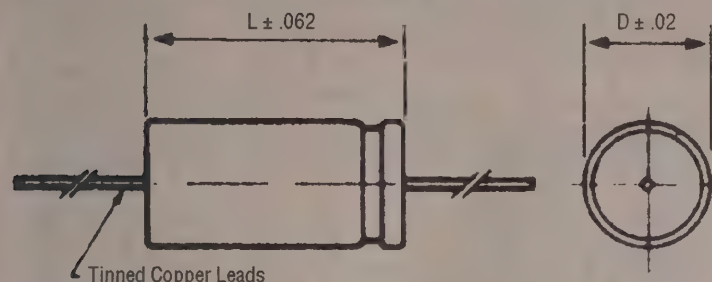


Stock No.	Mfr.'s Type	Cap μ F	WVDC	Size (In.)		EACH		
				Dia.	Len.	1-49	50-99	100-499
926-4180	36D133G015AC2A	13000	15	1.453	4.250	7.33	6.71	6.20
926-4182	36D213G015BB2A	21000	15	2.078	3.250	11.93	10.93	10.09
926-4184	36D272G025AA2A	2700	25	1.453	2.250	5.27	4.83	4.46
926-4186	36D552G025AB2A	5500	25	1.453	3.250	6.18	5.66	5.23
926-4188	36D552G040AC2A	5500	40	1.453	4.250	7.36	6.75	6.23
926-4190	36D842G040BB2A	8400	40	2.078	3.250	10.22	9.41	8.72
926-4192	36D123G040BC2A	12000	40	2.078	4.250	11.26	10.32	9.53
926-4194	36D132G050AA2A	1300	50	1.453	2.250	5.40	4.95	4.57
926-4196	36D262G050AB2A	2600	50	1.453	3.250	6.49	5.95	5.49
926-4198	36D392G050AC2A	3900	50	1.453	4.250	7.66	7.02	6.48
926-4200	36D522G050AE2A	5200	50	1.453	5.250	8.72	7.99	7.38
926-4202	36D602G050BB2A	6000	50	2.078	3.250	11.26	10.32	9.53
926-4204	36D902G050BC2A	9000	50	2.078	4.250	11.54	10.57	9.76
926-4206	36D153G050CC2A	15000	50	2.078	4.250	16.97	15.66	14.36
926-4208	36D392G075BB2A	3900	75	2.078	4.250	12.41	11.37	10.50
926-4210	36D103G075CC2A	10000	75	2.578	4.250	16.25	14.89	13.75
926-4212	36D172G100AB2A	1700	100	1.453	3.250	7.12	6.53	6.03
926-4214	36D191F350AB2A	190	350	1.453	3.250	6.22	5.70	5.26
926-4216	36DE233G010AA2A	23000	10	1.453	2.250	6.14	5.63	5.20
926-4218	36DE403G025BB2A	40000	25	2.078	3.250	12.93	11.85	10.94
926-4220	36DE243G040BB2A	24000	40	2.078	3.250	11.63	10.66	9.84
926-4222	36DX752G015AA2A	7500	15	1.453	2.250	5.40	4.95	4.57
926-4224	36DX153G015AB2A	15000	15	1.453	3.250	6.40	5.87	5.41
926-4226	36DX223G015AC2A	22000	15	1.453	4.250	7.33	6.71	6.20
926-4228	36DX343G015AF2A	34000	15	1.453	5.750	8.44	7.74	7.14
926-4230	36DX503G015BC2A	50000	15	2.078	4.250	9.24	8.47	7.82
926-4232	36DX452G025AA2A	4500	25	1.453	2.250	5.27	4.83	4.46
926-4234	36DX902G025AB2A	9000	25	1.453	3.250	6.18	5.66	5.23
926-4236	36DX133G025AC2A	13000	25	1.453	4.250	7.05	6.46	5.96
926-4238	36DX203G025AF2A	20000	25	1.453	5.750	7.85	7.19	6.64
926-4240	36DX303G025BC2A	30000	25	2.078	4.250	10.57	9.69	8.94
926-4242	36DX503G025CC2A	50000	25	2.578	4.250	16.69	15.30	14.12
926-4244	36DX402G030AA2A	4000	30	1.453	2.250	5.16	4.73	4.36

Stock No.	Mfr.'s Type	Cap μ F	WVDC	Size (In.)		EACH		
				Dia.	Len.	1-49	50-99	100-499
926-4246	36DX802G030AB2A	8000	30	1.453	3.250	6.18	5.66	5.23
926-4248	36DX183G030AF2A	18000	30	1.453	5.750	8.70	7.97	7.36
926-4250	36DX292G040AA2A	2900	40	1.453	2.250	5.29	4.85	4.47
926-4252	36DX582G040AB2A	5800	40	1.453	3.250	6.40	5.87	5.41
926-4254	36DX872G040AC2A	8700	40	1.453	4.250	7.36	6.75	6.23
926-4256	36DX203G040BC2A	20000	40	2.078	4.250	11.26	10.32	9.53
926-4258	36DX343G040CC2A	34000	40	2.578	4.250	15.39	14.11	13.02
926-4260	36DX242G050AA2A	2400	50	1.453	2.250	5.40	4.95	4.57
926-4262	36DX482G050AB2A	4800	50	1.453	3.250	6.49	5.95	5.49
926-4264	36DX222G050AC2A	7200	50	1.453	4.250	7.66	7.02	6.48
926-4266	36DX163G050BC2A	16000	50	2.078	4.250	11.54	10.57	9.76
926-4268	36DX243G050BF2A	24000	50	2.078	5.750	16.34	14.98	13.83
926-4270	36DX403G050CF2A	40000	50	2.578	5.750	21.27	19.50	18.00
926-4272	36DX413G050DC2A	41000	50	3.078	4.250	23.16	21.23	19.60
926-4274	36DX142G075AA2A	1400	75	1.453	2.250	5.34	4.90	4.52
926-4276	36DX103G075BC2A	10000	75	2.078	4.250	12.61	11.56	10.67
926-4278	36DX173G075CC2A	17000	75	2.578	4.250	16.25	14.89	13.75
926-4280	36DX422G075AC2A	4200	75	1.453	4.250	7.88	7.23	6.67
926-4282	36DX172G100AB2A	1700	100	1.453	3.250	7.12	6.53	6.03
926-4284	36DX851F200AC2A	850	200	1.453	4.250	6.58	6.04	5.57
926-4286	36DX202F200BC2A	2000	200	2.078	4.250	11.91	10.92	10.08
926-4288	36DX282F200BC2A	2800	200	2.078	4.250	14.87	13.64	12.59
926-4290	36DX342F200CC2A	3400	200	2.578	4.250	18.21	16.70	15.41
926-4292	36DX742F200DF2A	7400	200	3.078	5.750	34.61	31.72	29.28
926-4294	36DX501F250AB2A	500	250	1.453	3.250	5.81	5.32	4.91
926-4296	36DX103F250DJ2A	10000	250	3.078	8.750	57.90	53.08	48.99
926-4298	36DX261F350AB2A	260	350	1.453	3.250	6.21	5.70	5.26
926-4300	36DX332F350DF2A	3300	350	3.078	5.750	40.75	37.35	34.48
926-4302	36DX372F350DF2A	3700	350	3.078	5.750	45.75	41.94	38.71
926-4304	36DX231F450AC2A	230	450	1.453	4.250	7.12	6.53	6.03
926-4306	36DX202F450DF2A	2000	450	3.078	5.750	41.36	37.91	34.99
926-4308	36DX312F450DJ2A	3100	450	3.078	8.750	58.23	53.38	49.27
926-4310	36DX352F450DJ2A	3500	450	3.078	8.750	63.96	58.63	54.12

Axial Electrolytic Capacitors

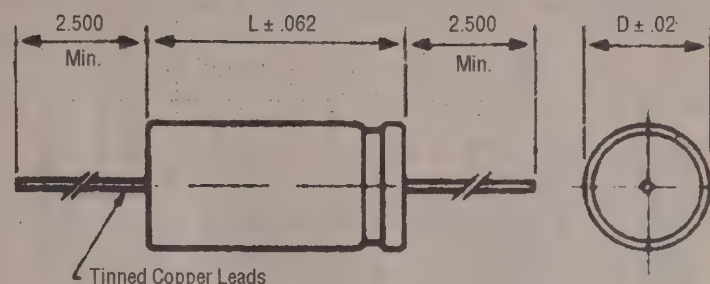
Type 39D Powerlytic Axial Electrolytic Capacitors



The 39D series is recommended for replacement applications and is designed for applications requiring large capacitance in small physical case size. Welds at all critical anode and cathode terminals eliminate riveted or pressure connections to assure freedom from open circuits even when operated in the microvolt or millivolt signal range. Improved molded phenolic end seals with pressure-sensitive safety vent. Service life of 10 years or more in normal circuit applications. Capacitors have outer plastic-film insulation. -20°C to +85°C operating temperature. **Capacitance Tolerance:** 10-75 WVDC — -10%, +75%; 250 WVDC — -10%, 50%. Other voltages, capacitance values, and specs available as custom order. Call for price and delivery. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Cap μ F	VDC	Dia. (in.)	Len. (in.)	EACH	
						1-24	25-49
926-1000	39D108G010FJ4	1000	10	0.687	1.750	2.04	1.73
926-1002	39D128G015FL4	1200	15	0.687	2.250	2.78	2.35
926-1004	39D808G015JT4	8000	15	1.062	3.750	6.21	5.26
926-1006	39D507G025HE4	500	25	0.937	1.250	2.54	2.09
926-1008	39D108G025GL4	1000	25	0.812	2.250	3.19	2.62
926-1010	39D228G025HP4	2200	25	0.937	2.750	4.54	3.84
926-1012	39D408G025JS4	4000	25	1.062	3.250	6.21	5.26
926-1014	39D478G025JT4	4700	25	1.062	3.750	6.86	5.81
926-1016	39D507G030FL4	500	30	0.687	2.250	2.87	2.43
926-1018	39D607G030JE4	600	30	1.062	1.250	2.95	2.50
926-1020	39D118G030GP4	1100	30	0.812	2.750	3.30	2.79
926-1022	39D308G030JS4	3000	30	1.062	3.250	6.14	5.20
926-1024	39D507G040GJ4	500	40	0.812	1.750	3.01	2.48
926-1026	39D108G040GP4	1000	40	0.812	2.750	3.34	2.75
926-1028	39D207G050FJ4	200	50	0.690	1.750	2.75	2.26
926-1030	39D257G050HE4	250	50	0.937	1.250	2.89	2.37
926-1032	39D507G050GL4	500	50	0.812	2.250	3.17	2.61
926-1034	39D807G050HL4	800	50	0.937	2.250	4.06	3.34
926-1036	39D118G050HP4	1100	50	0.937	2.750	4.17	3.53
926-1038	39D238G050JT4	2300	50	1.062	3.750	6.49	5.49
926-1040	39D157G075FJ4	150	75	0.687	1.750	2.75	2.26
926-1042	39D257G075JE4	250	75	1.062	1.250	2.77	2.28
926-1044	39D108G075JP4	1000	75	1.062	2.750	4.64	3.92
926-1046	39D506F250JE4	50	250	1.062	1.250	3.17	2.61
926-1048	39D107F250HL4	100	250	0.937	1.250	4.90	4.14
926-1050	39D157G250JL4	150	250	1.062	2.250	6.14	5.20
926-1052	39D207F250JP4	200	250	1.062	2.250	6.14	5.20
926-1054	39D307F250JT4	300	250	1.062	3.750	7.88	6.67

Type 53D Tubular Axial Electrolytic Capacitors



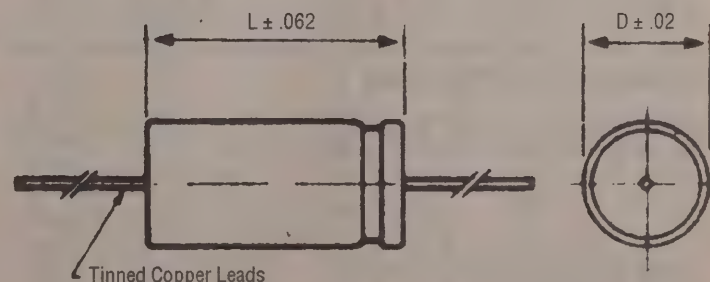
This general purpose capacitor has rugged construction and large CV ratings in an axial lead capacitor. Replacement for the 39D series. Recommended for new designs. Service life of 10 years or more in normal circuit applications. Capacitors have outer PVC film insulation. -40°C to +85°C operating temperature. -10% to +50% capacitance tolerance. Other voltages, capacitance values, and specs available as custom order. Call for price and delivery. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Cap μ F	VDC	Dia. (in.)	Len. (in.)	EACH	
						1-24	25-49
926-1100	53D692G016HJ6	6900	16	0.885	1.641	3.45	2.84
926-1102	53D103G016HL6	10000	16	0.885	2.141	3.73	3.06
926-1104	53D282G025GJ6	2800	25	0.760	1.641	2.75	2.32
926-1106	53D432G025HJ6	4300	25	0.885	1.641	3.17	2.61
926-1108	53D622G025HL6	6200	25	0.885	2.141	4.54	3.84
926-1110	53D113G025JP6	11000	25	1.010	2.641	5.56	4.71
926-1112	53D112G035GE6	1100	35	0.760	1.141	2.54	2.09
926-1114	53D212G035GJ6	2100	35	0.760	1.641	2.92	2.40
926-1116	53D322G035HJ6	3200	35	0.885	1.641	3.22	2.65
926-1118	53D472G035HL6	4722	35	0.885	2.141	3.53	2.90
926-1120	53D832G035JP6	8300	35	1.010	2.641	5.21	4.41
926-1122	53D102G050GE6	1000	50	0.760	1.141	2.54	2.09
926-1124	53D132G050GJ6	1300	50	1.641	1.641	2.87	2.48
926-1126	53D192G050HJ6	1900	50	0.885	1.641	3.24	2.67
926-1128	53D282G050HL6	2800	50	0.885	2.141	3.50	2.87
926-1130	53D382G050JL6	3800	50	1.010	2.141	5.09	4.39
926-1132	53D502G050JP6	5000	50	1.010	2.641	5.45	4.61
926-1134	53D102G063GJ6	1000	63	0.760	1.641	3.01	2.48
926-1136	53D382G063HL6	2200	63	0.885	2.141	3.78	3.11
926-1138	53D351F200JL6	350	200	1.010	2.141	5.93	5.02
926-1140	53D461F200JP6	460	200	1.010	2.641	6.77	5.73
926-1142	53D560F250GE6	56	250	0.760	1.141	2.45	2.01
926-1144	53D101F250GJ6	100	250	0.760	1.641	3.11	2.56
926-1146	53D131G250HJ6	130	250	0.885	1.641	3.45	2.75
926-1148	53D101F400JL6	100	400	1.010	2.141	5.75	4.86
926-1150	53D141F400JS6	140	400	1.010	3.141	6.68	5.65
926-1152	53D151F400JS6	150	400	1.010	3.141	6.68	5.65

Type 500D General Purpose Miniature Aluminum Capacitors

General purpose miniature axial lead electrolytic capacitors. Increased CV efficiency. **Operating Temperature:** Up to 250 VDC — -40°C to +85°C; Over 250 VDC — -20°C to +85°C. 20% capacitance tolerance. Other voltages, capacitance values, and specs available as custom order. Call for price and delivery. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Cap μ F	VDC	Dia. (mm)	Len. (mm)	EACH	
						1-24	25-49
926-1200	500D107M016CB2	100	16	8.0	17.5	.79	.68
926-1202	500D227M016CC2A	220	16	8.0	20.5	.79	.68
926-1204	500D477M016DD2A	470	16	9.5	24.0	.92	.77
926-1206	500D108M016DH2	1000	16	9.5	38.0	1.03	.88
926-1208	500D226M025BA2A	22	25	6.3	13.0	.77	.66
926-1210	500D476M025BB2A	47	25	6.3	17.5	.77	.66
926-1212	500D227M025DC2A	220	25	9.5	20.5	.85	.72
926-1214	500D128M025EH2A	1200	25	11.0	38.0	1.25	1.06
926-1216	500D106M050BA2A	10	50	6.3	13.0	.77	.66
926-1218	500D107M050DC2A	100	50	9.5	20.5	.85	.72
926-1220	500D157M050DD2A	150	50	9.5	24.0	.92	.77
926-1222	500D227M050DF2A	220	50	9.5	32.0	.97	.82
926-1224	500D337M050EF2A	330	50	11.0	32.0	1.22	.98
926-1226	500D477M050FH2A	470	50	12.5	38.0	1.45	1.17
926-1228	500D158M050GK2A	1500	50	16.0	44.5	1.95	1.58
926-1230	500D106M100CB2A	10	100	8.0	17.5	.79	.68



510D Series Radial Capacitors

The 510D series miniature radial lead aluminum capacitors feature a broad operating range, low DC leakage current, low dissipation factor, and are a suitable replacement for solid tantalum applications. **Capacitance Tolerance:** ±20%. **Operating Temperature Range:** -40°C to +105°C. Additional values and voltages are available as special orders. Call for price and delivery.

Stock No.	Mfr.'s Type	Cap µF	WVDC	Size (mm) D × H	EACH	
					1-99	100-499
926-3650	510D336M010AA3D	33	10	.256 × .597	.83	.73
926-3652	510D226M016AA3D	22	16	.256 × .597	.83	.73
926-3654	510D476M016BB3D	47	16	.335 × .638	.95	.82
926-3656	510D156M025AA3D	15	25	.256 × .597	.83	.73
926-3658	510D336M025BB3D	33	25	.335 × .638	.95	.82
926-3660	510D107M025CG3F	100	25	.414 × .945	1.24	1.10
926-3662	510D106M035AA3D	10	35	.256 × .597	.83	.73
926-3664	510D226M035BB3D	22	35	.335 × .638	.95	.82
926-3666	510D105M063AA3D	1	63	.256 × .597	.83	.82
926-3668	510D475M063AA3D	4.7	63	.256 × .597	.83	.82
926-3670	510D106M063BB3D	10	63	.335 × .638	.95	.82
926-3672	510D156M063CC3D	15	63	.414 × .650	.98	.87

511D Series General Purpose Radial Capacitors

These general purpose miniature radial lead aluminum capacitors feature +105°C operation, improved CV and are suitable for long life applications. **Capacitance Tolerance:** ±20%. **Operating Range:** -40°C to +105°C. Additional values and voltages are available as special orders. Call for price and delivery.

Stock No.	Mfr.'s Type	Cap µF	WVDC	Size (mm) D × L	EACH	
					1-99	100-499
926-3700	511D107M010AA4D	100	10	6.0 × 11.0	.59	.52
926-3702	511D227M010BB4D	220	10	8.0 × 12.0	.63	.56
926-3704	511D476M016AA4D	47	16	6.0 × 11.0	.59	.52
926-3706	511D107M016BB4D	100	16	8.0 × 12.0	.63	.53
926-3708	511D477M016CD4D	470	16	10.0 × 16.0	.89	.78
926-3710	511D108M016DK4W	1000	16	12.5 × 25.0	1.30	1.13
926-3712	511D476M025AA4D	47	25	6.0 × 11.0	.59	.52
926-3714	511D107M035CC4D	100	35	10.0 × 13.0	.83	.71
926-3716	511D106M063AA4D	10	63	6.0 × 11.0	.59	.50
926-3718	511D476M063CD4F	47	63	10.0 × 16.0	.89	.75
926-3720	511D475M100AA4D	4.7	100	6.0 × 11.0	.59	.50
926-3722	511D106M100BB4D	10	100	8.0 × 12.0	.63	.53

515D Series Radial Capacitors

These miniature radial lead aluminum capacitors feature high CV per case size, low cost, solvent resistant construction, and low profile ratings. **Capacitance Tolerance:** ±20%. **Operating Temperature:** -40°C to +85°C. Supplied with uncut leads. Additional values, voltages, packaging and lead configuration available as special orders. Also available in both tape and reel packaging and tape and ammo box packaging as special order. Call for price and delivery.

Stock No.	Mfr.'s Type	Cap µF	WVDC	Size (mm) D × L	EACH	
					1-99	100-499
926-3724	515D107M010JA6A	100	10	5.0 × 11.0	.09	.07
926-3726	515D106M016JA6A	10	16	5.0 × 11.0	.06	.05
926-3728	515D106M016HW6A	10	16	4.0 × 7.0	.09	.07
926-3730	515D226M016JA6A	22	16	5.0 × 11.0	.07	.05
926-3732	515D476M016JA6A	47	16	5.0 × 11.0	.07	.06
926-3734	515D107M016AA6A	100	16	6.3 × 11.0	.09	.07
926-3736	515D227M016BB6A	220	16	8.0 × 11.5	.10	.08
926-3738	515D477M016CC6A	470	16	10.0 × 12.5	.17	.14
926-3740	515D336M025AW6A	33	25	6.3 × 7.0	.10	.09
926-3742	515D477M035HW6A	4.7	35	4.0 × 7.0	.09	.07
926-3744	515D106M035JW6A	10	35	5.0 × 7.0	.10	.08
926-3746	515D105M050JA6A	1	50	5.0 × 11.0	.06	.05
926-3748	515D106M050JA6A	10	50	5.0 × 11.0	.07	.06
926-3750	515D106M050AW6A	10	50	6.3 × 7.0	.10	.09
926-3752	515D226M050JA6A	22	50	5.0 × 11.0	.09	.07
926-3754	515D476M050AA6A	47	50	6.3 × 11.0	.10	.08
926-3756	515D107M050BB6A	100	50	8.0 × 11.5	.18	.14
926-3758	515D227M050CD6A	220	50	10.0 × 16.0	.26	.21
926-3760	515D108M050EK6A	1000	50	16.0 × 25.0	.68	.56
926-3762	515D106M063JA6A	10	63	5.0 × 11.0	.07	.06
926-3764	515D476M063BB6A	47	63	8.0 × 11.0	.12	.10
926-3766	515D107M063CC6A	100	63	10.0 × 12.5	.17	.14
926-3768	515D477M063DK6A	4700	63	12.5 × 25.0	.64	.49
926-3770	515D105M100JA6A	1	100	5.0 × 11.0	.06	.05
926-3772	515D225M100JA6A	2.2	100	5.0 × 11.0	.09	.07

516D Series Axial Capacitors

These miniature axial lead aluminum capacitors feature high CV per case size, low cost, and solvent resistant construction. **Capacitance Tolerance:** ±20%. **Operating Temperature:** -40°C to +85°C. Additional values, voltages, packaging and lead configuration available as special orders. Call for price and delivery.

Stock No.	Mfr.'s Type	Cap µF	WVDC	Size (mm) D × L	EACH	
					1-99	100-499
926-3500	516D107M016LM6A	100	16	6.3 × 16.0	.16	.13
926-3502	516D227M016MM6A	220	16	8.0 × 16.0	.18	.15
926-3504	516D477M016NM6A	470	16	8.0 × 20.0	.24	.20
926-3506	516D106M025JL6A	10	25	5.0 × 12.0	.13	.10
926-3508	516D226M025JL6A	22	25	5.0 × 12.0	.13	.11
926-3510	516D476M025LL6A	47	25	6.3 × 16.0	.15	.13
926-3512	516D107M025LM6A	100	25	6.3 × 16.0	.18	.15
926-3514	516D226M035JL6A	22	35	5.0 × 12.0	.15	.13
926-3516	516D107M050MM6A	100	50	8.0 × 16.0	.24	.20
926-3518	516D106M063JL6A	10	63	5.0 × 12.0	.15	.13
926-3520	516D476M063MM6A	47	63	8.0 × 16.0	.18	.15

600D Series High Reliability Axial Capacitors

These high reliability miniature axial lead aluminum capacitors feature a wide temperature range, a unique Teflon end seal for long life, high vibration capability, a life test of 2000 hours @ +125°C and have an polyester insulating outer sleeve. They are a foil tantalum replacement. **Capacitance Tolerance (8th character):** F—10% to +50%; G—10% to +75%. Additional values, voltages, tolerances, and Military version (MIL-C-39018/01) as special order. Call for price and delivery.

Stock No.	Mfr.'s Type	Cap µF	WVDC	Size (mm) D × L	EACH	
					1-99	100-499
926-3550	600D227G010DE4	220	10	9.53 × 28.58	2.56	2.17
926-3552	600D107G020DD4	100	20	9.53 × 23.81	2.50	2.12
926-3554	600D826G030DD4	82	30	9.53 × 23.81	2.50	2.12
926-3556	600D157G030DD4	150	30	9.53 × 34.93	2.82	2.39
926-3558	600D107G040DD4	100	40	9.53 × 34.93	2.82	2.39
926-3560	600D217G040DD4	210	40	9.53 × 55.56	4.06	3.44
926-3562	600D226G050KD4	22	50	7.14 × 23.81	2.45	2.07
926-3564	600D476G050DD4	47	50	9.53 × 28.58	2.58	2.18
926-3566	600D107F050DD4	100	50	9.53 × 35.00	2.82	2.39
926-3568	600D107G050DL4	100	50	9.53 × 41.28	2.99	2.53
926-3570	600D157G050DL4	150	50	9.53 × 55.56	4.06	3.44
926-3572	600D187G050DX4	180	50	9.53 × 68.26	4.19	3.55
926-3574	600D176G060KD4	17	60	7.14 × 23.81	2.45	2.07
926-3576	600D806G060DJ4	80	60	9.53 × 41.28	2.93	2.48
926-3578	600D126F075KD4	12	75	7.14 × 23.81	2.45	2.07
926-3580	600D226F075DD4	22	75	9.53 × 23.81	2.43	2.06
926-3582	600D476F075DG4	47	75	9.53 × 34.93	2.76	2.34
926-3584	600D686F075DJ4	68	75	9.53 × 41.28	2.93	2.48
926-3586	600D127F075DX4	120	75	9.53 × 68.26	4.19	3.55
926-3588	600D476F100DL4	47	100	9.53 × 55.56	4.06	3.44
926-3590	600D475F150KD4	4.7	150	7.14 × 23.81	2.45	2.07
926-3592	600D825F150DD4	8.2	150	9.53 × 23.81	2.80	2.37
926-3594	600D126F150DE4	12	150	9.53 × 28.60	2.58	2.18
926-3596	600D226F150DJ4	22	150	9.53 × 41.30	2.93	2.48
926-3598	600D336F150DL4	33	150	9.53 × 55.50	4.06	3.44
926-3600	600D566F150DX4	56	150	9.53 × 68.26	4.19	3.55
926-3602	600D396F200DX4	39	200	9.53 × 68.26	4.19	3.55
926-3604	600D565F250DD4	5.6	250	9.53 × 23.80	2.08	2.37
926-3606	600D685F250DE4	6.8	250	9.53 × 28.60	2.28	1.93
926-3608	600D106F250DG4	10	250	9.53 × 35.00	2.83	2.39
926-3610	600D126F250DJ4	12	250	9.53 × 41.28	3.54	3.00
926-3612	600D226F250DL4	22	250	9.53 × 55.50	4.06	3.44
926-3614	600D276F250DX4	27	250	9.53 × 68.20	4.19	3.55

672D Series Radial Capacitors

The 672D series is a miniature aluminum capacitor with radial leads. They feature minimal ESR change, high ripple current capability and are original SMPS output capacitors. **Capacitance Tolerance:** -10% to +100%. **Operating Temperature Range:** -40°C to +105°C. Supplied with polyester insulating sleeve with resin end seal and cut leads. Negative lead is 0.281" long and the positive lead is 0.375" long. Additional values and voltages are available as special orders. Call for price and delivery.

Stock No.	Mfr.'s Type	Cap µF	WVDC	Size (mm) D × L	EACH	
					1-99	100-499
926-3800	672D687H6R3DM5C	680	6.3	12.5 × 26.5	1.17	1.02
926-3802	672D477H012DM5C	470	12.0	12.5 × 26.5	1.23	1.08
926-3804	672D108H015ET5C	1000	15.0	16.0 × 33.5	1.69	1.50
926-3806	672D107H020CG5C	100	20.0	10.0 × 20.0	.92	.84
926-3808	672D337H020DM5C	300	20.0	12.5 × 26.5	1.21	1.05
926-3810	672D477H020EK5C	470	20.0	16.0 × 25.0	1.49	1.30
926-3812	672D476H025CC5C	47	25.0	10.0 × 13.0	.89	.78
926-3814	672D686H025CD5C	68	25.0	10.0 × 16.0	.93	.81
926-3816	672D477H025SS5C	470	25.0	12.5 × 42.5	1.49	1.32
926-3818	672D476H040CD5C	47	40.0	10.0 × 16.0	.91	.79
926-3820	672D227H040EK5C	220	40.0	16.0 × 25.0	1.52	1.35
926-3822	672D337H040ET5C	330	40.0	16.0 × 33.5	1.69	1.50
926-3824	672D397H040DSS5C	390	40.0	12.5 × 42.5	1.49	1.32
926-3826	672D226H050CD5C	22	50.0	10.0 × 16.0	.91	.79
926-3828	672D686H060DM5C	68	50.0	12.5 × 26.5	1.13	.99
926-3830	672D826H075EK5C	82	75.0	16.0 × 25.0	1.46	1.24
926-3832	672D475H200CG5C	4.7	200.0	10.0 × 20.0	.97	.84

673D Series Tubular Radial Capacitors

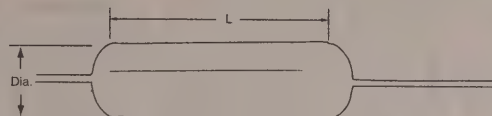
The 673D series is a tubular radial lead aluminum capacitor. They feature a wide temperature range and are ideal for SMPS output filters. **Capacitance Tolerance:** -10% to +50%. **Operating Temperature Range:** -40°C to +105°C. Supplied with polyester insulating sleeve. Additional values and voltages are available as special orders. Call for price and delivery.

Stock No.	Mfr.'s Type	Cap µF	WVDC	Size (mm) D × L	EACH	
					1-99	100-499
926-3834	673D158H012HE5C	1500	12	22.7 × 29.2	2.49	2.10
926-3836	673D228H020HJ5C	2200	20	22.7 × 41.9	2.80	2.37
926-3838	673D567H025GE5C	560	25	19.6 × 29.2	2.32	1.96
926-3840	673D337H040GE5C	330	40	19.6 × 29.2	2.37	2.01
926-3842	673D567H040HE5C	560	40	22.7 × 29.2	2.41	2.04
926-3844	673D687H040J5C	680	40	25.9 × 29.2	2.52	2.13
926-3846	673D108H040HJ5C	1000	40	22.7 × 41.9	2.93	2.48
926-3848	673D158H040JL5C	1500	40	25.9 × 41.9	3.43	2.98
926-3850	673D397H050HE5C	390	50	22.7 × 29.2	2.72	2.09
926-3852	673D827H050HJ5C	820	50	22.7 × 41.9	2.84	2.40
926-3854	673D128F050HJ1C	1200	50	22.7 × 41.9	2.75	2.32
926-3856	673D277H060HE5C	270	60	22.7 × 29.2	2.63	2.23
926-3858	673D337H060GJ5C	330	60	19.6 × 41.9	2.87	2.43
926-3860	673D128H060JL5C	1200	60	25.9 × 54.6	4.49	3.80
926-3862	673D478F063JT1C	4700	63	25.9 × 92.7	5.19	4.39
926-3864	673D227H075JE5C	220	75	25.9 × 29.2	2.95	2.50
926-3866	673D567H075HL5C	560	75	22.7 × 54.6	3.95	3.34
926-3868	673D687H075JL5C	680	75	25.9 × 54.6	4.49	3.80
926-3870	673D108H075JP5C	1000	75	25.9 × 67.3	4.73	4.00
926-3872	673D686H100GE5C	68	100	19.6 × 29.2	2.56	2.17
926-3874	673D127H100HE5C	120	100	22.7 × 29.2	2.65	2.24
926-3876	673D157H100JE5C	150	100	25.9 × 29.2	3.28	2.78
926-3878	673D337H100JL5C	330	100	25.9 × 41.9	3.80	3.22
926-3880	673D566H100GE5C	56	150	19.6 × 29.2	2.41	2.04
926-3882	673D337H200HT5C	330	200	22.7 × 92.7	4.40	3.72
926-3884	673D277H250JL5C	270	250	25.9 × 80.0	5.12	4.33

Type TVA ATOM Axial Tubular Electrolytic Capacitors

Polarized Single Units

Smallest standard tubular capacitors available. High dependability with lower leakage currents and long shelf life. Withstands high temperatures, ripple currents, and surge voltages. Capacitors rated at 100WVDC or less operate at -40° to $+85^{\circ}\text{C}$; above 100 WVDC, -20° to $+85^{\circ}\text{C}$. Metal case with thermoplastic outer insulating sleeve. **NOTE:** Sizes subject to change without notice.



Stock No.	Mfr.'s Type	μF	WVDC	Case Size D x L inches	EACH		
					1-24	25-49	50-Up
926-0109	TVA1106	2000	6	$1/2 \times 1^{25}/32$	1.85	1.43	1.28
926-0111	TVA1129.5	5000	10	$1 \times 2^{5}/32$	2.24	2.04	1.60
926-0117	TVA1150	50	16	$5/16 \times 2^{3}/32$	.95	.87	.78
926-0118	TVA1160	100	16	$3/8 \times 2^{7}/32$	1.60	1.47	1.25
926-0120	TVA1160.4	175	16	$3/8 \times 3^{1}/32$	.96	.83	.79
926-0122	TVA1161	250	16	$3/8 \times 1^{9}/32$	1.09	.82	.75
926-0123	TVA1161.1	300	16	$3/8 \times 1^{17}/32$	1.09	.82	.75
926-0124	TVA1162	500	16	$7/16 \times 1^{17}/32$	1.13	.88	.82
926-0127	TVA1163	1000	16	$1/2 \times 1^{13}/16$	1.30	1.02	.94
926-0129	TVA1175.2	1500	16	$3/4 \times 1^{21}/32$	1.19	.94	.86
926-0131	TVA1175	3000	16	$7/8 \times 1^{29}/32$	2.06	1.61	1.49
926-0133	TVA1175.5	5000	16	$1 \times 2^{5}/32$	3.36	2.64	2.43
926-0136	TVA1175.8	10000	16	$1^{1}/4 \times 2^{11}/16$	4.88	3.83	3.53
926-0141	TVA1203.3	8	25	$1/4 \times 1^{7}/32$	.98	.77	.76
926-0142	TVA1204	10	25	$1/4 \times 1^{7}/32$	.92	.72	.67
926-0143	TVA1204.2	15	25	$1/4 \times 2^{3}/32$	.98	.77	.71
926-0144	TVA1204.5	20	25	$5/16 \times 2^{3}/32$	.98	.77	.71
926-0145	TVA1205.1	30	25	$5/16 \times 2^{3}/32$	.98	.77	.71
926-0146	TVA1205.2	35	25	$5/16 \times 2^{3}/32$	.92	.73	.67
926-0148	TVA1206	50	25	$5/16 \times 2^{7}/32$	.94	.79	.67
926-0149	TVA1206.1	75	25	$3/8 \times 2^{7}/32$	.94	.81	.68
926-0150	TVA1207	100	25	$3/8 \times 3^{1}/32$	.94	.81	.68
926-0151	TVA1207.5	150	25	$3/8 \times 1^{9}/32$	1.03	.88	.74
926-0152	TVA1207.7	200	25	$3/8 \times 1^{17}/32$	1.03	.88	.74
926-0153	TVA1208	250	25	$7/16 \times 1^{17}/32$	1.10	.92	.79
926-0155	TVA1208.6	350	25	$7/16 \times 1^{17}/32$	1.18	.98	.83
926-0158	TVA1209	500	25	$1/2 \times 1^{9}/16$	1.95	1.44	1.18
926-0160	TVA1211	1000	25	$3/4 \times 1^{21}/32$	2.12	1.63	1.37
926-0161	TVA1212	1500	25	$7/8 \times 1^{29}/32$	2.77	2.06	1.76
926-0162	TVA1213	2000	25	$1 \times 1^{29}/32$	2.89	2.28	1.95
926-0163	TVA1213.5	2500	25	$1 \times 1^{29}/32$	3.86	3.40	2.60
926-0165	TVA1214.5	5000	25	$1^{1}/8 \times 2^{11}/16$	5.51	4.34	3.71
926-0168	TVA1223	200	35	$7/16 \times 1^{17}/32$	1.65	1.30	1.11
926-0169	TVA1227	500	35	$1/2 \times 1^{13}/16$	1.93	1.52	1.30
926-0170	TVA1229	5500	35	$1 \times 3^{1}/32$	6.34	4.99	4.27
926-0171	TVA1300	1	50	$1/4 \times 1^{7}/32$	1.24	.98	.83
926-0172	TVA1301	2	50	$1/4 \times 1^{7}/32$	1.24	.98	.83
926-0173	TVA1302	3	50	$1/4 \times 1^{7}/32$	1.17	.92	.76
926-0174	TVA1302.7	4	50	$1/4 \times 1^{7}/32$	1.24	.98	.83
926-0175	TVA1303	5	50	$1/4 \times 2^{3}/32$	1.24	.98	.83
926-0176	TVA1303.1	6	50	$1/4 \times 2^{3}/32$	1.24	.98	.83
926-0177	TVA1303.2	8	50	$1/4 \times 2^{3}/32$	1.24	.98	.83
926-0178	TVA1305	15	50	$5/16 \times 2^{3}/32$	1.24	.98	.83
926-0179	TVA1305.5	20	50	$5/16 \times 2^{7}/32$	1.24	.98	.83
926-0180	TVA1306	25	50	$5/16 \times 2^{7}/32$	1.24	.98	.83
926-0181	TVA1306.2	35	50	$3/8 \times 2^{7}/32$	1.24	.98	.83
926-0182	TVA1306.5	40	50	$3/8 \times 3^{1}/32$	1.24	.98	.83
926-0183	TVA1308	50	50	$3/8 \times 3^{1}/32$	1.24	.98	.83
926-0184	TVA1309.3	60	50	$3/8 \times 1^{9}/32$	1.24	.98	.83
926-0185	TVA1309.4	75	50	$3/8 \times 1^{9}/32$	1.40	1.30	1.19
926-0186	TVA1310	100	50	$3/8 \times 1^{17}/32$	1.40	1.30	1.19
926-0187	TVA1310.1	120	50	$7/16 \times 1^{9}/32$	1.58	1.43	1.09
926-0188	TVA1311	150	50	$7/16 \times 1^{17}/32$	1.58	1.43	1.09
926-0190	TVA1311.5	200	50	$1/2 \times 1^{5}/16$	1.58	1.40	1.35
926-0191	TVA1312	250	50	$1/2 \times 1^{5}/16$	1.76	1.59	1.45
926-0192	TVA1312.1	300	50	$1/2 \times 1^{9}/16$	2.07	1.91	1.82
926-0194	TVA1313	400	50	$1/2 \times 1^{13}/16$	1.98	1.39	1.18
926-0195	TVA1315	500	50	$3/4 \times 1^{32}/32$	1.98	1.39	1.18
926-0196	TVA1315.2	600	50	$3/4 \times 1^{32}/32$	2.11	1.73	1.46
926-0197	TVA1315.4	800	50	$7/8 \times 1^{21}/32$	2.11	1.73	1.46
926-0198	TVA1316	1000	50	$7/8 \times 1^{29}/32$	2.33	1.91	1.61
926-0199	TVA1318	1500	50	$1^{5}/16 \times 2^{5}/32$	3.04	2.49	2.10
926-0200	TVA1318.2	2000	50	$1^{1}/8 \times 2^{5}/32$	3.74	3.06	2.59
926-0201	TVA1318.3	2500	50	$1^{1}/8 \times 2^{11}/16$	4.33	3.54	3.00
926-0202	TVA1318.4	3000	50	$1^{1}/4 \times 2^{11}/16$	4.90	4.01	3.39
926-0203	TVA1318.5	4000	50	$1^{1}/4 \times 3^{5}/32$	5.96	4.88	4.13
926-0204	TVA1318.7	5000	50	$1^{3}/8 \times 3^{1}/8$	6.76	5.53	4.68
926-0207	TVA1319.5	500	75	$1 \times 2^{21}/32$	2.33	1.91	1.61
926-0208	TVA1319.7	1000	75	$1 \times 2^{21}/32$	5.42	4.16	3.75
926-0209	TVA1319.9	2000	75	$1^{3}/8 \times 2^{9}/8$	7.69	5.92	5.19
926-0210	TVA1333	4	100	$5/16 \times 2^{3}/32$	.96	.79	.67
926-0211	TVA1335	6	100	$5/16 \times 2^{7}/32$	.98	.80	.68
926-0212	TVA1337	10	100	$3/8 \times 2^{7}/32$	.98	.80	.68
926-0213	TVA1338	15	100	$3/8 \times 3^{1}/32$	.98	.80	.68

Stock No.	Mfr.'s Type	pF	WVDC	Case Size D x L inches	EACH		
					1-24	25-49	50-Up
926-0215	TVA1340	25	100	3/8 x 1 17/32	1.06	.86	.73
926-0217	TVA1343	50	100	1/2 x 1 9/16	1.25	1.02	.88
926-0219	TVA1345	75	100	1/2 x 1 13/16	1.30	1.06	.90
926-0221	TVA1346	100	100	3/4 x 1 13/32	1.56	1.28	1.08
926-0222	TVA1347	150	100	3/4 x 1 21/32	1.90	1.55	1.31
926-0224	TVA1349	250	100	7/8 x 1 29/32	2.33	1.91	1.61
926-0225	TVA1350	300	100	1 x 1 29/32	3.96	3.08	2.52
926-0226	TVA1376	500	100	1 1/8 x 2 5/32	3.74	3.06	2.59
926-0229	TVA1400	1	150	1/4 x 1 7/32	.96	.79	.67
926-0230	TVA1400.1	2	150	1/4 x 2 3/32	.96	.79	.67
926-0231	TVA1400.2	3	150	5/16 x 2 3/32	.98	.80	.68
926-0232	TVA1402	4	150	5/16 x 2 7/32	.98	.80	.68
926-0233	TVA1403	5	150	5/16 x 2 7/32	.98	.80	.68
926-0235	TVA1405	8	150	3/8 x 2 7/32	1.06	.87	.73
926-0236	TVA1406	10	150	3/8 x 3 1/32	1.06	.87	.73
926-0237	TVA1408	15	150	3/8 x 1 9/32	1.13	.92	.78
926-0238	TVA1409	16	150	3/8 x 1 17/21	1.13	.92	.78
926-0239	TVA1410	20	150	3/8 x 1 17/32	1.20	.98	.83
926-0240	TVA1411	25	150	7/16 x 1 9/32	1.20	.98	.83
926-0241	TVA1412	30	150	7/16 x 1 17/32	1.44	1.18	1.00
926-0242	TVA1412.1	35	150	1/2 x 1 17/32	1.44	1.18	1.00
926-0243	TVA1413	40	150	1/2 x 1 17/32	1.56	1.28	1.08
926-0244	TVA1414	50	150	1/2 x 1 13/16	1.56	1.28	1.08
926-0245	TVA1415	60	150	3/4 x 1 13/32	2.11	1.72	1.46
926-0248	TVA1420	100	150	7/8 x 1 21/32	2.33	1.91	1.61
926-0249	TVA1422	150	150	7/8 x 2 5/32	2.97	2.43	2.06
926-0250	TVA1423	200	150	1 x 2 5/32	3.29	2.69	2.28
926-0251	TVA1425	500	150	1 1/8 x 2 11/16	4.33	3.54	3.00
926-0255	TVA1434	1	200	1/4 x 2 3/32	.96	.79	.67
926-0256	TVA1435	2	200	5/16 x 2 3/32	.98	.80	.68
926-0257	TVA1436	3	200	5/16 x 2 7/32	.98	.80	.68
926-0259	TVA1438	5	200	3/8 x 2 7/32	1.06	.86	.73
926-0261	TVA1440	8	200	3/8 x 1 9/32	1.13	.92	.78
926-0265	TVA1442.2	25	200	1/2 x 1 35/64	1.56	1.28	1.08
926-0266	TVA1442.3	30	200	1/2 x 1 13/16	1.90	1.55	1.31
926-0267	TVA1442.5	40	200	3/4 x 1 13/32	2.11	1.73	1.46
926-0268	TVA1443	50	200	3/4 x 1 21/32	2.11	1.73	1.46
926-0269	TVA1445	100	200	7/8 x 2 5/32	2.90	2.37	2.01
926-0270	TVA1484	500	200	1 1/4 x 3 11/16	8.60	6.69	5.47
926-0271	TVA1500.1	2	250	3/8 x 2 3/32	.98	.80	.68
926-0272	TVA1500.2	3	250	3/8 x 2 7/32	1.06	.86	.73
926-0273	TVA1501	4	250	3/8 x 3 1/32	1.06	.86	.73
926-0275	TVA1503	8	250	3/8 x 1 17/32	1.20	.98	.83
926-0276	TVA1504	10	250	7/16 x 1 9/32	1.20	.98	.83
926-0277	TVA1505	12	250	7/16 x 1 17/32	1.44	1.18	1.00
926-0278	TVA1508	20	250	1/2 x 1 13/16	1.56	1.29	1.08
926-0279	TVA1510	30	250	1 3/16 x 1 13/32	2.11	1.73	1.46
926-0280	TVA1511	40	250	7/8 x 1 13/32	2.33	1.91	1.61
926-0281	TVA1512	50	250	7/8 x 1 13/32	2.77	2.26	1.91
926-0282	TVA1513	60	250	7/8 x 1 21/32	2.72	2.23	1.88
926-0283	TVA1522	100	250	1 x 1 29/32	3.24	2.65	2.24
926-0284	TVA1525	150	250	1 1/8 x 2 5/32	4.13	3.38	2.86
926-0285	TVA1526	160	250	1 x 2 5/32	3.63	2.97	2.51
926-0286	TVA1528.2	225	250	1 1/4 x 2 11/16	5.42	4.16	3.34
926-0287	TVA1528.5	300	250	1 1/4 x 3 5/32	5.98	4.90	4.14
926-0288	TVA1528.7	400	250	1 1/4 x 3 11/16	6.69	5.47	4.63
926-0289	TVA1528.9	500	250	1 3/8 x 3 11/16	7.48	6.12	5.18
926-0290	TVA1529	600	250	1 3/8 x 4 5/32	12.04	9.26	8.07
926-0300	TVA1613	60	350	7/8 x 2 1/4	3.15	2.58	2.25
926-0301	TVA1620	100	350	1 x 2 5/8	4.13	3.30	2.75
926-0302	TVA1709	20	450	7/8 x 1 5/8	3.08	2.34	1.95
926-0303	TVA1711	30	450	7/8 x 1 7/8	3.31	2.66	2.22
926-0304	TVA1712	40	450	7/8 x 2 1/8	3.52	2.68	2.23
926-0306	TVA1716	80	450	1 x 2 5/8	4.28	3.42	2.85
926-0305	TVA1718	100	450	1 1/4 x 3 1/4	5.71	4.67	4.20
926-0307	TVA1803.1	16	475	7/8 x 1 5/8	3.08	2.34	1.95
926-0308	TVA1906	20	500	7/8 x 2 1/8	3.03	2.70	2.25
926-0310	TVA1907	30	500	1 x 2 1/8	4.07	3.10	2.58
926-0309	TVA1908	40	500	1 x 2 3/8	4.63	3.70	3.08
926-0291	TVA1960	4	600	1 3/16 x 2 3/8	6.73	5.98	4.90
926-0292	TVA1962	8	600	1 1/16 x 2 7/8	11.01	8.46	7.41
926-0293	TVA1963	10	600	1 1/16 x 3 9/16	5.51	5.01	4.24
926-0295	TVA1966	20	600	1 1/16 x 3 7/8	11.77	10.86	7.71

Cera-Mite® Ceramic Capacitors

Tiny, tough and dependable. Fine replacement for molded micas and tubular ceramics. Heavy moisture-proof insulating coat. For 85°C use.

Stock No.	Mfr.'s Type	Cap., pF	VDC	Size Fig./Code	Tol.	EACH		
						1-24	25-49	50-99
926-3200	TCX010	10	100	3/C	J	0.20	0.16	0.13
926-3203	TST10	100	100	2/C	K	0.19	0.15	0.12
926-3205	TST47	470	100	2/C	K	0.16	0.12	0.10
926-3206	TSD10	1000	100	2/C	M	0.17	0.14	0.11
926-3209	TGS10	10000	100	1/F	Y	0.15	0.11	0.09
926-3214	TGS50	50000	100	1/R	M	0.73	0.57	0.46
926-3215	TGP10	100000	100	1/W	M	0.93	0.73	0.59
926-3216	5TSD10	1000	500	1/E	K	0.17	0.14	0.11
926-3218	5TSD22	2200	500	1/F	K	0.20	0.16	0.13
926-3222	5TSS10	10000	500	1/K	M	0.38	0.30	0.24
926-3224	5HKSS10	10000	500	1/G	Z	0.20	0.16	0.13
926-3226	5GASS50	50000	500	1/P	M	0.55	0.43	0.35
926-3228	5GAP10	100000	500	1/Y	M	1.31	1.02	0.83
926-3229	5HKP10	100000	500	1/Y	Z	1.19	0.92	0.76
926-3251	5GAD33	3300	1000	1/F	M	0.29	0.23	0.19
926-3253	5GAD50	5000	1000	1/F	M	0.20	0.15	0.12
926-3255	5GAD82	8200	1000	1/H	M	0.29	0.23	0.19
926-3256	5GAS10	10000	1000	1/H	M	0.36	0.25	0.20
926-3257	5HKZS10	10000	1000	1/H	Z	0.25	0.19	0.16
926-3258	5HKS10	10000	1000	1/L	Z	0.30	0.24	0.19
926-3260	5GAS20	20000	1000	1/J	M	0.35	0.27	0.22
926-3261	10HKS50	50000	1000	1/X	Z	1.11	0.86	0.70
926-3262	10GAP10	100000	1000	1/Y	M	1.37	1.07	0.87
926-3265	30GAQ15	15	3000	1/E	M	0.35	0.27	0.22
926-3266	30GAQ22	22	3000	1/E	M	0.29	0.21	0.17
926-3268	30GAQ33	33	3000	1/E	M	0.29	0.23	0.19
926-3272	30GAT10	100	3000	1/E	M	0.29	0.23	0.19
926-3274	30GAT22	220	3000	1/E	M	0.29	0.23	0.19
926-3278	30GA747	470	3000	1/E	M	0.29	0.23	0.19
926-3280	30GAD10	1000	3000	1/E	M	0.29	0.23	0.19
926-3282	30GAD22	2200	3000	1/G	M	0.34	0.26	0.21
926-3286	30GAD47	4700	3000	1/J	M	0.53	0.41	0.34
926-3287	30GAD68	6800	3000	1/L	M	0.64	0.50	0.41
926-3289	30GAS10	10000	3000	1/P	M	0.91	0.71	0.58
926-3290	30GASS10	10000	3000	1/M	M	0.66	0.51	0.42

Temperature Stable

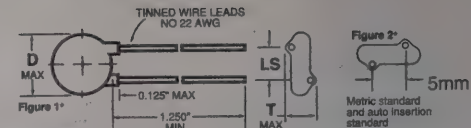
Use where minimum capacitance change with temperature is an important consideration. Rated 1000 WVDC.

Stock No.	Mfr.'s Type	Cap., pF	VDC	Size Fig./Code	Tol.	EACH		
						1-24	25-49	50-99
926-3304	10TSQ10	10	1000	1/E	K	0.17	0.14	0.11
926-3305	10TSQ25	25	1000	1/E	K	0.22	0.17	0.14
926-3313	10TSQ68	68	1000	1/C	K	0.17	0.14	0.11
926-3315	10TSQ82	82	1000	1/C	K	0.20	0.16	0.13
926-3316	10TST10	100	1000	1/C	K	0.18	0.14	0.11
926-3318	10TST15	150	1000	1/C	K	0.17	0.14	0.11
926-3321	10TST22	220	1000	1/C	K	0.19	0.15	0.12
926-3333	10TSD10	1000	1000	1/F	K	0.17	0.14	0.11

Hypercon® Ceramic Discs

Ultraminiature discs for transistorized circuitry, bypass and coupling. Especially suited for any low voltage use where high capacitance and low power factors are important.

Stock No.	Mfr.'s Type	Cap., pF	WVDC	Size Fig./Code	Tol.	EACH		
						1-24	25-49	50-99
926-3401	HY110	0.1	12	1/G	M	0.20	0.16	0.13
926-3404	HY111	1	12	1/Y	Y	1.05	0.82	0.67
926-3405	HY520	0.01	25	1/C	Z	0.17	0.14	0.11
926-3406	HY820	0.01	25	1/C	M	0.15	0.12	0.10
926-3408	HY525	0.022	25	1/E	Z	0.17	0.14	0.11
926-3414	HY838	0.05	25	1/G	M	0.20	0.16	0.13
926-3416	HY550	0.1	25	1/H	Z	0.23	0.18	0.15
926-3418	HY850	0.1	25	1/H	M	0.26	0.20	0.17
926-3421	HMMD22	0.0022	100	2/C	M	0.19	0.14	0.11
926-3424	HMS10	0.01	100	2/E	M	0.28	0.26	0.20



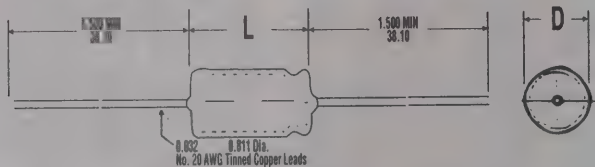
Tolerance Codes

Code	Tolerance	Code	Tolerance
J	±5%	Y	+50, -20%
K	±10%	Z	+80, -20%
M	±20%	P	+100, -0%

Dimensions (in inches)

Size Code	Maximum Diameter	Maximum Thickness	Std. Lead Spacing
C	.250	.156	.250
E	.295	.156	.250
F	.375	.156	.250
G	.440	.156	.250
H	.490	.156	.250
J	.560	.156	.375
K	.630	.156	.375
L	.680	.156	.375
M	.760	.156	.375
P	.890	.156	.375
R	.510	.220	.250
S	.360	.220	.250
W	.700	.220	.375
X	.770	.220	.375
Y	.900	.220	.375

Type TE LITTL-LYTIC Axial Electrolytic Capacitors



- Proven Dependable Performance in Industrial and Electronic Equipment With Either Transistor or Modified Electron-Tube Circuits
- All Terminal Connections Welded, Eliminating Possibility of "Open" or Intermittent Contacts Occasionally Found in Pressure Joints of Conventional Capacitors
- Superior in Size, Performance Characteristics, Shelf Life, Construction, Reliability
- Metal-Encased, With Clear Plastic Outer Insulating Sleeve
- Excellent Circuit Performance When Used as Coupling Capacitors
- Minimum Drain and Long Battery Life When Used in Battery Bypass Applications
- Better Performance Under Life Test Than Most Miniature Aluminum Electrolytic Capacitors

Dimensions in Inches

Size Code	D	L
BA	0.260	0.536
BB	0.260	0.723
CB	0.322	0.723
CC	0.322	0.848
DB	0.385	0.723
DC	0.385	0.848
DD	0.385	0.973
DF	0.385	1.286
DH	0.385	1.536

25 WVDC

Stock No.	Mfr.'s Type	Cap. (MF)	Size Code	EACH		
				1-24	25-99	100-499
926-0326	TE1202	5	BA	1.31	1.02	.83
926-0328	TE1204	10	BB	1.31	1.02	.83
926-0330	TE1205	15	BB	1.31	1.02	.83
926-0334	TE1207	25	CB	1.31	1.02	.83
926-0336	TE1209	50	CC	1.31	1.02	.83
926-0338	TE1211	100	DD	1.50	1.13	.93

50 WVDC

Stock No.	Mfr.'s Type	Cap. (MF)	Size Code	EACH		
				1-24	25-99	100-499
926-0344	TE1300	1	BA	1.35	1.02	.83
926-0348	TE1304	10	CB	1.50	1.02	.83
926-0350	TE1304.2	15	CB	1.35	1.04	.83
926-0354	TE1305.5	25	CC	1.31	1.02	.83
926-0356	TE1307	50	DD	1.53	1.16	.95
926-0358	TE1309	100	DH	1.69	1.31	1.08

100 WVDC

Stock No.	Mfr.'s Type	Cap. (MF)	Size Code	EACH		
				1-24	25-99	100-499
926-0370	TE1400	1	BA	1.31	1.02	.83
926-0372	TE1404	5	CC	1.26	.98	.80
926-0374	TE1407	10	DC	1.37	1.07	.87

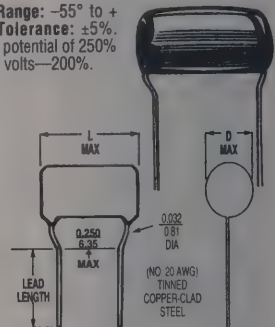
Type 715P Orange Drop Polypropylene Dipped Tubulars

- Conformally Coated With Flame-Retardant Epoxy Which Provides Protection From Humidity and Mechanical Damage
- Furnished With 1.250" Long "Hockeystick" Crimped Leads

PERFORMANCE CHARACTERISTICS. Operating Temperature Range: -55° to +85°C; to +105°C with 50% voltage derating. **Capacitance Tolerance:** ±5%. **Dielectric Strength:** Unit rated up to 800 volts shall withstand a d-c potential of 250% of rated voltage for not more than 5 seconds. Units rated above 800 volts—200%.

Dimensions in inches

Size Code	D	L	Size Code	D	L
BJ	.400	.750	GL	.600	1.300
DJ	.450	.750	NL	.650	1.300
DK	.450	.950	PL	.700	1.300
EK	.500	.950	QL	.750	1.300
FK	.550	.950	SM	.850	1.700
FL	.500	1.300	TM	.900	1.700
	.550	1.300	UM	.950	1.700



600 WVDC

Stock No.	Mfr.'s Type	pF	Size Code	EACH		
				1-49	50-99	100-499
926-7100	715P10256JD3	.0010	BJ	.47	.36	.30
926-7102	715P22256JD3	.0022	BJ	.47	.36	.30
926-7103	715P33256JD3	.0033	BJ	.50	.38	.31
926-7104	715P47256JD3	.0047	DJ	.49	.38	.31
926-7105	715P68256JD3	.0068	DJ	.52	.41	.33
926-7120	715P10356KD3	.0100	DK	.57	.44	.36
926-7121	715P15356KD3	.0150	EK	.73	.57	.46
926-7122	715P22356KD3	.0220	FK	.60	.47	.38
926-7123	715P47356KD3	.0470	GL	.75	.58	.48
926-7125	715P10456LD3	.1000	QL	1.18	.92	.75
926-7127	715P22456MD3	.2200	SM	1.98	1.54	1.26

800 WVDC

Stock No.	Mfr.'s Type	pF	Size Code	EACH		
				1-11	12-99	100-499
926-7140	715P15358LD3	.0150	FL	1.11	.86	.70
926-7142	715P33358LD3	.0330	PL	1.18	.92	.75
926-7144	715P10458MD3	.1000	TM	1.98	1.54	1.26

1200 WVDC

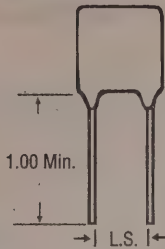
Stock No.	Mfr.'s Type	pF	Size Code	1-96	1-52	1-25
926-7161	715P473512MD3	.0470	SM	1.96	1.52	1.25

1600 WVDC

926-7180	715P222516LD3	.0022	EL	.75	.58	.48
926-7181	715P332516LD3	.0033	FL	.86	.69	.55
926-7182	715P472516LD3	.0047	GL	.86	.67	.55
926-7183	715P682516LD3	.0068	NL	.97	.75	.62
926-7184	715P103516LD3	.0100	PL	1.29	1.01	.82
926-7186	715P223516MD3	.0220	SM	1.98	1.54	1.26
926-7187	715P333516MD3	.0330	UM	3.17	2.84	2.64

Ceramic and Film Capacitors

Monolithic Ceramic Capacitors

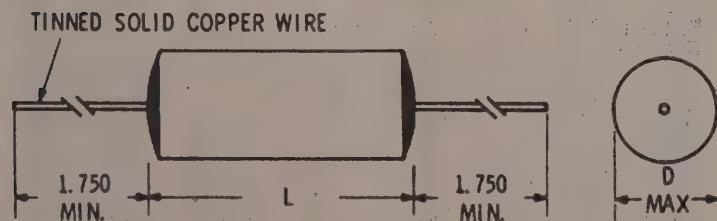


Conformal-coated radial lead capacitors. Capacitors listed are 100WVDC. Size: .200" W x .250" H x .125" T. Lead length is 1.0" Min. Additional values, voltages, tolerances, temperature characteristics, lead styles and sizes available as special order. Call for price and delivery. Manufacturer's literature available upon request.

Stock No.	Mfr.'s Type	Cap pF	Tol.	L.S. (In.)	EACH		
					1-49	50-99	100-499
926-2400	1C10COG100J100B	10	5	0.100	.15	.14	.12
926-2402	1C10COG220J100B	22	5	0.100	.15	.14	.12
926-2404	1C10COG330J100B	33	5	0.100	.16	.14	.12
926-2406	1C10COG470J100B	47	5	0.100	.16	.14	.12
926-2408	1C10COG101J100B	100	5	0.100	.16	.14	.12
926-2410	1C10COG221J100B	220	5	0.100	.16	.14	.12
926-2412	1C10COG331J100B	330	5	0.100	.18	.16	.14
926-2414	1C10COG471J100B	470	5	0.100	.18	.16	.14
926-2416	1C10COG102J100B	1000	5	0.100	.18	.16	.14
926-2418	1C10COG222J100B	2200	5	0.100	.30	.28	.25
926-2420	1C10COG332J100B	3300	5	0.100	.32	.29	.27
926-2422	1C10X7R102K100B	1000	10	0.100	.14	.12	.10
926-2424	1C10X7R222K100B	2200	10	0.100	.12	.11	.10
926-2426	1C10X7R332K100B	3300	10	0.100	.13	.12	.11
926-2428	1C10X7R472K100B	4700	10	0.100	.13	.12	.11
926-2430	1C10X7R103K100B	10000	10	0.100	.12	.11	.10
926-2432	1C10X7R223K100B	22000	10	0.100	.12	.11	.10
926-2434	1C10X7R333K100B	33000	10	0.100	.14	.13	.12
926-2436	1C10X7R473K100B	47000	10	0.100	.16	.14	.12
926-2438	1C10X7R104K100B	100000	10	0.100	.18	.16	.15
926-2440	1C10Z5U103M100B	10000	20	0.100	.11	.10	.09
926-2442	1C10Z5U223M100B	22000	20	0.100	.11	.10	.09
926-2444	1C10Z5U333M100B	33000	20	0.100	.16	.14	.13
926-2446	1C10Z5U473M100B	47000	20	0.100	.13	.12	.11
926-2448	1C10Z5U104M100B	100000	20	0.100	.16	.15	.13
926-2450	1C20COG100J100B	10	5	0.200	.15	.14	.12
926-2452	1C20COG220J100B	22	5	0.200	.17	.15	.14
926-2454	1C20COG330J100B	33	5	0.200	.15	.14	.13
926-2456	1C20COG470J100B	47	5	0.200	.15	.14	.12
926-2458	1C20COG101J100B	100	5	0.200	.15	.14	.12
926-2460	1C20COG221J100B	220	5	0.200	.16	.14	.12
926-2462	1C20COG331J100B	330	5	0.200	.17	.15	.13
926-2464	1C20COG471J100B	470	5	0.200	.17	.15	.13
926-2466	1C20COG102J100B	1000	5	0.200	.17	.15	.13
926-2468	1C20COG222J100B	2200	5	0.200	.30	.28	.24
926-2470	1C20COG332J100B	3300	5	0.200	.32	.29	.25
926-2472	1C20X7R102K100B	1000	10	0.200	.12	.11	.09
926-2474	1C20X7R222K100B	2200	10	0.200	.12	.11	.09
926-2476	1C20X7R332K100B	3300	10	0.200	.13	.12	.10
926-2478	1C20X7R472K100B	4700	10	0.200	.13	.12	.10
926-2480	1C20X7R103K100B	10000	10	0.200	.12	.11	.09

Stock No.	Mfr.'s Type	Cap pF	Tol.	L.S. (In.)	EACH		
					1-49	50-99	100-499
926-2482	1C20X7R223K100B	22000	10	0.200	.15	.14	.13
926-2484	1C20X7R333K100B	33000	10	0.200	.14	.13	.12
926-2486	1C20X7R473K100B	47000	10	0.200	.16	.14	.13
926-2488	1C20X7R104K100B	100000	10	0.200	.18	.15	.14
926-2490	1C20Z5U103M100B	1000	20	0.200	.11	.10	.09
926-2492	1C20Z5U104M100B	10000	20	0.200	.16	.15	.14
926-2494	1C20Z5U223M100B	22000	20	0.200	.11	.10	.09
926-2496	1C20Z5U333M100B	33000	20	0.200	.16	.14	.13
926-2498	1C20Z5U473M100B	47000	20	0.200	.16	.14	.12
926-2500	1C25COG100J100B	10	5	0.250	.26	.24	.22
926-2502	1C25COG330J100B	33	5	0.250	.26	.24	.22
926-2504	1C25COG470J100B	47	5	0.250	.26	.24	.22
926-2506	1C25COG101J100B	100	5	0.250	.26	.24	.22
926-2508	1C25COG221J100B	220	5	0.250	.26	.24	.22
926-2510	1C25COG331J100B	330	5	0.250	.28	.26	.23
926-2512	1C25COG471J100B	470	5	0.250	.28	.26	.23
926-2514	1C25COG102J100B	1000	5	0.250	.29	.26	.22
926-2516	1C25COG222J100B	2200	5	0.250	.50	.46	.40
926-2518	1C25COG332J100B	3300	5	0.250	.52	.48	.42
926-2520	1C25X7R102K100B	1000	10	0.250	.19	.17	.16
926-2522	1C25X7R222K100B	2200	10	0.250	.19	.17	.16
926-2524	1C25X7R332K100B	3300	10	0.250	.20	.19	.17
926-2526	1C25X7R472K100B	4700	10	0.250	.20	.19	.18
926-2528	1C25X7R103K100B	10000	10	0.250	.19	.17	.16
926-2530	1C25X7R223K100B	22000	10	0.250	.26	.24	.22
926-2532	1C25X7R333K100B	33000	10	0.250	.24	.21	.19
926-2534	1C25X7R473K100B	47000	10	0.250	.26	.24	.22
926-2536	1C25X7R104K100B	100000	10	0.250	.28	.25	.22
926-2538	1C25Z5U103M100B	10000	20	0.250	.17	.15	.14
926-2540	1C25Z5U223M100B	22000	20	0.250	.18	.16	.15
926-2542	1C25Z5U333M100B	33000	20	0.250	.26	.24	.22
926-2544	1C25Z5U473M100B	47000	20	0.250	.20	.19	.17
926-2546	1C25Z5U104M100B	100000	20	0.250	.28	.25	.22
926-2548	1C30COG100J100B	10	5	0.300	.26	.24	.22
926-2550	1C30COG220J100B	22	5	0.300	.25	.22	.20
926-2552	1C30COG330J100B	33	5	0.300	.26	.24	.22
926-2554	1C30COG470J100B	47	5	0.300	.26	.24	.22
926-2556	1C30COG101J100B	100	5	0.300	.26	.24	.22
926-2558	1C30COG221J100B	220	5	0.300	.26	.24	.22
926-2560	1C30COG331J100B	330	5	0.300	.28	.26	.23
926-2562	1C30COG471J100B	470	5	0.300	.28	.26	.25
926-2564	1C30COG102J100B	1000	5	0.300	.29	.26	.23
926-2566	1C30COG222J100B	2200	5	0.300	.50	.46	.40
926-2568	1C30COG332J100B	3300	5	0.300	.52	.48	.42
926-2570	1C30X7R102K100B	1000	10	0.300	.19	.17	.16
926-2572	1C30X7R222K100B	2200	10	0.300	.19	.17	.16
926-2574	1C30X7R332K100B	3300	10	0.300	.20	.19	.17
926-2576	1C30X7R472K100B	4700	10	0.300	.20	.19	.17
926-2578	1C30X7R103K100B	10000	10	0.300	.17	.15	.14
926-2580	1C30X7R223K100B	22000	10	0.300	.26	.24	.22
926-2582	1C30X7R333K100B	33000	10	0.300	.24	.21	.19
926-2584	1C30X7R473K100B	47000	10	0.300	.26	.24	.22
926-2586	1C30X7R104K100B	100000	10	0.300	.28	.25	.22
926-2588	1C30Z5U103M100B	10000	20	0.300	.18	.15	.14
926-2590	1C30Z5U223M100B	22000	20	0.300	.18	.16	.15
926-2592	1C30Z5U333M100B	33000	20	0.300	.26	.24	.22
926-2594	1C30Z5U473M100B	47000	20	0.300	.20	.19	.18
926-2596	1C30Z5U104M100B	10000	20	0.300	.28	.25	.22

Metallized Polyester Film Capacitors



Economical capacitors with extensive ratings and rugged construction in a small size. Solid tinned wire leads are 1.75" long min. 10% tolerance. -55°C to +85°C operating temperature.

Stock No.	Mfr.'s Type	Cap pF	WVDC	Size (In.)		EACH		
				Dia.	Len.	1-49	50-99	100-499
926-2020	430P106X9050	10	50	0.647	1.500	3.02	2.52	2.32
926-2022	430P224X9100	.22	100	0.228	0.750	1.32	1.10	.98
926-2024	430P334X9100	.33	100	0.264	0.750	1.33	1.11	.97
926-2026	430P105X9100	1	100	0.286	1.250	1.45	1.21	1.06
926-2028	430P205X9100	2	100	0.393	1.250	1.97	1.64	1.44
926-2030	430P705X9100	7	100	0.633	1.500	3.77	3.14	2.90
926-2032	430P104X9200	.1	200	0.221	0.750	1.36	1.15	1.05
926-2034	430P224X9200	.22	200	0.295	0.750	1.30	1.20	1.05
926-2036	430P474X9200	.47	200	0.321	1.000	1.35	1.15	1.05
926-2038	430P684X9200	.68	200	0.375	1.000	1.64	1.37	1.20
926-2040	430P105X9200	1	200	0.380	1.250	1.75	1.46	1.35
926-2042	430P205X9200	2	200	0.469	1.500	2.26	1.98	1.84
926-2044	430P405X9200	4	200	0.580	1.750	2.64	2.20	2.03
926-2046	430P104X9400	.1	400	0.310	0.750	1.30	1.09	.98
926-2048	430P104X9600	.1	600	0.365	1.000	1.94	1.58	1.36
926-2050	430P224X9600	.22	600	0.385	1.500	2.20	1.87	1.67
926-2052	430P474X9600	.47	600	0.497	1.750	2.45	2.25	1.98

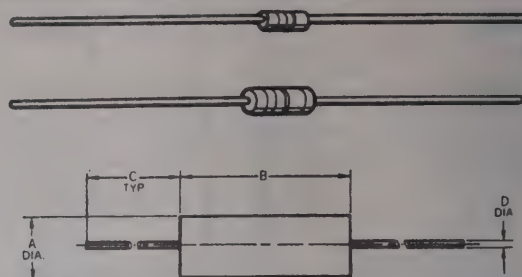
Need Larger Quantity Prices? Call 1-800-433-5700 For Prompt Handling

Molded Inductors

Flame-retardant coating, precision performance, excellent reliability and sturdy construction. Epoxy molded construction provides superior moisture protection. Wide inductance range in a small package. IMS-5 offers electromagnetic shielding.

Dimensions

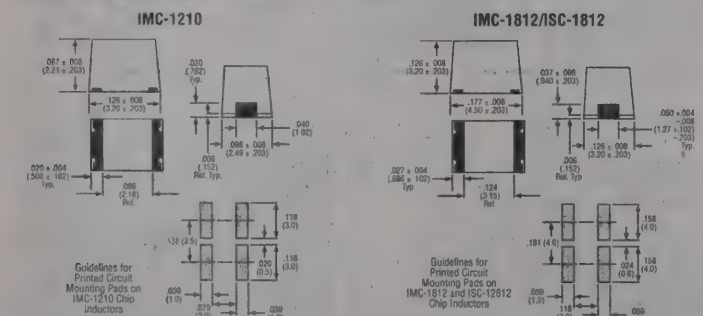
Mfr.'s Type	Tol.	A	B	C	D
IM-2	Max. Min.	.105 (2.67) .085 (2.16)	.260 (6.60) .240 (6.10)	1.626 (41.30) 1.250 (31.75)	.0215 (0.546) .0185 (0.470)
IM-4	Max. Min.	.165 (4.19) .145 (3.68)	.385 (9.78) .365 (9.27)	1.625 (41.28) 1.250 (31.75)	.0270 (0.686) .0230 (0.584)
IMS-5		.162 ± .010	.410 ± .020	1.438 ± .1881	.025 ± .002



Stock No.	Mfr.'s Type	Ind (μH)	Tol.	Current DC mA	Core	EACH		
						1-49	50-99	100-249
895-6000	IM-2	.10	10%	1350	Phenolic	1.50	1.04	.84
895-6002	IM-2	.15	10%	1200	Phenolic	1.50	1.04	.84
895-6004	IM-2	.27	10%	960	Phenolic	1.50	1.04	.84
895-6006	IM-2	.47	10%	650	Phenolic	1.50	1.04	.84
895-6008	IM-2	.56	10%	545	Phenolic	1.50	1.04	.84
895-6010	IM-2	.82	10%	415	Phenolic	1.50	1.04	.84
895-6012	IM-2	1	10%	385	Phenolic	1.50	1.04	.84
895-6014	IM-2	1.5	10%	535	Iron	1.82	1.26	1.02
895-6016	IM-2	2.7	10%	355	Iron	1.82	1.26	1.02
895-6018	IM-2	4.7	10%	230	Iron	1.82	1.26	1.02
895-6020	IM-2	5.6	10%	185	Iron	1.82	1.26	1.02
895-6022	IM-2	8.2	10%	155	Iron	1.82	1.26	1.02
895-6024	IM-2	10	10%	130	Iron	1.82	1.26	1.02
895-6026	IM-2	15	10%	150	Iron	1.82	1.26	1.02
895-6028	IM-2	27	10%	135	Iron	1.82	1.26	1.02
895-6030	IM-2	47	10%	110	Ferrite	1.95	1.35	1.09
895-6032	IM-2	56	10%	100	Ferrite	1.95	1.35	1.09
895-6034	IM-2	82	10%	88	Ferrite	2.28	1.58	1.28
895-6036	IM-2	100	10%	84	Ferrite	2.28	1.58	1.28
895-6038	IM-2	150	10%	61	Ferrite	2.28	1.58	1.28
895-6040	IM-2	270	10%	47	Ferrite	2.47	1.71	1.37
895-6042	IM-2	470	10%	36	Ferrite	2.47	1.71	1.37
895-6044	IM-2	560	10%	35	Ferrite	2.47	1.71	1.37
895-6046	IM-2	820	10%	29	Ferrite	2.67	1.85	1.49
895-6048	IM-2	1000	10%	28	Ferrite	2.67	1.85	1.49
895-6100	IM-4	.15	20%	2450	Phenolic	1.30	.90	.72
895-6102	IM-4	.22	20%	1810	Phenolic	1.30	.90	.72
895-6104	IM-4	.47	20%	1225	Phenolic	1.30	.90	.72
895-6106	IM-4	.56	20%	1150	Phenolic	1.56	1.08	.88
895-6108	IM-4	.82	10%	900	Phenolic	1.56	1.08	.88
895-6110	IM-4	1.0	10%	785	Phenolic	1.56	1.08	.88
895-6112	IM-4	1.5	10%	600	Phenolic	1.50	1.04	.84
895-6114	IM-4	2.2	10%	435	Phenolic	1.50	1.04	.84
895-6116	IM-4	4.7	10%	260	Phenolic	1.50	1.04	.84
895-6118	IM-4	5.6	10%	495	Phenolic	1.69	1.17	.95
895-6120	IM-4	8.2	10%	360	Iron	1.69	1.17	.95
895-6122	IM-4	10	10%	290	Iron	1.69	1.17	.95
895-6124	IM-4	15	10%	240	Iron	1.69	1.17	.95
895-6126	IM-4	22	10%	175	Iron	1.69	1.17	.95
895-6128	IM-4	47	5%	170	Iron	1.82	1.26	1.02
895-6130	IM-4	56	5%	164	Iron	1.82	1.26	1.02
895-6132	IM-4	82	5%	143	Iron	1.82	1.26	1.02
895-6134	IM-4	100	5%	133	Iron	1.89	1.31	1.05
895-6136	IM-4	150	5%	114	Iron	1.89	1.31	1.05
895-6138	IM-4	220	5%	103	Iron	2.21	1.53	1.23
895-6140	IM-4	470	5%	100	Iron	2.34	1.62	1.30
895-6142	IM-4	560	5%	85	Iron	2.34	1.62	1.30
895-6144	IM-4	750	5%	79	Iron	2.47	1.71	1.37
895-6146	IM-4	820	5%	77	Iron	2.47	1.71	1.37
895-6148	IM-4	1000	5%	74	Iron	2.47	1.71	1.37
895-6150	IM-4	1500	5%	59	Iron	2.80	1.94	1.56
895-6200	IMS-5	.10	10%	1790	Phenolic	2.67	1.85	1.49
895-6202	IMS-5	.15	10%	1470	Phenolic	2.67	1.85	1.49

Stock No.	Mfr.'s Type	Ind (μH)	Tol.	Current DC mA	Core	EACH		
						1-49	50-99	100-249
895-6204	IMS-5	.22	10%	1100	Phenolic	2.67	1.85	1.49
895-6206	IMS-5	.27	10%	855	Phenolic	2.67	1.85	1.49
895-6208	IMS-5	.39	10%	670	Phenolic	2.60	1.80	1.44
895-6210	IMS-5	.47	10%	565	Phenolic	2.60	1.80	1.44
895-6212	IMS-5	.56	10%	490	Phenolic	2.60	1.80	1.44
895-6214	IMS-5	.68	10%	420	Phenolic	2.60	1.80	1.44
895-6216	IMS-5	.82	10%	370	Phenolic	2.60	1.80	1.44
895-6218	IMS-5	1	10%	1070	Iron	3.12	2.16	1.74
895-6220	IMS-5	1.5	10%	815	Iron	2.99	2.07	1.64
895-6222	IMS-5	2.2	10%	650	Iron	2.99	2.07	1.64
895-6224	IMS-5	2.7	10%	535	Iron	2.99	2.07	1.64
895-6226	IMS-5	3.9	10%	450	Iron	2.99	2.07	1.64
895-6228	IMS-5	4.7	10%	380	Iron	2.99	2.07	1.64
895-6230	IMS-5	5.6	10%	335	Iron	2.99	2.07	1.64
895-6232	IMS-5	6.8	10%	280	Iron	2.99	2.07	1.64
895-6234	IMS-5	8.2	10%	250	Iron	2.99	2.07	1.64
895-6236	IMS-5	10	10%	220	Iron	2.99	2.07	1.64
895-6238	IMS-5	15	10%	315	Ferrite	2.99	2.07	1.64
895-6240	IMS-5	22	10%	290	Ferrite	2.99	2.07	1.64
895-6242	IMS-5	27	10%	260	Ferrite	2.99	2.07	1.64
895-6244	IMS-5	39	10%	205	Ferrite	2.99	2.07	1.64
895-6246	IMS-5	47	10%	195	Ferrite	2.99	2.07	1.64
895-6248	IMS-5	56	10%	190	Ferrite	2.99	2.07	1.64
895-6250	IMS-5	68	10%	170	Ferrite	2.99	2.07	1.64
895-6252	IMS-5	82	10%	180	Ferrite	3.12	2.16	1.74
895-6254	IMS-5	100	10%	160	Ferrite	3.12	2.16	1.74
895-6256	IMS-5	150	10%	140	Ferrite	3.12	2.16	1.74
895-6258	IMS-5	220	10%	125	Ferrite	3.12	2.16	1.74
895-6260	IMS-5	270	10%	115	Ferrite	3.12	2.16	1.74
895-6262	IMS-5	390	10%	105	Ferrite	3.12	2.16	1.74
895-6264	IMS-5	470	10%	92	Ferrite	3.25	2.25	1.81
895-6266	IMS-5	560	10%	90	Ferrite	3.25	2.25	1.81
895-6268	IMS-5	680	10%	80	Ferrite	3.25	2.25	1.81
895-6270	IMS-5	820	10%	80	Ferrite	3.25	2.25	1.81
895-6272	IMS-5	1000	10%	70	Ferrite	3.25	2.25	1.81
895-6274	IMS-5	1500	10%	55	Ferrite	3.25	2.25	1.81
895-6276	IMS-5	2200	10%	50	Ferrite	3.25	2.25	1.81
895-6278	IMS-5	2700	10%	40	Ferrite	3.45	2.38	1.92
895-6280	IMS-5	3900	10%	35	Ferrite	3.45	2.38	1.92
895-6282	IMS-5	4700	10%	31	Ferrite	3.45	2.38	1.92
895-6284	IMS-5	5600	10%	28	Ferrite	4.10	2.84	2.28
895-6286	IMS-5	6800	10%	27	Ferrite	4.10	2.84	2.28
895-6288	IMS-5	8200	10%	26	Ferrite	4.10	2.84	2.28
895-6290	IMS-5	10000	10%	24	Ferrite	8.00	5.54	4.43
895-6292	IMS-5	15000	10%	22	Ferrite	8.78	6.08	4.86
895-6294	IMS-5	22000	10%	17	Ferrite	9.17	6.35	5.08
895-6296	IMS-5	27000	10%	16	Ferrite	9.17	6.35	5.08
895-6298	IMS-5	39000	10%	15	Ferrite	10.92	7.56	6.04
895-6300	IMS-5	47000	10%	13	Ferrite	10.92	7.56	6.04
895-6302	IMS-5	56000	10%	13	Ferrite	12.29	8.51	6.80
895-6304	IMS-5	68000	10%	12	Ferrite	12.29	8.51	6.80
895-6306	IMS-5	82000	10%	11	Ferrite	13.26	9.18	7.34
895-6308	IMS-5	100000	10%	11	Ferrite	13.26	9.18	7.34

Molded Surface Mount Inductors



Molded construction provides superior strength and moisture resistance. Printed marking. Compatible with vapor phase and infra-red reflow soldering.

Stock No.	Mfr.'s Type	Ind (μH)	Tol.	Current DC mA	Q Min	EACH		
						1-49	50-99	100-249
895-6350	IMC-1210	.33	20%	450	30	1.82	1.26	1.02
895-6352	IMC-1210	2.7	10%	290	30	1.82	1.26	1.02
895-6354	IMC-1210	4.7	10%	220	30	1.82	1.26	1.02
895-6356	IMC-1210	8.2	10%	170	30	1.82	1.26	1.02
895-6358	IMC-1210	10	10%	150	30	1.82	1.26	1.02

Stock No.	Mfr.'s Type	Ind (μH)	Tol.	Current DC mA	Q Min	EACH		
						1-49	50-99	100-249
895-6400	IMC-1812	.10	20%	450	30	1.69	1.17	.95
895-6402	IMC-1812	.22	20%	450	30	1.69	1.17	.95
895-6404	IMC-1812	.33	20%	430	30	1.69	1.17	.95
895-6406	IMC-1812	.47	20%	355	30	1.69	1.17	.95
895-6408	IMC-1812	.56	20%	285	30	1.69	1.17	.95
895-6410	IMC-1812	.68	10%	270	30	1.69	1.17	.95
895-6412	IMC-1812	1.0	10%	450	50	1.69	1.17	.95
895-6414	IMC-1812	1.5	10%	410	50	1.69	1.17	.95
895-6416	IMC-1812	2.2	10%	380	50	1.69	1.17	.95
895-6418	IMC-1812	3.3	10%	355	50	1.69	1.17	.95
895-6420	IMC-1812	4.7	10%	315	50	1.69	1.17	.95
895-6422	IMC-1812	5.6	10%	300	50	1.69	1.17	.95
895-6424	IMC-1812	6.8	10%	285	50	1.69	1.17	.95
895-6426	IMC-1812	10	10%	250	50	1.69	1.17	.95
895-6428	IMC-1812	15	10%	200	50	1.76	1.22	.97
895-6430	IMC-1812	33	10%	160	50	1.76	1.22	.97
895-6432	IMC-1812	47	10%	140	50	1.76	1.22	.97
895-6434	IMC-1812	56	10%	135	50	2.08	1.44	1.15
895-6436	IMC-1812	68	10%	130	50	2.08	1.44	1.15
895-6438	IMC-1812	100	10%	110	50	2.08	1.44	1.15
895-6440	IMC-1812	220	10%	100	40	2.08	1.44	1.15
895-6442	IMC-1812	390	10%	80	40	2.86	1.98	1.58
895-6444	IMC-1812	470	10%	62	40	2.86	1.98	1.58
895-6446	IMC-1812	1000	10%	30	30	2.86	1.98	1.58
895-6500	ISC-1812	.33	10%	450	30	1.50	1.25	.90
895-6502	ISC-1812	1.2	10%	145	30	1.50	1.25	.90
895-6504	ISC-1812	2.7	10%	110	30	1.50	1.25	.90
895-6506	ISC-1812	3.9	10%	100	30	1.50	1.25	.90
895-6508	ISC-1812	5.6	10%	86	30	1.50	1.25	.90
895-6510	ISC-1812	8.2	10%	75	30	1.50	1.25	.90
895-6512	ISC-1812	12	10%	65	50	1.50	1.25	.90

RF Inductors and Chokes

Subminiature Shielded RF Inductors

Epoxy molded and shielded for minimum coupling in high-density package. Meet electrical and environmental requirements of **MIL-C-15305C, Grade 1** (resistance to moisture and immersion). **Class B** (-55° to +125°). For altitudes to 70,000 feet **Tolerance: ±10%**. Less than 3% coupling. Low DC resistance. **Dielectric strength: 700 V R.M.S.** Size: 0.162 ±.010 dia. × 0.410" ±.020 long. AWG #22 leads. **Weight per 100: 3½ oz.**

Stock No.	Mfr.'s Type	Ind. µH	Q	@ MHz	MIL Type	EACH	
						1-99	100-249
871-3030	9250-331	.33	46	25.000	MS-75087-7	2.52	1.84
871-3060	9250-102	1.00	47	25.000	MS-75088-1	2.63	1.93
871-3065	9250-222	2.20	44	7.000	MS-75088-5	2.63	1.93
871-3070	9250-332	3.30	44	7.000	MS-75088-7	2.63	1.93
871-3110	9250-472	4.70	44	7.000	MS-75088-9	2.63	1.93
871-3130	9250-103	10.00	49	7.000	MS-75088-13	2.63	1.93
871-3150	9250-223	22.00	46	2.500	MS-75089-3	2.63	1.93
871-3155	9250-273	27.00	49	2.500	MS-75089-4	2.63	1.93
871-3170	9250-473	47.00	52	2.500	MS-75089-7	2.63	2.12
871-3175	9250-563	56.00	50	2.500	MS-75088-8	2.89	2.12
871-3180	9250-683	68.00	51	2.500	MS-75089-9	2.89	2.12
871-3200	9250-104	100.00	52	2.500	MS-75089-11	3.16	2.32
871-3210	9250-224	220.00	58	.790	MS-75089-15	3.16	2.32
871-3220	9250-334	330.00	54	.790	MS-75089-17	3.16	2.32
871-3225	9250-474	470.00	60	.790	MS-75089-19	3.16	2.32
871-3250	9250-105	1000.00	65	.790	MS-75089-23	3.16	2.32
871-3270	9250-225	2200.00	50	.250	MS-75089-27	3.62	2.65
871-3275	9250-336	33.00k	27	.079	MS-75008-41	4.33	3.18

Heavy Duty Hash Chokes

High current hash filter chokes, molded powdered iron or ferrite form for relatively high inductance. Core is 1½" long (31.75mm). **Tolerance: ±20%.**

Stock No.	Mfr.'s Type	Ind. µH	Ohms Max.	Amperes	Diameter		EACH	
					In.	mm	1-99	100-249
871-5240	5240	40.0	.082	3.0	5/16	7.938	2.39	1.75
871-5248	5248	68.0	.054	5.0	17/32	13.394	2.88	2.11
871-5250	5250	100.0	.216	2.0	3/8	9.525	2.88	2.11
871-5252	5252	125.0	.080	3.5	1/2	12.700	3.18	2.33
871-5254	5254	250.0	.170	2.5	7/16	11.113	3.18	2.33
871-5256	5256	500.0	.260	2.0	9/16	14.287	3.18	2.33

Subminiature RF Chokes

► Moisture Resistant

Iron core RF chokes are designed to meet demand for high-reliability ultraminiature components. Suited to network and filter design, delay lines, and computer applications.

Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	EACH	
						1-99	100-249
871-6105	70F107AP*	.1	49	.013	3992	.85	.63
871-6110	70F106A1	1.0	41	.048	2041	.85	.63
871-6115	70F226A1	2.2	43	.156	1132	1.04	.76
871-6120	70F336A1	3.3	40	.240	912	1.04	.76
871-6125	70F566A1	5.6	41	.492	637	1.04	.76
871-6130	70F826A1	8.2	37	.744	518	1.27	.93
871-6135	70F105A1	10.0	36	1.560	277	1.27	.93
871-6140	70F185A1	18.0	52	2.280	229	1.27	.93
871-6145	70F275A1	27.0	49	2.640	213	1.27	.93
871-6150	70F475A1	47.0	44	3.360	188	1.27	.93
871-6155	70F685A1	68.0	42	4.200	169	1.27	.93
871-6160	70F104A1	100.0	25	7.680	139	1.37	1.01
871-6165	70F224A1	220.0	46	11.500	114	1.37	1.01
871-6170	70F334A1	330.0	41	13.900	103	1.37	1.01
871-6175	70F474A1	470.0	35	16.300	95	1.37	1.01
871-6180	70F684A1	680.0	37	19.800	87	1.45	1.06
871-6185	70F103A1	1000.0	30	24.000	79	1.45	1.06
871-6190	70F223A1	2200.0	40	45.600	57	1.50	1.10
871-6195	70F253A1	2500.0	48	45.600	57	1.50	1.10
871-6200	70F473A1	4700.0	49	64.800	48	1.62	1.19
871-6205	70F102A1	10000.0	41	101.000	38	1.74	1.27
871-6210	70F101AF†	100000.0	48	278.000	29	2.58	1.89

* Phenolic core. † Ferrite core.

Molded RF Chokes

Size: .156 ±.010 diameter; .375 ±.010 length. Leads AWG #22TCW; 1.438 ±.188 length. Meets MIL-C-15305, Grade 1, Class A.

Stock No.	Mfr.'s Type	MS Type	Measured on 260 A Q-Meter			EACH	
			Inductance MicroHenries	Min. Q	Testing Frequency	1-99	100-249
871-6220	9310-02*	18130-2	22 ± 20%	50	25.0 MHz	.84	.62
871-6225	9310-06*	18130-4	.47 ± 20%	45	25.0 MHz	.84	.62
871-6230	9310-10*	18130-7	.82 ± 10%	50	25.0 MHz	.84	.62
871-6235	9310-12*	18130-8	1.00 ± 10%	50	25.0 MHz	.84	.62
871-6240	9310-16*	18130-10	1.50 ± 10%	33	7.9 MHz	.84	.62
871-6245	9310-20*	18130-12	2.20 ± 10%	33	7.9 MHz	.84	.62
871-6250	9310-24*	18130-14	3.30 ± 10%	33	7.9 MHz	.84	.62
871-6255	9310-26*	18130-15	3.90 ± 10%	33	7.9 MHz	.84	.62
871-6260	9310-28*	18130-16	4.70 ± 10%	33	7.9 MHz	.84	.62
871-6265	9310-36†	18130-20	10.0 ± 10%	55	7.9 MHz	1.08	.80
871-6270	9310-40†	18130-22	15.0 ± 10%	65	2.5 MHz	1.08	.80
871-6275	9310-44†	18130-24	22.0 ± 10%	75	2.5 MHz	1.08	.80
871-6280	9310-52†	18130-26	33.0 ± 10%	65	2.5 MHz	1.25	.92

* Phenolic core material † Iron core material.

RF Chokes With Axial Leads

These chokes cover an inductance range from 1 microhenry to 50 millihenries. Either single layer or 3-pi universal winding is used to insure low distributed capacity. Chokes are wound on low-loss molded phenolic or powdered iron core forms and are impregnated with a moisture and fungus-resistant varnish. Leads are 1½" (38.1mm) long.

Single Layer Windings

Phenolic Core: 3/16" (4.76 mm) diameter × 3/4" (19.05 mm) long. **Tolerance: ±10%–20%.**

Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	Diameter In. (mm)	EACH	
							1-99	100-249
871-3482	4602*	1.0	60	.050	2000	2.70(6.80)	.98	.72
871-3485	4604	1.5	58	.093	1800	2.70(6.80)	.98	.72
871-3495	4608	3.9	60	.450	1000	2.70(6.80)	.98	.72
871-3508	4612	10.0	36	1.500	500	2.70(6.80)	.98	.72

Iron Core: 1/32" (5.55 mm) diameter × 7/8" (22.22 mm) long. **Tolerance: ±5%.**

Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	Diameter In. (mm)	EACH	
							1-99	100-249
871-3524	4622	10.0	69	.110	1500	2.90(7.30)	1.32	.97
871-3526	4624	15.0	62	.170	1000	2.90(7.30)	1.32	.97
871-3530	4626	24.0	65	.340	800	2.90(7.30)	1.32	.97
871-3535	4628	39.0	70	.650	600	2.90(7.30)	1.32	.97
871-3538	4629	55.0	72	1.000	500	2.90(7.30)	1.32	.97
871-3550	4632	100.0	107	3.000	400	2.90(7.30)	1.32	.97

3-Section Windings

Phenolic Core: 3/16" (4.76 mm) diameter × 3/4" (19.05 mm) long. **Tolerance: ±5%.**

Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	Diameter In. (mm)	EACH	
							1-99	100-249
871-3582	4652	1.0	59	19.000	160	.563(14.30)	3.59	2.63

Iron Core: 1/32" (5.55 mm) × 7/8" (22.22 mm) long. **Tolerance: ±5%.**

Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	Diameter In. (mm)	EACH	
							1-99	100-249
871-3584	4662	1.0	83	8.600	160	.469(11.90)	3.59	2.63
871-3586	4664	1.5	82	11.000	160	.469(11.90)	3.59	2.63
871-3592	4672	10.0	68	50.000	100	.594(15.00)	3.59	2.63

Ferrite Core: 1/4" (6.35 mm) diameter × 7/8" (22.22 mm) long. **Tolerance: ±5%.**

Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	Diameter In. (mm)	EACH	
							1-99	100-249
871-3992	6302	2.5	106	9.000	160	.469(11.90)	2.57	1.89
871-3996	6304	5.0	91	14.000	160	.531(13.48)	2.89	2.12
871-4000	6306	10.0	108	31.000	100	.531(13.48)	2.98	2.18
871-4004	6308	25.0	102	82.000	65	.531(13.48)	3.09	2.27
871-4008	6310	50.0	113	127.000	65	.625(15.87)	3.09	2.27

Molded RF Chokes

Phenolic Core: .095" (2.41 mm) diameter × .25" (6.35 mm) long. **Tolerance: ±10%.**

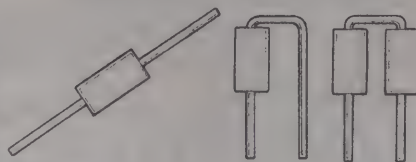
Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	EACH	
						1-99	100-249
871-0095	9230-94	.10	40	.07	1100	.96	.70
871-0100	9230-00	.15	38	.10	1100	.96	.70
871-0105	9230-04	.22	33	.14	935	.96	.70
871-0110	9230-10	.39	30	.30	640	.96	.70
871-0115	9230-12	.47	30	.35	590	.96	.70
871-0120	9230-14	.56	30	.50	495	.96	.70
871-0130	9230-20	1.00	25	1.00	350	.96	.70

Iron Core: .095" (2.41 mm) diameter × .25" (6.35 mm) long. **Tolerance: ±10%.**

871-0140	9230-32	3.30	45	.85	380	1.40	1.03
871-0145	9230-34	3.90	45	1.00	350	1.40	1.03
871-0150	9230-36	4.70	45	1.20	320	1.40	1.03
871-0155	9230-44	10.00	55	3.70	180	1.57	1.15
871-0160	9230-52	22.00	50	3.30	190	1.60	1.18

Bead Inductors

Ferrite beads are used for noise suppression in car radios, digital control equipment and for the prevention of spurious oscillation in radio frequency amplifiers. Ferrite bead inductors are devices which can effectively be used on printed circuit boards where high component density is essential. Applications include micro computer, switching regulators, digital control equipment, car radio, car stereos, etc. Tape and reel in axial and radial versions available as well as ammo pack as custom order. Call for price and delivery.



BL01RN-A62

BL02RN1-R62

BL02RN2-R62

Stock No.	Mfr.'s Type	Lead Length	Rated Current	Beads Form	Lead Style	Supplied As	EACH	
							1-99	100-249
711-0500	BL01RN1-A62	.787"	7	Single	AXIAL	Bulk	.34	.24
711-0510	BL02RN1-R62	.394"	7	Double	Radial	Bulk	.32	.22
711-0515	BL02RN2-R62	.394"	7	Double	Radial	Bulk	.45	.31
711-0520	BL03RN2-R62	.394"	6	Double	Radial	Bulk	.45	.31



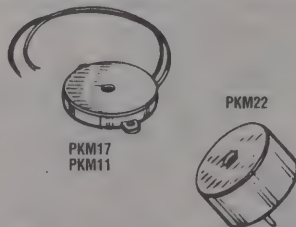
Standard Chip Inductors

These subminiature chip inductors are wound on a special ferrite core using an automatic winding technique. With high Q at high frequencies and low DC resistance, these inductors are perfect for enhancing the performance of electronic circuits in video, communications and audio equipment. -25°C to +85°C operating temperature.

Stock No.	Mfr.'s Type	Nominal Value μ H	Nominal Q	DC Res. Max.	Self-Resonant Freq. (MHz) Min.	Current (mA)	EACH	
							1-99	100-249
711-0200	LQH3N100K04M00	10	35	1.80	20.0	190	.20	.18
711-0202	LQH3N120K04M00	12	35	2.00	18.0	180	.20	.18
711-0204	LQH3N150K04M00	15	35	2.20	16.0	170	.20	.18
711-0206	LQH3N180K04M00	18	35	2.50	15.0	165	.20	.18
711-0208	LQH3N220K04M00	22	35	2.80	14.0	150	.20	.18
711-0210	LQH3N270K04M00	27	35	3.10	13.0	125	.20	.18
711-0212	LQH3N330K04M00	33	40	3.50	12.0	115	.20	.18
711-0214	LQH3N390K04M00	39	40	3.90	11.0	110	.20	.18
711-0216	LQH3N470K04M00	47	40	4.30	11.0	100	.20	.18
711-0218	LQH3N560K04M00	56	40	4.90	10.0	85	.20	.18
711-0220	LQH3N680K04M00	68	40	5.50	9.0	80	.20	.18
711-0222	LQH3N820K04M00	82	40	6.20	8.5	70	.20	.19
711-0224	LQH3N101K04M00	100	40	7.00	8.0	80	.20	.18
711-0226	LQH3N121K04M00	120	40	8.00	7.5	75	.20	.18
711-0228	LQH3N151K04M00	150	40	9.30	7.0	70	.20	.18
711-0230	LQH3N181K04M00	180	40	10.20	6.0	65	.20	.18
711-0232	LQH3N221K04M00	220	40	11.80	5.5	65	.20	.18
711-0234	LQH3N271K04M00	270	40	12.50	5.0	65	.22	.19
711-0236	LQH3N331K04M00	330	40	13.00	5.0	65	.20	.18
711-0238	LQH4N100K04M00	10	35	.56	23.0	400	.28	.21
711-0240	LQH4N120K04M00	12	35	.62	21.0	380	.28	.21
711-0242	LQH4N150K04M00	15	35	.73	19.0	360	.28	.21
711-0244	LQH4N180K04M00	18	35	.82	17.0	340	.28	.21
711-0246	LQH4N220K04M00	22	35	.94	15.0	320	.28	.21
711-0248	LQH4N270K04M00	27	35	1.10	14.0	300	.28	.21
711-0250	LQH4N330K04M00	33	35	1.20	12.0	270	.28	.21
711-0252	LQH4N390K04M00	39	35	1.40	11.0	240	.28	.21
711-0254	LQH4N470K04M00	47	35	1.50	10.0	220	.28	.21
711-0256	LQH4N560K04M00	56	35	1.70	9.3	200	.28	.21
711-0258	LQH4N680K04M00	68	35	1.90	8.4	180	.28	.21
711-0260	LQH4N820K04M00	82	35	2.20	7.5	170	.28	.21
711-0262	LQH4N101K04M00	100	40	2.50	6.8	160	.28	.21
711-0264	LQH4N121K04M00	120	40	3.00	6.2	150	.28	.21
711-0266	LQH4N151K04M00	150	40	3.70	5.5	130	.28	.21
711-0268	LQH4N181K04M00	180	40	4.50	5.0	120	.28	.21
711-0270	LQH4N221K04M00	220	40	5.40	4.5	110	.28	.21
711-0272	LQH4N271K04M00	270	40	6.80	4.0	100	.29	.22
711-0274	LQH4N331K04M00	330	40	8.20	3.6	95	.28	.21
711-0276	LQH4N391K04M00	390	40	9.70	3.3	90	.28	.21
711-0278	LQH4N471K04M00	470	40	11.80	3.0	80	.28	.21
711-0280	LQH4N561K04M00	560	40	14.50	2.7	70	.28	.21
711-0282	LQH4N681K04M00	680	40	17.00	2.5	65	.28	.21
711-0284	LQH4N821K04M00	820	40	20.50	2.2	60	.28	.21
711-0286	LQH4N102K04M00	1000	40	25.00	2.0	50	.28	.21
711-0288	LQH4N122K04M00	1200	40	30.00	1.8	45	.28	.21
711-0290	LQH4N152K04M00	1500	40	37.00	1.6	40	.28	.21

External Drive Piezo-Alarms

These piezo-alarms have no "feedback" tab and is particularly suited for the generation of both single tones and the unusual sound effects that are possible with specifically designed driving circuits. These sounds include musical melodies, insect sounds, etc. All mechanical and electrical components are designed to be compatible with most standard PC board assembly and wave soldering techniques. Rugged construction, low cost and high reliability with variable tone outputs along with no EMI output make this unit extremely useful for musical toys, home appliances, communications equipment, computer peripherals and office equipment and instrumentation. This external drive unit has no internal circuitry.



PKM17
PKM11

PKM22

Stock No.	Mfr.'s Type	Sound Level dB	Freq. (Hz)	Current (mA)	Oper. Volt (p-p)	Cap (pF)	EACH	
							1-99	100-249
711-0100	PKM22EPP-4001	75	4K	1	3 to 30	12,000	.85	.75
711-0105	PKM17EPP-4001*	72	4K	1	3 to 20	7,000	.85	.75
711-0110	PKM11-4A0	75	4096	1	3 to 25	10,000	1.50	1.10

*Without Mounting Ears.

Chip and Bead Inductors and Encased Piezo-Alarms

High Frequency Chip Inductors

These chip inductors consist of air-core chip inductors using subminiature alumina core as a bobbin. The self-resonant frequency characteristics yield the high Q and highly stable inductance at high frequencies that make these inductors ideal for use in the high frequency circuits of video and communications equipment. The outstanding solder heat resistance means both flow and reflow soldering methods can be used.



Stock No.	Mfr.'s Type	Nominal Value nH	Nominal Q	DC Res. Max.	Self-Resonant Freq. (MHz) Min.	Current (mA)	EACH	
							1-99	100-249
711-0300	LQN2A10NM04M0	10	30	.25	1000	770	.32	.26
711-0302	LQN2A18NM04M0	18	40	.25	1000	680	.32	.26
711-0304	LQN2A22NM04M0	22	35	.25	1000	410	.32	.26
711-0306	LQN2A33NM04M0	33	40	.25	900	490	.32	.26
711-0308	LQN2A39NM04M0	39	40	.25	900	370	.32	.26
711-0310	LQN2A47NM04M0	47	40	.30	600	550	.32	.26
711-0312	LQN2A56NM04M0	56	40	.30	800	340	.32	.26
711-0314	LQN2A68NM04M0	68	40	.30	500	500	.32	.26
711-0316	LQN2A82NM04M0	82	40	.30	600	300	.32	.26
711-0318	LQN2A10K04M0	100	30	.40	400	380	.32	.26
711-0320	LQN2A12K04M0	120	30	.40	350	410	.32	.26
711-0322	LQN2A15K04M0	150	30	.50	300	400	.32	.26
711-0324	LQN2A18K04M0	180	30	.50	300	370	.32	.26
711-0326	LQN2A22K04M0	220	30	.50	280	360	.32	.26

PC Mountable Piezo-Alarms with Internal Circuitry

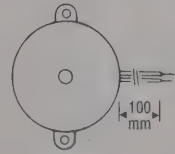


These PC mountable piezo-alarms are completely self-contained requiring only a DC voltage source for operation. Providing the use with high audio outputs while requiring very low input power, they can be operated over a broad range of input voltages. Their small size, high reliability and low cost make them ideal for data processing equipment, electronic instrumentation, medical equipment, automatic control devices and cash registers.

Stock No.	Mfr.'s Type	Sound Level dB	Freq. (Hz)	Current (mA)	Oper. Volt (p-p)	EACH	
						1-99	100-249
711-0140	PKB24SPC-3601*	90	3.6K	16	3 to 15	2.10	1.75
711-0145	PKB8-4A0	70	3.8K	13	3 to 20	4.40	3.50

*Also available as washable parts with tape covering the sound emitting hole and epoxy seal at the case bottom as custom order. Call for price and delivery.

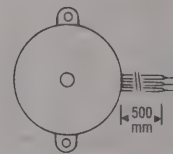
Internal Drive Piezo-Alarms



These piezo-alarms are completely self-contained requiring only a DC voltage source for operation. Providing the user with surprisingly high audio outputs while requiring very low input power, they can be operated over a broad range of input voltages. -20°C to +60°C. Case material is Noryl and is rated UL-V1. Producing an extremely clear and penetrating sound which is audible through surrounding noises, the audio output reaches long distances. These units have compact size, light weight, no electrical noise, very low power consumption and operate over a broad voltage range. Wide application ranges including fire alarms, burglar alarms, gas detectors, automotive alarms, toys, games, machines, electrical appliances, automatic control devices, conveyors and medical equipment. 24 AWG leads.

Stock No.	Mfr.'s Type	Sound Level dB	Freq. (Hz)	Current (mA)	Oper. Volt (p-p)	EACH	
						1-99	100-249
711-0120	PKB5-3A0	85	2.8K	12	3 to 20	5.45	4.50
711-0125	PKB5-3B0	85	2.8K	6	1 to 9	5.75	4.87
711-0130	PKB6-5A0	85	4.7K	12	1.5 to 20	4.75	4.00

Self-Drive Piezo-Alarms



PKM11



PKM25
PKM29

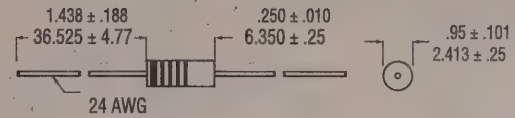
As the use of microprocessors in consumer products has become increasingly popular, so too has the use of piezo-alarms as the accepted means of audio alarm generation. Their ability to be driven by ICs, small size, low cost and high reliability, make them ideal for such applications. These units are equipped with a feedback tab for use with self-oscillating circuit designs. By utilizing the feedback, the part's individual resonant frequency is found to optimize sound pressure level. All mechanical and electrical components are designed to be compatible with most standard PC board assembly and wave soldering techniques. These units feature a unit with low cost and high sound pressure level in a small size with low input voltage and low current consumption. Some of the many applications are clocks, office equipment, machine tools, toys, games, automatic controlling devices, instrumentation, calculators, home appliances and smoke alarms. Operating Temperature: -30°C to +70°C. Operating Voltage: 3 to 20 V.

Stock No.	Mfr.'s Type	Sound Level dB	Freq. (Hz)	Current (mA)	Oper. Volt (p-p)	EACH	
						1-99	100-249
711-0160	PKM25-6A0	85	6.8K	10	3 to 20	2.40	1.92
711-0165	PKM25SP-3701*	60	3.7K	20	3 to 20	2.55	2.03
711-0170	PKM11-6A0	75	6.5K	8	3 to 15	2.35	1.96
711-0175	PKM29-3A0	85	3.4K	20	4.5 to 18	2.61	2.08

* Also available as washable parts with tape covering the sound emitting hole and epoxy seal at the case bottom as custom order. Call for price and delivery.

J Series

Axial leaded molded RF chokes. Color coded in accordance with Mil-C-15305. 10% Tolerance.

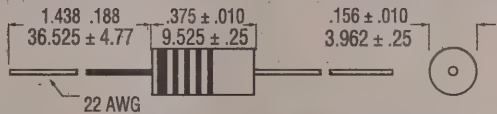


Stock No.	Mfr.'s Type	Inductance (μH)	MS Part Designation	Q Min.	Rated DC Current mA	EACH		
						1-24	25-99	100-249
290-1000	JM100K	0.1	75083-1	40	1350	1.03	.95	.85
290-1002	JM120K	0.12	75083-2	4	1270	1.03	.95	.85
290-1004	JM150K	0.15	75083-3	38	1200	1.03	.95	.85
290-1006	JM180K	0.18	75083-4	3	1105	1.03	.95	.85
290-1008	JM220K	0.22	75083-5	33	1025	1.03	.95	.85
290-1010	JM270K	0.27	75083-6	33	960	1.03	.95	.85
290-1012	JM330K	0.33	75083-7	30	815	1.03	.95	.85
290-1014	JM390K	0.39	75083-8	30	700	1.03	.95	.85
290-1016	JM470K	0.47	75083-9	30	650	1.03	.95	.85
290-1018	JM560K	0.56	75083-10	30	545	1.03	.95	.85
290-1020	JM680K	0.68	75083-11	28	495	1.03	.95	.85
290-1022	JM101K	1	75083-13	25	385	1.03	.95	.85
290-1024	JM121K	1.2	75084-1	25	590	1.18	1.09	.97
290-1026	JM151K	1.5	75084-2	28	535	1.18	1.09	.97
290-1028	JM181K	1.8	75084-3	30	455	1.18	1.09	.97
290-1030	JM221K	2.2	75084-4	30	395	1.18	1.09	.97

Stock No.	Mfr.'s Type	Inductance (μH)	MS Part Designation	Q Min.	Rated DC Current mA	EACH		
						1-24	25-99	100-249
290-1032	JM271K	2.7	75084-5	37	355	1.18	1.09	.97
290-1034	JM331K	3.3	75084-6	45	270	1.18	1.09	.97
290-1036	JM391K	3.9	75084-7	45	250	1.18	1.09	.97
290-1038	JM471K	4.7	75084-8	45	230	1.18	1.09	.97
290-1040	JM561K	5.6	75084-9	50	185	1.18	1.09	.97
290-1042	JM681K	6.8	75084-10	50	180	1.18	1.09	.97
290-1044	JM102K	10	75084-12	55	130	1.27	1.17	1.04
290-1046	JM152K	15	75084-14	45	150	1.27	1.17	1.04
290-1048	JM222K	22	75084-16	50	140	1.27	1.17	1.04
290-1050	JM472K	47	75085-3	45	110	1.43	1.32	1.18
290-1052	JM682K	68	75085-5	50	92	1.47	1.35	1.21
290-1054	JM103K	100	75085-7	50	84	1.47	1.35	1.21
290-1056	JM153K	150	75085-9	30	61	1.65	1.52	1.36
290-1058	JM223K	220	75085-11	30	52	1.65	1.52	1.36
290-1060	JM473K	470	75085-15	30	36	1.78	1.65	1.47
290-1062	JM104K	1000	75085-19	30	28	2.22	2.05	1.82

K Series

Axial leaded molded RF chokes. Color coded in accordance with Mil-C-15305. Last letter in part number determines tolerance. J = 5%; K = 10%; M = 20%.

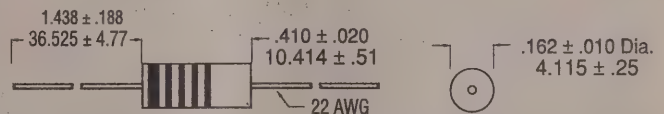


Stock No.	Mfr.'s Type	Inductance (μH)	MS Part Designation	Q Min.	Rated DC Current mA	EACH		
						1-24	25-99	100-249
290-1064	KM150M	0.15	18130-1	50	2450	1.43	1.32	1.18
290-1066	KM220M	0.22	18130-2	50	1900	1.43	1.32	1.18
290-1068	KM330M	0.33	18130-3	45	1400	1.37	1.26	1.12
290-1070	KM470M	0.47	18130-4	45	1225	1.37	1.26	1.12
290-1072	KM560K	0.56	18130-5	50	1220	1.37	1.26	1.12
290-1074	KM820K	0.82	18130-7	50	900	.92	.85	.75
290-1076	KM101K	1	18130-8	50	830	.92	.85	.75
290-1078	KM121K	1.2	18130-9	33	650	.92	.85	.75
290-1080	KM151K	1.5	18130-10	33	600	.92	.85	.75
290-1082	KM221K	2.2	18130-12	33	435	.92	.85	.75
290-1084	KM227K	2.7	18130-13	33	385	.92	.85	.75
290-1086	KM331K	3.3	18130-14	33	300	.92	.85	.75
290-1088	KM391K	3.9	18130-15	33	280	.92	.85	.75

Stock No.	Mfr.'s Type	Inductance (μH)	MS Part Designation	Q Min.	Rated DC Current mA	EACH		
						1-24	25-99	100-249
290-1090	KM471K	4.7	18130-16	33	260	.92	.85	.75
290-1092	KM561K	5.6	14046-1	50	495	1.08	1.00	.89
290-1094	KM681K	6.8	14046-2	50	395	1.08	1.00	.89
290-1096	KM102K	10	14046-4	55	290	1.08	1.00	.89
290-1098	KM152K	15	14046-6	65	240	1.08	1.00	.89
290-1100	KM222K	22	14046-8	75	175	1.08	1.00	.89
290-1102	KM332K	33	14046-10	65	165	1.17	1.08	.96
290-1104	KM472J	47	90538-4	55	170	1.22	1.12	1.00
290-1106	KM822J	82	90538-10	50	143	1.22	1.12	1.00
290-1108	KM103J	100	90538-12	50	133	1.27	1.17	1.04
290-1110	KM223J	220	90538-20	65	103	1.30	1.20	1.07
290-1112	KM243J	240	90538-21	65	101	1.30	1.20	1.07

Q Series

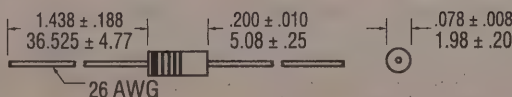
Axial leaded RF shielded choke. Color coded in accordance with Mil-C-15305. 10% Tolerance.



Stock No.	Mfr.'s Type	Inductance (μH)	MS Part Designation	Q Min.	Rated DC Current mA	EACH		
						1-24	25-99	100-249
290-1113	QS100K	0.1	MS75087-1	50	1790	2.69	2.57	2.29
290-1115	QS150K	0.15	MS75087-3	51	1470	2.69	2.57	2.29
290-1117	QS220K	0.22	MS75087-5	49	1100	2.56	2.45	2.18
290-1119	QS330K	0.33	MS75087-7	46	780	2.56	2.45	2.18
290-1121	QS470K	0.47	MS75087-9	44	565	2.56	2.45	2.18
290-1123	QS680K	0.68	MS75087-11	42	420	2.55	2.43	2.16
290-1116	QS101K	1	MS75088-1	44	1070	2.89	2.75	2.45
290-1125	QS151K	1.5	MS75088-3	44	815	2.89	2.75	2.45
290-1127	QS221K	2.2	MS75088-5	44	650	2.89	2.75	2.45
290-1129	QS331K	3.3	MS75088-7	44	480	2.89	2.75	2.45
290-1131	QS471K	4.7	MS75088-9	44	380	2.90	2.77	2.47
290-1133	QS681K	6.8	MS75088-11	50	280	2.90	2.77	2.47
290-1135	QS102K	10	MS75088-13	50	220	2.90	2.77	2.47
290-1137	QS152K	15	MS75089-1	45	315	2.97	2.83	2.52
290-1139	QS222K	22	MS75089-3	45	290	2.97	2.83	2.52
290-1141	QS332K	33	MS75089-5	45	240	2.97	2.83	2.52

Stock No.	Mfr.'s Type	Inductance (μH)	MS Part Designation	Q Min.	Rated DC Current mA	EACH		
						1-24	25-99	100-249
290-1130	QS472K	47	MS75089-7	50	195	2.97	2.83	2.52
290-1143	QS682K	68	MS75089-9	50	170	2.97	2.83	2.52
290-1132	QS103K	100	MS75089-11	50	160	2.97	2.83	2.52
290-1145	QS153K	150	MS75089-13	55	140	2.97	2.83	2.52
290-1134	QS223K	220	MS75089-15	55	125	2.97	2.83	2.52
290-1147	QS333K	330	MS75089-17	55	110	3.44	3.28	2.92
290-1149	QS473K	470	MS75089-19	60	92	3.44	3.28	2.92
290-1151	QS683K	680	MS75089-21	60	80	3.44	3.28	2.92
290-1136	QS104K	1000	MS75089-23	60	70	3.44	3.28	2.92
290-1153	QS154K	1500	MS75089-25	45	55	3.44	3.28	2.92
290-1155	QS224K	2200	MS75089-27	45	50	3.97	3.78	3.37
290-1157	QS334K	3300	MS75089-29	45	40	3.97	3.78	3.37
290-1159	QS474K	4700	MS75089-31	45	31	4.66	4.45	3.96
290-1161	QS684K	6800	MS75089-33	40	27	4.66	4.45	3.96
290-1163	QS105K	10000	MS75089-35	40	24	4.66	4.45	3.96

H Series



Axial leaded molded RF chokes. Color coded in accordance with Mil-C-15305. 10% Tolerance.

Stock No.	Mfr.'s Type	Inductance (μH)	Test Frequency (MHz)	Q Min.	Rated DC Current mA	EACH		
						1-24	25-99	100-249
290-1114	HM100K	0.1	25	35	895	2.07	1.91	1.70
290-1116	HM101K	1	25	40	435	2.27	2.09	1.86
290-1118	HM121K	1.2	7.9	35	410	2.27	2.09	1.86
290-1120	HM471K	4.7	7.9	55	150	2.42	2.23	1.99
290-1122	HM102K	10	2.5	45	95	2.47	2.28	2.03
290-1124	HM472K	47	2.5	45	76	2.57	2.37	2.11
290-1126	HM103K	100	2.5	45	52	2.72	2.51	2.23

Microprocessor Crystal Units

Specifications

Nominal Frequency	Type B HC-33/U Type A HC-49/U Type C HC-45/U	1.000 MHz - 4.000 MHz 1.800 MHz - 300.000 MHz 3.579545 MHz - 300.000 MHz
Frequency Tolerance at 25° C	± 30 ppm typ (± 50 ppm max)	
Frequency Stability over Temperature -20° C to +70° C	± 50 ppm typ (± 100 ppm max)	
Aging	± 5 ppm / year	
Load Capacitance	12 to 32 pF	
Shunt Capacitance	7 pF max	
Drive Level	1mW	

Part Numbering System

Example: A-3.579545-18

A	3.579545	18	Optional
Holder Type A - HC-49/U B - HC-33/U C - HC-45/U C-SMD - HC-45/U SMD	Frequency (in MHz)	• Load Capacitance (12pF - 32pF) For Parallel Resonance • S - For Series Resonance	3RD - Third Pin SL - Plastic Sleeve SP - Plastic Spacer FUND - Fundamental (For over 20 MHz Only) 30T - 3rd Overtone 50T - 5th Overtone 70T - 7th Overtone 90T - 9th Overtone

Stock No.	Mfr.'s Type	Freq. (MHz)	Holder	Ω*	EACH	
					1-99	100-Up
996-0100	A-1.000-18	1.000000	HC49/U	---	8.07	7.26
996-0110	A-1.8432-18	1.843200	HC49/U	700	2.51	2.26
996-0120	A-2.4576-18	2.457600	HC49/U	400	2.21	1.99
996-0130	A-3.579545-18	3.579545	HC49/U	180	1.17	1.05
996-0140	A-3.6864-18	3.686400	HC49/U	160	1.20	1.08
996-0150	A-4.000-18	4.000000	HC49/U	100	1.20	1.08
996-0160	A-4.096-18	4.096000	HC49/U	100	1.20	1.08
996-0170	A-4.194304-18	4.194304	HC49/U	100	1.20	1.08
996-0180	A-6.000-18	6.000000	HC49/U	50	1.20	1.08
996-0190	A-6.144-18	6.144000	HC49/U	50	1.20	1.08
996-0200	A-7.3728-18	7.372800	HC49/U	40	1.20	1.08
996-0210	A-8.000-18	8.000000	HC49/U	35	1.20	1.08
996-0220	A-9.8304-18	9.830400	HC49/U	35	1.20	1.08
996-0230	A-11.0592-18	11.059200	HC49/U	30	1.20	1.08
996-0240	A-12.0000-18	12.000000	HC49/U	30	1.20	1.08
996-0250	A-12.288-18	12.288000	HC49/U	30	1.30	1.17
996-0260	A-14.31818-18	14.318180	HC49/U	25	1.30	1.17
996-0270	A-14.7456-18	14.745600	HC49/U	25	1.30	1.17
996-0280	A-15.000-18	15.000000	HC49/U	25	1.30	1.17
996-0290	A-16.000-18	16.000000	HC49/U	25	1.30	1.17
996-0300	A-18.432-18	18.432000	HC49/U	20	1.30	1.17
996-0310	A-20.000-18	20.000000	HC49/U	20	1.30	1.17
996-0320	A-24.000-18	24.000000	HC49/U	20	1.30	1.17
996-0330	A-24.5760-18	24.576000	HC49/U	40	1.30	1.17

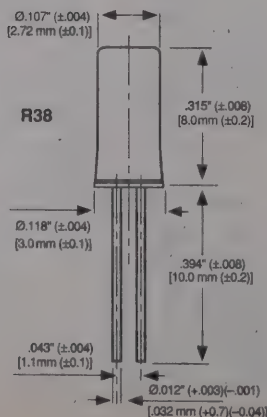
* Maximum Equivalent Series Resistance (Ω)

Tuning Fork Quartz Crystal Units 32.768 KHz

Specifications

Holder Type / Item	R38
Nominal Frequency 24° C	32.768 KHz ± 20 ppm
Turnover Temperature	24° C ± 4° C
Parabolic Curvature Constant	-0.035 ppm / °C typ
Quality Factor	80,000 typ / 50,000 min
Equivalent Series Resistance R ₁	18K Ω typ
Motional Capacitance C ₁	0.0035 pF typ
Shunt Capacitance C ₀	1.7 pF typ
Capacitance Ratio	490 typ
Motional Inductance L ₁	7 mH typ
Aging (First Year)	± 3 ppm
Operating Temperature Range	-10° C to +60° C
Storage Temperature Range	-30° C to +100° C

Stock No.	Mfr.'s Type	Each	
		1-24	25-49
996-2000	R38-32.768	0.50	0.35



Clock Oscillators - TTL Compatible

Specifications

Model	CO1000 Family	CO13000 Family	CO6000 Family	CO12000 Family
Package	14 Pin DIP	8 Pin DIP	14 Pin DIP	8 Pin DIP
Frequency Range	250 KHz to 80 MHz		500 KHz to 70 MHz	
Frequency Stability*	CO1100 / CO13100 - ± 100 ppm CO1050 / CO13050 - ± 50 ppm CO1025 / CO13025 - ± 25 ppm		CO6100 / CO12100 - ± 100 ppm CO6050 / CO12050 - ± 50 ppm CO6025 / CO12025 - ± 25 ppm	
Temperature Range	Operating: 0° to +70° C		Storage: -55° C to +125° C	
Voltage	5V DC ± 0.5V DC		5V DC ± 0.5V DC	
Input Current (MAX)	60mA - 250KHz to 2.999 MHz 35mA - 3 MHz to 31.999 MHz 45mA - 32 MHz to 80 MHz		20mA - 500KHz to 19.999 MHz 30mA - 20.000 MHz to 34.999 MHz 40mA - 35.000 MHz to 70.000 MHz	
Symmetry	40 to 60% Normal, 45 to 55% Tight @ 1.4V DC		40 to 60% Normal, 45 to 55% Tight @ 1/2V _{DD}	
Rise and Fall Time	± 15ns max - Under 9 MHz ± 10ns max - 9 MHz to 32 MHz ± 6ns max - 32 MHz to 80 MHz		10ns - 500KHz to 23.999 MHz 6ns - 24.000 MHz to 70.000 MHz	
Logic "0"	0.4V max, Sink to 16mA		+0.5V (10%V _{DD})	
Logic "1"	+2.4V min, Source 0.4mA		+4.5V (90% V _{DD})	
Output Load	1 to 10 TTL Loads		CL - 15pF (typ) (10 TTL LS max)	

* Frequency Stability inclusive of room tolerance, temperature stability over 0° C to +70° C, ± 10% power supply variation, aging, shock and vibration.

Part Numbering System

Example: CO1100-4.000-T

CO1	100	4.000	Optional
Family CO1 - TTL, Full Size CO13 - TTL, Half Size CO6 - H CMOS, Full Size CO12 - H CMOS, Half Size	Frequency Stability 100 - 100 ppm 050 - 50 ppm 025 - 25 ppm	Frequency (in MHz)	Symmetry N - Normal (40 - 60%) (Usually Omitted) T - Tight (45 - 55%)

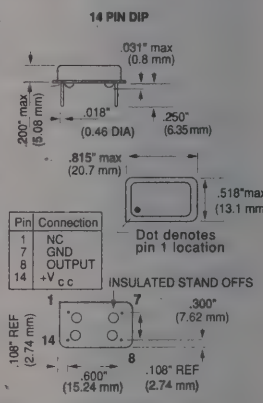
Stock No.	Mfr.'s Type	Freq. (MHz)	Holder (DIP)	EACH	
				1-99	100-Up
996-1100	CO1100-1.8432	1.843200	14 Pin	3.93	3.29
996-1110	CO1100-3.579545	3.579545	14 Pin	3.34	2.80
996-1120	CO1100-4.000	4.000000	14 Pin	3.34	2.80
996-1130	CO1100-10.000	10.000000	14 Pin	3.34	2.80
996-1140	CO1100-11.0592	11.059200	14 Pin	3.34	2.80
996-1150	CO1100-14.31818	14.318180	14 Pin	3.34	2.80
996-1160	CO1100-18.432	18.432000	14 Pin	3.34	2.80
996-1170	CO1100-24.000	24.000000	14 Pin	3.34	2.80
996-1180	CO1100-32.000	32.000000	14 Pin	3.34	2.80
996-1190	CO1100-36.000	36.000000	14 Pin	3.77	3.39
996-1200	CO1100-40.000	40.000000	14 Pin	3.77	3.39
996-1210	CO1100-48.000	48.000000	14 Pin	3.77	3.39
996-1220	CO1100-50.000	50.000000	14 Pin	3.77	3.39
996-1230	CO1100-66.666	66.666000	14 Pin	3.82	3.46
996-1240	CO1100-80.000	80.000000	14 Pin	6.56	5.63

ENVIRONMENTAL

Temperature Cycle: ± 5 ppm max, 0 to 120° C, 3 cycles, 2 hours max each, 25 ± 2° C Ref.
Shock: 1000g's 0.35ms sec, half sine wave, 3 shocks each plane
Vibration: 10-55Hz, 1.50mm D.A., 55-2000Hz, 35G's, Duration - 12 hours.
Humidity: 85% relative humidity, at +85° C, 250 hours.

MECHANICAL

Gross Leak Test: All units 100% leak tested in De-ionized H₂O
Package: Hermetically Sealed
Seal Strength: 10⁻⁴ atoms cc/sec of helium
Bend Test: 9kgs max. force perp. to top and bottom.
Marking Ink: Will withstand max. bend 90° ref. to base 2X.
Solvent Resistance: Epoxy, heat cured.
Isopropyl alcohol, Trichloroethylene, Freon.

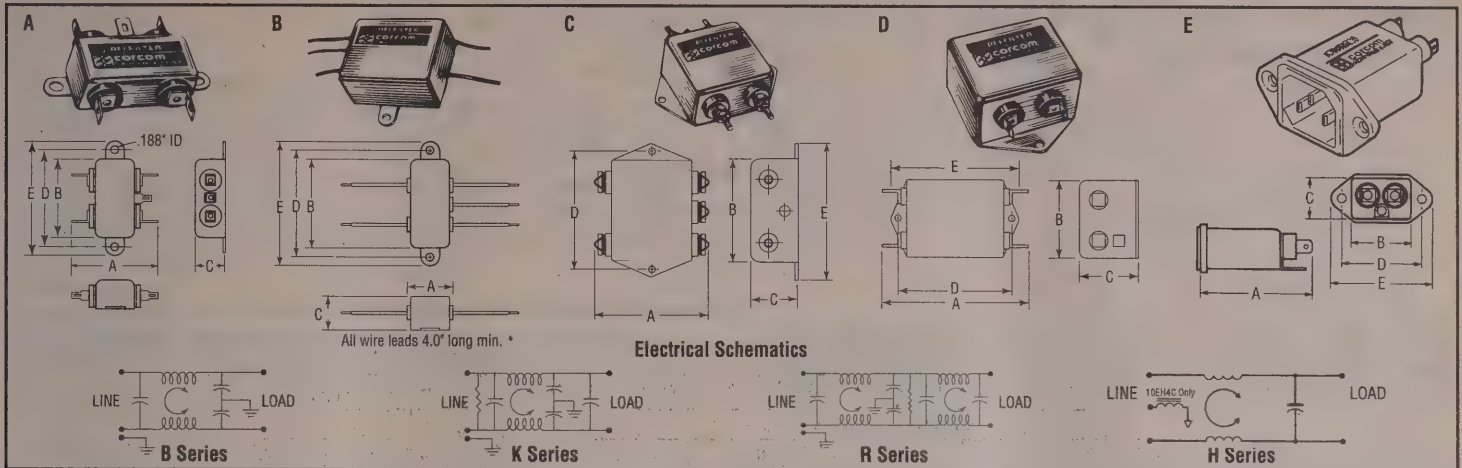


Also Available:

- Microprocessor Crystal Units HC-49 Short (AT Strip)
- Microprocessor Crystal Units Surface Mount - TT-SMD
- Clock Oscillators - Dual Output
- Clock Oscillators - Enable/Disable
- Clock Oscillators - ECL Compatible
- Clock Oscillators - HCMOS Compatible
- Voltage Controlled Crystal Oscillators - VCXO
- Temperature Compensated Crystal Oscillators - TCXO
- Monolithic Crystal Filters
- Ceramic Resonators - 200 to 800 KHz, 2.000 to 12.000 MHz

Raltron manufactures one of the most complete product lines of frequency management components including high quality crystal units, oscillators, filters, and ceramic resonators both through-hole and surface mount.

Because the product line is so complete, the inventory so large, Raltron and Allied can offer pricing that is always competitive, and often far lower than the competition.



B Series Filters

1 to 20 Amps; 115/250 Volts AC; 50-60 Hz

B Series RFI power line filters are general purpose low cost filters which provide effective line-to-ground RFI filtering in most applications. **Maximum Leakage Current (Line-To-Ground):** .5 mA at 115 VAC 60 Hz, 1.0 mA at 250 VAC 50 Hz.

Hipot Rating (1 Minute): Line-to-ground — 2250 VDC; Line-to-line — 1450 VDC. **Operating Frequency:** 50-60 Hz. **Rated Voltage:** 115/250 VAC. Low leakage models and higher maximum line amp units available as custom order.

Stock No.	Mfr.'s Type	Fig.	Dimensions — Inches (mm)					Max. Line Amp	EACH			
			A	B	C	D	E		1-24	25-49	50-99	100-499
851-0290	1VB1	A	2.25 (57.2)	1.82 (46.2)	0.66 (16.8)	2.125 (53.98)	2.53 (64.3)	1	12.03	8.42	7.66	7.02
851-0302	1VB3	B	0.96 (24.4)	1.82 (46.2)	0.66 (16.8)	2.125 (53.98)	2.53 (64.3)	1	13.06	9.14	8.32	7.62
851-0304	2VB1	A	2.25 (57.2)	1.82 (46.2)	0.66 (16.8)	2.125 (53.98)	2.53 (64.3)	2	10.81	7.56	6.88	6.30
851-0301	3VB1	A	2.61 (66.3)	1.82 (46.2)	0.78 (19.8)	2.125 (53.98)	2.53 (64.3)	3	12.49	8.74	7.95	7.29
851-0303	3VB3	B	1.32 (33.5)	1.82 (46.2)	0.78 (19.8)	2.125 (53.98)	2.53 (64.3)	3	13.57	9.50	8.64	7.92
851-0311	5VB1	A	2.61 (66.3)	1.82 (46.2)	0.78 (19.8)	2.125 (53.98)	2.53 (64.3)	5	11.56	8.09	7.36	6.74
851-0313	5VB3	B	1.32 (33.5)	1.82 (46.2)	0.78 (19.8)	2.125 (53.98)	2.53 (64.3)	5	12.49	8.74	7.95	7.29
851-0321	10VB1	A	2.61 (66.3)	1.82 (46.2)	1.16 (29.5)	2.125 (53.98)	2.53 (64.3)	10	13.03	9.12	8.30	7.60
851-0314	20VB1	A	3.36 (85.3)	2.07 (52.6)	1.16 (29.5)	2.375 (60.33)	2.81 (71.4)	20	21.02	14.71	13.38	12.26

K Series Filters

1 to 20 Amps; 115/250 Volts AC; 50-60 Hz

K Series RFI filters are general purpose filters which provide line-to-line filtering in addition to normal line-to-ground attenuation of RFI. Particularly suited where pulsed, continuous and/or intermittent RF interference is present in your application. **Maximum Leakage Current (Line-To-Ground):** .5 mA at 115 VAC 60 Hz, 1.0 mA at 250 VAC 50 Hz. **Hipot**

Rating (1 Minute): Line-to-ground — 2250 VDC; Line-to-line — 1450 VDC. **Operating Frequency:** 50-60 Hz. Low leakage models and higher maximum line amp units available as custom order.

Stock No.	Mfr.'s Type	Fig.	Dimensions — Inches (mm)					Max. Line Amp	EACH			
			A	B	C	D	E		1-24	25-49	50-99	100-499
851-0319	1VK1	A	3.10 (78.7)	2.07 (52.6)	0.91 (23.1)	2.375 (60.33)	2.81 (71.4)	1	16.08	11.25	10.24	9.38
851-0322	2VK1	A	3.10 (78.7)	2.07 (52.6)	0.91 (23.1)	2.375 (60.33)	2.81 (71.4)	2	13.81	9.66	8.79	8.05
851-0324	2VK3	B	1.81 (46.0)	2.07 (52.6)	0.91 (23.1)	2.375 (60.33)	2.81 (71.4)	2	15.22	10.65	9.69	8.88
851-0323	3VK1	A	3.10 (78.7)	2.07 (52.6)	0.91 (23.1)	2.375 (60.33)	2.81 (71.4)	3	16.46	11.52	10.48	9.60
851-0320	3VK3	B	1.81 (46.0)	2.07 (52.6)	0.91 (23.1)	2.375 (60.33)	2.81 (71.4)	3	17.28	12.09	11.01	10.08
851-0325	5VK1	A	3.10 (78.7)	2.07 (52.6)	0.91 (23.1)	2.375 (60.33)	2.81 (71.4)	5	14.07	9.85	8.96	8.21
851-0326	5VK3	B	1.81 (46.0)	2.07 (52.6)	0.91 (23.1)	2.375 (60.33)	2.81 (71.4)	5	16.16	11.31	10.29	9.43
851-0330	10VK1	A	3.35 (85.1)	2.07 (52.6)	1.16 (29.5)	2.375 (60.33)	2.81 (71.4)	10	15.13	10.59	9.64	8.83
851-0331	20VK1	A	3.35 (85.1)	2.56 (65.0)	1.53 (38.9)	2.938 (74.63)	3.35 (85.1)	20	23.50	16.44	14.96	13.70
851-0346	20VK6	C	3.46 (87.9)	2.56 (65.0)	1.53 (38.9)	2.938 (74.63)	3.35 (85.1)	20	27.18	19.02	17.31	15.85

R Series Filters

1 to 10 Amps; 115/250 Volts AC; 50-60 Hz

The dual-T filter design of the R Series makes these filters effective with low impedance motor loads. The 1- and 3-amp versions have an insertion loss as low as 54 dB at 150 kHz. These dual-section filters provide positive RFI control of line-to-line as well as line-to-ground noise. Small in size, designed for computer peripheral and a wide variety of other critical applications. **Maximum Leakage Current (Line-To-Ground):** .5 mA at 115 VAC 60 Hz, 1.0 mA at 250 VAC 50 Hz. **Hipot Rating (1 Minute):** Line-to-ground — 2250 VDC; Line-to-line — 1450 VDC. Low leakage models and higher maximum line amp units available as custom order.

Rating (1 Minute): Line-to-ground — 2250 VDC; Line-to-line — 1450 VDC. **Operating Frequency:** 50-60 Hz. Low leakage models and higher maximum line amp units available as custom order.

Stock No.	Mfr.'s Type	Fig.	Dimensions — Inches (mm)					Max. Line Amp	EACH			
			A	B	C	D	E		1-24	25-49	50-99	100-499
851-0351	1VR1	D	3.35 (85.1)	1.81 (46.0)	1.16 (29.5)	2.375 (60.33)	2.78 (70.6)	1	22.82	15.97	14.53	13.31
851-0350	1VR3	B	2.07 (52.6)	1.81 (46.0)	1.16 (29.5)	2.375 (60.33)	2.78 (70.6)	1	24.08	16.85	15.34	14.05
851-0352	2VR1	D	3.35 (85.1)	1.81 (46.0)	1.16 (29.5)	2.375 (60.33)	2.78 (70.6)	2	20.67	14.46	13.16	12.06
851-0353	3VR1	D	3.85 (97.8)	2.07 (52.6)	1.16 (29.5)	2.938 (74.63)	3.35 (85.1)	3	22.17	15.51	14.12	12.93
851-0354	5VR1	D	3.85 (97.8)	2.07 (52.6)	1.16 (29.5)	2.938 (74.63)	3.35 (85.1)	5	20.85	14.59	13.27	12.16
851-0360	10VR1	D	3.85 (97.8)	2.07 (52.6)	1.53 (38.9)	2.938 (74.63)	3.35 (85.1)	10	21.88	15.31	13.93	12.76

H Series Filters

3 to 10 Amps; 115/250 Volts AC; 50-60 Hz

All H Series filters are for use in both patient care equipment and nonpatient equipment and meet UL 544 requirements. In addition, the 56EH4C incorporates a separate ground circuit inductor to isolate the equipment chassis from power line ground at RF frequencies. **Maximum Leakage Current (Line-To-Ground):** .2 µA at 120 VAC, 60 Hz; 5 µA at

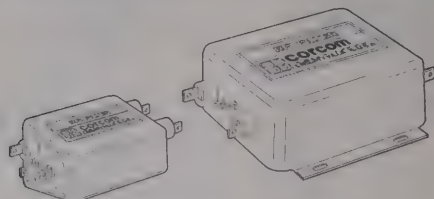
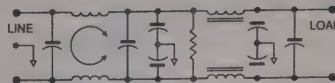
250 VAC, 50 Hz. **Hipot Rating (1 Minute):** Line-to-ground — 1500 VAC; Line-to-line — 1450 VDC. **Operating Frequency:** 50/60 Hz. **Rated Voltage:** 120/250 VAC.

†All SEV Approved except 10EH Series.

Stock No.	Mfr.'s Type	Fig.	Dimensions — Inches (mm)					Max. Line Amp	EACH			
			A	B	C	D	E		1-24	25-49	50-99	100-499
851-0430	3EH1	A	2.25 (57.2)	1.82 (46.1)	0.66 (16.7)	2.125 (53.98)	2.53 (64.2)	3	11.43	8.00	7.25	6.67
851-0432	3EH3	B	0.96 (24.4)	1.82 (46.1)	0.66 (16.7)	2.125 (53.98)	2.53 (64.2)	3	13.04	9.12	8.30	7.60
851-0434	6EH1	A	2.25 (57.2)	1.82 (46.1)	0.66 (16.7)	2.125 (53.98)	2.53 (64.2)	6	11.67	8.17	7.43	6.81
851-0436	6EH3	B	0.96 (24.4)	1.82 (46.1)	0.66 (16.7)	2.125 (53.98)	2.53 (64.2)	6	13.28	9.29	8.46	7.75
851-0438	10EH1	A	2.25 (57.2)	1.82 (46.1)	0.66 (16.7)	2.125 (53.98)	2.53 (64.2)	10	12.04	8.42	7.67	7.02
851-0440	10EH3	B	0.96 (24.4)	1.82 (46.1)	0.66 (16.7)	2.125 (53.98)	2.53 (64.2)	10	13.64	9.55	8.69	7.96
851-0442	10EH4	D	2.62 (66.5)	1.19 (30.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	10	15.62	10.93	9.94	9.11
851-0444	10EH4C	D	2.62 (66.5)	1.19 (30.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	10	19.04	13.32	12.13	11.11

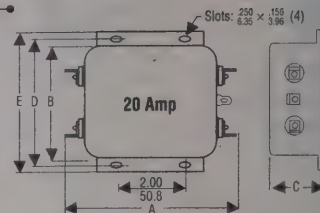
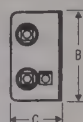
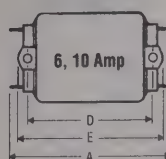
W Series

1 to 10 Amps; 115/250 Volts, 50-60 Hz



6, 10 Amp

20 Amp



Typical Dimensions. Fastons: 250 (4) Holes: 87 Dia. Mounting Holes: 188 Dia. (2) Solder Tabs: 67 x 15

The W series filters will protect equipment from malfunctions due to conducted interference coming into the equipment from the line, especially line-to-line noise and transients. In addition, the W series filters combine line-to-ground interference rejection filters with additional circuitry designed to reduce line-to-line transients. They are also effective to control emissions in equipment using SCR and T2L circuits, for compliance with FCC Part 15, Subpart J, and VDE 0871,

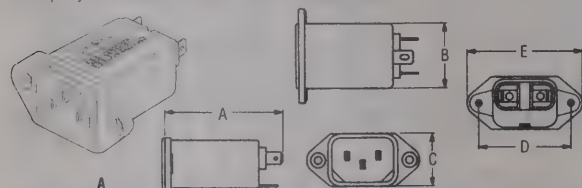
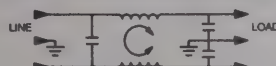
Level A, down 150 KHz. The W series provides an N=4 line-to-ground impedance for common mode and an N=5 impedance for line-to-line differential mode interference. They are designed for use when equipment impedance at RF frequencies is high. The two-stage construction provides excellent suppression at high frequency. The W series filters are particularly effective when applied in equipment using switching power supplies.

Stock No.	Mfr.'s Type	Dimensions — Inches (mm)					Max. Line Amp	EACH			
		A	B	C	D	E		1-24	25-49	50-99	100-499
851-0416	6W1	3.86 (98.0)	2.08 (52.8)	1.53 (38.9)	2.938 (74.63)	3.34 (84.8)	6	33.38	23.36	21.26	19.47
851-0417	10W1	3.86 (98.0)	2.08 (52.8)	1.53 (38.9)	2.938 (74.63)	3.34 (84.8)	10	38.02	26.60	24.21	20.49
851-0418	20W1	5.23 (132.8)	3.38 (85.9)	1.53 (38.9)	3.750 (95.25)	4.20 (106.7)	20	78.08	45.64	49.72	45.54
851-0419	6VW1	3.86 (98.0)	2.08 (52.8)	1.53 (38.9)	2.938 (74.63)	3.34 (84.8)	6	30.47	21.32	19.40	17.77
851-0420	10VW1	3.86 (98.0)	2.08 (52.8)	1.53 (38.9)	2.938 (74.63)	3.34 (84.8)	10	34.96	24.46	22.26	20.39
851-0421	20VW1	5.23 (132.8)	3.38 (85.9)	1.53 (38.9)	3.750 (95.25)	4.20 (106.7)	20	71.25	49.86	45.37	41.56

EEA Series Filters

1 to 10 Amps; 115/250 Volts, 50-60 Hz

Note: Specify line cord #80-1245 below to mate with IEC connector.



The EEA Series are a new generation of compact RFI filters with IEC socket. Totally new in design in both the internal structure and manufacturing process make this new series cost effective and compact. The EEA series supercedes the EF series by providing superior performance, particularly in the common mode at low frequencies. Mechanically, its slimmer size makes it compatible with all similar filters in the market. Quarter inch fastons in line in the EEA1 offer versatility when behind the panel room exists. The EEA2 with the quarter inch fastons at a right angle to the IEC connector allow for a

shorter tip-to-tip length. The P style models are PC board mountable offering compact size and direct to board connection. Models with 4-inch wire leads available as custom order parts. **Maximum Leakage Current (Line-to-Ground):** 0.25 mA at 120 VAC 60 Hz; 0.42 mA at 250 VAC 50 Hz. **Hipot Rating (1 Minute):** Line-to-ground — 2250 VDC; Line-to-line — 1450 VDC. Uses line cord 80-1245 below.

Stock No.	Mfr.'s Type	Fig.	Dimensions — Inches (mm)					Max. Line Amp	EACH			
			A	B	C	D	E		1-24	25-49	50-99	100-499
851-0450	1EEA1	A	2.12 (53.8)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	1	11.64	8.08	7.35	6.73
851-0452	1EEA2	B	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	1	13.12	9.18	8.35	7.65
851-0454	1EEAP	C	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	1	14.14	9.89	9.00	8.25
851-0456	3EEA1	A	2.12 (53.8)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	3	9.33	6.53	5.94	5.44
851-0458	3EEA2	B	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	3	10.20	7.14	6.50	5.95
851-0460	3EEAP	C	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	3	10.99	7.69	7.00	6.41
851-0462	6EEA1	A	2.12 (53.8)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	6	8.72	6.10	5.55	5.08
851-0464	6EEA2	B	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	6	9.47	6.63	6.03	5.53
851-0466	6EEAP	C	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	6	10.23	7.16	6.52	5.97
851-0468	10EEA1	A	2.12 (53.8)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	10	9.47	6.63	6.03	5.53
851-0470	10EEA2	B	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	10	10.20	7.14	6.50	5.95
851-0472	10EEAP	C	1.54 (39.2)	1.11 (28.2)	0.81 (20.6)	1.575 (40.01)	1.98 (50.3)	10	10.99	7.69	7.00	6.41

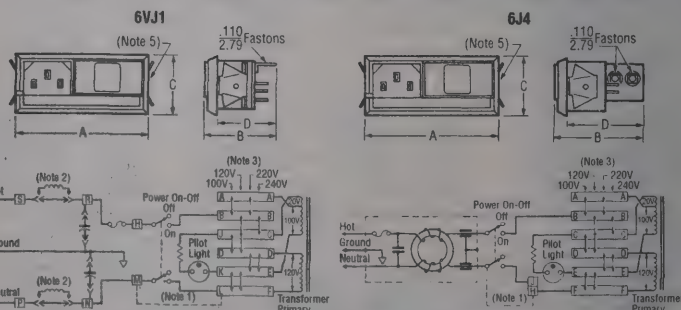
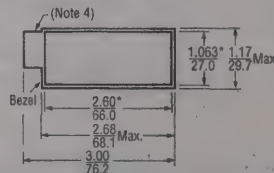
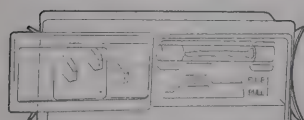
J Series — Voltage Selecting and Fused Connector

6 Amps; 100-240 Volts AC, 50-60 Hz

Note: Specify line cord #80-1245 below to mate with IEC connector.



Mounting Diagram
Recommended Panel Cutout



Note 1: Jumper required if only SPST Power Switch is used. Note 2: Jumper required if no input filtering is used. Note 3: Use only 120V and 240V positions for 2-volt selection units. Note 4: Fuse cover door shown in open position. Note 5: Standard units mount in panel thickness of .060-.090".

J Series Voltage Selecting and Fused Connector is designed for the equipment manufacturer who markets a product worldwide. While incorporating a fuse holder and a standard IEC power line connector, the J Series also features a unique voltage selector card which enables an easy means to change transformer primary connections. Integral fuse holder, line side, accepts .25" x 1.25" fuse. Meets UL/IEC requirements per CEE publication 22 Type VI. Connector back terminals

suitable for soldering, wire wrapping or crimp-on lugs such as MOLEX #2123. **Maximum Leakage Current (Line-to-Ground):** at 250 VAC 50 Hz; 5 microamps (6VJ1); 0.5 mA (6J4). **Hipot Rating (1 Minute):** Line-to-ground — 2000 VAC (6VJ1) and 2250 VDC (6J4); Line-to-line — 2150 VDC (6VJ1) and 1450 VDC (6J4). Construction meets IEC 161 category 10/70/21. The J1 version is unfiltered while the J4 model houses a built-in filter.

Stock No.	Mfr.'s Type	Dimensions — Inches (mm)			Max. Line Amp	EACH			
		A	B	C		1-24	25-49	50-99	100-499
851-0410	6VJ1	2.68 (68.1)	1.52 (38.6)	1.17 (29.7)	6	13.52	9.46	8.61	7.88
851-0414	6J4	2.75 (69.9)	1.87 (47.5)	1.17 (29.7)	6	24.41	17.08	15.54	14.24

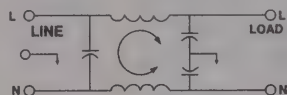
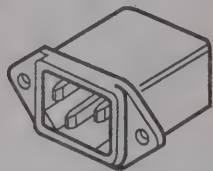
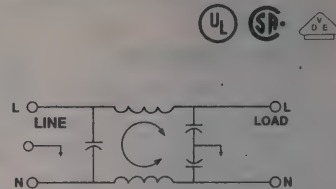
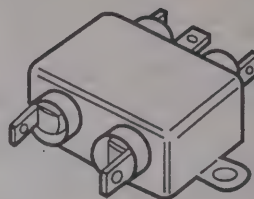
851 Series General Purpose Filters

A compact general purpose filter designed to provide effective EMI suppression which can be used in a wide variety of electrical and electronic equipment.

Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-3302	851-02/001	2VB1/2EB1	2	2.13 x 2.54 x 0.63	5.80	5.35
689-3303	851-03/003	3VB1/3EB1	3	2.25 x 2.50 x 0.75	7.47	6.89
689-3301	851-03/004*	3VB3/3EB3	3	1.31 x 2.50 x 0.75	6.67	5.15
689-3304	851-05/005	5VB1/5EB1	5	2.52 x 2.50 x 0.75	6.47	5.97
689-3305	851-05/006*	5VB3/5EB3	5	1.31 x 2.50 x 0.75	7.12	6.57
689-3306	851-10/007	10VB1/10EB1	10	2.52 x 2.50 x 1.18	8.39	7.74
689-3307	851-10/009*	10VB6	10	2.64 x 2.50 x 1.18	11.30	10.43
689-3321	851-20/011**	20VB6	20	3.35 x 2.75 x 1.13	13.07	12.06

* Leads Without Fastons.

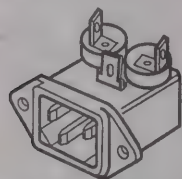
** Stud Terminals Without Fastons.



858 Series High Performance IEC Filters

A high performance general purpose filter with an IEC connector providing effective EMI suppression on line-to-line and low frequency line-to-ground noise.

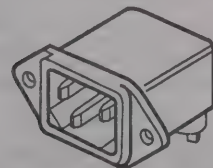
Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-3320	858-01/003	1EEB1/1ED1	1	2.10 x 2.05 x 0.82	5.60	5.17
689-3322	858-03/007	3EEB1/3ED1	3	2.10 x 2.05 x 0.82	5.60	5.17
689-3324	858-06/011	6EEB1/6ED1	6	2.10 x 2.05 x 0.82	5.60	5.17
689-3326	858-10/015	10EEB1/10ED1	10	2.10 x 2.05 x 0.82	5.60	5.17



857 Series Right Angle IEC General Purpose Filters

A compact general purpose right angle IEC connector filter designed to provide effective EMI suppression and easy installation.

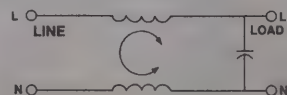
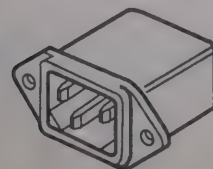
Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-4170	857-01/046	1EF2	1	1.70 x 1.99 x 1.34	6.51	5.66
689-4172	857-03/047	3EF2	3	1.70 x 1.99 x 1.34	6.51	5.66
689-4174	857-06/048	6EF2	6	1.70 x 1.99 x 1.34	6.51	5.66
689-4176	857-10/049	—	10	1.70 x 1.99 x 1.34	7.57	6.58



859 Series Low Leakage Medical Filter

Medical EMI filter that provides very low leakage current meeting medical and dental requirements of UL544.

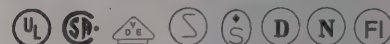
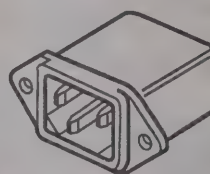
Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-3314	859-06/003	6EH1	6	2.13 x 2.54 x 0.63	7.88	7.28



857 Series Compact IEC General Purpose Filters

A compact and reliable general purpose IEC connector filter designed to provide effective EMI filtration at a low price.

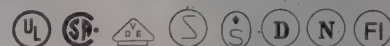
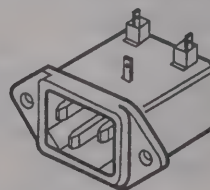
Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-3308	857-01/005	1EEA1/1EF1F	1	2.10 x 2.05 x 0.82	5.07	4.68
689-3310	857-03/017	3EEA1/3EF1F	3	2.10 x 2.05 x 0.82	5.07	4.68
689-3312	857-06/027	6EEA1/6EF1F	6	2.10 x 2.05 x 0.82	5.07	4.68
689-3314	857-10/033	10EEA1/10EF1F	10	2.10 x 2.05 x 0.82	5.07	4.68



857 Series Right Angle IEC General Purpose Filters

A compact general purpose right angle IEC connector filter designed to provide effective EMI suppression and for easy installation.

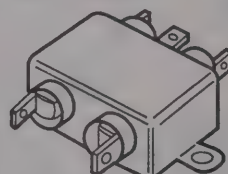
Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-3327	857-01/002	1EF2F	1	1.55 x 1.99 x 0.82	7.27	6.71
689-3331	857-03/012	3EF2F	3	1.55 x 1.99 x 0.82	7.27	6.71
689-3333	857-06/024	6EF2F	6	1.55 x 1.99 x 0.82	7.27	6.71



856 Series General Purpose PCB Mount Filters

A PCB mounted general purpose filter with IEC connector designed for easy installation and effective EMI suppression.

Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-4132	856-01/001	—	1	29.8 x 50 x 41	6.51	5.82
689-4134	856-03/002	—	3	29.8 x 50 x 41	6.51	5.82
689-4136	856-06/003	—	6	29.8 x 50 x 41	6.51	5.82
689-4138	856-10/008	—	10	29.8 x 50 x 41	7.57	6.77



857 Series Low Leakage Medical Filters

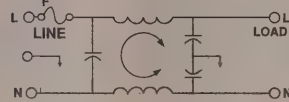
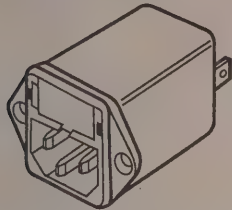
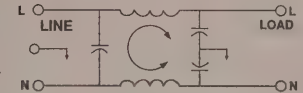
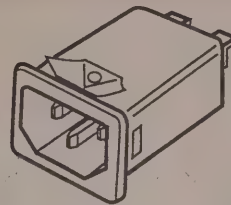
Medical EMI filters that provides very low leakage current meeting medical and dental requirements of UL544.

Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-3315	857-01/037	1EAH1	1	2.10 x 2.05 x 0.82	4.90	4.53
689-3317	857-03/038	3EAH1	3	2.10 x 2.05 x 0.82	4.90	4.53
689-3316	857-06/039	6EAH1/6EH4	6	2.10 x 2.05 x 0.82	4.90	4.53
689-3318	857-10/040	10EAH1/10EH4	10	2.10 x 2.05 x 0.82	4.90	4.53

868 Series General Purpose Snap-In Filters

A general purpose single stage snap-in filter with an IEC connector designed for easy installation and to offer cost savings due to lower labor cost.

Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-4140	868-01/001	1EAS1	1	24 x 31 x 56	6.32	5.65
689-4142	868-03/002	3EAS1	3	24 x 31 x 56	6.32	5.65
689-4144	868-06/003	6EAS1	6	24 x 31 x 56	6.32	5.65
689-4146	868-10/004	10EAS1	10	24 x 31 x 56	6.32	5.65



860 Series Fused General Purpose Filters

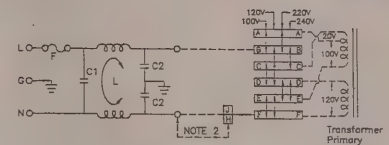
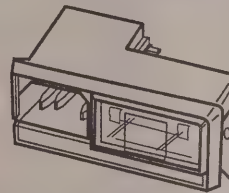
A general purpose filter with a fused IEC connector providing effective EMI suppression of both common and differential mode noise.

Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-3328	860-02/001	—	2	2.54 x 1.73 x 1.29	10.70	9.88
689-3329	860-04/002	—	4	2.54 x 1.73 x 1.29	10.70	9.88
689-3330	860-04/003	—	4	2.54 x 1.73 x 1.29	10.70	9.88
689-3332	860-06/005	—	6	2.54 x 1.73 x 1.29	10.70	9.88

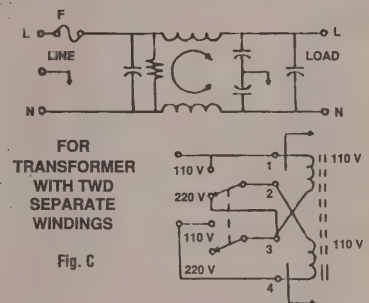
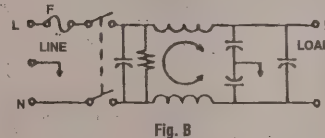
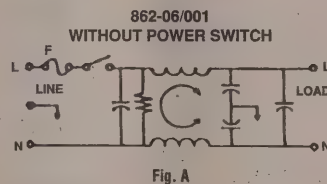
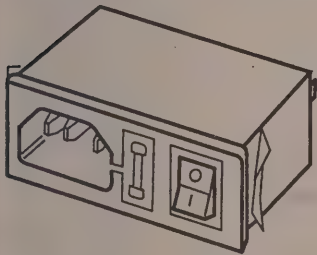
861 Series Multi-Function Module Filter

A multi-function power entry module filter that incorporates an IEC connector, a single fuse holder, and a voltage selector switch providing space savings.

Stock No.	Mfr.'s Type	Corcom P/N	Amp Rating	Size L x W x H	EACH	
					1-24	25-99
689-4148	861-06/001	6J4	6	29.7 x 68 x 47.5	13.89	13.39



862 Series Multi-Function Module Filters

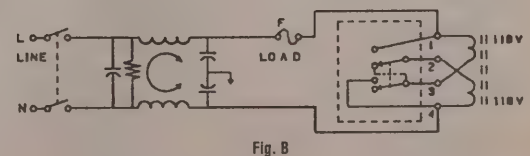
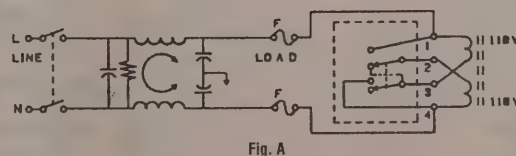
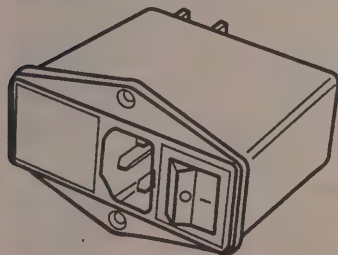


A multi-function power entry module filter that incorporates an IEC connector, a fuse holder with optional power ON/OFF switch, and voltage selector switch.

Stock No.	Mfr.'s Type	Electrical Schematic	Amp Rating 115-250	Size L x W x H	IEC Conn	Fuse Holder	Power Switch	Voltage Selector	EACH*	
									1-24	25-99
689-3334	862-06/001	A	6-6	2.65 x 2.17 x 1.04	Yes	Yes	No	No	13.77	12.71
689-3336	862-06/002	B	6-6	2.65 x 2.17 x 1.04	Yes	Yes	SP ¹	No	15.23	14.06
689-3338	862-06/003	B	6-4	2.65 x 2.17 x 1.04	Yes	Yes	DP ²	No	17.67	16.31
689-3340	862-06/007	C	6-6	2.65 x 2.17 x 1.04	Yes	Yes	No	Yes	18.90	17.45

¹ Single Pole. ² Double Pole. *Transformer Not Included.

864 Series Multi-Function Module Filters



A multi-function power entry module filter that incorporates an IEC connector, double pole power switch, voltage selector switch, and optional single or double fuse holder offering space savings.

Stock No.	Mfr.'s Type	Electrical Schematic	Amp Rating 115-250	Size L x W x H	IEC Conn	Fuse Holder	Power Switch	Voltage Selector	EACH	
									1-24	25-99
689-4150	864-03/001	A	3-3	1.99 x 3.51 x 2.58	Yes	Double*	DP	Yes	25.13	21.85
689-4156	864-03/003	B	3-3	1.99 x 3.51 x 2.58	Yes	Single*	DP	Yes	25.13	21.85
689-4152	864-06/005	A	6-6	1.99 x 3.51 x 2.58	Yes	Double*	DP	Yes	25.13	21.85
689-4158	864-06/007	B	6-6	1.99 x 3.51 x 2.58	Yes	Single*	DP	Yes	25.13	21.85
689-4154	864-10/009	A	10-6**	1.99 x 3.51 x 2.58	Yes	Double*	DP	Yes	25.13	21.85
689-4160	864-10/011	B	10-6**	1.99 x 3.51 x 2.58	Yes	Single	DP	Yes	25.13	21.85

*UL Rated 10 A 125 and 250 VAC, CSA and VDE Rated 6A 250 VAC. **CSA Approved 6A 125 VAC VDE Approved 6A 250 VAC.

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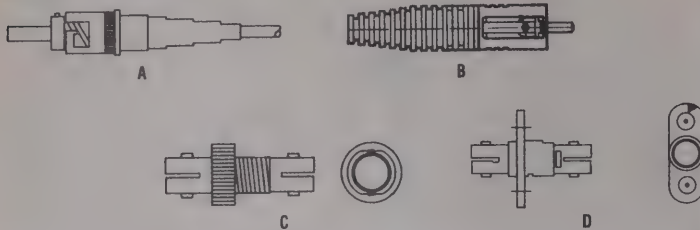
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ST* Connectors



The 3M® ST* Connector product line provides high repeatability and low light loss for premises, LAN and telco applications. The improved 3M connector design is compatible with the AT&T ST* connector product line as well as the Premise Distribution System (PDS) components and other ST* connector products. The 3M products are supplied with a high quality PC finish on zirconia ceramic ferrules.

Bayonet-Style Connectors (Fig. A)

Stock No.	Mfr.'s Type	Description	Termination Style	Fiber Size	EACH	
					1-24	25-49
617-8300	6100	Multimode	Hotmelt	125 µm	8.92	8.23
617-8302	6105	Multimode	Epoxy	125 µm	8.92	8.23
617-8304	6106	Multimode	Epoxy	140 µm	8.92	8.23
617-8306	8106	Single-mode	Epoxy	126 µm	18.00	16.62
617-8308	8107	Single-mode	Epoxy	127 µm	18.00	16.62

Push-Pull Style Connectors (Fig. B)

Stock No.	Mfr.'s Type	Description	Termination Style	Fiber Size	1-24	25-49
617-8310	6102-H	Multimode	Hotmelt	125 µm	10.75	9.93
617-8312	8103	Single-mode	Epoxy	126 µm	18.50	17.08
617-8314	8104	Single-mode	Epoxy	127 µm	18.50	17.08

ST* Couplings

Stock No.	Mfr.'s Type	Description	Fig.	EACH	
				1-24	25-49
617-8316	6110	Multimode, threaded	C	5.85	5.39
617-8318	6111	Multimode, flanged	D	5.85	5.39
617-8320	8110	Single-mode, threaded	C	17.00	15.70
617-8322	8111	Single-mode, flanged	D	17.00	15.70

Scotchlok® IDC Communications Connectors



For Inline Splicing — Fig. A

Stock No.	Mfr.'s Type	Color	Description	Wire Range AWG*	PER PKG./100	
					1-9	10-24
617-4750	U1B	Blue	Full Pair	16-19	125.80	116.12
617-4755	U1R	Red	Full Pair	19-24	130.22	120.20
617-4760	U1Y	Yellow	Four-way bridging	16-19	155.35	144.26

For Pigtail Splicing/Butt Splicing — Fig. B

Stock No.	Mfr.'s Type	Color	Description	Wire Range	1-9	10-24
617-4765	UAL	Gray	2-3 wire	17-20 Aluminum 19-24 Copper	24.48	22.25
617-4770	UR	Red	2-3 wire	19-26	19.99	18.17
617-4775	UY	Yellow	2-3 wire	22-26	14.84	13.60

For Bridging/Top Splicing—Fig. C

Stock No.	Mfr.'s Type	Color	Description	Wire Range	1-9	10-24
617-4780	UB	Blue	—	22-26	18.70	17.26
617-4785	UG	Green	—	19-26	18.70	17.26

*Solid.

Crimping Tools—Fig. D

Stock No.	Mfr.'s Type	Description	EACH
617-4790	E-9BM	Heavy duty for all types	65.30
617-4795	E-9E	For UAL, UR, UY, UB	24.83
617-4800	E-9Y	With wire cutter and insulated handle for UB, UG, UR, UY	25.83

Photodyne™ 8000XGA Fiber Identifier

- Greater Than -50 dBm Sensitivity @ 1550 nm
- Low Insertion Loss at 1300 nm and 1550 nm
- Automatic Self-Test After Each Fiber Insertion
- Mechanically Damped Fiber Action

- 1 KHz and 2 KHz Tone Detection
- Operation Over 850 to 1550 nm Range
- Signal Direction Indicators
- Lightweight, Portable and Battery Operated



617-8350. 8000XGAEACH 3120.00

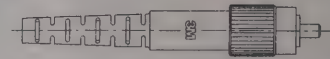
Field Termination Kits

Field termination kits provide everything needed for an organized, quick installation.

- 617-8370. 6150. "Hotmelt" ST termination kit.....EACH 1071.43
- 617-8380. 8250. "Epoxy" ST termination kit.....EACH 1428.57
- 617-8390. 8350. "Hotmelt" SC/FC PC3 termination kit.....EACH 1071.43
- 617-8400. 8350. "Epoxy" SC/FC PC3 termination kit.....EACH 1428.57
- 617-8410. 6150-A. "Hotmelt" Push-Pull ST termination kit.....EACH 1071.43



FC/PC3 Connectors



The new 3M brand FC/PC3 Connector has been designed to combine the best features of the 3M FC/PC 1 (field mountability) and the 3M FC/PC 2 (pull-proof design) into one versatile connector design that is fully compatible with all FC Connectors adhering to the NTT specification. The FC/PC 3 incorporates 3M pre-radiused PC zirconia ceramic technology to provide high optical performance and minimize reflected power to -50 dB on factory polished cable assemblies. The ferrule is independent of the backbone so that a pull on the jacketed connectorized cable will not cause the ferrule to break optical contact with a second ferrule in a connection.

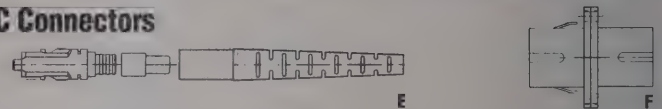
FC/PC3 Connector

Stock No.	Mfr.'s Type	Description	Termination Style	Fiber Size	EACH	
					1-24	25-49
617-8334	6200	Multimode	Hotmelt	125 µm	11.17	10.31
617-8336	6202	Multimode	Epoxy	125 µm	11.17	10.31
617-8338	8203	Single-mode	Epoxy	126 µm	15.17	14.00
617-8340	8204	Single-mode	Epoxy	127 µm	15.17	14.00

FC/PC3 Couplings Square Flanged (Not Shown)

Stock No.	Mfr.'s Type	Description	Termination Style	Fiber Size	1-24	25-49
617-8342	6210	Multimode	—	—	26.16	24.30
617-8344	8210	Single-mode	—	—	27.70	25.72

SC Connectors



3M has simplified the design of the SC connector to enhance performance and cable retention, and provide a readily field mountable connector. The connector is fully compliant to the NTT, JIS, ISO/IEC, and TIA/EIA component and ISO/IEC, CENELEC, ANSI, TIA/EIA-568A and BICSI system and cabling level standards. The 3M SC Connector has a rectangular push-pull coupling mechanism for easy insertion and high repeatability.

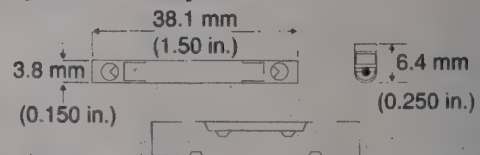
SC Connectors (Fig. E)

Stock No.	Mfr.'s Type	Description	Termination Style	Fiber Size	EACH	
					1-24	25-49
617-8324	6300	Multimode	Hotmelt	125 µm	10.84	10.00
617-8326	6306	Multimode	Epoxy	125 µm	10.84	10.00
617-8328	8306	Single-mode	Epoxy	126 µm	14.67	13.54
617-8330	8307	Single-mode	Epoxy	127 µm	14.67	13.54

SC Standard Density Coupling (Fig. F)

Stock No.	Mfr.'s Type	Description	Termination Style	Fiber Size	1-24	25-49
617-8332	8310	Multi/Single-mode	—	—	15.00	13.85

Fiblok II Optical Fiber Splice



Fiblok provides a precise, simple and low cost method of splicing fiber. For use with single-mode or multi-mode fiber. The inexpensive assembly tool turns any craft person into a splicing expert.

- 617-2529. 2529. Universal Optical Fiber Splice.....EACH 11.90
- 617-2501. 2501. Assembly Tool.....EACH 83.30
- 617-2529. 2529-K. Splice Kit (60 Splices and 1 tool).....EACH 683.43

Photodyne™ 17XTF Hand Held Fiber Optic Power Meter

- Single-Mode and Multimode Use
- LAN Applications
- Link Commissioning
- Maintenance and Restoration
- Engineering and Testing

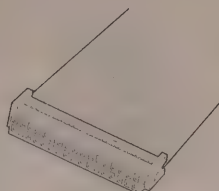
Photodyne™ 17XTF Hand-Held Fiber Optic Power Meter is a convenient, practical test instrument available to fiber optic service technicians, engineers, and field crews.

617-8360. 17XTFEACH 1421.43



Socket Connectors

These connectors terminate to 25 or 28 AWG solid/stranded and 30 AWG solid wire, and are compatible with most headers on a 0.1" x 0.1" grid. Dual and center bump polarity. 30 µ gold on wiping surface, beryllium copper contacts.



Connectors

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4000	3473-6600	10	2.03	1.83	1.54	1.47
617-4001	3385-6600	14	2.35	2.12	1.91	1.79
617-4002	3452-6600	16	2.56	2.31	2.08	1.94
617-4003	3421-6600	20	2.83	2.55	2.30	2.15
617-4004	3399-6600	26	3.66	3.30	2.97	2.78
617-4005	3419-6600	30	4.20	3.78	3.40	3.19
617-4006	3414-6600	34	4.76	4.29	3.86	3.62
617-4007	3417-6600	40	5.60	5.04	4.54	4.25
617-4008	3425-6600	50	6.99	6.29	5.66	5.31
617-4009	3334-6600	60	8.65	7.79	7.01	6.57

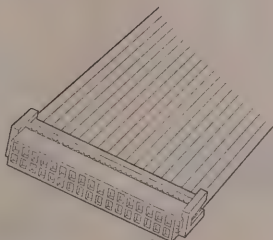
Clip-On Strain Relief

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4010	3448-3010	10	.25	.23	.21	.19
617-4011	3448-3014	14	.25	.23	.21	.19
617-4012	3448-3016	16	.25	.23	.21	.19
617-4013	3448-3020	20	.25	.23	.21	.19
617-4014	3448-3026	26	.25	.23	.21	.19
617-4015	3448-3030	30	.33	.30	.27	.25
617-4016	3448-3034	34	.29	.26	.24	.22
617-4017	3448-3040	40	.29	.26	.24	.22
617-4018	3448-3050	50	.29	.26	.24	.22
617-4019	3448-3060	60	.40	.35	.32	.30

89-Series .100" x .100" IDC Socket Connectors

— NEW —

- ▶ Pre-Assembled Connector Body
- ▶ Pin One Indicated With A Red Stripe
- ▶ Double-Rescued Cover Supports Cable Termination From Either Side Of Connector
- ▶ UL 94V-0, Gray
- ▶ 28 AWG Stranded
- ▶ Contact Plating: Wipe Area — 30 µ" Gold; Under Plate — 100 µ" Nickel
- ▶ Polarizing Center Bump
- ▶ UL File No.: E68080; CSA File No. LR40971



These high-quality, standard-performance IDC sockets minimize applied assembly costs without sacrificing reliability.

Connectors

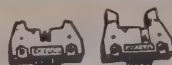
Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-99	100-499	500-999	1000-4999
617-8900	89110-0101	10	.33	.30	.27	.24
617-8902	89114-0101	14	.47	.43	.38	.33
617-8904	89116-0101	16	.54	.49	.44	.38
617-8906	89120-0101	20	.67	.61	.55	.48
617-8908	89124-0101	24	.80	.73	.66	.57
617-8910	89126-0101	26	.87	.80	.71	.62
617-8912	89130-0101	30	1.00	.92	.82	.72
617-8914	89134-0101	34	1.14	1.04	.93	.81
617-8916	89136-0101	36	1.20	1.10	.98	.86
617-8918	89140-0101	40	1.34	1.22	1.09	.95
617-8920	89144-0101	44	1.47	1.35	1.20	1.05
617-8922	89150-0101	50	1.67	1.53	1.37	1.19
617-8924	89160-0101	60	2.01	1.84	1.64	1.29

Strain Reliefs and Accessories

Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
617-8926	3448-89110	10 Pos. Strain Relief	.13	.10
617-8928	3448-89114	14 Pos. Strain Relief	.13	.10
617-8930	3448-89116	16 Pos. Strain Relief	.13	.10
617-8932	3448-89120	20 Pos. Strain Relief	.13	.10
617-8934	3448-89124	24 Pos. Strain Relief	.13	.10
617-8936	3448-89126	26 Pos. Strain Relief	.13	.10
617-8938	3448-89130	30 Pos. Strain Relief	.13	.10
617-8940	3448-89134	34 Pos. Strain Relief	.13	.10
617-8942	3448-89136	36 Pos. Strain Relief	.13	.10
617-8944	3448-89140	40 Pos. Strain Relief	.13	.10
617-8946	3448-89144	44 Pos. Strain Relief	.13	.10
617-8948	3448-89150	50 Pos. Strain Relief	.13	.10
617-8950	3448-89160	60 Pos. Strain Relief	.13	.10
617-8952	3490-89110	Pull Tab 10-20 Position	.15	.11
617-8954	3490-89124	Pull Tab 24-36 Position	.21	.16
617-8956	3490-89140	Pull Tab 40-60 Position	.23	.17
617-8958	3435-0	Keying Plug	.09	.07



Click Headers



(Optional ejector latches supplied as a separate item.) Durable, fully-shrouded housing protects .025" square pins with 30 µ gold plating. The ejector latches provide secure retention and removal. Available right angle and straight pin models.

Right Angle, .112" Solder Pins For .062" Board

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4020	3446-5002	10	1.62	1.46	1.25	1.17
617-4021	3314-5002	14	1.71	1.52	1.39	1.30
617-4022	3408-5002	16	1.77	1.58	1.45	1.34
617-4023	3428-5002	20	1.98	1.76	1.61	1.50
617-4024	3429-5002	26	2.33	2.10	1.89	1.77
617-4025	3440-5002	30	2.68	2.39	2.19	2.04
617-4026	3431-5002	34	3.02	2.69	2.45	2.29
617-4027	3432-5002	40	3.45	3.11	2.80	2.62
617-4028	3433-5002	50	4.16	3.75	3.37	3.16
617-4029	3372-5002	60	5.12	4.56	4.18	3.89

Straight, .112" Solder Pins For .062" Board

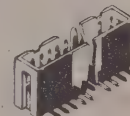
Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4030	3446-6002	10	1.62	1.46	1.25	1.17
617-4031	3314-6002	14	1.71	1.52	1.40	1.30
617-4032	3408-6002	16	1.77	1.52	1.39	1.30
617-4033	3428-6002	20	1.89	1.69	1.55	1.44
617-4034	3429-6002	26	2.33	2.10	1.89	1.77
617-4035	3440-6002	30	2.68	2.39	2.19	2.04
617-4036	3431-6002	34	3.02	2.69	2.45	2.29
617-4037	3432-6002	40	3.45	3.11	2.80	2.62
617-4038	3433-6002	50	4.16	3.75	3.37	3.16
617-4039	3372-6002	60	5.12	4.56	4.18	3.89

Ejector Latches

Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
617-4060	3505-2	Ejector Latches/Retainer Clip Short	.11	.10
617-4061	3505-3	Ejector Latches/Retainer Clip Long	.11	.10

Low Profile Headers

Units have same specifications as CLICK series headers, except these are low profile. Available in right angle and straight pin models.



Right Angle, .112" Solder Pins For .062" Board

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4062	2510-5002UB	10	1.56	1.40	1.19	1.12
617-4064	2516-5002UB	16	1.69	1.50	1.37	1.29
617-4065	2520-5002UB	20	1.77	1.58	1.45	1.34
617-4066	2526-5002UB	26	1.87	1.67	1.53	1.42
617-4068	2534-5002UB	34	2.25	2.00	1.84	1.71
617-4069	2540-5002UB	40	2.41	2.15	1.97	1.83
617-4070	2550-5002UB	50	3.00	2.70	2.43	2.28

Straight, .112" Solder Pins For .062" Board

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4072	2510-6002UB	10	1.33	1.19	1.09	1.02
617-4074	2516-6002UB	16	1.54	1.37	1.26	1.17
617-4075	2520-6002UB	20	1.60	1.43	1.31	1.22
617-4076	2526-6002UB	26	1.71	1.52	1.40	1.30
617-4077	2530-6002UB	30	1.98	1.76	1.61	1.50
617-4078	2534-6002UB	34	2.06	1.84	1.68	1.56
617-4079	2540-6002UB	40	2.21	1.97	1.80	1.68
617-4080	2550-6002UB	50	2.73	2.43	2.23	2.07

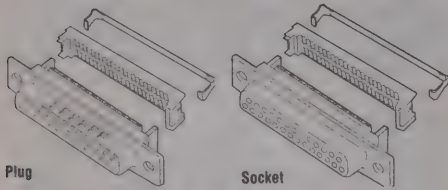
.100" x .100" PCB Connectors

Fits standard .100" x .100" header layout. Two row style uses less board area than 4-row design. Accommodates Wire Sizes: 26 AWG solid or stranded; 28 AWG solid or stranded; 30 AWG solid. Current Rating: 1 amp. Insulation Resistance: >1 x 10⁹ ohms @ 500 VDC. Temperature Rating: -55°F to +105°F.



Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-6030	3910-000T	10	1.77	1.58	1.45	1.34
617-6035	3914-000T	14	2.00	1.78	1.63	1.52
617-6040	3916-000T	16	2.04	1.82	1.67	1.55
617-6045	3920-000T	20	2.12	1.89	1.73	1.61
617-6050	3924-000T	24	2.39	2.13	1.96	1.82
617-6055	3926-000T	26	2.50	2.23	2.04	1.90
617-6060	3930-000T	30	2.70	2.43	2.21	2.05
617-6065	3934-000T	34	2.81	2.50	2.29	2.13
617-6070	3936-000T	36	3.12	2.78	2.55	2.37
617-6075	3940-000T	40	3.20	2.86	2.62	2.43
617-6080	3950-000T	50	3.74	3.34	3.06	2.84
617-6085	3960-000T	60	4.49	4.01	3.67	3.41

"D" Subminiature Connectors



Connectors are fully compatible with all .050" spaced flat cables with 26 and 28 AWG solid/stranded or 30 AWG solid wire. The low profile tin-plated metal shell ensures long-term reliability and EMI/ESD reduction. Pins and wiping leaf are plated with 30 µ gold. **Mounting Style:** 6000 Series — through hole; 6003 Series — 4-40 threaded insert.

Pin Version

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4200	8209-6000	9	5.01	4.51	4.06	3.81
617-5200	8209-6003	9	6.14	5.65	5.13	4.66
617-4201	8215-6000	15	5.70	5.13	4.62	4.33
617-5201	8215-6003	15	6.82	6.08	5.58	5.18
617-4202	8225-6000	25	6.47	5.83	5.24	4.91
617-5202	8225-6003	25	7.39	6.65	6.00	5.59
617-4203	8237-6000	37	8.36	7.53	6.77	6.35
617-5203	8237-6003	37	9.13	8.14	7.46	6.94

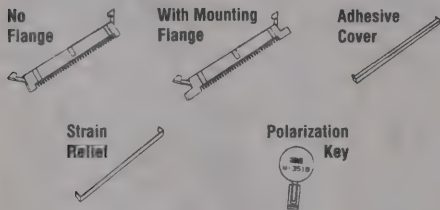
Socket Version

617-4204	8309-6000	9	5.14	4.63	4.17	3.90
617-5204	8309-6003	9	6.26	5.83	5.30	4.76
617-4205	8315-6000	15	5.91	5.32	4.79	4.49
617-5205	8315-6003	15	7.03	6.27	5.75	5.34
617-4206	8325-6000	25	6.57	5.92	5.32	4.99
617-5206	8325-6003	25	7.47	6.87	6.24	5.67
617-4207	8337-6000	37	8.49	7.64	6.88	6.45
617-5207	8337-6003	37	9.13	8.14	7.46	6.94

Strain Reliefs

617-3409	3448-8D09A	9	.25	.22	.20	.19
617-3415	3448-8D15A	15	.33	.30	.27	.25
617-3425	3448-8D25A	25	.25	.22	.20	.19
617-3437	3448-8D37A	37	.39	.35	.32	.30

.100" x .100" Plug Connectors



Plug connectors are made of polybutylene terephthalate, with a flammability rating: UL 94-V0. Connectors accommodate 26-28 AWG, solid or stranded, or 30 AWG wire. (Adhesive cover comes with connector; strain reliefs, ejector latches, and polarization keys optional.)

With Mounting Flange

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-3810	4620-6000	20	5.14	4.63	4.17	3.90
617-3811	4626-6000	26	5.85	5.21	4.78	4.44
617-3812	4634-6000	34	7.26	6.54	5.88	5.51
617-3813	4640-6000	40	8.05	7.18	6.58	6.12
617-3814	4650-6000	50	8.72	7.85	7.07	6.62

Without Mounting Flange

617-3815	4620-6001	20	5.14	4.58	4.20	3.90
617-3816	4626-6001	26	5.85	5.21	4.78	4.44
617-3817	4634-6001	34	7.26	6.47	5.93	5.51
617-3818	4640-6001	40	8.05	7.18	6.58	6.12
617-3819	4650-6001	50	8.72	7.85	7.07	6.62

Strain Reliefs and Accessories

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-499
617-3820	3448-4620	20 Pos. Strain Relief	.41	.37	.34	.31
617-3821	3448-4626	26 Pos. Strain Relief	.41	.37	.34	.31
617-3822	3448-4634	34 Pos. Strain Relief	.41	.37	.34	.31
617-3823	3448-4640	40 Pos. Strain Relief	.41	.37	.34	.31
617-3824	3448-4650	50 Pos. Strain Relief	.45	.41	.37	.35
617-3825	3518	Polarization Key	.13	.12	.11	.10
617-3826	3505-16	Short Latch	.15	.13	.12	.11
617-3827	3505-17	Long Latch	.17	.15	.14	.13

89-Series D-Sub Connectors

— NEW —



- Pre-Assembled One-Piece Body
- For 26 and 28 AWG Solid or Stranded
- UL 94V-0, Gray
- Mounting Style: Through-Hole
- Contact Plating: Wipe Area: 15 µ" Average Gold Over Nickel
- Accepts .050" Flat Ribbon Cable and Discrete Wire

These standard-performance D-Sub Connectors are designed to reduce costs and save assembly time.

Plugs

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-8960	U89809-8000	9	2.79	2.65	2.52	2.40
617-8962	U89815-8000	15	3.59	3.41	3.24	3.08
617-8964	U89825-8000	25	3.88	3.69	3.51	3.34
617-8966	U89837-8000	37	5.26	5.00	4.75	4.52

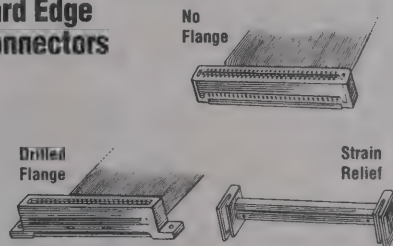
Sockets

617-8968	U89909-8000	9	2.56	2.43	2.31	2.20
617-8970	U89915-8000	15	3.19	3.03	2.88	2.74
617-8972	U89925-8000	25	3.48	3.31	3.15	2.99
617-8974	U89937-8000	37	4.71	4.48	4.26	4.05

Strain Reliefs

617-3409	3448-8D09A	9	.25	.22	.20	.19
617-3415	3448-8D15A	15	.33	.30	.27	.25
617-3425	3448-8D25A	25	.25	.22	.20	.19
617-3437	3448-8D37A	37	.39	.35	.32	.30

Card Edge Connectors



Rugged overall construction and bifurcated beryllium copper contacts, plated with 30 µ" gold, in the card wiping area, provide high reliability in performance and assembly. All sizes are available with slotted flange, hole flange or without flange.

With Drilled Flange

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4105	3462-0000	26	5.47	5.15	4.76	4.16
617-4106	3463-0000	34	6.37	5.73	5.29	4.84
617-4107	3464-0000	40	7.80	6.95	6.38	5.93
617-4108	3415-0000	50	8.03	7.16	6.56	6.10

Without Mounting Flange

617-4113	3461-0001	20	4.62	4.16	3.74	3.51
617-4114	3462-0001	26	5.47	4.93	4.43	4.16
617-4115	3463-0001	34	6.37	5.74	5.16	4.84
617-4116	3464-0001	40	7.80	6.95	6.38	5.93
617-4117	3415-0001	50	8.03	7.16	6.56	6.10

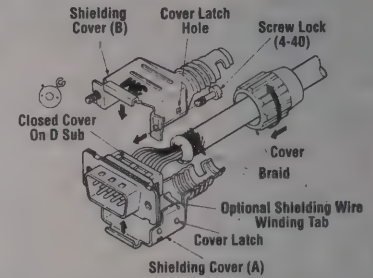
Without Flange/With Strain Relief

617-4131	3461-0003	20	5.57	4.97	4.56	4.23
617-4132	3462-0003	26	6.49	5.79	5.30	4.93
617-4133	3463-0003	34	7.34	6.55	6.00	5.58
617-4134	3464-0003	40	8.82	7.96	7.21	6.70
617-4135	3415-0003	50	9.01	8.11	7.30	6.84

Strain Relief and Polarizing Key

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-499
617-4174	3448-55	Type 3462 Card Edge Conn.	.84	.77	.72	.70
617-4175	3448-56	Type 3463 Card Edge Conn.	.84	.77	.72	.70
617-4176	3448-57	Type 3464 Card Edge Conn.	.84	.77	.72	.70
617-4177	3448-58	Type 3415 Card Edge Conn.	.84	.77	.72	.70
617-4178	3448-31	Type 3666 Card Edge Conn.	.84	.77	.72	.70

"D" Subminiature Junction Shells for EMI/ESD Protection



Designed for use with 3659 and 3759 Round-Jacketed Flat Cable.

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-499
617-4208	3357-9209	9	2.77	2.49	2.24	2.10
617-4209	3357-9215	15	3.33	3.00	2.70	2.53
617-4210	3357-9225	25	3.68	3.31	2.98	2.68
617-4211	3357-9237	37	5.14	4.63	4.16	3.90

"D" Ribbon Connectors

All Plastic

These connectors are available in ball mount, screw mount, and combination mount. Those with type number suffix 1000 are combination; with 1001 ball mount; with 1002 screw mount.



Metal Faced

These connectors are available in ball mount, screw mount, and combination mount. Those with type number suffix 2000 are combination; with 2001 ball mount; with 2002 screw mount.



Plug Version

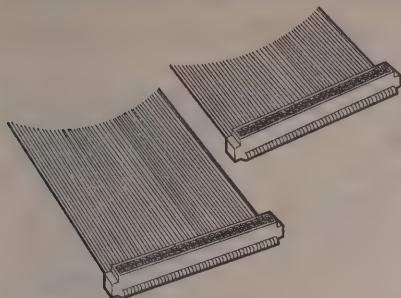
Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH			
				1-24	25-49	50-99	100-499
617-4141	3548-1000	24	All Plastic	5.22	4.65	4.27	3.97
617-4142	3548-1001	24	All Plastic	5.45	4.86	4.45	4.14
617-4143	3548-1002	24	All Plastic	5.55	4.95	4.54	4.22
617-4144	3366-1000	36	All Plastic	6.43	5.73	5.25	4.88
617-4145	3366-1001	36	All Plastic	6.74	6.07	5.46	5.12
617-4146	3366-1002	36	All Plastic	6.89	6.14	5.63	5.23
617-4147	3564-1000	50	All Plastic	7.65	6.89	6.20	5.81
617-4148	3564-1001	50	All Plastic	8.26	7.44	6.69	6.27
617-4149	3564-1002	50	All Plastic	8.47	7.63	6.86	6.43
617-1500	3564-2000	50	Metal-Faced	8.72	7.85	7.24	6.62
617-1505	3564-2001	50	Metal-Faced	9.44	8.50	7.65	7.17

Socket Version

617-1510	3573-2000	14	Metal-Faced	5.49	4.90	4.49	4.17
617-1512	3573-2002	14	Metal-Faced	5.80	5.17	4.74	4.41
617-4153	3549-1000	24	All Plastic	5.22	4.55	4.29	3.97
617-4154	3549-1001	24	All Plastic	5.45	4.86	4.45	4.14
617-4155	3549-1002	24	All Plastic	5.55	4.95	4.54	4.22
617-1514	3549-1002	24	Metal-Faced	6.47	5.77	5.29	4.91
617-1516	3549-2002	24	Metal-Faced	6.99	6.23	5.71	5.31
617-4156	3367-1000	36	All Plastic	6.43	5.73	5.25	4.88
617-4157	3367-1001	36	All Plastic	6.74	6.06	5.59	5.12
617-4158	3367-1002	36	All Plastic	6.89	6.14	5.63	5.23
617-1518	3367-2000	36	Metal-Faced	7.26	6.47	5.93	5.51
617-1520	3367-2002	36	Metal-Faced	7.80	6.95	6.38	5.93
617-4159	3565-1000	50	All Plastic	7.65	6.89	6.20	5.81
617-4160	3565-1001	50	All Plastic	8.26	7.36	6.75	6.27
617-4161	3565-1002	50	All Plastic	8.47	7.63	6.90	6.43
617-1522	3565-2000	50	Metal-Faced	8.72	7.77	7.12	6.62
617-1524	3565-2002	50	Metal-Faced	9.44	8.42	7.72	7.17

Strain Reliefs

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-499
617-4180	3448-60	Strain Relief/ 14 Count Ribbon Conn.	.34	.32	.30	.29
617-4181	3448-61	Strain Relief/ 24 Count Ribbon Conn.	.36	.34	.31	.30
617-4182	3448-62	Strain Relief/ 36 Count Ribbon Conn.	.38	.35	.33	.32
617-4183	3448-63	Strain Relief/ 50 Count Ribbon Conn.	.40	.37	.34	.33



2 mm Wiremount Sockets and Accessories

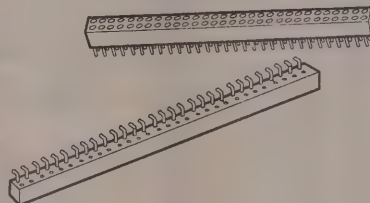
- For Use with 1MM Pitch Cable
- Industry Standard Compatible
- Mates with 2mm x 2mm Grid Pin Strips
- Low Profile
- Preassembled Covers
- Flammability Rating: UL94V-0
- Color: Gray
- Contact Material: Beryllium Copper

Stock No.	Mfr.'s Type	No. of Contacts	Description	Contact Plating	EACH		
					1-24	25-49	50-99
617-3850	152244-0100-GB	44	Socket	30µ" Gold	4.47	3.99	3.66
617-3852	152250-0100-GB	50	Socket	30µ" Gold	4.68	4.17	3.83
617-3854	3448-152244	44	Strain Relief	—	.33	.30	.27
617-3856	3448-152250	50	Strain Relief	—	.33	.30	.27
617-3858	3435-152200	—	Keying Plug	—	.82*	.74*	.68

* Price per set.

2 mm Right Angle Boardmount Sockets

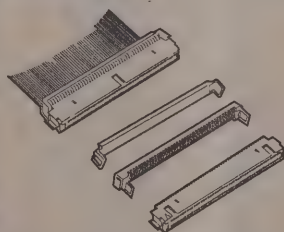
- High Temperature Dielectric
- IR, Vapor and Wave Solder Compatible
- Minimizes PC Board Space
- Mates With 2.5" Hard Disk Drives For Direct Connect Applications
- Mates with Pin Headers for Board Stacking Applications
- End-to-End Stackable
- Color: Natural
- Contact Material: Beryllium Copper



Stock No.	Mfr.'s Type	No. of Contacts	Description	Contact Plating	EACH		
					1-24	25-49	50-99
617-3878	150210-5002-TB	10	Right angle socket	30µ" Gold	1.87	1.67	1.53
617-3880	150220-5002-TB	20	Right angle socket	30µ" Gold	3.12	2.78	2.55
617-3882	150226-5002-TB	26	Right angle socket	30µ" Gold	4.06	3.62	3.32
617-3884	150230-5002-TB	30	Right angle socket	30µ" Gold	4.68	4.17	3.83
617-3886	150240-5002-TB	40	Right angle socket	30µ" Gold	6.24	5.56	5.10
617-3888	150244-5002-TB	44	Right angle socket	30µ" Gold	6.86	6.12	5.61
617-3890	150250-5002-TB	50	Right angle socket	30µ" Gold	7.80	7.02	6.38
617-3892	150260-5002-TB	60	Right angle socket	30µ" Gold	9.36	8.35	7.65

Mini Flat Cable Connectors

.050" x .100" Mini Wire Mount Sockets with Strain Relief

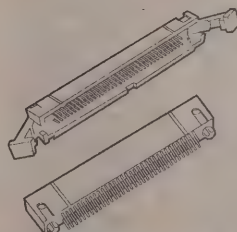


- Rugged Tripolarized Mating System
- Hill-n-Dale Design Provides Integral Strain Relief
- Insert Molded BeCu Contacts for Superior Strength and Reliability
- Flammability Rating: UL 94V-0
- Color: Gray

- Contact Material: Beryllium Copper
- Wire Accommodation: 30 AWG Solid
- UL File No.: E68080
- CSA File No.: LR 40971

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-49	50-99
617-3932	82020-6006	20	5.99	5.34	4.90
617-3934	82026-6006	26	7.03	6.27	5.75
617-3936	82036-6006	36	8.69	7.75	7.11
617-3938	82040-6006	40	9.38	8.37	7.67
617-3940	82050-6006	50	11.05	9.95	9.03
617-3942	82060-6006	60	12.71	11.33	10.39
617-3944	82068-6006	68	14.06	12.54	11.49
617-3946	82080-6006	80	16.10	14.35	13.16
617-3948	82100-6006	100	19.47	17.36	15.91

.050" x .100" Mini, Latch/Eject Headers Straight, Four Wall

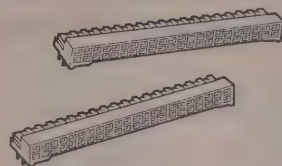


- 50 Mil x 100 Mil Doubles Board Density
- Latch and Eject for Rugged Applications
- Tripolarization to Mini Socket — High Walls to Protect Pins
- Two Row Design Saves Board Space
- Color: Gray

.062" Solder Tail, Screw Mount

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-49	50-99
617-3950	81020-620200	20	5.85	5.21	4.78
617-3952	81026-620200	26	6.66	5.93	5.44
617-3954	81036-620200	36	8.45	7.53	6.90
617-3956	81040-620200	40	9.07	7.90	7.24
617-3958	81050-620200	50	10.46	9.33	8.55
617-3960	81060-620200	60	12.27	10.94	10.03
617-3962	81068-620200	68	13.56	12.09	11.09
617-3964	81080-620200	80	15.50	13.82	12.67
617-3966	81100-620200	100	18.70	16.67	15.28

2 mm Vertical Boardmount Sockets

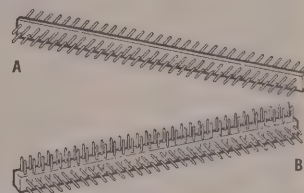


- High Temperature Dielectric
- IR, Vapor and Wave Solder Compatible
- Industry Standard Compatible
- Minimizes PC Board Stacking Heights
- End Stackable and Side Stackable
- Color: Natural
- Contact Material: Beryllium Copper

Stock No.	Mfr.'s Type	No. of Contacts	Description	Contact Plating	EACH		
					1-24	25-49	50-99
617-3860	150210-6002-TB	10	Vertical Socket	30µ" Gold	1.29	1.15	1.06
617-3862	150212-6002-TB	12	Vertical Socket	30µ" Gold	1.54	1.37	1.26
617-3864	150220-6002-TB	20	Vertical Socket	30µ" Gold	2.58	2.30	2.11
617-3866	150226-6002-TB	26	Vertical Socket	30µ" Gold	3.35	2.99	2.74
617-3868	150230-6002-TB	30	Vertical Socket	30µ" Gold	3.87	3.45	3.16
617-3870	150240-6002-TB	40	Vertical Socket	30µ" Gold	5.16	4.60	4.22
617-3872	150244-6002-TB	44	Vertical Socket	30µ" Gold	5.68	5.06	4.64
617-3874	150250-6002-TB	50	Vertical Socket	30µ" Gold	6.45	5.75	5.27
617-3876	150260-6002-TB	60	Vertical Socket	30µ" Gold	7.74	6.90	6.33

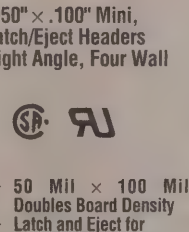
2 mm Pin Strip Headers

- Industry Standard Compatible
- High Temperature Dielectric
- IR, Vapor, and Wave Solder Compatible
- Maximizes Use of PC Board Space
- Mates With Boardmount and Wiremount Products
- End-to-End and Side-to-Side Stackable
- Contact Plating: 30µ" Gold



Stock No.	Mfr.'s Type	No. of Contacts	Description	Fig.	Pin Length	Tail Length	EACH		
							1-24	25-49	50-99
617-3894	151210-8322-TB	10	Dual row straight	A	.130"	.118"	1.04	.93	.85
617-3896	151210-7422-TB	10	Dual row right angle	B	.152"	.118"	1.17	1.04	.95
617-3898	151212-8322-TB	12	Dual row straight	A	.130"	.118"	1.25	1.11	1.02
617-3900	151212-7422-TB	12	Dual row right angle	B	.152"	.118"	1.41	1.26	1.16
617-3902	151220-8322-TB	20	Dual row straight	A	.130"	.118"	2.08	1.85	1.70
617-3904	151220-7422-TB	20	Dual row right angle	B	.152"	.118"	2.35	2.10	1.92
617-3906	151226-8322-TB	26	Dual row straight	A	.130"	.118"	2.70	2.41	2.21
617-3908	151226-7422-TB	26	Dual row right angle	B	.152"	.118"	3.06	2.73	2.50
617-3910	151230-8322-TB	30	Dual row straight	A	.130"	.118"	3.12	2.78	2.55
617-3912	151230-7422-TB	30	Dual row right angle	B	.152"	.118"	3.52	3.13	2.87
617-3914	151240-8322-TB	40	Dual row straight	A	.130"	.118"	4.16	3.71	3.40
617-3916	151240-7422-TB	40	Dual row right angle	B	.152"	.118"	4.70	4.19	3.84
617-3920	151244-8322-TB	44	Dual row straight	A	.130"	.118"	4.58	4.08	3.74
617-3922	151244-7422-TB	44	Dual row right angle	B	.152"	.118"	5.16	4.60	4.22
617-3924	151250-8322-TB	50	Dual row straight	A	.130"	.118"	5.20	4.64	4.25
617-3926	151250-7422-TB	50	Dual row right angle	B	.152"	.118"	5.87	5.23	4.80
617-3928	151260-8322-TB	60	Dual row straight	A	.130"	.118"	4.99	4.45	4.08
617-3930	151260-7422-TB	60	Dual row right angle	B	.152"	.118"	5.87	5.23	4.80

.050" x .100" Mini, Latch/Eject Headers Right Angle, Four Wall



- 50 Mil x 100 Mil Doubles Board Density
- Latch and Eject for Rugged Applications
- Tripolarization to Mini Socket — High Walls to Protect Pins
- Two Row Design Saves Board Space
- Color: Gray

.062" Solder Tail

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-49	50-99
617-3968	81020-520203	20	6.32	5.64	5.17
617-3970	81026-520203	26	7.32	6.53	5.98
617-3972	81036-520203	36	8.94	7.97	7.31
617-3974	81040-520203	40	9.55	8.51	7.80
617-3976	81050-520203	50	11.15	9.94	9.11
617-3978	81060-520203	60	12.75	11.37	10.42
617-3980	81068-520203	68	14.04	12.52	11.47
617-3982	81080-520203	80	15.97	14.24	13.06
617-3984	81100-520203	100	19.20	17.12	15.69

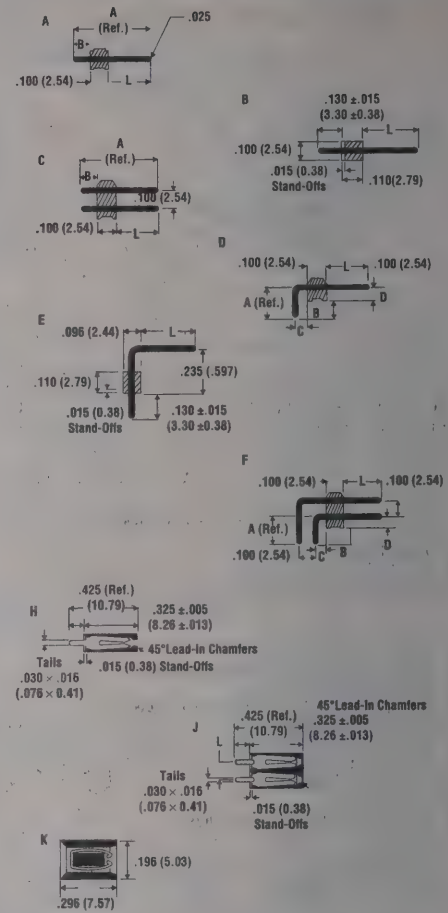
PC Board Connectors, Unprotected Headers, Socket Strips and Shunts

Finish Options

- ▶ 100-Microinch 90/10 Solder Plate on Posts and Tails
- ▶ 10-Microinch Selective Gold Over 50-Microinch Nickel on Contact Post; 100-Microinch 90/10 Solder Plate on Tail Portion

Description	Fig.	Dimensions					Solder Plated			Gold Plated		
		L In.	A (ref)	B In.	C In.	D In.	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
Straight Single-Row Male	A	.235	.445	.110	—	—	617-5001	929834-01-36	.81	617-5002	929647-01-36	1.32
Straight Single-Row Male	A	.235	.480	.145	—	—	617-5003	929834-09-36	1.03	617-5004	929647-09-36	1.64
Straight Single-Row Male	A	.235	.545	.210	—	—	617-5007	929834-02-36	1.29	617-5008	929647-02-36	2.14
Straight Single-Row Male	A	.235	.645	.310	—	—	617-5009	929834-08-36	1.29	617-5010	929647-08-36	2.30
Straight Single-Row Male	A	.235	.745	.410	—	—	617-5011	929834-03-36	1.42	617-5012	929647-03-36	2.56
Straight Single-Row Male	A	.235	.845	.510	—	—	617-5013	929834-04-36	1.39	617-5014	929647-04-36	2.79
Straight Single-Row Male	A	.235	.945	.610	—	—	617-5015	929834-05-36	1.39	617-5016	929647-05-36	3.02
Straight Single-Row Male	A	.235	1.045	.710	—	—	617-5017	929834-06-36	1.44	617-5018	929647-06-36	3.18
Straight Single-Row Male	A	.235	1.245	.910	—	—	617-5019	929834-07-36	1.58	617-5020	929647-07-36	3.68
Straight Single-Row Male	A	.318	.528	.110	—	—	617-5021	929700-01-36	.77	617-5022	929705-01-36	1.50
Straight Single-Row Male	A	.318	.828	.410	—	—	617-5025	929700-03-36	1.42	617-5026	929705-03-36	2.91
Straight Single-Row Male	A	.318	1.128	.710	—	—	617-5027	929700-06-36	1.56	617-5028	929705-06-36	3.81
Straight Polarized Male	B	.295	.300	—	—	—	617-5155	929400-01-36	.98	617-5157	929450-01-36	1.85
Straight Dual-Row Male*	C	.235	.445	.110	—	—	617-5030	929836-01-36	1.90	617-5031	929665-01-36	2.85
Straight Dual-Row Male*	C	.235	.480	.145	—	—	617-5032	929836-09-36	2.23	617-5033	929665-09-36	3.88
Straight Dual-Row Male*	C	.235	.545	.210	—	—	617-5036	929836-02-36	2.75	617-5037	929665-02-36	4.28
Straight Dual-Row Male*	C	.235	.645	.310	—	—	617-5038	929836-08-36	2.79	617-5039	929665-08-36	4.62
Straight Dual-Row Male*	C	.235	.745	.410	—	—	617-5040	929836-03-36	2.78	617-5041	929665-03-36	5.15
Straight Dual-Row Male*	C	.235	.845	.510	—	—	617-5042	929836-04-36	2.83	617-5043	929665-04-36	5.57
Straight Dual-Row Male*	C	.235	.945	.610	—	—	617-5044	929836-05-36	2.98	617-5045	929665-05-36	6.03
Straight Dual-Row Male*	C	.235	1.045	.710	—	—	—	—	—	617-5047	929665-06-36	6.46
Straight Dual-Row Male*	C	.235	1.245	.910	—	—	617-5048	929836-07-36	3.31	617-5049	929665-07-36	6.53
Straight Dual-Row Male*	C	.318	.828	.410	—	—	617-5050	929710-01-36	2.84	617-5051	929715-01-36	3.58
Straight Dual-Row Male*	C	.318	.828	.410	—	—	—	—	—	617-5055	929715-03-36	6.53
Straight Dual-Row Male*	C	.318	1.128	.710	—	—	—	—	—	617-5057	929715-06-36	7.55
Right-Angle Single-Row Male*	D	.235	.180	.105	.070	.075	617-5116	929730-01-36	.88	617-5117	929735-01-36	2.36
Right-Angle Single-Row Male*	D	.235	.245	.170	.070	.075	617-5125	929838-01-36	2.04	617-5126	929667-01-36	3.77
Right-Angle Single-Row Male*	D	.235	.880	.820	.170	.060	617-5127	929838-04-36	2.39	617-5128	929667-04-36	5.90
Right-Angle Single-Row Male*	D	.318	.180	.105	.070	.075	617-5129	929838-05-36	3.01	617-5130	929667-05-36	7.14
Right-Angle Polarized Male	E	.295	3.600	—	—	—	617-5131	929838-02-36	3.58	617-5132	929667-02-36	7.63
Right-Angle Double-Row Male*	F	.235	.180	.105	.070	.075	617-5133	929838-03-36	4.13	617-5134	929667-03-36	8.57
Right-Angle Double-Row Male*	F	.235	.215	.140	.070	.075	617-5135	929740-01-36	4.70	617-5136	929745-01-36	4.40
Right-Angle Double-Row Male*	F	.235	.480	.405	.070	.075	617-5137	929740-02-36	5.50	617-5142	929745-02-36	7.96
Right-Angle Double-Row Male*	F	.318	.180	.105	.070	.075	617-5141	929740-01-36	1.16	617-5162	929850-01-36	5.64
Right-Angle Double-Row Male*	F	.318	.480	.405	.070	.075	617-5161	929740-02-36	2.05	617-5165	929852-01-36-10	3.64
Straight Single-Row Female	H	.125	—	—	—	—	617-5167	929950-00	.11	617-5168	929955-06	.16
Straight Dual-Row Female*	J	.125	—	—	—	—	—	—	—	617-5169	929957-08	.20
Shunts Shorting Jumpers	K	—	—	—	—	—	—	—	—	—	—	—
Shunts Shorting Jumpers	K	—	—	—	—	—	—	—	—	—	—	—

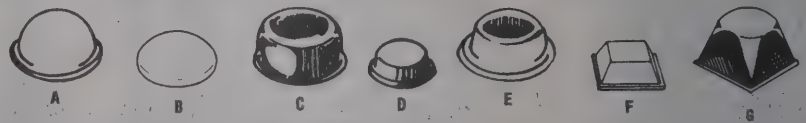
*(.1" x .1" MATRIX). ‡929955-06 = 10 pin. gold. 929957-08 = 30 pin. gold.



Bumpers: Protective Bumpers

— NEW —

3M offers an array of self sticking protective bumpers for all your requirements from door stops to calculator feet. Self sticking polyurethane bumpers serve as high performance cushions, feet, spacers and protectors.



Dimensions		Form	Fig.	Small Pack				Bulk Pack			
Height In.	Width In.			Stock No.	Mfr.'s Type	Pkg. Qty.	PER PACK	Stock No.	Mfr.'s Type	Pkg. Qty.	PER PACK
200	.440	8 x 7 Matrix	A	617-6600	SJ-5003SP (Black)	100	6.39	617-6601	SJ-5003 (Black)	3000	96.09
200	.440	8 x 7 Matrix	A	617-6602	SJ-5003SP (Brown)	100	6.39	617-6603	SJ-5003 (Brown)	3000	96.09
200	.440	8 x 7 Matrix	A	617-6604	SJ-5003SP (Gray)	100	6.39	617-6605	SJ-5003 (Gray)	3000	96.09
200	.440	8 x 7 Matrix	A	617-6606	SJ-5003SP (White)	100	6.39	617-6607	SJ-5003 (White)	3000	96.09
310	.630	5 x 8 Matrix	A	617-6608	SJ-5027SP (Black)	100	16.07	617-6609	SJ-5027 (Black)	1000	86.80
310	.630	5 x 8 Matrix	A	617-6610	SJ-5027SP (Brown)	100	16.07	617-6611	SJ-5027 (Brown)	1000	86.80
310	.630	5 x 8 Matrix	A	617-6612	SJ-5027SP (Gray)	100	16.07	617-6613	SJ-5027 (Gray)	1000	86.80
310	.630	5 x 8 Matrix	A	617-6614	SJ-5027SP (White)	100	16.07	617-6615	SJ-5027 (White)	1000	86.80
380	.750	4 x 10 Matrix	A	617-6616	SJ-5017SP (Black)	100	15.24	617-6617	SJ-5017 (Black)	1000	111.18
380	.750	4 x 10 Matrix	A	617-6618	SJ-5017SP (Brown)	100	15.24	617-6619	SJ-5017 (Brown)	1000	111.18
380	.750	4 x 10 Matrix	A	617-6620	SJ-5017SP (Gray)	100	15.24	617-6621	SJ-5017 (Gray)	1000	111.18
380	.750	4 x 10 Matrix	A	617-6622	SJ-5017SP (White)	100	15.24	617-6623	SJ-5017 (White)	1000	111.18
085	.312	8 x 18 Matrix	B	617-6624	SJ-5302SP (Clear)	100	7.73	617-6625	SJ-5302 (Clear)	3000	113.62
400	.880	3 x 8 Matrix	C	617-6626	SJ-5009SP (Black)	100	18.44	617-6627	SJ-5009 (Black)	1000	144.95
400	.880	3 x 8 Matrix	C	617-6628	SJ-5009SP (Brown)	100	18.44	617-6629	SJ-5009 (Brown)	1000	144.95
400	.880	3 x 8 Matrix	C	617-6630	SJ-5009SP (Gray)	100	18.44	617-6631	SJ-5009 (Gray)	1000	144.95
400	.880	3 x 8 Matrix	C	617-6632	SJ-5009SP (White)	100	18.44	617-6633	SJ-5009 (White)	1000	144.95
140	.500	8 x 7 Matrix	D	617-6634	SJ-5012SP (Black)	100	6.39	617-6635	SJ-5012 (Black)	3000	103.53
140	.500	8 x 7 Matrix	D	617-6636	SJ-5012SP (Brown)	100	6.39	617-6637	SJ-5012 (Brown)	3000	103.53
140	.500	8 x 7 Matrix	D	617-6638	SJ-5012SP (Gray)	100	6.39	617-6639	SJ-5012 (Gray)	3000	103.53
140	.500	8 x 7 Matrix	D	617-6640	SJ-5012SP (White)	100	6.39	617-6641	SJ-5012 (White)	3000	103.53
140	.500	8 x 7 Matrix	D	617-6642	SJ-5312SP (Clear)	100	7.93	617-6643	SJ-5312 (Clear)	3000	119.67
660	1.880	—	E	617-6644	SJ-5532SP (Black)	100	124.00	—	—	—	—
660	1.880	—	E	617-6646	SJ-5532SP (Brown)	100	124.00	—	—	—	—
660	1.880	—	E	617-6648	SJ-5532SP (Gray)	100	124.00	—	—	—	—
660	1.880	—	E	617-6650	SJ-5532SP (White)	100	124.00	—	—	—	—
100	.400	9 x 12 Matrix	F	617-6652	SJ-5007SP (Black)	100	6.08	617-6653	SJ-5007 (Black)	3000	90.10
120	.500	8 x 10 Matrix	F	617-6654	SJ-5008SP (Black)	100	6.08	617-6655	SJ-5008 (Black)	3000	92.57
120	.500	8 x 10 Matrix	F	617-6656	SJ-5008SP (Brown)	100	6.08	617-6657	SJ-5008 (Brown)	3000	92.57
120	.500	8 x 10 Matrix	F	617-6658	SJ-5008SP (Gray)	100	6.08	617-6659	SJ-5008 (Gray)	3000	92.57
120	.500	8 x 10 Matrix	F	617-6660	SJ-5008SP (White)	100	6.08	617-6661	SJ-5008 (White)	3000	92.57
230	.500	8 x 10 Matrix	F	617-6662	SJ-5018SP (Black)	100	10.09	617-6663	SJ-5018 (Black)	3000	158.29
230	.500	8 x 10 Matrix	F	617-6664	SJ-5018SP (Brown)	100	10.09	617-6665	SJ-5018 (Brown)	3000	158.29
230	.500	8 x 10 Matrix	F	617-6666	SJ-5018SP (Gray)	100	10.09	617-6667	SJ-5018 (Gray)	3000	158.29
230	.500	8 x 10 Matrix	F	617-6668	SJ-5018SP (White)	100	10.09	617-6669	SJ-5018 (White)	3000	158.29
300	.810	4 x 9 Matrix	F	617-6670	SJ-5023SP (Black)	100	15.24	617-6671	SJ-5023 (Black)	1000	82.70
240	1.250	—	F	617-6672	SJ-5705SP (Black)	100	63.90	617-6673	SJ-5705 (Black)	1000	306.13
520	.810	4 x 1 Row	G	617-6674	SJ-5514SP (Black)	100	33.99	617-6675	SJ-5514 (Black)	1000	198.07
520	.810	4 x 1 Row	G	617-6676	SJ-5514SP (Brown)	100	33.99	617-6677	SJ-5514 (Brown)	1000	198.07
520	.810	4 x 1 Row	G	617-6678	SJ-5514SP (Gray)	100	33.99	617-6679	SJ-5514 (Gray)	1000	198.07
520	.810	4 x 1 Row	G	617-6680	SJ-5514SP (White)	100	33.99	617-6681	SJ-5514 (White)	1000	198.07

Scotchlok™ Insulated Terminals

Feature funnel entry construction to prevent strand hang up and crimp ridge for proper tool location. All terminal barrels feature "U" grooves for maximum conductor retention.



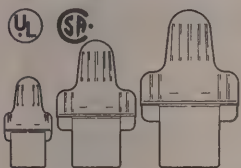
Stock No.	Mfr.'s Type	Fig.	Wire Size	Stud Size	Description	PER PKG.
617-2100	MV18-2R/SK	A	22-18	2	Vinyl Insulated, Braided Seam — PK/1000	132.98
617-2105	MV18-4R/SX	A	22-18	4	Vinyl Insulated, Braided Seam — PK/100	28.09
617-2110	MV18-6R/SX	A	22-18	6	Vinyl Insulated, Braided Seam — PK/100	28.09
617-2115	MV18-8R/LX	A	22-18	8	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2120	MV18-10R/LX	A	22-18	10	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2135	MV14-4R/SX	A	16-14	4	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2140	MV14-6R/SX	A	16-14	6	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2150	MV14-8R/LX	A	16-14	8	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2160	MV14-10R/LX	A	16-14	10	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2165	MV14-14R/SX	A	16-14	1/4	Vinyl Insulated, Braided Seam — PK/100	34.52
617-2185	MV10-6RX	A	12-10	6	Vinyl Insulated, Braided Seam — PK/50	18.22
617-2190	MV10-8RX	A	12-10	8	Vinyl Insulated, Braided Seam — PK/50	18.38
617-2195	MV10-10RX	A	12-10	10	Vinyl Insulated, Braided Seam — PK/50	18.38
617-2200	MV10-14R/SX	A	12-10	1/4	Vinyl Insulated, Braided Seam — PK/50	21.77
617-2205	MV10-516R/SX	A	12-10	5/16	Vinyl Insulated, Braided Seam — PK/50	21.57
617-2225	MV18-6FBX/SK	B	22-18	6	Vinyl Insulated, Braided Seam — PK/1000	132.98
617-2230	MV18-6FBX	B	22-18	6	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2235	MV18-8FBX	B	22-18	8	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2240	MV18-10FBX	B	22-18	10	Vinyl Insulated, Braided Seam — PK/100	28.09
617-2245	MV14-4FBX/SK	B	16-14	4	Vinyl Insulated, Braided Seam — PK/1000	132.98
617-2250	MV14-6FBX/SK	B	16-14	6	Vinyl Insulated, Braided Seam — PK/1000	132.98
617-2255	MV14-8FBX	B	16-14	8	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2260	MV14-10FBX	B	16-14	10	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2265	MV14-10FBX	B	16-14	10	Vinyl Insulated, Braided Seam — PK/100	28.37
617-2270	MV10-6FBX	B	12-10	6	Vinyl Insulated, Braided Seam — PK/50	18.22

Solder Splice Connectors

A unique one-step system for reliable splicing, the 3M Solder Splice Connector represents a breakthrough in wire splicing and connecting technology. In one easy step, multiple wires can be soldered, insulated and environmentally sealed. This system does not require a crimp tool, just a standard heat gun designed for solder-type connectors. The 3M Solder Splice is ideal for harness fabrication in a variety of industries.

- Aerospace
- Automotive
- Military Appliance
- Marine Off-Road Vehicles

Stock No.	Mfr.'s Type	Color	Wire AWG	EACH	
				1-24	25-49
617-4749	SSC 2000	White	28-20	1.12	1.03
617-4746	SSC 2001	Red	22-14	1.12	1.03
617-4747	SSC 2002	Blue	20-10	1.17	1.08
617-4748	SSC 2003	Yellow	16-8	1.34	1.24



Scotchlok™ 2 Wire Connectors

- Rounded Wings Make Twisting Easier
- Unique Design Incorporates A Long, Flexible Skirt and Rigid Top. Flexible Skirt Covers Over-Strips and Protects Conductors, and Yet Conforms To Take Up Less Room In A Box
- Unique Spring Grip Expands To Accept A Wide Range Of Wire Sizes
- Rated To 600 Volts

3M Scotchlok™ 2 wire connectors make wiring faster and easier.

Stock No.	Mfr.'s Type	Description	Wire Range Capabilities*	Pack Qty.	PER PACK	
					1-9	10-24
617-4743	O/B	Orange/Blue; Nut Style	A	100	7.57	6.89
617-4744	R/Y	Red/Yellow; Wing Style	B	100	12.21	10.64
617-4745	B/G	Blue/Gray; Wing Style	C	50	13.12	11.94

*A — 2#22-12 AWG; B — 2#18-12, 8 AWG, 4#14-12 AWG, 3#12-10 AWG, 6#14 AWG, 5#12 AWG; C — 2#8 AWG, 4#14-10 AWG, 3#12-10 AWG, 6#14-12 AWG, 5#12-10 AWG.

Scotchlok® Electrical Spring Connectors

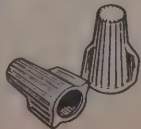
The original color-coded wire connectors, featuring three-part construction with live spring action for outstanding performance. Flexible vinyl insulator won't cut or abrade wire. Steel inner shell allows for spring expansion/contraction to compensate for heat rise. Flared design aids wire insulation.



Stock No.	Mfr.'s Type	Color	Wire AWG	Conn. Per Box	PER BOX/100	
					1-9	10-24
617-4525	Y(20041)	Yellow	22-10	100	9.33	8.13
617-4530	R(20058)	Red	18-10	100	12.21	10.64
617-4535	G(21346)	Gray	14-8	100	25.50	22.22

Hyflex® Electrical Spring Connector

Spins on quickly and tightens down easily.



Stock No.	Mfr.'s Type	Color	Wire AWG	PER BOX/100	
				1-9	10-24
617-4537	212(11792)	Tan	18-10	8.50	7.41

Stock No.	Mfr.'s Type	Fig.	Wire Size	Stud Size	Description	PER PKG.
617-2275	MV10-8FBX	B	12-10	8	Vinyl Insulated, Braided Seam — PK/50	18.38
617-2280	MV10-10FBX	B	12-10	10	Vinyl Insulated, Braided Seam — PK/50	18.38
617-2290	MV18-6FLX	C	22-18	6	Vinyl Insulated, Braided Seam — PK/100	115.88
617-2291	MV18-6FLX	C	22-18	6	Vinyl Insulated, Braided Seam — PK/100	28.89
617-2295	MV18-8FLX	C	22-18	8	Vinyl Insulated, Braided Seam — PK/100	115.88
617-2296	MV18-8FLX	C	22-18	8	Vinyl Insulated, Braided Seam — PK/100	28.89
617-2301	MV18-10FLX	C	22-18	10	Vinyl Insulated, Braided Seam — PK/100	28.89
617-2310	MV14-6FLX	C	16-14	6	Vinyl Insulated, Braided Seam — PK/100	115.88
617-2311	MV14-6FLX	C	16-14	6	Vinyl Insulated, Braided Seam — PK/100	28.89
617-2315	MV14-8FLX	C	16-14	8	Vinyl Insulated, Braided Seam — PK/100	115.88
617-2316	MV14-8FLX	C	16-14	8	Vinyl Insulated, Braided Seam — PK/100	28.89
617-2320	MV14-10FLX	C	16-14	10	Vinyl Insulated, Braided Seam — PK/100	115.88
617-2321	MV14-10FLX	C	16-14	10	Vinyl Insulated, Braided Seam — PK/100	28.89
617-2336	MV10-8FLX	C	12-10	8	Vinyl Insulated, Braided Seam — PK/50	19.63
617-2341	MV10-10FLX	C	12-10	10	Vinyl Insulated, Braided Seam — PK/50	18.38
617-2346	MV10-14FLX	C	12-10	1/4	Vinyl Insulated, Braided Seam — PK/50	22.81
617-2350	MV18BCK	D	22-18	—	Vinyl Insulated, Braided Seam — PK/1000	113.95
617-2351	MV18BCK	D	22-18	—	Vinyl Insulated, Braided Seam — PK/100	29.37
617-2355	MV14BCK	D	16-14	—	Vinyl Insulated, Braided Seam — PK/1000	113.95
617-2356	MV14BCK	D	16-14	—	Vinyl Insulated, Braided Seam — PK/100	29.37
617-2361	MV10BCK	D	12-10	—	Vinyl Insulated, Braided Seam — PK/50	21.36
617-2365	MNU18-187DFIX	E	22-18	—	Nylon, 187° Width, Braided Seam — PK/100	34.87
617-2371	MNU18-250DFIX	E	22-18	—	Nylon, 250° Width, Braided Seam — PK/1000	151.76
617-2375	MNU14-187DFIX	E	16-14	—	Nylon, 187° Width, Braided Seam — PK/100	34.87
617-2381	MNU14-250DFIX	E	16-14	—	Nylon, 250° Width, Braided Seam — PK/1000	151.76
617-2386	MNU10-250DFIX	E	12-10	—	Nylon, 250° Width, Braided Seam — PK/500	102.08
617-2396	MNG18-250DMX	F	22-18	—	Nylon, 250° Width, With Insul. Grip — PK/100	45.43
617-2401	MNG14-187DMX	F	16-14	—	Nylon, 187° Width, With Insul. Grip — PK/100	45.43
617-2406	MNG14-250DMX	F	16-14	—	Nylon, 250° Width, With Insul. Grip — PK/100	45.43
617-2411	MNG10-250DMX	F	12-10	—	Nylon, 250° Width, With Insul. Grip — PK/50	27.32
617-2415	MNG18-187DMIX	G	22-18	—	Nylon, 187° Width, Fully Insul. — PK/100	49.93
617-2420	MNG18-250DMIX	G	22-18	—	Nylon, 250° Width, Fully Insul. — PK/100	49.93
617-2425	MNG14-187DMIX	G	16-14	—	Nylon, 187° Width, Fully Insul. — PK/100	49.93
617-2430	MNG14-250DMIX	G	16-14	—	Nylon, 250° Width, Fully Insul. — PK/100	49.93
617-2436	MNG10-250DMIX	G	12-10	—	Nylon, 250° Width, Fully Insul. — PK/50	30.75
617-2466	MN14CEC/STK	H	22-14	—	Nylon, Steel Insert — PK/1000	75.52
617-2471	MN10CEC/STK	H	18-10	—	Nylon, Steel Insert — PK/1000	100.75

Insulated Terminal Kit

Kit contains an assortment of 3M's most popular terminals for wire sizes 12-22 AWG. Features: 650 assorted terminals (14 sizes), 200 cable ties (100 Ea., 2 sizes) 1 wire marker dispenser, 1 crimp tool, 1 reusable metal box, and reordering card.

617-2300. 923000-I.....EACH 115.02



Crimping Tools



617-2450. TH-440. For 22-10 AWG.....EACH 20.11
617-2455. TH-450. For 26-6 AWG.....EACH 35.04
617-2460. TR-490.....EACH 164.69

Female T-Tap Disconnect

- Nylon Insulated
- Self Stripping

T-Tap Disconnects assure a fully insulated connection when used with a fully insulated 250° male disconnect terminal.



Stock No.	Mfr.'s Type	Wire Size	Mates with Male Tab (With Thickness)	Dimensions			PER PKG./50	
				L	H	W	1-9	10-24
617-2437	951	22-18	.250 x .032	.73	.44	.150	10.82	8.90
617-2440	952	18-14	.250 x .032	.73	.44	.150	10.82	8.90
617-2445	953	12	.250 x .032	.73	.44	.150	12.83	10.56



IDC Electrical Connectors

No strip, no twist — just squeeze. These IDC connectors have productivity built right in, reducing wire waste on the job. No special tools are needed. Make quick work of tap, inline and pigtail connections. Connectors are constructed of flame retardant materials. (For use on copper conductors only).

Stock No.	Mfr.'s Type	Color	Wire AWG	Conn. Per Box	PER PACK	
					1-9	10-24
617-4500	560(00839)	Blue	18-14	100	11.34	9.89
617-4505	905(06128)*	Red	22-18	50	6.24	5.68
617-4510	558(14861)	Red	18-14	100	17.04	14.84
617-4515	557(21494)	Red	22-16	100	16.31	14.22

*Tap.

Scotchkote® Electrical Coating

Provides fast-drying extra coating protection for a tough outer seal on electrical insulation subjected to abnormal weathering or moisture conditions. Non-aerosol. Resistant to oil, moisture and aliphatic hydrocarbons. 16 oz. container with brush-top applicator.

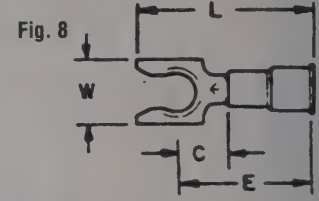
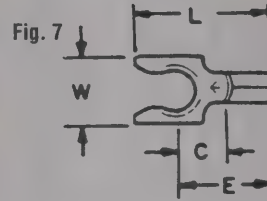
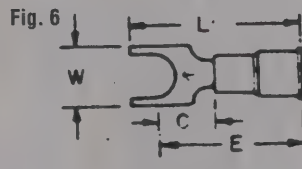
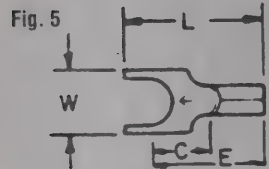
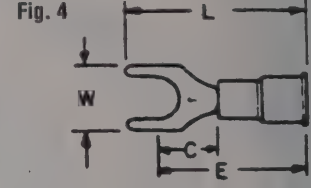
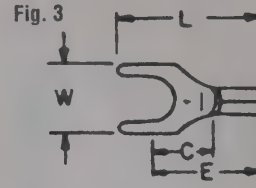
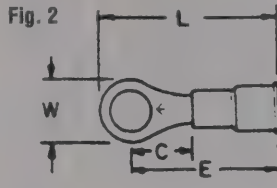
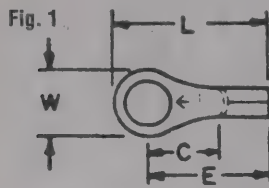
617-4740. SCOTCHKOTE (14853).....EACH 15.43



Highland™ Terminal and Splices

Highland™ terminals and splices provide a variety of design features assuring consistently effective, reliable performance, and easy installation. Highland™ terminals

and splices are packaged in economical quantities of 25 and 50 and feature convenient zipper type reclosure bags allowing for multiple closings and reopenings.



Non-Insulated Ring Tongue Terminals — Fig. 1

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1400	R18-4C	22-18	4	.25	.22	.60	.47	100	5.65	5.09
617-1401	R18-6L	22-18	6	.25	.22	.60	.47	50	3.48	3.13
617-1402	R18-8L	22-18	8	.31	.33	.74	.58	50	3.48	3.13
617-1403	R18-10L	22-18	10	.31	.33	.74	.58	50	3.48	3.13
617-1404	R14-4C	16-14	4	.25	.22	.60	.47	100	5.65	5.09
617-1405	R14-6L	16-14	6	.25	.22	.60	.47	50	3.48	3.13
617-1406	R14-8L	16-14	8	.31	.33	.74	.58	50	3.48	3.13
617-1407	R14-10L	16-14	10	.33	.29	.70	.54	50	3.48	3.13
617-1408	R10-6L	12-10	6	.38	.29	.73	.54	50	3.48	3.13
617-1409	R10-8Q	12-10	8	.38	.29	.73	.54	25	2.39	2.15
617-1410	R10-10Q	12-10	10	.38	.29	.73	.54	25	2.39	2.15
617-1411	R10-14Q	12-10	1/4"	.53	.44	.96	.69	25	2.39	2.15

Vinyl Insulated Ring Tongue Terminals — Fig. 2

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1412	RV18-6L	22-18	6	.25	.22	.80	.67	50	6.74	6.07
617-1413	RV18-8L	22-18	8	.31	.33	.93	.78	50	6.74	6.07
617-1414	RV18-10L	22-18	10	.31	.33	.93	.78	50	6.74	6.07
617-1415	RV18-14L	22-18	1/4"	.47	.40	1.08	.85	50	8.70	7.83
617-1416	RV18-516L	22-18	5/16"	.47	.40	1.08	.85	50	8.70	7.83
617-1417	RV14-6L	16-14	6	.25	.22	.80	.67	50	6.74	6.07
617-1418	RV14-8L	16-14	8	.25	.22	.80	.67	50	6.74	6.07
617-1419	RV14-10L	16-14	10	.33	.29	.90	.74	50	6.74	6.07
617-1420	RV14-14L	16-14	1/4"	.47	.40	1.08	.85	50	8.70	7.83
617-1421	RV14-516L	16-14	5/16"	.47	.40	1.08	.85	50	8.70	7.83
617-1422	RV10-8Q	12-10	8	.38	.29	1.03	.84	25	4.67	4.21
617-1423	RV10-10Q	12-10	10	.38	.29	1.03	.84	25	4.67	4.21
617-1424	RV10-14Q	12-10	1/4"	.53	.44	1.26	.99	25	5.65	5.09
617-1425	RV10-38Q	12-10	3/8"	.54	.44	1.26	.99	25	5.65	5.09
617-1426	RV10-516Q	12-10	15/16"	.53	.44	1.26	.99	25	5.65	5.09

Non-Insulated Fork Terminals — Fig. 3

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1427	F14-6L	16-14	6	.34	.29	.70	.54	50	3.48	3.13
617-1428	F14-8L	16-14	8	.34	.29	.70	.54	50	3.48	3.13
617-1429	F14-10L	16-14	10	.34	.29	.70	.54	50	3.48	3.13
617-1430	F10-8Q	12-10	8	.38	.29	.73	.54	25	2.39	2.15
617-1431	F10-10Q	12-10	10	.38	.29	.73	.54	25	2.39	2.15

Vinyl Insulated Fork Terminals — Fig. 4

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1432	FV14-6L	16-14	6	.34	.29	.90	.74	50	6.74	6.07
617-1433	FV14-8L	16-14	8	.34	.29	.90	.74	50	6.74	6.07
617-1434	FV14-10L	16-14	10	.34	.29	.90	.74	50	6.74	6.07
617-1435	FV10-6Q	12-10	6	.38	.29	1.03	.84	25	4.67	4.21
617-1436	FV10-8Q	12-10	8	.38	.29	1.03	.84	25	4.67	4.21
617-1437	FV10-10Q	12-10	10	.38	.29	1.03	.84	25	4.67	4.21

Non-Insulated Block Fork Terminals — Fig. 5

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1438	BF18-6L	22-18	6	.25	.25	.65	.50	50	3.48	3.13
617-1439	BF18-8L	22-18	8	.30	.25	.65	.50	50	3.48	3.13
617-1440	BF18-10C	22-18	10	.30	.25	.65	.50	100	5.65	5.09
617-1441	BF14-6L	16-14	6	.25	.25	.65	.50	50	3.48	3.13
617-1442	BF14-8L	16-14	8	.30	.25	.65	.50	50	3.48	3.13
617-1443	BF14-10L	16-14	10	.30	.25	.65	.50	50	3.48	3.13
617-1444	BF10-6L	12-10	6	.32	.29	.73	.54	50	3.48	3.13
617-1445	BF10-8Q	12-10	8	.32	.29	.73	.54	25	2.39	2.15
617-1446	BF10-10Q	12-10	10	.32	.29	.73	.54	25	2.39	2.15

Vinyl Insulated Block Fork Terminals — Fig. 6

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1447	BFV18-6L	22-18	6	.25	.25	.85	.70	50	6.74	6.07
617-1448	BFV18-8L	22-18	8	.30	.25	.85	.70	50	6.74	6.07
617-1449	BFV18-10C	22-18	10	.30	.25	.85	.70	100	11.96	10.77
617-1450	BFV14-6L	16-14	6	.25	.25	.85	.70	50	6.74	6.07
617-1451	BFV14-8L	16-14	8	.30	.25	.85	.70	50	6.74	6.07
617-1452	BFV14-10L	16-14	10	.30	.25	.85	.70	50	6.74	6.07
617-1453	BFV10-6L	12-10	6	.32	.29	1.03	.84	50	8.26	7.44
617-1454	BFV10-8Q	12-10	8	.32	.29	1.03	.84	25	4.67	4.21
617-1455	BFV10-10Q	12-10	10	.32	.29	1.03	.84	25	4.67	4.21

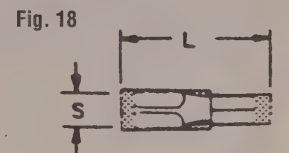
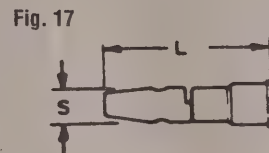
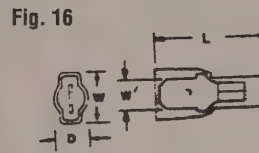
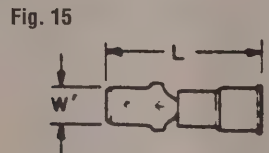
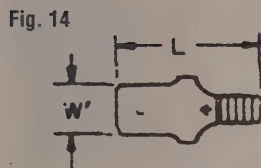
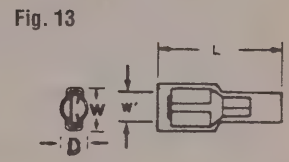
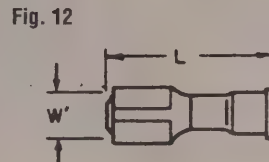
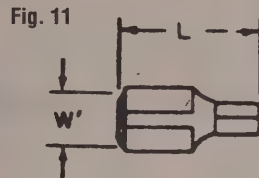
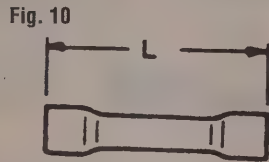
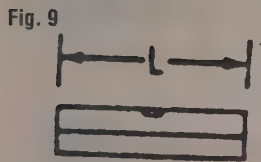
Non-Insulated Locking Fork Terminals — Fig. 7

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1456	LF18-4L	22-18	4	.25	.25	.68	.50	50	3.48	3.13
617-1457	LF18-6L	22-18	6	.25	.25	.68	.50	50	3.48	3.13
617-1458	LF18-8L	22-18	8	.30	.25	.68	.50	50	3.48	3.13
617-1459	LF14-6L	16-14	6	.25	.25	.68	.50	50	3.48	3.13
617-1460	LF14-8L	16-14	8	.30	.25	.68	.50	50	3.48	3.13
617-1461	LF14-10L	16-14	10	.32	.25	.68	.50	50	3.48	3.13
617-1462	LF10-6Q	12-10	6	.28	.28	.73	.50	25	2.39	2.15
617-1463	LF10-8Q	12-10	8	.32	.28	.73	.54	25	2.39	2.15
617-1464	LF10-10Q	12-10	10	.32	.28	.73	.54	25	2.39	2.15
617-1465	LF10-14Q	12-10	1/4"	.43	.44	.94	.54	25	2.39	2.15

Vinyl Insulated Locking Fork Terminals — Fig. 8

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	E	Package of	PER PKG.	
									1-4	5-9
617-1466	LFV18-4L	22-18	4	.25	.25	.88	.70	50	6.74	6.07
617-1467	LFV18-6L	22-18	6	.25	.25	.88	.70	50	6.74	6.07
617-1468	LFV18-8L	22-18	8	.30	.25	.88	.70	50	6.74	6.07
617-1469	LFV14-6L	16-14	6	.25	.25	.88	.70	50	6.74	6.07
617-1470	LFV14-8L	16-14	8	.30	.25	.88	.70	50	6.74	6.07
617-1471	LFV14-10L	16-14	10	.32	.25	.88	.70	50	6.74	6.07
617-1472	LFV10-8Q	12-10	8	.32	.28	1.03	.83	25	4.67	4.21
617-1473	LFV10-10Q	12-10	10	.32	.28	1.03	.83	25	4.67	4.21
617-1474	LFV10-14Q	12-10	1/4"	.43	.44	1.24	.83	25	4.67	4.21

Highland™ Terminal and Splices



Non-Insulated Butt Splices — Fig. 9

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	Package of	PER PKG.	
								1-4	5-9
617-1475	BS18L	22-18	—	—	—	.56	50	3.48	3.13
617-1476	BS14L	16-14	—	—	—	.56	50	3.48	3.13
617-1477	BS10Q	12-10	—	—	—	.56	25	2.39	2.15

Vinyl Insulated Butt Splices — Fig. 10

Stock No.	Mfr.'s Type	AWG	Stud Size	W	C	L	Package of	PER PKG.	
								1-4	5-9
617-1478	BSV18L	22-18	—	—	—	1.02	50	6.74	6.07
617-1479	BSV14L	16-14	—	—	—	1.02	50	6.74	6.07
617-1480	BSV10Q	12-10	—	—	—	1.05	25	4.67	4.21

Non-Insulated Female Disconnects — Fig. 11

Stock No.	Mfr.'s Type	AWG	Mates With Male Tab Width (W) x Thickness	L	W	D	Package of	PER PKG.	
								1-4	5-9
617-1481	FD18-187L	22-18	.187 x .020	.58	—	—	50	3.48	3.13
617-1482	FD18-250L	22-18	.250 x .032	.66	—	—	50	3.48	3.13
617-1483	FD14-187L	16-14	.187 x .020	.58	—	—	50	3.48	3.13
617-1484	FD14-250L	16-14	.250 x .032	.66	—	—	50	3.48	3.13
617-1485	FD10-250Q	12-10	.250 x .032	.66	—	—	25	2.39	2.15

Vinyl Insulated Female Disconnects — Fig. 12

Stock No.	Mfr.'s Type	AWG	Mates With Male Tab Width (W) x Thickness	L	W	D	Package of	PER PKG.	
								1-4	5-9
617-1486	FDV18-187L	22-18	.187 x .020	.78	—	—	50	6.74	6.07
617-1487	FDV18-250L	22-18	.250 x .032	.87	—	—	50	6.74	6.07
617-1488	FDV14-187L	16-14	.187 x .020	.78	—	—	50	6.74	6.07
617-1489	FDV14-250L	16-14	.250 x .032	.87	—	—	50	6.74	6.07
617-1490	FDV10-250Q	12-10	.250 x .032	.96	—	—	25	4.67	4.21

Fully Insulated Nylon Female Disconnects — Fig. 13

Stock No.	Mfr.'s Type	AWG	Mates With Male Tab Width (W) x Thickness	L	W	D	Package of	PER PKG.	
								1-4	5-9
617-1491	FDI18-187L	22-18	.187 x .020	.81	.30	.23	50	9.78	8.80
617-1492	FDI18-250L	22-18	.250 x .032	.91	.37	.23	50	9.78	8.80
617-1493	FDI14-187L	16-14	.187 x .020	.81	.30	.23	50	9.78	8.80
617-1494	FDI14-250L	16-14	.250 x .032	.91	.37	.23	50	9.78	8.80
617-1495	FDI10-250Q	12-10	.250 x .032	.99	.39	.32	25	6.74	6.07

Non-Insulated Male Tabs — Fig. 14

Stock No.	Mfr.'s Type	AWG	Mates With Male Tab Width (W) x Thickness	L	W	D	Package of	PER PKG.	
								1-4	5-9
617-1496	MT18-187L	22-18	.187 x .020	.64	—	—	50	3.48	3.13
617-1497	MT18-250L	22-18	.250 x .032	.73	—	—	50	3.48	3.13
617-1498	MT14-187L	16-14	.187 x .020	.64	—	—	50	3.48	3.13
617-1499	MT14-250L	16-14	.250 x .032	.73	—	—	50	3.48	3.13
617-1600	MT10-250Q	12-10	.250 x .032	.75	—	—	25	2.39	2.15

Vinyl Insulated Male Tabs — Fig. 15

Stock No.	Mfr.'s Type	AWG	Mates With Male Tab Width (W) x Thickness	L	W	D	Package of	PER PKG.	
								1-4	5-9
617-1601	MTV18-187L	22-18	.187 x .020	.85	—	—	50	6.74	6.07
617-1602	MTV18-250L	22-18	.250 x .032	.93	—	—	50	6.74	6.07
617-1603	MTV14-187L	16-14	.187 x .020	.85	—	—	50	6.74	6.07
617-1604	MTV14-250L	16-14	.250 x .032	.93	—	—	50	6.74	6.07
617-1605	MTV10-250Q	12-10	.250 x .032	1.05	—	—	25	4.67	4.21

Fully Insulated Nylon Male Tabs — Fig. 16

Stock No.	Mfr.'s Type	AWG	Mates With Male Tab Width (W) x Thickness	L	W	D	Package of	PER PKG.	
								1-4	5-9
617-1606	MTI18-187L	22-18	.187 x .020	.87	.37	.30	50	9.78	8.80
617-1607	MTI18-250L	22-18	.250 x .032	.98	.44	.30	50	9.78	8.80
617-1608	MTI14-187L	16-14	.187 x .020	.87	.37	.30	50	9.78	8.80
617-1609	MTI14-250L	16-14	.250 x .032	.98	.44	.30	50	9.78	8.80
617-1610	MTI10-250Q	12-10	.250 x .032	1.05	.47	.39	25	6.74	6.07

Vinyl Insulated Snap Plug — Fig. 17

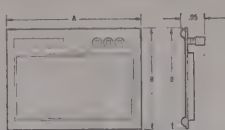
Stock No.	Mfr.'s Type	AWG	Snap Dia.	W	C	L	Package of	PER PKG.	
								1-4	5-9
617-1611	SPV18-156L	22-18	.156	—	—	.85	50	4.67	4.21
617-1612	SPV14-156L	16-14	.156	—	—	.85	50	4.67	4.21

Vinyl Insulated Nylon Snap Receptacle — Fig. 18

Stock No.	Mfr.'s Type	AWG	Snap Dia.	W	C	L	Package of	PER PKG.	
								1-4	5-9
617-1613	SRI18-156L	22-18	.156	—	—	1.02	50	5.65	5.09
617-1614	SRI14-156L	16-14	.156	—	—	1.02	50	5.65	5.09

Solderless BreadBoards — NEW — (300 Series)

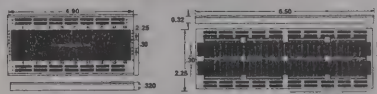
- Simply Plug In Components and Interconnect with Ordinary 22-Gauge Solid Wire; Time Consuming Soldering Is Eliminated and All Components Can Be Used Again and Again
- Alpha-Numeric Identification Along the Strips Allows for Fast and Easy Layout Designs and Project Applications; Every Tie-Point Position on the Strip Can Quickly Be Identified by a Letter and Number Combination
- 3M Jumper Wires Are Included
- DIPs of All Sizes and a Wide Variety of Discrete Components with Lead Diameters of Up to .032" Can Be Used
- The Sturdy Metal Base Plate Serves as a Ground Plane to Help Minimize Noise and Voltage Spikes in Today's High-Speed Circuits
- By Jumping Across the Center Area, Full-Length Distribution Buses Can Be Created Vertically
- Use the 5-Way Binding Posts for Easy Connection to Ground, Power Supply, and other External Equipment



3M Series 300 Breadboards incorporate state-of-the-art techniques in design and fabrication to yield a circuit-building system with unparalleled flexibility and reliability. A voltage distribution system is integrated with the basic component breadboarding matrix, and 5-way binding posts provide the interface for connections from the power supply, signal generators or other external equipment. All models incorporate the 3M laboratory-proven multi-tie-point terminal design for convenient, solderless, plug-in circuit building. Each terminal position contains electrically connected tie-points spaced on a continuous .100" matrix to accept any component with .100" lead spacing as well as components whose leads can be dressed to fit. The surface of the steel base is high gloss baked enamel for protection. Rubber feet prevent sliding during bench work.

Stock No.	Mfr.'s Type	Model	DIP Capacity Up To	Total Tie Points	No. of Binding Posts	Dim. (In.)		EACH		
						A	B	1-4	5-9	10-24
617-3301	922306	306	6-14 Pin	610	2	5.40	4.00	12.95	11.02	10.17
617-3302	922309	309	9-14 Pin	840	3	7.00	4.00	18.95	16.12	14.88
617-3318	922318	318	18-14 Pin	1824	3	7.75	6.25	34.95	29.72	27.43
617-3338	922327	327	27-14 Pin	2712	4	8.00	9.25	44.95	38.22	35.28
617-3303	922336	336	36-14 Pin	3648	4	10.25	9.25	66.95	56.92	52.54
617-3304	922345	345	45-14 Pin	4520	4	12.44	9.75	89.95	76.47	70.58
617-3305	922354	354	54-14 Pin	5424	4	14.69	9.75	99.95	84.97	78.43

Super-Strips and Circuit Strips

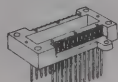


Super-Strips and Circuit Strips give all the advantages of terminal and distribution strips in a single unit. They can be used alone or grouped with any other of ESM's solderless breadboarding strips. Circuit Strip has about three-fourths the capacity of Super-Strip. Super-Strip has a molded-in alpha-numeric grid for faster and easier identification of tie-points. All sizes of DIPs and discrete components with lead diameters up to .032" can be accommodated. Use solid hookup wire for interconnections; #22 AWG is recommended. They can be permanently mounted with the integral non-shorting instant-mounting backing or mounted with screws on panels up to 1/8" thick. Hardware and mounting templates are provided with every strip.

Stock No.	Mfr.'s Type	Tie-Pts.	DIP Cap.	Size (In.) A x B	No. Buses	Terminals	EACH		
							1-4	5-9	10-24
617-3748	923748	840	9 (14s)	2.25 x 6.50	8	Gold-plated	37.80	35.59	33.05
617-3252	923252	840	9 (14s)	2.25 x 6.50	8	Alloy 770	18.33	17.26	16.03
617-3253	923253	610	6 (14s)	2.25 x 4.90	8	Alloy 770	13.53	11.51	10.62
617-3749	923749	610	6 (14s)	2.25 x 4.90	8	Gold-plated	23.74	22.35	20.75

ZIP DIP Sockets

Designed for applications where field replacement or programming of DIPs is required. The patented ZIP (zero insertion pressure) feature uses screwdriver rotation of a cam for security against vibration or accidental unloading. Leads are on .100" centers.



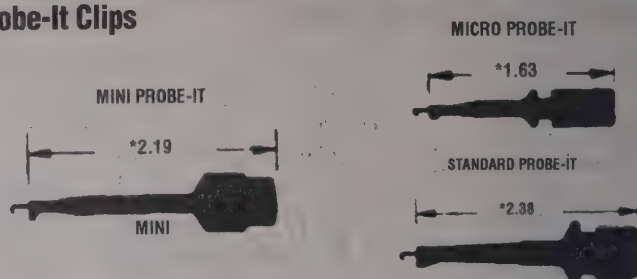
Wire-Wrap

Stock No.	Mfr.'s Type	No. of Leads	Plating	EACH		
				1-4	5-9	10-24
617-6300	2-14-3592-00-06-02	14	Gold	11.22	10.29	9.50
617-6310	2-14-3592-00-06-05	14	Tin	9.83	9.01	8.32
617-6320	2-16-3593-00-06-02	16	Gold	12.21	11.19	10.33
617-6330	2-16-3593-00-06-05	16	Tin	10.59	9.71	8.96
617-6340	2-18-3594-00-06-02	18	Gold	13.19	12.09	11.16
617-6350	2-18-3594-00-06-05	18	Tin	11.37	10.43	9.62
617-6360	2-20-3595-00-06-02	20	Gold	14.17	12.99	11.99
617-6370	2-20-3595-00-06-05	20	Tin	12.15	11.14	10.28
617-6380	2-24-3597-00-06-02	24	Gold	16.14	14.79	13.66
617-6390	2-24-3597-00-06-05	24	Tin	13.71	12.57	11.60
617-6400	2-28-3598-00-06-02	28	Gold	18.09	16.58	15.30
617-6410	2-28-3598-00-06-05	28	Tin	15.27	13.99	12.92
617-6420	2-40-3599-00-06-02	40	Gold	23.98	21.98	20.29
617-6430	2-40-3599-00-06-05	40	Tin	19.94	18.28	16.87
617-6440	2-64-5119-00-06-02	64	Gold	35.74	32.76	30.24
617-6450	2-64-5119-00-06-05	64	Tin	29.29	26.85	24.78

Solder Tail

Stock No.	Mfr.'s Type	No. of Leads	Plating	EACH		
				1-4	5-9	10-24
617-6305	2-14-3592-06-06-02	14	Gold	10.16	9.32	8.60
617-6315	2-14-3592-06-06-05	14	Tin	9.13	8.37	7.73
617-6325	2-16-3593-06-06-02	16	Gold	10.98	10.07	9.29
617-6335	2-16-3593-06-06-05	16	Tin	9.81	9.00	8.31
617-6345	2-18-3594-06-06-02	18	Gold	11.82	10.83	10.00
617-6355	2-18-3594-06-06-05	18	Tin	10.48	9.61	8.87
617-6365	2-20-3595-06-06-02	20	Gold	12.63	11.58	10.69
617-6375	2-20-3595-06-06-05	20	Tin	11.15	10.22	9.44
617-6385	2-24-3597-06-06-02	24	Gold	14.30	13.11	12.10
617-6395	2-24-3597-06-06-05	24	Tin	12.52	11.48	10.60
617-6405	2-28-3598-06-06-02	28	Gold	15.95	14.62	13.50
617-6415	2-28-3598-06-06-05	28	Tin	13.88	12.72	11.74
617-6425	2-40-3599-06-06-02	40	Gold	20.92	19.18	17.70
617-6435	2-40-3599-06-06-05	40	Tin	17.97	16.49	15.21
617-6445	2-64-5119-06-06-02	64	Gold	30.86	28.29	26.11
617-6455	2-64-5119-06-06-05	64	Tin	26.13	23.96	22.11

Probe-It Clips



Probe-It's provide a fast, easy method of testing individual component leads and minimize accidental shorts. Excellent for use with test clips.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
617-0102	923832-BK-B	Micro Probe-it, Black	1.33	1.21	1.11
617-0104	923832-BU-B	Micro Probe-it, Blue	1.33	1.21	1.11
617-0106	923832-GN-B	Micro Probe-it, Green	1.33	1.21	1.11
617-0108	923832-RD-B	Micro Probe-it, Red	1.33	1.21	1.11
617-0110	923832-WT-B	Micro Probe-it, White	1.33	1.21	1.11
617-0112	923832-YL-B	Micro Probe-it, Yellow	1.33	1.21	1.11
617-0114	923837-BK-B	Mini Probe-it, Black	1.27	1.16	1.07
617-0118	923837-GN-B	Mini Probe-it, Green	1.27	1.16	1.07
617-0120	923837-RD-B	Mini Probe-it, Red	1.27	1.16	1.07
617-0122	923837-WT-B	Mini Probe-it, White	1.27	1.16	1.07
617-0124	923837-YL-B	Mini Probe-it, Yellow	1.26	1.16	1.07
617-0126	923842-BK-B	Standard Probe-it, Black	2.40	2.04	1.88
617-0128	923842-RD-B	Standard Probe-it, Red	2.40	2.04	1.88
617-0103	923847-BK-B	Maxi Probe-it, Black	2.40	2.04	1.88
617-0105	923847-RD-B	Maxi Probe-it, Red	2.40	2.04	1.88

617-0107. 923848-C. Micro Probe-it, Assortment. PER PK./6 7.38
617-0109. 923850-C. Micro Probe-it, Assortment. PER PK./6 7.06

Jumper Wires

- For Quick, Neat Circuit Connections



Speed your circuit building even more. Each wire is stripped 1/4" and bent 90° on both ends for easy insertion. All Jumper Wires are PVC insulated #22 AWG solid, tinned copper and are recommended for use with all solderless breadboarding units from ESM.

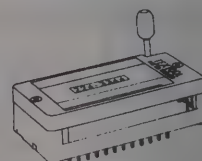
Stock No.	Mfr.'s Type	Length Inches	Color	Pkg. Qty.	PER PKG.			
					1-9	10-24	25-49	50-99
617-3451	923345-01	0.1	(No Insulation)	200	4.64	4.30	3.94	3.64
617-3452	923345-02	0.2	Red	200	4.64	4.30	3.94	3.64
617-3453	923345-03	0.3	Orange	200	4.64	4.30	3.94	3.64
617-3454	923345-04	0.4	Yellow	200	4.64	4.30	3.94	3.64
617-3455	923345-05	0.5	Green	200	4.64	4.30	3.94	3.64
617-3456	923345-06	0.6	Blue	150	4.64	4.30	3.94	3.64
617-3457	923345-07	0.7	Violet	150	4.64	4.30	3.94	3.64
617-3458	923345-08	0.8	Gray	150	4.64	4.30	3.94	3.64
617-3459	923345-09	0.9	White	150	4.64	4.30	3.94	3.64
617-3460	923345-10	1.0	Brown	100	4.64	4.30	3.94	3.64
617-3461	923345-20	2.0	Red	100	4.64	4.30	3.94	3.64
617-3462	923345-30	3.0	Orange	75	4.64	4.30	3.94	3.64
617-3463	923345-40	4.0	Yellow	75	4.64	4.30	3.94	3.64
617-3464	923345-50	5.0	Green	75	4.64	4.30	3.94	3.64

Jumper Wire Kit. 14 different lengths, 25 pieces of each. Compartmented box.

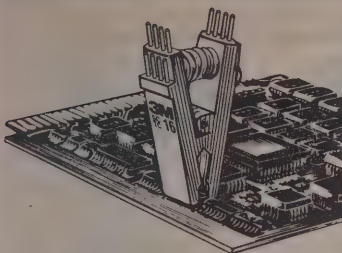
617-3501. 923351. 1-9. EACH 16.75 10-24. EACH 15.83
25-49. EACH 14.71 50-99. EACH 14.29

Programming ZIP DIP Sockets

Designed for applications where field replacement or programming of DIPs is required. The patented ZIP (zero insertion pressure) feature uses screwdriver rotation of a cam for security against vibration or accidental unloading. Leads are .100" centers.



Stock No.	Mfr.'s Type	No. of Leads	Plating	EACH		
				1-4	5-9	10-24
617-6200	2-14-3339-00-06-02	14	Gold	10.22	9.37	8.65
617-6205	2-14-3339-00-06-05	14	Tin	9.17	8.40	7.76
617-6210	2-16-3340-00-06-02	16	Gold	11.09	10.17	9.39
617-6215	2-16-3340-00-06-05	16	Tin	9.89	9.07	8.37
617-6220	2-18-3341-00-06-02	18	Gold	11.98	10.99	10.14
617-6225	2-18-3341-00-06-05	18	Tin	10.59	9.71	8.96
617-6230	2-20-3342-00-06-02	20	Gold	12.86	11.79	10.88
617-6235	2-20-3342-00-06-05	20	Tin	11.34	10.39	9.58
617-6240	2-24-3344-00-06-02	24	Gold	14.62	13.40	12.37
617-6245	2-24-3344-00-06-05	24	Tin	12.80	11.73	10.83
617-6250	2-28-3345-00-06-02	28	Gold	16.40	15.03	13.88
617-6255	2-28-3345-00-06-05	28	Tin	14.25	13.06	12.06
617-6260	2-40-3346-00-06-02	40	Gold	21.68	19.88	18.35
617-6265	2-40-3346-00-06-05	40	Tin	18.62	17.07	15.76
617-6270	2-64-4493-00-06-02	64	Gold	37.54	34.41	31.76
617-6275	2-64-4493-00-06-05	64	Tin	32.66	29.94	27.64



SOIC* Test Clips

Now normally hard-to-access SOICs can be connected to test probes quickly and easily without the risk of shorting out chips or damaging other board components. SOIC test clips are available in different pin sizes to accommodate a wide range of requirements. Industry standard .025" square contact pins on .050" centers are staggered to permit easy attachment of IDC socket connectors or wire wrapping and help prevent shorting of adjacent probes. With

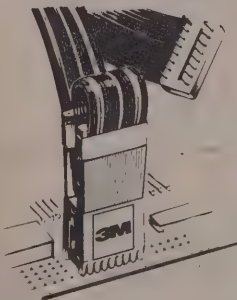
these smaller test clips, you can stack SOICs as close as .050" end-to-end. Like our other test clips, the SOIC series features heavy duty helical compression springs that provide firm, positive contact pressure, an insulating contact comb to prevent accidental shorts and a patented wiping action to ensure integrity in testing. The steel hinge pin and tough glass-filled polyester body, UL rated 94V-0, provide long service life. Available in gold or alloy 764, SOIC test clips from 3M offer solutions for all your test and prototype needs.

*SOIC (Small Outline Integral Circuits)

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-49	50-99
617-4300	923660-16	SOIC Test Clip, 16 Pin, Wide, Alloy	8.54	8.04	7.47	7.26
617-4301	923660-18	SOIC Test Clip, 18 Pin, Wide, Alloy	9.55	9.00	8.35	8.12
617-4302	923660-20	SOIC Test Clip, 20 Pin, Wide, Alloy	9.71	9.14	8.48	8.25
617-4303	923660-24	SOIC Test Clip, 24 Pin, Wide, Alloy	10.75	10.13	9.40	9.14
617-4304	923660-28	SOIC Test Clip, 28 Pin, Wide, Alloy	11.62	10.94	10.16	9.88
617-4305	923665-16	SOIC Test Clip, 16 Pin, Wide, Gold	9.50	8.94	8.31	8.08
617-4306	923665-18	SOIC Test Clip, 18 Pin, Wide, Gold	10.61	10.00	9.29	9.03
617-4307	923665-20	SOIC Test Clip, 20 Pin, Wide, Gold	10.79	10.15	9.43	9.17
617-4308	923665-24	SOIC Test Clip, 24 Pin, Wide, Gold	11.94	11.24	10.45	10.15
617-4309	923665-28	SOIC Test Clip, 28 Pin, Wide, Gold	12.91	12.15	11.28	10.97
617-4310	923650-08	SOIC Test Clip, 8 Pin, Narrow, Alloy	7.48	7.05	6.55	6.37
617-4311	923650-14	SOIC Test Clip, 14 Pin, Narrow, Alloy	8.06	7.60	7.06	6.86
617-4312	923650-16	SOIC Test Clip, 16 Pin, Narrow, Alloy	8.54	8.05	7.47	7.26
617-4313	923655-08	SOIC Test Clip, 8 Pin, Narrow, Gold	8.31	7.83	7.28	7.07
617-4314	923655-14	SOIC Test Clip, 14 Pin, Narrow, Gold	8.96	8.45	7.84	7.63
617-4315	923655-16	SOIC Test Clip, 16 Pin, Narrow, Gold	9.50	8.95	8.31	8.08

Logical Connections

Logical connections are ideal for connection of remote testing equipment to DIP circuitry. On one end a connector-compatible test clip is mated with a pair of single row socket connectors. 1 1/2" cable loop between connections "A" and "B" allows for free actuation of the test clip. Probe holes in the backs of all connectors provide access to individual lines. Connectors are molded onto cable ends for optimum electrical integrity and rugged strain relief. Available unterminated or with DIP connector on remote end of the 18" flat ribbon cable. Each unit is a complete, tested and ready-to-use assembly.

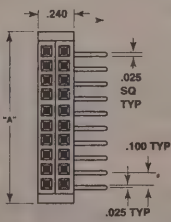


DIP Termination. Logical Connections (Test Clip and Dip Plug)

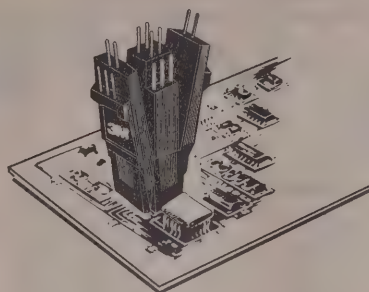
Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-9	10-24	25-49
617-8416	923884-16	16	24.30	22.88	21.25
617-8420	923884-20	20	33.64	31.67	29.41
617-8424	923884-24	24	42.82	40.32	37.44
617-8440	923884-40	40	56.21	52.92	49.14

Intra Connectors

The Intra-Connector allows access to previously inaccessible lines. In use, the connector is interjected between mating system connectors to provide external pin contacts that can be probed individually or connected to another cable assembly; pins also can be used to facilitate daisy chaining from a single connector end.



Stock No.	Mfr.'s Type	No. of Contacts	Dim. "A"	EACH		
				1-9	10-24	25-49
617-7920	922576-20	20	1.160	9.84	9.26	8.60
617-7926	922576-26	26	1.460	11.35	10.69	9.93
617-7934	922576-34	34	1.860	13.21	12.45	11.56
617-7940	922576-40	40	2.160	14.72	13.86	12.87
617-7950	922576-50	50	2.660	16.10	15.18	14.09
617-7960	922576-60	60	3.160	19.15	18.03	16.75



PLCC* Test Clips

Our new Surface Mount Test Clip is truly the state-of-the-art for testing Plastic Leaded Chip Carrier (PLCC) style integrated circuits. The unique action wedge design — with all four sides opening simultaneously — provides a faster and easier attachment to the PLCC. The helical compression spring and insulating contact combs ensure integrity in contact when testing. Our narrow body design allows components to be tested with as little as .100" lead-to-lead spacing, side stackable at .200" lead-to-lead spacing. Probe access points are immediately visible for fast and safe individual lead testing, while

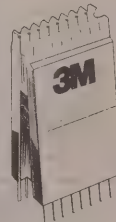
staggered contact rows on .100" centers allow for easy probe attachment and help prevent accidental shorting of adjacent probes. Industry standard .025" square contact pins permit easy attachment of female socket connectors or wire wrapping.

*PLCC (Plastic Leaded Chip Carrier)

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
617-4316	923670-20	20 Pin, Alloy, Surface Mount Test Clip (PLCC)	23.82	22.43	20.83
617-4317	923670-28	28 Pin, Alloy, Surface Mount Test Clip (PLCC)	25.41	23.93	22.22
617-4318	923670-44	44 Pin, Alloy, Surface Mount Test Clip (PLCC)	32.83	30.92	28.71
617-4319	923670-68	68 Pin, Alloy, Surface Mount Test Clip (PLCC)	38.14	35.91	33.34
617-4320	923675-20	20 Pin, Gold, Surface Mount Test Clip (PLCC)	26.47	24.92	23.14
617-4321	923675-28	28 Pin, Gold, Surface Mount Test Clip (PLCC)	31.77	29.91	27.78
617-4322	923675-44	44 Pin, Gold, Surface Mount Test Clip (PLCC)	35.36	33.30	30.92
617-4324	923675-52	52 Pin, Gold, Surface Mount Test Clip (PLCC)	37.51	35.33	32.80
617-4323	923675-68	68 Pin, Gold, Surface Mount Test Clip (PLCC)	42.08	39.63	36.80
617-4325	923675-84	84 Pin, Gold, Surface Mount Test Clip (PLCC)	45.49	42.84	39.78

DIP Test Clips

The narrow-nose design makes it easy to attach on high-density boards, fits onto ICs with only 0.1" between leads and adjacent components. "Duck bill" contacts are flat, won't roll off IC leads. Open-nose construction enables probe at IC leg. Pin rows are offset for easy attachment of probes. "Contact comb" construction separates contacts with precision. No shorts. Heavy duty, industrial-grade springs for firm contact pressure. Steel pivot pin. The standard models have "nail-head" leads which keep probes and test leads from sliding off. The connector-compatible models have headless leads .025" long to allow attachment of cable assemblies (see Logical Connections on this page). Leads are .031" in diameter on .100" centers on both models.



Gold-Plated Contacts

Stock No.	Standard Model No.	Stock No.	Connector-Compatible Model	DIP Compatibility	EACH		
					1-9	10-24	25-49
617-0058	923743-08	617-1058	923739-08	8-pin	7.96	7.49	6.96
617-0060	923743-14	617-1060	923739-14	14-pin	8.22	7.74	7.19
617-0066	923743-16	617-1066	923739-16	16-pin	8.49	7.99	7.42
617-0068	923743-18	617-1068	923739-18	18-pin	12.29	11.57	10.75
617-0070	923743-20	617-1070	923739-20	20-pin	12.94	12.19	11.33
617-0074	923743-24	617-1074	923739-24	24-pin	17.75	16.72	15.52
617-0078	923743-28	617-1078	923739-28	28-pin	21.80	20.53	19.06
617-0090	923743-40	617-1090	923739-40	40-pin	25.96	24.44	22.69

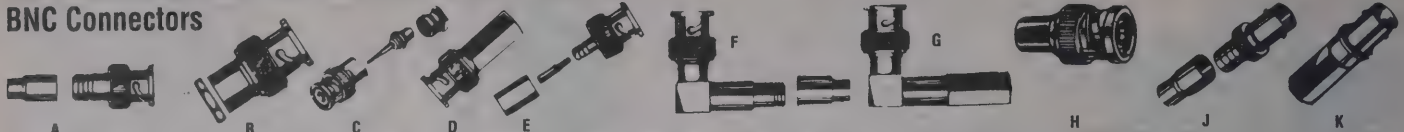
Alloy 770 Contacts

Stock No.	Standard Model No.	Stock No.	Connector-Compatible Model	DIP Compatibility	EACH		
					1-9	10-24	25-49
617-0008	923695	617-1008	923690-08	8-pin	6.15	5.80	5.38
617-0014	923698	617-1014	923690-14	14-pin	6.37	6.00	5.57
617-0016	923700	617-1016	923690-16	16-pin	6.45	6.08	5.64
617-0017	923702	617-1017	923690-LSI	16-LSI	11.97	11.27	10.18
617-0018	923703	617-1018	923690-18	18-pin	9.78	9.24	8.56
617-0020	923704	617-1020	923690-20	20-pin	10.33	9.73	9.04
617-0022	923705	617-1022	923690-22	22-pin	13.39	12.60	11.71
617-0024	923714	617-1024	923690-24	24-pin	14.15	13.33	12.38
617-0028	923718	617-1028	923690-28	28-pin	17.43	16.42	15.25
617-0036	923720	617-1036	923690-36	36-pin	19.61	18.47	17.15
617-0040	923722	617-1040	923690-40	40-pin	20.71	19.49	18.10
617-0048	923724	617-1048	923690-48	48-pin	28.36	26.71	24.80
617-0064	923726	617-1064	923690-64	64-pin	32.73	30.82	28.62



NOTE: These connectors meet or exceed MIL spec, but are intended for commercial use only.

BNC Connectors



Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH			Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH		
					1-24	25-99	100-499						1-24	25-99	100-499
510-9000	27-9000	59, 62	2-pc. Crimp	A	2.00	1.80	1.54	510-9102	27-9102	6	Commercial-MIL 3 pc.	E	2.30	2.07	1.86
510-9001	27-9001	58	2-pc. Crimp	A	2.00	1.80	1.54	510-9103	27-9103	59, 62 Teflon	Commercial-MIL 3 pc.	E	2.30	2.07	1.86
510-9002	27-9002	6	2-pc. Crimp	A	2.30	2.07	1.86	510-9293	27-9293	11	3-pc. Crimp	F	3.50	3.15	2.83
510-9009	27-9009	59, 62 Teflon	2-pc. Crimp	A	2.20	1.98	1.78	510-9104	27-9104	Belden 8281/Alpha9207	Commercial-MIL 3 pc.	F	2.30	2.07	1.86
510-9200	27-9200	58A/U	2-pc. Crimp	A	2.60	2.34	2.11	510-9105	27-9105	174, 179, 187, 188, 316	Commercial-MIL 3 pc.	F	2.40	2.16	1.94
510-9204	27-9204	58 Teflon	2-pc. Crimp	A	2.60	2.34	2.11	510-9201	27-9201	58A/U	Commercial-MIL 3 pc.	F	2.60	2.34	2.11
510-9207	27-9207	58 Thin Net	2-pc. Crimp	A	2.60	2.34	2.11	510-9205	27-9205	58 Teflon	Commercial-MIL 3 pc.	F	2.30	2.07	1.86
510-9020	27-9020	59, 62 (UG260/U)	6-pc. Solder	B	2.20	1.89	1.62	510-9208	27-9208	58 Thin Net	Commercial-MIL 3 pc.	F	2.60	2.34	2.11
510-9021	27-9021	58 (UG88/U)	6-pc. Solder	B	2.20	1.89	1.62	510-9004	27-9004	59, 62	Crimp Type Right Angle	F	3.40	3.06	2.75
510-9022	27-9022	58	3-pc. Crimp or Solder	C	3.10	2.79	2.51	510-9056	27-9056	59, 62	Twist-on Right Angle	G	3.50	3.15	2.83
510-9023	27-9023	58, 62	3-pc. Crimp or Solder	C	3.19	2.88	2.60	510-9057	27-9057	59, 62 Teflon	Twist-on Right Angle	G	3.50	3.15	2.83
510-9024	27-9024	6	3-pc. Crimp or Solder	C	3.10	2.79	2.51	510-9036	27-9036	58	Twist-on Right Angle	G	4.20	3.78	3.40
510-9025	27-9025	59, 62 Teflon	3-pc. Crimp or Solder	C	3.10	2.79	2.51	510-9007	27-9007	75 Ohm	BNC Terminator	H	3.00	2.70	2.43
510-9050	27-9050	59, 62	Twist-on plug	D	2.00	1.80	1.54	510-9008	27-9008	50 Ohm	BNC Terminator	H	3.00	2.70	2.43
510-9051	27-9051	58	Twist-on plug	D	2.00	1.80	1.54	510-9093	27-9093	93 Ohm	BNC Terminator	H	3.00	2.70	2.43
510-9052	27-9052	6	Twist-on plug	D	2.20	1.98	1.78	510-9003	27-9003	59, 62	2-pc. Crimp Jack	J	2.40	2.16	1.94
510-9054	27-9054	59, 62 Teflon	Twist-on plug	D	2.60	2.34	2.11	510-9013	27-9013	6	2-pc. Crimp Jack	J	2.50	2.25	2.02
510-9059	27-9059	58 Teflon	Twist-on plug	D	2.60	2.34	2.11	510-9014	27-9014	58	2-pc. Crimp Jack	J	2.50	2.25	2.02
510-9202	27-9202	58A/U	Twist-on plug	D	2.70	2.43	2.19	510-9015	27-9015	59, 62 Teflon	2-pc. Crimp Jack	J	2.50	2.25	2.02
510-9206	27-9206	58 Thin Net	Twist-on plug	D	2.70	2.43	2.19	510-9053	27-9053	59, 62	Twist-on Jack	K	2.60	2.34	2.11
510-9100	27-9100	59, 62	Commercial-MIL 3 pc.	E	1.79	1.61	1.38	510-9031	27-9031	58	Twist-on Jack	K	3.50	3.15	2.83
510-9101	27-9101	58	Commercial-MIL 3 pc.	E	1.79	1.61	1.38	510-9033	27-9033	59, 62 Teflon	Twist-on Jack	K	3.50	3.15	2.83

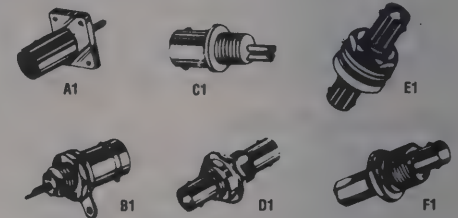
BNC Attenuator Pads – 50 Ohm Impedance



Stock No.	Mfr.'s Type	Description	EACH			Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499				1-24	25-99	100-499
510-9303	27-9300-3	3DB	9.50	8.55	7.69	510-9310	27-9300-10	10DB	9.50	8.55	7.69
510-9306	27-9300-6	6DB	9.50	8.55	7.69	510-9320	27-9300-20	20DB	9.50	8.55	7.69

BNC Chassis Mounts

Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH		
					1-24	25-99	100-499
510-8450	27-8450	—	UG-290/U Panel Jack	A1	3.00	2.70	2.43
510-8460	27-8460	—	UG-1094/U 3/8" Diameter	B1	1.47	1.33	1.13
510-8461	27-8461	—	3/8" Diameter Isolated	C1	3.40	3.06	2.75
510-8470	27-8470	—	UG-492 1/2" Diameter Dual	D1	4.50	4.06	3.64
510-8471	27-8471	—	UG-492 Isolated 1/2" + 3/8" Dual	E1	5.10	4.59	4.13
510-8475	27-8475	58	3/8" Twist-on Chassis Mount	F1	4.50	4.05	3.64
510-8476	27-8476	59, 62	3/8" Twist-on Chassis Mount	F1	4.50	4.05	3.64



BNC Adapters

Stock No.	Mfr.'s Type	Description	EACH			Stock No.	Mfr.'s Type	Description	EACH			Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499				1-24	25-99	100-499				1-24	25-99	100-499
510-7365	25-7365	BNC Female to UHF Female	4.40	3.96	3.56	510-8120	27-8120	BNC Female to UHF Male	3.20	2.88	2.59	510-9211	27-9211	BNC Male Dust Cap	5.50	4.95	4.45
510-7420	25-7420	UG-255 BNC Male to UHF Female	3.30	2.97	2.67	510-8130	27-8130	UG-491 BNC Male to BNC Male	4.30	3.87	3.48	510-3835	29-3835	BNC Female to SMA Female	8.80	7.92	7.13
510-7430	25-7430	UG-914 BNC Female to Female Splice	2.20	1.98	1.78	510-8140	27-8140	UG-274 BNC "T" 2 Female, 1 Male	3.90	3.51	3.16	510-3855	29-3855	BNC Female /SMA Male	8.80	7.92	7.13
510-7500	25-7500	BNC Male to Female	2.30	2.07	1.86	510-8141	27-8141	BNC "T" 3 Female	6.30	5.67	5.10	510-4150	29-4150	BNC Female to Mini UHF Male	5.00	4.50	4.05
510-7510	25-7510	BNC Male to RCA Female	2.10	1.89	1.62	510-8142	27-8142	BNC "T" 3 Male	8.40	7.56	6.80	510-4155	29-4155	BNC Male to Mini UHF Female	5.00	4.50	4.05
510-8100	27-8100	BNC Female to F Male	2.50	2.25	2.02	510-8150	27-8150	UG-306 BNC Right Angle Female to Male	4.90	4.41	3.97	—	—	—	—	—	—
510-8110	27-8110	BNC Female to RCA Male	2.50	2.25	2.02	510-8250	27-8250	BNC Female to TNC Male	4.10	3.69	3.32	—	—	—	—	—	—

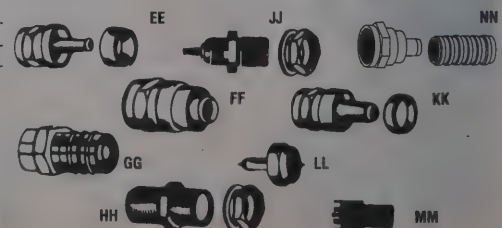
Crimping Tools



Stock No.	Mfr.'s Type	Description	Fig.	EACH
510-7710	24-7710	For RG-6, RG-59	BB	33.00
510-7711	24-7711P	For RG-8, RG-11, RG-213	BB	47.00
510-7700	24-7700	For RG-6, RG-59	CC	8.50
510-8786	24-8786P	RG-6, RG-58	DD	47.50
510-8789	24-8789P	RG-58, RG-59, RG-62	DD	47.50
510-8856	24-8856P	RG-6, RG-8, 59, 62	DD	47.50
510-8857	24-8857P	RG-58, 58A, 139, 179, 185, 188	DD	47.50
510-8858	24-8858P	RG-58, 58A, 59 Teflon, 62 Teflon	DD	47.50
510-8859	24-9912P	RG-174, 179, 187, 188, 316, Belden 89907	DD	47.50

"F" Series Connectors

Stock No.	Mfr.'s Type	Description	Fig.	EACH			
				1-24	25-99	100-499	500-999
510-7010	25-7010 (F-59)	For RG-59 Separate 1/4" Ring (incl.)	EE	0.21	0.19	0.16	0.15
510-7050	25-7050 (F-59A)	For RG-59 Attached 1/4" Ring	FF	0.22	0.20	0.17	0.16
510-7030	25-7030 (F-59 ALM)	For RG-59 Up to 70% Braid	GG	0.31	0.28	0.23	0.21
510-7035	25-7035	For RG-59, 62 Teflon	NN	0.57	0.52	0.44	0.40
510-7100	25-7100 (F-59T)	1/2 Watt 5% Terminator	LL	0.45	0.40	0.34	0.31
510-7210	25-7210 (F-81NW)	3/4 Incline Splice	HH	0.42	0.38	0.32	0.29
510-7650	25-7650 (F-61AD)	PC Board Adapter	MM	0.63	0.57	0.49	0.44
510-7660	25-7660 (F-61AD)	Chassis Mount W/Nut/Washer	JJ	0.63	0.57	0.49	0.44
510-7150	25-7150 (F-56)	For RG-6 Separate 1/4" Ring (incl.)	KK	0.28	0.25	0.21	0.19
510-7160	25-7160 (F-56A)	For RG-6 Attached 1/4" Ring (incl.)	FF	0.32	0.29	0.24	0.22
510-7032	25-7032 (F-56 ALM)	For RG-6 Up to 70% Braid	GG	0.34	0.31	0.26	0.24

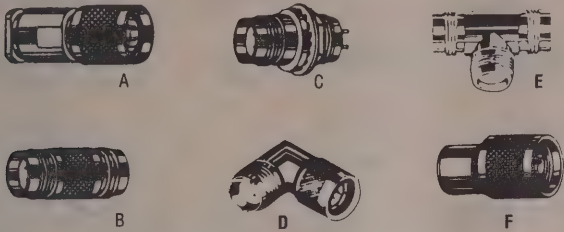


Coaxial Connectors



NOTE: These connectors meet or exceed MIL spec, but are for commercial use only.

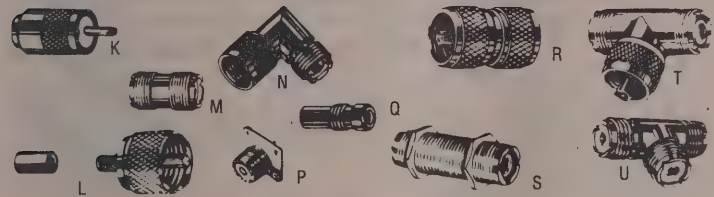
Twin-ax Series



Gold pins on male connectors and gold contact points on female connectors.

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-499
510-9080	27-9080	Male connector for PVC cable	A	5.90	5.31	4.78
510-9087	27-9087	Male connector for teflon cable	A	7.50	6.75	6.08
510-9081	27-9081	Female inline splice	B	6.50	5.85	5.27
510-9082	27-9082	3/4" dia. chassis mount receptacle	C	9.00	8.10	7.29
510-9084	27-9084	Female to male rt. angle adapter	D	10.00	9.00	8.10
510-9085	27-9085	"T" adapter - all female	E	13.00	11.70	10.53
510-9086	27-9086	Terminator - 100 ohm	F	12.00	10.80	9.72

UHF Series



Stock No.	Mfr.'s Type	MIL Type	Fig.	Description	EACH		
					1-24	25-99	100-499
510-7300	25-7300	PL-259	K	For RG/U 8, 11, 213, 214	1.58	1.42	1.22
510-7305	25-7305	Deluxe PL-259	K	Hi-temp insulation for RG/U 8, 11, 213, 214	1.89	1.71	1.46
510-7306	25-7306	—	L	Crimp-on for RG/U 8	3.20	2.88	2.59
510-7307	25-7307	—	L	Crimp-on for RG/U 58	2.10	1.89	1.62
510-7308	25-7308	—	L	Crimp-on for RG/U 59	2.21	1.99	1.70
510-7310	25-7310	UG-175	Q	Reducer for RG58 with PL-259	0.42	0.38	0.32
510-7320	25-7320	UG-176	Q	Reducer for RG59 with PL-259	0.42	0.38	0.32
510-7330	25-7330	PL-258	M	Female-female inline splice	1.68	1.52	1.30
510-7340	25-7340	M-359	N	Right angle female to male	4.30	3.87	3.48
510-7350	25-7350	SO-239	P	Female chassis mount	1.47	1.33	1.13
510-7351	25-7351	UG-363/U	S	Double female feed-thru	5.10	4.59	4.13
510-7352	25-7352	—	R	Double male	3.60	3.24	2.92
510-7353	25-7353	M-358	T	"T" adapter 2 female, 1 male	5.50	4.95	4.46
510-7354	25-7354	—	U	"T" adapter 3 female	5.50	4.95	4.46

UHF Series Adapters

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-8200	27-8200	UHF female to F male	2.70	2.43	2.19
510-8210	27-8210	UHF female to RCA male	2.70	2.43	2.19
510-4140	29-4140	UHF female to mini UHF male	5.00	4.50	4.05
510-3845	29-3845	UHF male to SMA female	8.80	7.92	7.13
510-7520	25-7520	UHF male to RCA female	2.21	1.99	1.70
510-7550	25-7550	UHF male to F female	2.60	2.34	2.11
510-4145	29-4145	UHF male to mini UHF female	5.50	4.95	4.46
510-3825	29-3825	UHF male to SMA male	8.80	7.92	7.13

RCA-Series, F-Series and N Series Adapters

Stock No.	Mfr.'s Type	MIL Type	Description	EACH		
				1-24	25-99	100-499
510-7530	25-7530	—	RCA Male to F female	1.16	1.04	0.89
510-7540	25-7540	—	F female to 3.5MM male	1.47	1.33	1.13
510-7560	25-7560	—	RCA female to 3.5MM male	1.68	1.52	1.30
510-7570	25-7570	—	RCA female to F female	1.68	1.52	1.30
510-7580	25-7580	—	RCA female to F male	1.47	1.33	1.13
510-7600	25-7600	—	Rt angle F female to F male	1.26	1.14	0.97
510-8014	28-8014	UG-83/U	N female to UHF male	7.40	6.66	5.99
510-8018	28-8018	UG-606/U	N female to BNC female	7.40	6.66	5.99
510-8017	28-8017	UG-349/U	N female to BNC male	7.40	6.66	5.99
510-8015	28-8015	UG-146/U	N male to UHF female	7.40	6.66	5.99
510-8016	28-8016	UG-201/U	N male to BNC female	7.40	6.66	5.99
510-3840	29-3840	—	N male to SMA female	8.80	7.92	7.13
510-8020	28-8020	—	N male to F female	6.60	5.94	5.35
510-8022	28-8022	—	N right angle double male	5.40	4.86	4.37

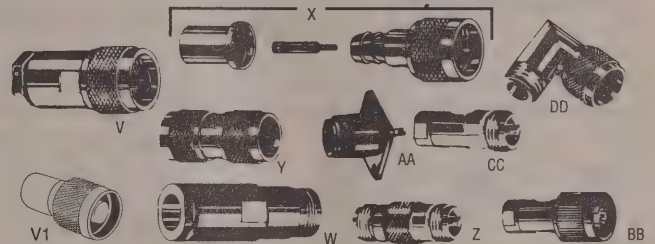
Wall Plates



For Coaxial Connectors

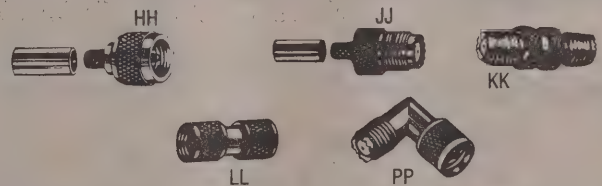
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-3210	27-9088	Single 3/4" hole	2.30	2.07	1.86
510-3212	27-8481	Single 3/8" hole	2.30	2.07	1.86
510-3215	27-8478	Single 1/2" hole	2.30	2.07	1.86
510-3217	27-8483	Single 5/8" hole	2.30	2.07	1.86
510-3200	27-9089	Dual 3/4" hole	2.30	2.07	1.86
510-3205	27-8479	Dual 1/2" hole	2.30	2.07	1.86
510-3207	27-8484	Dual 5/8" hole	2.30	2.07	1.86
510-3208	27-8485	Blank Plate	2.30	2.07	1.86

N Series (Ethernet) Connectors



Stock No.	Mfr.'s Type	MIL Type	Fig.	Description	EACH		
					1-24	25-99	100-499
510-8019	26-8019	—	V1	Male for RG8, crimp center pin, twist-on	5.90	5.31	4.78
510-8000	26-8000	UG-21B/U	V	Male for RG/U 8, 11, 213, 214	4.90	4.41	3.97
510-8002	26-8002	UG-23B/U	W	Female for RG/U 8, 11, 213, 214	5.50	4.95	4.46
510-8005	26-8005	—	X	Male crimp for RG/U 8, 11, 213	3.30	2.97	2.67
510-8009	26-8009	UG-57B/U	Y	Inline splice - plug to plug	6.50	5.85	5.27
510-8010	26-8010	UG-29B/U	Z	Inline splice - jack to jack	5.20	4.68	4.21
510-8011	26-8011	UG-58B/U	AA	Female chassis mount	2.50	2.25	2.03
510-8023	26-8023	—	BB	Male N terminator - 50 ohms	7.40	6.66	5.99
510-8024	26-8024	—	CC	Female N terminator - 50 ohms	7.40	6.66	5.99
510-8012	26-8012	UG-27/U	DD	Right angle female to male	6.90	6.21	5.59

Mini UHF Connectors



Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-24	25-99	100-499
510-4010	29-4010	HH	Male - 3 piece crimp on for RG58/U	1.89	1.71	1.46
510-4030	29-4030	JJ	Female - 3 piece crimp on for RG58/U	3.00	2.70	2.43
510-4110	29-4110	KK	Double female adapter	3.20	2.88	2.59
510-4115	29-4115	LL	Double male adapter	4.20	3.78	3.40
510-4130	29-4130	PP	Right angle adapter female to male	4.80	4.32	3.89

SMA Connectors



Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-24	25-99	100-499
510-3102	29-3100	SS	Crimp male for RG/U 58A, 141	6.50	5.85	5.27
510-3101	29-3101	SS	Crimp male for RG/U 59, 62, 210	6.50	5.85	5.27
510-3103	29-3103	SS	Crimp male for RG/U 174, 188, 316	6.50	5.85	5.27
510-3805	29-3805	VV	Double female adapter	5.20	4.68	4.21



97 Series Fixed Contact Solder Type

Contact: Gold plated on nickel. Thermoplastic insulator UL94/V-0 flame retardant.

Male — Plugs

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2000	40-9709M	9	.53	.48	.40
510-2002	40-9715M	15	.84	.76	.65
510-2004	40-9725M	25	.63	.57	.54
510-2006	40-9737M	37	1.37	1.23	1.05
510-2008	40-9750M	50	3.70	3.33	3.00

Female — Receptacles

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2001	40-9709S	9	.53	.48	.40
510-2003	40-9715S	15	.84	.76	.65
510-2005	40-9725S	25	.63	.57	.54
510-2007	40-9737S	37	2.10	1.89	1.62
510-2009	40-9750S	50	3.90	3.51	3.16



98 Series Housings for Crimp Contacts

Copper alloy, tabbed with gold plating on nickel. Thermoplastic insulator.

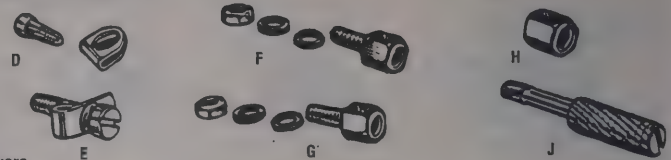
Plugs

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2100	40-9809M	9	.74	.67	.57
510-2102	40-9815M	15	.84	.76	.65
510-2104	40-9825M	25	.84	.76	.65

Receptacles

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2101	40-9809S	9	.74	.67	.57
510-2103	40-9815S	15	.84	.76	.65
510-2105	40-9825S	25	.84	.76	.65

D-Sub Hardware



Hardware
1 set per package

Stock No.	Mfr.'s Type	Description	Fig.	PER SET/2		
				1-24	25-99	100-499
510-2500	40-98440M	Male screw retainer	D	.63	.57	.49
510-2502	40-98441M	Male screw retainer	E	.21	.19	.16
510-2504	40-98440F	Female screw lock*	F	.74	.67	.57
510-2506	40-98442F	Female screw lock†	G	.62	.57	.49
510-2508	40-98443N	Hex stand off	H	.32	.29	.24
510-2510	40-9844T	Thumbscrew	J	.63	.57	.49

*.30" thread length. †.50" thread length.

Bulk Hardware (50 Sets of 2 Per Package)

Stock No.	Mfr.'s Type	Description	Fig.	PER PKG./50 SETS		
				1-4	5-9	10-24
510-2501	40-98440M-C	Male screw retainer	D	25.00	22.50	20.25
510-2503	40-98441M-C	Male screw retainer	E	4.13	3.44	2.95
510-2505	40-98440F-C	Female screw lock	F	28.00	25.20	22.68
510-2507	40-98442F-C	Female screw lock	G	25.20	22.68	20.42
510-2509	40-98443N-C	Hex stand off	H	8.70	7.63	7.05
510-2511	40-9844T-C	Thumbscrew	J	23.00	20.70	18.63

Contacts

Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-9	10-24	25-99
510-2110	40-9856M	Male for plugs	7.00	6.30	5.67
510-2115	40-9866S	Female for receptacles	7.00	6.30	5.67

For High Density Housings

Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-9	10-24	25-99
510-2310	40-9428M	Male for plugs	6.00	5.40	4.86
510-2315	40-9428F	Female for receptacles	6.00	5.40	4.86



Housings for Crimp Contacts

Plugs

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2300	40-9415HDM	15HD	2.30	2.07	1.86

Receptacles

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2301	40-9415HDS	15HD	2.50	2.25	2.02

Insertion/Extraction Tool



Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-2117	40-9865	For standard contacts	3.50	3.15	2.83
510-2317	40-9427T	For high density contacts	4.50	4.05	3.64

High Density D-Sub Miniature Connectors

Fixed Contact Solder Type

Male — Plugs

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2200	40-9515HDM	15HD	2.90	2.61	2.35
510-2202	40-9526HDM	26HD	5.00	4.50	4.05

Female — Receptacles

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
510-2201	40-9515HDS	15HD	3.10	2.79	2.51
510-2203	40-9526HDS	26HD	5.50	4.95	4.45

Crimping Tools for D-Sub Contacts

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-9	10-24	25-99
510-2150	24-7373P	D-Sub and terminals	U	15.50	13.95	12.55
510-2155	24-8644P	10-22 AWG non-insulated terminals, D-Sub mini pins and sockets	S	50.49	42.75	35.06
510-2156	99-8644	Die set only for 24-8644	—	20.00	18.00	16.20

*Two crimps are required for high density contacts.



Hoods (Backshells) (Include Hardware)

Standard Plastic (H Series) — Fig. M

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-2400	40-9709H	For 9 pin	.53	.48	.40
510-2405	40-9715H	For 15 pin	.63	.57	.49
510-2410	40-9725H	For 25 pin	.53	.48	.40
510-2415	40-9737H	For 37 pin	1.26	1.14	.97
510-2420	40-9750H	For 50 pin	1.26	1.14	.97

Deluxe Plastic (HX Series) — Fig. N

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-2425	40-9709HX	For 9 pin	.95	.85	.73
510-2430	40-9715HX	For 15 pin	.95	.85	.73
510-2435	40-9725HX	For 25 pin	.95	.85	.73

Snap Hood (Gray) with Slide Latch Strain Relief — Fig. O

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-2485	40-9725G	For 25 pin	1.37	1.23	1.05

Metallized Plastic (HS Series) — Fig. P

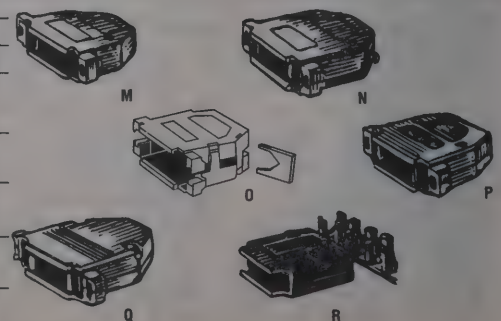
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-2440	40-9709HS	For 9 pin	.95	.85	.73
510-2445	40-9715HS	For 15 pin	1.05	.95	.81
510-2450	40-9725HS	For 25 pin	1.05	.95	.81

Heavy Duty Metal (HM Series) — Fig. Q

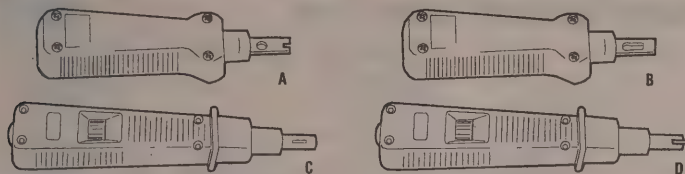
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-2455	40-9709HM	For 9 pin	2.21	1.99	1.70
510-2460	40-9715HM	For 15 pin	3.00	2.70	2.43
510-2465	40-9725HM	For 25 pin	3.00	2.70	2.43

Plastic Quick Assembly (HQ Series) — Fig. R

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
510-2470	40-9709HQP	For 9 pin	1.68	1.52	1.30
510-2475	40-9715HQP	For 15 pin	1.68	1.52	1.30
510-2480	40-9725HQP	For 25 pin	1.89	1.71	1.46



Prestige® Punch Down Tools



Non-Impact

Stock No.	Mfr.'s Type	Description	Fig.	EACH
510-4410	24-410P	For 66 and 110 type terminals (punch only)	A	27.90
510-4411	24-411P	For 66 type terminals (punch and cut)	B	27.90

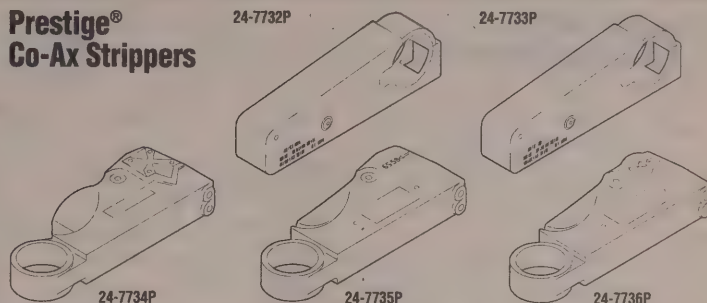
Impact

510-4412	24-412P	Automatic punch down for 66 type terminals with impact adjustment (punch and cut)	C	69.90
510-4413	24-413P	Automatic punch down for 110 type terminals with impact adjustment (punch and cut)	D	69.90

Replacement Heads

Stock No.	Mfr.'s Type	For Use With	EACH
510-9410	99-410	Type 24-410P	15.00
510-9411	99-411	Type 24-411P	15.00
510-9412	99-412	Type 24-412P	15.00
510-9413	99-413	Type 24-413P	15.00

Prestige® Co-Ax Strippers



Cassette Series

Stock No.	Mfr.'s Type	Description	EACH
510-7732	24-7732P	2-step for RG-6, 58, 59, 62	33.90
510-7733	24-7733P	3-step for RG-6, 58, 59, 62	35.90
510-9732	99-7732B	Replacement cassette for 2-step	12.00
510-9733	99-7733B	Replacement cassette for 3-step	12.00

Blade Series

► Does Two Cuts In One Motion

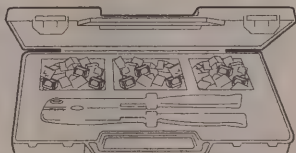
► Adjustable Blades

510-7734	24-7734P	Universal with switchable V-block, for RG-6, 58, 59, 62	25.50
510-7735	24-7735P	For standard and teflon RG-58, 59, 62	25.50
510-7736	24-7736P	For standard and teflon RG-59, 62, 8281	25.50
510-9734	99-7734	Replacement blades for 24-7734P	2.00
510-9735	99-7735	Replacement blades for 24-7735P	2.10
510-9737	99-7737	Replacement blades for 24-7736P	3.00

Tele-Communications Installer Kit

This Kit Contains

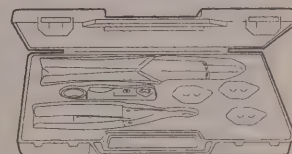
- 1 — 24-4680P Combination Crimp Tool; Crimps 2, 4, 6, 8 and 8-Keyed Mod-Plugs (Will Not Work On AMP Modular Plugs)
- 50 — 32-1954UL 4 Cond. Modular Plugs
- 50 — 32-1956UL 6 Cond. Modular Plugs
- 50 — 32-1958UL 8 Cond. Modular Plugs
- 1 — Durable Hard Shell Storage Box



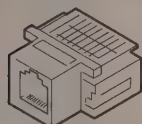
510-8832. Model 24-8832K.....EACH 115.80

Ratchet Crimp Tool Kit

Model 24-8802K standard crimp tool kit for Aim and Cambridge connectors includes all parts listed. **24-9958P Tool with Die.** For RG-58, RG-58 TFE, RG-141, RG-142, 223, 400, RG-303, and RG-55. Crimps 3 piece BNC-TNC and Mini UHF Connectors. **Die Size:** .213 and .060. **99-9959 Die.** For RG-59, 62, RG-450 Proflex, and RG-8X. Crimps 3 piece BNC-TNC and Mini UHF connectors. **Die Size:** .255 and .060. **99-9858 Die.** For RG-58, RG-59 TFE, and RG-58 TFE. Crimps two piece BNC-TNC connectors. **Die Size:** .320 and .211. **99-9859 Die.** For RG-59 and RG-62. Crimps two piece BNC-TNC connectors. **Die Size:** .320 and .250.



510-8802. Model 24-8802K.....EACH 150.00



Multi-Colored Keystone Jacks

- Suitable for 22 to 26 AWG Wire — Stranded or Solid
- 30 Micro Inch Gold Plated Contacts
- ABS Material — UL94V0
- Meets Level 3 and 4 Requirements

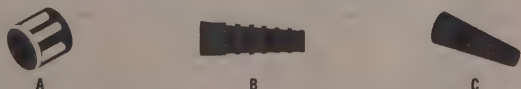
Stock No.	Mfr.'s Type	Color	No. of Conductors	EACH		
				1-24	25-99	100-249
510-3310	30-9200	Black	4	3.90	3.51	3.16
510-3312	30-9201	Black	6	3.90	3.51	3.16
510-0210	30-9201BU	Blue	6	4.70	4.23	3.80
510-0215	30-9201GN	Green	6	4.70	4.23	3.80
510-0220	30-9201RE	Red	6	4.70	4.23	3.80
510-0225	30-9201WH	White	6	4.70	4.23	3.80
510-0230	30-9201YE	Yellow	6	4.70	4.23	3.80
510-3314	30-9203†	Black	6	4.50	4.05	3.65

†Dec. Offset.

Keyed Jacks

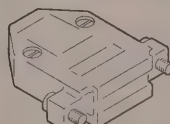
510-3316	30-9202	Black	8	4.50	4.05	3.65
510-0245	30-9202BU	Blue	8	4.90	4.41	3.96
510-0250	30-9202GN	Green	8	4.90	4.41	3.96
510-0255	30-9202RE	Red	8	4.90	4.41	3.96
510-0260	30-9202WH	White	8	4.90	4.41	3.96
510-0265	30-9202YE	Yellow	8	4.90	4.41	3.96

BNC Boots and Hoods



Colors Available: 1-Black, 2-Red, 3-Green, 4-Blue, 5-Yellow. Insert color number where N appears in the stock number.

Stock No.	Mfr.'s Type	Fig.	Description	EACH			
				1-99	100-499	500-999	1000-Up
716-220N	25-7960	A	BNC hood for 3 pc.crimp plug	.32	.29	.24	.22
716-230N	25-7958	B	BNC boot for RG-58, 141	.17	.15	.13	.12
716-240N	25-7959	B	BNC boot for RG-59, 62	.17	.15	.13	.12
716-2501	25-B58	C	BNC boot for RG-58, 141	.17	.15	.13	.12
716-2511	25-B58-TN	C	BNC boot for RG-58 Thin NET	.17	.15	.13	.12
716-2521	25-B59	C	BNC Boot for RG-59, 62	.17	.15	.13	.12

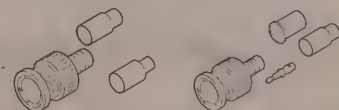


Multi-Colored D-Sub Hoods Deluxe Plastic HX-Series

Includes hardware and set screw to hold cable (9V-0).

Stock No.	Mfr.'s Type	Description	Color	EACH		
				1-24	25-99	100-499
510-4700	40-9709HX-BK	For 9 pin	Black	1.26	1.14	.97
510-4705	40-9709HX-BU	For 9 pin	Blue	1.26	1.14	.97
510-4710	40-9709HX-RE	For 9 pin	Red	1.26	1.14	.97
510-4715	40-9709HX-GN	For 9 pin	Green	1.26	1.14	.97
510-4720	40-9709HX-YE	For 9 pin	Yellow	1.26	1.14	.97
510-4725	40-9715HX-BK	For 15 pin	Black	1.26	1.14	.97
510-4730	40-9715HX-BU	For 15 pin	Blue	1.26	1.14	.97
510-4735	40-9715HX-RE	For 15 pin	Red	1.26	1.14	.97
510-4740	40-9715HX-GN	For 15 pin	Green	1.26	1.14	.97
510-4745	40-9715HX-YE	For 15 pin	Yellow	1.26	1.14	.97
510-4750	40-9725HX-BK	For 25 pin	Black	1.26	1.14	.97
510-4755	40-9725HX-BU	For 25 pin	Blue	1.26	1.14	.97
510-4760	40-9725HX-RE	For 25 pin	Red	1.26	1.14	.97
510-4765	40-9725HX-GN	For 25 pin	Green	1.26	1.14	.97
510-4770	40-9725HX-YE	For 25 pin	Yellow	1.26	1.14	.97

Multi-Function BNC Connectors (with Two Ferrules)



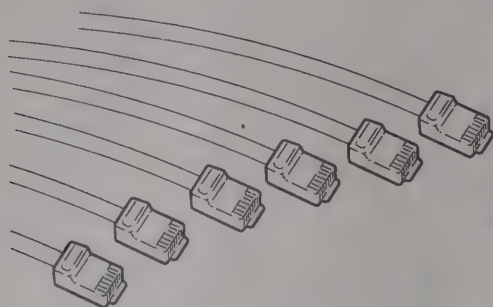
Stock No.	Mfr.'s Type	For RG/U Cable	Description	EACH		
				1-24	25-99	100-499
510-9010	27-9010	58, 59, 59 TFE	2 pc. crimp	3.50	3.15	2.84
510-9012	27-9012	58, 58 TFE	2 pc. crimp	3.50	3.15	2.84
510-9189	27-9189	59, 59 TFE	3 pc. crimp	1.99	1.79	1.54
510-9190	27-9190	58, 59	3 pc. crimp	1.99	1.79	1.54
510-9191	27-9191	58, 58 TFE	3 pc. crimp	1.99	1.79	1.54

Crimp Tools

Stock No.	Mfr.'s Type	Cable Size	Description	EACH
510-0389	24-389P	For RG-58, 58 TFE, 59, 59 TFE, 62	3 pc. BNC/TNC	110.00
510-8789	24-8789P	For RG-58, 58 TFE, 59, 59 TFE, 62, 62 TFE	2 and 3 pc. BNC/TNC	47.50
510-2960	24-9960P	For RG-6, 55, 58, 59, 59 TFE	2 and 3 pc. crimp	69.90

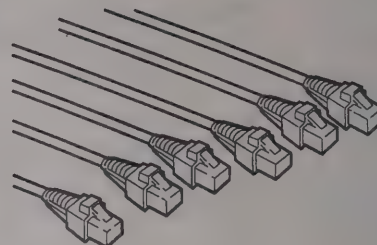


— NEW —

Category 5 and BNC-BNC (Color-Coded Cable Assemblies)**Category 5 Cables
Colored Cable (No Boots)**

Round UTP 24 AWG. Stranded PVC cable wired to 568B/WECO/AT&T/258A configuration.

Stock No.	Mfr.'s Type	Color	Length	EACH		
				1-24	25-49	50-99
510-0400	73-6670-3	Gray	3 ft.	4.50	3.75	3.21
510-0402	73-6671-3	Black	3 ft.	4.50	3.75	3.21
510-0404	73-6672-3	Blue	3 ft.	4.50	3.75	3.21
510-0406	73-6673-3	Green	3 ft.	4.50	3.75	3.21
510-0408	73-6674-3	Red	3 ft.	4.50	3.75	3.21
510-0410	73-6675-3	Yellow	3 ft.	4.50	3.75	3.21
510-0412	73-6670-7	Gray	7 ft.	5.97	4.97	4.26
510-0414	73-6671-7	Black	7 ft.	5.97	4.97	4.26
510-0416	73-6672-7	Blue	7 ft.	5.97	4.97	4.26
510-0418	73-6673-7	Green	7 ft.	5.97	4.97	4.26
510-0420	73-6674-7	Red	7 ft.	5.97	4.97	4.26
510-0422	73-6675-7	Yellow	7 ft.	5.97	4.97	4.26
510-0424	73-6670-15	Gray	15 ft.	8.90	7.42	6.36
510-0426	73-6671-15	Black	15 ft.	8.90	7.42	6.36
510-0428	73-6672-15	Blue	15 ft.	8.90	7.42	6.36
510-0430	73-6673-15	Green	15 ft.	8.90	7.42	6.36
510-0432	73-6674-15	Red	15 ft.	8.90	7.42	6.36
510-0434	73-6675-15	Yellow	15 ft.	8.90	7.42	6.36
510-0436	73-6670-25	Gray	25 ft.	12.58	10.48	8.98
510-0438	73-6671-25	Black	25 ft.	12.58	10.48	8.98
510-0440	73-6672-25	Blue	25 ft.	12.58	10.48	8.98
510-0442	73-6673-25	Green	25 ft.	12.58	10.48	8.98
510-0444	73-6674-25	Red	25 ft.	12.58	10.48	8.98
510-0446	73-6675-25	Yellow	25 ft.	12.58	10.48	8.98
510-0448	73-6670-50	Gray	50 ft.	21.76	18.13	15.54
510-0450	73-6671-50	Black	50 ft.	21.76	18.13	15.54
510-0452	73-6672-50	Blue	50 ft.	21.76	18.13	15.54
510-0454	73-6673-50	Green	50 ft.	21.76	18.13	15.54
510-0456	73-6674-50	Red	50 ft.	21.76	18.13	15.54
510-0458	73-6675-50	Yellow	50 ft.	21.76	18.13	15.54

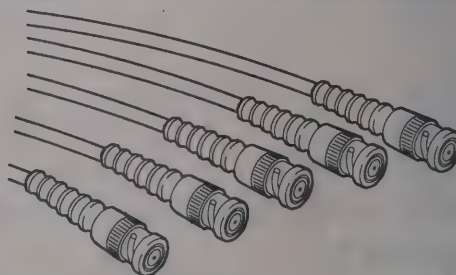
**Category 5 Cables
Colored Cable with Colored Boots**

Round UTP 24 AWG. Stranded PVC cable wired to 568B/WECO/AT&T/258A configuration.

Stock No.	Mfr.'s Type	Color	Length	EACH		
				1-24	25-49	50-99
510-0460	73-6680-3	Gray	3 ft.	4.96	4.13	3.54
510-0462	73-6691-3	Black	3 ft.	4.96	4.13	3.54
510-0464	73-6692-3	Blue	3 ft.	4.96	4.13	3.54
510-0466	73-6693-3	Green	3 ft.	4.96	4.13	3.54
510-0468	73-6694-3	Red	3 ft.	4.96	4.13	3.54
510-0470	73-6695-3	Yellow	3 ft.	4.96	4.13	3.54
510-0472	73-6680-7	Gray	7 ft.	6.43	5.36	4.59
510-0474	73-6691-7	Black	7 ft.	6.43	5.36	4.59
510-0476	73-6692-7	Blue	7 ft.	6.43	5.36	4.59
510-0478	73-6693-7	Green	7 ft.	6.43	5.36	4.59
510-0480	73-6694-7	Red	7 ft.	6.43	5.36	4.59
510-0482	73-6695-7	Yellow	7 ft.	6.43	5.36	4.59
510-0484	73-6680-15	Gray	15 ft.	9.36	7.80	6.69
510-0486	73-6691-15	Black	15 ft.	9.36	7.80	6.69
510-0488	73-6692-15	Blue	15 ft.	9.36	7.80	6.69
510-0490	73-6693-15	Green	15 ft.	9.36	7.80	6.69
510-0492	73-6694-15	Red	15 ft.	9.36	7.80	6.69
510-0494	73-6695-15	Yellow	15 ft.	9.36	7.80	6.69
510-0496	73-6680-25	Gray	25 ft.	13.04	10.86	9.31
510-0498	73-6691-25	Black	25 ft.	13.04	10.86	9.31
510-0500	73-6692-25	Blue	25 ft.	13.04	10.86	9.31
510-0502	73-6693-25	Green	25 ft.	13.04	10.86	9.31
510-0504	73-6694-25	Red	25 ft.	13.04	10.86	9.31
510-0506	73-6695-25	Yellow	25 ft.	13.04	10.86	9.31
510-0508	73-6680-50	Gray	50 ft.	22.22	18.51	15.87
510-0510	73-6691-50	Black	50 ft.	22.22	18.51	15.87
510-0511	73-6692-50	Blue	50 ft.	22.22	18.51	15.87
510-0512	73-6693-50	Green	50 ft.	22.22	18.51	15.87
510-0514	73-6694-50	Red	50 ft.	22.22	18.51	15.87
510-0516	73-6695-50	Yellow	50 ft.	22.22	18.51	15.87

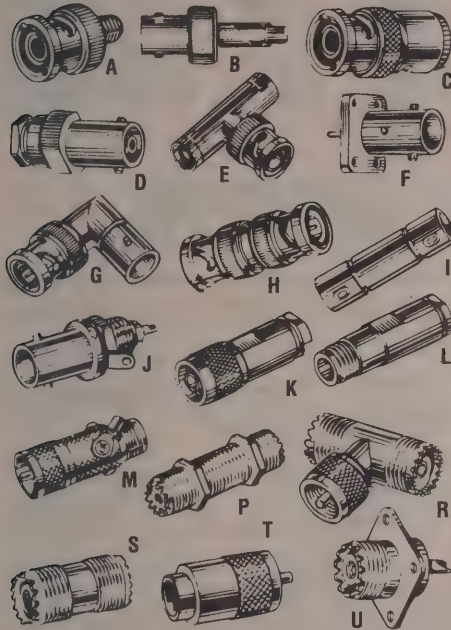
**BNC-BNC Cable Assemblies
RG-58AU Thin Ethernet
50 Ohm 95% Braid and
100% Foil Shield Cable 20 GA Stranded**

- Belden 9907 Equivalent in Colors
- All Assemblies Made With American Made Cambridge Connectors



Stock No.	Mfr.'s Type	Color	Length	EACH		
				1-24	25-49	50-99
510-0518	73-6340-3	Black	3 ft.	8.08	6.73	5.77
510-0520	73-6361-3	Blue	3 ft.	8.08	6.73	5.77
510-0522	73-6362-3	Green	3 ft.	8.08	6.73	5.77
510-0524	73-6363-3	Red	3 ft.	8.08	6.73	5.77
510-0526	73-6364-3	Yellow	3 ft.	8.08	6.73	5.77
510-0528	73-6340-6	Black	6 ft.	9.27	7.73	6.62
510-0530	73-6361-6	Blue	6 ft.	9.27	7.73	6.62
510-0532	73-6362-6	Green	6 ft.	9.27	7.73	6.62
510-0534	73-6363-6	Red	6 ft.	9.27	7.73	6.62
510-0536	73-6364-6	Yellow	6 ft.	9.27	7.73	6.62

Stock No.	Mfr.'s Type	Color	Length	EACH		
				1-24	25-49	50-99
510-0538	73-6340-10	Black	10 ft.	10.92	9.10	7.80
510-0540	73-6361-10	Blue	10 ft.	10.92	9.10	7.80
510-0542	73-6362-10	Green	10 ft.	10.92	9.10	7.80
510-0544	73-6363-10	Red	10 ft.	10.92	9.10	7.80
510-0546	73-6364-10	Yellow	10 ft.	10.92	9.10	7.80
510-0548	73-6340-25	Black	25 ft.	17.07	14.23	12.20
510-0550	73-6361-25	Blue	25 ft.	17.07	14.23	12.20
510-0552	73-6362-25	Green	25 ft.	17.07	14.23	12.20
510-0554	73-6363-25	Red	25 ft.	17.07	14.23	12.20
510-0556	73-6364-25	Yellow	25 ft.	17.07	14.23	12.20

"Crimp" BNC Connectors

Identical to standard solder-type BNC's up to 500 MHz. Connectors may be used with other than 50-ohm cable for non-impedance match. Rated 500 Volts maximum. Impedance, 50 ohms, VSWR, 1.25:1 maximum (Straight Plug and Jack). Cable retention strength equal to cable braid. Center contact is soldered; braid may be soldered or crimped. Delrin dielectric. Connector is brass, center pin is silver plated; other parts nickel-plated. **Note:** These connectors are made to commercial standards — not for MIL use.

Stock No.	Mfr.'s Type	Fig.	Similar To UG Type	Description	Use With RG Type Cable	Length In.	EACH			
							1-99	100-499	500-999	1000-2499
283-7131	SWH-104-N	A	88E/U	Plug	58, 58A, 58C, 141	31/32	1.33	1.18	1.04	.92
283-7133	SWH-304	B	89C/U	Cable Jack	58, 58A, 58C, 59A/B, 62, 141	15/16	2.34	2.11	1.90	1.71

BNC Bayonet-Coupled Connectors

Rated 500 Volts peak; 500 Volts (RMS) dielectric.

283-7101	SWH-108	C	88/U	Plug	55, 58	31/32	1.43	1.29	1.10	.99
283-7110	SWH-163	D	89/U	Jack	55, 58	11/16	1.83	1.65	1.41	1.27
283-7107	SWH-115	E	274/U	"T" Adapter	—	19/32	3.78	3.40	3.06	2.75
283-7102	SWH-156	F	290/U	Panel Receptacle	—	11/32	1.94	1.75	1.49	1.34
283-7109	SWH-110	G	306/U	Angle Adapter	—	1	3.78	3.40	3.06	2.75
283-7106	SWH-105	H	491A/U	Adapter	—	15/16	2.40	2.16	1.94	1.75
283-7105	SWH-155	I	914/U	Adapter	—	111/32	1.72	1.46	1.25	1.12
283-7104	SWH-126	J	1094/U	Bkhd. Adapter	—	11/16	1.33	1.11	1.02	.95

Type N Coaxial Connectors

Medium size, threaded coupling units may be used in systems up to microwave frequencies. SWR is consistently low. Rated 500 Volts peak. Impedance, 50 ohms. Plated to take constant handling. Connector installation is easy, especially in tight spots.

283-8101	SWH-501	K	21B/U	Plug	8, 9, 10	13/4	2.30	2.07	1.86	1.67
283-8102	SWH-514	L	23B/U	Jack	8, 9, 10	115/16	2.82	2.54	2.29	2.06

UHF Coaxial Connectors

Low in cost, general-purpose connectors. For applications up to 300 MHz, and where constant impedance match is not necessarily required. Peak Voltage rating, 500 Volts.

283-6178	AC-16-178	M	—	Lightning Arrestor	—	21/16	2.78	2.42	2.15	1.90
283-6209	SWH-174	P	363/U	Straight Adapter	—	2	2.52	2.16	1.94	1.74
283-6189	SWH-147	R	M-358	"T" Adapter	—	15/16	2.88	2.59	2.33	2.10
283-6172	SWH-122	S	PL-259	Straight Adapter	—	11/16	1.26	1.14	.97	.87
283-6170	SWH-117	T	PL-259	Plug	8, 13, 63, 65	17/65	1.39	1.26	1.09	.99
283-6190	SWH-145	U	SO-239	Panel Receptacle	—	11/16	1.09	.98	.84	.76

Coaxial Cable Shielded Standard Patch Cords**BNC Male Plug**

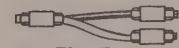
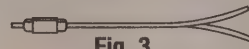
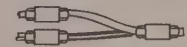
Shielded standard patch cords. All leads use RG-58C/U coaxial cable.

Stock No.	Mfr.'s Type	Length Ft.	Color	EACH			
				1-99	100-999	1000-2499	2500-4999
283-1650	SM-1650	1	Black	4.40	3.96	3.56	3.20
283-1652	SM-1652	3	Black	4.90	4.41	3.97	3.57
283-1654	SM-1654	5	Black	6.16	5.55	4.99	4.49

Unshielded Jumpers**Standard Alligator Clip Fig. A****Mini Alligator Clip Fig. B**

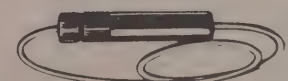
Unshielded jumper cords with choice of standard or miniature alligator clip styles. All leads are #18 AWG 20,000-volt insulated wire. Cadmium-plated steel clips; vinyl plastic boots. Have No. 20, 5000-volt insulation.

Stock No.	Mfr.'s Type	Length Ft.	Color	Fig.	EACH			
					1-99	100-499	500-999	1000-2499
283-9683	EH-1683	1	Red	A	1.43	1.15	1.00	.94
283-9684	EH-1684	1	Black	A	1.45	1.15	1.00	.94
283-9685	EH-1685	3	Red	A	1.51	1.26	1.16	1.08
283-9686	EH-1686	3	Black	A	1.51	1.31	1.12	1.01
283-9687	EH-1687	5	Red	A	1.29	1.16	.99	.89
283-9690	EH-1690	5	Black	A	1.81	1.63	1.40	1.26
283-9688	EH-1688	1	Red	B	1.62	1.23	1.08	1.00
283-9689	EH-1689	1	Black	B	1.62	1.23	1.08	1.00
283-9691	EH-1691	3	Red	B	1.20	1.09	.93	.84
283-9692	EH-1692	3	Black	B	1.57	1.31	1.12	.99

Audio Extension Cables**Fig. 1****Fig. 4****Fig. 2****Fig. 5****Fig. 3****Fig. 6**

Stock No.	Mfr.'s Type	Description*	Length	Fig.	EACH			
					1-99	100-999	1000-2499	2500-4999
283-9000	9000	E.C., Phono Pin Plugs	11/2'	1	1.26	1.08	.86	.75
283-9001	9001	E.C., Phono Pin Plugs	3'	1	1.37	1.18	.90	.81
283-9002	9002	E.C., Phono Pin Plugs	6'	1	1.67	1.37	1.19	1.11
283-9005	9005	E.C., Phono Pin Plugs	12'	1	1.89	1.63	1.23	1.11
283-9006	9006	E.C., Phono Pin/Plug Jack	3'	2	1.66	1.43	1.08	.97
283-9007	9007	E.C., Phono Pin/Plug Jack	6'	2	1.43	1.23	.95	.85
283-9012	9012	E.C., Phono Pin Plug/Tinned Leads	3'	3	1.03	.89	.71	.64
283-9013	9013	E.C., Phono Pin Plug/Tinned Leads	6'	3	1.31	1.12	.84	.76
283-9037	9037	E.C., Mini Plug to Phono Pin	6'	4	1.53	1.33	1.06	.96
283-9040	9040	E.C., Adapter (Pin Plugs/Jacks)	4"	5	1.72	1.58	1.26	1.17
283-9041	9041	E.C., Adapter (Pin Plugs)	4"	6	1.21	1.09	.83	.75

*E.C. = Extension Cable.

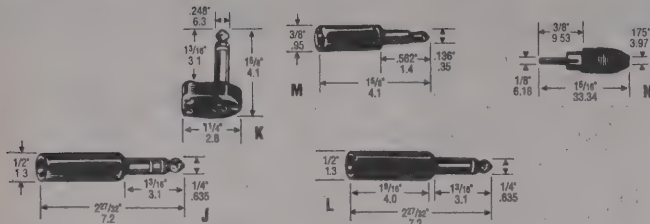
Auto Fuseholder**AUTO**

Rating: 20 Amps. Solder Terminals, except on ZC-210B (#14 gauge wire, 12" length). Fuse Size: 1/4" x 1 1/4" on all

Stock No.	Mfr.'s Type	Description	EACH			
			1-99	100-499	500-999	1000-2499
247-2102	ZC-210B	Bakelite Auto Fuseholder	1.36	1.21	0.88	0.81

ALECTRON Phone Jacks and Plugs, Banana Plugs and Jacks, Grabbers and Alligator Clips

Phone Plugs



Standard 1/4" Type

Stock No.	Mfr.'s Type	Fig.	Color	Description	EACH			
					1-99	100-999	1000-2499	2500-4999
283-3001	PP-3001	L	Black	2 cond. Screw terminal. Mates w/jacks SJ211/210	.79	.71	.53	.48
283-3002	PP-3002	L	Red	2 cond. Screw terminal. Mates w/jacks SJ211/210	.79	.71	.53	.48
283-3003	PP-3003	L	Metal	2 cond. Screw terminal. Mates w/jacks SJ211/210	1.35	1.21	.91	.82
283-1060	SP-106	K	Black	Right angle type 2 cond. solder terminal. Mates with SJ211/210	.58	.52	.39	.35
283-0052	FP-005B	J	Black	3 cond. Solder terminal.	.59	.55	.44	.41

Miniature and Sub-Miniature Types

283-0072	FP-007B	M	Black	2 cond. Solder terminal. Mates w/jacks SJM44/441	.46	.40	.30	.27
283-0071	FP-007A	M	Red	2 cond. Solder terminal. Mates w/jacks SJM44/441	.46	.40	.30	.27
283-0080	FP-008	M	Metal	2 cond. Solder terminal. Mates w/jacks SJM44/441	.47	.39	.36	.34
283-0011	FP-001A	N	Red	Plug	.24	.21	.16	.14
283-0012	1624B	N	Black	Plug	.35	.31	.27	.23
283-0016	FP-001F	N	White	Plug	.24	.21	.16	.14

Banana Plugs and Jacks

All are machined of top-quality materials and carefully inspected. Plugs have sufficient spring tension to assure good holding power and low contact resistance. **Note:** These connectors are made to commercial standards—not for MIL use.

Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-99	100-999	1000-2499	2500-4999
283-0411	FP-041A	A	Red	.40	.36	.28	.25
283-0412	FP-041B	A	Black	.40	.36	.28	.25
283-0413	FP-041C	A	Yellow	.40	.36	.28	.25
283-0414	FP-041D	A	Green	.40	.36	.28	.25
283-0415	FP-041E	A	Blue	.40	.36	.28	.25
283-5560	JR-2505R	B	Red	.77	.70	.52	.47
283-5563	JR-2505B	B	Black	.77	.70	.52	.47
283-0423	FP-042C	B	Yellow	.35	.32	.24	.22
283-0424	FP-042D	B	Green	.35	.32	.24	.22
283-0425	FP-042E	B	Blue	.35	.32	.24	.22
283-1183	WTN-1052R-1	D	Red	.68	.61	.46	.41
283-1184	WTN-1052B-1	D	Black	.68	.61	.46	.41
283-3511	ST-351A	C	Red	.58	.52	.39	.35
283-3512	ST-351B	C	Black	.58	.52	.39	.35

Grabbers

For making rapid and reliable tests on many types of equipment. Molded from rugged thermoplastic for strength and longevity.

244-8162	R8-16F	E	Black	.71	.61	.54	.49
244-8161	R8-16DR	E	Red	.71	.61	.54	.49
244-1631	R8-16CR	G	Red	1.82	1.51	1.40	1.30
244-1632	R8-16CB	G	Black	1.82	1.51	1.40	1.30

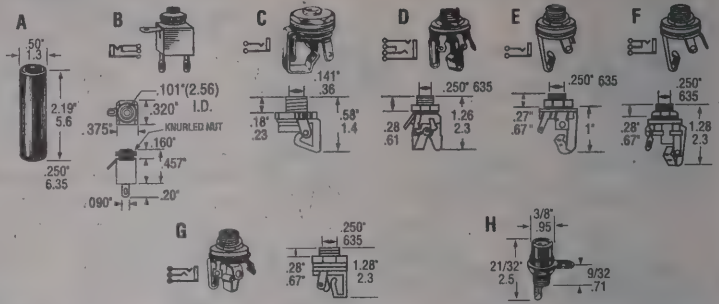
Binding Posts

283-1231	FJ-123A	K	Red	.64	.59	.46	.42
283-1232	FJ-123B	K	Black	.64	.59	.46	.42
244-1141	R1-14A	N	Red	1.20	.99	.91	.85
244-1142	R1-14B	N	Black	1.20	.99	.91	.85

Alligator Clips

Stock No.	Mfr.'s Type	Color	Fig.	Size	EACH			
					1-99	100-999	1000-2499	2500-4999
244-3741	270-374R	Red	L	1 1/2"	.13	.11	.10	.09
244-3742	270-374B	Black	L	1 1/2"	.35	.29	.27	.25
244-3471	270-347R	Red	J	2 3/8"	.20	.18	.16	.15
244-3472	270-347B	Black	J	2 3/8"	.22	.20	.17	.16

Phone Jacks



Nickel-plated brass and brass springs for long life and trouble-free plug mating. Extra-heavy duty insulators prevent breakdowns.

Extension In-Line Phono Jack Standard 1/4" Type

Stock No.	Mfr.'s Type	Fig.	Color	Description	EACH			
					1-99	100-999	1000-2499	2500-4999
283-2030	SJ-203	A	Metal	2-conductor	1.72	1.55	1.17	1.05

Miniature and Sub-Miniature Types

283-0440	SJ-M44	C	Metal	2-cond. Closed Circuit	.71	.59	.55	.51
283-0441	SJ-M442	C	Metal	2-cond. Open Circuit	.97	.88	.75	.67
283-0251	JY2501-02-020	B	—	2-cond. 2.5mm. Closed Circuit	.53	.48	.35	.31

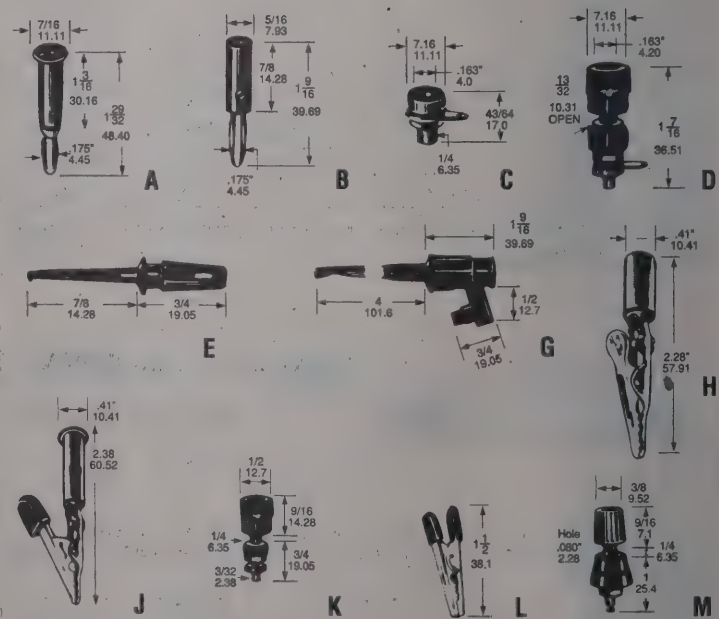
Standard 1/4" Type

283-2080	SJ-208	D	Metal	3-cond. Closed Circuit	.88	.79	.60	.54
283-2110	SJ-211	E	Metal	2-cond. Open Circuit	.60	.54	.41	.37
283-2100	SJ-210	F	Metal	2-cond. Closed Circuit	.67	.60	.45	.40
283-2090	SJ-209	G	Metal	3-cond. Open Circuit	1.40	1.26	.96	.86

Phono Jack

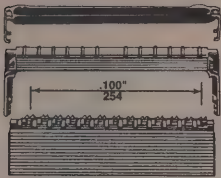
Stock No.	Mfr.'s Type	Fig.	Description	EACH			
				1-99	100-999	1000-2499	2500-4999
283-1021	JR-1611*	H	Phono Jack. Front mount in 3/8" hole.	.53	.48	.36	.32
283-1022	JR-1611†	H	Front Mount in 3/8" hole.	.56	.50	.38	.34

*White thermoplastic insulation. †Black thermoplastic insulation.



Insulated-Barrel Alligator Clips (Fig.H). Made of cadmium-plated steel. Jaws open 3/16".

Stock No.	Mfr.'s Type	Barrel Color	Size	EACH			
				1-99	100-999	1000-2499	2500-4999
244-3751	270-375SR	Red	27/16"	.45	.38	.30	.29
244-3752	270-375SB	Black	27/16"	.31	.28	.25	.23



Female Socket Connectors

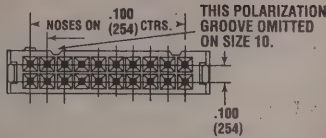
UL Recognized, CSA Certified. One-half of a mating system consisting of the socket and the mating male header. Rugged, lightweight, glass-reinforced thermoplastic body. 30 µ in. gold (in mating area) over 50 µ in. nickel contact plating. Dimensionally compatible to MIL-C-83503/7.

Non-Strain — Low Profile

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-1510	FCC-220-10	10	4.30	3.91
943-4037	FCC-220-14	14	5.32	4.84
943-4038	FCC-220-16	16	5.81	5.29
943-1515	FCC-220-20	20	6.57	5.97
943-1520	FCC-220-26	26	8.02	7.29
943-1525	FCC-220-34	34	9.96	9.05
943-1530	FCC-220-40	40	11.34	10.31
943-4039	FCC-220-50	50	13.89	12.63
943-4040	FCC-220-60	60	16.69	15.17

With Strain Relief

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-4033	FCC-210-10	10	4.88	4.43
943-4034	FCC-210-14	14	5.47	4.97
943-4035	FCC-210-16	16	6.02	5.47
943-1485	FCC-210-20	20	6.79	6.18
943-1490	FCC-210-26	26	8.63	7.84
943-1495	FCC-210-34	34	10.67	9.70
943-1500	FCC-210-40	40	11.83	10.76
943-1505	FCC-210-50	50	14.63	13.30
943-4036	FCC-210-60	60	18.14	16.49



Center Polarized Female Socket Connectors

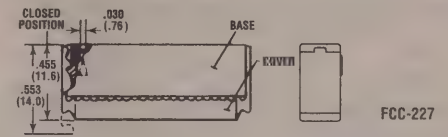
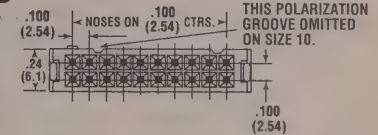
UL Recognized, CSA Certified. 30 µ in. gold (in mating area) over 50 µ in. nickel base. Rugged, lightweight, glass-reinforced thermoplastic body and cover. Contact the closest sales office for larger quantity pricing.

Center Polarized — Non-Strain

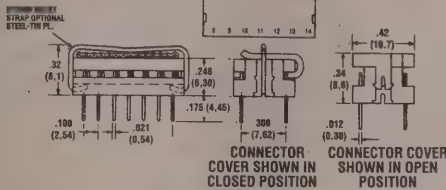
Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-4014	FCC-227-10	10	3.94	3.58
943-4015	FCC-227-14	14	4.04	3.67
943-4016	FCC-227-16	16	5.81	5.29
943-4017	FCC-227-20	20	6.57	5.97
943-4018	FCC-227-26	26	8.02	7.29
943-4019	FCC-227-34	34	9.96	9.05
943-4020	FCC-227-40	40	11.34	10.31
943-4021	FCC-227-50	50	13.89	12.63
943-4022	FCC-227-60	60	16.69	15.17

Center Polarized With Strain Relief

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-4005	FCC-217-10	10	4.77	4.34
943-4006	FCC-217-14	14	5.14	4.67
943-4007	FCC-217-16	16	5.30	4.82
943-4008	FCC-217-20	20	6.81	6.19
943-4009	FCC-217-26	26	8.65	7.86
943-4010	FCC-217-34	34	11.24	10.22
943-4011	FCC-217-40	40	13.08	11.89
943-4012	FCC-217-50	50	16.22	14.74
943-4013	FCC-217-60	60	12.32	11.20



NOTCHED CORNER ORIENTS NO. 1 CONTACT LOCATION. (14 CONTACT POSITIONS SHOWN; ALSO AVAILABLE WITH 16 POSITIONS.)



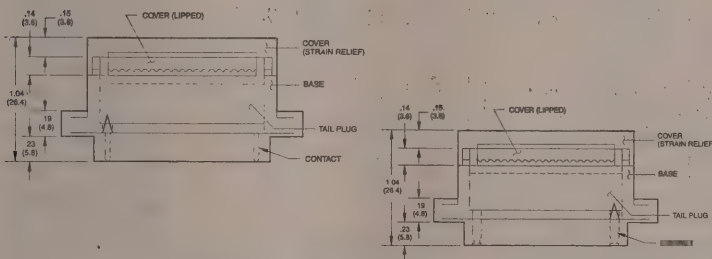
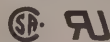
IDC DIP Connectors

UL Recognized, CSA Certified. These sturdy but lightweight connectors fit all standard DIP sockets and are compatible to MIL-C-83503. FCC-130-10 µ in. gold (in mating area) over 50 µ in. nickel.

Series 130

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-1535	FCC-130-14	14	2.75	2.50
943-1540	FCC-130-16	16	3.28	2.99
943-1556	FCC-130-24	24	4.98	4.53
943-4000	FCC-130-40	40	9.83	8.94

D-Subminiature Connectors



- ▶ Rugged, Lightweight, Glass-Reinforced Thermoplastic Body 182, 183 Series
- ▶ Flame Retardant Connector Body Meets UL 94 V-0 Flame Test Requirements
- ▶ Contacts: Phosphor Bronze
- ▶ Contact Plating: 30 µ in. (0.5 µm) Gold (in Mating Area) Over 50 µ in. (1.25 µm) Nickel Base
- ▶ Operating Temperature: -55°C to +125°C
- ▶ Current Rating: 1 Amp, Maximum
- ▶ Dielectric Withstand Voltage: >500 Volts DC At Sea Level
- ▶ Insulation Resistance: >5 × 10⁹ Ohms
- ▶ Withdrawal Force: 2 Oz. (57 gm) To 8 Oz. (227 gm)/Contact, Typical
- ▶ Cover Pull-Off Force: 8 Oz. (227 gm)/Contact Minimum (Force Along Contact's Primary Axis)

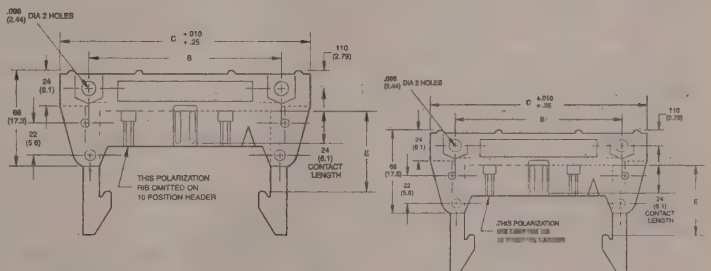
Male

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-1457	FCC-182-9	9	7.77	7.07
943-1458	FCC-182-15	15	11.16	10.14
943-1460	FCC-182-25	25	14.20	12.91
943-1465	FCC-182-37	37	23.28	21.16

Female

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-1470	FCC-183-9	9	8.71	7.92
943-1472	FCC-183-15	15	12.79	11.63
943-1475	FCC-183-25	25	16.12	14.65
943-1480	FCC-183-37	37	25.46	23.14

Four Wall Headers Polarized



- ▶ Rugged, Lightweight, Glass-Reinforced Thermoplastic Connector Body
- ▶ Flame Retardant Connector Body Meets UL 94 V-0 Flame Test Requirements
- ▶ Contacts: Phosphor Bronze
- ▶ Contact Plating: 30 µ in. (0.5 µm) Gold (in Mating Area) Over 50 µ in. (1.25 µm) Nickel Base
- ▶ Operating Temperature: -55°C to +125°C
- ▶ Current Rating: 1 Amp, Maximum
- ▶ Dielectric Withstand Voltage: >500 Volts DC At Sea Level
- ▶ Insulation Resistance: >5 × 10⁹ Ohms

Right Angle

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-1560	FCC-301-26	26	7.02	6.38
943-1561	FCC-301-40	40	8.73	7.94
943-1562	FCC-301-50	50	9.14	8.31
943-1563	FCC-301-60	60	10.98	9.98

Straight

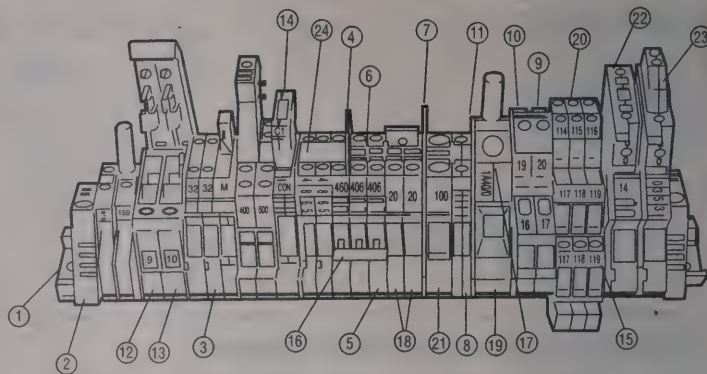
Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-9	10
943-1565	FCC-391-26	26	6.28	5.71
943-1566	FCC-391-40	40	9.14	8.31
943-1567	FCC-391-50	50	10.91	9.92
943-1568	FCC-391-60	60	13.48	12.26

DIN Rail Mount Terminal Blocks

Standard terminal blocks feature a universal foot for mounting on 35 mm or 32 mm DIN rail. Ground Blocks are designed for either 35 or 32 mm rail, as indicated by the suffix in the Mfr.'s Type No. High density design features screw-cage clamps for reliable connections. **Material:** Polyamide 6.6. **Ratings:** 600 V or 300 V. UL, CSA, IEC/VDE.

Select the appropriate terminal block for your application from TABLE I using the SELECTOR ILLUSTRATION (SI#) shown opposite. Choose the accessories required for each terminal block selection from TABLE II, also using the SELECTOR ILLUSTRATION.

SI#	SI#	SI#
1. DIN Rail, 35 mm Slotted	10. RKD2.5 Double Level, 5 mm	17. BSTR Marking Tag†
2. End Stop	11. End Plate	18. RK2.5-4 Feed-Through
3. TRK1.5 Knife Disconnect	12. STK1 Fuse Block²	19. RK16 Feed-Through
4. Separator	13. STK1/LEDU Fuse Block² with LED	20. RKT2.5 Triple Level
5. RK2.5 Feed-Through	14. TRK1.5/DS Diode Plug Disconnect†	21. RK6-10 Feed-Through
6. Internal Jumper	15. SB Marking Tags†	22. SIK10/Z Fuse Block²
7. Isolation Partition	16. External Jumper	23. SIK10Z/LEDGT Fuse Block² with LED Plug
8. SL2.5/35 Ground		24. TME Jumper Cover*
9. RKD4 Double Level, 6 mm		



SELECTOR ILLUSTRATION (SI)

Terminal blocks and Accessories, by number as they are shown on this and next page. Use with Tables I and II. Definitions are listed at left.

*Also serves as a Top Marking Strip.

†Marking Tags, Ferrules, Crimping Tools are shown on next two pages.

Table I. Terminal Blocks for 35 and 32 mm DIN Rail

Stock No.	Mfr.'s Type	Part No.	SI#	Function	Amp/Volt	Wire Size (AWG)	Height		Thickness		Suitable Marking Tags†				EACH
							mm	In.	mm	In.	SB5	SB6	BSTR5	BSTR6	
502-1019	RK2.5	1296.2	5	Feed-Through	20.0 A/600 V	22-12	47	1.85	5.0	.20	X		X		.96
502-2000	RK2.5-4	1001.2	18	Feed-Through	40.0 A/600 V	22-10	47	1.85	6.0	.24		X		X	1.02
502-2002	RK6-10	1005.2	21	Feed-Through	65.0 A/600 V	22-6	47	1.85	8.0	.32		X		X	1.56
502-2004	RK16	1050.2	19	Feed-Through	85.0 A/600 V	12-4	58	2.28	12.0	.47		X		X	3.27
502-2005	RK35	1052.2	†	Feed-Through	115.0 A/600 V	10-2	71	2.80	16.0	.63		X		X	4.49
502-2006	RKD4	1020.2	9	Double Level	30.0 A/300 V	22-12	60	2.36	6.0	.26		X		X	2.49
502-2015	RKD2.5	1206.2	10	Double Level	20.0 A/300 V	22-12	60	2.36	5.0	.20	X		X		2.42
502-5000	RKT2.5	1261.2	20	Triple Level	20.0 A/300 V	22-12	58	2.28	5.0	.20	X		X		3.70
502-2008	TRK1.5/STB	1391.2	3	Knife Disconnect¹	15.0 A/600 V	22-12	42	1.65	6.5	.26				X	3.28
502-2010	STK1	2190.2	12	Fuse²	6.3 A/600 V	22-12	42	1.65	8.0	.32		X		X	4.90
502-2012	STK1/LEDU	2457.2	13	Fuse with LED³ 110 VAC	6.3 A/600 V	22-12	42	1.65	8.0	.32		X		X	10.15
502-2013	STK1/LEDG	2449.2	13	Fuse with LED³ 24 VDC	6.3 A/600 V	22-12	42	1.65	8.0	.32		X		X	9.57
502-2014	SIK10/Z	1102.2	22	Fuse³	16.0 A/600 V	22-12	69	2.72	10.0	.39		X		X	7.10
502-1650	SIK10/Z/LEDGT	1110.2	23	Fuse with LED³ 24 VDC	16.0 A/600 V	22-12	69	2.72	10.0	.39		X		X	11.36
502-1652	SIK10/Z/LEDJU	1109.2	23	Fuse with LED³ 110 VDC	16.0 A/600 V	22-12	69	2.72	10.0	.39		X		X	11.36
502-1654	SL2.5/35	1056.2	8	Ground 35 mm DIN Rail	Ground	22-12	47	1.85	6.0	.24		X		X	3.76
502-2016	SL4/35	1212.2	8	Ground 35 mm DIN Rail	Ground	22-10	47	1.85	8.0	.32		X		X	3.98
502-1656	SL10/35	1213.2	8	Ground 35 mm DIN Rail	Ground	20-6	47	1.85	10.0	.39		X		X	4.40
502-2017	SL2.5/32	1055.2	†	Ground 32 mm DIN Rail	Ground	22-12	52	2.05	6.0	.24		X		X	3.76
502-2018	SL4/32	1065.2	†	Ground 32 mm DIN Rail	Ground	22-10	52	2.05	8.0	.32		X		X	3.98
502-1658	SL10/32	1066.2	†	Ground 32 mm DIN Rail	Ground	20-6	52	2.05	10.0	.39		X		X	4.40

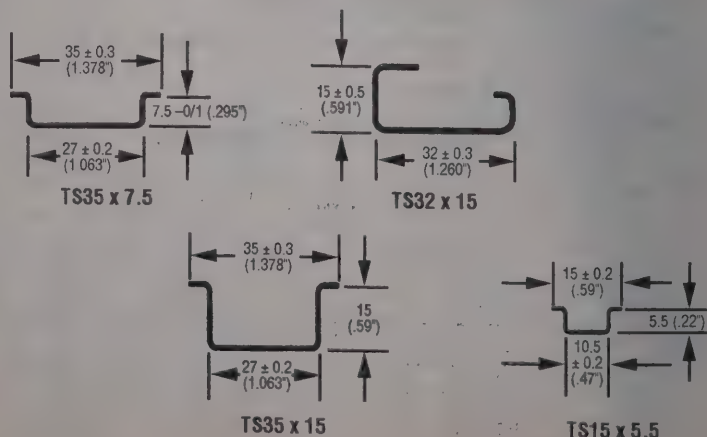
Mini Terminal Blocks for 15 mm DIN Rail

502-5002	SRK2.5/15	1035.2	†	Feed-Through	20.0 A/300 V	22-14	30	1.18	5.0	.20	X		X		.95
502-5004	RK1.5-4/15	1010.2	†	Feed-Through	30.0 A/300 V	22-12	35	1.38	6.0	.24				X	.95
502-5006	SL/15	1064.2	†	Ground for 15 mm DIN Rail	Ground	22-10	32	1.26	7.0	.28		X		X	2.94
502-5008	TRK1.5/15STB	1393.2	†	Knife Disconnect¹	15.0 A/300 V	22-12	39	1.54	6.0	.24		X		X	3.38
502-5010	STK1/15	2191.2	†	Fuse²	6.3 A/600 V	22-12	34	1.39	8.0	.32		X		X	5.02
502-5012	STK1/15/LEDG	2459.2	†	Fuse² 24 VDC	6.3 A/600 V	22-12	34	1.39	8.0	.32		X		X	10.05
502-5014	STK1/15/LEDU	2467.2	†	Fuse² 110 VAC	6.3 A/600 V	22-12	34	1.39	8.0	.32		X		X	11.36

¹With 2 Sockets. ²5 × 20 mm. ³1/4 × 1 1/4". †Not Shown in Selector Illustration (SI). ‡Marking Tags are shown on next page.

DIN Rail

DIN Rail is slotted for easy mounting. **Material:** Steel, zinc plated, yellow chromated. Standard Length: 1 m (3', 3").



Stock No.	Mfr.'s Type	Part No.	SI#	Size	EACH
502-2020	TS35 x 7.5	2094.0/1m	1	35 × 7.5 mm (1.38 × .29")	6.45
502-5016	TS35 x 15	2095.0/1m	†	35 × 15 mm (1.38 × .59")	10.70
502-2022	TS32 x 15	2093.0/1m	†	32 × 15 mm (1.26 × .59")	8.51
502-5018	TS15 x 5.5	2092.0/1m	†	15 × 5.5 mm (.59 × .22")	4.62

†Not Shown in Selector Illustration (SI).

DIN Rail Mount Terminal Blocks

Table II. Accessories for Selected 35 and 32 mm DIN Rail Mount Terminal Blocks by Type

Description	SI#	Type RK2.5			Type RK2.5-4			Type RK6-10			Type RK16			Type RK35		
		Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
End Plate	11	502-2024	2001.2	.45	502-2024	2001.2	.45	502-2024	2001.2	.45	502-2026	2104.2	.55	502-4426	2116.2	.66
Isolation Partition	7	502-2032	2002.2	.55	502-2032	2002.2	.55	502-2034	2105.2	.87	502-2034	2105.2	.87	502-4428	2117.2	.79
Separator	4	502-2038	2566.2	.14	502-2036	2003.2	.11	502-2036	2003.2	.11	502-2036	2003.2	.11	—	—	—
End Stop/35 mm	2	502-2040	2005.2	.64	502-2040	2005.2	.64	502-2040	2005.2	.64	502-2040	2005.2	.64	502-2040	2005.2	.64
End Stop/32 mm	—	502-2042	2004.2	.64	502-2042	2004.2	.64	502-2042	2004.2	.64	502-2042	2004.2	.64	502-2042	2004.2	.64
Internal Jumper (2)	6	502-2202	2567.0	.64	502-2044	2019.0	.66	502-2052	2060.0	.66	502-2060	2112.0	.66	—	—	—
Internal Jumper (3)	6	502-2204	2568.0	1.13	502-2046	2020.0	.99	502-2054	2061.0	.99	502-2062	2113.0	.99	—	—	—
Internal Jumper (4)	6	502-2206	2569.0	1.45	502-2048	2021.0	1.29	502-2056	2062.0	1.29	502-2064	2114.0	1.29	—	—	—
Internal Jumper (10)	6	502-2208	2570.0	3.45	502-2050	2022.0	3.18	502-2058	2063.0	3.18	502-2066	2115.0	3.18	—	—	—
External Jumper (2)	16	502-4420	8879.0	.69	502-2076	2064.0	.38	502-2082	2067.0	.38	—	—	—	—	—	—
External Jumper (3)	16	502-4422	8880.0	1.03	502-2078	2065.0	.50	502-2084	2068.0	.50	—	—	—	—	—	—
External Jumper (4)	16	502-4424	8881.0	1.39	502-2080	2066.0	.59	502-2086	2069.0	.59	—	—	—	—	—	—
Jumper Cover	24	502-5020	8884.0	3.02	502-5020	8884.0	3.02	502-5020	8884.0	3.02	—	—	—	—	—	—

Description	SI#	Type RKD4			Type RKD2.5			Type TRK1.5/STB			Type STK1			Type RKT2.5		
		Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
End Plate	11	502-2027	2101.2	.66	502-2027	2101.2	.66	—	—	—	502-4430	2046.2	.45	502-5024	2699.2	.81
Isolation Partition	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Separator	4	502-2038	2566.2	.14	502-2038	2566.2	.14	—	—	—	—	—	—	—	—	—
End Stop/35 mm	2	502-2040	2005.2	.64	502-2040	2005.2	.64	502-2040	2005.2	.64	502-2040	2005.2	.64	502-2040	2005.2	.64
End Stop/32 mm	—	502-2042	2004.2	.64	502-2042	2004.2	.64	502-2042	2004.2	.64	502-2042	2004.2	.64	502-2042	2004.2	.64
Internal Jumper (2)	6	502-2068	2087.0	.80	502-2202	2567.0	.64	—	—	—	—	—	—	502-5026	2422.0	.67
Internal Jumper (3)	6	502-2070	2088.0	1.13	502-2204	2568.0	1.13	—	—	—	—	—	—	502-5028	2423.0	1.16
Internal Jumper (4)	6	502-2072	2089.0	1.46	502-2206	2569.0	1.45	—	—	—	—	—	—	502-5030	2424.0	1.50
Internal Jumper (10)	6	502-2074	2090.0	3.44	502-2208	2570.0	3.45	—	—	—	—	—	—	502-5032	2425.0	3.55
External Jumper (2)	16	502-2076	2064.0	.38	—	—	—	502-2076	2064.0	.38	502-2082	2067.0	.39	—	—	—
External Jumper (3)	16	502-2078	2065.0	.50	—	—	—	502-2078	2065.0	.50	502-2084	2068.0	.51	—	—	—
External Jumper (4)	16	502-2088	2066.0	.59	—	—	—	502-2080	2066.0	.59	502-2086	2069.0	.61	—	—	—
Jumper Cover	24	502-5022	8885.0	2.92	—	—	—	—	—	—	—	—	—	—	—	—

Table II. Accessories for 15 mm DIN Rail Mount Mini Terminal Blocks by Type

Description	SI#	Type SRK2.5/15			Type RK1.5-4/15			Type TRK1.5/15/STB			Type STK1/15		
		Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
End Plate	—	502-5034	2427.2	.30	502-5048	2738.2	.40	—	—	—	502-4430	2046.2	.46
Isolation Partition	—	502-5036	2428.2	.45	502-5050	2071.2	.44	—	—	—	—	—	—
Separator	—	—	—	—	502-2038	2566.2	.15	—	—	—	—	—	—
End Stop/15 mm	—	502-5052	2074.2	.42	502-5052	2074.2	.42	502-5052	2074.2	.42	502-5052	2074.2	.42
Internal Jumper (2)	—	502-5026	2422.0	.67	502-2068	2087.0	.80	—	—	—	—	—	—
Internal Jumper (3)	—	502-5028	2423.0	1.16	502-2070	2088.0	1.20	—	—	—	—	—	—
Internal Jumper (4)	—	502-5030	2424.0	1.50	502-2072	2089.0	1.55	—	—	—	—	—	—
Internal Jumper (10)	—	502-5032	2425.0	3.55	502-2074	2090.0	3.65	—	—	—	—	—	—
External Jumper (2)	—	—	—	—	502-2076	2064.0	.38	502-2076	2064.0	.38	502-5072	2067.0	.39
External Jumper (3)	—	—	—	—	502-2078	2065.0	.50	502-2078	2065.0	.50	502-5074	2068.0	.51
External Jumper (4)	—	—	—	—	502-2080	2066.0	.59	502-2080	2066.0	.59	502-5076	2069.0	.61

Marking Tags

Give a professional look to every job, large or small, standard or special with Altech's comprehensive Marking System. Marked terminal blocks increase wiring efficiency, save installation time and make wire hook-up, system modifications and troubleshooting quick and easy.

SB and BSTR

Push-on tags are available in two widths and fit most DIN rail mount and panel mount terminal blocks. They can be inserted individually or in strips of ten to speed installation. BSTR Tags are extra large for multiple digits or large markings. They are available blank for hand marking or imprinted. Standard tags are white with black imprint, marked consecutively or with identical numbers, horizontal (W) or vertical (V). Refer to Table I on page 162 to determine which tag can be used on each terminal block type. A package contains 10 strips of 10 tags.

TME

Top marking strips snap onto the tops of terminal block assemblies to provide a wide surface for multi-character markings. They can also be used as protective covers for internal jumpers. Strips are supplied blank for hand marking or computer imprinted labels. Supplied in .5 m (19.7") lengths which cut easily.

SB5 — SI# 15

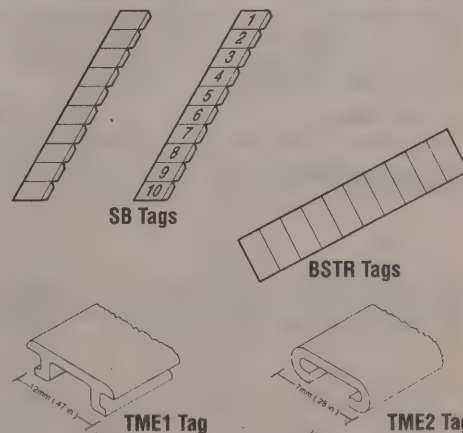
Horizontal		Vertical		ID	PER PK./100
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		
502-2210	SB5/10	502-5078	SB5/10	Blank	3.10
502-2212	SB5/10FW	502-5080	SB5/10FS	1-10	3.10
502-2214	SB5/10FW	502-5082	SB5/10FS	11-20	3.10
502-2216	SB5/10FW	502-5084	SB5/10FS	21-30	3.10
502-2218	SB5/10FW	502-5086	SB5/10FS	31-40	3.10
502-2220	SB5/10FW	502-5088	SB5/10FS	41-50	3.10

SB6 — SI# 15

502-2100	SB6/10	502-5090	SB6/10	Blank	3.10
502-2102	SB6/10FW	502-5092	SB6/10FS	1-10	3.10
502-2104	SB6/10FW	502-5094	SB6/10FS	11-20	3.10
502-2106	SB6/10FW	502-5096	SB6/10FS	21-30	3.10
502-2222	SB6/10FW	502-5098	SB6/10FS	31-40	3.10
502-2224	SB6/10FW	502-5100	SB6/10FS	41-50	3.10

BSTR — SI# 17

502-4260	BSTR10/5	PER PK./100	3.00
502-2226	BSTR/6	PER PK./100	3.00



TME (1 meter strip) — SI# 24
 502-5020. TME1. Blank 12 mm (.47")EACH 3.02
 502-5022. TME2. Blank 7 mm (.28")EACH 3.02

Marking Pen
 502-5106. BS 1. Waterproof, Black InkEACH 4.76

Ferrules

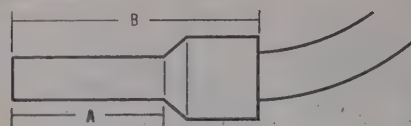


Fig. 1 — Insulated

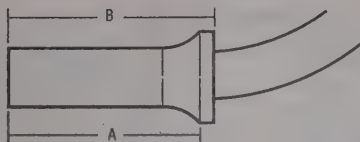


Fig. 2 — Uninsulated

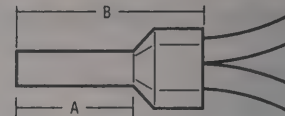


Fig. 3 — Dual Wire Insulated

Insure reliable electrical connections and prevent fraying and breaking of wire strands when terminating conductors in screw clamp terminal blocks. Insulated ferrules have molded-on plastic sleeves and prevent conductor breakage due to bending, wire stress or vibration.

Ferrules, Insulated — Fig. 1. Tin-Plated Copper and Polyamide.

Stock No.	Mfr.'s Type	Color	Wire Size AWG	Strip Length A	Ferrule Length B	Use with Crimping Tool	PER PK./100
502-5200	H0.25/10	Lt. Blue	24	.24"	.41"	PZU6	8.00
502-5202	H0.25/12	Lt. Blue	24	.31"	.49"	PZU6	8.00
502-5204	H0.34/10	Turq.	22	.24"	.41"	PZU6	8.00
502-5206	H0.34/12	Turq.	22	.31"	.49"	PZU6	8.00
502-5208	H0.50/13	Orange	20	.31"	.50"	PZU6	8.00
502-2110	H0.50/14	Orange	20	.39"	.55"	PZU6	8.00
502-5210	H0.75/13	White	18	.31"	.50"	PZU6	8.00
502-2112	H0.75/14	White	18	.43"	.57"	PZU6	8.00
502-5212	H1.0/13	Yellow	18	.47"	.50"	PZU6	9.00
502-2114	H1.0/14	Yellow	18	.43"	.57"	PZU6	10.00
502-2116	H1.5/14	Red	16	.43"	.58"	PZU6	10.00
502-5214	H1.5/16	Red	16	.51"	.65"	PZU6	11.00
502-5216	H1.5/24	Red	16	.83"	.97"	PZU6	11.00
502-2118	H2.5/15	Blue	14	.43"	.60"	PZU6	12.00
502-5218	H2.5/19	Blue	14	.59"	.75"	PZU6	21.00
502-5220	H2.5/25	Blue	14	.83"	.98"	PZU6	22.00
502-2120	H4.0/16	Gray	12	.47"	.63"	PZU6	18.00
502-5224	H4.0/19	Gray	12	.59"	.77"	PZU6	19.00
502-5226	H4.0/25	Gray	12	.87"	.98"	PZU6	26.00
502-5228	H6.0/20	Black	10	.79"	.79"	PZU6	24.00
502-5230	H6.0/26	Black	10	.79"	1.02"	PZU6	28.00
502-5232	H10.0/21	Ivory	8	.63"	.85"	PZU16	26.00
502-5234	H10.0/27	Ivory	8	.87"	1.08"	PZU16	33.00
502-5236	H16.0/22	Green	6	.63"	.89"	PZU16	30.00
502-5238	H16.0/28	Green	6	.87"	1.13"	PZU16	41.00
502-5240	H25.0/29	Brown	4	.79"	1.14"	PZU35	71.00
502-5242	H25.0/35	Brown	4	1.02"	1.38"	PZU35	76.00
502-5244	H35.0/30	Beige	2	.79"	1.18"	PZU35	102.00
502-5246	H35.0/39	Beige	2	1.14"	1.54"	PZU35	117.00
502-5248	H50.0/37	Olive	1	1.06"	1.46"	PZU50	134.00
502-5250	H70.0/37	Yellow	—	1.18"	1.46"	†	150.00
502-5252	H95.0/44	Red	—	1.18"	1.73"	†	165.00
502-5254	H120.0/48	Blue	—	1.38"	1.89"	†	182.00
502-5256	H150.0/58	Yellow	—	1.50"	2.28"	†	191.00

†Consult Altech.

Ferrule Box Assortment

Circular plastic box, supplied with five different size ferrules. Clear rotary cover allows for easy dispensing. Box Contains: 50 each, H0.5/14 Orange; 100 each, H0.75/14 White; 100 each, H1.0/14 Yellow; 100 each, H1.5/14 Red; 50 each, H2.5/15 Blue.

502-5316. 2884.9EACH 11.42



Crimping Tools

Universal ferrule crimpers crimp insulated and uninsulated ferrules. Front or side conductor entry, positive ratcheting with spring return. Comfort grip plastic handles with hardened steel frames. Contact Altech for more tools.

Stock No.	Mfr.'s Type	AWG	Wire Entry	Ferrule Size	EACH
502-4276	PZU6	26-10	Front	.25-6 mm ²	204.43
502-5316	PZU16	7-5	Front	10-16 mm ²	210.58
502-5318	PZU35	3-2	Side	25 mm ² , 35 mm ²	216.50
502-5320	PZU50	0	Side	50 mm ²	216.50

Dual wire insulated ferrules provide reliable connection of multiple wires into the same terminal block clamp and simplify jumpering between terminal blocks. All ferrules are packaged in 100/piece standard packs.

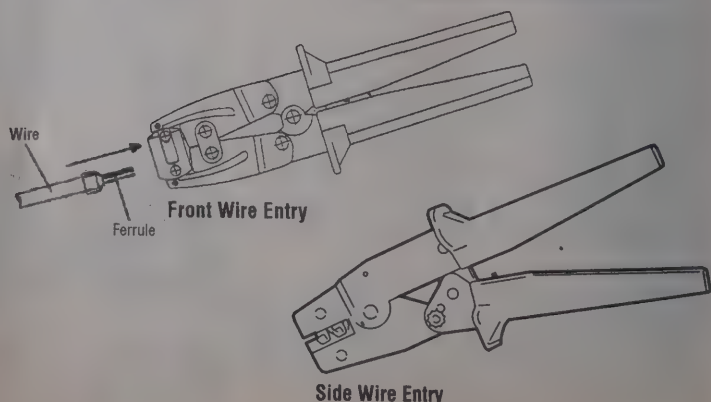
Ferrules, Uninsulated — Fig. 2. Tin-Plated Copper.

Stock No.	Mfr.'s Type	Color	Wire Size AWG	Strip Length A	Ferrule Length B	Use with Crimping Tool	PER PK./100
502-2150	H0.5/6	—	20	.24"	.24"	PZU6	4.00
502-5258	H0.75/6	—	20	.24"	.24"	PZU6	4.00
502-2152	H0.75/10	—	20	.39"	.39"	PZU6	5.00
502-5260	H1.0/6	—	18	.24"	.24"	PZU6	5.00
502-2154	H1.0/10	—	18	.39"	.39"	PZU6	5.00
502-2156	H1.5/7	—	16	.28"	.28"	PZU6	5.00
502-5262	H1.5/10	—	16	.39"	.39"	PZU6	5.00
502-2158	H2.5/7	—	14	.28"	.28"	PZU6	6.00
502-5264	H2.5/12	—	14	.47"	.47"	PZU6	7.00
502-2160	H4.0/9	—	12	.35"	.35"	PZU6	6.00
502-2161	H4.0/12	—	12	.47"	.47"	PZU6	7.00
502-5266	H6.0/12	—	10	.47"	.47"	PZU6	10.00
502-5268	H6.0/15	—	10	.59"	.59"	PZU6	11.00
502-5270	H10.0/12	—	8	.47"	.47"	PZU16	12.00
502-5272	H10.0/15	—	8	.59"	.59"	PZU16	12.00
502-5274	H10.0/18	—	8	.71"	.71"	PZU16	13.00
502-5276	H16.0/12	—	6	.47"	.47"	PZU16	15.00
502-5278	H16.0/15	—	6	.59"	.59"	PZU16	17.00
502-5280	H16.0/18	—	6	.71"	.71"	PZU16	20.00
502-5282	H25.0/15	—	4	.59"	.59"	PZU35	31.00
502-5284	H25.0/18	—	4	.71"	.71"	PZU35	38.00
502-5286	H35.0/18	—	2	.71"	.71"	PZU35	45.00
502-5288	H50.0/22	—	1	1.26"	1.26"	PZU50	71.00
502-5290	H70.0/26	—	2/0	1.02"	1.02"	†	88.00
502-5292	H95.0/30	—	3/0	1.18"	1.18"	†	115.00
502-5294	H120.0/34	—	4/0	1.26"	1.26"	†	140.00
502-5296	H150.0/38	—	250MCM	1.50"	1.50"	†	170.00
502-5298	H185.0/40	—	350MCM	1.57"	1.57"	†	202.00

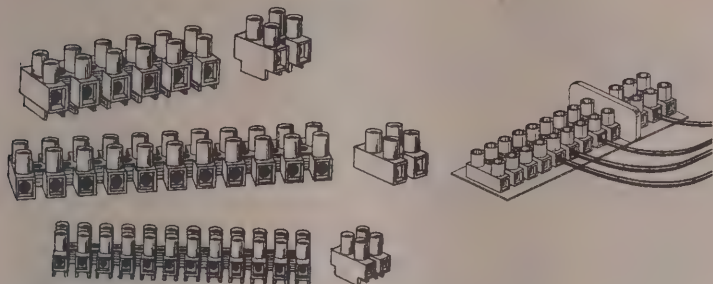
Dual Wire Ferrules, Insulated — Fig. 3. Tin-Plated Copper and Polyamide.

Each dual wire ferrule accepts 2 wires of equal or different size.

Stock No.	Wire Size	Color	Wire Size AWG	Strip Length A	Ferrule Length B	Use with Crimping Tool	PER PK./100
502-4262	HH2x0.5/8	White	2/22	.31"	.59"	PZU6	9.00
502-4264	HH2x0.75/8	Gray	2/20	.31"	.59"	PZU6	9.00
502-5300	HH2x0.75/10	Gray	2/20	.39"	.67"	PZU6	9.00
502-4266	HH2x1.0/8	Red	2/18	.31"	.59"	PZU6	11.00
502-5302	HH2x1.0/10	Red	2/18	.39"	.67"	PZU6	11.00
502-4268	HH2x1.5/8	Black	2/16	.31"	.63"	PZU6	12.00
502-5304	HH2x1.5/12	Black	2/16	.47"	.79"	PZU6	12.00
502-4270	HH2x2.5/10	Blue	2/14	.39"	.71"	PZU6	22.00
502-5306	HH2x2.5/13	Blue	2/14	.51"	.85"	PZU6	22.00
502-4272	HH2x4.0/12	Gray	2/18	.47"	.91"	PZU16	25.00
502-5310	HH2x6.0/14	Yellow	2/10	.55"	1.02"	PZU16	29.00
502-5312	HH2x10.0/14	Red	2/8	.55"	1.02"	PZU35	34.00
502-5314	HH2x16.0/14	Blue	2/6	.55"	1.02"	PZU35	39.00



Eurostrips®



Compact, easy to use double row tubular screw terminal strips are a safe, cost effective alternative to barrier strips. Ideal for HVAC, appliance, power distribution and more. Dead front design. Supplied with wire protector. White polyimide 6.6 housing. Strips are easily cut to the desired number of poles.

TS1.5 Flat Base. 300 V, 15 A, 20-14 AWG.

Pole Spacing: 8 mm (.32"). **Mounting Hole Diameter:** 2.8 mm (.11"). **Width:** 18.2 mm (.72").

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1402	TS1.5/2WP	40.002	2	15.0 (0.59)	.38
502-1403	TS1.5/3WP	40.003	3	23.0 (0.91)	.58
502-1404	TS1.5/4WP	40.004	4	31.5 (1.24)	.75
502-1405	TS1.5/5WP	40.005	5	39.5 (1.55)	.92
502-1406	TS1.5/6WP	40.006	6	47.5 (1.87)	1.14
502-1407	TS1.5/7WP	40.007	7	55.5 (2.19)	1.39
502-1408	TS1.5/8WP	40.008	8	64.0 (2.52)	1.59
502-1409	TS1.5/9WP	40.009	9	72.0 (2.84)	1.80
502-1410	TS1.5/10WP	40.010	10	80.0 (3.15)	1.99
502-1411	TS1.5/11WP	40.011	11	88.5 (3.48)	2.29
502-1412	TS1.5/12WP	40.012	12	96.5 (3.80)	2.18

TS2.5 Flat Base. 300 V, 30 A, 18-12 AWG.

Pole Spacing: 10 mm (.39"). **Mounting Hole Diameter:** 3.5 mm (1.4"). **Width:** 22.3 mm (.88").

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1422	TS2.5/2WP	40.202	2	17.0 (0.67)	.39
502-1423	TS2.5/3WP	40.203	3	27.0 (1.06)	.59
502-1424	TS2.5/4WP	40.204	4	37.0 (1.46)	.79
502-1425	TS2.5/5WP	40.205	5	47.0 (1.85)	.98
502-1426	TS2.5/6WP	40.206	6	57.0 (2.24)	1.17
502-1427	TS2.5/7WP	40.207	7	67.0 (2.64)	1.43
502-1428	TS2.5/8WP	40.208	8	77.0 (3.03)	1.63
502-1429	TS2.5/9WP	40.209	9	87.0 (3.43)	1.83
502-1430	TS2.5/10WP	40.210	10	97.0 (3.82)	2.04
502-1431	TS2.5/11WP	40.211	11	107.0 (4.21)	2.33
502-1432	TS2.5/12WP	40.212	12	117.0 (4.61)	2.22

TS6 Flat Base. 300 V, 30 A, 18-10 AWG.

Pole Spacing: 12 mm (.47"). **Mounting Hole Diameter:** 4.2 mm (.17"). **Width:** 23 mm (.91").

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1442	TS6/2WP	40.402	2	20.0 (0.79)	.52
502-1443	TS6/3WP	40.403	3	32.0 (1.26)	.77
502-1444	TS6/4WP	40.404	4	44.0 (1.73)	1.01
502-1445	TS6/5WP	40.405	5	56.0 (2.21)	1.38
502-1446	TS6/6WP	40.406	6	68.0 (2.68)	1.53
502-1447	TS6/7WP	40.407	7	80.0 (3.15)	1.86
502-1448	TS6/8WP	40.408	8	92.0 (3.62)	2.13
502-1449	TS6/9WP	40.409	9	104.0 (4.10)	2.40
502-1450	TS6/10WP	40.410	10	116.0 (4.57)	2.65
502-1451	TS6/11WP	40.411	11	128.0 (5.04)	3.05
502-1452	TS6/12WP	40.412	12	140.0 (5.51)	2.90

TSF6 Standoff Feet. 600 V, 30 A, 18-10 AWG.

Pole Spacing: 12 mm (.47"). **Mounting Hole Diameter:** 4.2 mm (.16"). **Width:** 23.0 mm (.91").

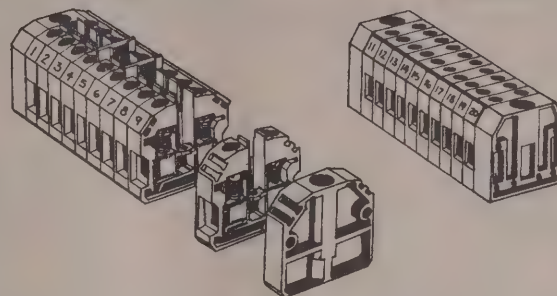
Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1482	TSF6/2WP	40.502	2	20.0 (0.79)	.53
502-1483	TSF6/3WP	40.503	3	32.0 (1.26)	.81
502-1484	TSF6/4WP	40.504	4	44.0 (1.73)	1.05
502-1485	TSF6/5WP	40.505	5	56.0 (2.20)	1.33
502-1486	TSF6/6WP	40.506	6	68.0 (2.68)	1.57
502-1487	TSF6/7WP	40.507	7	80.0 (3.15)	1.93
502-1488	TSF6/8WP	40.508	8	92.0 (3.62)	2.20
502-1489	TSF6/9WP	40.509	9	104.0 (4.10)	2.47
502-1490	TSF6/10WP	40.510	10	116.0 (4.57)	2.75
502-1491	TSF6/11WP	40.511	11	128.0 (5.04)	3.15
502-1492	TSF6/12WP	40.512	12	140.0 (5.51)	3.00

TSF16 Standoff Feet. 600 V, 63 A, 14-6 AWG.

Pole Spacing: 15 mm (.59"). **Mounting Hole Diameter:** 4 mm (.16"). **Width:** 26.5 mm (1.04").

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1533	TSF16/2WP	40.702	2	25.0 (0.98)	1.24
502-1535	TSF16/3WP	40.703	3	40.0 (1.58)	1.89
502-1537	TSF16/4WP	40.704	4	55.0 (2.17)	2.49
502-1541	TSF16/5WP	40.705	5	70.5 (2.78)	3.14
502-1539	TSF16/9WP	40.709	9	131.0 (5.16)	5.87
502-1542	TSF16/12WP	40.712	12	176.0 (6.93)	7.12

Panel Mount Terminal Blocks



► **High Density, 50 or 60 Terminations Per Foot**

► **Screw-Cage Clamp**
► **Accepts Standard Marking Tags**

Compact and convenient to use where space is a constraint. Cost effective sectional design allows for changing requirements. Order preassembled or easily snap together single pole components to form multipole assemblies. Mounting sections snap onto ends of assembly or between terminal block components to provide additional mounting points.

BKA assemblies accept external jumpers while RKB4 assemblies feature an internal bussing provision to distribute power selectively or throughout the assembly.

BKA2.5 Terminal Block Components (1 Pole) and Assemblies (2 Poles and Up)

Pole Spacing: 5mm (.197"). 22mm (.87") wide x 23mm (.91") high; 300V, 20A, 22-12 AWG.

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1551	BKA2.5/1	1320.2	1*	5.0 (.197)	.54
502-1552	BKA2.5/2	1321.2	2	24.5 (.960)	1.63
502-1553	BKA2.5/3	1322.2	3	29.6 (1.17)	2.14
502-1554	BKA2.5/4	1323.2	4	34.6 (1.36)	2.64
502-1555	BKA2.5/5	1324.2	5	39.8 (1.57)	3.14
502-1556	BKA2.5/6	1325.2	6	44.9 (1.77)	3.65
502-1558	BKA2.5/8	1326.2	8	55.1 (2.17)	4.64
502-1560	BKA2.5/10	1327.2	10	65.3 (2.57)	5.64
502-1562	BKA2.5/12	1328.2	12	75.5 (2.97)	6.65
502-1564	BKA2.5/14	1330.2	14	85.7 (3.37)	7.66
502-1566	BKA2.5/16	1332.2	16	95.8 (3.77)	8.66
502-1568	BKA2.5/18	1333.2	18	106.2 (4.18)	9.67
502-1570	BKA2.5/20	1334.2	20	116.2 (4.57)	10.65
502-1574	BKA2.5/24	1335.2	24	136.7 (5.38)	12.67

BKA4 Terminal Block Components (1 Pole) and Assemblies (2 Poles and Up)

Pole Spacing: 6mm (.236"). 22mm (.87") wide x 23mm (.91") high. 300V, 20A, 22-12 AWG.

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1501	BKA4/1	2158.2	1*	5.0 (0.20)	.55
502-1510	BKA4/2	2170.2	2	26.5 (1.04)	1.66
502-1511	BKA4/3	2171.2	3	32.6 (1.25)	2.17
502-1512	BKA4/4	2172.2	4	38.6 (1.52)	2.69
502-1513	BKA4/5	2173.2	5	44.8 (1.76)	3.19
502-1514	BKA4/6	2174.2	6	50.9 (2.00)	3.71
502-1516	BKA4/8	2175.2	8	63.1 (2.48)	4.73
502-1518	BKA4/10	2176.2	10	75.3 (2.96)	5.75
502-1520	BKA4/12	2177.2	12	87.5 (3.44)	6.78
502-1524	BKA4/14	1036.2	14	99.7 (3.93)	7.81
502-1526	BKA4/16	1037.2	16	111.9 (4.40)	8.83
502-1528	BKA4/18	1038.2	18	124.1 (4.89)	9.87
502-1530	BKA4/20	2179.2	20	136.3 (5.36)	10.86
502-1531	BKA4/24	1039.2	24	160.7 (6.33)	12.93

Mounting Section for BKA Components

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1502	EH2	2136.2	—	—	.32

RKB4 Terminal Block Components (1 Pole) and Assemblies (2 Poles and Up)

Pole Spacing: 6mm (.236"). 27mm (1.06") wide x 23mm (.91") high. 300V, 20A, 22-12 AWG.

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1579	RKB4/1	1018.2	1*	6.0 (.236)	.93
502-1582	RKB4/2	8852.2	2	26.5 (1.04)	2.90
502-1583	RKB4/3	8853.2	3	32.6 (1.28)	3.85
502-1584	RKB4/4	8854.2	4	38.7 (1.52)	4.79
502-1585	RKB4/5	8855.2	5	44.8 (1.76)	5.72
502-1586	RKB4/6	8856.2	6	50.9 (2.00)	6.66
502-1587	RKB4/7	8857.2	7	57.0 (2.24)	7.63
502-1588	RKB4/8	8858.2	8	63.1 (2.48)	8.58
502-1589	RKB4/9	8859.2	9	69.2 (2.72)	9.52
502-1590	RKB4/10	8860.2	10	75.3 (2.96)	10.46
502-1591	RKB4/11	8861.2	11	81.4 (3.20)	11.40
502-1592	RKB4/12	8862.2	12	87.5 (3.44)	12.35

Mounting Section for RKB Components

Stock No.	Mfr.'s Type	Part No.	No. of Poles	Length mm (in.)	EACH
502-1599	EH1	2135.2	—	—	.49

*Order Mounting Sections Separately.

For individual jumpers see DIN Rail Mount Terminal Blocks and Accessories Table II, Type RKD4.

Printed Circuit Board Terminal Blocks

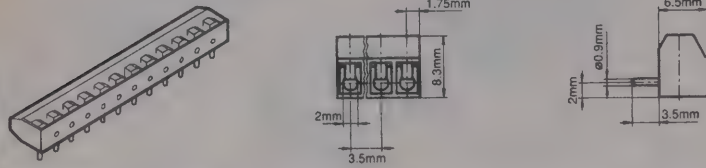
Fixed — Tubular Screw Clamp Design

- Front, Top Wire Entry
- Up to 15 A, 300 V, 28-16 AWG

- Modular and Single Mold
- Standard Color: Gray

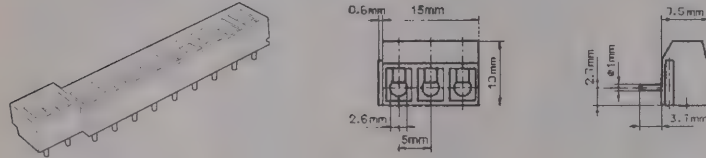
Use for cost sensitive applications where infrequent wire terminations are expected. UL, CSA, IEC/VDE.

Top Wire Entry



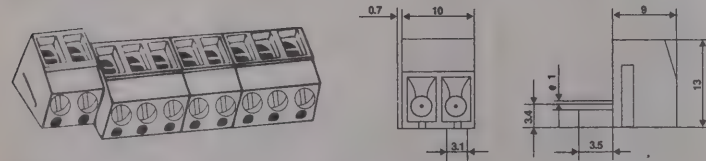
AK555. 3.5 mm (.138") Pin Spacing, 6 A, 300 V, 28-16 AWG. 6.5 mm (.26") high, with wire protector. Subminiature design provides small footprint and the highest circuit density available. 0.9 mm (.035") dia. Round Pins. **Color:** Gray.

Stock No.	Mfr.'s Type	Poles*	Part No.	Length mm (In.)	EACH 1-99
502-4300	AK555/2WP	2	29.102	7.00 (0.280)	.39
502-4302	AK555/3WP	3	29.103	10.50 (0.410)	.59
502-4304	AK555/4WP	4	29.104	14.00 (0.550)	.78
502-4306	AK555/5WP	5	29.105	17.50 (0.690)	.98
502-4308	AK555/6WP	6	29.106	21.00 (0.830)	1.17
502-4310	AK555/7WP	7	29.107	24.50 (0.970)	1.37
502-4312	AK555/8WP	8	29.108	28.00 (1.100)	1.56
502-4314	AK555/10WP	10	29.110	35.00 (1.380)	1.95
502-4316	AK555/12WP	12	29.112	42.00 (1.650)	2.34



AK505. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-14 AWG. 7.5 mm (.80") high, with wire protector. 1 mm (.039") dia. Round Pins. **Color:** Gray.

502-5400	AK505/2WP	2	30.752	10.00 (0.394)	.43
502-5402	AK505/3WP	3	30.753	15.00 (0.591)	.65
502-5404	AK505/4WP	4	30.754	20.00 (0.788)	.86
502-5406	AK505/5WP	5	30.755	25.00 (0.985)	1.08
502-5408	AK505/6WP	6	30.756	30.00 (1.182)	1.29
502-5410	AK505/7WP	7	30.757	35.00 (1.379)	1.51
502-5412	AK505/8WP	8	30.758	40.00 (1.576)	1.72
502-5414	AK505/9WP	9	30.759	45.00 (1.773)	1.94
502-5416	AK505/10WP	10	30.760	50.00 (1.970)	2.15
502-5418	AK505/11WP	11	30.761	55.00 (2.170)	2.37
502-5420	AK505/12WP	12	30.762	60.00 (2.364)	2.58



AK105. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-14 AWG. 9 mm (.35") high, wire protector. 1 mm (.039") dia. Round Pins. **Color:** Gray.

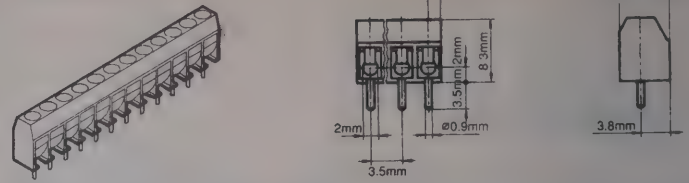
502-4040	AK105/2WP	2	30.052	10.00 (0.394)	.54
502-4042	AK105/3WP	3	30.053	15.00 (0.591)	.81
502-4044	AK105/4WP	4	30.054	20.00 (0.788)	1.07
502-4046	AK105/5WP	5	30.055	25.00 (0.985)	1.34
502-4048	AK105/6WP	6	30.056	30.00 (1.182)	1.61
502-4050	AK105/7WP	7	30.057	35.00 (1.379)	1.88
502-4052	AK105/8WP	8	30.058	40.00 (1.576)	2.15
502-4054	AK105/9WP	9	30.059	45.00 (1.773)	2.42
502-4056	AK105/10WP	10	30.060	50.00 (1.970)	2.69
502-4058	AK105/12WP	12	30.062	60.00 (2.364)	3.22

AKZ125. 15 A, 300 V, 22-14 AWG. Same as AK105, but 5.08 mm (.20") Pin Spacing.

502-4060	AKZ125/2WP	2	30.252	10.16 (0.400)	.52
502-4062	AKZ125/3WP	3	30.253	15.24 (0.600)	.77
502-4064	AKZ125/4WP	4	30.254	20.32 (0.801)	1.03
502-4066	AKZ125/5WP	5	30.255	25.40 (1.001)	1.29
502-4070	AKZ125/6WP	6	30.256	30.48 (1.201)	1.55
502-4072	AKZ125/7WP	7	30.257	35.56 (1.401)	1.81
502-4074	AKZ125/8WP	8	30.258	40.64 (1.601)	2.07
502-4076	AKZ125/9WP	9	30.259	45.72 (1.801)	2.32
502-4078	AKZ125/10WP	10	30.260	50.80 (2.001)	2.58
502-4080	AKZ125/12WP	12	30.262	60.92 (2.402)	3.10

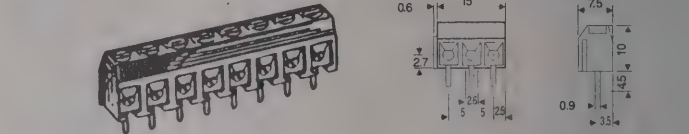
*Available in up to 24 poles by special order.

Front Wire Entry



AK550. 3.5 mm (.138") Pin Spacing, 6 A, 300 V, 28-16 AWG. 8.3 mm (.33") high, with wire protector. Subminiature design provides small footprint and the highest circuit density available. 0.9 mm (.035") dia. Round Pins. **Color:** Gray.

Stock No.	Mfr.'s Type	Poles*	Part No.	Length mm (In.)	EACH 1-99
502-4282	AK550/2WP	2	29.002	7.00 (0.280)	.37
502-4284	AK550/3WP	3	29.003	10.50 (0.410)	.56
502-4286	AK550/4WP	4	29.004	14.00 (0.550)	.74
502-4288	AK550/5WP	5	29.005	17.50 (0.690)	.93
502-4290	AK550/6WP	6	29.006	21.00 (0.830)	1.11
502-4292	AK550/7WP	7	29.007	24.50 (0.970)	1.30
502-4294	AK550/8WP	8	29.008	28.00 (1.100)	1.48
502-4296	AK550/10WP	10	29.010	35.00 (1.380)	1.85
502-4298	AK550/12WP	12	29.012	42.00 (1.650)	2.22

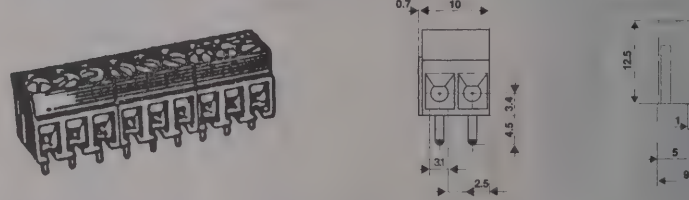


AK500. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-14 AWG. 10 mm (.398") high, with wire protector. 0.9 mm (.035") dia. Round Pins. **Color:** Gray.

502-0302	AK500/2WP	2	30.702	10.00 (0.394)	.39
502-0303	AK500/3WP	3	30.703	15.00 (0.591)	.59
502-0304	AK500/4WP	4	30.704	20.00 (0.788)	.79
502-0305	AK500/5WP	5	30.705	25.00 (0.985)	.98
502-0306	AK500/6WP	6	30.706	30.00 (1.182)	1.18
502-0307	AK500/7WP	7	30.707	35.00 (1.379)	1.37
502-0308	AK500/8WP	8	30.708	40.00 (1.576)	1.57
502-0309	AK500/9WP	9	30.709	45.00 (1.773)	1.77
502-0310	AK500/10WP	10	30.710	50.00 (1.970)	1.96
502-0312	AK500/12WP	12	30.712	60.00 (2.364)	2.36

AKZ500. 15 A, 300 V, 22-14 AWG. Same as AK500, but 5.08 mm (.20") Pin Spacing.

502-0402	AKZ500/2WP	2	34.102	10.16 (0.400)	.39
502-0403	AKZ500/3WP	3	34.103	15.24 (0.600)	.59
502-0404	AKZ500/4WP	4	34.104	20.32 (0.801)	.79
502-0405	AKZ500/5WP	5	34.105	25.40 (1.001)	.98
502-0406	AKZ500/6WP	6	34.106	30.48 (1.201)	1.18
502-0407	AKZ500/7WP	7	34.107	35.56 (1.401)	1.37
502-0408	AKZ500/8WP	8	34.108	40.64 (1.601)	1.57
502-0409	AKZ500/9WP	9	34.109	45.72 (1.801)	1.77
502-0410	AKZ500/10WP	10	34.110	50.80 (2.001)	1.96
502-0412	AKZ500/12WP	12	34.112	60.96 (2.402)	2.36



AK100. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-14 AWG. 12.5 mm (.49") high, with wire protector. 1 mm (.039") dia. Round Pins. **Color:** Gray.

502-0102	AK100/2WP	2	30.002	10.00 (0.394)	.39
502-0103	AK100/3WP	3	30.003	15.00 (0.591)	.59
502-0104	AK100/4WP	4	30.004	20.00 (0.788)	.79
502-0105	AK100/5WP	5	30.005	25.00 (0.985)	.98
502-0106	AK100/6WP	6	30.006	30.00 (1.182)	1.18
502-0107	AK100/7WP	7	30.007	35.00 (1.379)	1.37
502-0108	AK100/8WP	8	30.008	40.00 (1.576)	1.57
502-0109	AK100/9WP	9	30.009	45.00 (1.773)	1.77
502-0110	AK100/10WP	10	30.010	50.00 (1.970)	1.96
502-0112	AK100/12WP	12	30.012	60.00 (2.364)	2.36

AKZ120. 15 A, 300 V, 22-14 AWG. Same as AK100, but 5.08 mm (.20") Pin Spacing.

502-0202	AKZ120/2WP	2	30.202	10.16 (0.400)	.39
502-0203	AKZ120/3WP	3	30.203	15.24 (0.600)	.59
502-0204	AKZ120/4WP	4	30.204	20.32 (0.801)	.79
502-0205	AKZ120/5WP	5	30.205	25.40 (1.001)	.98
502-0206	AKZ120/6WP	6	30.206	30.48 (1.201)	1.18
502-0207	AKZ120/7WP	7	30.207	35.56 (1.401)	1.37
502-0208	AKZ120/8WP	8	30.208	40.64 (1.601)	1.57
502-0209	AKZ120/9WP	9	30.209	45.72 (1.801)	1.77
502-0210	AKZ120/10WP	10	30.210	50.80 (2.001)	1.96
502-0212	AKZ120/12WP	12	30.212	60.96 (2.402)	2.36

*Available in up to 24 poles by special order.

Printed Circuit Board Terminal Blocks

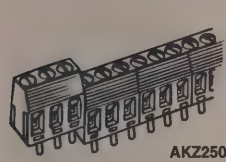
Fixed — Screw-Cage Clamp Design

- ▶ Front, Top, 45° Wire Entry
- ▶ Up to 15 A, 300 V, 26-12 AWG

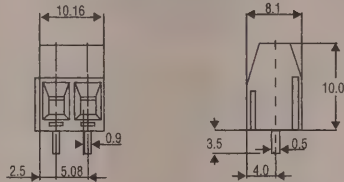
- ▶ Single, Double Levels
- ▶ Modular Construction

Ideal for industrial applications where frequent wire terminations occur. UL, CSA, IEC/VDE.

Front Wire Entry



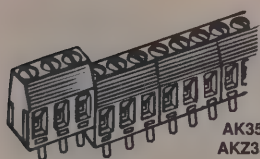
AKZ250



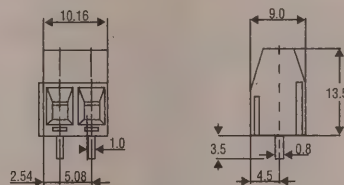
AKZ250. 5.08 mm (.200") Pin Spacing, 10 A, 300 V, 26-14 AWG†. 10 mm (.39") high. 0.5 × 0.9 mm (.019 × .035") Rectangular Pins. Color: Green.

†UL®/CSA Pending.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-6000	AKZ250/2	2	32.402	10.16 (0.400)	.53	.48
502-6002	AKZ250/3	3	32.403	15.24 (0.600)	.80	.72
502-6004	AKZ250/4	4	32.404	20.32 (0.801)	1.06	.95
502-6006	AKZ250/5	5	32.405	25.40 (1.001)	1.33	1.20
502-6008	AKZ250/6	6	32.406	30.48 (1.201)	1.59	1.43
502-6010	AKZ250/7	7	32.407	35.56 (1.401)	1.86	1.67
502-6012	AKZ250/8	8	32.408	40.64 (1.601)	2.12	1.91
502-6014	AKZ250/9	9	32.409	45.72 (1.801)	2.39	2.15
502-6016	AKZ250/10	10	32.410	50.80 (2.001)	2.65	2.39
502-6018	AKZ250/12	12	32.412	60.96 (2.402)	3.18	2.86



AK350
AKZ350



AK350. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-12 AWG. 13.5 mm (.53") high. 0.8 × 1.0 mm (.032 × .039") Rectangular Pins. Color: Green.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-0580	AK350/2	2	32.002	10.00 (0.394)	.63	.57
502-0582	AK350/3	3	32.003	15.00 (0.591)	.95	.86
502-0584	AK350/4	4	32.004	20.00 (0.788)	1.26	1.13
502-0586	AK350/5	5	32.005	25.00 (0.985)	1.58	1.42
502-0588	AK350/6	6	32.006	30.00 (1.182)	1.89	1.70
502-0590	AK350/7	7	32.007	35.00 (1.379)	2.21	1.99
502-0592	AK350/8	8	32.008	40.00 (1.576)	2.52	2.27
502-0594	AK350/9	9	32.009	45.00 (1.773)	2.84	2.56
502-0596	AK350/10	10	32.010	50.00 (1.970)	3.15	2.84
502-0598	AK350/12	12	32.012	60.00 (2.364)	3.78	3.40

AKZ350. 15 A, 300 V, 22-12 AWG. Same as AK350, but 5.08 mm (.20") Pin Spacing.

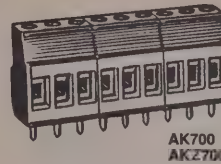
Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-0602	AKZ350/2	2	32.052	10.16 (0.400)	.63	.57
502-0603	AKZ350/3	3	32.053	15.24 (0.600)	.95	.86
502-0604	AKZ350/4	4	32.054	20.32 (0.800)	1.26	1.13
502-0605	AKZ350/5	5	32.055	25.40 (1.001)	1.58	1.42
502-0606	AKZ350/6	6	32.056	30.48 (1.201)	1.89	1.70
502-0607	AKZ350/7	7	32.057	35.56 (1.401)	2.21	1.99
502-0608	AKZ350/8	8	32.058	40.64 (1.601)	2.52	2.27
502-0609	AKZ350/9	9	32.059	45.72 (1.801)	2.84	2.56
502-0610	AKZ350/10	10	32.060	50.80 (2.001)	3.15	2.84
502-0612	AKZ350/12	12	32.062	60.96 (2.402)	3.78	3.40

45° Wire Entry

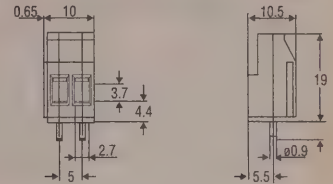
AK300. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-12 AWG. 12.5 mm (.49") high. 0.8 × 1.0 mm (.032 × .039") Rectangular Pins. Color: Gray.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-0502	AK300/2	2	30.602	10.00 (0.394)	.65	.59
502-0503	AK300/3	3	30.603	15.00 (0.591)	.98	.88
502-0504	AK300/4	4	30.604	20.00 (0.788)	1.30	1.17
502-0505	AK300/5	5	30.605	25.00 (0.985)	1.63	1.47
502-0506	AK300/6	6	30.606	30.00 (1.182)	1.95	1.76
502-0507	AK300/7	7	30.607	35.00 (1.379)	2.28	2.05
502-0508	AK300/8	8	30.608	40.00 (1.576)	2.60	2.25
502-0509	AK300/9	9	30.609	45.00 (1.773)	2.93	2.64
502-0510	AK300/10	10	30.610	50.00 (1.970)	3.25	2.93
502-0512	AK300/12	12	30.612	60.00 (2.364)	3.90	3.51

Front Wire Entry



AK700
AKZ700



AK700. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-12 AWG. 19 mm (.75") high. 0.9 × 0.9 mm (.035 × .035") Square Pins. Color: Green.

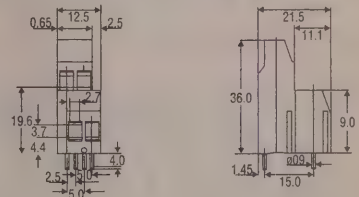
Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-0702	AK700/2	2	30.802	10.00 (0.394)	1.07	.97
502-0703	AK700/3	3	30.803	15.00 (0.591)	1.61	1.36
502-0704	AK700/4	4	30.804	20.00 (0.788)	2.15	1.94
502-0705	AK700/5	5	30.805	25.00 (0.985)	2.69	2.33
502-0706	AK700/6	6	30.806	30.00 (1.182)	3.22	2.90
502-0707	AK700/7	7	30.807	35.00 (1.379)	3.76	3.39
502-0708	AK700/8	8	30.808	40.00 (1.576)	4.30	3.87
502-0709	AK700/9	9	30.809	45.00 (1.773)	4.83	4.34
502-0710	AK700/10	10	30.810	50.00 (1.970)	5.37	4.84
502-0712	AK700/12	12	30.812	60.00 (2.364)	6.45	5.81

AKZ700. 15 A, 300 V, 22-12 AWG. Same as AK700, but 5.08 mm (.20") Pin Spacing.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-0802	AKZ700/2	2	30.852	10.16 (0.400)	1.07	.97
502-0803	AKZ700/3	3	30.853	15.24 (0.600)	1.61	1.36
502-0804	AKZ700/4	4	30.854	20.32 (0.801)	2.15	1.94
502-0805	AKZ700/5	5	30.855	25.40 (1.001)	2.69	2.33
502-0806	AKZ700/6	6	30.856	30.48 (1.201)	3.22	2.90
502-0807	AKZ700/7	7	30.857	35.56 (1.401)	3.76	3.39
502-0808	AKZ700/8	8	30.858	40.64 (1.601)	4.30	3.87
502-0809	AKZ700/9	9	30.859	45.72 (1.801)	4.83	4.34
502-0810	AKZ700/10	10	30.860	50.80 (2.001)	5.37	4.84
502-0812	AKZ700/12	12	30.862	60.96 (2.402)	6.45	5.81



AK750
AKZ750

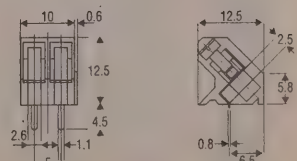
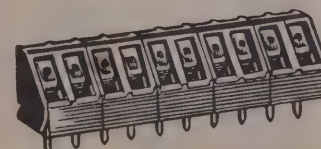


AK750. 5 mm (.197") Pin Spacing, 15 A, 300 V, 22-12 AWG. Double level, 2nd level offset 2.5 mm (.10") left, 34 mm (1.34") high. 0.9 × 0.9 (.035 × .035") Square Pins. Color: Green.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-0904	AK750/4	4	31.004	12.50 (0.493)	1.53	1.38
502-0906	AK750/6	6	31.006	17.50 (0.690)	2.29	2.06
502-0908	AK750/8	8	31.008	22.50 (0.887)	3.06	2.75
502-0910	AK750/10	10	31.010	27.50 (1.084)	3.82	3.44
502-0912	AK750/12	12	31.012	32.50 (1.281)	4.59	4.13
502-0914	AK750/14	14	31.014	37.50 (1.478)	5.35	4.81
502-0916	AK750/16	16	31.016	42.50 (1.675)	6.12	5.51
502-0918	AK750/18	18	31.018	47.50 (1.872)	6.88	5.74
502-0920	AK750/20	20	31.020	52.50 (2.069)	7.64	6.79
502-0924	AK750/24	24	31.024	62.50 (2.463)	9.17	8.26

AKZ750. 15 A, 300 V, 22-12 AWG. Same as AK750, but 5.08 mm (.20") Pin Spacing.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-1604	AKZ750/4	4	34.004	12.70 (0.500)	1.53	1.38
502-1606	AKZ750/6	6	34.006	17.78 (0.700)	2.29	2.06
502-1608	AKZ750/8	8	34.008	22.85 (0.900)	3.06	2.75
502-1610	AKZ750/10	10	34.010	27.94 (1.100)	3.82	3.44
502-1612	AKZ750/12	12	34.012	33.02 (1.300)	4.59	4.13
502-1614	AKZ750/14	14	34.014	38.10 (1.500)	5.35	4.81
502-1616	AKZ750/16	16	34.016	43.18 (1.700)	6.12	5.51
502-1618	AKZ750/18	18	34.018	48.26 (1.900)	6.88	5.74
502-1620	AKZ750/20	20	34.020	53.34 (2.100)	7.64	6.79
502-1622	AKZ750/22	22	34.022	58.42 (2.300)	8.41	7.57
502-1624	AKZ750/24	24	34.024	63.50 (2.500)	9.17	8.26



Printed Circuit Board Terminal Blocks

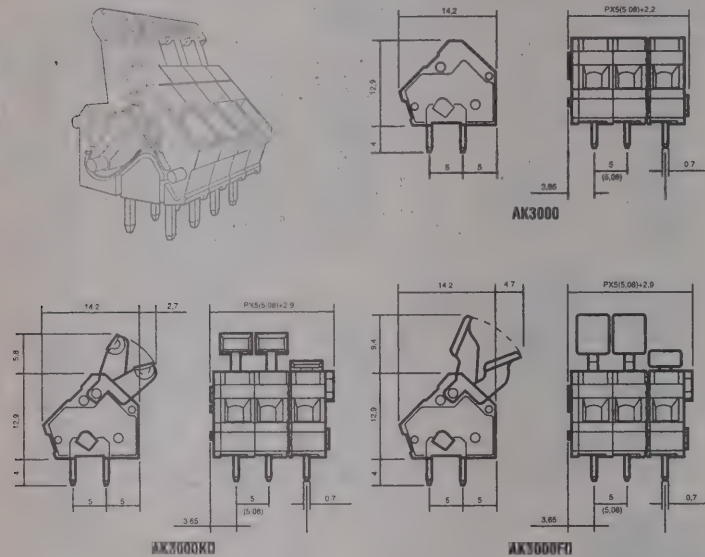
Fixed — Spring Clamp Design

- 45° Wire Entry ► Standard Color: Gray ► Sectional Construction

Ideal for industrial applications where frequent wire terminations occur. UL, CSA, IEC/VDE.

Spring Clamp is screwless simplifying wire termination and saving time. Strip wire, open spring clamp, insert wire, close clamp. Sectional design, order multiple assemblies (up to 50 poles) or easily snap together single pole terminals and end plate. 5 mm (.197") nominal pin spacing, adjustable to 5.08 (.200"). Stainless steel spring. **Standard Color: Light Gray.**

Three Methods of Clamp Actuation: AK3000 — Without actuator lever, using a 3 mm (.118") wide screwdriver tip; AK3001KD — With actuator lever, push on lever with screwdriver tip to open clamp; AK3001FD — With finger operator actuator lever, push on lever with finger to open clamp.



AK3000. 5.0/5.08 mm (.197/.200") Pin Spacing. 10 A, 300 V, 22-12 AWG. †
12.9 mm (.51") high, 0.7 mm (.03") Square Pins. **Color: Light Gray.**

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-6022	AK3000/1	1	32.101	7.2 (0.28)	.36	.32
502-6024	AK3000/2	2	32.102	12.2 (0.48)	.76	.58
502-6026	AK3000/3	3	32.103	17.2 (0.67)	1.12	1.00
502-6028	AK3000/4	4	32.104	22.2 (0.87)	1.47	1.32
502-6030	AK3000/5	5	32.104	27.2 (1.07)	1.83	1.64
502-6032	AK3000/6	6	32.106	32.2 (1.26)	2.18	1.96
502-6034	AK3000/7	7	32.106	37.2 (1.46)	2.54	2.28
502-6036	AK3000/8	8	32.108	42.2 (1.66)	2.89	2.60
502-6038	AK3000/9	9	32.109	47.2 (1.85)	3.25	2.92
502-6040	AK3000/10	10	32.110	52.2 (2.05)	3.60	3.24
502-6042	AK3000/11	11	32.111	57.2 (2.25)	3.96	3.47
502-6044	AK3000/12	12	32.112	62.2 (2.44)	4.31	3.87

502-6045. AP3000 32.100. End Plate. 1-99.....EACH .10
100-499.....EACH .08

AK3001KD. 10 A, 300 V, 22-12 AWG. †
Same as AK3000 but with lever. 18.7 mm (.74") high with lever up. †UL/CSA Pending.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-6046	AK3000KD/1	1	32.201	7.9 (0.31)	.38	.34
502-6048	AK3000KD/2	2	32.202	12.9 (0.50)	.81	.72
502-6050	AK3000KD/3	3	32.203	17.9 (0.70)	1.19	1.07
502-6052	AK3000KD/4	4	32.204	22.9 (0.90)	1.57	1.41
502-6054	AK3000KD/5	5	32.205	27.9 (1.10)	1.95	1.75
502-6056	AK3000KD/6	6	32.206	32.9 (1.30)	2.32	2.08
502-6058	AK3000KD/7	7	32.207	37.9 (1.49)	2.70	2.43
502-6060	AK3000KD/8	8	32.208	42.9 (1.69)	3.08	2.77
502-6062	AK3000KD/9	9	32.209	47.9 (1.89)	3.46	3.11
502-6064	AK3000KD/10	10	32.210	52.9 (2.08)	3.84	3.45
502-6066	AK3000KD/11	11	32.211	57.9 (2.28)	4.22	3.79
502-6068	AK3000KD/12	12	32.212	62.9 (2.48)	4.60	4.14

502-6070. AP3001 32.200. End Plate. 1-99.....EACH .10
100-499.....EACH .08

AK3001FD. 10 A, 300 V, 22-12 AWG. †
Same as AK3000 but with lever. 18.7 mm (.74") high with lever up. †UL/CSA Pending.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-6072	AK3000FD/1	1	32.301	7.9 (0.31)	.38	.34
502-6074	AK3000FD/2	2	32.302	12.9 (0.50)	.81	.72
502-6076	AK3000FD/3	3	32.303	17.9 (0.70)	1.19	1.07
502-6078	AK3000FD/4	4	32.304	22.9 (0.90)	1.57	1.41
502-6080	AK3000FD/5	5	32.305	27.9 (1.10)	1.95	1.75
502-6082	AK3000FD/6	6	32.306	32.9 (1.30)	2.32	2.08
502-6084	AK3000FD/7	7	32.307	37.9 (1.49)	2.70	2.43
502-6086	AK3000FD/8	8	32.308	42.9 (1.69)	3.08	2.77
502-6088	AK3000FD/9	9	32.309	47.9 (1.89)	3.46	3.11
502-6090	AK3000FD/10	10	32.310	52.9 (2.08)	3.84	3.45
502-6092	AK3000FD/11	11	32.311	57.9 (2.28)	4.22	3.79
502-6094	AK3000FD/12	12	32.312	62.9 (2.48)	4.60	4.14

502-6070. AP3001 32.200. End Plate. 1-99.....EACH .10
100-499.....EACH .08

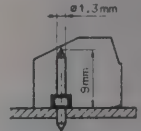
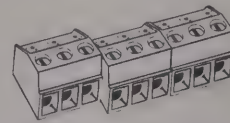
Printed Circuit Board Terminal Blocks

Econo Pluggable — Tubular Screw Clamp Design

- 10 A, 300 V, 22-14 AWG ► Standard Color: Gray

Cost effective plug and header design for light duty applications where infrequent multiple wire-to-board connections will be made. UL, CSA, IEC/VDE.

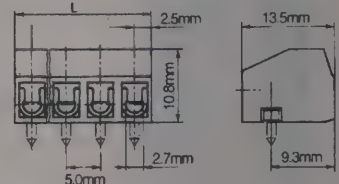
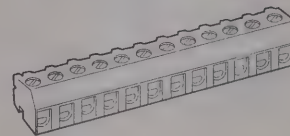
Straight open pin headers feature break-away construction and are supplied in lengths up to 24 poles.



AK130. 5 mm (.197") Pin Spacing. 10 A, 300 V, 22-14 AWG.

Wire entry perpendicular to plug in direction, modular construction, interlock 2 and 3 pole modules to create multipole assemblies. 10.8 mm (.43") high. **Color: Gray.** Mate with STL130, STL132 Straight Pin Headers (Right Angle Headers are available).

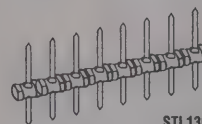
Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-4002	AK130/2WP	2	30.302	10.00 (0.39)	.62	.55
502-4004	AK130/3WP	3	30.303	15.00 (0.59)	.93	.83
502-4006	AK130/4WP	4	30.304	20.00 (0.79)	1.24	1.11
502-4008	AK130/5WP	5	30.305	25.00 (0.99)	1.55	1.39
502-4010	AK130/6WP	6	30.306	30.00 (1.18)	1.86	1.67
502-4012	AK130/7WP	7	30.307	35.00 (1.38)	2.17	1.95
502-4014	AK130/8WP	8	30.308	40.00 (1.58)	2.48	2.23
502-4016	AK130/9WP	9	30.309	45.00 (1.77)	2.79	2.51



AK132. 5 mm (.197") Pin Spacing. 10 A, 300 V, 22-14 AWG.

Wire entry perpendicular to plug in direction, single module construction. 10.8 mm (.43") high. **Color: Gray.** Mate with STL130, STL132 Straight Pin Headers.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-6100	AK132/2WP	2	30.322	10.00 (0.39)	.62	.55
502-6102	AK132/3WP	3	30.323	15.00 (0.59)	.93	.83
502-6104	AK132/4WP	4	30.324	20.00 (0.79)	1.24	1.11
502-6106	AK132/5WP	5	30.325	25.00 (0.99)	1.55	1.39
502-6108	AK132/6WP	6	30.326	30.00 (1.18)	1.86	1.67
502-6110	AK132/7WP	7	30.327	35.00 (1.38)	2.17	1.95
502-6112	AK132/8WP	8	30.328	40.00 (1.58)	2.48	2.23
502-6114	AK132/9WP	9	30.329	45.00 (1.77)	2.79	2.51
502-6116	AK132/10WP	10	30.330	50.00 (1.97)	3.10	2.79
502-6118	AK132/12WP	12	30.332	60.00 (2.36)	3.72	3.34
502-6120	AK132/14WP	14	30.334	70.00 (2.76)	4.34	3.90
502-6122	AK132/15WP	15	30.335	75.00 (2.95)	4.65	4.18



STL130

STL130. 5 mm (.197") Pin Spacing. 10 A, 300 V.

Open Pin Type. Can be supplied in strips up to 24 poles. 1.3 mm (.05") dia. Round Pins. Mate with AK130, AK132 Plugs.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-4018	STL130/2	2	30.352	10.00 (0.39)	.19	.17
502-4020	STL130/3	3	30.353	15.00 (0.59)	.29	.26
502-4022	STL130/4	4	30.354	20.00 (0.79)	.38	.34
502-4024	STL130/5	5	30.355	25.00 (0.99)	.48	.43
502-4026	STL130/6	6	30.356	30.00 (1.18)	.57	.51
502-4028	STL130/7	7	30.357	35.00 (1.38)	.67	.60
502-4030	STL130/8	8	30.358	40.00 (1.58)	.75	.68
502-4032	STL130/9	9	30.359	45.00 (1.77)	.86	.77
502-6200	STL130/10	10	30.360	50.00 (1.97)	.95	.85
502-6204	STL130/12	12	30.362	60.00 (2.36)	1.14	1.02
502-6206	STL130/14	14	30.364	70.00 (2.76)	1.33	1.19
502-6208	STL130/15	15	30.365	75.00 (2.95)	1.43	1.28
502-4034	STL130/24	24	30.374	120.00 (4.72)	2.17	2.05

STL132. 5 mm (.197") Pin Spacing. 10 A, 300 V.

Same as STL130 but 1.0 mm (.04") dia. Round Pins (boardside). Smaller pin diameter for 1.0 mm (.04") through-holes. Mate with AK130, AK132 Plugs.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-6124	STL132/2	2	32.502	10.00 (0.39)	.19	.17
502-6126	STL132/3	3	32.503	15.00 (0.59)	.29	.26
502-6128	STL132/4	4	32.504	20.00 (0.79)	.38	.34
502-6130	STL132/5	5	32.505	25.00 (0.99)	.48	.43
502-6132	STL132/6	6	32.506	30.00 (1.18)	.57	.51
502-6134	STL132/7	7	32.507	35.00 (1.38)	.67	.60
502-6136	STL132/8	8	32.508	40.00 (1.58)	.76	.68
502-6138	STL132/9	9	32.509	45.00 (1.77)	.86	.77
502-6140	STL132/10	10	32.510	50.00 (1.97)	.95	.85
502-6142	STL132/12	12	32.512	60.00 (2.36)	1.14	1.02
502-6144	STL132/14	14	32.514	70.00 (2.76)	1.31	1.19
502-6146	STL132/15	15	32.515	75.00 (2.95)	1.43	1.28
502-6148	STL132/24	24	32.524	120.00 (4.72)	2.28	2.05

Printed Circuit Board Terminal Blocks

Industry Standard Pluggable — Screw-Cage Clamp Design Plugs

Wire Entry

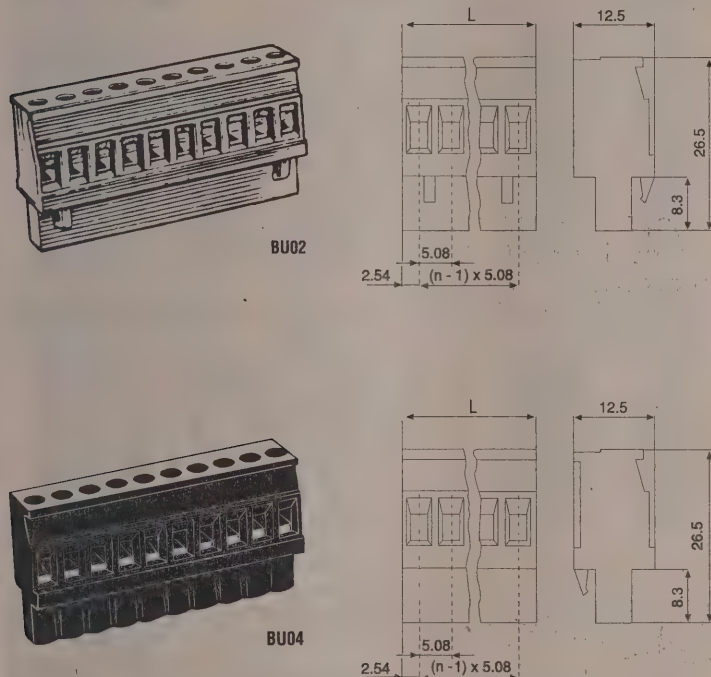
- ▶ Perpendicular to Plug-In
- ▶ Same Direction as Plug-In
- ▶ Same Plane and Direction as Plug-In

Headers

- ▶ Vertical, Horizontal, 45°
- ▶ Open or Closed Ends
- ▶ Single or Double Level

For industrial applications and/or applications where frequent wire terminations occur. Single mold offers maximum strength. Plugs mate with shrouded headers listed on page 170. UL, CSA, IEC/VDE.

Wire Entry Perpendicular to Plug-In



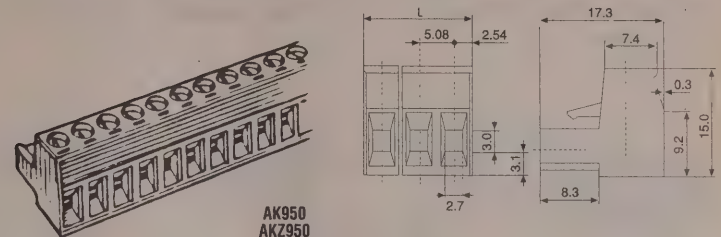
BU02 Plug. 5.08 mm (.20") Pin Spacing. 15 A, 300 V, 22-12 AWG. Vertical construction with grip top makes insertion and removal easy. Wire entry perpendicular to plug-in direction on locking tab side. Mate with STLZ950, STLZ955, STLZ970, STLZ975 and AKZ990 headers. **Color:** Green.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (In.)	EACH	
					1-99	100-499
502-3000	BU02/2	2	36.002	10.16 (0.40)	1.30	1.17
502-3002	BU02/3	3	36.003	15.24 (0.50)	1.95	1.75
502-3004	BU02/4	4	36.004	20.32 (0.80)	2.50	2.34
502-3006	BU02/5	5	36.005	25.40 (1.00)	3.25	2.92
502-3008	BU02/6	6	36.006	30.48 (1.20)	3.90	3.51
502-3010	BU02/7	7	36.007	35.56 (1.40)	4.56	4.10
502-3012	BU02/8	8	36.008	40.64 (1.50)	5.21	4.68
502-3014	BU02/10	10	36.010	50.80 (2.00)	6.51	5.85
502-3016	BU02/12	12	36.012	60.96 (2.40)	7.81	7.02
502-3018	BU02/14	14	36.014	71.14 (2.80)	9.11	8.19
502-3020	BU02/15	15	36.015	76.22 (3.00)	9.76	8.28

BU04 Plug. 5.08 mm (.20") Pin Spacing. 15 A, 300 V, 22-12 AWG. Same as BU02, but wire entry is opposite locking tab side.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (In.)	EACH	
					1-99	100-499
502-3024	BU04/2	2	36.052	10.16 (0.40)	1.30	1.17
502-3026	BU04/3	3	36.053	15.24 (0.60)	1.95	1.75
502-3028	BU04/4	4	36.054	20.32 (0.80)	2.60	2.34
502-3030	BU04/5	5	36.055	25.40 (1.00)	3.25	2.92
502-3032	BU04/6	6	36.056	30.48 (1.20)	3.90	3.51
502-3034	BU04/7	7	36.057	35.56 (1.40)	4.56	4.10
502-3036	BU04/8	8	36.058	40.64 (1.60)	5.21	4.68
502-3038	BU04/10	10	36.060	50.80 (2.00)	6.51	5.85
502-3040	BU04/12	12	36.062	60.96 (2.40)	7.81	7.02
502-3042	BU04/14	14	36.064	71.14 (2.80)	9.11	8.19
502-3044	BU04/15	15	36.065	76.22 (3.00)	9.76	8.28

Wire Entry Same Direction as Plug-In



NOTE: Dimensions shown are for AKZ950.

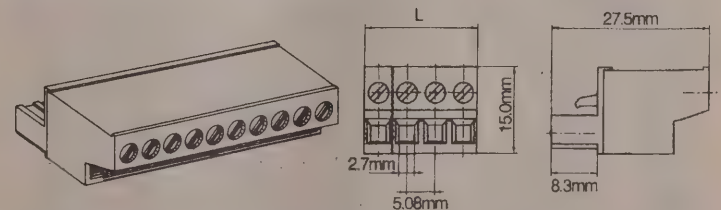
AK950. 5 mm (.197") Pin Spacing. 15 A, 300 V, 22-12 AWG. Wire entry in same direction as plug-in. Mate with STL950 and STL955 headers. **Color:** Green.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (In.)	EACH	
					1-99	100-499
502-3046	AK950/2	2	37.702	10.00 (0.39)	1.07	.96
502-3048	AK950/3	3	37.703	15.00 (0.59)	1.61	1.44
502-3050	AK950/4	4	37.704	20.00 (0.79)	2.15	1.93
502-3052	AK950/5	5	37.705	25.00 (0.99)	2.69	2.42
502-3054	AK950/6	6	37.706	30.00 (1.18)	3.22	2.89
502-3056	AK950/7	7	37.707	35.00 (1.38)	3.76	3.38
502-3058	AK950/8	8	37.708	40.00 (1.58)	4.30	3.87
502-3060	AK950/10	10	37.710	50.00 (1.97)	5.37	4.83
502-3062	AK950/12	12	37.712	60.00 (2.36)	6.45	5.80
502-3064	AK950/14	14	37.714	70.00 (2.76)	7.52	6.76
502-3066	AK950/15	15	37.715	75.00 (2.95)	8.06	7.25

AKZ950. 15 A, 300 V, 22-12 AWG. Same as AK950, but 5.08 mm (.20") Pin Spacing. Mate with STLZ950, STLZ955, STLZ970, STLZ975 and AKZ990 headers.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (In.)	EACH	
					1-99	100-499
502-3068	AKZ950/2	2	37.002	10.16 (0.40)	1.07	.96
502-3070	AKZ950/3	3	37.003	15.24 (0.60)	1.61	1.44
502-3072	AKZ950/4	4	37.004	20.32 (0.80)	2.15	1.93
502-3074	AKZ950/5	5	37.005	25.40 (1.00)	2.69	2.42
502-3076	AKZ950/6	6	37.006	30.48 (1.20)	3.22	2.89
502-3078	AKZ950/7	7	37.007	35.56 (1.40)	3.76	3.38
502-3080	AKZ950/8	8	37.008	40.64 (1.60)	4.30	3.87
502-3082	AKZ950/10	10	37.010	50.80 (2.00)	5.37	4.83
502-3084	AKZ950/12	12	37.012	60.96 (2.40)	6.45	5.80
502-3086	AKZ950/14	14	37.014	71.14 (2.80)	7.52	6.76
502-3088	AKZ950/15	15	37.015	76.22 (3.00)	8.06	7.25

Wire Entry Same Plane and Direction as Plug-In



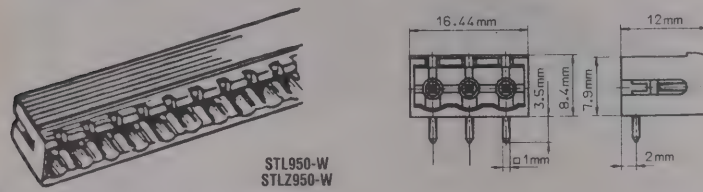
AKZ1200 Plug. 5.08 mm (.20") Pin Spacing. 15 A, 300 V, 22-12 AWG. Mate with STLZ950, STLZ955, STLZ990, STLZ970 and STLZ975 headers. **Color:** Green.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (In.)	EACH	
					1-99	100-499
502-5346	AKZ1200/2	2	36.102	10.16 (0.40)	2.84	2.56
502-5348	AKZ1200/3	3	36.103	15.24 (0.60)	4.27	3.85
502-5350	AKZ1200/4	4	36.104	20.32 (0.80)	5.69	5.12
502-5352	AKZ1200/5	5	36.105	25.40 (1.00)	7.11	6.40
502-5354	AKZ1200/6	6	36.106	30.48 (1.20)	8.53	7.68
502-5356	AKZ1200/7	7	36.107	35.56 (1.40)	9.95	8.96
502-5358	AKZ1200/8	8	36.108	40.64 (1.60)	11.38	10.24
502-5360	AKZ1200/10	10	36.110	50.80 (2.00)	14.22	12.90
502-5362	AKZ1200/12	12	36.112	60.98 (2.40)	17.06	16.08
502-5364	AKZ1200/14	14	36.114	71.14 (2.80)	19.91	17.92
502-5366	AKZ1200/15	15	30.115	76.22 (3.00)	21.33	19.20

Headers for Screw-Cage Clamp Design Plugs

Headers for screw-cage clamp design plugs are industry standard compatible. Single mold construction, vertical and horizontal with closed and open ends. Headers mate with plugs on page 169.

Horizontal Headers



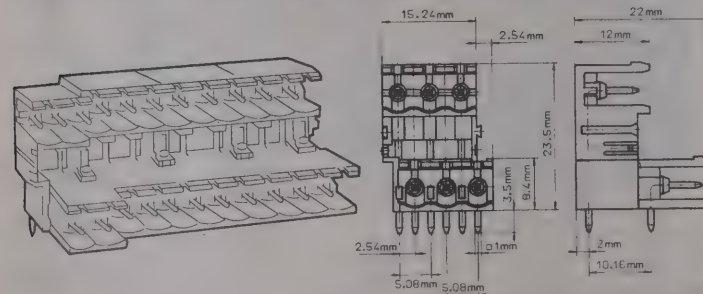
STL950 Headers. 5 mm (.197") Pin Spacing. Closed ends. 1.0 x 1.0 mm (.039 x .039") Square Pins. Color: Green. Mate with AK950 plug.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-3090	STL950/2-W	2	37.552	11.20 (0.440)	.41	.36
502-3092	STL950/3-W	3	37.553	16.20 (0.640)	.62	.55
502-3094	STL950/4-W	4	37.554	21.20 (0.840)	.83	.74
502-3096	STL950/5-W	5	37.555	26.20 (1.030)	1.03	.92
502-3098	STL950/6-W	6	37.556	31.20 (1.230)	1.24	1.11
502-3100	STL950/7-W	7	37.557	36.20 (1.430)	1.45	1.30
502-3102	STL950/8-W	8	37.558	41.20 (1.620)	1.65	1.48
502-3104	STL950/10-W	10	37.560	51.20 (2.020)	2.07	1.86
502-3106	STL950/12-W	12	37.562	61.20 (2.400)	2.48	2.23
502-3107	STL950/14-W	14	37.564	71.20 (2.800)	2.89	2.60
502-3108	STL950/15-W	15	37.565	76.20 (3.000)	3.10	2.79

STLZ950 Headers

Same as STL950, but 5.08 mm (.20") Pin Spacing. Mate with AKZ950, BU02, BU04 and AKZ1200 plugs.

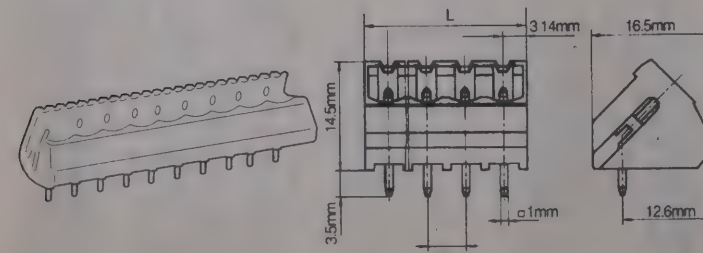
502-3110	STLZ950/2-W	2	37.102	11.36 (0.450)	.41	.36
502-3112	STLZ950/3-W	3	37.103	16.44 (0.650)	.62	.55
502-3114	STLZ950/4-W	4	37.104	21.52 (0.850)	.83	.74
502-3116	STLZ950/5-W	5	37.105	26.60 (1.050)	1.03	.92
502-3118	STLZ950/6-W	6	37.106	31.68 (1.250)	1.24	1.11
502-3120	STLZ950/7-W	7	37.107	36.76 (1.450)	1.45	1.30
502-3122	STLZ950/8-W	8	37.108	41.84 (1.650)	1.65	1.48
502-3124	STLZ950/10-W	10	37.110	52.00 (2.050)	2.07	1.86
502-3126	STLZ950/12-W	12	37.112	62.16 (2.450)	2.48	2.23
502-3128	STLZ950/14-W	14	37.114	72.32 (2.850)	2.89	2.60
502-3130	STLZ950/15-W	15	37.115	77.40 (3.050)	3.10	2.79



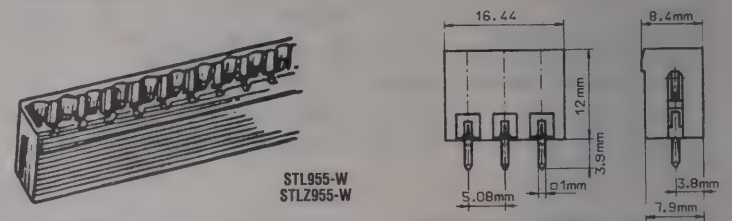
STLZ970 Headers. 5.08 mm (.20") Pin Spacing. Double level, horizontal, open ends, modular construction. 1.0 x 1.0 mm (.039 x .039") Square Pins. Color: Green. Mate with AKZ950, BU02, BU04 and AKZ1200 plugs.

502-1844	STLZ970/4-O	4	37.854	12.26 (0.48)	1.45	1.30
502-1846	STLZ970/6-O	6	37.856	17.34 (0.68)	2.17	1.95
502-1848	STLZ970/8-O	8	37.858	22.42 (0.88)	2.89	2.60
502-1850	STLZ970/10-O	10	37.860	27.50 (1.08)	3.62	3.25
502-1852	STLZ970/12-O	12	37.862	32.58 (1.28)	4.34	3.90
502-1854	STLZ970/14-O	14	37.864	37.66 (1.48)	5.06	4.55
502-1856	STLZ970/16-O	16	37.866	42.74 (1.68)	5.78	5.20
502-1858	STLZ970/18-O	18	37.868	47.82 (1.88)	6.51	5.85
502-1860	STLZ970/20-O	20	37.870	52.90 (2.08)	7.23	6.50
502-1862	STLZ970/22-O	22	37.872	57.98 (2.28)	7.95	7.15
502-1864	STLZ970/24-O	24	37.874	63.06 (2.48)	8.68	7.81

45° Headers



Vertical Headers



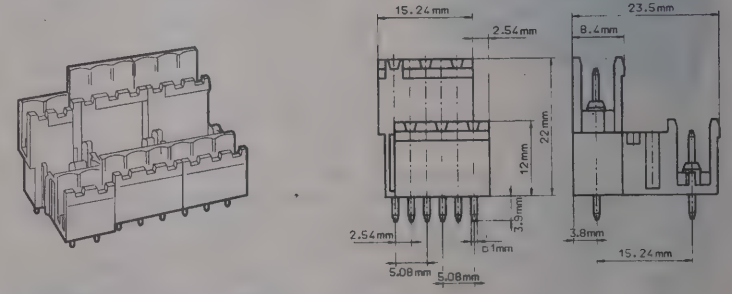
STL955 Headers. 5 mm (.197") Pin Spacing. Closed ends. 1.0 x 1.0 mm (.039 x .039") Square Pins. Color: Green. Mate with AK950 plug.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-3132	STL955/2-W	2	37.602	11.20 (0.440)	.41	.36
502-3134	STL955/3-W	3	37.603	16.20 (0.640)	.62	.55
502-3136	STL955/4-W	4	37.604	21.20 (0.840)	.83	.74
502-3138	STL955/5-W	5	37.605	26.20 (1.030)	1.03	.92
502-3140	STL955/6-W	6	37.606	31.20 (1.230)	1.24	1.11
502-3142	STL955/7-W	7	37.607	36.20 (1.430)	1.45	1.30
502-3144	STL955/8-W	8	37.608	41.20 (1.620)	1.65	1.48
502-3146	STL955/10-W	10	37.610	51.20 (2.020)	2.07	1.86
502-3148	STL955/12-W	12	37.612	61.20 (2.400)	2.48	2.23
502-3150	STL955/14-W	14	37.614	71.20 (2.800)	2.89	2.60
502-3152	STL955/15-W	15	37.615	76.20 (3.000)	3.10	2.79

STLZ955 Headers

Same as STL955, but 5.08 mm (.20") Pin Spacing. Mate with AKZ950, BU02, BU04 and AKZ1200 plugs.

502-3161	STLZ955/2-W	2	37.202	11.36 (0.450)	.41	.36
502-3162	STLZ955/3-W	3	37.203	16.44 (0.650)	.62	.55
502-3164	STLZ955/4-W	4	37.204	21.52 (0.850)	.83	.74
502-3166	STLZ955/5-W	5	37.205	26.60 (1.050)	1.03	.92
502-3168	STLZ955/6-W	6	37.206	31.68 (1.250)	1.24	1.11
502-3170	STLZ955/7-W	7	37.207	36.76 (1.450)	1.45	1.30
502-3172	STLZ955/8-W	8	37.208	41.84 (1.650)	1.65	1.48
502-3174	STLZ955/10-W	10	37.210	52.00 (2.050)	2.07	1.86
502-3176	STLZ955/12-W	12	37.212	62.16 (2.450)	2.48	2.23
502-3178	STLZ955/14-W	14	37.214	72.32 (2.850)	2.89	2.60
502-3180	STLZ955/15-W	15	37.215	77.40 (3.050)	3.10	2.79



STLZ975 Headers. 5.08 mm (.20") Pin Spacing. Double level, vertical, open ends, modular construction. 1.0 x 1.0 mm (.039 x .039") Square Pins. Color: Green. Mate with AKZ950, BU02, BU04 and AKZ1200 plugs.

502-1874	STLZ975/4-O	4	37.804	12.26 (0.48)	1.45	1.30
502-1876	STLZ975/6-O	6	37.806	17.34 (0.68)	2.17	1.95
502-1878	STLZ975/8-O	8	37.808	22.42 (0.88)	2.89	2.60
502-1880	STLZ975/10-O	10	37.810	27.50 (1.08)	3.62	3.25
502-1882	STLZ975/12-O	12	37.812	32.58 (1.28)	4.34	3.90
502-1884	STLZ975/14-O	14	37.814	37.66 (1.48)	5.06	4.55
502-1886	STLZ975/16-O	16	37.816	42.74 (1.68)	5.78	5.20
502-1888	STLZ975/18-O	18	37.818	47.82 (1.88)	6.51	5.85
502-1890	STLZ975/20-O	20	37.820	52.90 (2.08)	7.23	6.50
502-1892	STLZ975/22-O	22	37.822	57.98 (2.28)	7.95	7.15
502-1894	STLZ975/24-O	24	37.824	63.06 (2.48)	8.68	7.81

STLZ990 Headers.

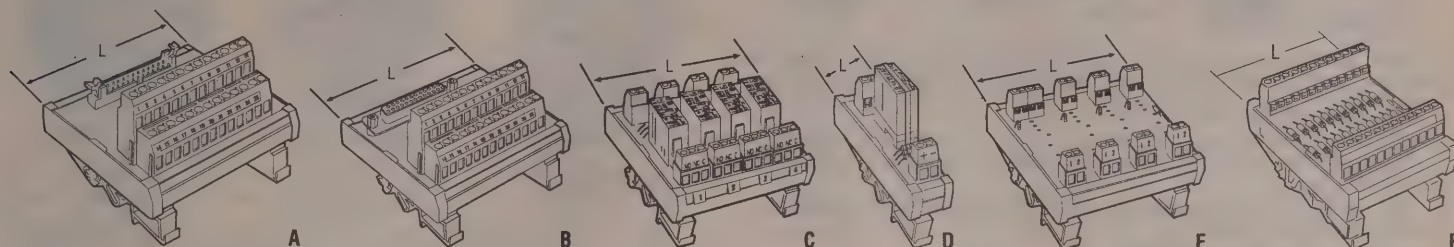
5.08 mm (.20") Pin Spacing. Closed ends. 1.0 x 1.0 mm (.039 x .039") Square Pins. Color: Green. Mate with AKZ950, BU02, BU04 and AKZ1200 plugs.

Stock No.	Mfr.'s Type	Poles	Part No.	Length mm (in.)	EACH	
					1-99	100-499
502-5367	STLZ990/2-W	2	37.652	11.36 (0.450)	.43	.39
502-5368	STLZ990/3-W	3	37.653	16.44 (0.650)	.65	.59
502-5370	STLZ990/4-W	4	37.654	21.52 (0.850)	.86	.78
502-5372	STLZ990/5-W	5	37.655	26.60 (1.050)	1.08	.97
502-5374	STLZ990/6-W	6	37.656	31.68 (1.250)	1.29	1.16
502-5376	STLZ990/7-W	7	37.657	36.76 (1.450)	1.51	1.36
502-5378	STLZ990/8-W	8	37.658	41.84 (1.650)	1.72	1.55
502-5380	STLZ990/10-W	10	37.660	52.00 (2.050)	2.15	1.94
502-5382	STLZ990/12-W	12	37.662	62.16 (2.450)	2.58	2.32
502-5384	STLZ990/14-W	14	37.664	72.32 (2.850)	3.01	2.71
502-5386	STLZ990/15-W	15	37.665	77.40 (3.050)	3.23	2.91

Interface and Electronic Modules

Expand the capabilities of logic systems with Altech Interface and Electronic Modules. DIN rail or panel mount printed circuit board modules give design flexibility and simplify panel

layout, reduce maintenance and downtime.



Ribbon Cable to Discrete Wire Modules — Fig. A

Interface between multiwire flat cables with up to 64 conductors and discrete wires. No special tools are required. Supplied with short strain relief ejector latches (long latches available). Terminal blocks are individually marked to correspond to the numbers on the header pins. 3 A, 250 VAC, 22-12 AWG. DIN rail mount, panel mount available.

Stock No.	Mfr.'s Type	Part No.	Poles	Length (L) mm (In.)	EACH
502-1010	FBK10	5720.2	10	47 (1.850)	22.94
502-1014	FBK14	5721.2	14	47 (1.850)	24.93
502-4202	FBK16	5722.2	16	69 (2.720)	28.19
502-4204	FBK20	5723.2	20	69 (2.720)	31.35
502-4206	FBK26	5724.2	26	80 (3.150)	35.52
502-4208	FBK34	5725.2	34	103 (4.060)	42.59
502-4210	FBK40	5726.2	40	114 (4.490)	50.38
502-4212	FBK50	5727.2	50	148 (5.830)	57.73
502-4214	FBK60	5728.2	60	170 (6.680)	78.64
502-4216	FBK64	5729.2	64	170 (6.680)	82.99

Sub D Modules — Fig. B

Interface between high density connectors with up to 50 poles and discrete wires. No special tools are required. Equipped with male or female connectors. All terminal blocks are individually marked to correspond to the numbers on the connector pins or sockets. 4 A, 250 VAC, 22-12 AWG. DIN rail mount, panel mount available.

Modules with Sub-D Female Connectors

Stock No.	Mfr.'s Type	Part No.	Poles	Length (L) mm (In.)	EACH
502-1109	SD-F9	5745.2	9	35 (1.390)	26.27
502-1115	SD-F15	5746.2	15	58 (2.280)	34.13
502-1126	SD-F25	5747.2	25	81 (3.190)	41.77
502-1137	SD-F37	5748.2	37	114 (4.490)	53.27
502-1150	SD-F50	5749.2	50	137 (5.390)	74.21

Modules with Sub-D Male Connectors

Stock No.	Mfr.'s Type	Part No.	Poles	Length (L) mm (In.)	EACH
502-1209	SD-M9	5740.2	9	35 (1.390)	26.28
502-1215	SD-M15	5741.2	15	58 (2.280)	34.13
502-1225	SD-M25	5742.2	25	81 (3.190)	38.78
502-1237	SD-M37	5743.2	37	114 (4.490)	53.27
502-1250	SD-M50	5744.2	50	137 (5.390)	74.21

Miniature Relay Modules with Relays — Fig. C

Traditional relay interfaces in a high density package. Protect equipment devices and components from feed-back and cross-system overvoltages by isolating electrical and electronic circuits. Bussed or isolated coil circuits. Supplied with relays or with sockets only. Indicator and DC protection diodes. Available up to 220 VDC, 330 VAC with coil circuits. Contact circuits rated 260 V, 8 A (SPDT) or 6 A (DPDT) or 15 A (SPDT isolated only); 22-12 AWG. DIN rail mount, panel mount available.

Stock No.	Mfr.'s Type	Part No.	Contact Form	No. of Relays	Length (L) mm (In.)	EACH
502-1305	RM1G1	8933.2	SPDT(C)	1	21 (0.830)	27.42
502-1315	RM1G4	8941.2	SPDT(C)	4 Isolated	79 (3.110)	79.72
502-4220	RMB1G8V	5494.2	SPDT(C)	8 Bus DC+	125 (4.920)	129.56
502-4222	RMB1G8G	5492.2	SPDT(C)	8 Bus Gnd	125 (4.920)	129.56
502-4224	RM2G1	8951.2	DPDT(2C)	1	21 (0.830)	31.04
502-4226	RM2G4	8956.2	DPDT(2C)	4 Isolated	79 (3.110)	94.19

High Current Relay Modules with Relays — Fig. D

Isolated channels, SPDT(C), 15 A resistive, 8 A inductive, 30 VDC/250 VAC. Tungsten (TV-3) 3 A/120 VAC. 1/3 hp at 120 VAC, 1/2 hp at 250 VAC. Break: 4000 VA. DIN rail mount, panel mount available. Coil amperage includes LED current.

Stock No.	Mfr.'s Type	Part No.	Coil Volt/Amp	No. of Relays	Length (L) mm (In.)	EACH
502-4230	RMH4B	8905.3	5VDC/95mA	4	79 (3.110)	86.48
502-4232	RMH4C	8906.3	6VDC/90mA	4	79 (3.110)	86.48
502-4234	RMH4E	8907.3	12VDC/48mA	4	79 (3.110)	86.48
502-4236	RMH4G	5800.3	24VDC/24mA	4	79 (3.110)	86.48
502-4238	RMH4U	5804.3	115VAC/15mA	4	79 (3.110)	126.48

I/O Opto Carriers — Fig. E

Mount standard optocoupler input/output (I/O) modules in a high density arrangement for logic output to field devices, or for input of field data to the controller. Altech I/O carriers can accept up to 16 industry standard .6" (15.24 mm) I/O modules in any combination — input, output, AC or DC from most manufacturers. 1, 2, and 4 isolated position versions with 5, 15 and 24 VDC logic; and 4, 8 and 16 bussed versions with 5 to 24 VDC. DIN rail mount, panel mount available.

Stock No.	Mfr.'s Type	Part No.	Positions (Sockets)	Logic Voltage	Length (L) mm (In.)	EACH
502-1361	I/OI-1B	8954.0/B	1	3-6VDC	34.5 (1.360)	25.51
502-1362	I/OI-2B	8955.0/B	2 Isolated	3-6VDC	57.8 (2.280)	40.66
502-1366	I/OI-4B	8956.0/B	4 Isolated	3-6VDC	114.0 (4.490)	67.46
502-4240	I/OI-1E	8954.0/E	1	12-18VDC	34.5 (1.360)	25.51
502-4242	I/OI-2E	8955.0/E	2 Isolated	12-18VDC	57.8 (2.280)	40.66
502-4244	I/OI-4E	8956.0/E	4 Isolated	12-18VDC	114.0 (4.490)	67.46
502-1370	I/OI-1G	8954.0/G	1	20-30VDC	34.5 (1.360)	25.51
502-1381	I/OI-2G	8955.0/G	2 Isolated	20-30VDC	57.8 (2.280)	40.66
502-1385	I/OI-4G	8956.0/G	4 Isolated	20-30VDC	114.0 (4.490)	67.46
502-4246	I/OB-4	8956.0	4 Bussed	3-30VDC	114.0 (4.490)	69.44
502-4248	I/OB-8	8959.0	8 Bussed	3-30VDC	114.0 (4.490)	126.15
502-4250	I/OB-16	8961.0	16 Bussed	3-30VDC	363.0 (14.30)	242.47

Diode Modules — Fig. F

Wire individually labeled diodes into existing circuits for freewheeling, DC inductive kick suppression (commutating), reverse DC polarity protection, etc. Used bussed diodes for distribution of logic VCC or ground, or gather and decouple electrical signals for lamp testing or collective fault messages. Use as commutating diodes across inductive loads such as DC relays, solenoid valves, actuator magnets, etc. to suppress voltage surges. Standard modules include series connection diode circuits in 1 A versions, and diode gates with bussed anodes or cathodes. DIN rail mount, panel mount and 3 A diodes available. Can be ordered as Component Carriers without diodes.

Series Connection

Stock No.	Mfr.'s Type	Part No.	No. of Diodes	Diode	Rated Current	Length (L) mm (In.)	EACH
502-5322	DM4-S	8971.2	4	1N4007	1 A	22.0 (0.87)	16.43
502-5324	DM8-S	5702.2	8	1N4007	1 A	42.0 (1.65)	32.54
502-5326	DM12-S	5703.2	12	1N4007	1 A	62.0 (2.44)	39.31
502-5328	DM16-S	8973.2	16	1N4007	1 A	90.0 (3.54)	53.33
502-5330	DM20-S	8974.2	20	1N4007	1 A	110.0 (4.33)	80.28
502-5332	DM24-S	8975.2	24	1N4007	1 A	130.0 (5.12)	81.73

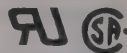
Bussed Anodes

Stock No.	Mfr.'s Type	Part No.	No. of Diodes	Diode	Rated Current	Length (L) mm (In.)	EACH
502-5334	DM6-A-S	8842.2	6	1N4007	1 A	22.0 (0.87)	23.28
502-5336	DM14-A-S	5704.2	14	1N4007	1 A	42.0 (1.65)	33.56
502-5338	DM22-A-S	5705.2	22	1N4007	1 A	62.0 (2.44)	44.41

Bussed Cathodes

Stock No.	Mfr.'s Type	Part No.	No. of Diodes	Diode	Rated Current	Length (L) mm (In.)	EACH
502-5340	DM6-K-S	8850.2	6	1N4007	1 A	22.0 (0.87)	23.28
502-5342	DM14-K-S	5706.2	14	1N4007	1 A	42.0 (1.65)	35.56
502-5344	DM22-K-S	5707.2	22	1N4007	1 A	62.0 (2.44)	44.41

Standard Sex CPC Connectors



Square
Flange
Receptacle



Free-Hanging
Receptacle



Plug



CPC Connectors provide a substantial savings in weight and cost through the use of a plastic shell and a wide variety of pin and socket contacts. The various sizes and densities are supplied unloaded (without contacts). Recognized under the component program of Underwriters Laboratories, Inc. for 250V service. UL File No. E28476. CSA Certified File No. LR 16455.

Series 1. Standard density, multimate contacts for normal unsealed operations. **Materials:** 94V-1 rated, heat stabilized, fire resistant, self extinguishing black thermoplastic. (Contacts not included—order as a separate item).

Standard Sex Connectors are plugs with socket contacts, and receptacles with pin contacts. (Contacts Sold Separately).

Standard Sex Plugs (For Socket Contacts)

Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH		
				1-24	25-99	100-499
512-1100	206060-1	11	4	2.03	1.84	1.56
512-1105	206708-1	13	9	2.23	2.02	1.72
512-1110	206037-1	17	16	2.32	2.10	1.78
512-1120	206837-1	23	24	2.97	2.69	2.28
512-1115	206150-1	23	37	2.64	2.40	2.03

Standard Sex Square Flange Receptacles (For Pin Contacts)

Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH		
				1-24	25-99	100-499
512-1150	206061-1	11	4	1.60	1.45	1.23
512-1155	206705-1	13	9	1.74	1.58	1.34
512-1160	206036-1	17	16	1.85	1.67	1.42
512-1166	206838-1	23	24	2.32	2.10	1.78
512-1165	206151-1	23	37	2.12	1.92	1.62

Standard Sex Free Hanging Receptacles (For Pin Contacts)

Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH		
				1-24	25-99	100-499
512-1178	206153-1	11	4	1.67	1.51	1.28
512-1180	206705-2	13	9	1.78	1.62	1.37
512-1182	206036-3	17	16	1.85	1.67	1.42
512-1184	206838-2	23	24	3.13	2.84	2.41
512-1186	206152-2	23	37	2.34	2.12	1.79

NOTE: Maximum wire insulation dia. is .100 (2.54) except for arrangement 23-24 which will accept insulation dia. of .150 (3.81) max.

AMP Service Hand Tool



Crimps most terminals and contacts for 22-10 AWG. Features bolt cutter and cushioned handles. All purpose tool also crimps a variety of open and closed barrel uninsulated terminals for 22-10 AWG.

512-8615. 90287-1.....EACH 49.00

Multimate Pin And Socket Contacts for CPC, Series 1

Phosphor bronze contact body with stainless steel springs. **Wire Strip Length:** .156" (3.96 mm). **Pin Diameter:** .062" (1.57 mm).



Tin-Plated Brass Body, Stainless Steel Spring

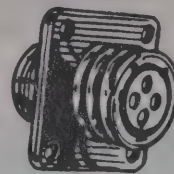
Stock No.	Mfr.'s Type	Style	Wire Size AWG	Wire Insulation Range	PER PKG./100		
					1-4	5-9	10-24
512-1291	66107-9	Pin	26-24	.035"-.055"	17.38	16.20	14.95
512-1293	1-66109-5	Socket	26-24	.035"-.055"	31.42	28.27	26.10
512-1299	1-66103-5	Pin	24-20	.040"-.080"	17.21	15.50	14.31
512-1295	1-66105-6	Socket	24-20	.040"-.080"	20.39	18.35	16.94
512-1331	66400-6	Pin	24-20	.080"-.100"	17.21	15.50	14.31
512-1332	66399-6	Socket	24-20	.080"-.100"	20.39	18.35	16.94
512-1333	1-66099-2	Pin	18-16	.080"-.100"	17.21	15.50	14.31
512-1334	1-66101-6	Socket	18-16	.080"-.100"	20.39	18.35	16.94
512-1336	66602-6	Pin	18-14	.110"-.150"	17.21	15.50	14.31
512-1337	66601-7	Socket	18-14	.110"-.150"	20.39	18.35	16.94
512-1297	1-66361-0	Pin	18-14	.080"-.100"	17.05	16.74	15.34
512-1325	1-66360-0	Socket	18-14	.080"-.100"	20.05	18.05	16.66
512-1330	202236-4	Pin	Solder Tab	—	35.79	32.81	30.29
512-1335	202237-4	Socket	Solder Tab	—	39.21	35.94	33.18

.000030" Gold In The Electrical Engagement Area Over .000050" Nickel

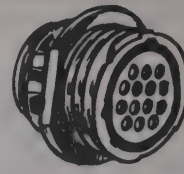
Stock No.	Mfr.'s Type	Style	Wire Size AWG	Wire Insulation Range	PER PKG./100		
					1-4	5-9	10-24
512-1322	1-66107-0	Pin	26-24	.035"-.055"	25.99	23.40	21.59
512-1323	1-66109-6	Socket	26-24	.035"-.055"	30.51	27.97	25.81
512-1324	1-66103-7	Pin	24-20	.040"-.080"	26.02	23.42	21.62
512-1326	1-66105-8	Socket	24-20	.040"-.080"	31.09	27.98	25.83
512-1351	66400-9	Pin	24-20	.080"-.100"	26.05	23.44	21.64
512-1352	66399-9	Socket	24-20	.080"-.100"	31.09	27.98	25.83
512-1348	1-66099-4	Pin	18-16	.080"-.100"	26.05	23.44	21.64
512-1349	1-66101-8	Socket	18-16	.080"-.100"	31.12	28.01	25.86
512-1327	66602-7	Pin	18-14	.110"-.150"	26.08	23.48	21.67
512-1328	66601-8	Socket	18-14	.110"-.150"	29.29	26.36	24.33
512-1338	1-66361-1	Pin	18-14	.080"-.100"	26.27	23.64	21.82
512-1329	1-66360-1	Socket	18-14	.080"-.100"	38.88	35.00	32.30
512-1353	66182-2	Pin	26-20	Solder Type	41.50	37.35	34.48
512-1354	66183-2	Socket	26-20	Solder Type	52.22	47.01	43.39
512-1356	66180-3	Pin	18-16	Solder Type	41.50	37.35	34.48
512-1357	66181-3	Socket	18-16	Solder Type	52.22	47.00	43.48

Circular Plastic Connectors (CPC) – Series 1

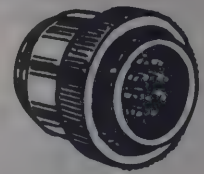
Reverse Sex CPC Connectors



Square Flange Receptacle



Free-Hanging Receptacle



Plug

Reverse Sex Plugs (For Pin Contacts)

Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH		
				1-24	25-99	100-499
512-1170	206429-1	11	4	2.05	1.85	1.57
512-1172	206044-1	17	14	2.32	2.10	1.78
512-1176	206305-1	23	37	2.64	2.40	2.03

Reverse Sex Square Flange Receptacles (For Socket Contacts)

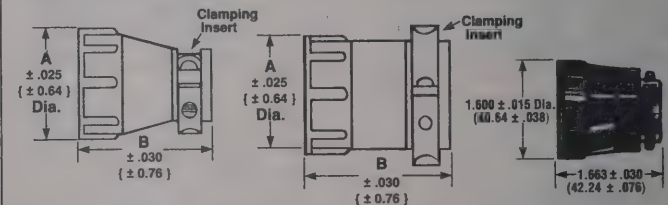
Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH		
				1-24	25-99	100-499
512-1171	206430-1	11	4	1.67	1.51	1.28
512-1173	206043-1	17	14	1.85	1.67	1.42
512-1175	206306-1	23	37	2.12	1.92	1.62

Reverse Sex Free Hanging Receptacles (For Socket Contacts)

Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH		
				1-24	25-99	100-499
512-1188	206430-2	11	4	1.67	1.51	1.28
512-1190	206043-3	17	14	2.36	2.14	1.81
512-1192	206306-2	23	37	2.97	2.66	2.25

NOTE: Maximum wire insulation dia. is .100 (2.54) except for arrangement 23-24 which will accept insulation dia. of .150 (3.81) max.

Cable Clamps



Standard Size

Large Size

Self-Centering

94 V-1 rated, black thermoplastic. Used to prevent transmitting excessive strain on cable or wire to contacts. Can be threaded directly onto plugs or receptacles.

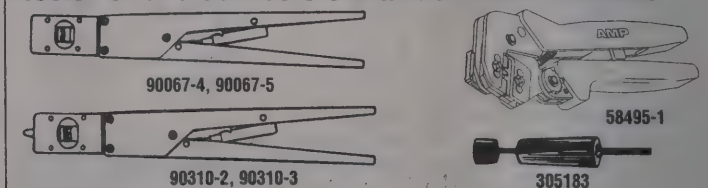
Stock No.	Mfr.'s Type	Shell Size	Dim. A		Dim. B		Cable O.D. Shell		EACH		
			In.	(MM)	In.	(MM)	In.	(MM)	1-24	25-99	100-499
512-1250†	206062-1	11	.825	(20.96)	1.250	(31.75)	.329	(8.33)	2.36	2.18	1.84
512-1255†	206966-1	13	.950	(24.13)	1.400	(35.56)	.453	(11.51)	2.41	2.19	1.86
512-1260†	206070-1	17	1.125	(28.58)	1.400	(35.56)	.453	(11.51)	2.41	2.19	1.86
512-1265†	206138-1	23	1.600	(40.64)	1.555	(39.50)	.703	(17.86)	2.50	2.27	1.92
512-1270†	206358-1	11	.850	(21.59)	1.450	(36.50)	.453	(11.51)	2.39	2.18	1.84
512-1275†	207008-1	13	.950	(24.13)	1.400	(35.56)	.703	(17.86)	2.51	2.29	1.94
512-1280†	206322-1	17	1.131	(28.73)	1.655	(42.04)	.703	(17.86)	2.66	2.42	2.04
512-1285†	206512-1	23	1.600	(40.64)	1.655	(42.04)	1.125	(28.58)	3.15	2.86	2.42

Size: † Standard, ‡ Large.

Self Centering Type

512-1286	207774-1	23	1.600	(40.64)	1.663	(42.24)	1.125	(28.58)	3.64	3.31	2.80
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Tools For CPC Connectors with Multimate Contacts



Crimping Tools

Stock No.	Mfr.'s Type	Description	Insulation Dia.	EACH
512-9134	58495-1	PRO-CRIMP™ for 28-16 AWG	—	160.00
512-9137	90066-7	CERTI-CRIMP™ for 30-20 AWG	—	422.91
512-9136	90067-4	CERTI-CRIMP™ for 24-16 AWG	.040-.080	453.51
512-9139	90067-5	CERTI-CRIMP™ for 24-16 AWG	.080-.100	453.51
512-9138	90310-2	CERTI-CRIMP™ for 18-14 AWG	.110-.150	541.38
512-9141	90310-3	CERTI-CRIMP™ for 18-14 AWG	.080-.100	541.38

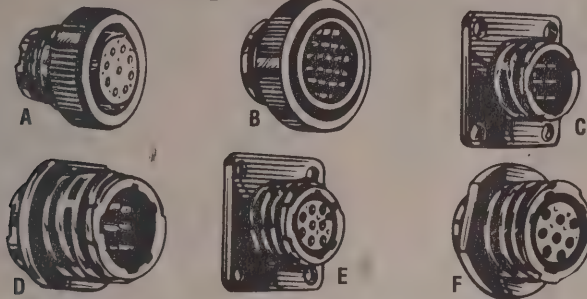
Insertion/Extraction Tools

Stock No.	Mfr.'s Type	Description	EACH
512-0031	91002-1	Tweezer style insertion tool	12.07
512-9140	305183	Extraction tool	14.18

Circular Plastic Connectors (CPC)

AMP

Series 2



High density connectors for normal unsealed applications. These connectors accept Size 20DM (screw machined) and Size 20DF (precision formed) pin and socket contacts with a .040" (1.02 mm) diameter that are also used in D-Sub Connectors. Contacts can be either crimp or solder cup types and are sold separately. Cable Clamps are the same as for the same size of Series 1. Contacts, crimp tools, and insertion/extraction tools are listed with D-Subs on page 176.

Standard Sex Plugs (For Socket Contacts) — A

Stock No.	Mfr.'s Type	Shell Size	No. of Contacts	EACH		
				1-24	25-99	100-499
512-1101	205838-1	11	8	3.91	3.32	2.81
512-1102	206485-1	11	9	3.82	3.25	2.75
512-1103	205839-3	17	28	4.15	3.53	2.99
512-1104	205842-1	23	63	5.54	4.72	4.00

Series 3

Power density connectors for normal unsealed applications. The power contacts can carry as much as 25 amperes of current. Contacts are sold separately. Series 3 use size 17 and 23 cable clamps that are listed with Series 1 CPC.

Standard Sex Plugs (For Socket Contacts) — A

Stock No.	Mfr.'s Type	Shell Size	No. of Contacts	EACH		
				1-24	25-99	100-499
512-1130	206037-2	17	3	2.68	2.44	2.06
512-1131	206136-1	23	7	2.95	2.68	2.26

Reverse Sex Plugs (For Pin Contacts) — B

512-1136	206426-1	17	3	3.04	2.77	2.34
512-1137	206226-1	23	7	3.01	2.73	2.31

Standard Sex Square Flange Receptacles (For Pin Contacts) — C

512-1132	206036-2	17	3	2.09	1.90	1.61
512-1133	206137-1	23	7	3.22	2.92	2.47

Standard Sex Free Hanging Receptacles (For Pin Contacts) — D

512-1134	206207-1	17	3	2.09	1.90	1.61
512-1135	206137-2	23	7	3.35	2.99	2.53

Reverse Sex Square Flange Receptacles (For Socket Contacts) — E

512-1138	206425-1	17	3	2.09	1.90	1.61
512-1139	206227-1	23	7	2.56	2.32	1.97

Reverse Sex Free Hanging Receptacles (For Socket Contacts) — F

512-1140	206425-2	17	3	2.86	2.55	2.16
512-1141	206227-2	23	7	3.62	3.36	2.85



Extraction Tools

Type 91124-1. Economy extraction tool.
512-1146EACH 26.03
Type 91019-3. Extraction tool.
512-1147EACH 116.91

Series 4

Combination of standard and power density connectors for normal unsealed applications. Accept size 16 multimate and the power contacts. Combine the signal and coaxial capabilities of Series 1 with the power circuit capabilities of Series 3 connectors. Contacts are sold separately. The tools, contacts, and accessory items used in Series 1 and Series 3 are used in Series 4. No additional items are required.

Standard Sex Plugs (For Socket Contacts) — A

Stock No.	Mfr.'s Type	Shell Size	Contacts	EACH		
				1-24	25-99	100-499
512-1151	207485-1	23	4 Power, 12 Multimate	2.88	2.62	2.22
512-1152	206612-1	23	2 Power, 20 Multimate	3.47	3.14	2.66

Standard Sex Square Flange Receptacles (For Pin Contacts) — B

512-1153	207486-1	23	4 Power, 12 Multimate	2.50	2.27	1.92
512-1154	206613-1	23	2 Power, 20 Multimate	2.43	2.21	1.87

Reverse Sex Plugs (For Pin Contacts) — B

Stock No.	Mfr.'s Type	Shell Size	No. of Contacts	EACH		
				1-24	25-99	100-499
512-1116	206434-1	11	8	3.91	3.32	2.81
512-1117	206039-1	17	28	4.06	3.46	2.92
512-1118	206437-1	23	57	5.59	4.75	4.02

Standard Sex Square Flange Receptacles (For Pin Contacts) — C

512-1106	205841-1	11	8	3.24	2.77	2.34
512-1107	206486-1	11	9	3.19	2.71	2.30
512-1108	205840-3	17	28	3.53	3.01	2.55
512-1109	205843-1	23	63	5.18	4.42	3.74

Standard Sex Free Hanging Receptacles (For Pin Contacts) — D

512-1111	205841-2	11	8	3.24	2.75	2.33
512-1112	206486-2	11	9	3.29	2.81	2.38
512-1113	206152-1	17	28	4.21	3.53	2.99
512-1114	205843-2	23	63	5.61	5.10	4.32

Reverse Sex Square Flange Receptacles (For Socket Contacts) — E

512-1121	206433-1	11	8	3.29	2.81	2.38
512-1122	206038-1	17	28	3.43	2.92	2.47
512-1123	206438-1	23	57	5.42	4.60	3.90

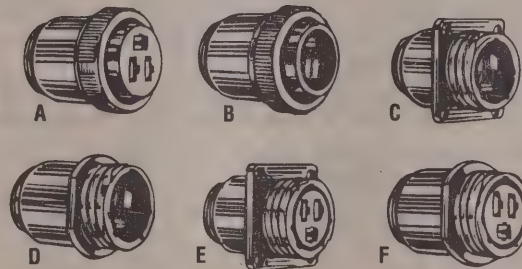
Reverse Sex Free Hanging Receptacles (For Socket Contacts) — F

512-1126	206433-2	11	8	3.29	2.81	2.38
512-1127	206038-2	17	28	4.24	3.57	3.02
512-1128	206438-2	23	57	8.77	7.37	6.24

Keying Plug

Type 206509-1. Keying Plug for Size 20 DM & DF Contacts.

512-1129. 1-99EACH .34 100-499EACH .31



Female

Male

Type XII Contacts for Series 3

Contact Finish: select gold flash over .000030" nickel on the entire contact with and additional .000030" gold in the mating area.

Stock No.	Mfr.'s Type	Style	Wire Size AWG	Insulation Dia.-Range	EACH		
					1-99	100-499	500-999
512-1142	66261-2	Male	16, 14-12	.135"-.160"	1.83	1.66	1.41
512-1143	66740-6	Female	16, 14-12	.135"-.160"	2.26	2.05	1.74
512-1144	66259-2	Male	10	.190"-.220"	1.90	1.72	1.46
512-1145	66741-6	Female	10	.190"-.220"	2.50	2.27	1.92

Contact Finish: .000200" silver with lubricant added. Recommended for high current/vibration applications.

512-1258	66261-4	Male	16, 14-12	.135"-.160"	.92	.84	.71
512-1259	66740-2	Female	16, 14-12	.135"-.160"	1.55	1.41	1.19
512-1264	66259-4	Male	10	.190"-.220"	.92	.84	.71
512-1266	66741-2	Female	10	.190"-.220"	2.09	1.90	1.61

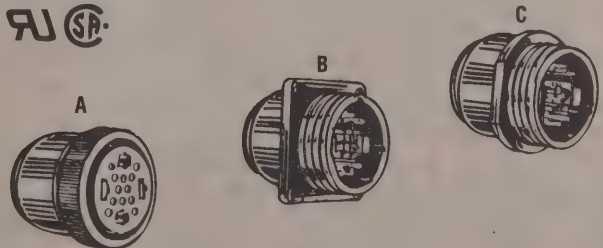
CERTI-CRIMP™ Tools

Type 90382-2. For contacts on 16 and 14-12 AWG wire.

512-1148EACH 612.78

Type 90384-1. For contacts on 10-8 AWG wire.

512-1149EACH 615.92



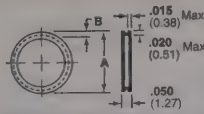
Standard Sex Free Hanging Receptacles (For Pin Contacts) — C

Stock No.	Mfr.'s Type	Shell Size	Contacts	EACH		
				1-24	25-99	100-499
512-1156	207486-2	23	4 Power, 12 Multimate	3.62	3.23	2.74
512-1157	206613-3	23	2 Power, 20 Multimate	3.31	3.01	2.55

CPC Accessories

Peripheral Seals (For Receptacles Only)

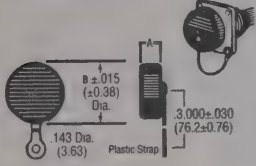
Suggested for sealing connectors to protect from vibration and moisture. Grey elastomer.



Stock No.	Mfr.'s Type	Shell Size	Dim. A		Dim. B		EACH		
			In.	(MM)	In.	(MM)	1-99	100-499	500-999
512-1290	206403-1	11	.524	(13.31)	.041	(1.04)	.44	.40	.37
512-1292	206403-4	13	.650	(16.51)	.041	(1.04)	.66	.59	.54
512-1294	206403-2	17	.875	(22.23)	.050	(1.27)	.50	.46	.42
512-1296	206403-3	23	1.230	(31.24)	.050	(1.27)	.92	.83	.76

Sealing Caps (For Receptacles Only)

Used to protect exposed contacts on unmated receptacles. Black thermoplastic cap with plastic strap or beaded chain.



Shell Size	Dimensions—in. (mm)	
	A	B
11	.360 (9.14)	.927 (23.55)
13	.360 (9.14)	1.055 (26.80)
17	.360 (9.14)	1.295 (32.89)
23	.460 (11.68)	1.728 (43.89)

With Plastic Strap

Stock No.	Mfr.'s Type	For Series	Size	EACH		
				1-24	25-99	100-499
512-1240	206903-1	1 & 2	11	2.50	2.27	1.92
512-1241	211870-1	1	13	2.27	2.06	1.75
512-1242	207445-1	1, 2, & 3	17	2.66	2.42	2.04
512-1243	207446-1	1, 3, & 4	23	3.09	2.81	2.37

With Beaded Chain

Stock No.	Mfr.'s Type	For Series	Size	EACH		
				1-24	25-99	100-499
512-1245	208800-1	1 & 2	11	4.15	3.77	3.19
512-1246	208652-1	1, 2, & 3	17	3.98	3.62	3.06
512-1247	208680-1	1, 3, & 4	23	4.78	4.34	3.68

Metal-Shell CPC Connectors

The four series of Metal shell CPC connectors require the same contacts and tools as like series of Circular plastic connectors. As with CPC, contacts are sold separately. Because of the larger size, a different series of cable clamps are offered. **Materials:** Insert: Black thermoplastic. **Shells and Coupling Ring:** Aluminum alloy, zinc-plated. **Retainer Ring:** Stainless steel.

Series 1. See circular plastic connectors for multimate contacts and tools.

Standard Sex Plugs Without Peripheral Seal (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1158	208718-1	14	5	35.16	31.12	28.90
512-1159	208714-1	14	7	24.39	21.64	20.10
512-1161	208488-1	22	16	22.74	20.13	18.70
512-1162	208457-1	28	24	29.06	25.72	23.89
512-1163	208470-1	28	37	29.06	25.72	23.89

Standard Sex Square Flange Receptacles (For Pin Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1164	208719-1	14	5	15.48	12.97	12.04
512-1167	208715-1	14	7	15.29	13.53	12.56
512-1168	208489-1	22	16	20.09	17.78	16.51
512-1169	208459-1	28	24	23.01	20.37	18.92
512-1174	208471-1	28	37	22.99	20.36	18.90

Reverse Sex Plugs Without Peripheral Seal (For Pin Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1177	208720-1	14	5	27.61	23.10	21.45
512-1179	208716-1	14	7	23.87	22.37	21.41
512-1181	208486-1	22	14	23.63	20.92	19.43
512-1183	208472-1	28	37	27.85	24.66	22.90

Reverse Sex Square Flange Receptacles (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1185	208721-1	14	5	17.64	14.77	13.72
512-1187	208717-1	14	7	16.84	14.77	13.72
512-1189	208487-1	22	14	18.00	15.93	14.79
512-1191	208473-1	28	37	22.99	20.36	18.90

Standard Sex Plugs With Tetraseal (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1500	208718-2	14	5	31.05	25.99	24.13
512-1501	208714-2	14	7	29.70	27.13	25.97
512-1502	208488-3	22	16	24.75	21.91	20.35
512-1503	208470-3	28	37	37.76	31.61	29.35

Reverse Sex Plugs With Tetraseal (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1506	208486-3	22	14	30.17	27.56	26.38

Series 2. These connectors use AMPLIMITE™ type 20DF and 20DM contacts and tools that are listed with AMPLIMITE™ D-Sub connectors in this catalog.

Standard Sex Plugs Without Tetraseal (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1193	208490-1	22	28	53.38	49.28	45.76
512-1198	208476-1	28	63	72.92	66.59	63.74

Reverse Sex Plugs Without Tetraseal (For Pin Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1221	208492-1	22	28	65.59	60.70	58.10
512-1199	208474-1	28	57	76.63	70.91	67.87

Standard Sex Square Flange Receptacles (For Pin Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1201	208491-1	22	28	17.64	14.77	13.72
512-1202	208477-1	28	63	25.94	21.72	20.17

Reverse Sex Square Flange Receptacles (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1203	208493-1	22	28	18.99	14.22	13.21
512-1204	208475-1	28	57	25.94	21.72	20.17

Jacketed Cable Seals (For Shell Size 23)

A jacketed cable seal kit provides an environmentally sealed connection for jacketed cable. **Material:** Peripheral Seal — grey elastomer; Collar — aluminum; Jacketed Cable Seal — black rubber; Back Shell Extender — black glass-filled thermoplastic; Special Clamp Saddle — black thermoplastic.



Stock No.	Mfr.'s Type	Sealing Range (Dia.)	EACH		
			1-24	25-49	50-99
512-1271	207052-2	.450"-.600"	16.38	14.75	12.39
512-1272	207052-3	.600"-.875"	10.88	10.05	9.33



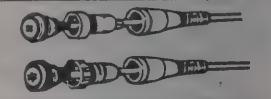
Cable Entry Seals (Heat Shrinkable Sealing Boots)

Cable entry seals are used with jacketed cable to provide an environmentally sealed wire-to-connector system. They can be used with plugs or receptacles. **Material:** Internal Sleeve — black nylon; Outertubing — black polyolefin.

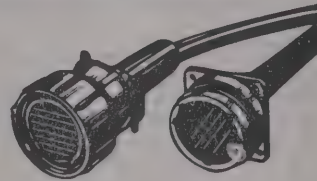
Stock No.	Mfr.'s Type	Shell Size	Dimensions		Sealing Range (Dia.)	EACH		
			A	B		1-24	25-49	50-99
512-1273	54010-1	11	2.500"	.625"	.260"-.600"	5.70	5.29	4.75
512-1274	54123-1	13	2.500"	.775"	.300"-.725"	7.51	6.69	6.26
512-1276	54011-1	17	2.500"	.975"	.400"-.875"	6.95	6.20	4.61
512-1277	54012-1	23	3.250"	1.250"	.550"-.1.000"	10.93	9.73	9.10

Flexible Cable Boots and Internal Cable Grip

Flexible cable boots, with internal cable grip installed, provide strain relief capabilities for jacketed cable in applications where aesthetic appearance is essential. They can be threaded onto plugs or receptacles. **Material:** Black thermoplastic.



Stock No.	Mfr.'s Type	Size	Description	Cable Range	EACH		
					1-24	25-99	100-499
512-1267	207489-1	11	Cable boot	—	1.62	1.47	1.24
512-1268	207490-1	11	Cable grip	.150"-.250"	1.76	1.60	1.36
512-1269	207241-1	17	Cable boot	—	2.94	2.67	2.26
512-1278	207387-1	17	Cable grip	.200"-.250"	2.47	2.25	1.90
512-1279	207387-2	17	Cable grip	.250"-.350"	2.39	2.17	1.84



Series 3. The Type XII power contacts and tools are listed with Series 3, CPC connectors.

Standard Sex Plugs Without Tetraseal (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1206	208494-1	22	3	29.16	26.64	25.50
512-1207	208482-1	28	7	32.31	28.61	26.57

Reverse Sex Plugs Without Peripheral Seal (For Pin Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1208	208496-1	22	3	25.27	23.67	22.66
512-1209	208484-1	28	7	28.31	25.06	23.27

Standard Sex Square Flange Receptacles (For Pin Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1211	208495-1	22	3	21.13	17.69	16.43
512-1212	208483-1	28	7	23.08	19.32	17.94

Reverse Sex Square Flange Receptacles (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1214	208485-1	28	7	20.51	18.22	18.39

Series 4. Series 1 multimate contacts and tools and Series 3 power contacts and tools are both used for this series.

Standard Sex Plugs Without Peripheral Seal (For Socket Contacts)

Stock No.	Mfr.'s Type	Size	No. of Contacts	EACH		
				1-24	25-49	50-99
512-1216	208478-1	28	4 Power, 12 Multimate	32.33	30.36	29.00
512-1217	208460-1	28	2 Power, 20 Multimate	32.67	29.84	28.56

Standard Sex Square Flange Receptacles (For Pin Contacts)

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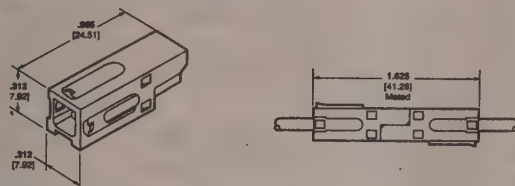
AMP Power Lock Connectors have hermaphroditic housing and contact designs. The hermaphroditic housings are also modular in design and permit the clustering of connectors of the same series. Housings are made of impact resistant thermoplastic with stainless steel locking springs for contact stability. Terminals are available in strip and loose piece form with a material choice of silver, or gold plated copper. Contacts for Series I Connectors accept a wire size range of 18-12 AWG and contacts for Series II Connectors

accept a wire size range of 10-6 AWG. Both insert easily into housings where integral locking springs provide positive retention.

AMP Power Lock Connectors can be adapted to most high current applications and may be used as free-hanging, surface mounted and thru-panel mounted connectors, or when posted contacts are used, they can be used on printed circuits.

Series I Connectors (18-12 AWG)

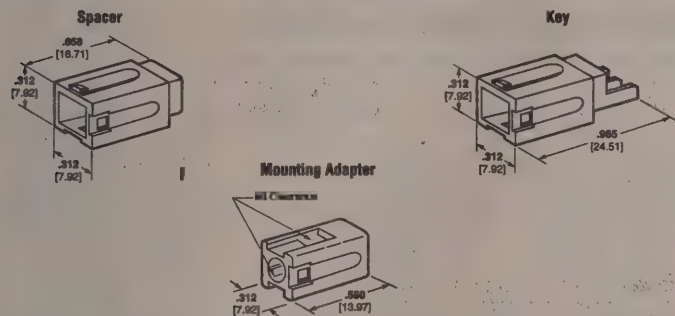
Connector Housing Assembly



Housing: Polycarbonate

Stock No.	Mfr.'s Type	Color	EACH		
			1-99	100-499	500-999
512-8222	53894-1	White	.46	.41	.37
512-8224	53894-2	Black	.46	.41	.37
512-8226	53894-3	Green	.46	.41	.37
512-8992	53894-4	Red	.46	.41	.37
512-8230	53894-5	Yellow	.46	.41	.37
512-8232	53894-6	Blue	.46	.41	.37
512-8234	53894-7	Natural	1.00	.89	.83

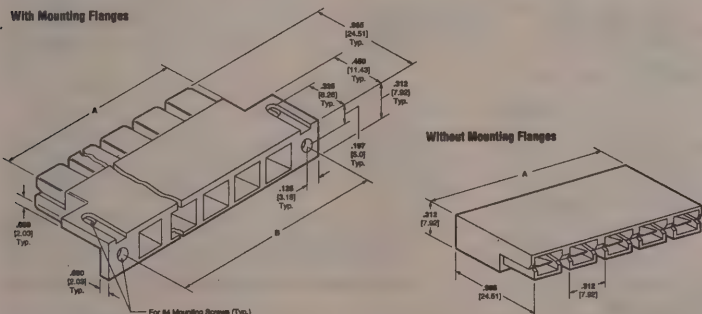
Adapters



Housing: Polycarbonate (Red)

Stock No.	Mfr.'s Type	Type	EACH		
			1-99	100-499	500-999
512-8236	53899-2	Spacer	.33	.28	.25
512-8238	53899-1	Key	.32	.27	.24
512-8240	54315-1	Mounting	.46	.37	.31

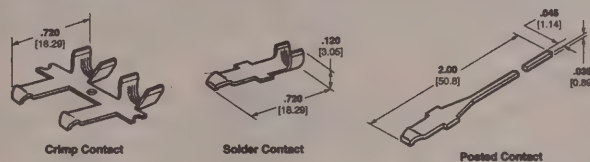
In-Line Housings



Housing: Nylon, Natural Color

Stock No.	Mfr.'s Type	No. Of Pos.	With Flanges	Dimensions (in.)		EACH	
				A	B	1-49	50-99
512-8242	54489-2	2	Yes	.624	.874	1.79	1.49
512-8244	54483-2	2	No	.624	—	1.76	1.47
512-8246	54489-3	3	Yes	.936	1.186	2.21	2.02
512-8248	54483-3	3	No	.936	—	2.84	2.61
512-8250	54489-4	4	Yes	1.248	1.498	2.55	2.35
512-8252	54483-4	4	No	1.248	—	2.52	2.32
512-8254	54489-5	5	Yes	1.560	1.810	3.09	2.85
512-8256	54483-5	5	No	1.560	—	4.73	4.36
512-8258	54489-6	6	Yes	1.872	2.122	3.62	3.34
512-8260	54483-6	6	No	1.872	—	3.57	3.29

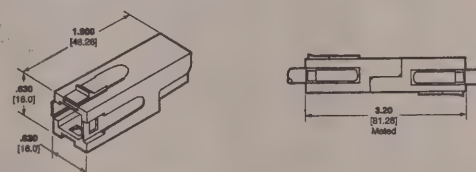
Series I Contacts



Stock No.	Mfr.'s Type	Type	Wire AWG	Plating	EACH	
					1-999	1000-Up
512-8991	53892-4	Crimp	18-12	Silver	.19	.14
512-8264	53892-7	Crimp	18-12	Gold	1.15	.99
512-8266	54329-1	Solder	12 Max.	Silver	.20	.14
512-8268	54326-2	Posted	—	Silver	.55	.40
512-8270	54326-1	Posted	—	Gold	1.15	.99

Series II Connectors (10-6 AWG)

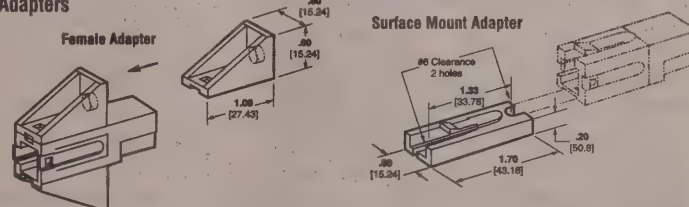
Connector Housing Assembly



Housing: Polycarbonate

Stock No.	Mfr.'s Type	Color	EACH		
			1-99	100-499	500-999
512-8272	53884-1	Blue	1.65	1.32	1.12
512-8274	53884-3	Black	1.35	1.20	1.12
512-8276	53884-4	Red	1.41	1.26	1.18

Adapters



Stock No.	Mfr.'s Type	Type	Color	EACH		
				1-99	100-499	500-999
512-8278	53886-1	Female	Blue	1.37	1.10	.93
512-8280	53885-1	Surface-Mount	Blue	3.04	2.73	2.54

Series II Contacts



Stock No.	Mfr.'s Type	Type	Wire AWG	Plating	EACH	
					1-999	1000-Up
512-8282	54880-4	Crimp	10-6	Silver	.56	.40
512-8284	54330-1	Solder	6 Max.	Silver	.61	.51

Crimp Tools For Series I and II

Series I — Heavy Head Hand Tool	
512-8286. 68347-1	EACH 764.27
Series II — Bantam Rota-Crimp Hand Tool	
512-8288. 68321-1	EACH 931.11

HDP Metal Shell Connectors



Choice of zinc-plated shell or tin-plated shell with grounding indents on the plugs. Insert is black thermoplastic, rated 94V-0. **Contact Rating (with 20 AWG Wire):** 7.5 Amps. **Termination Resistance:** 5K megohms. **Engagement Force:** 12 oz. **Separation Force:** .75 oz. **Mating Force:** 8 oz. per contact. **CONTACTS NOT INCLUDED.** Select contacts from those offered below. Recognized under the components program of Underwriters Laboratories, Inc., File No. E28476. Certified by Canadian Standards Association, File No. LR 16455.

Zinc Plated Shells

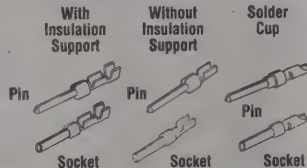
Stock No.	Mfr.'s Type	Style	Contacts (Not Included)	EACH		
				1-24	25-99	100-499
512-0005	205204-1	Plug	9	1.22	1.09	.96
512-0010	205203-3	Receptacle	9	1.22	1.09	.96
512-0015	205206-3	Plug	15	1.25	1.11	.98
512-0020	205205-1	Receptacle	15	1.25	1.11	.98
512-0025	205208-1	Plug	25	1.29	1.15	1.01
512-0030	205207-1	Receptacle	25	1.29	1.15	1.01
512-0035	205210-1	Plug	37	1.46	1.29	1.14
512-0040	205209-1	Receptacle	37	1.46	1.29	1.14
512-0045	205212-1	Plug	50	1.76	1.58	1.39
512-0050	205211-1	Receptacle	50	1.76	1.58	1.39

Tin-Plated Shells, Plugs With Grounding Indents

Stock No.	Mfr.'s Type	Style	Contacts (Not Included)	EACH		
				1-24	25-99	100-499
512-0105	205204-4	Ind. Plug	9	1.66	1.47	1.30
512-0110	205203-3	Receptacle	9	1.22	1.09	.96
512-0115	205206-3	Ind. Plug	15	1.68	1.49	1.32
512-0120	205205-2	Receptacle	15	1.25	1.11	.98
512-0125	207464-2	Ind. Plug	25	1.72	1.53	1.35
512-0130	207463-1	Receptacle	25	1.29	1.14	1.01
512-0135	205210-3	Ind. Plug	37	1.90	1.68	1.49
512-0140	205209-2	Receptacle	37	1.46	1.29	1.14
512-0145	205212-2	Ind. Plug	50	2.21	1.94	1.73
512-0150	205211-2	Receptacle	50	1.76	1.58	1.39

Contact Size 20-DF Pin and Socket Contacts

Pin diameter: .040". Materials: Pins — brass, sockets — phosphor bronze.



Crimp Style (24-20 AWG Wire) .060" maximum insulation diameter with insulation support

Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-4	5-9	10-24
512-9500	6-66506-1	Pin, select gold flash over nickel overall. Additional .000030" gold on mating end	15.67	14.38	13.08
512-9510	7-66504-0	Socket, select gold flash over nickel overall. Additional .000030" gold on mating end	17.41	15.98	14.53
512-9035	1-66506-0	Pin, gold flash over nickel	13.79	12.41	11.17
512-9040	1-66504-0	Socket, gold flash over nickel	16.22	14.38	13.31
512-9042	5-66505-9	Pin, nickel overall, gold flash on mating end, tin-lead term. end	12.53	11.35	10.13
512-9044	5-66504-7	Socket, nickel overall, gold flash on mating end, tin-lead term. end	13.64	12.27	11.16

Crimp Style (24-20 AWG Wire) .068" maximum insulation diameter without insulation support

Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-4	5-9	10-24
512-9097	2-205202-8	Pin, select gold flash over nickel overall. Additional .000030" gold on mating end	16.23	15.72	13.00
512-9099	2-205201-8	Socket select gold flash over nickel overall. Additional .000030" gold on mating end	19.12	17.55	15.95
512-9091	205202-7	Pin, gold flash over nickel	14.09	12.68	11.53
512-9093	205201-7	Socket, gold flash over nickel	14.96	13.73	12.48

Crimp Style (28-24 AWG Wire) .040" maximum insulation diameter

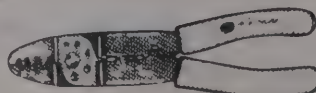
Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-4	5-9	10-24
512-9585	6-66507-0	Pin, sel. gold flash over nickel overall. .000030" gold on mating end	15.67	14.38	13.07
512-9590	6-66505-9	Socket, sel. gold flash over nickel overall. .000030" gold on mating end	17.41	15.98	14.53
512-9095	1-66507-0	Pin, gold flash over nickel	13.64	12.27	11.16
512-9100	1-66505-0	Socket, gold flash over nickel	15.93	14.38	13.07

Solder Cup Type (18 AWG Max. Wire Size)

Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-4	5-9	10-24
512-9520	66570-8	Pin, gold flash over nickel. .000030" gold on mating end	19.14	17.57	15.97
512-9530	1-66569-0	Socket, gold flash over nickel. .000030" gold on mating end	23.01	21.12	19.20

AMP Service Hand Tool

Can crimp D-sub contacts on 22 and 20 AWG wire. Also for 22-10 AWG uninsulated and insulated closed barrel terminals. Includes bolt cutter. Cushioned handles.



512-8615. 90287-1EACH 49.00

HDP-20 Solder Cup Connectors



Pre-loaded duplex plated solder cup contacts with shell finish of standard zinc chromate or tin. One-piece 94 V-0 rated plastic insert. Anti-solderwicking contact design. Interchangeable with other subminiature-D connectors. Available in 9, 15, 25, and 37 position plugs and receptacles. Recognized under the components program of Underwriters Laboratories, Inc., File No. E28476. Certified by Canadian Standards Association, File No. LR 16455.

Zinc-Plated Shells

Stock No.	Mfr.'s Type	Style	Contacts	EACH		
				1-24	25-99	100-499
512-0305	747904-4	Plug	9	2.11	1.95	1.43
512-0310	747905-4	Receptacle	9	2.93	2.71	1.98
512-0315	747908-4	Plug	15	2.93	2.71	1.98
512-0325	747912-4	Plug	25	4.11	3.80	2.78
512-0330	747913-4	Receptacle	25	5.28	4.89	3.57
512-0335	747916-4	Plug	37	6.04	5.59	4.08

Tin-Plated Shells, Plugs With Grounding Indents

Stock No.	Mfr.'s Type	Style	Contacts	EACH		
				1-24	25-99	100-499
512-0405	747904-2	Ind. Plug	9	2.22	2.05	1.50
512-0410	747905-2	Receptacle	9	2.93	2.71	1.98
512-0415	747908-2	Ind. Plug	15	3.03	2.71	1.98
512-0420	747909-2	Receptacle	15	3.93	3.64	2.66
512-0425	747912-2	Ind. Plug	25	4.21	3.91	2.85
512-0430	747913-2	Receptacle	25	5.28	4.89	3.57
512-0435	747916-2	Ind. Plug	37	6.14	5.69	4.16
512-0440	747917-2	Receptacle	37	7.57	7.01	5.12

Insertion/Extraction Tool

For Size 20 Crimp and Solder Cup Contacts.

512-0470. 91285-1EACH 20.03



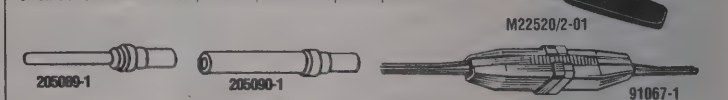
HDM-20 (MIL-C-24308) Connectors

Stainless steel retention springs. Insert material per MIL-C-24308.

Stock No.	Mfr.'s Type	M24308/	Style	Contacts (Not Included)	EACH		
					1-24	25-99	100-499
512-0205	205162-1	4-259	Plug	9	6.33	4.49	3.63
512-0210	205161-1	2-281	Receptacle	9	5.82	4.13	3.34
512-0215	205164-1	4-260	Plug	15	6.74	4.79	3.95
512-0220	205163-1	2-282	Receptacle	15	6.74	4.79	3.95
512-0225	205166-1	4-261	Plug	25	7.62	5.39	4.37
512-0230	205165-1	2-283	Receptacle	25	7.62	5.39	4.85
512-0235	205168-1	4-262	Plug	37	9.59	8.89	8.21
512-0240	205167-1	2-284	Receptacle	37	9.59	8.89	8.21

MIL-Spec. Pins, Sockets, and Tools

Shell constructed of steel, class G, cadmium plated per QQ-P-416.



Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-4	5-9	10-24
512-9015	205089-1	Pin, M39029/64-369	29.78	24.57	18.75
512-9017	205090-1	Socket, M39029/63-368	48.41	39.94	30.48

Insertion/Extraction Tools

Stock No.	Mfr.'s Type	Description	EACH
512-9045	91067-1	Insertion/extraction tool M81969/1-04	3.95
512-9110	91067-2	Insertion/extraction tool M81969/1-02	3.95

Crimp Tool and Positioner

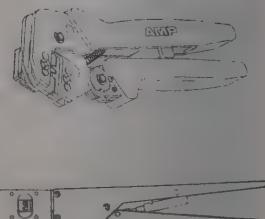
Stock No.	Mfr.'s Type	Description	EACH
512-6011	601966-1	Crimp Tool (M22520/2-01)	403.29
512-6015	601966-5	Positioner (M22520/2-08)	66.69

Crimp Tools

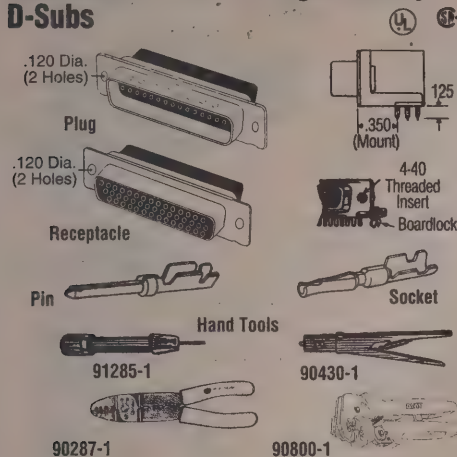
PRO-CRIMPER™ II
Ratchet crimp tool for contacts on 28-24 AWG wire and on 24-20 AWG wire. Recommended for field repair use only.
512-9128. 58448-2EACH 131.82

CERTI-CRIMP™ Tool
Considered by AMP to be the best crimp tool. Designed to exacting specifications. Long service life.

For AMPLIMITE® contacts for 28-24 and 24-20 AWG wire.
512-9132. 90302-1EACH 453.51
For AMPLIMITE® contacts (without insulation support) for 24-20 AWG wire.
512-2651. 90265-1EACH 408.00



AMPLIMITE® HDP-22 High Density D-Subs



Shell: Steel, tin plated with grounding indents. Insert: Black thermoplastic, 94V-0 rated. Contacts: Solid separately. Plugs

Stock No.	Mfr.'s Type	No. of Cont. Pos.	EACH		
			1-24	25-99	100-499
512-0252	748364-1	15	3.36	3.08	2.55
512-0254	748365-1	26	3.88	3.58	3.34
512-0255	748366-1	44	4.58	4.23	3.92
512-0256	748367-1	62	4.41	4.01	3.78
512-0258	748368-1	78	5.22	4.82	4.48

Receptacles

Stock No.	Mfr.'s Type	No. of Cont. Pos.	EACH		
			1-24	25-99	100-499
512-0238	748565-1	15	3.93	3.60	2.98
512-0242	748566-1	26	4.53	4.18	3.88
512-0244	748567-1	44	5.29	4.88	4.54
512-0246	748568-1	62	5.82	5.37	4.99
512-0248	748569-1	78	6.06	5.59	5.19

HD-22 Front Metal Shell Right-Angle

High density posted—350 mount with boardlock. Front Shell: Steel, tin plated. Housing: Black thermoplastic, 94V-0 rated. Threaded Inserts: Zinc. Posted Sockets: (included) Phosphor bronze plated with .000030 (0.00076) gold on mating end, tin-lead on termination end, with entire contact underplated with .000050 (0.00127) nickel. Recommended PC board thickness .062 (1.57)

Stock No.	Mfr.'s Type	No. of Cont. Pos.	EACH		
			1-24	25-99	100-499
512-0260	748390-5	15	7.15	5.67	5.01
512-0262	748481-5	26	11.95	11.00	10.22
512-0263	748482-5	44	15.32	14.11	13.10
512-0264	748394-5	62	24.77	18.73	16.15

Precision Formed Crimp Snap-In Contacts

Plated: .000030 (0.00076) gold on mating end, tin-lead on crimp barrel, with entire contact nickel underplated.

Stock No.	Mfr.'s Type	Description	For Wire AWG	PK/100	
				1-4	5-9
512-0271	1-748333-4	Pin for plugs	22-28	11.40	10.26
512-0265	748610-4	Socket for recept.	22-28	11.29	10.29

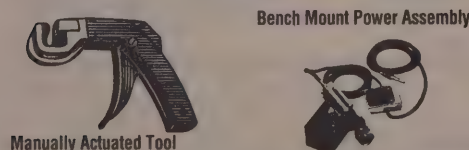
Plated: nickel underplate overall, gold flash on mating and tin-lead on crimp barrel.

Stock No.	Mfr.'s Type	Description	For Wire AWG	EACH	
				1-4	5-9
512-0267	748333-7	Pin for plugs	22-28	8.54	7.83
512-0269	748610-7	Socket for recept.	22-28	12.68	11.42

Tools

Stock No.	Mfr.'s Type	Description	EACH
512-0470	91285-1	Insertion/extraction tool	20.03
512-0268	90430-1	CERT-CRIMP™ tool	494.31
512-8615	90287-1	Service hand tool—22 AWG wires	49.00
512-8710	90800-1	PRO CRIMPER™ tool	148.75

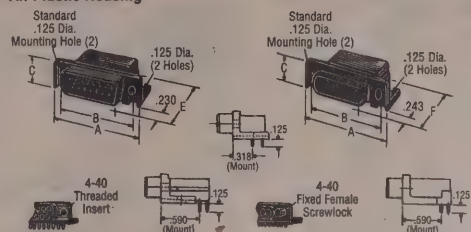
Tools for HDE-20 Insulation Displacement D-Subs



The pistol grip tool can terminate up to 600 wires per hour. Manually actuated. Terminates one unstripped wire per cycle. 512-9082. 58074-1. Pistol grip handle without head. EACH 62.90 512-9092. 58063-2. Modular head for HDE Series. EACH 207.14 512-9081. 58338-1. Bench mount power assembly. EACH 342.88 The bench mount power assembly is actuated by compressed air. Includes a foot switch. Terminates 1000 wires per hour typically. Modular head sold separately. 512-0336. 91232-1. Extraction tool. EACH 9.95

HD-20 Right-Angle Posted, PC Board D-Subs

All Plastic Housing



Housing: Black thermoplastic, 94V-0 rated. Contacts: Phosphor bronze. Contact Plating: A—.000030 gold on mating end, tin-lead on termination end, with entire contact nickel underplated. B—Gold on mating end, tin-lead on termination end, with entire contact nickel underplated.

.318 Mount, .125" PC Board Posts

Stock No.	Mfr.'s Type	No. of Cont. Pos.	Plating Code	EACH	
				1-24	25-49
512-0338	745395-2	9	A	6.50	5.87
512-0342	745395-1	9	B	6.06	5.54
512-0344	745397-2	25	A	7.80	7.14
512-0346	745397-1	25	B	7.29	6.68

.590 Mount (front load), .125" PC Board Posts

Stock No.	Mfr.'s Type	No. of Cont. Pos.	Plating Code	EACH	
				1-24	25-49
512-0348	747459-3	9	B	5.24	4.72
512-0350	747460-4	15	A	6.25	5.71
512-0352	747461-4	25	A	6.81	6.23
512-0354	747461-3	25	B	6.30	5.76

.590 Mount (front load), .125" PC Board Posts

Stock No.	Mfr.'s Type	No. of Cont. Pos.	Plating Code	EACH	
				1-24	25-49
512-0356	747467-2	9	A	4.85	4.44
512-0360	747467-1	9	B	4.49	3.85
512-0358	747468-2	15	A	5.34	4.88
512-0360	748826-1	25	A	16.40	11.56
512-0362	747470-2	25	B	8.22	7.40
512-0362	747470-2	37	A	7.28	6.67
512-0363	747470-1	37	B	6.63	6.07
512-0364*	206971-2	50	A	13.11	11.80
512-0364*	206971-1	50	B	13.82	12.76

* Rear loading version.

Receptacle with Standard Mounting holes (.120")

Stock No.	Mfr.'s Type	No. of Cont. Pos.	Plating Code	EACH	
				1-24	25-49
512-0366	747459-2	9	A	4.85	4.44
512-0366	747459-1	9	B	4.42	4.06
512-0368	747460-2	15	A	5.34	4.88
512-0366	747460-1	15	B	4.86	4.46
512-0370	747461-2	25	A	5.82	5.34
512-0370	747461-2	25	B	5.30	4.85
512-0372	747462-2	37	A	7.28	6.55
512-0374*	206973-2	50	A	13.82	12.48
512-0374*	206973-1	50	B	12.42	11.20

* Rear loading version.

HDE-20 Insulation Displacement D-Sub Connectors

All Plastic



All connectors are preloaded with insulation displacement crimp contacts. Pins in plugs and sockets in receptacles. Contacts accept a max. wire insulation thickness of .015 and a max. wire insulation dia. of .060. Also mateable with HD and HDP connectors.

All-Plastic for 26-22 AWG Wire. Housing: Black thermoplastic, 94V-0 rated. Contact Finish: A—.000030 gold on mating end, tin-lead on the termination end, with entire contact nickel plated. B—gold flash on mating end, tin-lead on the termination end, with entire contact nickel plated. Contacts: Phosphor bronze. Mounting Holes: .120" diameter.

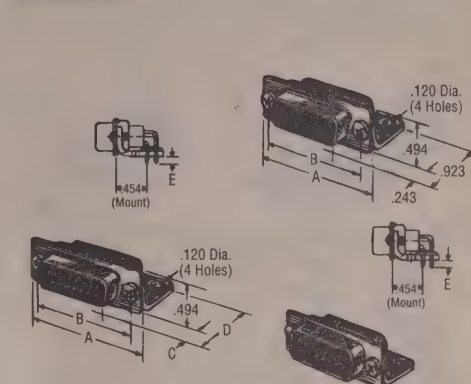
Plugs

Stock No.	Mfr.'s Type	Contact Finish	No. of Cont. Pos.	EACH	
				1-24	25-99
512-0270	745203-2	A	9	2.74	2.53
512-0272	745207-2	A	15	3.51	3.23
512-0274	745207-5	B	15	3.23	2.98
512-0276	745211-2	A	25	4.03	3.60
512-0278	745211-5	B	25	3.68	3.32

Receptacles

Stock No.	Mfr.'s Type	Contact Finish	No. of Cont. Pos.	EACH	
				1-24	25-99
512-0280	745201-2	A	9	2.96	2.73
512-0282	745201-5	B	9	2.78	2.56
512-0290	745205-2	A	15	3.86	3.56
512-0292	745205-5	B	15	3.59	3.31
512-0294	745209-2	A	25	5.45	5.03
512-0296	745209-5	B	25	4.95	4.57

Full Metal Shell



.454 Mount receptacles, .125" PC Board Post.

Stock No.	Mfr.'s Type	No. of Cont. Pos.	Plating Code	EACH	
				1-24	25-49
512-0376	745438-4	9	A	9.80	9.04
512-0378	745438-3	9	B	9.51	8.77
512-0380	745439-4	15	A	11.23	10.36
512-0382	745440-3	25	B	12.81	11.82
512-0384	745440-2*	25	A	13.52	12.48
512-0386	745441-4	37	A	16.31	15.05

* .220" PC Board Posts.

.545" Mount, .125" PC Board Post

Stock No.	Mfr.'s Type	No. of Cont. Pos.	Plating Code	EACH	
				1-24	25-49
512-0388	745352-4	15	A	9.35	8.63
512-0390	745352-3	15	B	8.98	8.29
512-0392	745353-4	25	A	11.21	10.34
512-0394	745353-3	25	B	10.60	9.78
512-0396	745354-3	37	B	12.53	11.57
512-0398	745355-4	50	A	17.04	15.72
512-0400	745355-3	50	B	15.83	14.61

Receptacle with standard mounting screws

Stock No.	Mfr.'s Type	No. of Cont. Pos.	Plating Code	EACH	
				1-24	25-49
512-0402	745112-2	9	A	8.33	7.69
512-0404	745112-1	9	B	8.10	7.47
512-0406	745113-2	15	A	9.54	8.80
512-0408	745113-1	15	B	9.17	8.46
512-0412	745114-2	25	A	11.50	10.61
512-0414	745114-1	25	B	10.92	10.08
512-0416	745115-2	37	A	13.88	12.80
512-0418	745115-1	37	B	12.96	11.96
512-0422	745116-2	50	A	17.63	16.28
512-0424	745116-1	50	B	16.44	15.18

Metal Shell



Metal Shell for 26-22 AWG Wires. Shell: Steel, tin plated. Insert: Black thermoplastic, 94V-0 rated. Contacts and Contact Finish: same as all-plastic HDE-20. Also mateable with HDP, HDP, and HD connectors.

Plugs for 26-22 AWG Wire

Stock No.	Mfr.'s Type	Contact Finish	No. of Cont. Pos.	EACH	
				1-24	25-99
512-0298	745492-2	A	9	2.70	2.49
512-0300	745492-5	B	9	2.96	2.73
512-0302	745494-2	A	15	4.20	3.88
512-0304	745494-5	B	15	3.93	3.62
512-0306	745496-2	A	25	4.82	4.43
512-0308	745496-5	B	25	4.46	4.12
512-0312	745498-2	A	37	7.86	7.25
512-0314	745498-5	B	37	7.33	6.76

Receptacles for 26-22 AWG Wire

Stock No.	Mfr.'s Type	Contact Finish	No. of Cont. Pos.	EACH	
				1-24	25-99
512-0316	745491-2	A	9	2.90	2.67
512-0318	745491-5	B	9	3.27	3.01
512-0322	745493-2	A	15	4.56	4.21
512-0324	745493-5	B	15	4.29	3.95
512-0326	745495-2	A	25	5.33	4.94
512-0328	745495-5	B	25	4.91	4.53
512-0332	745497-2	A	37	8.81	8.13

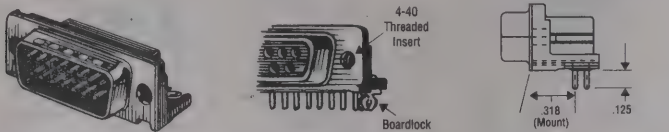
AMPLIMITE® Subminiature D Connectors

HD-20 Right Angle Posted Connectors

Contact Platings: A .00030 gold on mating end, tin-lead on the termination end, with entire contact nickel underplated. B, gold flash on mating end, tin-lead on the termination end, with entire contact nickel underplated.

Front Metal-shell, .318 Mount, .125" PC Board Posts. Plugs With Grounding Indents

Plugs



With standard .125" dia. mounting holes, without boardlocks

Stock No.	Mfr.'s Type	No. of Contacts	Plating Code	EACH		
				1-24	25-99	100-499
512-0427	747250-2	9	A	5.20	4.39	3.64
512-0429	747236-2	15	A	6.20	4.74	4.34
512-0431	747238-2	25	A	7.40	6.22	5.18
512-0433	747252-2	37	A	11.46	9.15	8.12

With 4-40 threaded inserts without boardlocks

512-0426	747250-4	9	A	5.70	4.79	3.99
512-0428	747250-3	9	B	5.00	4.21	3.50
512-0432	747236-4	15	A	6.60	5.56	4.62
512-0434	747238-4	25	A	7.80	6.55	5.46
512-0436	747238-3	25	B	5.90	4.97	4.13
512-0438	747252-4	37	A	12.06	9.64	8.54

With 4-40 threaded inserts, with boardlocks

512-0442	747840-4	9	A	6.05	5.10	4.24
512-0444	747840-3	9	B	5.35	4.61	3.75
512-0446	747841-4	15	A	6.95	5.87	4.87
512-0448	747841-3	15	B	5.80	4.87	4.06
512-0450	747842-4	25	A	8.15	6.88	5.71

HD-20 Straight Posted Connectors

Flame retardant thermoplastic housing. Pin contacts are brass; socket contacts are phosphor bronze. Both have plating options. Intermatable with other HD-20 connectors. UL Recognized and CSA Certified.



ALL-PLASTIC.

Plugs with .120" dia. standard mounting holes, .125" post length (Fig. A)

Stock No.	Mfr.'s Type	No. of Contacts	Plating Code	EACH		
				1-24	25-99	100-499
512-0488	208006-2	9	A	2.88	2.66	2.47
512-0490	208007-2	15	A	3.47	3.21	2.98
512-0492	208007-1	15	B	3.12	2.88	2.67
512-0494	208008-2	25	A	4.59	4.24	3.94
512-0496	208008-1	25	B	4.02	3.71	3.44
512-0500	208009-1	37	B	5.72	5.28	4.90

Plugs with 4-40 threaded inserts, .125" post length (Fig. B)

512-0502	745051-2	9	A	4.00	3.69	3.43
512-0504	745051-1	9	B	3.80	3.50	3.25
512-0506	745052-1	15	B	4.73	4.37	4.06
512-0508	745053-2	25	A	5.75	5.31	4.93
512-0512	745053-1	25	B	4.85	4.47	3.64

Plugs with 4-40 fixed female screw locks, .125" post length (Fig. C)

512-0516	745071-2	9	A	4.48	4.13	3.84
512-0518	745071-1	9	B	4.27	3.94	3.66
512-0522	745072-2	15	A	5.09	4.70	4.36
512-0524	745073-2	25	A	6.23	5.75	5.34
512-0526	745073-1	25	B	5.65	5.22	4.84
512-0528	745073-4*	25	A	6.23	5.75	5.34
512-0530	745073-3*	25	B	5.87	5.42	5.03
512-0532	745074-1	37	B	6.94	6.75	5.21

*.170" post length

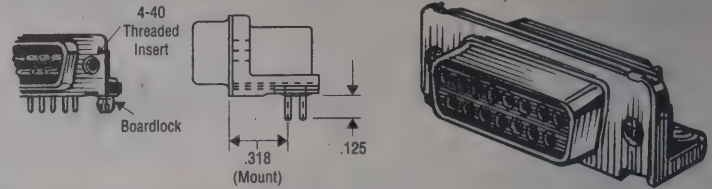
Front Metal Shell

Shell: steel, tin plated

Plugs with .120" dia. standard mounting holes, .125" post length

Stock No.	Mfr.'s Type	No. of Contacts	Plating Code	EACH		
				1-24	25-99	100-499
512-0585	747871-2	9	A	4.07	3.76	3.49
512-0587	747872-2	15	A	4.88	4.51	4.19
512-0589	745968-2	25	A	6.21	5.73	5.32
512-0591	747375-2	37	A	5.94	5.47	4.46

Receptacles



With standard .125" dia. mounting holes, without boardlocks

Stock No.	Mfr.'s Type	No. of Contacts	Plating Code	EACH		
				1-24	25-99	100-499
512-0452	745781-2	9	A	5.20	4.39	3.64
512-0454	745782-2	15	A	6.10	5.13	4.27
512-0456	745783-2	25	A	7.30	6.15	5.11
512-0458	745783-1	25	B	5.40	4.54	3.78

With 4-40 threaded inserts, without boardlocks

512-0460	745781-4	9	A	5.60	4.72	3.92
512-0462	745781-3	9	B	4.90	4.13	3.43
512-0464	745782-4	15	A	6.50	5.50	4.55
512-0466	745782-3	15	B	5.35	4.51	3.75
512-0468	745783-4	25	A	7.70	6.43	5.39
512-0472	745783-3	25	B	5.80	4.87	4.06
512-0474	745784-4	37	A	11.94	9.54	8.46
512-0476	745784-3	37	B	8.58	6.86	6.08

With 4-40 threaded inserts, with boardlocks

512-0478	747844-4	9	A	5.95	5.02	4.17
512-0478	747845-4	15	A	6.85	5.79	4.80
512-0480	747845-3	15	B	5.70	4.79	3.99
512-0482	747846-4	25	A	8.05	6.78	5.64
512-0484	747846-3	25	B	6.15	5.20	4.31
512-0486	747847-4	37	A	12.36	9.84	8.76

Receptacles with .120" standard mounting holes, .125" post length (Fig. D)

Stock No.	Mfr.'s Type	No. of Contacts	Plating Code	EACH		
				1-24	25-99	100-499
512-0534	207826-4	9	A	2.98	2.75	2.56
512-0536	207826-3	9	B	2.78	2.56	2.38
512-0538	207827-4	15	A	3.66	3.38	3.14
512-0540	207827-3	15	B	3.11	2.80	2.34
512-0542	207828-4	25	A	4.61	4.61	3.47
512-0544	207828-3	25	B	4.32	3.99	3.71
512-0546	207829-4	37	A	7.04	6.50	6.04

Receptacles with 4-40 threaded inserts, .125" post length (Fig. E)

512-0548	207841-4	9	A	4.12	3.80	3.53
512-0550	207841-3	9	B	3.90	3.60	3.34
512-0552	745057-4	15	A	4.80	4.43	4.11
512-0556	745058-4	25	A	5.71	5.25	4.28
512-0560	745058-3	25	B	5.15	4.71	3.86
512-0562	745058-6*	25	A	6.07	5.61	5.21
	745059-4	37	A	8.23	7.60	7.06

*.170" post length

Receptacles with 4-40 fixed female screwlocks, .125" post length (Fig. F)

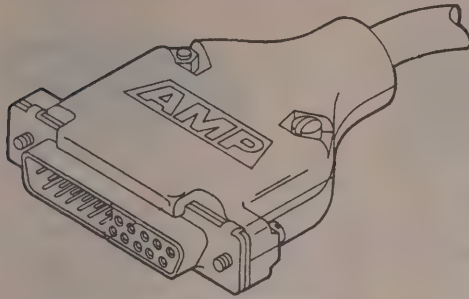
512-0566	745076-4	9	A	4.59	4.24	3.94
512-0568	745076-3	9	B	4.12	3.77	3.09
512-0570	745076-6*	9	A	4.59	4.24	3.94
512-0572	745077-4	15	A	5.28	4.87	4.52
512-0574	745077-3	15	B	4.93	4.56	4.23
512-0576	745078-4	25	A	6.55	6.05	5.87
512-0578	745078-3	25	B	5.60	5.13	4.20
512-0582	745078-6*	25	A	5.95	5.50	5.10
512-0584	745079-4	37	A	8.71	8.84	7.47

*.170" post length

Receptacles with .120" dia. standard mounting holes, .125" post length

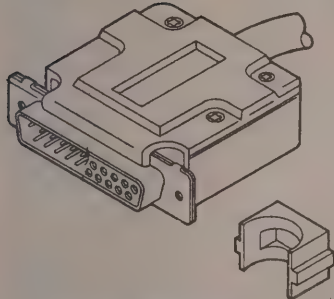
Stock No.	Mfr.'s Type	No. of Contacts	Plating Code	EACH		
				1-24	25-99	100-499
512-0593	747150-2	9	A	4.19	3.87	3.59
512-0595	747299-2	15	A	5.16	4.76	4.42
512-0597	745967-2	25	A	4.76	4.40	4.08
512-0599	747301-2	37	A	6.74	6.22	5.77

D-Sub Miniature Connector Kits



Shielded Plug/Receptacle Kit

— NEW —



Unshielded Plug/Receptacle Kit

AMP introduces Subminiature D Kits. Individual kits include a connector housing, contacts, a blackshell with grommets and hardware.

Shielded Crimp Snap-In Plug and Receptacle Kits (24-20 AWG)

Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH			
				1-4	5-9	10-24	25-99
512-7919	749805-1	9	Plug	4.08	3.41	3.13	2.69
512-7921	749806-1	9	Receptacle	4.10	3.43	3.15	2.90
512-7923	749805-2	15	Plug	4.44	3.71	3.40	3.14
512-7925	749806-2	15	Receptacle	4.48	3.75	3.43	3.17
512-7927	749805-3	25	Plug	4.90	4.10	3.76	3.47
512-7929	749806-3	25	Receptacle	4.96	4.14	3.79	3.50

Shielded HDE Insulation Displacement Plug and Receptacle Kits (26-22 AWG)

Stock No.	Mfr.'s Type	No. of Contacts	Description	1-4	5-9	10-24	25-99
512-7931	749810-1	9	Plug	5.05	4.14	3.79	3.50
512-7933	749814-1	9	Receptacle	5.08	4.15	3.81	3.52
512-7935	749810-2	15	Plug	5.61	4.69	4.30	3.97
512-7937	749814-2	15	Receptacle	5.66	4.73	4.33	4.00
512-7939	749810-3	25	Plug	6.59	5.51	5.05	4.66
512-7941	749814-3	25	Receptacle	6.65	5.56	5.10	4.71

Unshielded Crimp Snap-In Plug and Receptacle Kits (24-20 AWG)

Stock No.	Mfr.'s Type	No. of Contacts	Description	1-4	5-9	10-24	25-99
512-7943	749808-1	9	Plug	2.82	2.36	2.16	1.99
512-7945	749812-1	9	Receptacle	2.84	2.37	2.18	2.01
512-7947	749808-2	15	Plug	2.96	2.47	2.26	2.09
512-7949	749812-2	15	Receptacle	3.00	2.50	2.29	2.12
512-7951	749808-3	25	Plug	3.22	2.69	2.47	2.28
512-7953	749812-3	25	Receptacle	3.28	2.74	2.52	2.32

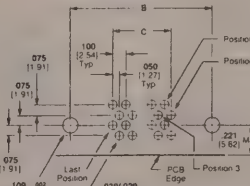
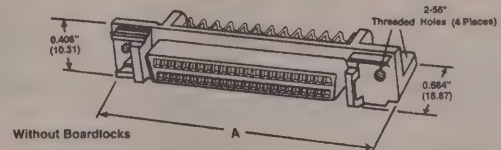
Unshielded Insulation Displacement Plug and Receptacle Kits (26-22 AWG)

Stock No.	Mfr.'s Type	No. of Contacts	Description	1-4	5-9	10-24	25-99
512-7955	749809-1	9	Plug	3.55	2.97	2.72	2.51
512-7957	749813-1	9	Receptacle	3.57	2.99	2.74	2.53
512-7959	749809-2	15	Plug	4.00	3.34	3.06	2.82
512-7961	749813-2	15	Receptacle	4.04	3.38	3.09	2.86
512-7963	749809-3	25	Plug	4.73	3.95	3.62	3.34
512-7965	749813-3	25	Receptacle	4.79	4.01	3.67	3.39

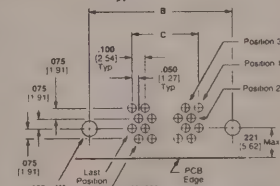
AMPLIMITE .050 Series Right Angle Receptacle Headers with Rails, Latch Blocks and Board Locks, Series III

- ▶ Housing: Thermoplastic, 94V-0 Rated, Black SMT Compatible
- ▶ Contact Plating: 30µ" Gold over Phosphor Bronze
- ▶ .112 (2.84) Solder Tail Length
- ▶ Shell: Steel, Plated Bright Tin over Copper

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions (In.)			EACH			
			A	B	C	1-49	50-99	100-249	250-499
512-7900	749830-2	26	1.465	1.230	.600	6.07	5.58	5.16	4.81
512-7902	749830-5	50	2.065	1.830	1.200	8.14	7.50	6.94	6.47
512-7904	749830-7	68	2.515	2.280	1.650	10.19	9.38	8.68	8.08
512-7906	749830-9	100	3.315	3.080	2.450	14.31	13.18	12.19	11.35

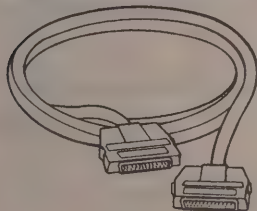


Recommended PCB Pattern for 68 and 100 Positions

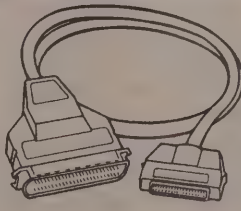


Recommended PCB Pattern for 26 and 50 Positions

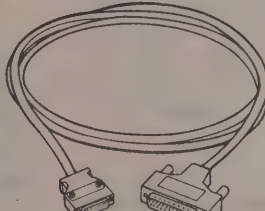
AMPLIMITE .050 Series Cable Assemblies, Series III



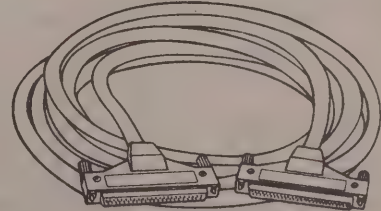
SCSI-2



SCSI-1 to SCSI-2



RS-232 (Alternate) to RS-232

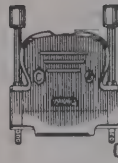
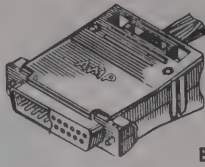
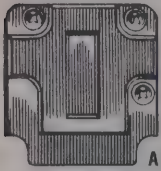


IPI-2 and HPPI

To meet standards applications the following 106 ohm, black jacketed cable assemblies are available.

Stock No.	Mfr.'s Type	Length	Assembly	Application	EACH		
					1-9	10-24	25-49
512-7908	750254-2	2 Meter	50 pos. .050 series Plug to 50 pos. .050 series Plug	SCSI-2	42.48	39.22	36.42
512-7910	750732-2	2 Meter	68 pos. .050 series Plug to 68 pos. .050 series Plug	SCSI-2	54.23	50.06	46.48
512-7912	750342-5	2 Meter	50 pos. CHAMP Conn. to 50 pos. .050 series Plug	SCSI-1 to SCSI-2	44.08	40.69	37.79
512-7914	750257-2	2 Meter	STD. 25 pos. Amplimite Plug to 26 pos. .050 series Plug	RS-232 alt. to RS-232	31.01	28.63	25.84
512-7916	749755-2	5 Meter	100 pos. .050 series Plug to 100 pos. .050 series Plug	IPI-2 and HPPI	94.01	86.78	80.58

Clamps And Shields (Hoods)



Straight/90° Exit Cable Clamps (Hoods)

Assemblies can be used on either plugs or receptacles and will not interfere with commonly used hardware. Black thermoplastic. Finish is textured. Black zinc-plated steel flat head screws.

Stock No.	Mfr.'s Type	Case Style	Fig.	EACH		
				1-24	25-99	100-499
512-0605	207467-1	9-Pin	A	2.12	1.80	1.65
512-0610	207470-1	15-Pin	A	2.22	1.92	1.76
512-0615	207345-1	25-Pin	A	2.24	1.95	1.79
512-0620	207473-1	37-Pin	A	2.35	2.02	1.86
512-0625	207476-1	50-Pin	A	2.34	2.01	1.84

Straight/90° Exit Cable Clamps (Hoods). Assemblies can be used on either plugs or receptacles and will not interfere with commonly used hardware. Grey thermoplastic. 4-40 zinc-plated steel screws.

512-0705	206471-1	15-Pin	B	2.50	2.29	2.08
512-0710	206472-1	25-Pin**	B	2.53	2.31	2.10
512-0715	745134-1	25-Pin**	B	2.53	2.31	2.10
512-0720	745081-1	37-Pin	B	2.62	2.35	2.14
512-0725	745082-1	50-Pin	B	2.83	2.61	2.42

* Cable dia. .335" ** Cable dia. .460"

Straight Exit Dataphone Cable Clamps (Hoods)

512-1000	745122-2	15-Pin	C	7.09	6.38	5.79
512-1005	745121-2	25-Pin	C	6.60	5.94	5.38

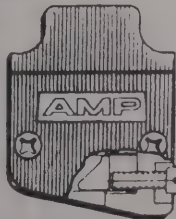
2-Piece 90° Exit RFI/EMI Shields (Die Cast)

Stock No.	Mfr.'s Type	Max. Cable Dia.	Case Style	Fig.	EACH		
					1-24	25-99	100-499
512-0950	745652-2	0.375	15-Pin	E	9.12	8.59	7.81
512-0955	745653-4	0.350	25-Pin	E	10.85	10.02	9.30
512-0960	745653-3	0.430	25-Pin	E	10.85	10.02	9.30

Clamp Shell Straight/45° Exit Hoods

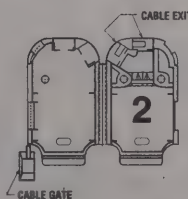
Assemblies can be used on either plug or receptacle and will not interfere with commonly used hardware. Black thermoplastic, textured finish, zinc-plated steel pan head screws. (6-32). 1.625" length, except † 1.25" length short cable clamp.

Stock No.	Mfr.'s Type	Pins	EACH		
			1-24	25-99	100-499
512-0505	205729-1	9	1.98	1.69	1.55
512-0509†	206393-1	15	2.55	2.36	2.19
512-0510	205730-1	15	2.03	1.73	1.59
512-0513†	206390-1	25	2.52	2.34	2.18
512-0515	205718-1	25	2.06	1.77	1.62
512-0520	205731-1	37	2.11	1.79	1.64
512-0525	205732-1	50	2.16	2.00	1.86

Quik-Snap Backshell Kits
Straight/60° Exit

Designed for ease of assembly. Assemblies can be used with plugs or receptacles and will not interfere with commonly used hardware. Black polypropylene.

Stock No.	Mfr.'s Type	Case Style	EACH		
			1-24	25-99	100-499
512-0850	749914-2	9-Pin	1.69	1.48	1.32
512-0852	749915-2	15-Pin	1.69	1.48	1.32
512-0854	749626-2	25-Pin	1.70	1.51	1.34
512-0856	749916-2	37-Pin	1.87	1.74	1.61



2-Piece Straight Exit RFI/EMI Shields

Die Cast Metal — zinc alloy plated bright nickel over bright copper

Stock No.	Mfr.'s Type	Max. Cable Dia.	Case Style	Fig.	EACH		
					1-24	25-99	100-499
512-0803	745171-2	0.200	9-Pin	D	5.41	4.62	4.24
512-0805	745171-1	0.250	9-Pin	D	5.41	4.62	4.24
512-0810	745172-2	0.300	15-Pin	D	5.54	4.75	4.36
512-0812	745172-1	0.375	15-Pin	D	5.54	4.75	4.36
512-0814	745173-5	0.280	25-Pin	D	5.67	4.86	4.46
512-0815	745173-4	0.350	25-Pin	D	5.67	4.86	4.46
512-0820	745173-3	0.430	25-Pin	D	5.67	4.86	4.46
512-0822	745173-2	0.480	25-Pin	D	5.67	4.86	4.46
512-0825	745174-4	0.425	37-Pin	D	5.82	5.37	4.99
512-0830	745174-3	0.500	37-Pin	D	5.81	4.96	4.54
512-0835	745175-5	0.450	50-Pin	D	5.96	5.51	5.12
512-0838	745175-4	0.525	50-Pin	D	5.97	5.51	5.12

2-Piece Straight Exit RFI/EMI Shields

Metal-Plated Plastic — plated nickel over copper.

512-0903	745854-5	0.200	9-Pin	D	3.63	3.13	2.70
512-0905	745854-3	0.250	9-Pin	D	3.63	3.13	2.70
512-0908	747099-5	0.300	15-Pin	D	3.71	3.43	3.18
512-0910	747099-3	0.375	15-Pin	D	3.71	3.43	3.18
512-0912	745833-9	0.280	25-Pin	D	3.80	3.29	2.84
512-0915	745833-7	0.350	25-Pin	D	3.80	3.29	2.84
512-0920	745833-5	0.430	25-Pin	D	3.83	3.54	3.28
512-0922	745833-3	0.480	25-Pin	D	3.83	3.54	3.28
512-0925	747100-7	0.425	37-Pin	D	3.93	3.63	3.37
512-0930	747100-5	0.500	37-Pin	D	3.91	3.38	2.91
512-0935	747098-7	0.525	50-Pin	D	4.01	3.71	3.44

"D" Type Connector Kits

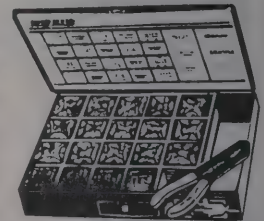
Contained in a rugged steel carrying case. Extra compartments allow customizing of kit. Replacement parts are available from stock.

Model 787053-2. RS232 type kit contains: 100 pin and 100 socket contacts, 6 25-position zinc receptacles, 18 25-position zinc plugs, 14 25-position cable clamps, an extraction tool, a crimp tool, and 25 4/5" cable ties.

512-9122 EACH 163.80

Model 787054-2. RS449 kit contains: pins and sockets (200 each); 9, 15, 25, and 37-position zinc receptacles (3 of each); 9, 15, 25, and 37-position zinc plugs (6 each); 9, 15, 25, and 37-position clamps (6 each); 100 4/5" cable ties. Also includes 4 extraction tools and 1 crimp tool.

512-9123 EACH 219.06



Male Screw Retainers

Kit contains 2 male-screws and 2 clips. Screws are made of zinc-plated steel with a yellow or clear chromate finish. Retaining clips are made of zinc-plated steel. Type 205980-1 for metal shell connectors. Type 745647-1 for all plastic connectors. All parts packaged unassembled. Thread size 4-40.

Stock No.	Mfr.'s Type	Description	Screw Length	SET/2		
				1-99	100-499	500-999
512-9050	205980-1	Yellow chromate finish	.220"	.69	.52	.42
512-9052	205980-4	Clear chromate finish	.220"	.51	.38	.31
512-9055	745647-1	For all plastic D-sub	.220"	.61	.45	.37

Locking Posts

Kit contains 2 complete post assemblies. Constructed of cold-rolled zinc plated steel, 4-40 threaded. Size: .416" long.

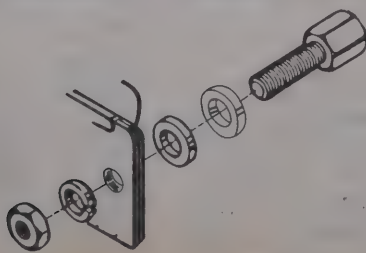
100-499	SET/2 1.38
512-9080, Type 206514-1, 1-99	SET/2 1.55
500-999	SET/2 1.26



Female Screw Locks

Female screw locks for use with either metal or plastic connector shells. Available in square or hex nut types; short, standard, or long sizes. Each kit contains 2 female screw lock assemblies. All parts packaged unassembled. Includes female screw lock screw, two flat washers, lockwasher, and hex or square nuts.

Stock No.	Mfr.'s Type	Nominal Type	Finish	Size Nut	Nut Type	Screw Length	SET/2		
							1-99	100-499	500-999
512-9060	207952-1	Short	Yellow chromate	0.250	Square	0.250	1.27	1.04	.98
512-9065	207952-3	Short	Clear chromate	0.250	Square	0.250	1.28	1.05	.99
512-9070	205817-1	Standard	Yellow chromate	0.350	Hex	0.312	1.27	1.04	.98
512-9072	205817-3	Standard	Clear chromate	0.350	Hex	0.312	1.27	1.04	.98
512-9075	207719-1	Long	Yellow chromate	0.350	Hex	0.560	1.48	1.19	1.08
512-9077	207719-3	Long	Clear chromate	0.350	Hex	0.560	1.40	1.19	1.08



SCSI 1, 2, 3 Termination Connectors SCSI (Small Computer Systems Interface)

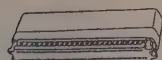


Fig. A
SCSI 1, 2
Low Density Narrow

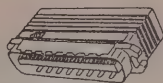


Fig. B
SCSI 1, 2
Low Density Narrow

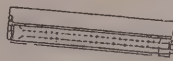


Fig. C
SCSI 1, 2
Low Density Narrow



Fig. D
SCSI 2
High Density Narrow



Fig. E
SCSI 3
High Density Wide



Fig. F
SCSI-3
High Density Wide



Fig. G
SCSI-3 Feed-Thru
High Density Wide



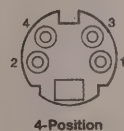
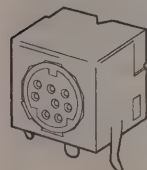
Fig. H
SCSI-2 to SCSI-3 Adapter
High Density Wide to Narrow

Termination connectors are used to maintain signal transmission integrity requirements of computer bus systems.

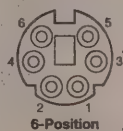
Stock No.	Mfr.'s Type	Fig.	Description	Termination	EACH	
					1-9	10-24
512-7706	869383-1	A	50 pos. terminator for use with .050 centerline ribbon cable	Single Ended Passive	36.96	34.12
512-7708	869574-1	A	50 pos. terminator for use with .050 centerline ribbon cable	Single Ended Active	34.26	31.62
512-7709	556578-1	B	50 pos. CHAMP style plug terminators mate with .085 centerline SCSI ports	Single Ended Passive	33.31	25.36
512-7710	555867-1	B	50 pos. CHAMP style plug terminators mate with .085 centerline SCSI ports	Differential	33.87	26.15
512-7711	869587-1	C	50 pos. plug terminators designed to mate with ribbon cable receptacle connectors	Single Ended Passive	17.31	15.97
512-7713	869884-1	C	50 pos. plug terminators designed to mate with ribbon cable receptacle connectors	Single Ended Active	32.25	29.77
512-7714	750881-1	D	50 pos. AMPLIMITE .050 series plug terminators. A cable	Single Ended Passive	34.72	32.05
512-7718	869546-1	D	50 pos. AMPLIMITE .050 series plug terminators. A cable	Single Ended Active	39.15	36.13
512-7716	869545-1	D	50 pos. AMPLIMITE .050 series plug terminators. A cable	Differential	37.42	34.54
512-7720	869516-1	E	68 pos. AMPLIMITE .050 series plug terminators. P&Q cable	Single Ended Active	43.83	40.46
512-7722	869515-1	E	68 pos. AMPLIMITE .050 series plug terminators. P&Q cable	Differential	41.75	38.54
512-7715	869705-1	F	68 pos. terminator for use with .025 centerline ribbon cable	Active Negation Compatible	46.77	43.17
512-7717	869794-1	F	68 pos. terminator for use with .025 centerline ribbon cable	Differential	47.16	43.53
512-7719	869684-1	G	AMPLIMITE .050 series, 68 pos. plug feed-thru to 68 pos. receptacle termination	Single Ended Active	67.18	62.38
512-7721	869682-1	G	AMPLIMITE .050 series, 68 pos. plug feed-thru to 68 pos. receptacle termination	Differential	54.67	50.77
512-7723	869680-1	H	AMPLIMITE .050 series, 68 pos. receptacle feed-thru to 50 pos. plug	Single Ended Active*	54.82	54.25
512-7725	869678-1	H	AMPLIMITE .050 series, 68 pos. receptacle feed-thru to 50 pos. plug	Differential*	52.90	49.12
512-7727	869686-1	H	AMPLIMITE .050 series, 68 pos. receptacle feed-thru to 50 pos. plug	Unterminated	47.52	43.86

*9 Lines Terminated.

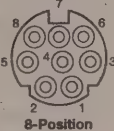
Shielded Miniature Circular DIN Receptacles Right Angle PCB — Thru-Mount Style



4-Position



6-Position



8-Position

Stock No.	Mfr.'s Type	No of Pos.	Plating	With Holddown	EACH		
					1-49	50-99	100-499
512-7724	749181-1	4	30µ" Gold	Yes	2.86	2.64	2.45
512-7726	749264-1	4	30µ" Gold	No	2.47	2.28	2.12
512-7728	749231-1	6	Gold Flash	Yes	2.90	2.64	2.45
512-7730	749265-1	6	Gold Flash	No	2.47	2.28	2.12
512-7732	749180-1	6	30µ" Gold	Yes	3.11	2.85	2.64
512-7734	749266-1	6	30µ" Gold	No	2.64	2.44	2.26
512-7736	749179-1	8	30µ" Gold	Yes	3.25	3.00	2.79
512-7738	749267-1	8	30µ" Gold	No	2.81	2.59	2.41

M Series V.35 Special Applications Connectors

M Series offer dependable, convenient assembly in high speed data transmission applications. UL File No. 28476, CSA File No. 7189. Contacts and crimp tools are same as for CPC series on page 172.

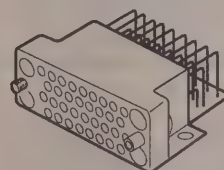
PCB Connectors

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH	
				1-9	20-24
512-7752	212810-2	34	Right Angle Receptacle Fully Loaded	31.64	29.21
512-7754	213289-1	34	Right Angle Plug Fully Loaded	31.64	29.21
512-7756	213524-1	34	Vertical Receptacle Fully Loaded	42.77	39.49

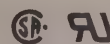
Cable Connector Kits

Stock No.	Mfr.'s Type	No. of Pos.	Cable Range	Connector Type	EACH	
					1-9	10-24
512-7758	213684-1	34	.400-.600	Plug	11.48	10.60
512-7760	213684-2	34	.250-.400	Plug	14.57	13.45
512-7762	213684-3**	34	.400-.600	Plug	22.83	21.08
512-7764	213684-4**	34	.250-.400	Plug	16.91	14.63
512-7766	213685-1	34	.400-.600	Receptacle	22.26	20.54
512-7768	213685-2	34	.250-.400	Receptacle	16.27	14.76

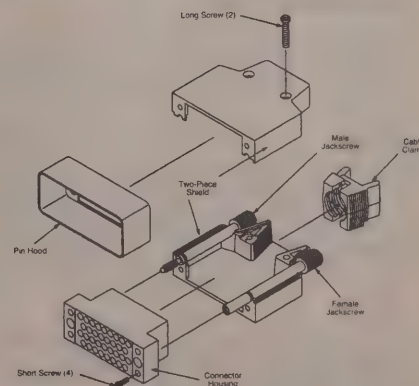
** With Pin Hood.



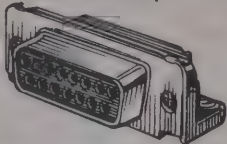
Right Angle



Vertical



D-Subs and Adapters



(Right Angle Receptacle Shown)

Loose-Piece Filters



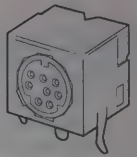
Eyelet Style



8-32 Bolt Style



12-32 Bolt Style

Right Angle
Mini-DINs

All AMP QuietLine filter products offer proven, rugged performance to eliminate unwanted EMI/RFI. They assist in meeting design requirements of FCC Part 15 (A & B), VDE, and VCCI requirements, and are interchangeable with standard industry interfaces.

Distributed Element Filters

Current Rating (Max.): Load current (in connector), #20 contact — 7.5 amps (loose-piece filters — 15 amps); RF current — 0.3 amps. **Operating Voltage (Max.):** 100 VDC at -25°C to +85°C. **Dissipation Factor:** 0.1 max. **Dielectric Withstanding Voltage:** 250 VDC for five seconds. **Insulation Resistance (Min.):** 500 megohms, minimum at 100 VDC, 2 minutes and +25°C. **Direct Current Resistance:** .002 ohms max. **Filter Sleeve:** Ferrite and ceramic.

Tubular Capacitive Filters

Current Rating (Max.): Load current, #20 contact — 5 amps; RF current — 0.3 amps.

Plug/Receptacle D-Sub Adapters

Distributed Element Filters

Material and Finish. Shell: Steel, tin plated. **Insert:** UL rated 94VO thermoplastic. **Contact:** Pin-brass, socket-phosphor bronze, plated .000015 (0.00038) min. gold in contact area, plated tin/lead on termination end.

Stock No.	Mfr.'s Type	No. of Contacts	Mounting Style	Capacitance	EACH		
					1-4	5-9	10-24
512-6700	842930-1	9	.120 Mtg. Hole	1000-3000 pf	35.78	33.03	30.67
512-6702	842931-1	15	.120 Mtg. Hole	1000-3000 pf	59.75	55.15	51.21
512-6704	842932-1	25	.120 Mtg. Hole	1000-3000 pf	63.25	58.38	54.21
512-6706	842933-1	37	.120 Mtg. Hole	1000-3000 pf	86.45	79.80	74.10
512-6708	842930-8	9	4-40 Clinch Nut	1000-3000 pf	50.52	46.63	43.30
512-6710	842932-8	25	4-40 Clinch Nut	1000-3000 pf	67.43	62.25	57.80
512-6712	842933-8	37	4-40 Clinch Nut	1000-3000 pf	90.37	83.42	77.46
512-6714	842930-3	9	.120 Mtg. Hole	3000-8000 pf	58.10	53.63	49.80
512-6716	842931-3	15	.120 Mtg. Hole	3000-8000 pf	73.48	67.83	62.99
512-6718	842932-3	25	.120 Mtg. Hole	3000-8000 pf	89.97	83.05	77.11
512-6720	842933-3	37	.120 Mtg. Hole	3000-8000 pf	125.40	115.75	107.49
512-6722	1-842930-0	9	4-40 Clinch Nut	3000-8000 pf	63.10	58.25	54.09
512-6724	1-842931-0	15	4-40 Clinch Nut	3000-8000 pf	66.92	61.77	57.36
512-6726	1-842932-0	25	4-40 Clinch Nut	3000-8000 pf	93.87	86.65	80.46
512-6728	1-842933-0	37	4-40 Clinch Nut	3000-8000 pf	129.32	119.37	110.84
512-6730	842930-6	9	.120 Mtg. Hole	300-600 pf	35.80	33.05	30.69
512-6732	842932-6	25	.120 Mtg. Hole	300-600 pf	80.58	74.38	69.07
512-6734	1-842930-3	9	4-40 Clinch Nut	300-600 pf	39.73	36.68	34.06
512-6736	1-842931-3	15	4-40 Clinch Nut	300-600 pf	64.68	59.71	55.44
512-6738	1-842932-3	25	4-40 Clinch Nut	300-600 pf	67.28	62.11	57.67
512-6740	1-842933-3	37	4-40 Clinch Nut	300-600 pf	114.97	106.12	98.54
512-6742	842930-7	9	.120 Mtg. Hole	600-1000 pf	50.55	46.66	43.33
512-6744	842932-7	25	.120 Mtg. Hole	600-1000 pf	91.47	84.43	78.40
512-6746	1-842931-4	15	4-40 Clinch Nut	600-1000 pf	74.22	68.51	63.61
512-6748	1-842932-4	25	4-40 Clinch Nut	600-1000 pf	102.33	94.46	87.71
512-6750	1-842933-4	37	4-40 Clinch Nut	600-1000 pf	143.42	132.38	122.93

Operating Voltage (Max.): 100 VDC at -25°C to +85°C. **Dissipation Factor:** 0.1 max. **Dielectric Withstanding Voltage:** 250 VDC for five seconds (contact manufacturer on higher voltages). **Insulation Resistance (Min.):** 1 gigaohms at 100 VDC, 2 minutes and +25°C. **Direct Current Resistance:** .002 ohms max. **Filter Sleeve:** Ceramic.

Capacitive Array on Ferrite

Operating Voltage: AMPLIMITE connectors — 100 VDC max.; mini-DIN connectors — 30 VDC max. **Dielectric Withstanding Voltage:** 250 VDC. **Insulation Resistance:** 100 megohms, min.

Ferrite Only

Operating Voltage: AMPLIMITE connectors — 100 VDC max.; mini-DIN connectors — 30 VDC max. **Dielectric Withstanding Voltage:** 250 VDC. **Insulation Resistance:** 100 megohms, min.

Tubular Capacitive Filters

Material and Finish. Shell: Steel, tin plated. **Insert:** UL rated 94VO thermoplastic. **Contact:** One piece phosphor bronze, plated .000015 (0.00038) min. gold in contact area.

Stock No.	Mfr.'s Type	No. of Contacts	Mounting Style	Capacitance	EACH		
					1-4	5-9	10-24
512-6752	842954-1	9	.120 Mtg. Hole	4000-10000 pf	27.50	25.38	23.57
512-6754	842956-1	25	.120 Mtg. Hole	4000-10000 pf	45.15	41.68	38.70
512-6756	842957-1	37	.120 Mtg. Hole	4000-10000 pf	61.47	56.74	52.69
512-6758	842954-2	9	4-40 Clinch Nut	4000-10000 pf	31.45	29.03	26.96
512-6760	842957-2	37	4-40 Clinch Nut	4000-10000 pf	65.40	60.37	56.06
512-6762	842737-3	9	.120 Mtg. Hole	1300-2500 pf	36.53	33.72	31.31
512-6764	842740-3	15	.120 Mtg. Hole	1300-2500 pf	33.62	31.03	28.81
512-6766	842743-3	25	.120 Mtg. Hole	1300-2500 pf	44.52	41.09	38.16
512-6768	842746-3	37	.120 Mtg. Hole	1300-2500 pf	82.42	76.08	70.64
512-6770	842737-4	9	4-40 Clinch Nut	1300-2500 pf	41.85	38.63	35.87
512-6772	842740-4	15	4-40 Clinch Nut	1300-2500 pf	49.52	45.71	42.44
512-6774	842743-4	25	4-40 Clinch Nut	1300-2500 pf	48.43	44.71	41.51
512-6776	842697-3	9	.120 Mtg. Hole	600-1000 pf	41.17	38.00	35.29
512-6778	842699-3	25	.120 Mtg. Hole	600-1000 pf	42.40	39.14	36.34
512-6780	842700-3	37	.120 Mtg. Hole	600-1000 pf	82.42	76.08	70.64
512-6782	842697-4	9	4-40 Clinch Nut	600-1000 pf	33.75	31.15	28.93
512-6784	842698-4	15	4-40 Clinch Nut	600-1000 pf	35.75	33.00	30.64
512-6786	842699-4	25	4-40 Clinch Nut	600-1000 pf	46.12	42.57	39.53
512-6788	842700-4	37	4-40 Clinch Nut	600-1000 pf	87.70	80.95	75.17
512-6790	842745-3	25	.120 Mtg. Hole	400-600 pf	60.37	55.72	51.74
512-6792	842745-4	25	4-40 Clinch Nut	400-600 pf	61.78	57.03	52.96
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Loose-Piece Filters

Quiet Line loose-piece filters are especially suited to the cost/performance requirements of commercial electronic equipment. Typical applications include mobile radios, transducers, microprocessors, computer peripheral equipment and communication equipment.

Eyelet Style

Recommended Mounting Hole: .117^{+0.002} (.297^{+0.005}) (#32 drill). **Material and Finish. Contact:** Copper alloy 260, plated .000015 (0.00038) min. gold per MIL-G-45204, Type I, Grade C over .000070 (0.00178) min. nickel per QQ-N-290. **Eyelet:** Copper alloy per QQ-B-626 plated .000015 (0.00038) min. gold per MIL-G-45204, Type I, Grade C over .000070 (0.00178) min. nickel per QQ-N-290. **Solder:** SN10 per QQ-S-571. **Filter:** Ferrite and ceramic.

Stock No.	Mfr.'s Type	Capacitance	Type	Length	EACH		
					1-49	50-99	100-499
512-6874	859614-1	1000-3000 pf	Eyelet	1.000	4.27	3.94	3.66
512-6876	859617-1	1000-3000 pf	8-32 Bolt	1.000	6.57	6.06	5.63
512-6878	859646-1	1000-3000 pf	12-32 Bolt	1.000	7.07	6.52	6.06
512-6880	859616-1	3000-8000 pf	Eyelet	1.000	2.47	2.28	2.11
512-6882	859619-1*	3000-8000 pf	8-32 Bolt	1.000	4.08	3.77	3.50
512-6884	842493-1	600-1000 pf	Eyelet	1.000	2.93	2.71	2.51
512-6886	859615-1	2000-5000 pf	Eyelet	1.000	3.22	2.97	2.76

8-32 Bolt Style

Supplied with lockwasher and nut except as noted. ***Recommended Hole Sizes:** DA, DB, DD and DF Types — .177^{+0.002} (4.5^{+0.05}) dia. (#16 drill); DC, DE and DG Types — 8-32 UNC-2B. **Material and Finish. Contact and Bolt Body:** Copper alloy 260, plated .000100 (0.00254) min. silver per QQ-S-365 over .000050 (0.00127) min. nickel per QQ-N-290. **Filter:** Ferrite and ceramic.

12-32 Bolt Style

Supplied with lockwasher and nut. **Recommended Hole Size:** .228^{+0.002} (5.79^{+0.05}) dia. (#1 drill). **Material and Finish. Contact and Bolt Body:** Copper alloy 260, plated .000100 (0.00254) min. silver per QQ-S-365 over .000050 (0.00127) min. nickel per QQ-N-290. **Filter:** Ferrite and ceramic.

Stock No.	Mfr.'s Type	Capacitance	Type	Length	EACH		
					1-49	50-99	100-499
512-6888	859618-1	2000-5000 pf	8-32 Bolt	1.000	5.40	4.98	4.63
512-6890	859645-1	2000-5000 pf	12-32 Bolt	1.000	5.75	5.31	4.93
512-6892	859655-1	130-400 pf	Eyelet	1.000	6.47	5.97	5.54
512-6894	859658-1	130-400 pf	8-32 Bolt	1.000	5.60	5.17	4.80
512-6896	859681-1	130-400 pf	12-32 Bolt	1.000	10.30	9.51	8.83
512-6898	859656-1	50-175 pf	Eyelet	1.000	3.85	3.55	3.30
512-6900	859659-1*	50-175 pf	8-32 Bolt	1.000	4.30	3.97	3.69

AMPLIMITE D-Sub Connectors

Distributed Element Filters

Material and Finish. Shell: Steel, tin plated. **Insert:** UL rated 94V0 thermoplastic. **Contact:** Sockets — Phosphor bronze, plated .00015 (0.00038) min. gold in contact area, plated tin/lead on termination end; Pins — Brass. **Filter Sleeve:** Ferrite and ceramic.

Right Angle Plug

Stock No.	Mfr.'s Type	No. of Contacts	Mounting Style	Capacitance	EACH		
					1-4	5-9	10-24
512-6794	1-842900-0	9	4-40 Clinch Nut	3000-8000 pf	47.92	44.23	41.07
512-6796	1-842901-0	15	4-40 Clinch Nut	3000-8000 pf	67.23	62.06	57.63
512-6798	1-842902-0	25	4-40 Clinch Nut	3000-8000 pf	85.53	78.95	73.31
512-6800	1-842900-4	9	4-40 Clinch Nut	600-1000 pf	45.40	41.91	38.91

Right Angle Receptacle

512-6832	1-842905-0	9	4-40 Clinch Nut	3000-8000 pf	41.77	38.55	35.80
512-6834	1-842906-0	15	4-40 Clinch Nut	3000-8000 pf	58.38	53.89	50.04
512-6836	1-842907-0	25	4-40 Clinch Nut	3000-8000 pf	90.23	83.29	77.34

Straight Plug

512-6810	1-842910-0	9	4-40 Clinch Nut	3000-8000 pf	50.03	46.18	42.89
512-6812	1-842911-0	15	4-40 Clinch Nut	3000-8000 pf	56.32	51.98	48.27
512-6814	1-842912-0	25	4-40 Clinch Nut	3000-8000 pf	84.33	77.85	72.29

Straight Receptacle

512-6848	1-842915-0	9	4-40 Clinch Nut	3000-8000 pf	48.77	45.02	41.80
512-6850	1-842916-0	15	4-40 Clinch Nut	3000-8000 pf	56.83	52.46	48.71
512-6852	1-842917-0	25	4-40 Clinch Nut	3000-8000 pf	92.85	85.71	79.59
512-6854	1-842916-4	15	4-40 Clinch Nut	600-1000 pf	49.10	45.32	42.09
512-6856	1-842917-4	25	4-40 Clinch Nut	600-1000 pf	75.75	69.92	64.93

Solder Cup Plug

512-6822	1-842920-0	9	4-40 Clinch Nut	3000-8000 pf	49.32	45.52	42.27
512-6824	1-842921-0	15	4-40 Clinch Nut	3000-8000 pf	68.07	62.83	58.34
512-6826	1-842922-0	25	4-40 Clinch Nut	3000-8000 pf	136.87	126.34	117.31
512-6828	1-842920-4	9	4-40 Clinch Nut	600-1000 pf	50.95	47.03	43.67
512-6830	1-842921-4	15	4-40 Clinch Nut	600-1000 pf	75.58	69.77	64.79

Solder Cup Receptacle

512-6866	1-842925-0	9	4-40 Clinch Nut	3000-8000 pf	47.82	44.14	40.99
512-6868	1-842926-0	15	4-40 Clinch Nut	3000-8000 pf	66.47	61.35	56.97
512-6870	1-842927-0	25	4-40 Clinch Nut	3000-8000 pf	108.10	99.78	92.66
512-6872	1-842928-0	37	4-40 Clinch Nut	3000-8000 pf	151.88	140.20	130.19

Tube Capacitive Filters

Material and Finish. Shell: Steel, tin plated. **Insert:** UL rated 94V0 thermoplastic. **Contact:** Phosphor bronze, plated .00015 (0.00038) min. gold in contact area, plated tin/lead on termination end. **Filter Sleeve:** Ferrite and ceramic.

Right Angle Plug

512-6802	842947-2	15	4-40 Clinch Nut	4000-10000 pf	33.03	30.49	28.31
512-6804	842948-2	25	4-40 Clinch Nut	4000-10000 pf	42.05	38.82	36.04
512-6806	842646-4	9	4-40 Clinch Nut	600-1000 pf	26.50	24.46	22.71
512-6808	842648-4	25	4-40 Clinch Nut	600-1000 pf	39.57	36.52	33.91

Right Angle Receptacle

512-6838	842952-2	25	4-40 Clinch Nut	4000-10000 pf	39.70	36.65	34.03
512-6840	842650-4	9	4-40 Clinch Nut	600-1000 pf	37.77	34.86	32.37
512-6842	842651-4	15	4-40 Clinch Nut	600-1000 pf	33.52	30.94	28.73
512-6844	842652-4	25	4-40 Clinch Nut	600-1000 pf	40.82	37.68	34.99
512-6846	842653-4	37	4-40 Clinch Nut	600-1000 pf	64.20	59.26	55.03

Straight Plug

512-6816	842939-2	15	4-40 Clinch Nut	4000-10000 pf	31.45	29.03	26.96
512-6818	842639-4	15	4-40 Clinch Nut	600-1000 pf	31.32	28.91	26.84
512-6820	842640-4	25	4-40 Clinch Nut	600-1000 pf	40.08	37.00	34.36

Straight Receptacle

512-6858	842942-2	9	4-40 Clinch Nut	4000-10000 pf	26.45	24.42	22.67
512-6860	842943-2	15	4-40 Clinch Nut	4000-10000 pf	31.23	28.83	26.77
512-6862	842642-4	9	4-40 Clinch Nut	600-1000 pf	26.00	24.00	22.29
512-6864	842644-4	25	4-40 Clinch Nut	600-1000 pf	41.65	38.45	35.70

AMPLIMITE HD-20 Ferrite Block and Capacitor Filtered Connector

Material and Finish. Housing: Thermoplastic, 94V0 rated, black, SMT compatible. **Metal Shell:** Steel, plated .000200 (0.00508) min. tin over .000100 (0.00254) min. copper. **Eyelets:** Brass, plated .000200 (0.00508) min. over copper flash. **Boardlocks:** Copper alloy, plated .000200 (0.00508) min. tin-lead over .000050 (0.00127) min. nickel. **Inserts:** Zinc, plated clear chromate. **Contacts. Pins:** Brass. **Plating:** Duplex plated .000030 (0.00076) min. gold on mating end, .000120 (0.00304) min. tin-lead on solder end, all over .000050 (0.00127) nickel underplating.

Right Angle Plug

Stock No.	Mfr.'s Type	No. of Contacts	Capacitance	EACH		
				1-9	10-24	25-49
512-6914	869470-5	9	1000-2000 pf	11.55	10.66	9.90
512-6916	869527-5	15	1000-2000 pf	12.98	11.98	11.13
512-6918	869476-5	25	1000-2000 pf	14.83	13.69	12.71
512-6920	869470-6	9	820 pf	11.55	10.66	9.90
512-6922	869527-6	15	820 pf	12.98	11.98	11.13
512-6924	869476-6	25	820 pf	14.83	13.69	12.71
512-6926	869470-7	9	470 pf	11.55	10.66	9.90
512-6928	869527-7	15	470 pf	12.98	11.98	11.13
512-6930	869476-7	25	470 pf	14.83	13.69	12.71
512-6932	869470-8	9	220 pf	11.55	10.66	9.90
512-6934	869527-8	15	220 pf	12.98	11.98	11.13
512-6936	869476-8	25	220 pf	14.83	13.69	12.71

Right Angle Receptacle

512-6938	869522-5	9	1000-2000 pf	11.68	10.78	10.01
512-6940	869523-5	15	1000-2000 pf	13.18	12.17	11.30
512-6942	869464-5	25	1000-2000 pf	15.18	14.02	13.01
512-6944	869522-6	9	820 pf	11.68	10.78	10.01
512-6946	869523-6	15	820 pf	13.18	12.17	11.30
512-6948	869464-6	25	820 pf	15.18	14.02	13.01
512-6950	869522-7	9	470 pf	11.68	10.78	10.01
512-6952	869523-7	15	470 pf	13.18	12.17	11.30
512-6954	869464-7	25	470 pf	15.18	14.02	13.01
512-6956	869522-8	9	220 pf	11.68	10.78	10.01
512-6958	869523-8	15	220 pf	13.18	12.17	11.30
512-6960	869464-8	25	220 pf	15.18	14.02	13.01

AMPLIMITE HD-20 Ferrite Block Filtered Connectors

Material and Finish. Housing: Thermoplastic, 94V0 rated, black, SMT compatible. **Metal Shell:** Steel, plated .000200 (0.00508) min. tin over .000100 (0.00254) min. copper. **Eyelets:** Brass, plated .000200 (0.00508) min. over copper flash. **Boardlocks:** Copper alloy, plated .000200 (0.00508) min. tin-lead over .000050 (0.00127) min. nickel. **Inserts:** Zinc, plated clear chromate. **Contacts. Pins:** Brass. **Plating:** Duplex plated .000030 (0.00076) min. gold on mating end, .000120 (0.00304) min. tin-lead on solder end, all over .000050 (0.00127) nickel underplating.

Right Angle Plug

Stock No.	Mfr.'s Type	No. of Contacts	Filter Type	EACH		
				1-9	10-24	25-49
512-6902	869436-2	9	Ferrite	6.45	5.95	5.53
512-6904	869526-2	15	Ferrite	6.85	6.32	5.87
512-6906	869442-2	25	Ferrite	8.20	7.57	7.03

Right Angle Receptacle

512-6908	869520-2	9	Ferrite	6.05	5.58	5.19
512-6910	869521-2	15	Ferrite	7.05	6.51	6.04
512-6912	869448-2	25	Ferrite	8.55	7.89	7.33

Shielded Miniature DIN Receptacle Connectors — Ferrite

Material and Finish. Housing: Thermoplastic, 94V0 rated, black, SMT compatible. **Metal Shell:** Steel, plated .000200 (0.00508) min. tin over .000100 (0.00254) min. copper. **Eyelets:** Brass, plated .000200 (0.00508) min. over copper flash. **Boardlocks:** Copper alloy, plated .000200 (0.00508) min. tin-lead over .000050 (0.00127) min. nickel. **Inserts:** Zinc, plated clear chromate. **Contacts. Pins:** Brass. **Plating:** Duplex plated .000030 (0.00076) min. gold on mating end, .000120 (0.00304) min. tin-lead on solder end, all over .000050 (0.00127) nickel underplating.

Stock No.	Mfr.'s Type	No. of Contacts	Filter Type	Description	EACH		
					1-9	10-24	25-49
512-6962	869508-2	6	Ferrite	with hold-down	3.67	3.38	3.14
512-6964	869504-2	6	Ferrite	without hold-down	3.53	3.26	3.03
512-6966	869509-2	8	Ferrite	with hold-down	3.98	3.68	3.41
512-6968	869505-2	8	Ferrite	without hold-down	3.87	3.57	3.31

Z-Pack 2 mm FB (Futurebus+) Connectors

- Complies with Futurebus+, EIA IS 64 and IEC1076-4-0X (48B) Specifications
- "Cold Hold" Retention of Receptacles Provides Positive Placement. No Special Tooling Required, No Secondary Operations, No Heat Required...All Resulting in Lower Applied Cost
- Integral Lead Organizer Molded Into Receptacle Housing Aligns and Maintains Lead Position, Thus Improving Overall Manufacturability
- Receptacles Require No Special Application Tooling, Minimizing "Up Front" Investment and Simplifying Manufacturing Processes
- Sturdy Receptacle Leads Protected by Plastic to Minimize Potential Damage Before and After Application
- Receptacles and Pin Headers Offer Solder Leads, as Well as Solderless Compliant Press-Fit Leads

Signal Modules, Vertical Pin Assemblies (Fixed-Board Connector) Solder Leads — Fig. A

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A (mm)	Tail Length	Post Length	EACH		
						1-49	50-99	100-499
512-7600	536501-1	24	11.88	4.25mm	6.5mm	3.60	2.54	2.16
512-7602	536513-1	24	11.88	4.25mm	5.0mm	3.60	2.54	2.16
512-7604	536501-2	48	23.88	4.25mm	6.5mm	6.00	4.24	3.60
512-7606	536513-2	48	23.88	4.25mm	5.0mm	6.00	4.24	3.60
512-7608	536501-3	96	47.88	4.25mm	6.5mm	9.60	6.78	5.76
512-7610	536513-3	96	47.88	4.25mm	5.0mm	9.60	6.78	5.76
512-7612	536501-4	192	95.88	4.25mm	6.5mm	19.20	13.56	11.52
512-7614	536513-4	192	95.88	4.25mm	5.0mm	19.20	13.56	11.52

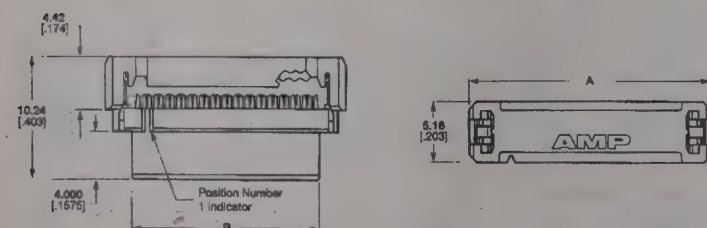
Signal Modules, Vertical Pin Assemblies (Fixed-Board Connector) Press Fit Leads — Fig. A

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A (mm)	Tail Length	Post Length	EACH		
						1-49	50-99	100-499
512-7616	536504-1	24	11.88	4.25mm	6.5mm	3.60	2.54	2.16
512-7618	536514-1	24	11.88	4.25mm	5.0mm	3.60	2.54	2.16
512-7620	536504-2	48	23.88	4.25mm	6.5mm	6.00	4.24	3.60
512-7622	536514-2	48	23.88	4.25mm	5.0mm	6.00	4.24	3.60
512-7624	536504-3	96	47.88	4.25mm	6.5mm	9.60	6.78	5.76
512-7626	536514-3	96	47.88	4.25mm	5.0mm	9.60	6.78	5.76
512-7628	536504-4	192	95.88	4.25mm	6.5mm	19.20	13.56	11.52
512-7630	536514-4	192	95.88	4.25mm	5.0mm	19.20	13.56	11.52

Signal Modules, Right Angle Receptacle Assemblies (Free-Board Connector) Press Fit Leads — Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A (mm)	Tail Length	Post Length	EACH		
						1-49	50-99	100-499
512-7632	536511-1	24	11.88	2.92mm	—	4.20	2.97	2.52
512-7634	536511-2	48	23.88	2.92mm	—	7.68	5.42	4.61
512-7636	536511-3	96	47.88	2.92mm	—	14.40	10.17	8.64
512-7638	536511-4	192	95.88	2.92mm	—	28.80	20.33	17.28

2mm AMP-LATCH Ribbon Cable Connectors

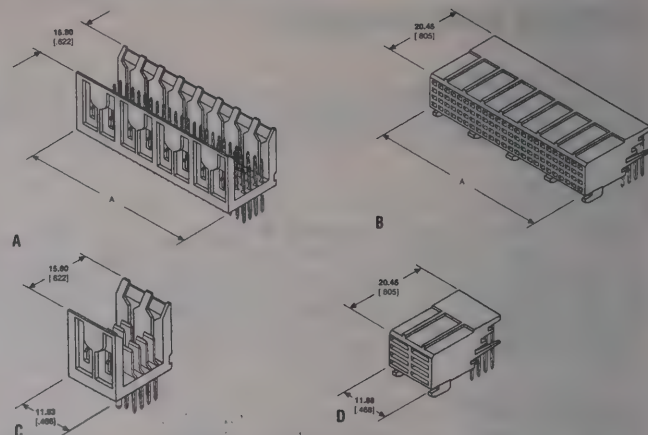


- Housing Material: 94V-0 Rated Polyester, Black
- Industry Uses: Laptop/Notebook Computers, Point of Sale Terminals, Fax Machines, Photo Copiers, Printers, Computer Peripheral Equipment

Stock No.	Mfr.'s Type	No. of Pos.	Dim. (mm)		EACH		
			A	B	1-24	25-99	100-499
512-7668	111626-9	40	45.19	40.41	3.16	2.92	2.72
512-7670	1-111626-0	44	49.17	44.40	3.46	3.19	2.96
512-7672	1-111626-1	50	55.17	50.39	3.95	3.65	3.39

Strain Reliefs

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
512-7674	111614-9	40 Position strain relief	.76	.69	.64
512-7676	1-111614-0	44 Position strain relief	.78	.71	.65
512-7678	1-111614-1	50 Position strain relief	.81	.74	.68



Signal Modules, Right Angle Assemblies (Free-Board Connector) Solder Lead Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A (mm)	Tail Length	Post Length	EACH		
						1-49	50-99	100-499
512-7640	536507-1	24	11.88	2.73mm	—	4.20	2.97	2.52
512-7642	536510-1	24	11.88	3.53mm	—	4.20	2.97	2.52
512-7644	536507-2	48	23.88	2.73mm	—	7.68	5.42	4.61
512-7646	536510-2	48	23.88	3.53mm	—	7.68	5.42	4.61
512-7648	536507-3	96	47.88	2.73mm	—	14.40	10.17	8.64
512-7650	536510-3	96	47.88	3.53mm	—	14.40	10.17	8.64
512-7652	536507-4	192	95.88	2.73mm	—	28.80	20.33	17.28
512-7654	536510-4	192	95.88	3.53mm	—	28.80	20.33	17.28

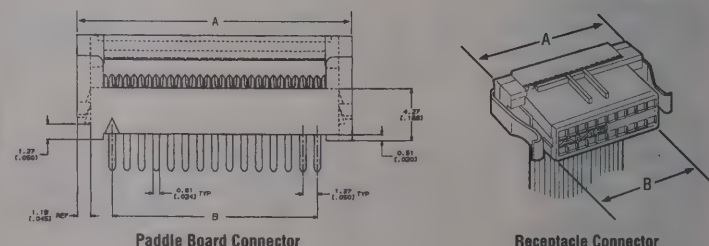
Power Modules, Vertical Pin Assemblies (Fixed-Board Connectors) — Fig. C

Stock No.	Mfr.'s Type	No. of Pos.	PCB Term.	Tail Length	Post Length	EACH		
						1-49	50-99	100-499
512-7656	536600-1	8	Solder	4.25mm	6.5mm	3.40	2.40	2.04
512-7658	536603-1	8	Press Fit	4.25mm	6.5mm	3.40	2.40	2.04
512-7660	536606-1	8	Press Fit	4.25mm	2 Level	4.15	2.93	2.49

Power Modules, Right Angle Receptacles Assemblies (Free-Board Connectors) — Fig. D

Stock No.	Mfr.'s Type	No. of Pos.	PCB Term.	Tail Length	Post Length	1-49	50-99	100-499
512-7662	536607-1	8	Solder	.273mm	—	4.80	3.39	2.88
512-7664	536613-1	8	Press Fit	.353mm	—	4.80	3.39	2.88

Amp-Modu System 50 Ribbon Cable Connectors



- Minimizes PCB Real Estate
- Used With .025 CL Ribbon Cable

- Housing Material: 94V-0 Rated Thermoplastic, Black

Paddle Board Connectors

Stock No.	Mfr.'s Type	No. of Pos.	Dim. (mm)		EACH		
			A	B	1-24	25-99	100-499
512-7680	111595-4	20	17.42	11.43	3.61	3.28	3.05
512-7682	111595-9	40	30.12	24.13	6.03	5.47	5.08
512-7684	1-111595-1	50	36.47	30.48	7.29	6.61	6.14

Receptacle Connectors

Stock No.	Mfr.'s Type	No. of Pos.	Dim. (mm)	Tail Length	Post Length	1-49	50-99	100-499
512-7688	111196-1	20	19.30	17.65	2.34	2.12	1.97	
512-7690	111196-9	40	32.00	30.35	6.35	5.76	5.35	
512-7692	1-111196-1	50	38.35	36.70	7.67	6.96	6.46	

Coaxial Connectors

AMP BNC RF connectors have bayonet-lock coupling. AMP's exclusive single and dual crimp terminations insure positive insulation grip and require absolutely no soldering. They provide termination at the lowest overall applied cost. **Rating:** 500 volts (RMS). **Frequency:** 0-2.5 GHz for single crimp; 0-2 GHz for 75 ohm; 0-4 GHz for all others. Crimping tools for the connectors are listed on page 188. **Style:** Mil Type or Commercial (Com.).

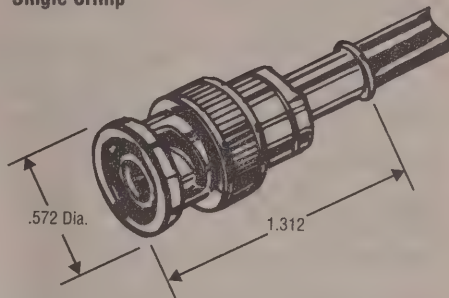
BNC 50 or 75 Ohm, Straight Crimp Plugs

Standard single (S), dual (D), and hex (H) crimp termination plugs. Contact plating is gold (G), silver (S), or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polyethylene (PE), polymethylpentylene (PM), polypropylene (PP) or teflon® (T).

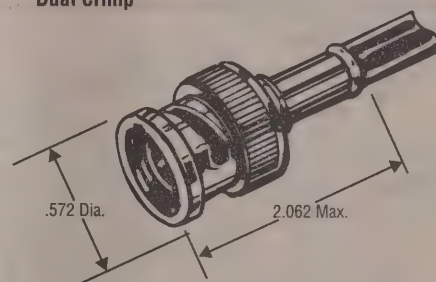
Stock No.	Mfr.'s Type	Crimp Type	Ohms	For RG/U Cable	Contact Plating	Body Plating	Dielectric	Style	Certi-CRIMP™ Hand Tool	Interchangeable Dies for PROCRIMPER™ II Hand Tool	EACH		
											1-24	25-99	100-499
512-2074	225395-7	D	50	174, 188, 188A, 316	G	N	T	Mil type	220009-1	—	3.50	3.08	2.50
512-2000	1-227079-6	D	50	174, 188, 188A, 316	G	N	PP	Com.	220009-5	—	2.25	1.98	1.61
512-2318	2-330061-1	S	50	174, 188, 188A, 316	G	S	T	Mil type	69245-1	—	11.11	9.49	8.78
512-2046	2-331350-4	D	50	174, 188, 188A, 316	G	S	T	Mil type	220009-1	—	4.51	3.85	2.98
512-2001	2-221128-1	H	50	174, 188, 188A, 316	G	N	PM	Com.	—	58436-3	3.05	2.61	2.25
512-2076	225395-8	D	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	T	Mil type	220009-5	—	3.50	3.08	2.50
512-2004	2-227079-2	D	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PP	Com.	69245-1	—	2.25	1.98	1.78
512-2312	2-329446-1	S	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	S	T	Mil type	220009-5	—	11.11	9.49	7.35
512-2048	2-331350-5	D	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	S	T	Mil type	69477-2	—	4.51	3.85	3.30
512-2003	2-221128-3	H	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PM	Com.	—	58436-3	3.05	2.61	2.25
512-2008	413589-8	H	75	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PM	Com.	—	58425-2	4.24	3.62	3.11
512-2032	221185-8	D	75	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PP	Com.	—	58304-1	3.17	2.78	2.26
512-2078	225395-9	D	50	180, 180A, 180B, 195, 195A	G	N	T	Mil type	69477-2	—	4.32	3.69	3.17
512-2050	2-331350-6	D	50	180, 180A, 180B, 195, 195A	G	S	T	Mil type	69477-2	—	4.51	3.85	3.30
512-2011	2-221128-5	H	50	180, 180A, 180B, 195, 195A	G	N	PM	Com.	—	58436-3	3.05	2.61	2.25
512-2080	1-225395-0	D	50	Belden 8218	G	N	T	Mil type	69477-2	—	3.50	3.08	2.77
512-2006	1-227079-9	D	50	Belden 8218	G	N	PP	Com.	69477-4	58330-1	2.25	1.98	1.78
512-2052	2-331350-2	D	50	Belden 8218	G	S	T	Mil type	69477-2	—	4.51	3.85	3.30
512-2030	413589-3	H	75	Belden 8218	G	N	PM	Com.	—	58425-2	4.24	3.62	3.11
512-2025	221128-1	H	50	58, 58A, 58B, 58C	G	N	PE	Com.	—	58436-1 [†]	2.16	1.90	1.54
512-2005	1-221128-0	H	50	58, 58A, 58B, 58C	G	N	PE	Com.	—	58436-1 [†]	2.81	2.40	2.06
512-2022	225395-1	D	50	58, 58A, 58B, 58C	G	N	T	Mil type	69478-1	220189-3	3.63	3.04	2.46
512-2010	227079-1	D	50	58, 58A, 58B, 58C	T	N	PP	Com.	220187-1	58435-1 [†]	2.05	1.80	1.63
512-2015	227079-5	D	50	58, 58A, 58B, 58C	G	N	PP	Com.	220187-1	58435-1 [†]	2.05	1.80	1.46
512-2012	227079-9	D	50	58, 58A, 58B, 58C	S	N	PP	Com.	220187-1	58435-1 [†]	2.05	1.80	1.46
512-2300	2-329082-1	S	50	58, 58A, 58B, 58C	G	S	PP	Mil type	69140-1	—	9.65	8.25	6.39
512-2310	2-329444-1	S	50	58, 58A, 58B, 58C	G	S	T	Mil type	69140-1	—	10.12	8.65	7.42
512-2017	2-331350-1	D	50	58, 58A, 58B, 58C	G	S	T	Mil type	69478-1	220189-3	5.12	4.37	3.39
512-2066	225395-3	D	50	223, 55, 55A, 55B	G	N	T	Mil type	69478-1	220189-3	4.26	3.64	3.12
512-2014	227079-6	D	50	223, 55, 55A, 55B	G	N	PP	Com.	220187-1	58435-1 [†]	2.53	2.16	1.86
512-2007	1-221128-1	H	50	**	G	N	PE	Com.	—	58436-1 [†]	2.81	2.40	2.06
512-2026	221128-2	H	50	**	G	N	PE	Com.	—	58436-1 [†]	2.16	1.90	1.71
512-2023	225395-2	D	50	**	G	N	T	Mil type	69477-1	220189-4	3.68	3.23	2.62
512-2016	227079-7	D	50	**	G	N	PP	Com.	220187-2	58435-1 [†]	2.05	1.80	1.46
512-2088	1-227079-1	D	50	**	S	N	PP	Com.	220187-2	58435-1 [†]	2.05	1.80	1.62
512-2024	227079-3	D	50	**	T	N	PP	Com.	220187-2	58435-1 [†]	2.05	1.80	1.62
512-2302	2-329083-1	S	50	**	G	S	PP	Mil type	69141-1	—	9.65	8.25	7.09
512-2028	2-329445-1	S	50	**	G	S	T	Mil type	69141-1	—	10.12	8.65	7.42
512-2042	331350	D	50	**	G	S	T	Mil type	69477-1	—	5.12	4.37	3.76
512-2034	221185-2	D	75	**	G	N	PP	Com.	—	58085-1	2.88	2.53	2.05
512-2037	413589-2	H	75	**	G	N	PM	Com.	—	58425-1	3.85	3.29	2.83
512-2036	221185-9	D	75	***	G	N	PP	Com.	—	58085-1	2.88	2.53	2.05
512-2043	1-221128-7	H	50	***	G	N	PP	Com.	—	58435-1 [†]	2.81	2.40	2.06
512-2044	413589-9	H	75	***	G	N	PM	Com.	—	58425-1	3.85	3.29	2.83
512-2058	4331350-0	D	50	Belden 8281, 9141, 9231, Western Electric 724, 728, 3049, AT&T 728	G	S	T	Mil type	220043-1	220189-6	5.31	4.54	3.85
512-2045	1-221128-2	H	50	Belden 8281, 9141, 9231, Western Electric 724, 728, 3049, AT&T 728	G	N	PP	Com.	—	58436-2	2.81	2.40	2.06
512-2049	413589-5	H	75	Belden 8281, 9141, 9231, Western Electric 724, 728, 3049, AT&T 728	G	N	PM	Com.	—	852922-3	3.85	3.29	2.83
512-8668	2-221128-7	H	50	Belden 9907, 89907, RG-141	G	N	PM	Com.	—	58436-1 [†]	3.05	2.61	2.25
512-2053	413589-1	H	75	Belden 88241	G	N	PM	Com.	—	852922-3	3.85	3.29	2.83
512-2054	413589-7	H	75	AT&T 734A	G	N	PM	Com.	—	58425-1	3.85	3.29	2.83
512-2055	1-413589-0	H	75	AT&T 735A	G	N	PM	Com.	—	58425-1	4.24	3.62	3.11

[†]Included in PROCRIMPER II assembly 58433-1. [‡]Included in PROCRIMPER II assembly 58433-2. ^{††}Weatherproof - M39012/16B0004. ^{‡‡}M39012/16B0008. *59, 59A, 59B, 62, 62A, 62B, 124, 140, 210, Belden 9291, 9209, 9268. ***Belden 8212, 9104, 9112, 9240, 9167, 9259, 9266, Times FM-59, (RG55 type with 20 AWG C.C.).

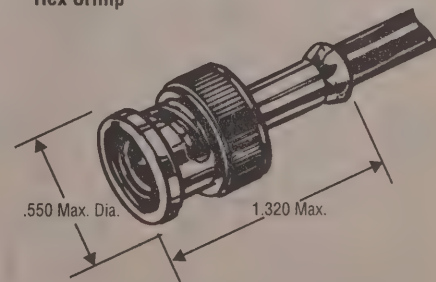
Single Crimp



Dual Crimp



Hex Crimp



Coaxial Connectors

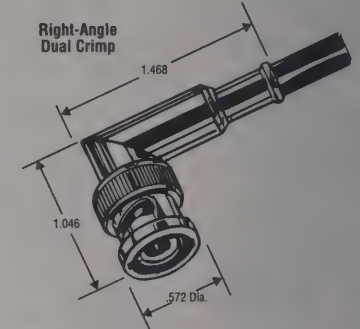
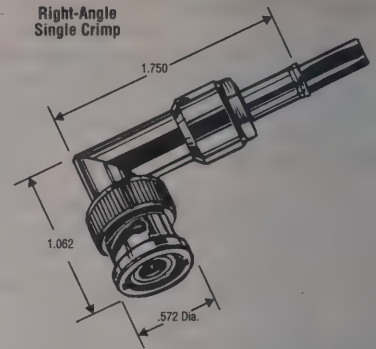
AMP BNC RF connectors have bayonet-lock coupling. AMP's exclusive single and dual crimp terminations insure positive insulation grip and require absolutely no soldering. They provide termination at the lowest overall applied cost. **Rating:** 500 volts (RMS). **Frequency:** 0-2.5 GHz for single crimp; 0-2 GHz for 75 Ohm; 0-4 GHz for all others. Crimping tools for the connectors are listed on page 188. **Style:** Mil Type or Commercial (Com.).

BNC Right Angle Plugs (50 or 75 Ohms)

Standard single (S), dual (D), and hex (H) crimp termination plugs. Contact plating is gold (G), silver (S), or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polyethylene (PE), polymethylpenilene (PM), polypropylene (PP) or teflon® (T).

Stock No.	Mfr.'s Type	Crimp Type	Ohms	For RG/U Cable	Contact Plating	Body Plating	Dielectric	Style	CERTI-CRIMP™ Hand Tool	Interchangeable Dies for PROCRIMPER™ II Hand Tool	EACH		
											1-24	25-49	50-99
512-2278	331178	S	50	174, 188, 188A, 316	G	N	T	Mil type	69245-1	—	26.02	22.57	20.96
512-2056	413959-3	H	50	174, 188, 188A, 316	G	N	PM	Com.	—	58436-3	12.68	10.83	9.30
512-2282	225974-1	D	50	58, 58A, 58B, 58C	G	N	T	Mil type	69478-1	220189-3	22.50	19.22	18.12
512-2057	413959-1	H	50	58, 58A, 58B, 58C	G	N	PM	Com.	—	58436-1 ²	12.10	10.34	8.88
512-2288	225974-5	D	50	**	G	N	T	Mil type	69477-1	220189-4	22.50	19.22	16.50
512-2059	413959-2	H	50	**	G	N	PM	Com.	—	58436-1 ²	12.10	10.34	8.88
512-2061	413588-2	H	75	**	G	N	PM	Com.	—	58425-1	16.94	14.48	12.42
512-2063	413959-4	H	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PM	Com.	—	58436-3	12.68	10.83	9.30
512-2065	413959-5	H	50	180, 180A, 180B, 195, 195A	G	N	PM	Com.	—	58436-3	12.68	10.83	9.30
512-2067	413959-6	H	50	Belden 9907, 89907	G	N	PM	Com.	—	58436-1 ²	12.68	10.83	9.30
512-2068	413588-3	H	75	Belden 8218	G	N	PM	Com.	—	58425-1	18.59	15.89	13.64
512-2069	413588-5	H	75	Belden 8281, 9231, AT&T 728	G	N	PM	Com.	—	58425-3	16.94	14.48	12.42
512-2072	413588-6	H	75	RG-59 Double Braid	G	N	PM	Com.	—	58425-3	16.94	14.48	12.42
512-2073	413588-7	H	75	Belden 9145, AT&T 734A	G	N	PM	Com.	—	58425-1	16.94	14.48	12.42
512-2075	413588-9	H	75	***	G	N	PM	Com.	—	58425-1	16.94	14.48	12.42

59, 59A, 59B, 62, 62A, 62B, 124, 140, 210, Belden 9291, 9209, 9268. *Belden 8212, 9104, 9112, 9240, 9167, 9259, 9266, Times FM-59, (RG59 type with 20 AWG C.C.). Included in PROCRIMPER II assembly 58433-2.



BNC Adapters



Contact plating is gold (G), silver (S) or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polypropylene (PP), polymethylpenilene (PM), or teflon® (T).

Tee Adapters (Jack-Plug-Jack) (Fig. A) 221543-2 Comparable to UG274A/U. 329518 Comparable to UG274B/U.

Stock No.	Mfr.'s Type	Body Plating	Contact Plating	Dielectric	EACH		
					1-24	25-49	50-99
512-2202	221543-2	brass, N	G	T	12.67	11.14	9.70
512-2156	329518	brass, S	S	T	15.97	14.18	13.77
512-2155	413592-2	zinc, N	G	Acetal	4.65	4.13	3.63
512-2157	413592-4	zinc, N	S	Acetal	4.06	3.61	3.17

BNC Right-Angle Adapters (Jack-Plug) (Fig. B) Both are comparable to UG306B/U.

Stock No.	Mfr.'s Type	Body Plating	Contact Plating	Dielectric	1-24	25-49	50-99
512-2160	329517	N	S	T	16.14	13.79	11.84
512-2161	222165-2	N	G	T	16.14	13.79	11.84

BNC Feed-Thru Adapters (Jack-Jack) (Fig. C) Both are comparable to UG914B/U.

Stock No.	Mfr.'s Type	Body Plating	Contact Plating	Dielectric	1-24	25-49	50-99
512-2165	221551-1	N	S	T	7.32	6.25	5.37
512-2210	221551-3	N	G	T	6.71	5.73	4.95

BNC Bulkhead Adapters (Jack-Jack) (Fig. D) *228226 is comparable to UG492/D.

Stock No.	Mfr.'s Type	Impedance	Body Plating	Contact Plating	Dielectric	EACH		
						1-24	25-49	50-99
512-2162	330024	50 Ohm	S	S	PP	15.76	13.47	11.56
512-2164	228226-1	50 Ohm	N	G	PP	6.07	5.33	4.65
512-2167	222117-1	75 Ohm	N	G	Polymethylpenilene	9.35	7.99	6.85

BNC Commercial Terminator Plugs (Fig. E)

Stock No.	Mfr.'s Type	Resistor Spec.	Body Plating	Contact Plating	Note	EACH		
						1-24	25-49	50-99
512-2166	221629-1	1 Watt, 50 Ohm	N	G	With tether	6.24	5.49	4.45
512-2206	221629-4	1 Watt, 50 Ohm	N	G	Without tether	5.13	4.51	3.93
512-2208	221629-5	1 Watt, 75 Ohm	N	G	Without tether	8.86	7.57	6.49
512-2168	221629-6	1 Watt, 93 Ohm	N	G	Without tether	6.74	5.76	4.94

BNC Jack Cover (Cap) (Fig. F)

Stock No.	Mfr.'s Type	Body Plating	Comparable To	EACH		
				1-24	25-49	50-99
512-2170	330022	S	CW123-A	6.55	5.59	4.80

PRO CRIMPER™ II BNC Premise Wiring Kit

Includes: Hand Tool, 5 Plugs for RG58, 10 Plugs for RG59/62, 5 Plugs for RG58 Plenum, 5 Plugs for RG59/62, Plenum, 2 Jack to Jack Adapters, and 2 "T" Adapters.

512-8477. 58477-1.....EACH 130.90

BNC 50 Ohm, Twist-On-Plugs

Contact plating is gold (G) or silver (S) or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polypropylene (PP), polymethylpenilene (PM), or teflon® (T).



Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Body Plating	Dielectric	Style	EACH		
							1-24	25-99	100-499
512-2321	414265-1	58, 58A, 58B, 58C	G	N	PM*	Com.	2.53	2.16	1.67
512-2103	414265-3	59, 59A, 59B, 62, 62A, 62B	G	N	PM*	Com.	2.53	2.16	1.86

*PM — Polymethylpenilene

BNC PC Board/Panel Mount Jacks



Right Angle (Max. Panel Thickness .240") 50 Ohm

Stock No.	Mfr.'s Type	Mtg. Hgt.	Body	Mounting Posts	Center Contact Plating	EACH		
						1-24	25-99	100-499
512-2171	226990-1	.625"	Wht. Valox	No	Tin	3.75	3.29	2.67
512-2172	226990-3	.625"	Wht. Valox	No	Gold	3.75	3.29	2.67
512-2173	227161-1	.625"	Wht. Valox	Yes	Tin	3.75	3.29	2.67
512-2174	227161-3	.625"	Wht. Valox	Yes	Gold	3.75	3.29	2.67
512-2176	227161-7	.519"	Wht. Valox	Yes	Tin	3.75	3.29	2.67
512-2175	226990-2	.625"	Blk. Valox	No	Tin	3.75	3.29	2.67
512-2178	226990-6	.625"	Blk. Valox	No	Gold	3.75	3.29	2.73
512-2177	227161-2	.625"	Blk. Valox	Yes	Tin	3.75	3.29	2.73
512-2180	227161-6	.625"	Blk. Valox	Yes	Gold	3.75	3.29	2.67
512-2179	227161-9	.519"	Blk. Valox	Yes	Tin	3.75	3.29	2.73
512-2181	227433-1	.625"	Metal	No	Tin	5.27	4.50	3.56
512-2182	227676-1	.625"	Metal	No	Gold	4.27	3.75	3.12
512-2183	227661-1	.625"	Metal	Yes	Tin	4.27	3.75	3.05
512-2184	227677-1	.625"	Metal	Yes	Gold	4.27	3.75	3.05

Vertical (Max. Panel Thickness .240") 50 Ohm

Stock No.	Mfr.'s Type	Mtg. Hgt.	Body	Mounting Posts	Center Contact Plating	1-24	25-99	100-499
512-2185	226993-1	1.375"	Wht. Valox	No	Tin	4.27	3.75	3.12
512-2187	226993-3	1.375"	Wht. Valox	No	Gold	4.27	3.75	3.12
512-2189	227222-1	1.375"	Wht. Valox	Yes	Tin	4.27	3.75	3.05
512-2186	227222-3	1.375"	Wht. Valox	Yes	Gold	4.27	3.75	3.05
512-2193	227222-6	1.375"	Blk. Valox	Yes	Gold	4.27	3.75	3.12
512-2195	227671-1	1.375"	Metal	Yes	Tin	4.54	3.88	3.88
512-2188	227673-1	1.375"	Metal	Yes	Gold	3.23	3.72	3.08

Hardware

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
512-2190	1-329632-2	Lock Washer	.27	.19	.15
512-2191	1-329631-2	Jam Nut	.30	.22	.18

Coaxial Connectors

AMP

Coaxial Connectors



BNC Crimp Jacks



Dual Crimp



BNC Bulkhead Jacks



Dual Crimp

BNC Crimp Jacks (50 or 75 Ohms)

Standard single (S), dual (D), and hex (H) crimp termination jacks. Contact plating is gold (G). Body plating is nickel (N) or silver (S). The dielectric is polypropylene (PP), polymethylpenlene (PM), or teflon® (T). Crimp Tools for connectors are on page 188.

Stock No.	Mfr.'s Type	Crimp Type	Ohms	For RG/U Cable	Contact Plating	Body Plating	Dielectric	Style	CERTI-CRIMP® Hand Tool	Interchangeable Dies for PRO-CRIMPER® II Hand Tool	EACH		
											1-24	25-99	100-499
512-2114	225396-7	D	50	174, 188, 188A, 316	G	N	T	Mil type	220009-1	—	5.78	4.94	4.23
512-2112	2-330062-1	S	50	174, 188, 188A, 316	G	N	T	Mil type	220009-1	—	14.63	12.50	11.39
512-2106	2-331351-4	D	50	174, 188, 188A, 316	G	S	T	Mil type	220009-1	—	6.05	5.17	4.43
512-2082	413779-3	H	50	174, 188, 188A, 316	G	N	PM	Com.	—	58436-3	4.07	3.48	2.98
512-2116	225396-8	D	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	T	Mil type	220009-1	—	5.78	4.94	4.23
512-2083	413779-4	H	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PM	Com.	—	58436-3	4.07	3.48	2.98
512-2097	413760-8	H	75	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PM	Com.	—	58425-2	5.67	4.84	4.16
512-2018	225396-1	D	50	58, 58A, 58B, 58C	G	N	T	Mil type	69478-1	220189-3	4.62	4.06	3.65
512-2111	2-329545-1	S	50	58, 58A, 58B, 58C	G	N	T	Mil type	69140-1	—	12.98	11.09	10.45
512-2102	2-331351-1	D	50	58, 58A, 58B, 58C	G	S	T	Mil type	69478-1	—	7.15	6.11	5.24
512-2079	413779-1	H	50	58, 58A, 58B, 58C	G	N	PM	Com.	—	58436-1 ²	3.71	3.17	2.73
512-2019	225396-2	D	50	**	G	N	T	Mil type	69477-1	220189-4	4.62	4.06	3.65
512-2110	228979-6	D	50	**	G	N	PP	Com.	220187-2	58435-1 ¹	3.41	2.91	2.51
512-2192	221199-2	D	75	**	G	N	PP	Com.	—	58085-1	4.79	4.09	3.52
512-2081	413779-2	H	50	**	G	N	PM	Com.	—	58436-1 ²	3.71	3.17	2.73
512-2095	413760-2	H	75	**	G	N	PM	Com.	—	58425-1	5.17	4.42	3.79
512-2084	413779-6	H	50	Belden 9907, 89907, RG-141	G	N	PM	Com.	—	58436-1 ²	4.07	3.48	2.98
512-2099	413760-1	H	75	Belden 88241	G	N	PM	Com.	—	58425-1	5.17	4.42	3.79
512-2104	413760-3	H	75	Belden 8218	G	N	PM	Com.	—	58425-1	5.67	4.84	4.16
512-2105	413760-4	H	75	AT&T KS19224 L2	G	N	PM	Com.	—	58425-2	6.13	5.24	4.51
512-2107	413760-5	H	75	Belden 8281, 9231, AT&T 728	G	N	PM	Com.	—	58425-3	5.17	4.42	3.79
512-2108	413760-6	H	75	RG-59 Double Braid	G	N	PM	Com.	—	58425-3	5.17	4.42	3.79
512-2109	413760-7	H	75	AT&T 734A	G	N	PM	Com.	—	58425-1	5.17	4.42	3.79
512-2113	413760-9	H	75	***	G	N	PM	Com.	—	58425-1	5.17	4.42	3.79

BNC Bulkhead Jacks (50 or 75 Ohms)

512-2142	225398-7	D	50	174, 188, 188A, 316	G	N	T	Mil type	220009-1	—	5.82	5.12	4.59
512-2148	228980-7	D	50	174, 188, 188A, 316	G	N	PP	Com.	220009-5	—	4.51	3.85	3.30
512-2040	2-330061-1	S	50	174, 188, 188A, 316	G	N	PP	Com.	69245-1	—	11.85	10.13	9.55
512-2062	2-330063-1	S	50	174, 188, 188A, 316	G	N	T	Mil type	69245-1	—	14.00	11.96	11.28
512-2134	1-331693-2	D	50	174, 188, 188A, 316	G	S	T	Mil type	220009-1	—	7.87	6.72	5.77
512-2087	413771-3	H	50	174, 188, 188A, 316	G	N	PM	Com.	—	58436-3	4.87	4.16	3.57
512-2144	225398-8	D	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	T	Mil type	220009-1	—	5.82	5.12	4.59
512-2064	2-329092-1	S	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PP	Com.	69245-1	—	16.28	13.91	13.12
512-2194	221221-5	D	75	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PP	Com.	—	58304-1	6.33	5.41	4.64
512-2089	413771-4	H	50	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PM	Com.	—	58436-3	4.87	4.16	3.57
512-2117	413590-8	H	75	179, 179A, 179B, 161, 187, 187A, Belden 9221	G	N	PM	Com.	—	58425-2	6.82	5.83	5.00
512-2021	225398-1	D	50	58, 58A, 58B, 58C	G	N	T	Mil type	69478-1	220189-3	6.82	5.83	5.00
512-2070	228980-5	D	50	58, 58A, 58B, 58C	G	N	PP	Com.	220187-1	58435-1 ¹	4.51	3.85	3.30
512-2132	1-331693-1	D	50	58, 58A, 58B, 58C	G	S	T	Mil type	69478-1	—	8.20	7.00	6.01
512-2085	413771-1	H	50	58, 58A, 58B, 58C	G	N	PM	Com.	—	58436-1 ²	4.43	3.78	3.25
512-2020	225398-2	D	50	**	G	N	T	Mil type	69477-1	220189-4	6.82	5.83	5.00
512-2146	228980-6	D	50	**	G	N	PP	Com.	220187-2	58435-1 ¹	4.10	3.50	3.01
512-2324	331693	D	50	**	G	S	T	Mil type	69477-1	220189-4	8.20	7.00	6.01
512-2196	221221-2	D	75	**	G	N	PP	Com.	—	58085-1	5.75	4.91	4.22
512-2086	413771-2	H	50	**	G	N	PM	Com.	—	58436-1 ²	4.43	3.78	3.25
512-2115	413590-2	H	75	**	G	N	PM	Com.	—	58425-1	6.22	5.31	4.55
512-2091	413771-5	H	50	RG-180, 195	G	N	PM	Com.	—	58436-3	4.87	4.16	3.57
512-2094	413771-6	H	50	Belden 9907, 89907, RG-141	G	N	PM	Com.	—	58436-1 ²	4.87	4.16	3.57
512-2118	413590-3	H	75	Belden 8218	G	N	PM	Com.	—	58425-1	6.82	5.83	5.00
512-2119	413590-4	H	75	AT&T KS19224 L2	G	N	PM	Com.	—	58425-2	7.40	6.32	5.43
512-2120	413590-6	H	75	RG-59 Double Braid	G	N	PM	Com.	—	58425-3	6.22	5.31	4.55
512-2121	413590-7	H	75	AT&T 734A	G	N	PM	Com.	—	58425-1	6.22	5.31	4.55
512-2125	413590-9	H	75	***	G	N	PM	Com.	—	58425-1	6.22	5.31	4.55

¹Included in PRO-CRIMPER II assembly 58433-1. ²Included in PRO-CRIMPER II assembly 58433-2. ³Weatherproof - M39012/16B0004. ⁴M39012/16B0008. ⁵59, 59A, 59B, 62, 62A, 62B, 124, 140, 210, Belden 9291, 9209, 9268. ***Belden 8212, 9104, 9112, 9240, 9167, 9259, 9266, Times FM-59, (RG59 type with 20 AWG C.C.).

Bulkhead Solder Jacks



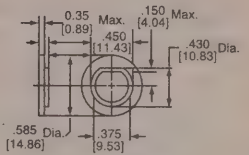
Commercial



Sealed



Isolated



Panel Bushing

Contact plating is gold (G), silver (S) or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polypropylene (PP), polymethylpenlene (PM), or teflon® (T).

Stock No.	Mfr.'s Type	Body Plating	Contact Plating	Dielectric	Style	EACH	
						1-24	25-99
512-2127	227715-3	N	G	T	Com.	2.64	2.25
512-2090	227726-1	N	T	Valox	Isolated	3.18	2.79
512-2128	227726-2	N	S	Valox	Isolated	3.92	3.35
512-2092	227726-3	N	G	Valox	Isolated	3.18	2.79
512-2093	227426-1	N	G	PP	Sealed	7.26	6.21

512-2124, 227223-3. Insulating panel bushing for 227715-3. 1-24 ... EACH .19 25-99 ... EACH .17

BNC Vertical PC Board Mount Jacks Press Fit Terminal



Contact plating is gold (G), silver (S) or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polypropylene (PP), polymethylpenlene (PM), or teflon® (T).

Stock No.	Mfr.'s Type	Imp.	Contact Plating	Body Plating	Dielectric	Style	EACH	
							1-24	25-99
512-2197	222006-1	50 Ω	G	N	T	Com.	5.54	4.74
512-2198	222462-1	75 Ω	G	N	T	Com.	6.95	5.94

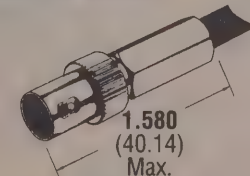
Vertical Metallized PC Board Mount Jacks



Contact plating is gold (G), silver (S) or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polypropylene (PP), polymethylpenlene (PM), or teflon® (T).

Stock No.	Mfr.'s Type	Imp.	Contact Plating	Body Plating	Dielectric	Style	EACH	
							1-24	25-99
512-2130	227699-1	50 Ω	S	N	Valox	Com.	4.85	4.15
512-2200	227699-2	50 Ω	G	N	Valox	Com.	3.93	3.45
512-2136	227699-3	50 Ω	T	N	Valox	Com.	3.93	3.45
512-2138	221336-1	75 Ω	G	N	T	Com.	11.21	9.58

BNC Twist-On-Jacks



1.580 (40.14) Max.

Twist-on Jacks (must be used with solid conductor cable). Dielectric Acetal (A). Contact plating is gold (G), silver (S) or tin (T). Body plating is nickel (N) or silver (S). The dielectric is polypropylene (PP), polymethylpenlene (PM), or teflon® (T).

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Body Plating	Dielectric	Style	EACH	
							1-24	25-99
512-2122	222428-7	*	G	N	A	Com.	3.58	3.06
512-2123	222428-1	†	G	N	A	Com.	3.58	3.06

*58, 58A, 58B, 58C, 62, 62A, 62B. †59, 59A, 59B.

50 Ohm N Connectors



MIL-C-39012, Class 11, Category B qualified. Working voltage 1000 volt, RMS at sea level. Frequency range: 0-11 GHz.

Crimp Plugs

Stock No.	Mfr.'s Type	Crimp Type	For RG/U Cable	Contact Plating	Body Plating	Dielectric	Style	CERTI-CRIMP™ Hand Tool	EACH		
									1-24	25-49	50-99
512-2236	1-225661-2	D	58, 58A, 58B, 58C	G	N	T	Mil type	220045-2	15.36	13.13	10.44
512-2238	225361-1	D	58, 58A, 58B, 58C	G	S	T	Mil type	220045-2	19.19	16.40	13.87
512-2241	225661-2	D	8, 8A, 213	G	N	T	Mil type	220015-1	11.81	10.09	8.53
512-2242	1-227086-0	D	8, 8A, 213	G	N	T	Commercial	220015-1	5.47	4.81	4.20
512-2248	225661-1	D	9, 9A, 9B, 214	G	N	T	Mil type	220015-1	11.61	10.09	8.03

SHV Connectors



Safe-tested at 5000 volts DC. Looks like, but isn't interchangeable with other bayonet-type connectors. Comply with Bureau of Standard's specification ND-545. Polarized center contacts that are recessed in the dielectric.

Crimp Plugs

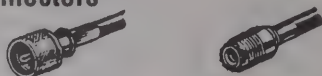
Stock No.	Mfr.'s Type	Crimp Type	For RG/U Cable	Contact Plating	Body Plating	Dielectric	CERTI-CRIMP™ Hand Tool	EACH		
								1-24	25-49	50-99
512-2254	51426-4	D	58, 58A, 58B, 58C	G	N	T	220022-1	19.97	17.06	14.63
512-2256	51426-2	D	**	G	S	T	220022-2	21.40	18.28	15.68

**59, 59A, 59B, 62, 62A, 62B, 124, 140, 210 Belden 9291, 9209, 9268.

Bulkhead Solder Jacks

Stock No.	Mfr.'s Type	Body Plating	Contact Plating	Dielectric	EACH		
					1-24	25-49	50-99
512-2260	51494-1	S	G	T	13.87	11.86	10.87
512-2262	51494-2	N	G	T	14.38	12.29	11.27

Miniature UHF Connectors



Rated for 335 Volts rms at sea level .0 to 2.0 GHz frequency range.

Crimp Plug

Stock No.	Mfr.'s Type	Crimp Type	For RG/U Cable	Contact Plating	Body Plating	Dielectric	CERTI-CRIMP™ Hand Tool	EACH		
								1-24	25-99	100-400
512-2274	226600-1	D	58, 58A, 58B, 58C	T	N	PP	220149-1	1.30	1.15	.93

Crimp Jack

512-2266	226602-1	D	58, 58A, 58B, 58C	T	N	PP	220149-1	2.62	2.29	1.90
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SMA Subminiature Connectors, 50 Ohm

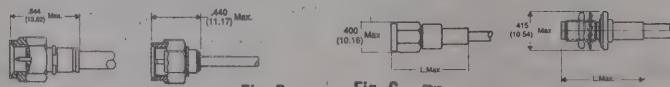


Fig. A

Fig. B

Fig. C

Fig. D

For Semi-Rigid Cable

Frequency Range: 0-18 GHz. Center Contacts: Gold-plated beryllium copper. Shells: Passivated stainless steel. Dielectric: Teflon.

For RG405/U, Semi-Rigid Cable, .086" (2.18) O.D.

Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-24	25-49	50-99
512-2385	228539-1	A	Plug with center contact	9.66	8.92	8.28
512-2386	221447-1	B	Short plug with center contact	9.66	8.92	8.28

For RG402/U, Semi-Rigid Cable, .141" (3.54) O.D.

512-2388	227743-1	A	Plug with center contact	9.22	8.51	7.90
512-2390	227531-1	A	Plug without center contact	3.81	3.52	3.27

SMA Tooling Semi-Rigid Cable

Stock No.	Mfr.'s Type	Fig.	Description	EACH
512-5998	59981-1	—	Hand tool kit	1913.41
512-3131	313113-1	—	Die set	346.02
512-2123	220221-3	—	Locator	159.28

For Flexible Cables

Frequency Range: 0-12.4 GHz. Center Contact: Gold-plated brass or beryllium copper. Shell: Commercial nickel-plated brass, Mil—passivated stainless steel. CERTI-CRIMP™ Hand Tool: 220061-1.

Stock No.	Mfr.'s Type	Fig.	Description	RG/U Cables	EACH		
					1-24	25-49	50-99
512-2392	221117-2	C	Commercial plug	174, 188A, 316	9.24	8.53	7.92
512-2393	225532-1	C	Mil plug	58, 58A, 58B, 58C	11.88	10.92	10.62
512-2394	225532-3	C	Mil plug	142, 142A, 142B	11.88	10.92	10.62
512-2395	225532-4	C	Mil plug	174, 188A, 316	11.88	10.92	10.62
512-2397	225608-4	D	Bulkhead jack	174, 188A, 316	27.11	25.34	24.64

Twin BNC Connectors



Plugs

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Body Plating	Dielectric	CERTI-CRIMP™ Hand Tool	EACH		
							1-24	25-49	50-99
512-2340	332225	108, 108A	S	S	T	69667	15.10	12.90	11.82
512-2342	332225-5	108, 108A	S	N	PP	69667	13.72	11.73	10.06

Bulkhead Jack

512-2154	332342	108, 108A	S	N	PP	69667	24.39	20.84	19.10
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Right-Angle PC Board/Panel Mount Jacks

Stock No.	Mfr.'s Type	Body Material	Mounting Posts	EACH		
				1-24	25-49	50-99
512-2344	228686-1	Whit. Valox	Yes	11.58	9.89	8.42

Bulkhead Jack Adapter

Stock No.	Mfr.'s Type	Body Plating	Contact Plating	EACH		
				1-24	25-49	50-99
512-2346	332215	N	S	15.82	13.35	12.23

Commercial Crimping Tools



SUPER CHAMP™ Crimp Tool

Stock No.	Mfr.'s Type	Description	EACH	
			1-4	5-9
512-2387	220146-1	RG58 SUPER CHAMP™	31.45	29.03
512-2389	220147-1	RG59/62 SUPER CHAMP™	31.45	29.03

PRO-CRIMPER™ II Hand Tools



58433-1

58433-2

Inexpensive and features interchangeable dies. Ratchet control for complete crimping cycle. Precision construction of durable high-carbon steel.

Type 58433-1. For "O" crimp plugs and jacks on RG58, 59, and 62 cables.

512-2380 EACH 79.05

Type 58433-2. For hex crimp plugs and jacks on RG-58, 59, and 62 cables.

512-238 EACH 79.05

CERTI-CRIMP™ Hand Tools



69140-1

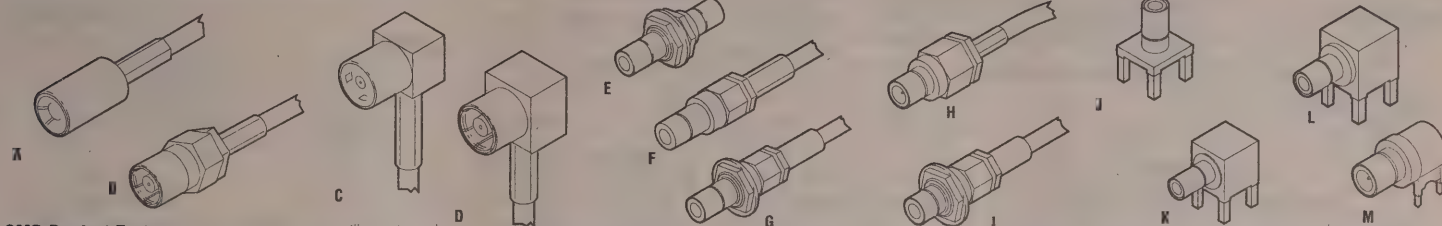
69477-1

69652

AMP's finest tools. The CERTI-CRIMP™ ratchet is designed to provide a complete crimp cycle.

512-2400.	69140-1	.....	EACH 462.92
512-2401.	69141-1	.....	EACH 462.92
512-2402.	69245-1	.....	EACH 494.31
512-2407.	69477-1	.....	EACH 290.31
512-2409.	69477-2	.....	EACH 312.28
512-2031.	69477-4	.....	EACH 371.91
512-2406.	69478-1	.....	EACH 290.31
512-2133.	69667	.....	EACH 646.97
512-2408.	220009-1	.....	EACH 304.43
512-2415.	220009-5	.....	EACH 331.11
512-2414.	220015-1	.....	EACH 655.71
512-2129.	220022-1	.....	EACH 520.98
512-2131.	220022-2	.....	EACH 382.11
512-2410.	220043-1	.....	EACH 399.37
512-2126.	220045-2	.....	EACH 439.38
512-2418.	220061-1	.....	EACH 547.66
512-2404.	220149-1	.....	EACH 982.09
512-2416.	220187-1	.....	EACH 240.88
512-2417.	220187-2	.....	EACH 265.20

50 And 75 Ohm SMB Connectors



SMB Product Facts

- ▶ SMB Offers Snap-Fit Coupling for Quick Connect/Disconnect
- ▶ Choice of Commercial or MIL-Type Connectors
- ▶ 50 and 75 Ohm MIL-Type Connectors Available
- ▶ Screw Machined Components for Highest Performance

- ▶ Straight Plugs and Jacks are Completely Crimp Terminated
- ▶ Fast Easy Cable Assembly
- ▶ Low VSWR
- ▶ Standard Military, Commercial or AMP Tooling

- ▶ MIL-Type Connectors Offer Consistent Mating and Unmating Forces
- ▶ Dielectric: Teflon

50 Ohm Straight Plugs

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Other Metal Plating	Style	Fig.	EACH		
							1-24	25-49	50-99
512-2502	413985-5	178, 178A, 178B 196, 196A	Gold	Gold	Mil-Type	A	5.76	5.02	4.45
512-2504	413985-6	178, 178A, 178B 196, 196A	Gold	Nickel	Mil-Type	A	4.61	4.01	3.50
512-2508	413985-1	174, 316, 188 188A	Gold	Gold	Mil-Type	A	5.48	4.78	4.17
512-2510	413985-3	174, 361, 188 188A	Gold	Nickel	Mil-Type	A	4.39	3.82	3.40
512-2514	1-413985-0	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Gold	Mil-Type	A	5.48	4.78	4.24
512-2516	1-413985-1	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Nickel	Mil-Type	A	4.39	3.82	3.40
512-2520	413985-2	RD316, 188 Double braid	Gold	Gold	Mil-Type	A	5.48	4.78	4.24
512-2522	413985-4	RD316, 188 Double braid	Gold	Nickel	Mil-Type	A	4.39	3.82	3.40

75 Ohm Straight Plugs

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Other Metal Plating	Style	Fig.	EACH		
							1-24	25-49	50-99
512-2521	414618-2	179, 179A, 179B 161, 187, 187A Belden 9221	Gold*	Nickel	Zinc Die Cast	B	8.07	7.03	6.24
512-2544	414047-6	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Nickel	Mil-Type	B	12.18	11.00	10.22
512-2546	1-414047-3	179, 179A, 179B 161, 187, 187A Belden 9221	Nickel	Nickel	Mil-Type	B	10.35	9.35	8.69
512-2548	414047-8	180, 180A, 180B 195, 195A	Gold	Nickel	Mil-Type	B	12.18	11.00	10.22
512-2550	1-414047-4	180, 180A, 180B 195, 195A	Nickel	Nickel	Mil-Type	B	10.35	9.35	8.69

50 Ohm Right-Angle Plugs

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Other Metal Plating	Style	Fig.	EACH		
							1-24	25-49	50-99
512-2507	414363-8	178, 178A, 178B 196, 196A	Gold	Nickel	Zinc Die Cast	C	3.92	3.41	3.04
512-2509	414363-9	178, 178A, 178B 196, 196A	Gold*	Nickel	Zinc Die Cast	C	3.80	3.31	2.95
512-2526	414002-7	178, 178A, 178B 196, 196A	Gold	Gold	Mil-Type	C	7.31	6.37	5.66
512-2528	414002-8	178, 178A, 178B 196, 196A	Gold*	Nickel	Mil-Type	C	5.85	5.10	4.52
512-2511	414363-3	174, 316, 188 188A	Gold*	Nickel	Zinc Die Cast	C	3.73	3.25	2.89
512-2532	414002-1	174, 316, 188 188A	Gold	Gold	Mil-Type	C	6.96	6.07	5.38
512-2534	414002-3	174, 316, 188 188A	Gold	Nickel	Mil-Type	C	5.57	4.85	4.32
512-2513	414363-5	179, 179A, 179B 161, 187, 187A Belden 9221	Gold*	Nickel	Zinc Die Cast	C	3.62	3.15	2.80
512-2517	414363-4	RD316, 188 Double braid	Gold	Nickel	Zinc Die Cast	C	3.73	3.24	2.89
512-2519	414363-6	RD316, 188 Double braid	Gold*	Nickel	Zinc Die Cast	C	3.62	3.15	2.80
512-2540	414002-2	RD316, 188 Double braid	Gold	Gold	Mil-Type	C	6.96	6.07	5.29
512-2542	414002-4	RD316, 188 Double Braid	Gold	Nickel	Mil-Type	C	5.57	4.85	4.32

75 Ohm Right-Angle Plugs

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Other Metal Plating	Style	Fig.	EACH		
							1-24	25-49	50-99
512-2552	414048-6	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Nickel	Mil-Type	D	15.91	14.36	13.34
512-2554	1-414048-3	179, 179A, 179B 161, 187, 187A Belden 9221	Nickel	Nickel	Mil-Type	D	17.66	15.94	14.81
512-2556	414048-8	180, 180A, 180B 195, 195A	Gold	Nickel	Mil-Type	D	15.91	14.36	13.34
512-2558	1-414048-4	180, 180A, 180B 195, 195A	Nickel	Nickel	Mil-Type	D	10.35	9.35	8.69

50 Ohm Bulkhead Jack Adapters

Stock No.	Mfr.'s Type	Contact Plating	Body Plating	Style	Fig.	EACH		
						1-24	25-49	50-99
512-2584	228553-1	Gold	Nickel	Mil-Type	E	5.70	5.10	4.74
512-2586	228553-2	Gold	Gold	Mil-Type	E	7.13	6.21	5.51

*Center contact — Gold; Outer contact — Nickel.

50 Ohm Jacks and Bulkhead Jacks

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Body Plating	Style	Fig.	EACH		
							1-24	25-49	50-99
512-2560	414091-5	178, 178A, 178B 196, 196A	Gold	Gold	Mil-Type	F	10.11	9.26	7.82
512-2562	414091-6	178, 178A, 178B 196, 196A	Gold	Nickel	Mil-Type	F	7.77	7.12	6.01
512-2564	414092-5	178, 178A, 178B 196, 196A	Gold	Gold	Mil-Type	G	10.11	9.26	7.82
512-2566	414092-6	178, 178A, 178B 196, 196A	Gold	Nickel	Mil-Type	G	7.77	7.12	6.01
512-2568	414091-1	174, 316, 188 188A	Gold	Gold	Mil-Type	F	9.18	8.41	7.10
512-2570	414091-3	174, 316, 188 188A	Gold	Nickel	Mil-Type	F	7.06	6.47	5.46
512-2572	414092-1	174, 316, 188 188A	Gold	Gold	Mil-Type	G	9.18	8.41	7.10
512-2574	414092-3	174, 316, 188 188A	Gold	Nickel	Mil-Type	G	7.06	6.47	5.46
512-2576	414091-2	RD316, 188 Double braid	Gold	Gold	Mil-Type	F	10.11	9.26	7.82
512-2578	414091-4	RD316, 188 Double braid	Gold	Nickel	Mil-Type	F	7.77	7.12	6.01
512-2580	414092-2	RD316, 188 Double braid	Gold	Gold	Mil-Type	G	10.11	9.26	7.82
512-2582	414092-4	RD316, 188 Double Braid	Gold	Nickel	Mil-Type	G	7.77	7.12	6.01

75 Ohm Jacks and Bulkhead Jacks

Stock No.	Mfr.'s Type	For RG/U Cable	Contact Plating	Body Plating	Style	Fig.	EACH		
							1-24	25-49	50-99
512-2535	414074-2	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Front-Gold Rear-Nickel	Mil-Type	H	24.78	22.36	20.77
512-2545	414074-6	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Nickel	Mil-Type	H	16.21	14.63	13.58
512-2555	414075-2	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Front-Gold Rear-Nickel	Mil-Type	I	14.01	12.65	11.75
512-2565	414075-6	179, 179A, 179B 161, 187, 187A Belden 9221	Gold	Nickel	Mil-Type	I	8.22	7.42	6.90
512-2575	414074-4	180, 180A, 180B 195, 195A	Gold	Front-Gold Rear-Nickel	Mil-Type	H	24.78	22.36	20.76
512-2585	414074-8	180, 180A, 180B 195, 195A	Gold	Nickel	Mil-Type	H	16.21	14.63	13.58
512-2595	414075-4	180, 180A, 180B 195, 195A	Gold	Front-Gold Rear-Nickel	Mil-Type	I	14.01	12.65	11.75
512-2593	414075-8	180, 180A, 180B 195, 195A	Gold	Nickel	Mil-Type	I	8.22	7.42	6.90

50 Ohm PC Board Jacks

Stock No.	Mfr.'s Type	Contact Plating	Body Plating	PCB Leg Plating	Type	Style	Fig.	EACH		
								1-24	25-49	50-99
512-2590	413990-2	Gold	Nickel	—	Vertical	Mil-Type	J	2.79	2.43	2.16
512-2592	413996-2	Gold	Gold	Gold	Rt. Angle	Mil-Type, Low Profile	K	7.47	6.51	5.68
512-2594	413996-4	Gold	Nickel	Nickel	Rt. Angle	Mil-Type, Low Profile	K	5.76	5.02	4.38
512-2596	414026-2	Gold	Gold	Gold	Rt. Angle	Mil-Type	L	5.40	4.71	4.19
512-2591	414026-3	Gold	Nickel	Nickel	Rt. Angle	Mil-Type	L	4.32	3.76	3.34
512-2505	414026-4	Gold	Gold	Nickel	Rt. Angle	Mil-Type	L	5.40	4.71	4.19
512-2515	414026-5	Gold	Gold	Tin Lead	Rt. Angle	Mil-Type	L	5.40	4.71	4.19
512-2525	414026-6	Gold	Nickel	Tin Lead	Rt. Angle	Mil-Type	L	4.32	3.76	3.34

75 Ohm PC Board Jacks

Stock No.	Mfr.'s Type	Contact Plating	Body Plating	Type	Style	Fig.	EACH		
							1-24	25-49	50-99
512-2598	221014-1	Gold	Front-Nickel Rear-Tin Lead	Rt. Angle	Commercial	M	4.38	3.82	3.40

Crimp Tool and Dies

Stock No.	Mfr.'s Type	Description	EACH
512-2599	354940-1	PRO CRIMPER™ II (Frame Only)	68.85
512-2503	58483-1	Die	52.70

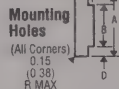
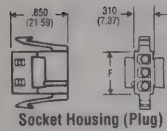
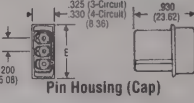
Panel Mount Connectors

- Easy Cavity Identification
- Locking Devices are Integral Part of Design, Connector Halves will Hold Together Under Severe Conditions of Vibration and Shock
- Built-In Contact Stabilization and Self-Aligning Features
- Hot Side Egg Crate Design for Safety

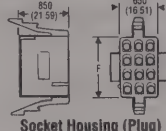
- Precision Molded to Exacting Tolerance
- Recommended Panel Thickness, .025"-.065" (.064-1.65 mm)
- Natural Color UL 94V-2 Rated Nylon — Fully Polarized
- UL Rated for 250 V AC or DC



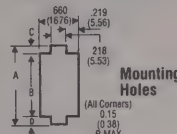
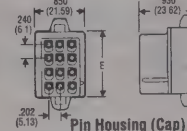
3 and 4 Circuits

Mounting Holes
(All Corners)
0.15
(0.38)
R MAXPin Housing (Cap)
(3-Circuit)
(4-Circuit)
(8.38)
200
(5.08)

6, 9, 12 and 15 Circuits



Socket Housing (Plug)

Mounting Holes
(All Corners)
0.15
(0.38)
R MAX

Pin Housing (Cap)

No. of Circuits	Mounting Hole Dimensions Inches (mm)		Connector Dimensions Inches (mm)	
	A	B	E	F
3	.910 (23.11)	.645-.635 (16.38-16.13)	.810 (20.57)	.630 (16.00)
4	1.110 (28.19)	.845-.835 (21.46-21.21)	1.010 (25.65)	.830 (21.08)
6	.840 (21.34)	.575-.570 (14.61-14.48)	.665 (16.89)	.565 (14.35)
9	1.075 (27.31)	.815-.810 (20.70-20.57)	.905 (22.99)	.805 (20.45)
12	1.320 (33.53)	1.055-1.050 (26.80-26.67)	1.145 (29.08)	1.045 (26.54)
15	1.550 (39.37)	1.290-1.285 (32.77-32.64)	1.382 (35.10)	1.280 (32.51)

Pin Housings (Cap)

Stock No.	Mfr.'s Type	No. of Circuits	EACH	
			1-99	100-499
512-1350	1-480305-0	3	.38	.25
512-1465	1-480426-0	4	.49	.33
512-1355	1-480276-0	6	.58	.39
512-1360	1-480277-0	9	.67	.45
512-1365	1-480278-0	12	.78	.52
512-1370	1-480324-0	15	.93	.62

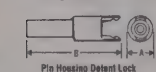
Socket Housings (Plug)

Stock No.	Mfr.'s Type	No. of Circuits	EACH	
			1-99	100-499
512-1300	1-480304-0	3	.52	.35
512-1306	1-480425-0	4	.48	.32
512-1305	1-480273-0	6	.64	.43
512-1310	1-480274-0	9	.73	.49
512-1315	1-480275-0	12	.82	.55
512-1320	1-480323-0	15	1.05	.70

Free Hanging Connectors

This version of the MATE-N-LOK® Connector provides all the quality features of the panel mount, yet was designed for free-hanging installations. The 2, 3, and 4 circuit configurations feature detent locking housings while the 6, 8, and 10 circuit configurations utilize positive lock housings. A single circuit connector is available with an option of detent or positive lock housings. The multiple circuit connector is available with an option of detent or positive lock housings. The multiple circuit configurations are polarized to assure proper electrical connections.

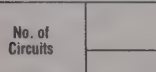
Single Circuits



Pin Housing Detent Lock

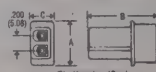


Socket Housing

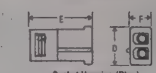


Pin Housing Positive Lock

2, 3 and 4 Circuits

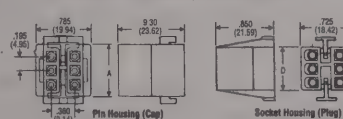


Pin Housing (Cap)

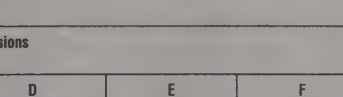


Socket Housing (Plug)

6, 8 and 10 Circuits (6-Circuit Shown)



Pin Housing (Cap)



Socket Housing (Plug)

No. of Circuits	Mounting Hole Dimensions Inches (mm)					
	A	B	C	D	E	F
1	.300 (7.62)	1.200 (30.48)	—	.260 (6.60)	.870 (22.10)	—
2	.610 (15.49)	.930 (23.62)	.330 (8.38)	.530 (13.46)	.860 (21.84)	.205 (7.49)
3	.810 (20.57)	.930 (23.62)	.325 (8.25)	.825 (20.96)	.850 (21.59)	.310 (7.87)
4	1.010 (25.65)	.930 (23.62)	.330 (8.38)	1.025 (26.04)	.850 (21.59)	.310 (7.87)
6	.750 (19.95)	—	—	.610 (15.49)	—	—
8	.900 (22.84)	—	—	.805 (20.44)	—	—
10	1.095 (27.81)	—	—	1.000 (25.40)	—	—

Socket Housings (Plug)

Stock No.	Mfr.'s Type	No. of Circuits	EACH	
			1-99	100-499
512-1400	1-480349-0	1	.17	.12
512-1405	1-480318-0	2	.25	.17
512-1410	1-480303-0	3	.33	.22
512-1415	1-480424-0	4	.38	.24
512-1420	1-480270-0	6	.67	.45
512-1422	1-480283-0	8	.59	.40
512-1425	1-480285-0	10	.65	.44

Pin Housings (Cap)

Stock No.	Mfr.'s Type	No. of Circuits	EACH	
			1-99	100-499
512-1450	1-480351-0**	1	.18	.14
512-1451	1-480350-0*	1	.19	.15
512-1455	1-480319-0	2	.25	.17
512-1350	1-480305-0	3	.38	.25
512-1465	1-480426-0	4	.49	.33
512-1470	1-480340-0	6	.46	.31
512-1472	1-480345-0	8	.51	.34
512-1475	1-480339-0	10	.58	.39

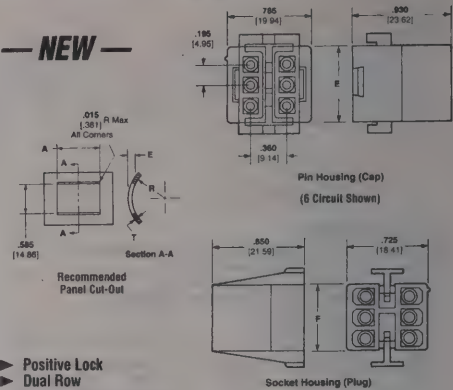
**Positive Lock. *Detent Lock.

Positive Lock Socket Housings (Plug)

Stock No.	Mfr.'s Type	No. of Circuits	Mates With Pin Headers	EACH	
				1-99	100-499
512-1406	1-480720-0	2	350539, 350540	.57	.38
512-1412	1-480721-0	3	350541, 350542	.59	.40
512-1416	1-480722-0	4	350543, 350544	.65	.43

Motor Mount Connectors

— NEW —



- Positive Lock
- Dual Row
- UL 94V-2 Nylon, Natural

Mounting Information: 1. Recommended panel thickness "E" is .040"-100" (1.02-2.54 mm) and is dependent on "T" and "R". 2. The pin housing must be inserted in a rocking manner; 3. The panel must be punched so that the housing enters the panel in the same direction as the punch. Note: Motor mount housings may be used in flat panels.

No. of Circuits	Dimensions Inches (mm)		
	A	E	F
6	.715 (18.160)	.705 (17.900)	.610 (15.490)
16	1.690 (42.930)	1.680 (42.670)	1.585 (40.260)

Pin Housings (Cap)

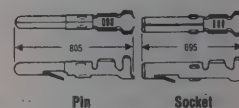
Stock No.	Mfr.'s Type	No. of Circuits	EACH	
			1-99	100-499
512-1403	1-480271-0	6	.61	.41
512-1404	1-480439-0	16	.81	.54

Socket Housings (Plug)

Stock No.	Mfr.'s Type	No. of Circuits	EACH	
			1-99	100-499
512-1420	1-480270-0	6	.67	.45
512-1407	1-480438-0	16	1.06	.71

MATE-N-LOK®
Contacts

(For All Housings On This Page) — Tin Plated Brass



Stock No.	Mfr.'s Type	Style	AWG	PKG./100	
				1-4	5-9
512-1301	60618-1	Pin	24-18	12.01	10.92
512-1302	60617-1	Pin	24-18	12.01	10.92
512-1401	60620-1	Pin	20-14	12.01	10.92
512-1402	60619-1	Pin	20-14	12.01	10.92

Crimping Tools and
Insertion/Extraction Tools

Crimping Tools

Stock No.	Mfr.'s Type	Description	For AWG	Insulation Diameter (In.)	EACH
512-8615	90287-1	Non-ratcheted CERTI-CRIMP™	20-10	—	49.00
512-3425	90123-2	CERTI-CRIMP™	24-18	.060-100	390.74
512-9004	90124-2	CERTI-CRIMP™	20-14	.100-130	390.74
512-0027	90574-1	PROCRIMPER II™	24-18	.060-100	142.80
512-0028	90575-1	PROCRIMPER II™	20-14	.100-130	142.80

Insertion/Extraction Tools

Stock No.	Mfr.'s Type	Description	For AWG	Insulation Diameter (In.)	EACH
512-9155	465644-1	Extraction tool	20-14	—	14.18
512-9160	455830-1	Insertion tool	—	—	18.70

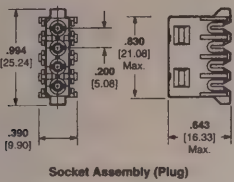
MATE-N-LOK® Connector Kit



Model 314975-1. Kit contains connectors, contacts, extraction tool, and SUPER CHAMP PT handheld crimp tool. You get 146 assorted pieces, including 1, 2, 3, 6 and 9-circuit connectors and contacts (20-14 AWG wire size). Contained in a sturdy, see-through case.

512-9316 — EACH 104.55

Insulation Displacement Connector (IDC) — NEW —



4-Circuit, in-line. UL 94 V-2 nylon. Contact Plating: Pre-Tin over phosphor bronze.

Stock No.	Mfr.'s Type	No. of Circuits	Wire AWG	Color	Mates With	EACH	
						1-99	100-499
512-1408	770156-2	4	22	Red	*	.66	.47
512-1409	770156-4	4	20	Yellow	*	.66	.47
512-1411	770156-3	4	18	Orange	**	.66	.47

*1-480426-0, 250211-1, 350211-2, and 350424-1 (Allied stocking items).

Tools and Dustcovers

512-9082. 58074-1. Pistol grip handle only.....	EACH	62.90
512-1413. 231894-1. Modular head for IDC.....	EACH	651.34
512-1414. 770232-1. Dust cap, for feed to wiring.....	EACH	.13
512-1418. 770233-1. Dust cap, for feed-thru wiring.....	EACH	.14

PC Board Mount MATE-N-LOK®

PC Board Pin Headers (Mate with free hanging Socket Connectors) .070" holes on .200" centers.

Positive Lock For .062" Thick Boards
Tin-Plated Contacts

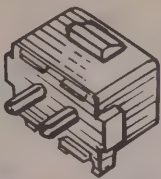
Stock No.	Mfr.'s Type	No. of Circuits	Mates With	EACH	
				1-99	100-499
512-1428	350539-1	2	1-480720-0	.90	.60
512-1430	350541-1	3	1-480721-0	.86	.57
512-1432	350543-1	4	1-480722-0	1.23	.82
512-1478	1-380999-0	6	1-480270-0	.80	.53
512-1480	350212-1	8	1-480283-0	.97	.65
512-1482	1-380991-0	10	1-480285-0	1.13	.75
512-1419	350213-1	12	1-480287-0	1.49	.99
512-8889	350214-1	16	1-480438-0	1.84	1.23

Gold-Plated Contacts

512-1429	350539-2	2	1-480720-0	1.16	.77
512-1431	350541-2	3	1-480721-0	1.66	1.11
512-1433	350543-2	4	1-480722-0	2.28	1.52

Positive Lock For .125" Thick Boards

Stock No.	Mfr.'s Type	No. of Circuits	Mates With	EACH	
				1-99	100-499
512-1479	350540-1	2	1-480720-0	.81	.54
512-1483	350544-1	4	1-480722-0	1.45	.97
512-1484	350425-1	6	1-480270-0	.91	.61
512-1486	350426-1	8	1-480283-0	1.03	.68
512-1488	350219-1	10	1-480285-0	1.47	.98



Detent Lock For .062" Thick Boards
Tin-Plated Contacts

Stock No.	Mfr.'s Type	No. of Circuits	Mates With	EACH	
				1-99	100-499
512-1434	350209-1	2	1-480318-0	.41	.27
512-1436	350210-1	3	1-480303-0	.63	.42
512-1438	350211-1	4	1-480424-0	.71	.47

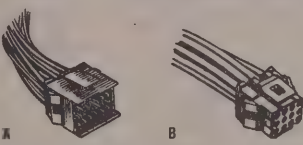
Gold-Plated Contacts

512-1441	350209-2	2	1-480318-0	.97	.64
512-1442	350210-2	3	1-480303-0	1.47	.98
512-1443	350211-2	4	1-480424-0	2.09	1.39

Detent Lock For .125" Thick Boards

Stock No.	Mfr.'s Type	No. of Circuits	Mates With	EACH	
				1-99	100-499
512-1444	350422-1	2	1-480318-0	.50	.33
512-1445	350423-1	3	1-480303-0	.65	.43
512-1446	350424-1	4	1-480424-0	.76	.51

MR (Mini. Rectangular) Connectors



The housings are brick red in color (UL 94V-0 rated) and have .165" contact-to-contact spacing. Housings have molded-in polarization. Plugs and caps fit the same mounting hole. Contacts accept 26-18 AWG wire with insulation diameters from .025"-.115". UL recognized File E28476 and CSA certified LR7189 for 250 V and 105°C operation.

Fig. A — Pin Housings (Cap)
Nylon, 94 V-0 Rated, Brick Red.

Stock No.	Mfr.'s Type	No. of Pos.	EACH		
			1-49	50-99	100-499
512-3600	1-640507-0	2	.40	.35	.31
512-3602	1-640508-0	3	.58	.51	.46
512-3604	1-640509-0	4	.63	.55	.49
512-3606	1-640510-0	6	.71	.62	.55
512-3608	1-640511-0	9	.76	.66	.59
512-3610	1-640512-0	12	.84	.74	.66
512-3612	1-640513-0	15	.93	.81	.73
512-3614	1-640514-0	20	1.46	1.28	1.15
512-3613	1-640515-0	24	1.55	1.36	1.22
512-3615	1-640516-0	36	1.70	1.52	1.32

Fig. B — Socket Housings (Plug)
Nylon, 94 V-0 Rated, Brick Red.

Stock No.	Mfr.'s Type	No. of Pos.	EACH		
			1-49	50-99	100-499
512-3616	1-640517-0	2	.38	.34	.30
512-3618	1-640518-0	3	.57	.50	.45
512-3620	1-640519-0	4	.61	.53	.48
512-3622	1-640520-0	6	.68	.60	.53
512-3624	1-640521-0	9	.75	.66	.59
512-3626	1-640522-0	12	.84	.74	.66
512-3628	1-640523-0	15	.90	.79	.70
512-3630	1-640524-0	20	1.47	1.28	1.15
512-3632	1-640525-0	24	1.56	1.30	1.22
512-3634	1-640526-0	36	1.62	1.42	1.27

Strain Reliefs, Grommets, and Keying Plugs



Fig. A — Strain Reliefs MR Connectors

These strain reliefs can be used with either pin or socket housings. One piece — clam shell design. Material: 94 V-0 nylon, brick red color. Adapting grommets (sold separately) are flexible PVC (55/79 durometer) and are black.

Stock No.	Mfr.'s Type	No. of Circuits	I.D. (In.)	EACH		
				1-49	50-99	100-499
512-3685	350373-1	6	.374	.74	.67	.63
512-3687	350522-1	9	.420	.80	.73	.69
512-3689	350374-1	12	.420	1.01	.92	.87
512-3691	350523-1	15	.420	1.53	1.39	1.28
512-3693	480634-1	20	.560	1.58	1.44	1.36
512-3695	350524-1	24	.560	1.63	1.47	1.39
512-3697	480594-1	36	.560	2.13	1.93	1.77



Fig. B — Black PVC Adapting Grommets
(For Socket Housing Only)

Stock No.	Mfr.'s Type	No. of Circuits	I.D. (In.)	EACH		
				1-49	50-99	100-499
512-3704	1-350377-0	6	.156	.59	.54	.51
512-3706	1-350376-0	6	.218	.53	.48	.45
512-1452	1-350375-0	6	.296	.56	.51	.48
512-1453	1-350378-1	9, 12, and 15	.218	.57	.52	.50
512-3708	1-350379-1	9, 12, and 15	.250	.57	.52	.50
512-3710	1-350380-1	9, 12, and 15	.281	.57	.52	.49
512-3712	1-380935-0	20, 24, and 36	.437	.63	.57	.55
512-3714	1-380936-0	20, 24, and 36	.375	.60	.54	.52
512-1454	1-380937-0	20, 24, and 36	.312	.57	.52	.50



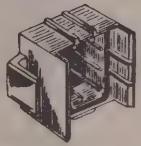
Fig. C — Keying Plug

512-3670. 350591-1. 1-49.....	EACH	.39
50-99.....	EACH	.36
100-499.....	EACH	.33

Crimping Tools and Insertion/Extraction Tools

512-8615. 90287-1. Contact crimping tool for 22-10 AWG wires.....	EACH	49.00
512-9018. 90325-1. CERTI-CRIMP™ for 26-22 and 20-18 AWG wires.....	EACH	500.58
512-9158. 455822-2. Contact extraction tool.....	EACH	18.70
512-9160. 455830-1. Contact insertion tool.....	EACH	18.70
512-9019. 58514-1. PROCRIMPER™ II for 26-18 AWG wires.....	EACH	153.00

MR P.C. Board Pin Headers
.165" Pin Spacing

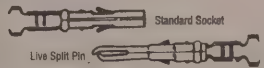


Material. Housings: Nylon, 94V-0 rated, brick red. Contacts: Plated tin over .000050" (0.00127) nickel over contact length and matte tin on solder tail end.

Stock No.	Mfr.'s Type	No. of Pos.	Board Thickness (In.)	Plating	EACH		
					1-49	50-99	100-499
512-1423	640497-1	2	.062	3*	.37	.33	.29
512-1424	640497-4	2	.120	4*	1.03	.93	.83
512-3636	640498-1	3	.062	3*	.55	.50	.44
512-3652	640498-2	3	.062	4*	1.52	1.39	1.22
512-1426	640498-4	3	.120	4*	1.37	1.27	1.22
512-3638	640499-1	4	.062	3*	.73	.67	.59
512-3654	640499-2	4	.062	4*	1.90	1.73	1.53
512-3640	640500-1	6	.062	3*	1.00	.91	.81
512-3656	640500-2	6	.062	4*	2.61	2.37	2.10
512-1427	640500-4	6	.120	4*	2.37	2.17	2.10
512-3642	640501-1	9	.062	3*	1.30	1.18	1.10
512-3658	640501-2	9	.062	4*	3.62	3.29	2.91
512-1435	640501-4	9	.120	4*	3.28	3.01	2.91
512-3644	640502-1	12	.062	3*	1.67	1.52	1.40
512-3660	640502-2	12	.062	4*	4.69	4.26	3.76
512-3646	640503-1	15	.062	3*	2.04	1.85	1.75
512-3662	640503-2	15	.062	4*	5.37	4.88	4.58
512-1437	640503-4	15	.120	4*	5.18	4.75	4.58
512-3648	640504-1	20	.062	3*	2.64	2.40	2.28
512-1439	640504-2	20	.062	4*	7.07	6.57	6.29
512-3650	640505-1	24	.062	3*	2.94	2.68	2.53
512-1440	640505-2	24	.062	4*	8.00	7.42	7.24
512-1447	640505-4	24	.120	4*	8.00	7.42	7.24
512-1448	640506-2	36	.062	4*	12.01	11.01	10.64
512-1449	640506-4	36	.120	4*	12.01	11.01	10.64

*3 = Phosphor Bronze, Pre-Tin, with Matte Tin on Solder Tail; 4 = Gold, with Matte Tin on Solder Tail.

MR Contacts



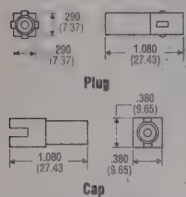
Material and Finish: Phosphor bronze, pre-tin plated or .000050" (0.00127) nickel over entire contact and .000030" (0.00076) gold in contact area. .008" (0.2) stock thickness.

Stock No.	Mfr.'s Type	Description	Plating	AWG	PER PKG./100		
					1-4	5-9	10-49
512-3680	640545-1	Live split pin	1*	26-18	12.11	11.06	9.32
512-3682	640545-2	Live split pin	2*	26-18	49.19	44.72	37.24
512-3684	641300-1	Socket	1*	26-18	11.29	10.40	9.56
512-3686	641300-2	Socket	2*	26-18	42.20	38.36	31.88

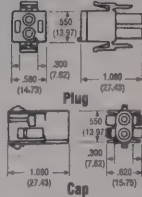
*1 = Pre-Tin; 2 = Gold.

Panel Mount

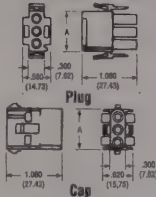
1 Circuit Free-Hanging



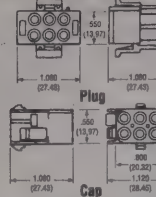
2 Circuit



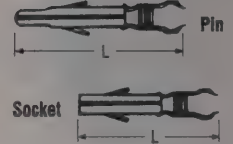
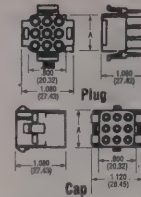
3, 4, 5 and 8 Circuit



6 Circuit



9, 12 and 15 Circuit



- ▶ Innumerable Keying Combinations
- ▶ Pins and Sockets Can Be Intermixed In The Same Housing
- ▶ Positive Polarization
- ▶ Rear Cavity Identification
- ▶ Pin or Socket Contact Can Be Hot
- ▶ Positive Locking Housings
- ▶ Insulation Capability To .200 (5.08) Diameter
- ▶ Removable, Crimp Snap-In Contacts
- ▶ Low Contact Mating Force

This series of connectors provides a highly reliable and economical means of grouping multiple-lead connectors in today's computer, computer/peripheral equipment and business machines.

Plugs — Natural Color UL 94V-2 Rated Nylon

Stock No.	Mfr.'s Type	No. of Circuits	Dimension A Inches (mm)	EACH		
				1-99	100-499	500-999
512-2995	1-350867-0	1	—	.13	.12	.10
512-3000	1-480698-0	2	—	.25	.22	.19
512-3002	1-480700-0	3	.80 (20.32)	.27	.23	.21
512-3005	1-480702-0	4	1.05 (26.67)	.29	.25	.22
512-1417	1-480763-0	5	1.30 (33.02)	.30	.24	.23
512-3010	1-480704-0	6	—	.32	.29	.27
512-8632	640586-1	8†	2.05 (52.07)	.52	.49	.47
512-3012	1-480706-0	9	.80 (20.32)	.37	.33	.30
512-3021	1-480708-0	12	1.05 (26.67)	.42	.38	.35
512-3023	1-480710-0	15	1.30 (33.02)	.66	.60	.51

Plugs — White Color UL 94V-0 Rated

Stock No.	Mfr.'s Type	No. of Circuits	Dimension A Inches (mm)	EACH		
				1-99	100-499	500-999
512-3051	350865-1	1	—	.23	.19	.18
512-3053	350777-1	2	—	.41	.37	.32
512-3056	350766-1	3	.80 (20.32)	.44	.40	.36
512-3058	350779-1	4	1.05 (26.67)	.47	.42	.37
512-3061	350809-1	5	1.30 (33.02)	.65	.59	.47
512-3063	350715-1	6	—	.57	.48	.44
512-3066	350720-1	9	.80 (20.32)	.60	.54	.48
512-3068	350735-1	12	1.05 (26.67)	.62	.56	.54
512-3071	350736-1	15	1.30 (33.02)	.91	.76	.70

†8 pos. in-line.

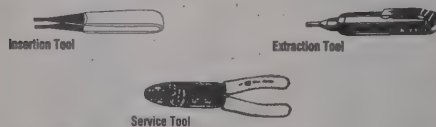
Caps — Natural Color UL 94V-2 Rated Nylon

Stock No.	Mfr.'s Type	No. of Circuits	Dimension A Inches (mm)	EACH		
				1-99	100-499	500-999
512-2996	770421-1	1	—	.13	.12	.10
512-3015	1-480699-0	2	—	.26	.22	.20
512-3004	1-480701-0	3	.80 (20.32)	.28	.25	.22
512-3020	1-480703-0	4	1.05 (26.67)	.30	.27	.22
512-1467	1-480764-0	5	1.30 (33.02)	.29	.26	.22
512-3025	1-480705-0	6	—	.32	.29	.26
512-1456	926308-1	8†	2.05 (52.07)	1.17	1.02	.88
512-3022	1-480707-0	9	.80 (20.32)	.34	.31	.27
512-3024	1-480709-0	12	1.05 (26.67)	.38	.34	.31
512-3026	1-480711-0	15	1.30 (33.02)	.57	.51	.45

Caps — White Color UL 94V-0 Rated

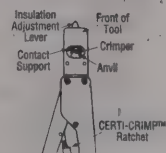
Stock No.	Mfr.'s Type	No. of Circuits	Dimension A Inches (mm)	EACH		
				1-99	100-499	500-999
512-3052	350866-1	1	—	.23	.19	.18
512-3054	350778-1	2	—	.41	.37	.33
512-3057	350767-1	3	.80 (20.32)	.46	.41	.37
512-3059	350780-1	4	1.05 (26.67)	.50	.42	.39
512-3062	350810-1	5	1.30 (33.02)	.50	.42	.36
512-3064	350781-1	6	—	.58	.49	.45
512-3067	350782-1	9	.80 (20.32)	.61	.51	.47
512-3069	350783-1	12	1.05 (26.67)	.68	.57	.52
512-3072	350784-1	15	1.30 (33.02)	1.04	.87	.74

Crimp Tools, Insertion/Extraction, and Service Tool



Stock No.	Mfr.'s Type	Description	EACH
512-9160	455830-1	Contact insertion tool	18.70
512-9165	458994-1	Contact extraction tool	40.80
512-8615	90287-1	Service hand tool for contacts on 22-18 AWG wires	49.00

CERTI-CRIMP™ and PROCRIMPER II™ Tools

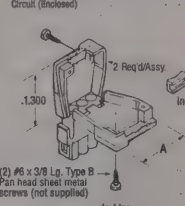


Stock No.	Mfr.'s Type	Description	Tool Type	EACH
512-9006	90300-2	For contacts on 24-18 AWG wire .040"-.100" ins. dia.	CERTI-CRIMP™	474.69
512-9007	90548-1	For contacts on 24-18 AWG wire .040"-.100" ins. dia.	PROCRIMPER II™	163.20
512-9008	90296-2	For contacts on 20-14 AWG wire .060"-.130" ins. dia.	CERTI-CRIMP™	474.69
512-9009	90546-1	For contacts on 20-14 AWG wire .060"-.130" ins. dia.	PROCRIMPER II™	163.20
512-9012	90298-2	For contacts on 20-18 AWG wire .130"-.200" ins. dia.	CERTI-CRIMP™	474.69
512-9013	90547-1	For contacts on 20-18 AWG wire .130"-.200" ins. dia.	PROCRIMPER II™	163.20
512-9014	90299-2	For contacts on 16-14 AWG wire .130"-.200" ins. dia.	CERTI-CRIMP™	474.69

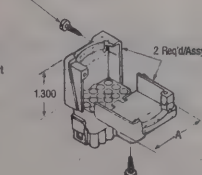
Plug or Housing Strain Reliefs

Closed Type

2, 3, 4, 5, 6, 9, 12 and 15-Circuit (Enclosed)



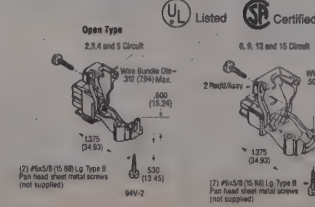
(2) #6 x 3/8 Lg. Type B Pan head sheet metal screws (not supplied)



Strains Reliefs

Note: Two pieces are required for each strain relief assembly. If you order just 1 you will get 1/2 of a strain relief.

Plug Housing Strain Reliefs



Universal Pins and Sockets

Can be used in either plug or cap housings. Pin Dia.: .084" (2.13 mm).

Pre-Tinned Brass

Stock No.	Mfr.'s Type	Style	Ins. Dia. Range (In.)	Dimension L Inches (mm)	PK./100	
					1-4	5-9
512-1303†	350690-1	Pin	.040-.100	.790	8.68	7.95
512-1304†	350689-1	Socket	.040-.100	.760	8.68	7.95
512-3028†	350706-1	Split Pin	.040-.100	.790	10.71	9.38
512-3030†	350547-1	Pin	.060-.130	.790	8.68	7.95
512-3035†	350550-1	Socket	.060-.130	.760	8.68	7.95
512-3045†	350552-1	Pin	.130-.200	.810	10.92	10.12
512-3040†	350551-1	Socket	.130-.200	.780	11.63	10.41
512-1307†	350705-1	Split Pin	.060-.130	.790	8.86	7.95
512-1308†	350669-1	Grounding Pin	.060-.130	.890	11.63	10.41

†24-18 AWG. *20-14 AWG.

Brass with Gold Finish

Stock No.	Mfr.'s Type	Style	Ins. Dia. Range (In.)	Dimension L Inches (mm)	PK./100	
					1-4	5-9
512-3170†	350690-2	Pin	.040-.100	.790	72.22	67.87
512-3175†	350689-2	Socket	.040-.100	.760	74.82	68.39
512-3180†	350547-2	Pin	.060-.130	.790	70.25	67.87
512-3185†	350550-2	Socket	.060-.130	.760	75.23	68.39

†24-18 AWG. *20-14 AWG.

Keying Plug

Snaps into plug or cap housing.

Stock No.	Mfr.'s Type	Description	EACH		
			1-49	100-499	500-999
512-3043	1-640415-1	Natural color, UL 94V-2 rated, Nylon	.19	.16	.14
512-3044	1-640415-0	White color, UL 94V-0 rated, Nylon	.19	.17	.15

Natural Nylon, UL 94V-2 Rated

Stock No.	Mfr.'s Type	No. of Circuits	Dia. Range (In.)	EACH		
				1-49	50-99	100-499
512-3076	1-640719-0	2	.040-.190	.78	.71	.65
512-3078	1-640719-1	2	.200-.350	.78	.71	.65
512-3081	1-640720-0	3	.040-.190	.79	.72	.66
512-3083	641763-1	3	.200-.350	.79	.72	.66
512-3086	641775-1	4	.040-.190	.80	.73	.67
512-3088	641775-2	4	.200-.350	.80	.73	.67
512-3104	643030-3	5	.040-.190	.81	.74	.67
512-3091	643030-2	5	.200-.350	.81	.74	.67
512-3093	1-640721-0	6	.120-.650	.82	.74	.68
512-3096	1-640722-0	9	.120-.650	.85	.77	.71
512-3098	1-640723-0	12	.150-.750	.87	.80	.73
512-3101	1-640724-0	15	.200-.850	.90	.82	.75

White Nylon, UL 94V-0 Rated

Stock No.	Mfr.'s Type	No. of Circuits	Dia. Range (In.)	EACH		
				1-49	50-99	100-499
512-3077	640713-1	2	.040-.190	.87	.79	.72
512-3079	640713-2	2	.200-.350	.86	.79	.72
512-3082	640714-1	3	.040-.190	.88	.80	.73
512-3084	641945-1	3	.200-.350	.88	.80	.73
512-3087	641776-1	4	.040-.190	.89	.81	.74
512-3089	641776-2	4	.200-.350	.89	.81	.74
512-3102	643030-1	5	.040-.190	.90	.82	.75
512-3103	643030-4	5	.200-.350	.90	.82	.75
512-3092	640715-1	6	.120-.650	.91	.83	.76
512-3094	640716-1	9	.120-.650	.94	.85	.78
512-3097	640717-1	12	.150-.750	.97	.88	.81
512-3099	640718-1	15	.200-.850	1.00	.91	.84

Open type strain relief part numbers are for 1/2 of a strain relief. Two pieces are required for a strain relief assembly.

Natural Color, UL 94V-2 Rated, Nylon

Stock No.	Mfr.'s Type	Description (Circuits)	EACH		
			1-49	50-99	100-499
512-3050	1-350589-0	For 2, 3, 4 and 5	.43	.39	.36
512-3055	1-350590-0	For 6, 9, 12 and 15	.50	.45	.41

White Color, UL 94V-0 Rated, Nylon

Stock No.	Mfr.'s Type	Description (Circuits)	EACH		
			1-49	50-99	100-499
512-3047	350811-1	For 2, 3, 4 and 5	.48	.43	.40
512-3048	350812-1	For 6, 9, 12 and 15	.55	.50	.46

PC Board Mount Vertical Headers

► Plating: 1 — Pre-Tin; 2 — 30 µ" Gold In Mating Area



Vertical Pin Headers In-Line Style

Stock No.	Mfr.'s Type	No. of Pos.	Plating	Housing Material	Dimensions A (In.)	Mates With*	EACH		
							1-49	50-99	100-499
512-3060	350428-1	2	1	UL 94V-2	.550 (13.97)	1-480698-0	.38	.32	.30
512-3073	350786-1	2	1	UL 94V-0	.550 (13.97)	350777-1	.69	.63	.58
512-3065	350429-1	3	1	UL 94V-2	.800 (20.32)	1-480700-0	.44	.37	.34
512-3074	350789-1	3	1	UL 94V-0	.800 (20.32)	350766-1	.76	.69	.59
512-3076	350430-1	4	1	UL 94V-2	1.050 (26.67)	1-480702-0	.56	.51	.47
512-3075	350792-1	4	1	UL 94V-0	1.050 (26.67)	350779-1	.90	.81	.75
512-3075	640466-1	5	1	UL 94V-2	1.300 (33.02)	1-480763-0	.81	.74	.68
512-3107	640900-1	5	1	UL 94V-0	1.300 (33.02)	350809-1	1.22	1.11	1.02
512-3108	641832-1	6	1	UL 94V-2	1.550 (39.37)	640585-1	1.34	1.12	.96
512-3109	641825-1	8	1	UL 94V-2	2.050 (52.07)	640586-1	1.43	1.31	1.13
512-3111	641828-1	8	1	UL 94V-0	2.050 (52.07)	640582-1	1.70	1.56	1.33

Vertical Socket Headers In-Line Style

Stock No.	Mfr.'s Type	No. of Pos.	Plating	Housing Material	Dimensions A (In.)	Mates With†	EACH		
							1-49	50-99	100-499
512-3130	350759-4	2	1	UL 94V-2	.550 (13.97)	1-480698-0	.34	.31	.26
512-3135	350760-4	3	1	UL 94V-2	.800 (20.32)	1-480700-0	.49	.45	.41
512-3122	350825-1	3	1	UL 94V-0	.800 (20.32)	350766-1	.77	.70	.64
512-3140	350761-4	4	1	UL 94V-2	1.050 (26.67)	1-480702-0	.67	.56	.48
512-3123	350826-1	4	1	UL 94V-0	1.050 (26.67)	350779-1	.87	.79	.73
512-3145	640467-1	5	1	UL 94V-2	1.300 (33.02)	1-480763-0	1.13	.95	.81

Matrix Style

512-3080	350431-1	6	1	UL 94V-2	.550 (13.97)	1-480704-0	.72	.66	.56
512-3112	350431-2	6	2	UL 94V-2	.550 (13.97)	1-480704-0	2.91	2.68	2.50
512-3113	350711-1	6	1	UL 94V-0	.550 (13.97)	350715-1	1.15	.97	.90
512-3114	350711-2	6	2	UL 94V-0	.550 (13.97)	350715-1	3.27	3.02	2.80
512-3085	350432-1	9	1	UL 94V-2	.800 (20.32)	1-480706-0	1.03	.93	.79
512-3116	350432-2	9	2	UL 94V-2	.800 (20.32)	1-480706-0	4.08	3.77	3.50
512-3117	350712-1	9	1	UL 94V-0	.800 (20.32)	350720-1	1.35	1.15	1.06
512-3090	350433-1	12	1	UL 94V-2	1.050 (26.67)	1-480708-0	1.27	1.16	.98
512-3118	350713-1	12	1	UL 94V-0	1.050 (26.67)	350735-1	1.60	1.47	1.26
512-3119	350713-2	12	2	UL 94V-0	1.050 (26.67)	350735-1	5.39	4.97	4.62
512-3095	350434-1	15	1	UL 94V-2	1.300 (33.02)	1-480710-0	1.40	1.28	1.18
512-3121	350714-1	15	1	UL 94V-0	1.300 (33.02)	350736-1	1.88	1.59	1.48

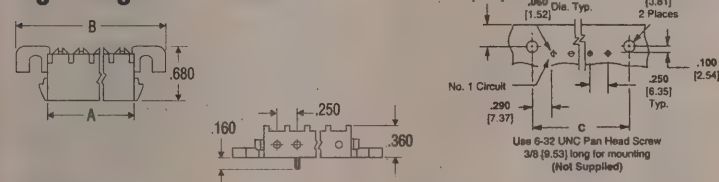
*Mates with plug housing part number using socket contacts.

Matrix Style

512-3150	350762-4	6	1	UL 94V-2	.550 (13.97)	1-480704-0	.88	.80	.68
512-3124	350827-1	6	1	UL 94V-0	.550 (13.97)	350715-1	1.31	1.10	.94
512-3155	350763-4	9	1	UL 94V-2	.800 (20.32)	1-480706-0	1.33	1.11	.96
512-3126	350763-3	9	2	UL 94V-2	.800 (20.32)	1-480706-0	3.80	3.51	3.26
512-3127	350828-1	9	1	UL 94V-0	.800 (20.32)	350720-1	1.65	1.37	1.18
512-3160	350764-4	12	1	UL 94V-2	1.050 (26.67)	1-480708-0	1.45	1.32	1.21
512-3128	350829-1	12	1	UL 94V-0	1.050 (26.67)	350735-1	1.73	1.58	1.44
512-3129	350829-2	12	2	UL 94V-0	1.050 (26.67)	350735-1	5.35	4.94	4.59
512-3165	350765-4	15	1	UL 94V-2	1.300 (33.02)	1-480710-0	1.99	1.66	1.43
512-3132	350830-1	15	1	UL 94V-0	1.300 (33.02)	350736-1	2.10	1.78	1.65
512-3133	350830-2	15	2	UL 94V-0	1.300 (33.02)	350736-1	6.53	6.03	5.60

†Mates with plug housing part number using pin contacts.

Right-Angle Pin Headers

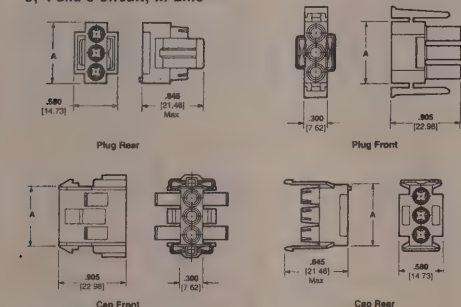


► For .062 PC Board Thickness
► Housing: UL 94V-0 Rated, Nylon (White)

► Contact Plating: 1 — Pre-Tin; 2 — 30 µ" Gold In Mating Area

Universal MATE-N-LOK® II Connectors — NEW —

3, 4 and 5 Circuit, In-Line



- Housing Kits
- FREE Hanging or Panel Mount (Kit = 1 Front and 1 Rear)
- Ultimate Reliability
- Not For Interrupting Current

- For Use Where Repair or Replacement Would Be Difficult
- UL File No. E28476
- CSA File No. LR 16455-113
- .250 Centerline Spacing

Plug Housing Kits*

Stock No.	Mfr.'s Type	No. of Pos.	Layout	Dim. A (In.)	EACH		
					1-99	100-499	500-999
512-8800	770017-1	2	In-line	.57	.52	.44	
512-8802	770018-1	3	In-line	.63	.57	.48	
512-8804	770019-1	4	In-line	.66	.60	.51	
512-8806	770020-1	6	Matrix	.78	.71	.60	
512-8808	770021-1	9	Matrix	.84	.76	.65	
512-8810	770022-1	12	Matrix	.96	.87	.74	
512-8812	770023-1	15	Matrix	1.24	1.13	.96	

Cap Housing Kits*

Stock No.	Mfr.'s Type	No. of Pos.	Layout	Dim. A (In.)	EACH		
					1-99	100-499	500-999
512-8814	770024-1	2	In-line	.58	.53	.45	
512-8816	770025-1	3	In-line	.65	.59	.50	
512-8818	770026-1	4	In-line	.68	.62	.53	
512-8820	770027-1	6	Matrix	.79	.72	.61	
512-8822	770028-1	9	Matrix	.82	.75	.64	
512-8824	770029-1	12	Matrix	.93	.84	.72	
512-8826	770030-1	15	Matrix	1.18	1.07	.91	

*Housing Material: UL 94V-0.



Contacts — Pre-Tinned Brass

Stock No.	Mfr.'s Type	Style	For Wire AWG	Ins. Dia. Range (In.)	Dim. L (In.)	PK./100		
						1-4	5-9	
512-8828	770252-1	Pin	24-18	.040-.100	1.005	10.36	9.46	
512-8830	770253-3†	Socket	24-18	.040-.100	.980	12.00	10.95	
512-8832	770250-1	Pin	20-14	.060-.130	1.005	10.36	9.46	
512-8834	770251-3†	Socket	20-14	.060-.130	.980	12.61	11.52	
512-8836	770248-1	Pin	20-14	.130-.200	.995	13.64	12.45	
512-8838	770249-3†	Socket	20-14	.130-.200	.970	16.50	15.06	
512-8840	770246-3†	Pin	12-10	.200 max.	1.005	21.83	19.93	
512-8842	770247-3†	Socket	12-10	.200 max.	.980	21.83	19.93	

Contacts — Gold Over Brass**

Stock No.	Mfr.'s Type	Style	For Wire AWG	Ins. Dia. Range (In.)	Dim. L (In.)	PK./100		
						1-4	5-9	
512-8844	770252-2	Pin	24-18	.040-.100	1.005	47.49	43.35	
512-8846	770253-4†	Socket	24-18	.040-.100	.980	74.09	67.64	
512-8848	770250-2	Pin	20-14	.060-.130	1.005	47.49	43.35	
512-8850	770251-4†	Socket	20-14	.060-.130	.980	77.99	71.20	
512-8852	770246-4†	Pin	12-10	.200 max.	1.005	103.57	94.54	
512-8854	770247-4†	Socket	12-10	.200 max.	.980	104.99	95.85	

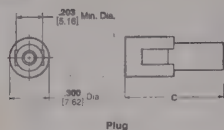
†Contact Material: Phosphor Bronze. **30 µ" of gold over mating area.

Tooling

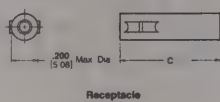
Stock No.	Mfr.'s Type	Description	EACH
512-9160	455830-1	Contact insertion tool	18.70
512-9165	458994-2	Contact extraction tool	40.80
512-9615	90287-1	Service hand tool for contacts on 22-10 AWG wires	49.00
512-9007	90548-1	For contacts on 24-18 AWG wire PROCRIMPER® II .040"-.100" ins. dia.	163.20
512-9009	90546-1	For contacts on 20-14 AWG wire PROCRIMPER® II .060"-.130" ins. dia.	163.20

.062 (1.57) Soft-Shell Pin and Socket Connectors

1-Circuit Housing

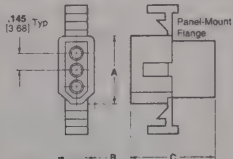


Plug

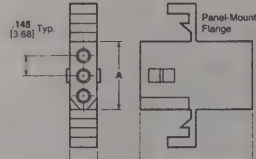


Receptacle

2-, 3-, and 4-Circuit Housings, In-Line

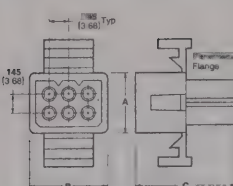


Plug

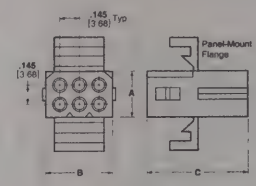


Receptacle

4-, 6-, and 9-Circuit Housings, Matrix



Plug



Receptacle

► Housing Material: UL 94V-2 Nylon, Natural Color

Free hanging housings, .145 centerline spacing.

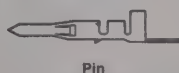
Plugs

Stock No.	Mfr.'s Type	No. of Circuits	Layout	Dimensions (In.)			EACH		
				A	B	C	1-99	100-499	500-999
512-8900	770278-1	1	In-line	—	—	.750	.16	.13	.10
512-8902	770340-1	2	In-line	.440	.300	.780	.20	.18	.15
512-8904	770331-1	3	In-line	.590	.300	.750	.25	.22	.18
512-8906	770275-1	4	In-line	.733	.300	.750	.47	.45	.32
512-8908	770433-1	4	Matrix	.445	.445	.868	.38	.34	.25
512-8910	770355-1	6	Matrix	.445	.600	.750	.33	.30	.23
512-8912	770428-1	9	Matrix	.590	.600	.750	.36	.33	.25

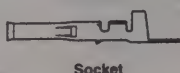
Receptacles

Stock No.	Mfr.'s Type	No. of Circuits	Layout	Dimensions (In.)			EACH		
				A	B	C	1-99	100-499	500-999
512-8914	770277-1	1	In-line	—	—	.785	.13	.11	.08
512-8916	770342-1	2	In-line	.340	.199	.820	.22	.20	.15
512-8918	770333-1	3	In-line	.490	.199	.785	.25	.23	.17
512-8920	770274-1	4	In-line	.635	.199	.785	.50	.47	.34
512-8922	770442-1	4	Matrix	.345	.345	.878	.38	.34	.26
512-8924	770356-1	6	Matrix	.345	.495	.785	.36	.33	.25
512-8926	770429-1	9	Matrix	.490	.495	.790	.35	.27	.22

Contacts



Pin



Socket

Contacts (Pre-Tinned Brass)

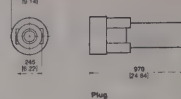
Stock No.	Mfr.'s Type	Style	For Wire AWG	Ins. Dia. Range (In.)	PK./100	
					1-4	5-9
512-8928	794018-1	Pin	30-24	.060	8.18	7.26
512-8930	794019-1	Socket	30-24	.060	8.18	7.26
512-8932	794017-1	Pin	24-18	.050-.110	8.18	7.26
512-8934	794016-1	Socket	24-18	.050-.110	8.18	7.26

Tooling

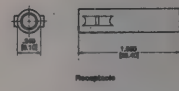
Stock No.	Mfr.'s Type	Description	EACH
512-0031	91002-1	Contact insertion tool	12.07
512-8936	458994-4	Contact extraction tool	55.25
512-8938	90870-1	PRO-CRIMPER™ II (30-24 AWG)	142.80
512-8942	90870-2	Die set only (30-24 AWG)	91.80
512-8940	90869-1	PRO-CRIMPER™ II (24-18 AWG)	142.80
512-8944	90869-2	Die set only (24-18 AWG)	91.80

.093 (2.36) Soft-Shell Pin and Socket Connectors

1-Circuit Housing

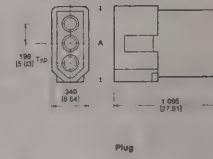


Plug

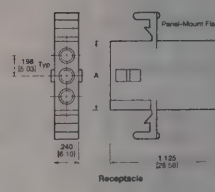


Receptacle

2-, 3-, and 4-Circuit Housings, In-Line

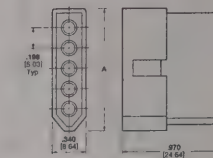


Plug

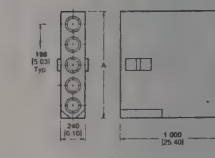


Receptacle

5-Circuit Housing, In-Line

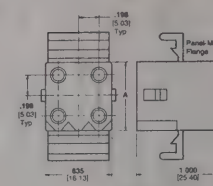


Plug

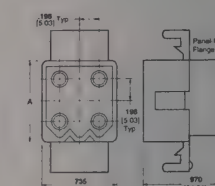


Receptacle

4-, 6-, and 9-Circuit Housings, Matrix



Receptacle



Plug

► Housing Material: UL 94V-2 Nylon, Natural Color

Free hanging housings, .198 centerline spacing.

Plugs

Stock No.	Mfr.'s Type	No. of Circuits	Layout	Dimensions (In.)			EACH		
				A	B	C	1-99	100-499	500-999
512-8964	770064-1	1	In-line	—	—	—	.15	.13	.10
512-8966	770069-1	2	In-line	.640	—	—	.24	.21	.16
512-8968	770074-1	3	In-line	.770	—	—	.29	.26	.19
512-8970	770078-1	4	In-line	.970	—	—	.33	.29	.21
512-8972	770842-1	4	Matrix	.540	—	—	.46	.41	.35
512-8974	770084-1	5	Matrix	1.170	—	—	.38	.34	.26
512-8976	770090-1	6	Matrix	.535	—	—	.45	.38	.28
512-8978	770096-1	9	Matrix	.770	—	—	.49	.44	.33

Receptacles

Stock No.	Mfr.'s Type	No. of Circuits	Layout	Dimensions (In.)			EACH		
				A	B	C	1-99	100-499	500-999
512-8980	770063-1	1	In-line	—	—	—	.12	.10	.08
512-8982	770065-1	2	In-line	.540	—	—	.27	.22	.16
512-8984	770070-1	3	In-line	.670	—	—	.30	.26	.20
512-8986	770075-1	4	In-line	.870	—	—	.34	.31	.23
512-8988	770843-1	4	Matrix	.443	—	—	.47	.42	.36
512-8990	770083-1	5	Matrix	1.070	—	—	.50	.43	.32
512-8992	770086-1	6	Matrix	.435	—	—	.41	.38	.28
512-8996	770092-1	9	Matrix	.670	—	—	.52	.45	.34

* .248 centerline spacing.

Contacts



Pin



Socket

Contacts (Pre-Tinned Brass)

Stock No.	Mfr.'s Type	Style	For Wire AWG	Ins. Dia. Range (In.)	PK./100	
					1-4	5-9
512-8956	770147-1	Pin	24-18	.110	6.02	5.10
512-8958	770146-1	Socket	24-18	.110	6.02	5.10
512-8960	770145-1	Pin	20-14	.140	6.02	5.10
512-8962	770144-1	Socket	20-14	.140	6.02	5.10

Tooling

Stock No.	Mfr.'s Type	Description	EACH
512-0031	91002-1	Contact insertion tool	12.07
512-8946	458994-3	Contact extraction tool	51.85
512-8948	90872-1	PRO-CRIMPER™ II (24-18 AWG)	142.80
512-8952	90872-2	Die set only (24-18 AWG)	91.80
512-8950	90871-1	PRO-CRIMPER™ II (20-14 AWG)	142.80
512-8954	90871-2	Die set only (20-14 AWG)	91.80

DIPLOMATE® (DL) DIP and SIP Sockets

**AMP**

The DIPLOMATE socket family provides high quality at low cost with superior handling characteristics. It is available with dual wiping contacts in tin or gold plating over beryllium copper or economical phosphor bronze. The large target area of the contacts and tapered side ramps in the housing insure easy entry of a DIP package. Internal anti-overstress walls prevent contact damage. The housings are compatible with commercially available automatic insertion equipment for socket-to-board or DIP-to-socket applications. These stackable housings feature a "True Closed Bottom" design which prevents solder or flux wicking at class 1 conditions of EIA 486.

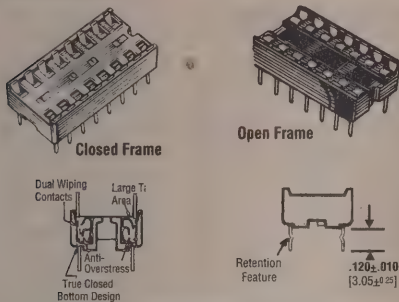
Standoffs provide board clearance for proper cleaning after soldering. Sockets are available with straight solder tails

for clinching and are "true positioned" for automatic insertion into the PC board. Solder tails with retention feature, for self-retention in the PC board during handling and flow soldering, are available for hand insertion.

Housings are constructed from self-extinguishing glass-filled polyester, 94V-0 rated material and meet the material requirements of Table 23.1 of UL 1410 Standard for Television Receivers and Video Products.

The DIPLOMATE (DL) DIP and SIP socket family meets the requirements of EIA RS415, MIL-S-83734 and the most stringent specifications of main-frame computer manufacturers.

Dual Leaf DIP

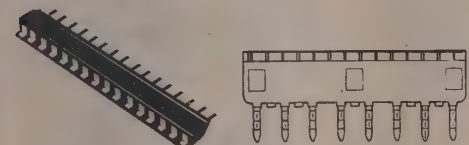


Accepts .008-.015 thick x .030 wide rectangular leads.

PERFORMANCE CHARACTERISTICS. Rating: 250 VAC. Contact Resistance: 20 milliohms max. (initial), 30 milliohms max. (after test). Dielectric Withstanding Voltage: 1000 VRMS min. Insulation Resistance: 5000 megohms min. Capacitance: 0.5 picofarad max. Operating Temperature: -55°C to +105°C (tin), -55°C to +125°C (gold). Vibration: 10-2000-10 Hz in 20 minutes at .06 (1.52) or 15 Gs for 3 sweeps in each of 3 axes. Shock: 100 Gs sawtooth, 6 shocks. Engaging Force: 340 grams (3.33 N) max. (.013 (0.33) pin). Separating Force: 25 grams (.24 N) (.008 (0.2) pin).

No. of Pos.	Dimensions—Inch (mm)		
	Length	Width	Height
6	.295 (7.49)	.394 (10.01)	.210 (5.33)
8	.395 (10.03)	.394 (10.01)	.210 (5.33)
14	.695 (17.65)	.394 (10.01)	.210 (5.33)
16	.795 (20.19)	.394 (10.01)	.210 (5.33)
18	.895 (22.73)	.394 (10.01)	.210 (5.33)
20	.995 (25.27)	.394 (10.01)	.210 (5.33)
22	1.095 (27.81)	.494 (12.55)	.210 (5.33)
24a	1.195 (30.35)	.394 (10.01)	.210 (5.33)
24b	1.195 (30.35)	.694 (17.63)	.210 (5.33)
28	1.395 (35.43)	.694 (17.63)	.210 (5.33)
28b	1.395 (35.43)	.694 (17.63)	.210 (5.33)
40	1.995 (50.67)	.694 (17.63)	.210 (5.33)

Dual Leaf SIP



PERFORMANCE CHARACTERISTICS. Rating: 250 VAC. Contact Resistance: 20 milliohms max. (initial), 30 milliohms max. (after test). Dielectric Withstanding Voltage: 1000 VRMS min. Insulation Resistance: 5000 megohms min. Capacitance: 0.5 picofarad max. Operating Temperature: -55°C to +105°C (tin), -55°C to +125°C (gold). Vibration: 10-2000-10 Hz in 20 minutes at .06 (1.52) or 15 Gs for 3 sweeps in each of 3 axes. Shock: 100 Gs sawtooth, 6 shocks. Engaging Force: 340 grams (3.33 N) max. (.013 (0.33) pin). Separating Force: 25 grams (.24 N) (.008 (0.2) pin). Max. Width: .154" (3.91). Accepts .008-.015 thick x .030 max. wide rectangular leads. Max. height above board: .210".

Tinned Beryllium Copper

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
512-4710	643640-1	8	.32	.29
512-4712	643642-1	10	.40	.36
512-4714	643644-1	12	.48	.43
512-4716	643646-1	14	.56	.50
512-4718	643648-1	16	.63	.57
512-4720	643650-1	18	.71	.65
512-4722	643652-1	20	.79	.72
512-4724	643654-1	22	.87	.79
512-4727	643657-1	25	.99	.90
512-4732	643662-1	30	1.19	1.07

Tinned Phosphor Bronze

512-4750	643640-3	8	.27	.24
512-4752	643642-3	10	.34	.30
512-4754	643644-3	12	.40	.36
512-4756	643646-3	14	.47	.42
512-4758	643648-3	16	.54	.48
512-4760	643650-3	18	.60	.55
512-4762	643652-3	20	.67	.61
512-4764	643654-3	22	.74	.67
512-4772	643662-3	30	1.00	.91

Dual Leaf, Economy Version, Open Frame Sockets

Economy Version: Phosphor Bronze, Tinned

Straight Solder Tails

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
512-4800	2-641296-5	6*	.08	.07
512-4802	2-640463-5	8*	.08	.07
512-4804	2-641599-5	14	.10	.09
512-4806	2-641600-5	16	.11	.10
512-4810	2-641601-5	18	.18	.16
512-4812	2-641602-5	20	.20	.18
512-4814	2-641603-5	22	.22	.20
512-4816	2-641932-5	24a	.24	.21
512-4818	2-641604-5	24b	.24	.21
512-4820	2-382571-5	28	.28	.25
512-4822	2-641605-5	28b	.28	.25
512-4824	2-641606-5	40	.40	.36

Retention Solder Tails

512-4832	2-641609-5	14	.14	.12
512-4834	2-641610-5	16	.16	.14
512-4836	2-641611-5	18	.16	.16
512-4838	2-641612-5	20	.20	.18
512-4846	2-641615-5	28	.28	.25
512-4848	2-641616-5	40	.41	.36

*Solid body, not open frame.

Dual Leaf, Closed Frame Sockets

Sockets with Straight Solder Tail

Tinned Beryllium Copper

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
512-4520	2-641296-1	6	.16	.15
512-4521	2-640463-1	8	.15	.14
512-4522	2-640357-1	14	.26	.24
512-4523	2-640358-1	16	.30	.27
512-4524	2-640359-1	18	.36	.32
512-4525	2-640464-1	20	.40	.36
512-4527	2-640361-1	24b	.48	.43
512-4528	2-640362-1	28	.55	.50
512-4529	2-640379-1	40	.79	.71

Tinned Phosphor Bronze

512-4530	2-641296-3	6	.12	.11
512-4531	2-640463-3	8	.11	.10
512-4532	2-640357-3	14	.18	.16
512-4533	2-640358-3	16	.20	.19
512-4534	2-640359-3	18	.24	.21
512-4535	2-640464-3	20	.26	.23
512-4537	2-640361-3	24b	.31	.28
512-4538	2-640362-3	28	.36	.33
512-4539	2-640379-3	40	.52	.47

Beryllium Copper with .000030" Gold Plating*

512-4540	2-641296-2	6	.37	.33
512-4541	2-640463-2	8	.37	.33
512-4542	2-640357-2	14	.61	.55
512-4543	2-640358-2	16	.69	.63
512-4544	2-640359-2	18	.78	.70
512-4545	2-640464-2	20	.98	.89
512-4547	2-640361-2	24b	1.04	.94
512-4548	2-640362-2	28	1.21	1.10
512-4549	2-640379-2	40	1.73	1.57

Phosphor Bronze with .000015" Gold Plating*

512-4550	2-641296-4	6	.21	.17
512-4551	2-640463-4	8	.27	.25
512-4552	2-640357-4	14	.45	.41
512-4553	2-640358-4	16	.52	.47
512-4554	2-640359-4	18	.58	.53
512-4555	2-640464-4	20	.65	.58
512-4557	2-640361-4	24b	.77	.70
512-4558	2-640362-4	28	.90	.82
512-4559	2-640379-4	40	1.29	1.17

*Gold thickness in contact area. Tin-lead plate on solder tails.

Dual Leaf, Open Frame Sockets

Sockets with Straight Solder Tail

Tinned Beryllium Copper

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
512-4661	2-641599-1	14	.26	.24
512-4662	2-641600-1	16	.30	.27
512-4663	2-641601-1	18	.36	.32
512-4664	2-641602-1	20	.40	.36
512-4665	2-641603-1	22	.44	.39
512-4666	2-641932-1	24a	.47	.43
512-4667	2-641604-1	24b	.48	.43
512-4668	2-641605-1	28	.55	.50
512-4669	2-641606-1	40	.79	.71

Beryllium Copper with .000030" Gold Plating*

512-4681	2-641599-2	14	.61	.55
512-4682	2-641600-2	16	.69	.63
512-4684	2-641602-2	20	.87	.78
512-4686	2-641932-2	24a	1.04	.94
512-4688	2-641605-2	28	1.21	1.10
512-4689	2-641606-2	40	1.73	1.57

Phosphor Bronze—Tinned

512-4671	2-641599-3	14	.18	.16
512-4672	2-641600-3	16	.21	.19
512-4673	2-641601-3	18	.24	.21
512-4674	2-641602-3	20	.26	.23
512-4676	2-641932-3	24a	.31	.28
512-4677	2-641604-3	24b	.31	.28
512-4678	2-641605-3	28	.36	.33
512-4679	2-641606-3	40	.52	.47

Phosphor Bronze with .000015" Gold Plating*

512-4691	2-641599-4	14	.45	.41
512-4692	2-641600-4	16	.52	.47
512-4694	2-641602-4	20	.65	.58
512-4696	2-641932-4	24a	.77	.70
512-4697	2-641604-4	24b	.77	.70
512-4698	2-641605-4	28	.90	.82
512-4699	2-641606-4	40	1.29	1.17

*Gold thickness in contact area. Tin-lead plate on solder tails.

Sockets with Retention Feature

Beryllium Copper—Tinned (Open Frame except 6 and 8 contact)

512-4620	2-641259-1	6	.16	.15
512-4621	2-641260-1	8	.15	.14
512-4622	2-641609-1	14	.26	.24
512-4623	2-641610-1	16	.32	.29
512-4624	2-641611-1	18	.36	.32
512-4625	2-641612-1	20	.40	.36
512-4641	2-641931-1	24a	.47	.43
512-4628	2-641615-1	28	.55	.50
512-4629	2-641616-1	40	.79	.71

Beryllium Copper with .000030" Gold Plating*

512-4572	2-641609-2	14	.61	.55
512-4573	2-641610-2	16	.69	.63
512-4576	2-641612-2	20	.87	.78
512-4578	2-641615-2	28	1.21	1.10
512-4579	2-641616-2	40	1.73	1.57

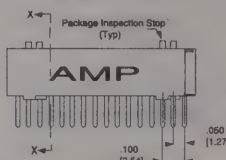
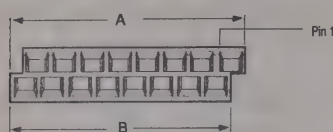
Phosphor Bronze—Tinned (Open Frame except 6 and 8 contact)

512-4630	2-641259-3	6	.12	.11
512-4631	2-641260-3	8	.11	.10
512-4632	2-641609-3	14	.18	.16
512-4633	2-641610-3	16	.20	.19
512-4634	2-641611-3	18	.24	.21
512-4635	2-641612-3	20	.26	.23
512-4642	2-641933-3	24a	.31	.28
512-4637	2-641614-3	24b	.31	.28
512-4638	2-641615-3	28	.36	.33
512-4639	2-641616-3	40	.52	.47

Phosphor Bronze with .000015" Gold Plating

512-4581	2-641260-4	8	.27	.25
512-4582	2-641609-4	14	.45	.41
512-4583	2-641610-4	16	.52	.47
512-4585	2-641612-4	20	.65	.58
512-4643	2-641933-4	24a	.77	.70
512-4588	2-641615-4	28	.90	.82
512-4589	2-641616-4	40	1.29	1.17

DIPLOMATE™ (ZP) Zip Sockets



Sockets are a reliable and low cost means for socketing Zip IC packaging used in micro-processor and add-on pc boards. End-to-end and side-to-side stackable on .50 and .200 centers. Proven Dual Leaf (DL) contact design. Housing: Glass-filled thermoplastic. Contacts: Tinned phosphor bronze. Rated 250VAC at 1 Amp max.

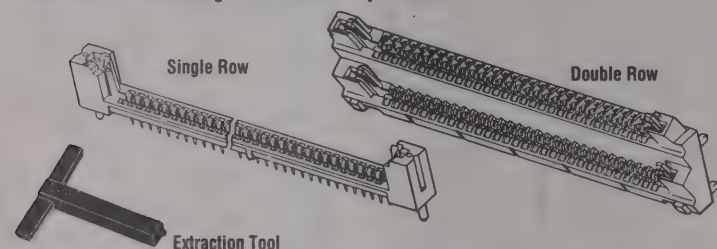
Tin Plated

Stock No.	Mfr.'s Type	Dimensions - In.		Contacts	EACH		
		A	B		1-99	100-499	500-999
512-7228	2-382006-3	.845	.795	16	.32	.28	.24
512-7230	2-382007-3	1.045	.995	20	.40	.35	.30
512-7232	2-382008-3	1.245	1.195	24	.48	.41	.35
512-7234	2-382009-3	1.445	1.395	28	.56	.48	.41
512-7236	2-382040-3	2.045	1.995	40	.81	.69	.58

512-7245. 382428-1. ZIP Device Extraction Tool.....EACH 4.94

DIPLOMATE™ SIMM Sockets

Sockets for Leadless Single In-Line Memory Modules



Accepts .050" ± .003 module thickness. Accepts standard JEDEC Modules. Housing: Liquid Crystal Polymer (LCP), glass filled, UL94V-0. Contacts: Beryllium copper, bright tin-lead plated. Rated 250VAC at 1 Amp max.

Standard Vertical Sockets

3.800" length, 3.514" Card slot length, 3.650" post length.

Single Row

Stock No.	Mfr.'s Type	No. of Positions	Width	EACH		
				1-24	25-99	100-499
512-7240	643930-1	30	.270"	1.60	1.47	1.33

512-7242	2-382230-1	30	.570"	2.00	1.84	1.58
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Low Profile 27° (Angled) Sockets

Single Row-Mounts on .400" row-to-row centers

512-7241	2-382030-1	30	.545"	1.71	1.57	1.35
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Double Row-Mounts on .500" row-to-row centers

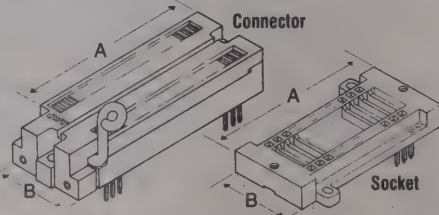
512-7243	2-382130-1	30	.963"	3.26	2.99	2.57
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Extraction Tool

512-7244. 382264-1. Memory Module Extraction Tool.....EACH 1.29

DIP Burn-In Sockets

DIP Burn-In Sockets (ZIF-LOCK—Zero Insertion Force Connectors and Header Sockets) ZIF-LOCK connectors and matching header sockets offers test and burn-in capabilities for ceramic and plastic and dual in-line packages. Body Material: Polyethersulfone.



Connectors with Gold Plating*

Stock No.	Mfr.'s Type	No. of Contacts	Dimensions		EACH	
			A	B	1-24	25-49
512-8500	55173-6	14	1.29"	.595"	27.79	25.81
512-8502	55174-6	16	1.39"	.595"	29.96	27.82
512-8504	55175-6	18	1.49"	.595"	30.37	28.92
512-8506	55176-6	20	1.59"	.595"	31.96	29.39
512-8508	54993-6	24	1.79"	.895"	35.58	33.75
512-8510	54994-6	28	1.99"	.895"	38.23	36.22
512-8512	54995-6	40	2.59"	.895"	47.36	43.98

*Gold-plated contacts allow connector to be used with 150°C.

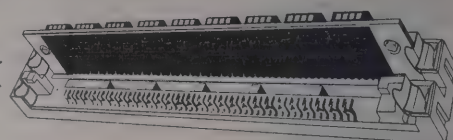
Header Sockets (Tail Length: .180")

512-8514	55202-1	14	1.29"	.595"	16.82	15.52
512-8516	55203-1	16	1.39"	.595"	16.15	15.00
512-8518	55205-1	20	1.59"	.595"	11.73	10.83
512-8520	55206-1	24	1.79"	.895"	18.90	17.55
512-8522	55207-1	28	1.99"	.895"	20.00	18.57
512-8524	55208-1	40	2.59"	.895"	23.35	21.69

Micro-Edge™ SIMM Sockets



SIMM connectors with metal latches for leadless single in-line memory modules. (.050 centerlines.)



Vertical Single Row Standard Polarization (Tin Plated)

Stock No.	Mfr.'s Type	No. of Positions	With Center Post	EACH		
				1-24	25-99	100-499
512-7246	822021-1	40	Yes	1.67	1.57	1.48
512-7248	822019-1	40	No	1.67	1.57	1.48
512-7250	822021-2	64	Yes	1.77	1.66	1.56
512-7252	822019-2	64	No	1.77	1.66	1.56
512-7254	822021-3	68	Yes	1.86	1.76	1.65
512-7256	822019-3	68	No	1.86	1.76	1.65
512-7258	822021-4	72	Yes	1.97	1.86	1.75
512-7260	822019-4	72	No	1.97	1.86	1.75
512-7262	822021-5	80	Yes	2.19	2.07	1.94
512-7264	822019-5	80	No	2.19	2.07	1.94

Left Polarization

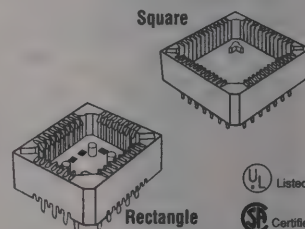
512-7266	822030-3	72	Yes	1.97	1.86	1.74
512-7200	821997-3*	72	Yes	2.21	2.10	1.96
512-8220	822030-4	80	Yes	2.19	2.07	1.94
512-8219	821997-4*	80	Yes	2.45	2.33	2.17

*Gold Plated.

PLCC Sockets

High Pressure Tin (HPT) Sockets with Solder Tails

Sockets accept JEDEC PLCC packages in square and 32-position rectangular EPROM configurations with tin plated leads on .050 centers. AMP (HPT) chip carriers are designed to make effective and economical use of a PC board area for PLCCs with high pin counts. Housing Materials: Polyphenylene Sulfide, 40% glass filled, UL 94V-0 rated, 220° C. Contacts: Tin plate over phosphor bronze.



Stock No.	Mfr.'s Type	No. of Pos./Config.	Dim. "D"	EACH	
				1-24	25-99
512-7270	821815-1	20 / Square	.055" - .075"	3.29	3.01
512-7272	821581-1	28 / Square	.055" - .075"	1.64	1.50
512-7274	821665-1	32 / Rectangular	.055" - .075"	1.60	1.49
512-7276	821575-1	44 / Square	.055" - .075"	1.67	1.50
512-7278	821551-1	52 / Square	.055" - .075"	1.70	1.53
512-7280	821574-1	68 / Square	.055" - .075"	1.92	1.73
512-7282	821573-1	84 / Square	.055" - .075"	2.24	2.02

PLCC (HPT) Extraction and Housing Removal Tools

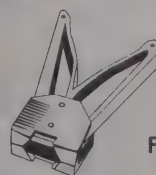


Figure A



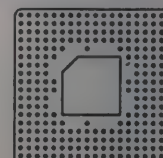
Figure B

Stock No.	Mfr.'s Type	No. of Pos.	Fig.	Socket Type	Tool Type	EACH
512-7290	821903-6	20	B	Square	Extraction	19.64
512-7292	821903-5	28	B	Square	Extraction	19.64
512-7294	821900-1	28	A	Square	Extraction	44.63
512-7296	821903-1	32	B	Rectangular	Extraction	19.64
512-7298	821980-1	32	A	Rectangular	Extraction	44.63
512-7300	821591-1	44	A	Square	Extraction	44.63
512-7304	821648-1	52	A	Square	Extraction	44.63
512-7306	821566-1	68	A	Square	Extraction	44.63
512-7438	822268-1	84	A	Square	Extraction	44.63

LIF PGA Socket for Motorola's 68360 QUICC™ Controller

— NEW —

The AMP Socket, an 18 x 18, 241 position version with standard cavity, is a true low force product. Preloaded, long, dual beam contacts with staggered-rows heights provide both sufficient normal force and low insertion/extraction forces.

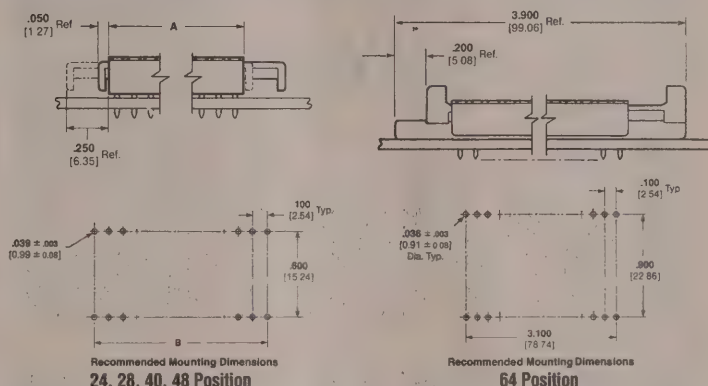


512-9162. 1-916228-1. Socket for Motorola 68360 QUICC™ Controller.....EACH 5.61

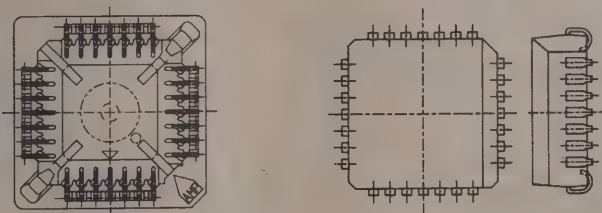
Stock No.	Mfr.'s Type	Dimensions			Contact Finish	Color	Fig.	EACH		
		A	B	C				1-99	100-499	500-999
512-7500	1-582118-0	.130	.230	.138	Tin-Lead	Black	A	.31	.26	.23
512-7502	1-582118-2	.130	.230	.138	Tin-Lead	Red	A	.28	.23	.21
512-7504	1-582118-5	.130	.230	.138	Tin-Lead	Green	A	.28	.23	.21
512-7506	1-582118-9	.130	.230	.138	Tin-Lead	White	A	.28	.23	.21
512-7508	3-582118-0	.130	.230	.138	Gold	Black	A	.81	.69	.61
512-7510	3-582118-2	.130	.230	.138	Gold	Red	A	.81	.69	.61
512-7512	3-582118-5	.130	.230	.138	Gold	Green	A	.81	.69	.61
512-7514	3-582118-9	.130	.230	.138	Gold	White	A	.81	.69	.61
512-7516	350180-0	.130	.230	.138	Gold	Black	B	1.97	1.55	1.29
512-7518	350180-2	.130	.230	.138	Gold	Red	B	1.97	1.55	1.29
512-7520	350180-5	.130	.230	.138	Gold	Green	B	1.97	1.55	1.29
512-7522	350180-9	.130	.230	.138	Gold	White	B	1.97	1.55	1.29

The DIPLOMATE Low Force (LF) family of DIP sockets provide a means of reducing DIP leg damage while maintaining high quality at low cost with superior handling characteristics. Low insertion and extraction forces, in fact, zero force for the side brazed ceramic DIPs are combined with high normal forces by way of a unique camming arrangement. It is available in 24, 28, 40 and 48 positions on .600 (15.24) centerlines with tool-less actuation and 64 position on .900 (22.86) centerline with screwdriver actuation.

Stock No.	Mfr.'s Type	No. of Positions	Dimensions		Contact Plating	EACH		
			A	B		1-9	10-24	25-99
512-7524	641893-1	24	1.196	1.10	Tin-Lead	10.46	9.62	8.91
512-7526	641893-2	24	1.196	1.10	Gold	10.31	9.79	9.06
512-7528	641894-1	28	1.396	1.30	Tin-Lead	12.20	11.24	10.40
512-7530	641894-2	28	1.396	1.30	Gold	13.80	13.11	12.13
512-7532	641895-1	40	1.996	1.90	Tin-Lead	17.43	16.07	14.87
512-7534	641895-2	40	1.996	1.90	Gold	19.75	18.66	17.26
512-7536	643287-2	48	2.396	2.30	Gold	23.69	22.44	20.77
512-7538	643007-1	64	3.900	3.10	Tin-Lead	27.90	25.71	23.99



Low Insertion Force, Low Profile Surface Mount PLCC Sockets



New to the Amp family of Low Profile Plastic Leaded Chip Carrier (PLCC) sockets for surface mounting is this line of Low Insertion Force Sockets. A unique contact design allows the PLCC device to be easily inserted into the socket. Sockets will accommodate plastic "J"-leaded devices made to JEDEC Specifications MO-047AA-AH (square packages) and MO-052-AE (rectangular packages).

Rectangular Sockets

Stock No.	Mfr.'s Type	No. of Positions	With Locating Posts	EACH	
				1-24	25-99
512-7564	822273-1	32	No	2.03	1.72
512-7566	822274-1	32	Yes	2.03	1.72

Low Profile SOJ-Style Surface Mount PLCC Socket

AMP has expanded its family of PLCC sockets to include this SOJ-style version. The socket was developed to accommodate "J"-leaded drams/vrams with tin-plated leads.

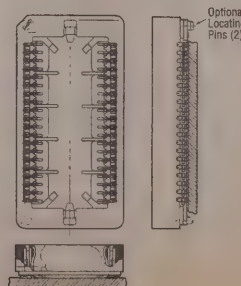
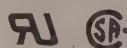
Stock No.	Mfr.'s Type	No. of Positions	Centerline Spacing	With Locating Posts	EACH	
					1-24	25-99
512-7572	822372-1	28	.300	No	1.26	1.17
512-7574	822374-1	28	.300	No	1.33	1.23
512-7576	822265-2	40	.400	No	1.60	1.48
512-7578	822267-2	40	.400	Yes	1.60	1.48

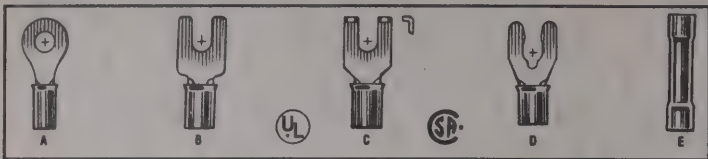
Square Sockets

Stock No.	Mfr.'s Type	No. of Positions	With Locating Posts	EACH	
				1-24	25-99
512-7540	822269-1	20	No	1.43	1.21
512-7542	822270-1	20	Yes	1.43	1.21
512-7544	822271-1	28	No	1.88	1.59
512-7546	822272-1	28	Yes	1.88	1.59
512-7548	822275-1	44	No	2.24	2.04
512-7550	822276-1	44	Yes	2.49	2.11
512-7552	822277-1	52	No	2.69	2.28
512-7554	822278-1	52	Yes	2.69	2.28
512-7556	822279-1	68	No	2.96	2.74
512-7558	822280-1	68	Yes	2.96	2.74
512-7560	822281-1	84	No	3.47	3.21
512-7562	822282-1	84	Yes	3.47	3.21

Tools

Stock No.	Mfr.'s Type	Socket Position	No. of Positions	EACH
512-7426	822011-1	Square	20	44.63
512-7428	822045-1	Square	28	44.63
512-7432	821981-1	Square	44	44.63
512-7434	822049-1	Square	52	44.63
512-7436	822026-1	Square	68	44.63
512-7438	822268-1	Square	84	44.63
512-7298	821980-1	Rectangular	32	44.63
512-7440	822154-1	All-Purpose	—	5.23





PIDG® (Pre-insulated Diamond Grip) Terminals. These terminals feature color-coded nylon sleeves, funnel ramp entry, serrated inner barrel, a copper sleeve over the barrel, and tin-plated terminals for corrosion resistance. Terminals meet or exceed the requirements of MIL-T-7928, Type II, Class 1 and 2. 300 V Max., 150°C Max.

Ring Tongue Terminals (Fig. A)

Nylon insulation, tin-plated copper terminals.

AWG 26-22 (Yellow)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-5002	8-323914-1	4	.082"	.646"	.203"	21.24	18.21	13.88
512-5004	8-323915-1	6	.082"	.646"	.203"	20.62	17.68	13.48
512-5006	8-326875-1	6	.082"	.740"	.250"	21.24	18.21	13.88
512-5012	8-323916-1	8	.082"	.740"	.250"	24.64	21.10	16.03

AWG 22-16 (Red)

512-5300	8-31880-1	4	.140"	.672"	.218"	21.24	18.21	13.88
512-5014	8-36149-1	6	.125"	.672"	.218"	21.24	18.21	13.88
512-5302	8-36150-1	6	.140"	.672"	.218"	21.24	18.21	13.88
512-5018	7-51863-1	6	.125"	.782"	.250"	21.24	18.21	13.88
512-5022	8-36151-1	6	.125"	.797"	.250"	20.62	17.68	13.48
512-5304	8-36152-1	6	.140"	.797"	.281"	20.62	17.68	13.48
512-5306	8-31890-1	8	.140"	.844"	.312"	21.24	18.21	13.88
512-5024	6-32055-1	8	.125"	.844"	.312"	21.24	18.21	13.88
512-5026	8-31886-1	8	.140"	.797"	.281"	20.62	17.68	13.48
512-5028	6-36153-1	10	.125"	.844"	.312"	21.24	18.21	13.88
512-5308	8-36154-1	10	.140"	.844"	.312"	21.24	18.21	13.88
512-5310	8-31887-1	10	.140"	.797"	.281"	20.62	17.68	13.48
512-5312	8-32836-1	10	.125"	.876"	.344"	25.14	21.53	16.35
512-5314	8-31894-1	1/4"	.140"	1.078"	.469"	24.62	21.09	16.02
512-5316	8-31895-1	5/16"	.140"	1.078"	.469"	24.62	21.09	16.02
512-5318	8-31897-1	3/8"	.140"	1.218"	.531"	25.34	21.69	16.47
512-5320	8-328975-1	1/2"	.140"	1.293"	.713"	54.62	46.57	35.04

AWG 16-14 (Blue)

512-5052	8-324159-1	4	.150"	.703"	.250"	21.24	18.21	13.88
512-5322	8-328996-1	4	.170"	.703"	.250"	20.62	17.68	13.48
512-5324	8-36187-1	6	.170"	.859"	.343"	20.62	17.68	13.48
512-5326	8-36158-1	6	.170"	.859"	.343"	20.62	17.68	13.48
512-5062	8-320561-1	6	.170"	.703"	.250"	21.24	18.21	13.88
512-5064	8-320619-1	6	.170"	.703"	.250"	20.62	17.68	13.48
512-5328	8-320560-1	8	.150"	.859"	.343"	20.62	17.68	13.48
512-5330	8-320565-1	8	.170"	.859"	.343"	20.62	17.68	13.48
512-5068	8-53941-1	8	.170"	.813"	.312"	27.33	23.38	17.73
512-5332	8-320574-1	10	.150"	.859"	.343"	20.62	17.68	13.48
512-5334	8-36160-1	10	.170"	.859"	.343"	20.62	17.68	13.48
512-5336	8-321045-1	1/4"	.170"	1.078"	.469"	23.90	20.47	15.56
512-5338	8-328998-1	5/16"	.170"	1.078"	.469"	23.90	20.47	15.56
512-5340	8-328999-1	3/8"	.170"	1.218"	.531"	24.59	21.06	16.00
512-4084	328976	1/2"	.150"	1.293"	.713"	52.57	44.66	33.34

AWG 12-10 (Yellow)

512-5342	8-35149-2	6	.250"	.953"	.281"	12.25*	10.36*	7.91*
512-5086	8-35107-2	6	.250"	1.083"	.375"	12.62*	10.68*	8.15*
512-5344	8-35108-1	8	.250"	1.083"	.375"	25.24	21.35	16.29
512-5130	8-324918-2	10	.230"	1.052"	.312"	17.87	15.08*	11.45*
512-5346	8-35109-1	10	.250"	1.083"	.375"	25.24	21.35	16.29
512-5348	8-35110-1	1/4"	.250"	1.322"	.531"	29.19	24.66	18.77
512-5350	8-35111-1	5/16"	.250"	1.322"	.531"	29.19	24.66	18.77
512-5352	8-35112-1	3/8"	.250"	1.414"	.593"	29.19	24.66	18.77
512-5354	8-35151-2	1/2"	.250"	1.594"	.750"	15.18*	12.82*	9.75*

*Package of 50.

Spade Tongue Terminals (Fig. B)

AWG 22-16 (Red)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-5356	8-328394-1	2	.140"	.727"	.182"	20.62	17.68	13.48
512-5358	8-327717-1	4	.140"	.674"	.218"	24.85	21.28	16.16
512-5090	8-326861-1	6	.140"	.753"	.297"	20.62	17.68	13.48
512-5360	8-34541-1	6	.140"	.846"	.250"	20.62	17.68	13.48
512-5362	8-32053-1	8	.140"	.908"	.375"	20.62	17.68	13.48
512-5364	8-32054-1	10	.140"	.908"	.375"	20.62	17.68	13.48

AWG 16-14 (Blue)

512-5366	8-35559-1	6	.170"	.753"	.297"	20.62	17.68	13.48
512-5100	8-328281-1	6	.170"	.846"	.244"	23.67	20.28	15.42
512-5110	8-32056-1	8	.150"	.908"	.375"	31.75	27.14	20.54
512-5368	8-321233-1	8	.170"	.753"	.297"	20.62	17.68	13.48
512-5370	8-32060-1	10	.170"	.908"	.375"	20.62	17.68	13.48

AWG 12-10 (Yellow)

512-5372	8-322985-2	6	.230"	.954"	.290"	19.47*	16.41*	12.45*
512-5116	8-326859-1	6	.230"	1.095"	.312"	36.70	30.96	23.50
512-5088	8-32588-2	8	.230"	1.095"	.406"	12.25*	10.36*	7.91*
512-5376	8-32589-2	10	.230"	1.095"	.406"	12.25*	10.36*	7.91*

*Package of 50.

Flanged Spade Tongue Terminals (Fig. C)

AWG 22-16 (Red)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-5378	8-324608-1	2	.140"	.727"	.182"	26.66	22.82	17.31
512-5380	8-32562-1	6	.140"	.737"	.296"	22.36	14.59	12.55
512-5382	8-32498-1	8	.140"	.830"	.416"	22.57	19.34	14.72

AWG 16-14 (Blue)

512-5384	8-320861-1	6	.170"	.737"	.294"	22.57	19.34	14.72
512-5386	8-320862-1	8	.170"	.737"	.294"	22.57	19.34	14.72
512-5388	8-320863-1	10	.170"	.737"	.294"	22.57	19.34	14.72

AWG 12-10 (Yellow)

512-5390	8-325150-2	6	.250"	1.017"	.296"	26.29*	22.14*	16.74*
512-5392	8-32510-2	8	.230"	1.017"	.416"	13.42*	11.35*	8.65*
512-5394	8-324015-2	10	.250"	1.017"	.416"	13.42*	11.35*	8.65*

*Package of 50.

Spring Spade Terminals (Fig. D) Tin-plated phosphor bronze

Short Spring — AWG 26-22 (Yellow)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-5118	8-52924-1	6	.082"	.679"	.250"	23.43	20.07	15.26

AWG 22-16 (Red)

512-5406	8-52927-1	4	.125"	.799"	.203"	23.80	20.38	15.49
512-5122	8-52928-1	5	.125"	.799"	.250"	28.12	24.05	18.24
512-5408	8-52929-1	6	.125"	.799"	.250"	23.43	20.07	15.26
512-5410	8-52930-1	8	.125"	.860"	.375"	23.43	20.07	15.26
512-5412	8-52931-1	10	.125"	.908"	.406"	33.45	28.58	21.62

AWG 16-14 (Blue)

512-5414	7-52935-1	6	.170"	.799"	.250"	23.43	20.07	15.26
512-5416	8-52936-1	8	.170"	.860"	.375"	23.43	20.07	15.26
512-5418	7-52937-1	10	.170"	.908"	.406"	23.43	20.07	15.26

AWG 12-10 (Yellow)

512-5420	8-52941-2	6	.250"	.959"	.250"	13.82*	11.68*	8.90*
512-5422	8-52942-1	8	.250"	1.052"	.375"	27.64	23.36	17.80
512-5424	8-52943-1	10	.250"	1.100"	.406"	27.64	23.36	17.80

Long Spring

*Package of 50.

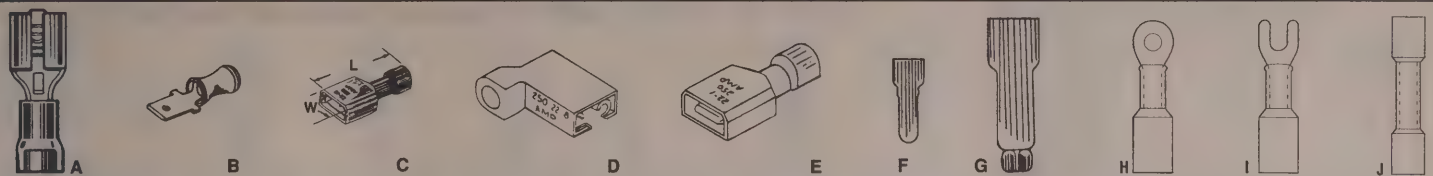
Stock No.	Mfr.'s Type	AWG	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
							1-4	5-9	10-24
512-5426	8-52409-1	22-16	6	.125"	.938"	.250"	37.24	31.80	24.02
512-5428	8-52410-1	22-16	8	.125"	.479"	.281"	36.89	31.51	23.80
512-5430	8-52411-1	22-16	10	.125"	1.009"	.343"	23.43	20.07	15.26
512-5432	9-52421-1	16-14	6	.170"	.428"	.250"	43.17	36.84	27.78
512-5434	9-52421-1	16-14	8	.170"	.974"	.281"	23.43	20.07	15.26
512-5436	8-52422-1	16-14	10	.170"	1.008"	.343"	23.43	20.07	15.26

Butt Splice Terminals (Fig. E)

Stock No.	Mfr.'s Type	AWG	Insulation Dia. (Max.)	Length	Barrel ID. Min.	PER PKG./50		
						1-4	5-9	10-24
512-5124	8-323994-2	26-22	.082"	.890"	.029"	24.24	20.68	15.58
512-4126	323975	24-20	.100"	1.035"	.043"	27.86	23.67	16.77
512-5396	8-320559-2	22-16	.125"	1.265"	.061"	36.03	30.70	23.06
512-5398	8-320562-2	16-14	.150"	1.265"	.085"	36.03	30.70	23.06
512-5400	8-320570-2	12-10	.220"	1.656"	.129"	55.35	46.50	35.01

Hand Tools (Non-Ratcheted)

Stock No.	Mfr.'s Type	Description	EACH
512-9181	314966-1	Strips, cuts and bends solid or stranded 22-10 AWG wire	22.10
512-9186	47100-1	SUPER CHAMP® all purpose electrical repair tool. Crimps 22-10 AWG insulated terminals and splices. Also cuts and strips wire, plus cuts bolts	14.95
512-8675	604252-1	SUPER CHAMP® IV tool crimps insulated products with a confined trapezoidal crimp. Also crimps uninsulated terminals and splices	18.95
512-8615	90287-1	Crimps open barrel terminals as well as closed barrel insulated and uninsulated terminals and splices on 22-10 AWG wire	49.00



PIDG® and Ultra-Fast FASTON® Terminals

PIDG® FASTON® Terminals

Tin-plated brass. Color coded nylon insulation. **Receptacle Style:** A — No dimple with wire stop; B — dimple with wire stop. UL Recognized, CSA Certified.

Receptacles (Fig. A)

Stock No.	Mfr.'s Type	Series	AWG	Style	Insulation Dia. (Max.)	Fits Tab	PER PKG./100	
							1-4	5-9
512-5150	8-640903-1	.250	22-18	2	.140"	.250" x .032"	25.20	21.57
512-5128	8-640909-1	.205	22-18	2	.135"	.205" x .020"	25.20	21.57
512-5132	8-640911-1	.205	22-18	2	.135"	.205" x .032"	25.20	21.57
512-5440	8-640917-1	.187	22-18	2	.135"	.187" x .020"	25.20	21.57
512-5134	8-61048-1	.110	22-18	2	.100"	.110" x .016"	27.11	23.20
512-5136	8-61060-1	.110	22-18	1	.100"	.110" x .020"	27.11	23.20
512-5138	8-60894-1	.110	22-18	2	.100"	.110" x .032"	27.11	23.20
512-4438	640921-1**	.110	22-18	1	.140"	.110" x .016"	24.10	20.47
512-5442	8-640923-1**	.110	22-18	1	.140"	.110" x .020"	25.20	21.57
512-5142	8-640925-1**	.110	22-18	1	.140"	.110" x .032"	25.20	21.57

512-5160	8-640905-1	.250	16-14	2	.170"	.250" x .032"	25.20	21.57
512-5144	8-640913-1	.205	16-14	2	.170"	.205" x .020"	25.20	21.57
512-5146	8-640915-1	.205	16-14	2	.170"	.205" x .032"	25.20	21.57
512-5444	8-640919-1	.187	16-14	2	.170"	.187" x .020"	25.20	21.57
512-4148	640927-1**	.110	16-14	2	.170"	.110" x .016"	28.92	24.57
512-5446	8-640929-1**	.110	16-14	1	.170"	.110" x .020"	25.20	21.57
512-5447	8-640931-1**	.110	16-14	1	.170"	.110" x .032"	25.20	21.57
512-5155	8-640907-1	.250	12-10	2	.250"	.250" x .032"	32.59	27.51

**Low insertion receptacle.

PIDG® Insulated Tab Terminals (Fig. B)

Nylon insulation, copper sleeve, tinned copper alloy tab terminal.

Stock No.	Mfr.'s Type	AWG	Length	Width	Fits Receptacle	Pkg. Size	PER PKG.	
							1-4	5-9
512-5242	66023-6	22-16	—	—	.032" x .250"	100	39.70	36.09
512-5246	66024-6	16-14	—	—	.032" x .250"	100	39.70	36.09
512-5247	66025-6	12-10	—	—	.032" x .250"	50	24.92	22.65

Ultra-Fast Fully Insulated FASTON® Receptacles (Fig. C)

Housing: Translucent, color-coded nylon type 6/6. Terminal: Tin plated brass, except † tin-plated phosphor bronze.

Stock No.	Mfr.'s Type	Series	AWG	Insulation Dia. (Max.)	Fits Tab	PER PKG./100	
						1-4	5-9
512-5202	8-520184-1	.250	22-18	.135"	.250" x .032"	17.49	15.85
512-4152	2-520184-4 †	.250	22-18	.135"	.250" x .032"	20.59	18.64
512-5204	8-520264-1	.250	22-18	.230"	.250" x .032"	19.31	17.49
512-5214	8-520182-1	.187	22-18	.135"	.187" x .020"	16.46	14.64
512-5216	8-520194-1	.187	22-18	.135"	.187" x .032"	16.14	14.64
512-4218	2-520275-2	.187	22-18	.230"	.187" x .032"	15.14	13.63
512-4228	2-520081-2	.110	22-18	.120"	.110" x .016"	14.21	12.92
512-5232	8-520084-1	.110	22-18	.120"	.110" x .020"	15.45	14.03
512-5234	8-520273-1	.110	22-18	.120"	.110" x .032"	17.27	15.64
512-5206	8-350820-1	.250	16-14	.160"	.250" x .032"	17.49	15.85
512-4154	3-520117-2 †	.250	16-14	.160"	.250" x .032"	16.92	15.39
512-4208	3-520141-2	.250	16-14	.260"	.250" x .032"	16.51	14.86
512-5222	8-350816-1	.187	16-14	.160"	.187" x .020"	14.52	13.20
512-5224	8-520125-1	.187	16-14	.160"	.187" x .032"	16.14	14.46
512-4226	3-520151-2	.187	16-14	.260"	.187" x .020"	14.65	13.32
512-4212	4-520448-2	.250	12-10	.320"	.250" x .032"	17.98	16.34

†Terminal Base material; phosphor bronze.

Ultra-Fast Plus Fully Insulated FASTON® Receptacles (Fig. C)

The nylon housing insulation barrel is made from a premium nylon that retains the insulation crimp with minimal springback for improved crimp tensile strength and strain relief. **Housing:** Translucent, color-coded nylon type 6/6. **Terminal:** Tin plated copper alloy.

Stock No.	Mfr.'s Type	Series	AWG	Insulation Dia. Range	Fits Tab	PER PKG./100	
						1-4	5-9
512-4156	2-520407-2	.250	22-18	.060" - .135"	.250" x .032"	20.38	16.24
512-4158	2-520409-2	.187	22-18	.060" - .135"	.187" x .020"	14.97	13.61
512-4162	2-520411-2	.187	22-18	.060" - .135"	.187" x .032"	13.95	12.68
512-4164	3-520408-2	.250	16-14	.090" - .160"	.250" x .032"	20.30	16.24
512-4166	3-520410-2	.187	16-14	.090" - .160"	.187" x .020"	13.95	12.68
512-4168	3-520412-2	.187	16-14	.090" - .160"	.187" x .032"	15.50	13.95

Ultra-Fast Fully Insulated Flag Receptacles (Fig. D)

Stock No.	Mfr.'s Type	Series	AWG	Insulation Dia. (Max.)	Fits Tab	PER PKG./100	
						1-4	5-9
512-5170	8-520129-1	.250	22-18	.165"	.250" x .032"	25.63	23.30
512-5172	8-520335-1	.187	22-18	.165"	.187" x .020"	27.80	25.13
512-5174	8-520337-1	.187	22-18	.165"	.187" x .032"	24.03	21.85
512-5176	8-520133-1	.250	16-14	.185"	.250" x .032"	29.75	26.89
512-5178	8-520339-1	.187	16-14	.185"	.187" x .020"	26.70	24.03

Ultra-Fast Fully Insulated FASTON® Tabs (Fig. E)

512-5236	8-520103-1	.250	22-18	.135"	.250" x .032"	29.36	26.43
512-5238	8-520107-1	.250	16-14	.160"	.250" x .032"	29.36	26.43

Closed End Splices

Closed End Splices (Figs. F, G)

Stock No.	Mfr.'s Type	AWG	Material	Rating Code	Length	Fig.	PER PKG./100	
							1-4	5-9
512-5448	8-36964-1	22-16	Purple Vinyl	VS	.740"	G	9.00	8.21
512-5450	8-35115-1	22-16	Trans. Nylon	ECN	.680"	F	10.88	9.90
512-5452	8-36563-1	18-10	Trans. Nylon	ECN	.775"	F	12.20	11.00
512-5454	8-36965-1	18-10	Purple Vinyl	VS	1.010"	G	9.80	8.93

Pre-Insulated Sealed Terminals and Splices (Heat Shrinkable)

— NEW —

Environmentally sealed to prevent corrosion from fluids and vapors. Color coded nylon heat-shrinkable sleeves impart exceptional strain relief to the insulation and wire. Heavy duty clear insulation permits visual inspection.

Ring Tongue Terminals (Fig. H)

22-18 AWG

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Dimensions		Pack Size	PER PACK	
				Length	Width		1-4	5-9
512-5502	8-55846-2	6	.170	1.248	.250	50	29.75	27.46
512-5503	8-55847-2	8	.170	1.268	.310	50	29.75	27.46
512-5504	8-55848-2	10	.170	1.268	.310	50	29.75	27.46
512-5506	8-55849-2	1/4	.170	1.468	.470	50	29.75	27.46

16-14 AWG

512-5507	8-55850-2	6	.190	1.188	.310	50	29.75	27.46
512-5508	8-55851-2	8	.190	1.218	.310	50	29.75	27.46
512-5509	8-55852-2	10	.190	1.218	.310	50	29.75	27.46
512-5510	8-55853-2	1/4	.190	1.448	.460	50	29.75	27.46
512-5511	8-55854-2	5/16	.190	1.448	.460	50	29.75	27.46
512-5512	8-55855-2	3/8	.190	1.478	.530	50	29.75	27.46

12-10 AWG

512-5513	8-55856-3	6	.240	1.408	.370	25	17.85	16.48
512-5514	8-55857-3	8	.240	1.408	.370	25	17.85	16.48
512-5515	8-55858-3	10	.240	1.598	.520	25	17.85	16.48
512-5516	8-55859-3	1/4	.240	1.598	.520	25	17.85	16.48
512-5517	8-55860-3	5/16	.240	1.658	.590	25	17.85	16.48
512-5518	8-55861-3	3/8	.240	1.728	.720	25	22.53	20.80

Spade Terminals (Fig. I)

22-18 AWG

512-5519	8-55866-2	6	.170	1.228	.320	50	29.75	27.46
512-5520	8-55867-2	8	.170	1.228	.320	50	29.75	27.46
512-5521	8-55868-2	10	.170	1.228	.320	50	29.75	27.46

16-14 AWG

512-5522	8-55869-2	6	.190	1.258	.380	50	29.75	27.46
512-5523	8-55870-2	8	.190	1.258	.380	50	29.75	27.46
512-5524	8-55871-2	10	.190	1.258	.380	50	29.75	27.46

12-10 AWG

512-5525	8-55872-3	8	.240	1.388	.380	25	17.85	16.48
512-5526	8-55873-3	10	.240	1.388	.380	25	17.85	16.48

Butt Splices (Fig. J)

Stock No.	Mfr.'s Type	Length Size	Insulation Wire (Max.)	Wire AWG	Pack Size	PER PACK	
						1-4	5-9
512-5527	8-55824-2	1.606	.170	22-18	50	32.30	29.82
512-5528	8-55825-2	1.606	.190	16-14	50	32.30	29.82
512-5529	8-55826-3	1.796	.240	12-10	25	19.13	17.66

Crimp Tools for Pre-Insulated Sealed Terminals and Splices

512-5530	55893-1	Crimps 22-10 AWG	EACH 63.75
512-5531	55894-1	Crimps 16-8 AWG	EACH 79.87

PLASTI-GRIP® Terminals and Splices



Fig. A



Fig. B



Fig. C



Fig. D



Fig. E

Terminals are constructed of high conductivity copper and are tin-plated. Spring spade tongue terminals are constructed of phosphor bronze and are tin-plated. Color-coded vinyl insulation sleeves with a funnel entry for easy wire insertion. UL and CSA rated for 600 V max. (1000 V fixture or sign.) and 90°C.

Ring Tongue Terminals (Fig. A). 22-16 AWG (Red)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-5008	8-34141-1	4	.140"	.684"	.218"	16.13	13.87	10.63
512-5010	8-34142-1	6	.140"	.572"	.218"	16.13	13.87	10.63
512-5015	8-34144-1	6	.140"	.809"	.218"	16.13	13.87	10.63
512-5020	8-34145-1	8	.140"	.809"	.281"	16.13	13.87	10.63
512-5016	8-34148-1	8	.140"	.856"	.312"	16.12	13.26	10.63
512-5025	8-34146-1	10	.140"	.809"	.281"	16.13	13.87	10.63
512-5028	8-34149-1	10	.140"	.856"	.312"	16.13	13.87	10.63
512-5030	8-34150-1	1/8"	.140"	1.090"	.469"	18.67	16.02	12.24
512-5032	8-34151-1	3/16"	.140"	1.090"	.469"	18.67	16.02	12.24
512-5034	8-34152-1	3/8"	.140"	1.230"	.531"	19.20	16.48	12.58

16-14 AWG (Blue)

512-5036	8-34157-1	4	.170"	.715"	.250"	20.94	17.96	13.68
512-5035	8-34158-1	6	.170"	.715"	.250"	16.13	13.87	10.63
512-5040	8-34160-1	8	.170"	.871"	.343"	16.13	13.87	10.63
512-5045	8-34161-1	10	.170"	.871"	.343"	16.13	13.87	10.63
512-5120	8-34162-1	1/4"	.170"	1.090"	.469"	18.67	16.02	12.24
512-5042	8-34163-1	5/16"	.170"	1.090"	.469"	18.67	16.02	12.24
512-5044	8-34164-1	3/8"	.170"	1.230"	.531"	19.20	16.48	12.58

12-10 AWG (Yellow)

512-5046**	8-34852-2	6	.250"	.953"	.281"	9.76	8.27	6.34
512-5047**	8-34169-2	8	.230"	1.083"	.375"	9.76	8.27	6.34
512-5048	8-34853-1	8	.250"	1.083"	.375"	19.51	16.54	12.68
512-5050	8-34854-1	10	.250"	1.083"	.375"	19.51	16.54	12.68
512-5056**	8-34855-2	1/4"	.250"	1.327"	.531"	11.12	9.42	7.20
512-5057**	8-34172-2	5/16"	.230"	1.327"	.531"	11.12	9.42	7.20
512-5058**	8-34856-2	5/16"	.250"	1.327"	.531"	11.12	9.54	7.30
512-5054**	8-34173-2	3/8"	.230"	1.421"	.593"	11.12	9.42	7.20
512-5059**	8-34837-2	1/2"	.250"	1.594"	.750"	16.35	13.81	10.49

Spade Tongue Terminals (Fig. B)

Stock No.	Mfr.'s Type	AWG	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
							1-4	5-9	10-24
512-5060	8-320665-1	22-16	6	.140"	.765"	.297"	16.13	13.87	10.63
512-5065	8-34155-1	22-16	8	.140"	.920"	.375"	16.13	13.87	10.63
512-5066	8-34156-1	22-16	10	.140"	.920"	.375"	16.13	13.87	10.63
512-5080	8-322994-1	16-14	6	.140"	.765"	.297"	16.13	13.87	10.63
512-5082	8-34166-1	16-14	8	.170"	.920"	.375"	16.13	13.87	10.63
512-5085	8-34167-1	16-14	10	.170"	.920"	.375"	16.13	13.87	10.63
512-5092	8-34176-1	12-10	10	.230"	1.095"	.406"	19.51	16.54	12.68

Flanged Spade Tongue Terminals (Fig. C)

512-5070	8-322249-1	22-16	6	.140"	.749"	.296"	17.63	15.14	11.59
512-5072	8-324169-1	22-16	8	.140"	.842"	.416"	17.63	15.15	11.59
512-5074	8-328516-1	22-16	10	.140"	.749"	.296"	34.16	29.19	22.07
512-5094	8-324165-1	16-14	6	.170"	.749"	.294"	17.63	15.14	11.59
512-5096**	8-324581-2	10-12	6	.230	1.017"	.296"	17.61	14.86	11.28
512-5076**	8-324172-2	10-12	8	.230"	1.017"	.416"	9.10	7.72	5.93

Short Spring Spade Tongue Terminals (Fig. D)

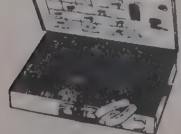
512-5097	8-52947-1	22-16	4	.140"	.811"	.203"	18.94	16.25	12.41
512-5005	8-52949-1	22-16	6	.140"	.811"	.250"	18.94	16.25	12.41
512-5098	8-52950-1	22-16	8	.140"	.872"	.375"	22.65	19.41	14.77
512-5102	8-52951-1	22-16	10	.140"	.920"	.406"	27.18	23.26	17.64
512-5104	8-52955-1	16-14	6	.140"	.811"	.250"	18.94	16.25	12.41
512-5108	8-52956-1	16-14	8	.170"	.920"	.375"	21.82	18.70	14.24
512-5112**	8-52957-1	16-14	10	.170"	.920"	.406"	18.94	16.25	12.41
512-5114**	8-52961-2	12-10	6	.200"	.959"	.250"	14.86	12.55	9.55
512-5114**	8-52962-2	12-10	8	.200"	1.052"	.375"	15.63	13.20	10.04
512-4188**	52963	12-10	10	.200"	1.100"	.406"	15.47	12.97	9.73

Butt Splices (Fig. E)

Stock No.	Mfr.'s Type	AWG	Insulation Dia. (Max.)	Length	PER PKG./100		
					1-4	5-9	10-24
512-5135	8-34070-1	22-16	.140"	1.065"	19.13	16.42	12.54
512-5140	8-34071-1	16-14	.170"	1.065"	19.13	16.42	12.54
512-5000	8-34072-1	12-10	.230"	1.160"	28.47	24.06	18.32

**Package of 50.

Terminal Kits



Contain 20 different terminals and splices; 25 of each, for a 500 piece kit. The PLASTI-GRIP® kit includes a SUPER CHAMP® hand tool. The PIDG® kit includes a SUPER CHAMP HAND TOOL IV®. Enclosed in a compartmented steel carrying case.

512-9230. 608029-1. PLASTI-GRIP® Kit.....PER KIT 90.95
512-9235. 608028-1. PIDG® Kit.....PER KIT 102.85

PRO CRIMPER™ II, PIDG® and PLASTI-GRIP® Terminal Kit

Includes hand tool, 225 ring and spade terminals in 12-10, 16-14 and 22-16 AWG wire sizes.

512-9236. 55823-1.....PER KIT 91.80

SOLISTRAND® Uninsulated Terminals and Splices



Fig. O



Fig. P



Fig. Q



Fig. R



Fig. S



Fig. T

Constructed of fine grade high conductivity copper (spring spade terminals are constructed of phosphor bronze) and tin-plated. These feature a brazed seam, dimples or serrations inside the barrel and a bell-shaped barrel entrance. Meets or exceeds the requirements of MIL-T-7928, type 1, class 1 and 2. UL listed and CSA certified.

Fig. O—Ring Tongue Terminals

Stock No.	Mfr.'s Type	AWG	Stud Size	Length	Width	Pkg. Size	PER PKG.		
							1-4	5-9	10-24
512-5182	8-34105-1	22-16	6	.449"	.218"	100	10.93	9.45	7.34
512-5278	8-34110-1	22-16	6	.621"	.312"	100	11.24	9.72	7.53
512-5280	8-34111-1	22-16	8	.625"	.312"	100	10.93	9.45	7.34
512-5184	8-34108-1	22-16	8	.574"	.281"	100	10.93	9.45	7.34
512-5282	8-34112-1	22-16	10	.625"	.312"	100	11.24	9.72	7.53
512-5186	8-34109-1	22-16	10	.574"	.281"	100	10.93	9.45	7.35
512-5284	8-34113-1	22-16	1/4"	.855"	.469"	100	12.60	10.87	8.39
512-5286	8-34120-1	16-14	6	.450"	.250"	100	10.93	9.45	7.34
512-5288	8-324955-1	16-14	8	.590"	.312"	100	15.26	13.13	10.08
512-5289	8-34122-1	16-14	8	.636"	.343"	100	10.93	9.45	7.35
512-5290	8-34123-1	16-14	10	.636"	.343"	100	10.93	9.45	7.34
512-5292	8-34124-1	16-14	1/4"	.855"	.469"	100	12.60	10.87	8.39
512-5294	8-32994-2	12-10	8	.760"	.375"	50	7.00	5.96	4.82
512-5296	8-33457-1	12-10	10	.760"	.375"	100	14.41	12.26	9.47
512-5298	8-33458-2	12-10	1/4"	1.004"	.531"	50	7.96	6.76	5.40

Fig. P—Flanged Spade Tongue Terminals

512-5301	8-320749-1	22-16	6	.514"	.296"	100	11.91	10.29	7.96
512-5303	8-320856-1	16-14	8	.514"	.294"	100	11.91	10.29	7.96

Fig. Q—Spade Tongue Terminals

512-5305	8-36195-1	22-16	6	.530"	.297"	100	10.93	9.45	7.34
512-5307	8-323127-1	22-16	6	.623"	.250"	100	10.93	9.45	7.34
512-5309	8-34117-5	22-16	8	.685"	.375"	200	21.86	18.90	14.68
512-4311	34118	22-16	10	.685"	.375"	100	9.83	8.35	6.24
512-5313	8-32995-1	12-10	8	.772"	.406"	100	13.99	11.92	9.21
512-5315	8-33479-2	12-10	10	.772"	.406"	50	7.00	5.96	4.61

Fig. R—Short Spring Spade Tongue Terminals

512-5317	8-53120-1	22-16	6	.576"	.250"	100	16.16	13.89	10.65
512-5319	8-53123-1	16-14	6	.576"	.250"	100	18.42	15.82	12.09
512-5321	8-53124-1	16-14	8	.637"	.375"	100	20.58	17.58	13.40
512-5323	8-53125-1	16-14	10	.685"	.406"	100	13.87	11.95	9.20
512-5325	8-53126-2	12-10	6	.636"	.250"	50	8.65	7.34	5.65
512-5327	8-53127-2	12-10	8	.729"	.375"	50	13.63	11.52	8.78
512-5329	8-53128-2	12-10	10	.777"	.406"	50	14.08	11.90	9.06

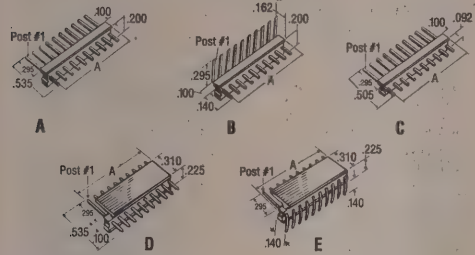
Fig. S—Parallel Splices

When using two or more wires in a parallel splice, the combined cross sectional area must be within the circular mil area (CMA) listed.

Stock No.	Mfr.'s Type	AWG	CMA	Length	Pkg. Size	PER PKG.		
						1-4	5-9	10-24
512-5331	8-34130-1	22-16	509-3,260	301"	100	10.38	8.99	6.99
512-5333	8-34137-1	16-14	2,050-5,180	301"	100	10.38	8.99	6.99
512-5335	8-34138-2	12-18	5,180-13,100	343"	50	5.95	5.03	4.19
512-5190	8-34318-3	8	13,100-20,800	—	25	6.05	4.76	4.01

MTA-100 Post Headers—.100" Centers

Discrete wire to board - 2-piece interconnection. Insulation displacement wire termination. **MTA Post Headers:** .100" Centers. **Insulation:** Polyester, UL94V-0 rated. **Natural color.** **Posts:** Tin-plated copper alloy. Meets the material requirements to Table 23.1 of UL 1410 Standards for Television Receiver and Video Products*. **UL Recognized File No. E 28476.** **CSA Certified File No. LR17189.** *Wire-to-post connectors only.



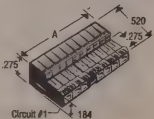
.200 Wide Flat Header

Straight Post - .025" (0.64mm) Square - Fig. A

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3850	640452-2	2	.200	.19	.15
512-3851	640452-3	3	.300	.19	.15
512-3852	640452-4	4	.400	.26	.22
512-3853	640452-5	5	.500	.32	.28
512-3854	640452-6	6	.600	.35	.30
512-3855	640452-7	7	.700	.41	.35
512-3856	640452-8	8	.800	.46	.40
512-3857	640452-9	9	.900	.52	.45
512-3858	1-640452-0	10	1.000	.58	.51

MTA-100 Receptacles—.100" Centers

Housing: Color coded translucent thermoplastic. 28 AWG - green, 26 AWG - blue, 24 AWG - natural, and 22 AWG - red. UL94V-2 rated. **Contacts:** Tin-plated phosphor bronze.



Closed-End Without Polarizing Tab

28 AWG

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3200	640443-2	2	.200	.17	.13
512-3201	640443-3	3	.300	.26	.20
512-3202	640443-4	4	.400	.34	.23
512-3204	640443-5	5	.500	.43	.32
512-3203	640443-6	6	.600	.47	.35
512-3205	640443-7	7	.700	.55	.42
512-3206	640443-8	8	.800	.62	.48
512-3208	1-640443-0	10	1.000	.78	.61

26 AWG

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3210	640442-2	2	.200	.17	.13
512-3211	640442-3	3	.300	.26	.19
512-3212	640442-4	4	.400	.34	.25
512-3213	640442-5	5	.500	.43	.33
512-3214	640442-6	6	.600	.47	.36
512-3216	640442-8	8	.800	.62	.54
512-3218	1-640442-0	10	1.000	.78	.61
512-3219	1-640442-2	12	1.200	.93	.82
512-3220	1-640442-4	14	1.400	1.09	.95

24 AWG

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3221	640441-2	2	.200	.17	.12
512-3222	640441-3	3	.300	.26	.18
512-3223	640441-4	4	.400	.33	.22
512-3224	640441-5	5	.500	.43	.31
512-3225	640441-6	6	.600	.47	.33
512-3226	640441-7	7	.700	.55	.43
512-3227	640441-8	8	.800	.62	.46
512-3228	640441-9	9	.900	.70	.52
512-3229	1-640441-0	10	1.000	.78	.58
512-3231	1-640441-2	12	1.200	.93	.70
512-3232	1-640441-4	14	1.400	1.09	.85
512-3233	1-640441-5	15	1.500	1.46	1.28
512-3235	2-640441-0	20	2.000	1.94	1.70

22 AWG

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3237	640440-2	2	.200	.17	.12
512-3238	640440-3	3	.300	.26	.18
512-3239	640440-4	4	.400	.34	.24
512-3240	640440-5	5	.500	.43	.31
512-3241	640440-6	6	.600	.47	.32
512-3242	640440-7	7	.700	.55	.42
512-3243	640440-8	8	.800	.62	.45
512-3244	640440-9	9	.900	.70	.54
512-3245	1-640440-0	10	1.000	.78	.55
512-3246	1-640440-1	11	1.100	.86	.75
512-3247	1-640440-2	12	1.200	.93	.66
512-3248	1-640440-4	14	1.400	1.09	.85
512-3249	1-640440-5	15	1.500	1.46	1.13
512-3250	1-640440-6	16	1.600	1.55	1.16
512-3251	1-640440-8	18	1.800	1.75	1.53
512-3253	2-640440-0	20	2.000	1.94	1.51

Right Angle Post - .025" (0.64mm) Square - Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3860	640453-2	2	.200	.13	.11
512-3861	640453-3	3	.300	.20	.17
512-3862	640453-4	4	.400	.27	.23
512-3863	640453-5	5	.500	.33	.29
512-3864	640453-6	6	.600	.36	.32
512-3865	640453-7	7	.700	.42	.37
512-3866	640453-8	8	.800	.48	.42
512-3868	1-640453-0	10	1.000	.60	.52

.092" Wide - Narrow Flat Header

Straight Post - .025" (.64 mm) Square - Fig. C

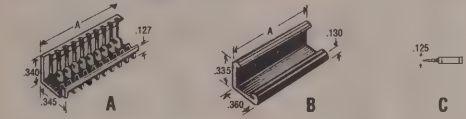
Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3870	644456-2	2	.200	.16	.13
512-3871	644456-3	3	.300	.19	.16
512-3872	644456-4	4	.400	.26	.22
512-3873	644456-5	5	.500	.32	.28
512-3874	644456-6	6	.600	.35	.27
512-3876	644456-8	8	.800	.46	.40
512-3878	1-644456-0	10	1.000	.58	.50

Polarized Header with Polarized Notches

Straight Post - .025" (0.64mm) Square - Fig. D

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3300	640454-2	2	.200	.15	.12
512-3301	640454-3	3	.300	.23	.17
512-3302	640454-4	4	.400	.31	.22
512-3303	640454-5	5	.500	.38	.28
512-3304	640454-6	6	.600	.42	.30
512-3305	640454-7	7	.700	.49	.43
512-3306	640454-8	8	.800	.55	.42
512-3307	1-640454-0	10	1.000	.69	.51
512-3308	1-640454-2	12	1.200	.83	.64
512-3310	2-640454-0	20	2.000	1.73	1.51

MTA-100 Accessories



Closed End Strain Relief - Fig. A

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3273	643075-2	2	.200	.48	.40
512-3274	643075-3	3	.300	.48	.40
512-3275	643075-4	4	.400	.43	.37
512-3276	643075-5	5	.500	.43	.37
512-3277	643075-6	6	.600	.43	.37
512-3278	643075-7	7	.700	.68	.56
512-3279	643075-8	8	.800	.43	.37
512-3280	1-643075-0	10	1.000	.50	.42
512-3281	1-643075-2	12	1.200	.69	.57

Closed End Dust Covers - Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3295	640550-2	2	.200	.08	.07
512-3293	640550-3	3	.300	.07	.06
512-3284	640550-4	4	.400	.10	.09
512-3285	640550-5	5	.500	.13	.12
512-3286	640550-6	6	.600	.11	.10
512-3287	640550-7	7	.700	.15	.14
512-3288	640550-8	8	.800	.17	.16
512-3289	640550-9	9	.900	.18	.17
512-3290	1-640550-0	10	1.000	.19	.18
512-3291	1-640550-2	12	1.200	.26	.23
512-3292	1-640550-4	14	1.400	.29	.26

Key Plug with Carrier Strip - Fig. C

512-3294, 641994-1, 10-90	EACH .07
100-499	EACH .06

Tools for MTA-100 and MTA-156



The pistol grip tool can terminate up to 600 wires per hour. The T-handle tool is useful for prototype, maintenance, and repair.

Type 58074-1. Pistol grip handle only.

512-9089 EACH 62.90

Type 58246-1. Head for MTA-100.

512-9084 EACH 132.60

Type 58247-1. Head for MTA-156.

512-9086 EACH 132.60

Type 59803-1. Maintenance T-handle tool, MTA-100.

512-9088 EACH 18.70

Type 59804-1. Maintenance T-handle tool, MTA-156.

512-9089 EACH 20.40

Right Angle Post - .025" (0.64mm) Square Fig. E

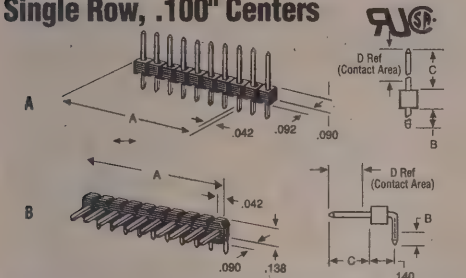
Stock No.	Mfr.'s Type	No. of Pos.	Dimension A-In.	EACH	
				1-99	100-499
512-3311	640455-2	2	.200	.23	.20
512-3296	640455-3	3	.300	.34	.30
512-3297	640455-4	4	.400	.46	.36
512-3312	640455-5	5	.500	.57	.44
512-3298	640455-6	6	.600	.62	.55
512-3313	640455-8	8	.800	.83	.73
512-3299	1-640455-0	10	1.000	1.04	.91

Friction Lock Header with Polarized Notches

Straight Post - .025" (0.64mm) Square - Fig. D

512-3314	640456-2	2	.200	.14	.10
512-3315	640456-3	3	.300	.21	.15
512-3316	640456-4	4	.400	.28	.19
512-3317	640456-5	5	.500	.35	.23
512-3318	640456-6	6	.600	.38	.26
512-3319	640456-7	7	.700	.45	.35
512-3320	640456-8	8	.800	.51	.35
512-3321	640456-9	9	.900	.57	.43
512-3322	1-640456-0	10	1.000	.64	.45
512-3323	1-640456-1	11	1.100	.70	.61
512-3324	1-640456-2	12	1.200	.76	.57
512-3326	1-640456-4	14	1.400	.89	.66
512-3327	1-640456-5	15	1.500	1.19	1.04
512-3328	1-640456-6	16	1.600	1.27	.95
512-3330	2-640456-0	20	2.000	1.58	1.23

Breakaway Headers — Unshrouded Single Row, .100" Centers



UL Recognized, CSA Certified. Housing: Black thermoplastic. Posts: Copper Alloy.

.025 Square Straight Post — Fig. A

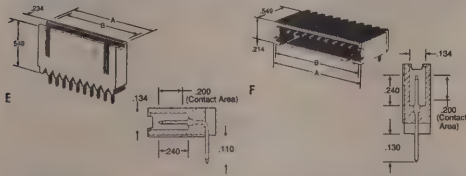
Stock No.	Mfr.'s Type	No. of Pos.	Dimensions				Plating Code*	EACH	
			A	B	C	D		1-99	100†
512-1700	103185-1	1	.084	.120	.230	.185	2	.12	.10
512-1726	103239-2	2	.184	.120	.230	.185	1	.20	.17
512-1728	103185-2	2	.184	.120	.230	.185	2	.17	.14
512-1730	103237-2	2	.184	.120	.230	.185	3	.12	.10
512-1701	102976-2	2	.184	.125	.318	.200	1	.20	.17
512-1703	102972-2	2	.184	.125	.318	.200	2	.17	.14
512-1736	103231-2	2	.184	.125	.318	.200	3	.15	.12
512-1738	103239-3	3	.284	.120	.230	.185	1	.29	.24
512-1740	103185-3	3	.284	.120	.230	.185	2	.23	.19
512-1742	103237-3	3	.284	.120	.230	.185	3	.15	.12
512-1704	102976-3	3	.284	.125	.318	.200	1	.33	.26
512-1705	102972-3	3	.284	.125	.318	.200	2	.26	.22
512-1748	103231-3	3	.284	.125	.318	.200	3	.20	.17
512-1707	103239-4	4	.384	.120	.230	.185	1	.41	.34
512-1708	103185-4	4	.384	.120	.230	.185	2	.33	.26
512-1709	103237-4	4	.384	.120	.230	.185	3	.17	.14
512-1711	102972-4	4	.384	.125	.318	.200	2	.35	.29
512-1712	103231-4	4	.384	.125	.318	.200	3	.26	.22
512-1713	103185-5	5	.484	.120	.230	.185	2	.35	.29
512-1715	103231-5	5	.484	.125	.318	.200	3	.26	.22
512-1764	4-103239-0	40	3.984	.120	.230	.185	1	2.49	2.06
512-1766	4-103185-0	40	3.984	.120	.230	.185	2	1.86	1.54
512-1771	4-103237-0	40	3.984	.120	.230	.185	3	1.22	1.01
512-1768	4-102976-0	40	3.984	.125	.318	.200	1	2.67	2.21
512-1770	4-102972-0	40	3.984	.125	.318	.200	2	2.03	1.68
512-1772	4-103231-0	40	3.984	.125	.318	.200	3	1.36	1.13

.025 Square Right-Angle Post — Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions				Plating Code*	EACH	
			A	B	C	D		1-99	100†
512-1777	4-103148-0	40	3.984	.120	.230	.185	1	3.63	3.00
512-1776	4-103325-0	40	3.984	.120	.230	.185	2	2.81	2.33
512-1773	4-103329-0	40	3.984	.120	.230	.185	3	2.00	1.67
512-1775	4-102978-0	40	3.984	.110	.318	.200	1	3.63	3.17
512-1776	4-102974-0	40	3.984	.110	.318	.200	2	3.02	2.50
512-1778	4-103323-0	40	3.984	.110	.318	.200	3	2.20	1.82

*Contact Plating: 1=Duplex C—.000030 gold on contact area, .000100—.000200 tin-lead on solder area, with entire post underplated .000050 nickel; 2=Duplex D—.000015 gold on contact area .000100—.000200 tin-lead on solder area, with entire post underplated .000050 nickel; 3=Tin-Lead/Nickel—.000100—.000200 tin-lead over .000050 nickel on entire post.

Standard Profile Headers Single Row Headers — Shrouded .100" Centers



.025 Sq. Straight Post (with Standoffs) — Fig. E

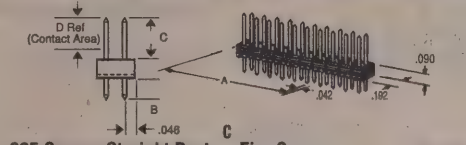
Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		Plating Code*	EACH	
			A	B		1-99	100†
512-1767	3-102202-4	3	.420	.340	2	.83	.70
512-2601	102202-1	4	.520	.440	2	.89	.77
512-2602	102202-2	5	.620	.540	2	1.23	1.05
512-2603	102202-3	6	.720	.640	2	1.13	.97
512-2604	102202-4	7	.820	.740	2	1.38	1.19
512-2605	102202-5	8	.920	.840	2	1.27	1.07
512-2606	102202-7	10	1.120	1.040	2	1.62	1.39
512-2607	102202-9	12	1.320	1.240	2	1.79	1.53
512-2608	1-102202-1	14	1.520	1.440	2	1.99	1.71

.025 Square Right-Angle Post (with Standoffs) — Fig. F

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		Plating Code*	EACH	
			A	B		1-99	100†
512-1769	3-102203-4	3	.420	.340	2	.96	.82
512-2614	102203-1	4	.520	.440	2	.97	.82
512-2615	102203-2	5	.620	.540	2	1.28	1.10
512-2616	102203-3	6	.720	.640	2	1.31	1.13
512-2617	102203-4	7	.820	.740	2	1.47	1.26
512-2618	102203-5	8	.920	.840	2	1.53	1.32
512-2619	102203-7	10	1.120	1.040	2	1.74	1.49
512-1781	102203-9	12	1.320	1.240	2	1.96	1.68
512-1783	1-102203-1	14	1.520	1.440	2	2.13	1.83

Contact Plating: 1=Duplex C—.000030 gold on contact area, .000100—.000200 tin-lead on solder area, with entire post underplated .000050 nickel; 2=Duplex D—.000015 gold on contact area .000100—.000200 tin-lead on solder area, with entire post underplated .000050 nickel; 3=Tin-Lead/Nickel—.000100—.000200 tin-lead over .000050 nickel on entire post.

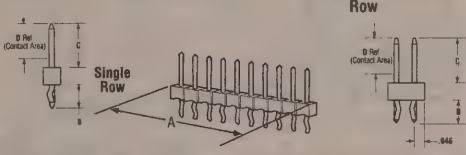
Breakaway Headers — Unshrouded Double Row, .100" × .100" Centers



.025 Square Straight Post — Fig. C

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions				Plating Code*	EACH	
			A	B	C	D		1-99	100†
512-1717	103328-1	2	.084	.120	.230	.185	3	.12	.10
512-1719	102977-1	2	.084	.125	.318	.200	1	.23	.19
512-1720	103240-2	4	.184	.120	.230	.185	1	.41	.34
512-1721	102973-2	4	.184	.125	.318	.200	2	.35	.29
512-1782	103322-2	4	.184	.125	.318	.200	3	.26	.22
512-1724	103240-3	6	.284	.120	.230	.185	1	.49	.41
512-1725	103186-3	6	.284	.120	.230	.185	2	.41	.34
512-1727	103328-3	6	.284	.120	.230	.185	3	.26	.22
512-1729	102977-3	6	.284	.125	.318	.200	1	.52	.44
512-1731	102973-3	6	.284	.125	.318	.200	2	.41	.34
512-1732	103322-3	6	.284	.125	.318	.200	3	.33	.26
512-1790	103240-4	8	.384	.120	.230	.185	1	.68	.55
512-1733	103328-4	8	.384	.120	.230	.185	3	.35	.29
512-1794	102977-4	8	.384	.125	.318	.200	1	.70	.59
512-1796	102973-4	8	.384	.125	.318	.200	2	.55	.46
512-1734	103322-4	8	.384	.125	.318	.200	3	.41	.34
512-1735	103240-5	10	.484	.120	.230	.185	1	.78	.65
512-1737	103186-5	10	.484	.120	.230	.185	2	.61	.51
512-1800	103328-5	10	.484	.120	.230	.185	3	.41	.34
512-1802	102977-5	10	.484	.125	.318	.200	1	.84	.70
512-1739	102973-5	10	.484	.125	.318	.200	2	.67	.56
512-1741	103322-5	10	.484	.125	.318	.200	3	.49	.41
512-1743	103328-6	12	.584	.120	.230	.185	2	.47	.38
512-1744	103240-7	14	.684	.120	.230	.185	1	1.04	.86
512-1745	103186-7	14	.684	.120	.230	.185	2	.80	.65
512-1746	103328-7	14	.684	.120	.230	.185	3	.52	.44
512-1747	103240-8	16	.784	.120	.230	.185	1	1.13	.94

Retention Headers — Unshrouded Single and Double Row .100" × .100" Centers



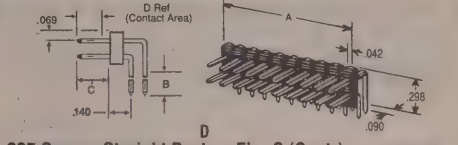
.025 Square Straight Post — .066 End Dimension

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		Plating Code*	EACH	
			A	B		1-99	100†
512-2800	103168-1	6	.412	.332	1	1.04	.89
512-2802	102618-1	6	.412	.332	2	.82	.70
512-2804	103168-2	8	.512	.432	1	1.30	1.11
512-2806	102618-2	8	.512	.432	2	1.08	.92
512-2808	103168-3	10	.612	.532	1	1.62	1.39
512-2810	102618-3	10	.612	.532	2	1.26	1.08
512-2812	103168-4	12	.712	.632	1	1.86	1.56
512-2814	102618-4	12	.712	.632	2	1.42	1.21
512-2816	103168-5	14	.812	.732	1	2.10	1.80
512-2818	102618-5	14	.812	.732	2	1.62	1.39
512-2820	103168-6	16	.912	.832	1	2.30	1.97
512-2822	102618-6	16	.912	.832	2	1.77	1.52

.025 Square Straight Post — .150 End Dimension

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		Plating Code*	EACH	
			A	B		1-99	100†
512-2824	103169-3	10	.780	.700	1	1.55	1.33
512-2826	102619-3	10	.780	.700	2	1.26	1.08
512-2828	103169-6	16	1.080	1.000	1	2.27	1.94
512-2830	102619-6	16	1.080	1.000	2	1.77	1.52
512-2832	103169-8	20	1.280	1.200	1	2.74	2.35
512-2834	102619-8	20	1.280	1.200	2	2.15	1.84

Breakaway Headers — Unshrouded Double Row, .100" × .100" Centers



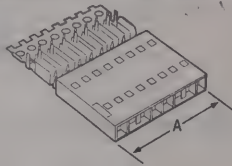
.025 Square Straight Post — Fig. C (Cont.)

Stock No.	Mfr. Type	No. of Pos.	Dimensions				Plating Code*	EACH	
			A	B	C	D		1-99	100†
512-1749	103186-8	16	.784	.120	.230	.185	2	.87	.72
512-1816	103328-8	16	.784	.120	.230	.185	3	.58	.49
512-1751	103240-9	18	.884	.120	.230	.185	1	1.28	1.07
512-1752	1-103240-0	20	.784	.120	.230	.185	1	1.39	1.16
512-1822	1-103186-0	20	.984	.120	.230	.185	2	1.04	.86
512-1753	1-103328-0	20	.984	.120	.230	.185	3	.70	.58
512-1826	1-102973-0	20	.984	.125	.318	.200	2	1.10	.91
512-1830	1-102973-3	26	1.284	.125	.318	.200	2	1.39	1.15
512-1838	2-103186-0	40	.984	.120	.230	.185	2	1.89	1.56
512-1840	2-102977-0	40	.984	.125	.318	.200	1	2.76	2.29
512-1848	2-102973-5	50	2.484	.125	.318	.200	2	2.55	2.11
512-1853	4-103240-0	80	.984	.120	.230	.185	1	3.35	3.00
512-1854	4-103186-0	80	.984	.120	.230	.185	2	4.05	2.52
512-1856	4-103328-0	80	.984	.120	.230	.185	3	1.74	.84
512-1858	4-102977-0	80	.984	.125	.318	.200	1	4.67	3.86
512-1859	4-102973-0	80	.984	.125	.318	.200	2	3.36	2.78
512-1860	4-103322-0	80	.984	.125	.318	.200	3	2.06	1.70

MTE Interconnection System (AMPMODU®)

► Materials: Housings — Black Thermoplastic, UL 94V-0 rated; Contact — Copper Alloy

► Preassembled Housings Are for 26-22 AWG Wire

Receptacle Assemblies
Plain, Single Row,
.100" Centers

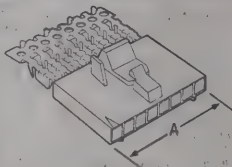
Pre-Assembled Housings

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A	Contact Plating*	EACH	
					1-99	100-499
512-2900	103687-5	6	.598	1	1.16	.89
512-2902	103686-5	6	.598	2	1.29	.99
512-2904	103686-6	7	.698	2	1.49	1.14
512-2906	103687-7	8	.798	1	1.47	1.13
512-2908	103686-7	8	.798	2	1.65	1.27
512-2910	103687-8	9	.898	1	1.58	1.21
512-2912	103686-8	9	.898	2	1.77	1.36
512-2914	103687-9	10	.998	1	1.71	1.31
512-2916	103686-9	10	.998	2	1.93	1.48
512-2918	1-103686-0	11	1.098	2	2.09	1.61
512-2920	1-103686-1	12	1.198	2	2.26	1.74

*1 = Tin-Lead over Nickel; 2 = 15µ Gold.

Unloaded Housings (order crimp-type contacts separately)

512-2922	103688-1	2	.198	—	.40	.30
512-2924	103688-2	3	.298	—	.50	.38
512-2926	103688-3	4	.398	—	.56	.43
512-2928	103688-4	5	.498	—	.61	.47
512-2930	103688-5	6	.598	—	.65	.50
512-2932	103688-6	7	.698	—	.72	.56
512-2934	103688-7	8	.798	—	.77	.59
512-2936	103688-8	9	.898	—	.88	.68
512-2938	103688-9	10	.998	—	.93	.71
512-2940	1-103688-0	11	1.098	—	1.06	.82
512-2942	1-103688-1	12	1.198	—	1.11	.86

Receptacle Assemblies
Polarized / Latching,
Single Row, .100" Centers

Pre-Assembled Housings

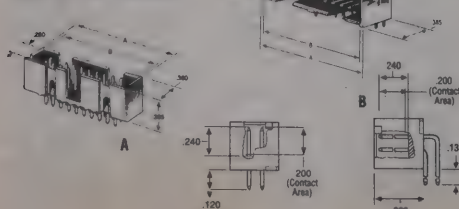
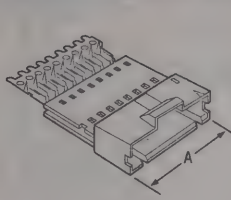
Stock No.	Mfr.'s Type	No. of Pos.	Dim. A	Contact Plating*	EACH	
					1-99	100-499
512-2944	103645-5	6	.598	1	1.39	1.07
512-2946	103644-5	6	.598	2	1.48	1.14
512-2948	103645-6	7	.698	1	1.61	1.51
512-2950	103644-6	7	.698	2	1.71	1.31
512-2952	103645-7	8	.798	1	1.72	1.32
512-2954	103644-7	8	.798	2	1.89	1.45
512-2956	103645-8	9	.898	1	1.69	1.30
512-2958	103644-8	9	.898	2	2.04	1.57
512-2960	103645-9	10	.998	1	1.99	1.53
512-2962	1-103645-0	11	1.098	2	2.21	1.70
512-2964	1-103645-1	12	1.198	2	2.41	1.85
512-2966	1-103644-1	12	1.198	1	2.33	1.79
512-2968	1-103644-2	12	1.198	2	2.60	2.00

*1 = Tin-Lead over Nickel; 2 = 15µ Gold.

Unloaded Housings (order crimp-type contacts separately)

512-2950	104257-1	2	.198	—	.40	.31
512-2952	104257-2	3	.298	—	.50	.38
512-2954	104257-3	4	.398	—	.56	.43
512-2956	104257-4	5	.498	—	.61	.47
512-2958	104257-5	6	.598	—	.65	.50
512-2960	104257-6	7	.698	—	.74	.57
512-2962	104257-7	8	.798	—	.77	.59
512-2964	104257-8	9	.898	—	.88	.68
512-2966	104257-9	10	.998	—	.93	.72
512-2968	1-104257-0	11	1.098	—	1.06	.82
512-2970	1-104257-1	12	1.198	—	1.11	.86

Low Profile Headers

Shrouded with .150 End
Dimension Double Row,
.100" × .100" CentersPin Assemblies
Shrouded Polarized / Latching, Single Row .100" Centers

Pre-Assembled Housings

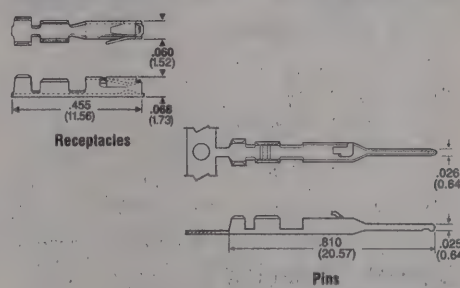
Stock No.	Mfr.'s Type	No. of Pos.	Dim. A	Contact Plating*	EACH	
					1-99	100-499
512-2982	103660-5	6	.700	2	1.73	1.33
512-2984	103660-6	7	.800	2	1.84	1.41
512-2986	103660-7	8	.900	2	2.01	1.55
512-2988	103660-8	9	1.000	2	2.07	1.59
512-2990	1-103660-1	12	1.300	2	2.23	1.72
512-2992	1-103660-2	12	1.300	2	5.64	4.34

*1 = Tin-Lead over Nickel; 2 = 15µ Gold.

Unloaded Housings (order crimp-type contacts separately)

512-2658	103653-1	2	.300	—	.79	.61
512-2660	103653-2	3	.400	—	.83	.64
512-2662	103653-3	4	.500	—	.83	.64
512-2664	103653-4	5	.600	—	.84	.64
512-2992	103653-5	6	.700	—	.84	.65
512-2994	103653-6	7	.800	—	1.44	1.11
512-2996	103653-7	8	.900	—	1.53	1.18
512-2901	103653-8	9	1.000	—	1.77	1.36
512-2903	103653-9	10	1.100	—	.93	.71
512-2905	1-103653-0	11	1.200	—	1.06	.82
512-2907	1-103653-1	12	1.300	—	1.11	.86

Interchangeable Contacts — Wire Crimp (Snap-In)



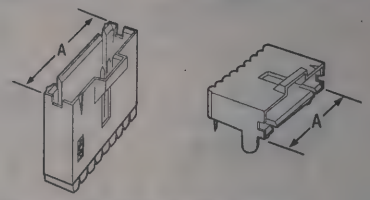
Receptacles

Stock No.	Mfr.'s Type	AWG	Contact Plating*	EACH	
				1-99	100-499
512-2957	103358-6	32-28	3	.25	.23
512-2959	1-530151-0	26-22	1	.17	.15
512-2695	530151-6	26-22	2	.24	.20
512-2733	530151-8	26-22	3	.27	.22

Pins

512-2961	104506-5	32-28	2	.30	.27
512-2963	104506-7	32-28	3	.33	.29
512-2965	104505-3	26-22	1	.16	.14
512-2697	104505-5	26-22	2	.30	.27
512-2698	104505-7	26-22	3	.33	.29

*1 = Tin-Lead over Nickel; 2 = 15µ Gold; 3 = 30µ Gold.

Header Assemblies
Shrouded Polarized / Latching, Single Row .100" Centers

.100 Centers, .025 Square Straight Post with Hold Down

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A	Contact Plating*	EACH	
					1-99	100-499
512-2909	103669-1	2	.300	1	.71	.55
512-2668	103670-1	2	.300	2	.75	.58
512-2911	103669-2	3	.400	1	.78	.60
512-2670	103670-2	3	.400	2	.84	.65
512-2913	103669-3	4	.500	1	.86	.66
512-2672	103670-3	4	.500	2	.94	.73
512-2915	103669-4	5	.600	1	.92	.71
512-2674	103670-4	5	.600	2	1.03	.79
512-2917	103669-5	6	.700	1	.99	.76
512-2676	103670-5	6	.700	2	1.12	.86
512-2919	103669-6	7	.800	1	1.06	.81
512-2677	103670-6	7	.800	2	1.21	.93
512-2921	103669-7	8	.900	1	1.12	.86
512-2678	103670-7	8	.900	2	1.30	1.00
512-2923	103669-8	9	1.000	1	1.19	.92
512-2679	103670-8	9	1.000	2	1.39	1.07
512-2925	103669-9	10	1.100	1	1.27	.97
512-2680	103670-9	10	1.100	2	1.48	1.14
512-2927	1-103669-0	11	1.200	1	1.40	1.08
512-2681	1-103670-0	11	1.200	2	1.64	1.27
512-2929	1-103669-1	12	1.300	1	1.47	1.13
512-2683	1-103670-1	12	1.300	2	1.74	1.34

*1 = Tin-Lead over Nickel; 2 = 15µ Gold.

.025 Square Right-Angle Post with Hold Down

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A	Contact Plating*	EACH	
					1-99	100-499
512-2931	103672-1	2	.300	1	.71	.55
512-2682	103673-1	2	.300	2	.75	.58
512-2933	103672-2	3	.400	1	.78	.60
512-2684	103673-2	3	.400	2	.84	.65
512-2935	103672-3	4	.500	1	.86	.66
512-2686	103673-3	4	.500	2	.94	.73
512-2937	103672-4	5	.600	1	.92	.71
512-2688	103673-4	5	.600	2	1.03	.79
512-2939	103672-5	6	.700	1	.99	.76
512-2690	103673-5	6	.700	2	1.12	.86
512-2941	103672-6	7	.800	1	1.06	.81
512-2691	103673-6	7	.800	2	1.21	.93
512-2943	103672-7	8	.900	1	1.12	.86
512-2692	103673-7	8	.900	2	1.30	1.00
512-2693	103673-8	9	1.000	2	1.39	1.07
512-2945	103672-9	10	1.100	1	1.27	.97
512-2694	103673-9	10	1.100	2	1.48	1.14
512-2947	1-103672-0	11	1.200	1	1.40	1.08
512-2949	1-103673-0	11	1.200	2	1.64	1.27
512-2951	1-103672-1	12	1.300	1	1.47	1.13
512-2953	1-103673-1	12	1.300	2	1.74	1.34

*1 = Tin-Lead over Nickel; 2 = 15µ Gold.

Crimp Tools



512-2967, 58342-2, For 32-28 AWG Wire EACH 488.14
 512-2699, 58342-1, For 26-22 AWG Wire EACH 502.71

Pistol Grip Tool



Type 58074-1, Pistol grip-handle only.
 512-9082 EACH 62.90
 Type 58336-1, Modular head for MTE receptacles.
 512-2955 EACH 485.96

.025 Square Straight Post — Fig. 1

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		Plating Code ²	EACH	
			A	B		1-99	100-499
512-2626	103308-1	10	.800	.700	2	.98	.78
512-2627	103309-1	10	.800	.700	1	1.09	.87
512-2625	103308-2	14	1.000	.900	2	1.33	1.06
512-2628	103308-3	16	1.100	1.000	2	1.47	1.18
512-2629	103308-5	20	1.300	1.200	2	1.75	1.40
512-2630	103309-5	20	1.300	1.200	1	1.96	1.57
512-2631	103308-6	26	1.600	1.500	2	2.17	1.74
512-2632	103309-6	26	1.600	1.500	1	2.45	1.96
512-2633	103308-7	34	2.000	1.900	2	2.73	2.18
512-2635	103308-8	40	2.300	2.200	2	3.08	2.46
512-2636	1-103308-0	50	2.800	2.700	2	3.68	2.94

Double Row MT Receptacle Connectors

Housings are preloaded with standard pressure contacts on .100" x .100" centers. The contacts are insulation displacement for termination of discrete wires or ribbon cable with conductors separated. Crimp, snap-in contacts can be used interchangeably with the insulation displacement contacts. Connector covers are sold separately. **Specifications.** **Housing:** Black thermoplastic, flame retardant. **Contacts:** Copper alloy; duplex plated .000030µ" gold on the contact area, .000050µ" min. tin-lead on termination area, with entire contact underplated .000050µ" nickel. **Rating:** 3 amperes for single contact in free air. UL recognized, CSA certified. **Operating Temperature:** -65°C to +105°C. Mate with posts .222"-.273" in length.

Wire Size 30-26 AWG — Fig. A

Stock No.	Mfr.'s Type	A Dim.	No. of Pos.	EACH	
				1-99	100-499
512-6400	102393-1	.300"	6	1.28	1.08
512-6402	102393-2	.400"	8	1.51	1.27
512-6404	102393-3	.500"	10	1.75	1.48
512-6406	102393-4	.600"	12	2.23	2.06
512-6408	102393-5	.700"	14	2.55	2.35
512-6410	102393-6	.800"	16	3.18	2.93
512-6412	102393-7	1.000"	20	3.83	3.53
512-6414	1-102393-0	1.200"	24	3.29	3.03
512-6416	1-102393-1	1.300"	26	3.41	3.15
512-6418	1-102393-2	1.400"	28	3.54	3.28
512-6420	1-102393-3	1.500"	30	3.67	3.41
512-6422	1-102393-4	1.600"	32	3.80	3.54

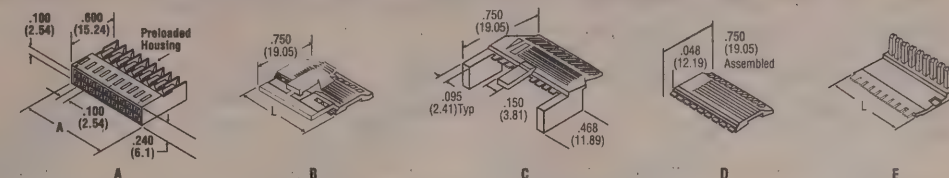
Wire Size 26-22 AWG — Fig. A

Stock No.	Mfr.'s Type	A Dim.	No. of Pos.	EACH	
				1-99	100-499
512-6424	102398-1	.300"	6	1.28	1.08
512-6426	102398-2	.400"	8	1.51	1.27
512-6428	102398-3	.500"	10	1.75	1.48
512-6430	102398-4	.600"	12	2.23	2.06
512-6432	102398-5	.700"	14	2.55	2.35
512-6434	102398-6	.800"	16	3.18	2.93
512-6436	102398-7	1.000"	20	3.83	3.53
512-6438	1-102398-0	1.200"	24	3.29	3.03
512-6440	1-102398-1	1.300"	26	3.41	3.15
512-6442	1-102398-2	1.400"	28	3.54	3.28
512-6444	1-102398-3	1.500"	30	3.67	3.41
512-6446	1-102398-4	1.600"	32	3.80	3.54

Wire Size 22-20 AWG — Fig. A

Stock No.	Mfr.'s Type	A Dim.	No. of Pos.	EACH	
				1-99	100-499
512-6448	102448-1	.500"	10	3.06	2.82
512-6450	102448-2	.600"	12	3.44	3.17
512-6452	102448-3	.700"	14	3.93	3.63
512-6454	102448-4	.800"	16	4.55	4.25
512-6456	102448-5	1.000"	20	5.41	5.11
512-6458	1-102448-0	1.200"	24	4.78	4.48
512-6460	1-102448-1	1.300"	26	4.91	4.61
512-6462	1-102448-2	1.400"	28	5.04	4.74
512-6464	1-102448-3	1.500"	30	5.17	4.87
512-6466	1-102448-4	1.600"	32	5.30	5.00

Covers. Low profile for double row MT connectors. **Material:** Black thermoplastic, flame retardant.



Front Covers

Latching Cover (Fig. B). Mates with AMPMODU 4-sided shrouded headers with extraction slot.

Stock No.	Mfr.'s Type	No. of Pos.	L. Dim.	EACH	
				1-99	100-499
512-6430	102681-1	12	.600"	.42	.34
512-6432	102681-3	16	.800"	.51	.42
512-6434	102681-4	18	.900"	.58	.48
512-6436	102681-5	20	1.000"	.64	.53
512-6438	102681-6	24	1.200"	.76	.64
512-6440	1-102681-2	26	1.300"	.82	.70
512-6442	1-102681-3	28	1.400"	.88	.76
512-6444	1-102681-4	30	1.500"	.94	.82
512-6446	1-102681-5	32	1.600"	1.00	.88
512-6448	1-102681-6	34	1.700"	1.06	.94
512-6450	1-102681-7	36	1.800"	1.12	1.00
512-6452	1-102681-8	38	1.900"	1.18	1.06
512-6454	1-102681-9	40	2.000"	1.24	1.12
512-6456	1-102681-0	42	2.100"	1.30	1.18

Ejection Cover (Fig. C). Mates with AMP-LATCH universal ejection style pin headers with latching ears or AMPMODU low profile shrouded headers.

Stock No.	Mfr.'s Type	No. of Pos.	L. Dim.	EACH	
				1-99	100-499
512-6434	102537-5	14	.700"	.45	.37
512-6436	102537-6	16	.800"	.51	.42
512-6438	1-102537-0	18	1.000"	.58	.48
512-6440	1-102537-1	20	1.200"	.64	.53
512-6442	1-102537-2	22	1.400"	.70	.59
512-6444	1-102537-3	24	1.600"	.76	.64
512-6446	1-102537-4	26	1.800"	.82	.70
512-6448	1-102537-5	28	2.000"	.88	.76
512-6450	1-102537-6	30	2.200"	.94	.82
512-6452	1-102537-7	32	2.400"	1.00	.88
512-6454	1-102537-8	34	2.600"	1.06	.94
512-6456	1-102537-9	36	2.800"	1.12	1.00
512-6458	1-102537-0	38	3.000"	1.18	1.06
512-6460	1-102537-1	40	3.200"	1.24	1.12
512-6462	1-102537-2	42	3.400"	1.30	1.18

Non-polarizing Cover (Fig. D). For shielded connectors or non-polarizing applications.

Stock No.	Mfr.'s Type	No. of Pos.	L. Dim.	EACH	
				1-99	100-499
512-6440	102541-1	6	.300"	.16	.14
512-6442	102541-2	8	.400"	.22	.20
512-6444	102541-3	10	.500"	.28	.26
512-6446	102541-4	12	.600"	.34	.32
512-6448	102541-5	14	.700"	.40	.38
512-6450	102541-6	16	.800"	.46	.44
512-6452	102541-7	18	.900"	.52	.50
512-6454	1-102541-1	20	1.000"	.58	.56
512-6456	1-102541-2	22	1.100"	.64	.62
512-6458	1-102541-3	24	1.200"	.70	.68
512-6460	1-102541-4	26	1.300"	.76	.74
512-6462	1-102541-5	28	1.400"	.82	.80
512-6464	1-102541-6	30	1.500"	.88	.86
512-6466	1-102541-7	32	1.600"	.94	.92
512-6468	1-102541-8	34	1.700"	1.00	.98
512-6470	1-102541-9	36	1.800"	1.06	1.04
512-6472	1-102541-0	38	1.900"	1.12	1.10
512-6474	1-102541-1	40	2.000"	1.18	1.16
512-6476	1-102541-2	42	2.100"	1.24	1.22

Back Covers

(Fig. E) — For use with the front covers to the left.

Stock No.	Mfr.'s Type	No. of Pos.	L. Dim.	EACH	
				1-99	100-499
512-6442	102536-1	6	.300"	.16	.14
512-6444	102536-2	8	.400"	.22	.20
512-6446	102536-3	10	.500"	.28	.26
512-6448	102536-4	12	.600"	.34	.32
512-6450	102536-5	14	.700"	.40	.38
512-6452	102536-6	16	.800"	.46	.44
512-6454	102536-7	18	.900"	.52	.50
512-6456	102536-8	20	1.000"	.58	.56
512-6458	1-102536-0	22	1.100"	.64	.62
512-6460	1-102536-1	24	1.200"	.70	.68
512-6462	1-102536-2	26	1.300"	.76	.74
512-6464	1-102536-3	28	1.400"	.82	.80
512-6466	1-102536-4	30	1.500"	.88	.86
512-6468	1-102536-5	32	1.600"	.94	.92
512-6470	1-102536-6	34	1.700"	1.00	.98
512-6472	1-102536-7	36	1.800"	1.06	1.04
512-6474	1-102536-8	38	1.900"	1.12	1.10
512-6476	1-102536-9	40	2.000"	1.18	1.16
512-6478	1-102536-0	42	2.100"	1.24	1.22

Keying Plugs

Material: Natural color nylon. For all AMPMODU receptacles

Type 86286-1. Plugs into receptacle contact.	EACH	
512-6070. 1-99	.19	
100-499	.16	
Type 87077-2. Plugs directly into housing.	EACH	
512-6071. 1-99	.10	
100-499	.08	

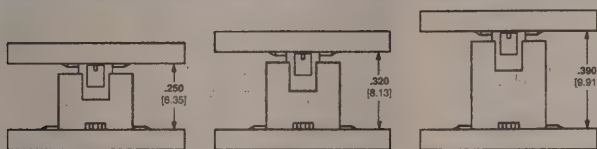
Contact Extraction and Lance Reset Tool

Type 843996-3. For new style locking lance Mod. IV contacts.
512-6073.....EACH 10.10

Pistol Grip Tool

Type 58074-1. Pistol grip-handle only.
512-9082.....EACH 62.90
Type 58062-1. Modular head for MT receptacles.
512-9083.....EACH 178.89

AMPMODU 50/50 Grid Surface-Mount Connector System



With Standard Holdowns

The AMPMODU 50/50 Grid Connector System features polarized surface-mount headers and receptacles on a .050 x .050 (1.27 x 1.27) centerline grid. Board-to-board stack heights of .250 (8.35), .320 (8.13) and .390 (9.91) are available. This

Vertical Receptacles, Double Row with Polarizing Tab

Stock No.	Mfr.'s Type	No. of Pos.	EACH		
			1-24	25-49	50-99
512-8100	104652-1	10	2.46	2.23	2.08
512-8103	104652-2	20	3.18	2.89	2.69
512-8106	104652-3	30	4.01	3.64	3.39
512-8109	104652-4	40	4.94	4.47	4.14
512-8112	104652-5	50	5.57	5.05	4.70
512-8115	104652-6	60	6.40	5.81	5.40
512-8118	104652-7	70	7.26	6.59	6.13
512-8121	104652-8	80	7.93	7.19	6.70
512-8124	104652-9	90	8.68	7.88	7.31
512-8127	1-104652-0	100	9.18	8.16	7.75

Vertical Headers (Double Row)

Mated Height .250		Mated Height .320		Mated Height .390		No. of Pos.	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-24	25-49
512-8133	104655-3	512-8130	104656-1	512-8136	104693-2	10	2.34	2.12
512-8139	104655-4	512-8134	104656-2	512-8141	104693-3	20	2.84	2.57
512-8144	104655-5	512-8140	104656-3	512-8146	104693-4	30	3.46	3.14
512-8149	104655-6	512-8145	104656-4	512-8151	104693-5	40	4.17	3.78
512-8154	104655-7	512-8150	104656-5	512-8156	104693-6	50	4.64	4.21
512-8159	104655-8	512-8155	104656-6	512-8161	104693-7	60	4.90	4.44
512-8164	104655-9	512-8160	104656-7	512-8166	104693-8	70	5.27	4.77
512-8169	1-104655-1	512-8165	104656-8	512-8171	104693-9	80	5.95	5.40
512-8173	1-104655-2	512-8170	104656-9	512-8176	1-104693-0	90	6.69	6.08
						100	6.93	6.28

system is ideal for parallel stacking applications for computers, computer peripheral equipment, communication systems, medical instrumentation and environmental control systems as well as other high density applications.

Polarized and Non-Polarized Loading Tools for Receptacles

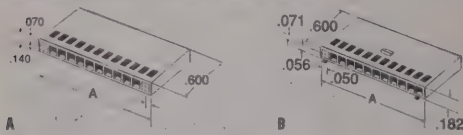
P

Mod. IV Wire-Applied Housings

For termination of discrete wires. Receptacles mate with .025" square or round posts. Contacts are sold separately — order from the contacts listed below. Single and double row housings listed below are on .100" centerlines. **Contact Current Rating:** 3 amperes. **Housing Material:** Black thermoplastic — flame retardant, UL recognized, CSA certified.

Single Row — .100" Centers

Sold without contacts — See Mod. IV contacts below.



Non-Polarized — Stamped — Fig. A

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-99	100-499
512-6150	87499-3	2	.205"	.78	.66
512-6152	87499-5	3	.305"	.56	.47
512-6154	87499-7	4	.405"	.47	.41
512-6156	87499-9	5	.505"	.47	.41
512-6158	1-87499-1	6	.605"	.47	.41
512-6161	87499-1	7	.705"	.66	.55
512-6162	1-87499-3	8	.805"	.51	.43
512-6164	1-87499-5	9	.905"	.82	.69
512-6166	1-87499-7	10	1.005"	.64	.53
512-6151	2-87499-1	12	1.205"	.68	.58
512-6153	2-87499-5	14	1.405"	.80	.68
512-6155	2-87499-9	16	1.605"	1.74	1.46
512-6157	3-87499-3	18	1.805"	.92	.79
512-6159	3-87499-7	20	2.005"	1.00	.85

Polarized (with detent latching) — Stamped — Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-99	100-499
512-6170	102241-1	3	.300"	.29	.24
512-6172	102241-2	4	.400"	.33	.28
512-6174	102241-3	5	.500"	.35	.30
512-6176	102241-4	6	.600"	.37	.32
512-6178	102241-5	7	.700"	.41	.34
512-6173	102241-6	8	.800"	.43	.36
512-6175	102241-7	9	.900"	.45	.38
512-6177	102241-8	10	1.000"	.51	.43
512-6163	1-102241-0	12	1.200"	.58	.49
512-6165	1-102241-2	14	1.400"	.66	.55
512-6167	1-102241-4	16	1.600"	.84	.73
512-6168	1-102241-6	18	1.800"	.86	.73
512-6169	1-102241-8	20	2.000"	.88	.75

Mod. IV Crimp Snap-in Contacts

6 Types of Plating

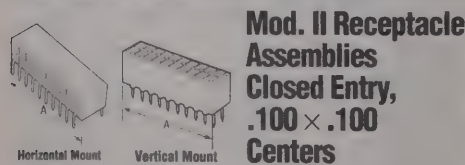
- 30 Gold Duplex
- 15 Gold Duplex
- 30 Sel. Gold/Nickel A

- 15 Gold Select/Nickel
- 5 Br. Tin-Lead/Nickel A
- 6 Br. Tin-Lead/Nickel B



Pin with Insulation Support — Fig. H

Stock No.	Mfr.'s Type	AWG	Ins. Dia. (Max.)	Plating Code	EACH	
					1-99	100-499
512-6276	102107-2	26-22	.061"	3	.35	.31
512-6277	102107-3	26-22	.061"	5	.14	.12



Horizontal Mount — End to End Stackable

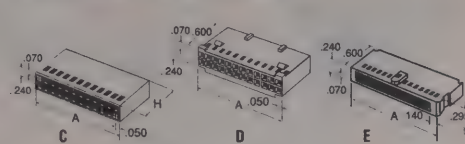
Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-49	50-99
512-6213	6-535512-2	6	.340"	1.42	1.20
512-6215	6-535512-3	8	.440"	1.22	1.15
512-6217	535512-1	12	.640"	2.55	2.16
512-6219	1-535512-7	14	.740"	2.79	2.36
512-6221	1-535512-8	16	.840"	3.05	2.58
512-6223	535512-2	20	1.040"	3.47	2.94
512-6225	2-535512-0	26	1.340"	4.23	3.58

Vertical Mount

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-49	50-99
512-6227	534206-8	16	.800"	3.10	2.63
512-6229	1-534206-0	20	1.000"	3.55	3.00
512-6231	1-534206-3	26	1.300"	3.88	3.22
512-6233	2-534206-0	40	2.000"	4.78	4.41

Double Row — .100" × .100" Centers

Sold without contacts — See Mod. IV contacts below.



Non-Polarized — Stamped — Fig. C

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-99	100-499
512-6171	87456-2	6	.300"	.98	.83
512-6180	87456-4	8	.400"	1.00	.85
512-6182	87456-6	10	.500"	1.02	.86
512-6186	1-87456-0	14	.700"	1.06	.90
512-6190	1-87456-6	20	1.000"	1.31	1.11
512-6192	2-87456-2	26	1.300"	1.56	1.32
512-6179	2-87456-6	30	1.500"	2.27	1.93
512-6194	3-87456-0	34	1.700"	1.88	1.60
512-6196	3-87456-6	40	2.000"	2.17	1.84
512-6198	4-87456-0	50	2.500"	2.58	2.20

Polarized (with detent latching) — Stamped — Fig. D

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-99	100-499
512-6200	87631-2	6	.300"	.92	.79
512-6202	87631-4	8	.400"	.98	.83
512-6204	87631-6	10	.500"	1.02	.86
512-6206	87631-8	12	.600"	1.11	.94
512-6208	1-87631-0	14	.700"	1.13	.96
512-6210	1-87631-2	16	.800"	1.25	1.07
512-6212	1-87631-6	20	1.000"	1.47	1.26
512-6214	2-87631-2	26	1.300"	1.70	1.45
512-6181	2-87631-6	30	1.500"	1.90	1.62
512-6183	3-87631-0	34	1.600"	2.07	1.75
512-6216	3-87631-6	40	2.000"	2.25	1.92
512-6218	4-87631-2	50	2.500"	2.68	2.29

Center Polarized — Stamped — Fig. E

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-99	100-499
512-6220	102387-1	10	.680"	1.07	.90
512-6222	102387-2	14	.880"	1.08	.92
512-6224	102387-3	16	.980"	1.25	1.07
512-6226	102387-4	20	1.180"	1.43	1.22
512-6228	102387-6	26	1.480"	1.58	1.35
512-6230	102387-8	34	1.880"	1.98	1.69
512-6232	102387-9	40	2.180"	2.21	1.88
512-6234	1-102387-0	50	2.680"	2.66	2.26

Receptacles with Insulation Support — Fig. J

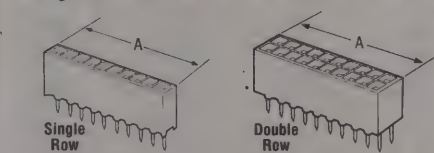
Standard Pressure. Material: Phosphor Bronze.

Stock No.	Mfr.'s Type	AWG	Ins. Dia. (Max.)	Plating Code	EACH	
					1-99	100-499
512-6203	1-102316-3	32-27	.040"	2	.22	.20
512-6205	1-102316-4	32-27	.040"	1	.23	.21
512-6280	87756-7	26-22	.061"	6	.14	.13
512-6282	1-87756-6	26-22	.061"	2	.22	.20
512-6284	1-87756-8	26-22	.061"	1	.23	.21
512-6286	87523-6	24-20	.069"	6	.14	.13
512-6288	1-87523-6	24-20	.069"	2	.22	.20
512-6290	1-87523-9	24-20	.069"	1	.23	.21

Standard Pressure. Material: Beryllium Copper.

Stock No.	Mfr.'s Type	AWG	Ins. Dia. (Max.)	Plating Code	EACH	
					1-99	100-499
512-6292	87667-5	26-22	.061"	4	.29	.26
512-6294	87667-2	26-22	.061"	3	.36	.32
512-6296	86016-5	24-20	.069"	4	.32	.29
512-6298	86016-2	24-20	.069"	3	.35	.31

Mod. IV Receptacle Assemblies Closed Entry, Low Profile, .100 × .100 Centers



Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-49	50-99
512-6235	1-535541-0	12	1.200"	1.77	1.50
512-6236	2-535541-8	30	3.000"	3.43	2.90

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-49	50-99
512-6237	534998-4	8	.400"	1.66	1.40
512-6238	534998-7	14	.700"	2.51	2.12
512-6239	1-534998-0	20	1.000"	3.12	2.64
512-6240	1-534998-3	26	1.300"	3.81	3.22
512-6241	2-534998-0	40	2.000"	5.22	4.41
512-6242	3-534998-0	60	3.000"	7.33	6.20

Locking Clip Contact Housings

Material: Glass-filled Nylon, UL94V-0 Rated.



Single Row — Unstamped — Fig. F

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-99	100-499
512-6250	87175-2	1	.108"	.61	.51
512-6252	87175-6	2	.216"	.84	.69
512-6254	87175-8	3	.316"	1.05	.87
512-6256	1-87175-0	4	.416"	1.17	.97
512-6258	1-87175-2	5	.516"	1.20	.99
512-6260	1-87175-4	6	.616"	1.32	1.10
512-6262	1-87175-6	7	.716"	1.35	1.12
512-6264	1-87175-8	8	.816"	1.57	1.30
512-6268	2-87175-0	10	1.016"	1.60	1.33

Double Row — Unstamped

Stock No.	Mfr.'s Type	No. of Pos.	A Dim.	EACH	
				1-99	100-499
512-6185	87176-2	2	.116"	1.02	.85
512-6187	87183-1	4	.216"	1.32	1.09
512-6189	87183-7	6	.316"	1.28	1.07
512-6193	87183-9	8	.416"	3.14	2.61
512-6195	87183-2	10	.516"	1.44	1.20
512-6197	1-87183-1	12	.616"	2.12	1.77

Locking Clip Contacts — Fig. G

Stock No.	Mfr.'s Type	AWG	Ins. Dia. (Max.)	Plating Code	EACH	
					1-99	100-499
512-6199	87191-1	30-28	.039"	.	.41	.35
512-6275	87165-1	26-22	.062"	.	.41	.32

*Sel. Gold/Nickel.

Keying Plug

Note: Mod. IV uses the same keying plugs and extraction/lance reset tool as the MT-Series.

512-6270, Model 87179-1, 1-99.....EACH .12

100-499.....EACH .11

Extraction Tool

512-9118, Model 91084-1.....EACH 11.73 87179-1 91084-1

Crimp Tools

512-6201, 90295-1, For 30-28 AWG Wire.....EACH 845.87

512-9116, 90289-1, For 26-22 AWG Wire.....EACH 459.78

Intermediate Pressure. Material: Beryllium Copper.

Stock No.	Mfr.'s Type	AWG	Ins. Dia. (Max.)
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AMP-LATCH Uni-Beam Receptacle Connectors



- The AMP-LATCH Uni-Beam Receptacle Will Mate with: AMP-LATCH Universal and Low-Profile Pin Headers
- All Industry Standard Pin Headers with a .150 (3.81) End Dimension, .025 (0.64) Square or Round Mating Post, and .125 (3.18) to .323 (8.20) Maximum Post Length
- .100 × .100 (2.54 × 2.54) Mating Grid for .050 (1.27) Pitch Ribbon Cable
- Duplex Gold Plated Contacts
- Contact Design Provides Uniform Latching of Contacts and Housing with Connector Cover
- Housing, Cover, and Strain Relief Made of UL 94V-0 Rated Thermoplastic Material

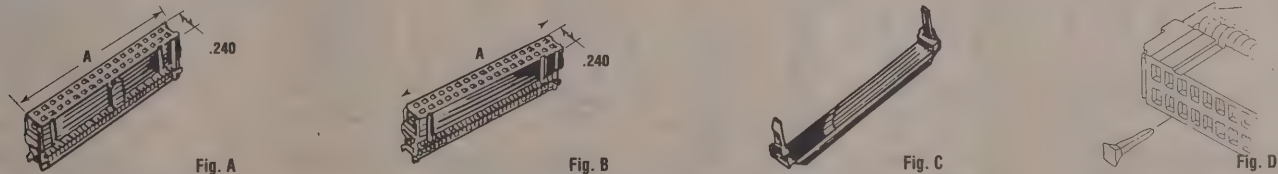
AMP-LATCH Uni-Beam receptacles feature insulation displacement contacts (IDC) for fast, labor saving mass termination of .050 (1.27) center line ribbon cable. The mating interface consists of a pre-loaded single mating beam that provides high normal force without high mating forces. The mating beam contains a top/bottom contact orientation.

Center and Military Polarization Connector (Fig. A)

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A (in.)	Plating Code*	EACH		
					1-99	100-499	500-999
512-9300	111810-1	10	.680	A	.72	.59	.51
512-9302	111633-1	10	.680	B	.62	.50	.40
512-9304	111810-2	14	.880	A	1.02	.85	.73
512-9306	111633-2	14	.880	B	1.09	.90	.77
512-9308	111810-3	16	.980	A	1.08	.90	.77
512-9310	111633-3	16	.980	B	1.15	.95	.82
512-9312	111810-4	20	1.180	A	1.13	.94	.80
512-9314	111633-4	20	1.180	B	.98	.79	.63
512-9318	111810-5	24	1.380	A	1.33	1.11	.95
512-9320	111633-5	24	1.380	B	1.41	1.17	1.01
512-9322	111810-6	26	1.480	A	1.35	1.12	.96
512-9324	111633-6	26	1.480	B	1.47	1.23	1.05
512-9326	111810-7	30	1.680	A	1.49	1.24	1.06
512-9328	111633-7	30	1.680	B	1.60	1.33	1.14
512-9330	111810-8	34	1.880	A	1.26	1.01	.81
512-9332	111633-8	34	1.880	B	1.34	1.08	.86
512-9334	111810-9	40	2.180	A	1.40	1.13	.90
512-9336	111633-9	40	2.180	B	1.51	1.22	.97
512-9338	1-111810-0	50	2.680	A	1.76	1.42	1.13
512-9340	1-111633-0	50	2.680	B	1.90	1.53	1.22
512-9342	1-111810-1	60	3.180	A	2.11	1.95	1.81
512-9344	1-111633-1	60	3.180	B	2.28	2.10	1.95
512-9346	1-111810-2	64	3.380	A	2.30	2.12	1.97
512-9348	1-111633-2	64	3.380	B	2.47	2.28	2.11

*Plating Code:
A—Duplex plated .000015 (0.00038) gold on the mating end, .000100 (0.00254) tin-lead on the termination end, with entire contact .000050 (0.00127) nickel underplated.
B—Duplex plated .000030 (0.00076) gold on the mating end, .000100 (0.00254) tin-lead on the termination end, with entire contact .000050 (0.00127) nickel underplated.

Novo Receptacles With Covers



Center and Military Polarized Receptacles .100" × .100" (2.54 × 2.54 mm) Centers. Kit numbers preassembled without strain relief.

Center and Military Polarized Receptacle (Fig. A)

Stock No.	Mfr.'s Type	No. of Pos.	Overall Length A	Finish*	EACH		
					1-99	100-499	500-999
512-3500	746288-1	10	.680	2	.88	.73	.61
512-3501	746288-2	14	.880	2	1.30	1.07	.91
512-3502	746288-3	16	.980	2	1.37	1.13	.96
512-3503	746288-4	20	1.180	2	1.40	1.16	.96
512-3504	746288-6	26	1.480	2	1.72	1.42	1.20
512-3505	746288-8	34	1.880	2	1.93	1.60	1.35
512-3506	746288-9	40	2.180	2	2.17	1.80	1.52
512-3507	1-746288-0	50	2.680	2	2.73	2.26	1.91
512-3508	1-746288-1	60	3.180	2	3.26	2.70	2.28
512-3509	1-746288-2	64	3.380	2	3.54	2.93	2.47

*Contact Plating: 2 = .000030 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

Keying Plug (Fig. D)

512-3530. 499712-1. 1-99	EACH .16	100-499	EACH .14	500-999	EACH .11
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Military Polarized (Fig. B)

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A (in.)	Plating Code*	EACH		
					1-99	100-499	500-999
512-9350	111811-1	10	.680	A	.72	.60	.51
512-9352	111634-1	10	.680	B	.62	.62	.40
512-9354	111811-2	14	.880	A	1.02	.85	.73
512-9356	111634-2	14	.880	B	1.09	.90	.77
512-9358	111811-3	16	.980	A	1.09	.90	.77
512-9360	111634-3	16	.980	B	1.15	.95	.82
512-9362	111811-4	20	1.180	A	1.13	1.02	.80
512-9364	111634-4	20	1.180	B	.98	.79	.63
512-9366	111811-5	24	1.380	A	1.33	1.11	.95
512-9368	111634-5	24	1.380	B	1.28	1.17	1.01
512-9370	111811-6	26	1.480	A	1.35	1.12	.96
512-9372	111634-6	26	1.480	B	1.47	1.23	1.05
512-9374	111811-7	30	1.680	A	1.49	1.24	1.06
512-9376	111634-7	30	1.680	B	1.60	1.33	1.14
512-9378	111811-8	34	1.880	A	1.26	1.01	.81
512-9380	111634-8	34	1.880	B	1.34	1.08	.86
512-9382	111811-9	40	2.180	A	1.40	1.13	.90
512-9384	111634-9	40	2.180	B	1.51	1.22	.97
512-9386	1-111810-0	50	2.680	A	1.76	1.42	1.13
512-9388	1-111634-0	50	2.680	B	1.90	1.53	1.22
512-9390	1-111811-1	60	3.180	A	2.11	1.95	1.81
512-9392	1-111634-1	60	3.180	B	2.28	2.10	1.95
512-9394	1-111811-2	64	3.380	A	2.29	2.12	1.97
512-9396	1-111634-2	64	3.380	B	2.47	2.28	2.11

Strain Reliefs (Fig. C)

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
512-9604	111564-5	10	.30	.23
512-9606	111564-9	14	.32	.25
512-9608	111564-8	16	.33	.26
512-9610	111564-2	20	.36	.28
512-9612	1-111564-0	24	.38	.29
512-9614	111564-3	26	.39	.30
512-9616	1-111564-2	30	.42	.32
512-9618	111564-6	34	.45	.35
512-9620	111564-1	40	.48	.37
512-9624	111564-4	50	.54	.42
512-9630	111564-7	60	.60	.46
512-9632	1-111564-3	64	.66	.51

Pull Loop (For Use With Strain Reliefs) (Fig. D)

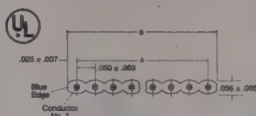
Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
512-9634	88450-2	10	.19	.17
512-9636	88450-3	14	.20	.18
512-9638	88450-4	16	.21	.19
512-9640	88450-5	20	.24	.21
512-9642	88450-6	24	.26	.24
512-9644	88450-7	26	.27	.24
512-9646	1-88450-2	30	.27	.24
512-9648	88450-8	34	.27	.24
512-9650	88450-9	40	.31	.28
512-9652	1-88450-0	50	.34	.31
512-9654	1-88450-1	60	.39	.36

Pull Tab, Snap-In (For Use Without Strain Reliefs) (Fig. E)

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
512-9656	746601-1	10	.50	.46
512-9658	746601-2	14	.54	.49
512-9660	746601-3	16	.56	.51
512-9662	746601-4	20	.60	.54
512-9664	746601-6	26	.66	.59
512-9666	746601-7	30	.66	.59
512-9670	746601-8	34	.73	.67
512-9672	746601-9	40	.79	.72
512-9674	1-746601-1	50	.89	.81
512-9676	1-746601-2	60	.99	.90
512-9678	1-746601-3	64	1.00	.91

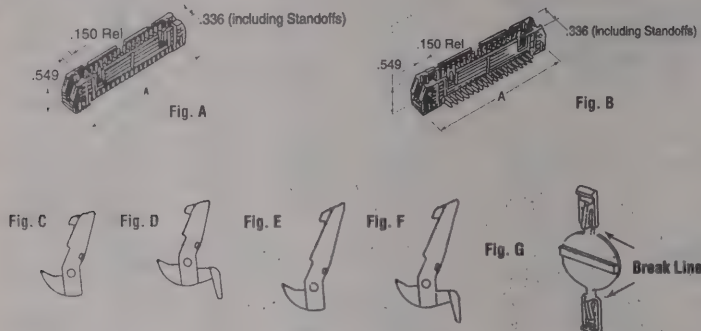
Planar Ribbon Cable, .050" Centers

Standard gray polyvinylchloride (PVC) insulation, 28 AWG stranded conductors for termination to AMP-LATCH® connectors. Blue edge on Conductor 1. 100-ft. continuous (splice-free) reel. **Voltage Rating:** 300 Volts. **Temperature Rating:** -20°C to +105°C. UL Style 2651.



Stock No.	Mfr.'s Type	No. of Cond.	PIH REEL/100'	Stock No.	Mfr.'s Type	No. of Cond.	PER REEL/100'
512-3792	1-57040-2	9	10.08	512-3799	57040-2	25	28.09
512-3793	1-57040-3	10	11.18	512-3800	57040-3	26	25.36
512-3794	1-57040-4	14	15.67	512-3801	57040-4	34	33.18
512-3796	1-57040-5	15	16.77	512-3803	1-57040-8	37	42.98
512-3797	1-57040-6	16	17.88	512-3805	57040-5	40	39.04
512-3798	57040-1	20	20.51	512-3807	57040-6	50	48.81

Universal Ejection Style Pin Headers



Military, Center and Dual Polarized; .100" x .100" Centers — Mate with Novo Receptacles — Terminate to PC Board

Fig. A — 4 Sided Headers, .240" (6.1 mm) Mating Post Length, Straight-Thru, .110" (2.79 mm) Termination Post Length

Stock No.	Mfr.'s Type	No. of Pos.	Finish*	EACH		
				1-99	100-499	500-999
512-3699	102153-1	10	A	.93	.72	.56
512-3531	102154-1	10	B	1.00	.78	.66
512-3701	102153-2	10	A	1.25	.87	.75
512-3532	102154-2	14	B	1.40	1.29	1.20
512-3802	102153-3	16	A	1.40	1.09	.84
512-3533	102154-3	16	B	1.55	1.43	1.33
512-3703	102153-4	20	A	1.70	1.33	1.02
512-3534	102154-4	20	B	1.89	1.75	1.62
512-3804	102153-6	26	A	2.07	1.62	1.25
512-3535	102154-6	26	B	2.27	1.77	1.37
512-3705	102153-8	34	A	2.55	1.99	1.53
512-3536	102154-8	34	B	2.80	2.18	1.68
512-3806	102153-9	40	A	2.90	2.26	1.74
512-3537	102154-9	40	B	3.27	3.02	2.80
512-3707	1-102153-0	50	A	3.50	2.73	2.10
512-3538	1-102154-0	50	B	3.87	3.02	2.33
512-3539	1-102154-1	60	B	4.59	4.24	3.94
512-3808	1-102153-2	64	A	4.24	3.91	3.63

Fig. B — Right-Angle, .110" (2.79 mm) Termination Post Length

512-3725	102159-1	10	A	1.00	.78	.60
512-3542	102160-1	10	B	1.10	.86	.66
512-3726	102159-3	16	A	1.55	1.43	1.33
512-3544	102160-3	16	B	1.72	1.59	1.47
512-3727	102159-4	20	A	1.85	1.44	1.11
512-3545	102160-4	20	B	2.08	1.92	1.78
512-3728	102159-6	26	A	2.33	2.15	2.00
512-3546	102160-6	26	B	2.55	2.35	2.19
512-3729	102159-8	34	A	2.86	2.64	2.45
512-3547	102160-8	34	B	3.08	2.40	1.84
512-3730	102159-9	40	A	3.27	3.01	2.80
512-3548	102160-9	40	B	3.61	3.33	3.09
512-3731	1-102159-0	50	A	3.95	3.64	3.39
512-3549	1-102160-0	50	B	4.36	4.02	3.73
512-3550	1-102160-1	60	B	5.05	4.66	4.33

Latches, Material: Black Thermoplastic, UL 94V-0 Rated

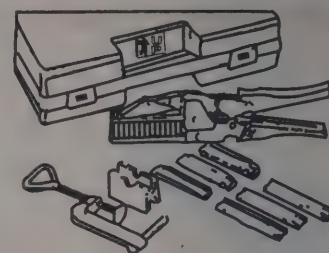
Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-99	100-499	500-999
512-3735	102320-1	C	For mating receptacles with strain relief	.21	.16	.14
512-3736	102186-1	D	For mating receptacles with strain relief	.21	.16	.14
512-3737	102312-1	E	For mating receptacles without strain relief	.21	.16	.14
512-3738	102185-1	F	For mating receptacles without strain relief	.21	.16	.14

Polarization Key

512-3740	499991-2	G	2 keys per tab — sold per tab	.22	.17	.15
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*Finish: A — .00015 (0.0038) gold on post/pin mating end, .000100-.000200 (0.00254-0.00508) bright tin-lead on termination end, with entire contact underplated .000050 (0.00127) nickel; B — .00030 (0.00076) gold on post/pin mating end, .000100-.000200 (0.00254-0.00508) bright tin-lead on termination end, with entire contact underplated .000050 (0.00127) nickel.

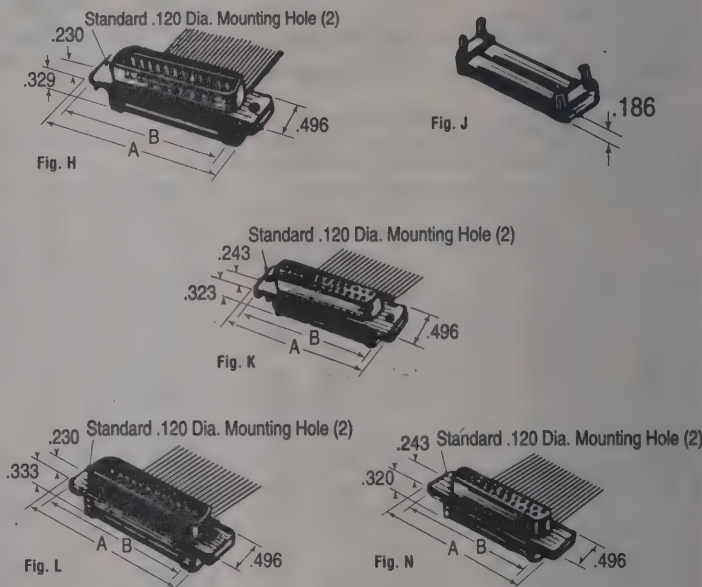
AMP-LATCH® Connector Termination Kit



Includes the hand tool, a bench mount clamp, locators for receptacles, card edge, D-sub's, and a plastic case. Termination of connectors to flat cable up to and including 60 conductors.

512-3795, 768340-1 EACH 783.94

HDF Subminiature D Connectors And Strain Reliefs With Standard Mounting Holes



HDF-20 Low Profile Metal Shell Connectors — Tin Plated Shells

Stock No.	Mfr.'s Type	No. of Pos.	Description	Finish*	Fig.	EACH		
						1-99	100-499	500-999
512-0155	747306-4	9	Plug	1	H	4.03	3.39	2.96
512-0056	747275-4	9	Cable Stabilizer	—	J	.78	.71	.65
512-0165	747303-3	15	Plug	1	H	4.94	4.17	3.63
512-0068	747275-3	15	Cable Stabilizer	—	J	.83	.75	.69
512-0175	747306-2	25	Plug	1	H	6.15	5.19	4.55
512-0076	747275-2	25	Cable Stabilizer	—	J	.61	.56	.51
512-0185	747306-1	37	Plug	1	H	8.76	7.37	6.45
512-0088	747275-1	37	Cable Stabilizer	—	J	.96	.88	.80
512-0160	747303-4	9	Receptacle	1	K	4.05	3.42	2.98
512-0056	747275-4	9	Cable Stabilizer	—	J	.78	.71	.65
512-0170	747303-3	15	Receptacle	1	K	5.08	4.28	3.75
512-0068	747275-3	15	Cable Stabilizer	—	J	.83	.75	.69
512-0180	747303-2	25	Receptacle	1	K	6.67	5.62	4.56
512-0076	747275-2	25	Cable Stabilizer	—	J	.61	.56	.51
512-0190	747303-1	37	Receptacle	1	K	9.44	7.94	6.95
512-0088	747275-1	37	Cable Stabilizer	—	J	.96	.88	.80

HDF-20 Low Profile All-Plastic Connectors

512-0055	747321-4	9	Plug	1	L	3.57	3.00	2.64
512-0056	747275-4	9	Cable Stabilizer	—	J	.78	.71	.65
512-0065	747321-3	15	Plug	1	L	4.18	3.53	3.08
512-0068	747275-3	15	Cable Stabilizer	—	J	.83	.75	.69
512-0070	747321-2	25	Plug	1	L	5.29	4.45	3.91
512-0076	747275-2	25	Cable Stabilizer	—	J	.61	.56	.51
512-0085	747321-1	37	Plug	1	L	7.51	6.32	5.53
512-0088	747275-1	37	Cable Stabilizer	—	J	.96	.88	.80
512-0060	747318-4	9	Receptacle	1	N	3.63	3.07	2.68
512-0056	747275-4	9	Cable Stabilizer	—	J	.78	.71	.65
512-0067	747318-3	15	Receptacle	1	N	4.42	3.73	3.26
512-0068	747275-3	15	Cable Stabilizer	—	J	.83	.75	.69
512-0080	747318-2	25	Receptacle	1	N	5.62	4.74	4.14
512-0076	747275-2	25	Cable Stabilizer	—	J	.61	.56	.51
512-0090	747318-1	37	Receptacle	1	N	7.88	6.63	5.81
512-0088	747275-1	37	Cable Stabilizer	—	J	.96	.88	.80

HDF Subminiature D Hardware Metal Shell And All Plastic

512-3552	746881-1	—	Male Screw Retainers	—	—	1.38	1.25	1.15
512-9070	205817-1	—	Female Screw Locks	—	—	1.27	1.04	.97

*Contact Plating: 1= Phosphor bronze, duplex plated .000030 gold on mating end, tin-lead on termination end, with entire contact nickel underplated

Modular Plugs

- ▶ One-piece construction with preloaded contacts
- ▶ FCC and telephone industry standard size and performance
- ▶ Selectively gold plated contacts



Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
512-5710	5-641334-3	4 Position Handset	.24	.21	.17
512-5714	5-641335-3	4 Position Line Cord	.24	.21	.17
512-5715	5-554710-3	6 Position Round Cable	.32	.28	.21
512-5716	5-641337-3	6 Position Line Cord	.28	.25	.20
512-5717	5-554739-3	8 Position Line Cord	.68	.60	.49
512-5720	5-554743-3	8 Position Line Keyed	.68	.60	.49
512-5718	5-554170-3	8 Position Round Cable Keyed	.68	.60	.49
512-5719	5-554169-3	8 Position Round Cable	.68	.60	.49

Plug with Offset Latch (DEC Connect)



Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
512-5722	5-555237-2	6 Position-Line Cord	.71	.63	.51
512-5723	5-555238-2	6 Position-Round Cable	.71	.63	.51

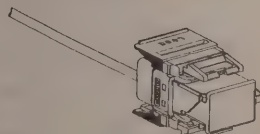
IBM Style Token Ring Data Connector

Designed for the mechanical interface requirements of IEEE 802.5 specification local area networks. The connector is used to terminate 2 twisted pairs of data conductors. This connector mates with another identical connector. Cable termination is by insulation displacement. Cable-braid is held between a ferrule and the connector's integral grounding shield. Termination of the conductors requires only a pair of slip joint pliers. Remove the appropriate posts for the desired cable exit direction. Completed connectors can be snapped into a panel cut-out or used as free-hanging.

Standard Connector Kits
IBM Cable Type: 1, 2, 6. **Cable Exit:** 45°, 90°, or 180°.
 512-5600. 554000-1. 1-24. EACH 5.83
 25-99. EACH 5.53 100-499. EACH 5.15

EMC Data Connector

— NEW —



▶ For Type 1A, 2A, 6A Cable

The original specifications for 150 ohm shielded (Type 1) cables and the AMP Four-Position Data Connector supported signals up to 20 MHz. As LAN speeds have increased, these specifications needed to be extended to provide stable performance at higher frequencies. The Telecommunications Industries Association/Electronics Industries Association (TIA/EIA) has proposed extended specifications for 150 ohm shielded cables and connectors up to 300 MHz. These proposals are being incorporated into pending new specifications TIA/EIA TSB 53 and PN-2840. All of the FOUR plus products presented comply with these specifications.

512-5611. 558585-1. Kit with Integral Locking Latch. 1-24. EACH 6.65
 25-99. EACH 6.31 100-499. EACH 6.05

AMP-LATCH® Card Edge Connectors Without Mounting Ears

Housing and Cover: Black thermoplastic, 94V-0 rated. **Contacts:** .000030 (0.00076) gold plated on PC board mating end. .000100-.000200 (0.00254-.000508) bright tin-lead on terminating end, with entire contact underplated with .000050 (0.00127) nickel.

Stock No.	Mfr.'s Type	No. of Pos.	Contact Plating	EACH		
				1-24	25-99	100-499
512-3742	111109-6	20	A	3.51	3.23	3.01
512-3744	111110-6	20	B	3.37	3.11	2.89
512-3746	111109-5	26	A	5.68	5.02	4.67
512-3748	111109-3	34	A	4.41	4.06	3.78
512-3750	111110-3	34	B	4.20	3.88	3.60
512-3752	111109-2	40	A	5.07	4.68	4.35
512-3754	111109-1	50	A	5.72	4.39	4.34
512-3756	111110-1	50	B	5.92	5.46	5.08

Plating: A—.000030 (0.00076) gold on pin end. B—.000015 (0.00038) gold on pin end.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
512-3758	88113-1	Intercontact keying plug	.20	.18	.15

Modular Tools

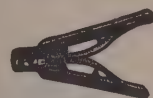


Fig. A



Fig. B

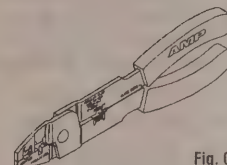


Fig. C

Fig. A — Light Duty Hand Tools. Strips and terminates cable, lightweight and low cost. Constructed of strong DuPont Delrin®.

512-5800. 231648-1. 4 and 6 pos.—line cord. EACH 27.20
 512-5805. 231649-1. 4 pos.—handset. EACH 27.20

Fig. B — Professional Hand Tools and Dies. Ratchet handle assures proper termination. Cuts, strips and terminates cable. All sizes can be accommodated by exchanging die sets.

512-5811. 2-231652-0. Hand tool without dies. EACH 90.95
 512-5812. 2-231652-8. Hand tool with 4-6 pos. die-line. EACH 123.25
 512-5821. 2-231652-1. Hand tool with 8 pos. die-line. EACH 123.25
 512-5822. 2-231652-3. Hand tool with 4 pos. die-handset. EACH 123.25
 512-5825. 2-231652-6. Hand tool with 6 pos. offset die-line. EACH 123.25
 512-5814. 853400-8. Die only, 4-6 pos.—line. EACH 40.80
 512-5815. 853400-1. Die only for 8 pos.—line. EACH 40.80
 512-5820. 853400-3. Die only for 4 pos.—handset. EACH 40.80
 512-5830. 853400-6. Die only for 6 pos. offset-line. EACH 40.80

Fig. C — AMP SUPER CHAMP Modular Plug Service Hand Tool. Crimps 2, 4, 6, and 8 position AMP modular plugs plus blue, long bodied and keyed styles. UL and CSA Approved.

512-5831. 189710-1. EACH 33.15

RS-232 Modular Jack Adapter

Converts 25-contact D-Sub plug/receptacle to 8-contact modular jack.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
512-5700	747868-1	RS-232 Receptacle to Modular Phone Jack	17.45	15.14	14.54
512-5705	747772-1	RS-232 Plug to Modular Phone Jack	17.45	15.14	14.54

Production Hand Tool Kits

All Kits include a carrying case with blade replacement kit and a small screwdriver.

Stock No.	Mfr.'s Type	Description	EACH
512-5835	231666-9	Carrying case, Blade Replacement Kit, Screwdriver only	44.20
512-5840	1-231666-0	Includes 8 position hand tool and 4- and 6-position die set.	201.66
512-5845	1-231666-1	Includes 8 position hand tool 4- and 6-position die, 4-position handset die	237.74

Printed Circuit Board Modular Jacks



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Housing: Polyester, UL 94V-0 rated, black (except for offset latch). **Contact:** .014 thick phosphor bronze. **Plated:** .000050 gold in contact area and .000150 tin-lead on solder tails. Meet or exceed FCC part 68 rules and regulations; REA PE-76 and UL1863, Communications Circuit accessories. UL listed, CSA Certified.

Low Profile (.495 height). Thru-Hole, Side Entry. (Fig. 1)

Stock No.	Mfr.'s Type	No. of Cont.	Panel Staps	EACH	
				1-99	100-499
512-5750	555163-1	6	Yes	.83	.80
512-5752	555165-1	6	No	.83	.80
512-5754	555162-1	8	Yes	.88	.84
512-5756	555164-1	8	No	.88	.84
512-5758	555166-1	8-Keyed	Yes	.88	.84
512-5760	555167-1	8-Keyed	No	.88	.84

Standard Height. Side Entry with Center Latch. Flanged. (Fig. 2)

Stock No.	Mfr.'s Type	No. of Cont.	Panel Staps	1-99	100-499
512-5762	520241-2	4-Handset	No	.95	.90
512-5764	520242-3	6	No	.75	.73
512-5766	520243-4	8	No	.88	.79

Standard Height. Side Entry without Flange. (Fig. 3)

Stock No.	Mfr.'s Type	No. of Cont.	Panel Staps	1-99	100-499
512-5768	520249-2	4-Handset	Yes	.90	.85
512-5770	520250-3	6	Yes	.83	.75
512-5772	520470-3	6	No	1.12	1.01
512-5774	520251-4	8	Yes	.88	.79
512-5776	520426-4	8	No	.94	.85
512-5778	520252-4	8-Keyed	Yes	.80	.77

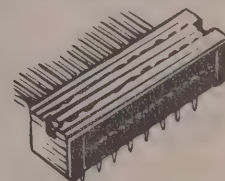
Top Entry with Center Latch. (Fig. 4)

Stock No.	Mfr.'s Type	No. of Cont.	Panel Staps	1-99	100-499
512-5780	520257-2	4-Handset	Yes	.71	.68
512-5782	520258-3	6	Yes	.75	.71
512-5784	520425-3	6	No	.81	.76
512-5786	520259-4	8	Yes	.80	.72
512-5788	556416-1	8	No	.80	.72
512-5790	520260-4	8-Keyed	Yes	.80	.72

With Offset Latch (Gray Body). (Fig. 4)

Stock No.	Mfr.'s Type	No. of Cont.	Panel Staps	1-99	100-499
512-5794	554990-1	6	Yes	.75	.68

AMP-LATCH® DIP Plugs With Cover



.100" x .100" Centers

Stock No.	Kit No.	No. of Pos.	Overall Length A	Finish*	EACH		
					1-24	25-99	100-499
512-3560	746610-1	10	.680	1	1.13	1.02	.81
512-3561	746610-2	14	.880	1	.95	.84	.77
512-3562	746610-3	16	.980	1	1.08	.94	.87
512-3563	746610-4	20	1.180	1	1.23	1.07	.99
512-3565	746610-6	26	1.480	1	1.51	1.33	1.21
512-3567	746610-8	34	1.880	1	1.81	1.58	1.45
512-3568	746610-9	40	2.180	1	2.79	2.39	2.12
512-3569	1-746610-0	50	2.680	1	2.86	2.42	2.25
512-3570	1-746610-1	60	3.180	1	2.96	2.73	2.54

*Contact Plating: 1 = .000100-.000200" (0.00254-0.00508 mm) bright tin-lead over .000050" (0.00127 mm) nickel on entire contact.

CHAMP LATCH® — Low Profile Standard Ribbon Connectors

Terminates to .050 center ribbon cable



Bail Lock Plug Assembly

Stock No.	Mfr.'s Type	No. of Pos.	EACH		
			1-24	25-49	50-99
512-3760	554084-1	36	5.74	5.31	4.29
512-3762	554085-1	50	6.76	6.24	5.05

Panel Mount Plug Assembly

Stock No.	Mfr.'s Type	No. of Pos.	1-24	25-49	50-99
512-3764	554104-1	36	5.74	5.31	4.29
512-3766	554105-1	50	6.76	6.24	5.05

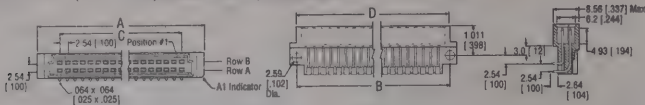
Panel Mount Receptacle Assembly

Stock No.	Mfr.'s Type	No. of Pos.	1-24	25-49	50-99
512-3768	554088-1	36	5.20	4.80	3.89
512-3770	554089-1	24	5.74	5.31	4.29
512-3772	554090-1	50	4.27	3.94	3.66

Meets DIN41612 and IEC603-2. Two Piece Reliability. Flame Retardant. UL Recognized, CSA Certified. All Products Listed are DIN Level II. **Contact Plating:** .000030" Gold in Contact Area, Tin-Lead on Posts, .000050" Nickel Overall.

Type B — Two Row Connectors

Grid: 2.54 × 2.54 (.100" × .100"). Common Bus System Applications: STE Bus and CIMBUS.



Right-Angle Pin Assemblies with Solder Posts

2.64 (.104") post length. Housing: Polyester, black, 94V-0 rated. Contacts: Brass with plating.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2700	536052-5	64	A,B	93.980 3.700	88.900 3.500	85.290 3.358	87.760 3.455	5.33	4.55	3.81

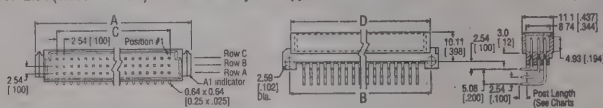
Vertical Receptacle Assemblies with Solder Posts

4.57 (.180") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Phosphor Bronze with plating.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2735	650861-4	64	A,B	93.960 3.700	90.000 3.543	78.740 3.100	85.000 3.346	7.53	6.86	5.99

Type C — Three Row Connectors

Grid: 2.54 × 2.54 (1.000" × 1.000"). Common Bus System Applications: FUTUREBUS, VMEbus, MULTIBUS(II), and NUBUS.



Right-Angle Pin Assemblies with Solder Posts

2.64 (.104") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Brass with plating.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2702	650473-5	96	A,B,C	93.980 3.700	88.900 3.500	74.740 3.100	87.760 3.455	5.85	5.00	4.19
512-2703	650945-5	64	A,C	93.980 3.700	88.900 3.500	78.740 3.100	87.760 3.455	4.50	3.85	3.22

Half Size

512-2701	650478-5	48	A,B,C	53.340 2.100	48.260 1.900	38.100 1.500	47.120 1.855	3.90	3.33	2.79
512-2736	650946-5	32	A,C	53.340 2.100	48.260 1.900	38.100 1.500	47.120 1.855	3.16	2.70	2.26

Expanded Size

512-2737	650906-5	120	A,B,C	114.300 4.500	109.220 4.300	99.060 3.900	108.080 4.255	11.86	10.14	8.49
512-2738	650907-5	150	A,B,C	139.700 5.500	134.620 5.300	124.460 4.900	133.480 5.255	14.85	12.69	10.63

3.30 (.130") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Brass with plating.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2801	650947-5	96	A,B,C	93.980 3.700	88.900 3.500	74.740 3.100	87.760 3.455	6.45	5.51	4.62
512-2803	650951-5	64	A,C	93.980 3.700	88.900 3.500	78.740 3.100	87.760 3.455	4.94	4.22	3.53

Half Size

512-2805	650948-5	48	A,B,C	53.340 2.100	48.260 1.900	38.100 1.500	47.120 1.855	4.29	3.66	3.07
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Right-Angle Pin Assemblies with Solder Leads

Housing: Thermoplastic, glass filled, grey, 94V-0 rated. Shield: Brass. Pin Contacts: Brass.

2.64 (.104") Lead Length

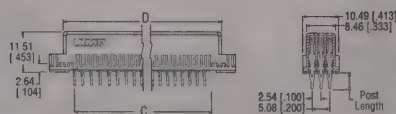
512-2807	650987-5*	96	A,B,C	93.980 3.700	88.900 3.500	74.740 3.100	87.760 3.455	23.04	20.20	17.28
512-2809	650988-5†	96	A,B,C	93.980 3.700	88.900 3.500	78.740 3.100	87.760 3.455	20.60	18.06	15.46

.330 (.130") Lead Length

512-2811	536146-5*	96	A,B,C	93.980 3.740	88.900 3.543	74.740 3.100	87.760 3.455	24.21	21.22	18.17
512-2813	536174-5†	96	A,B,C	93.980 3.700	88.900 3.500	78.740 3.100	87.760 3.455	21.63	18.95	16.23

* Has both upper and lower ground plate. † Lower ground plate only.

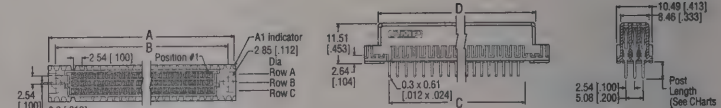
Vertical Receptacle Assemblies with Action Pin Posts



0.64 (.025") Square Posts for PC Board Thickness 2.36 (.093) and above. Housing: Polyester, Grey, 94V-0 Rated. Contacts: Phosphor Bronze.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2827	215912-4†	96	A,B,C	95.000 3.740	90.000 3.543	78.740 3.100	85.000 3.346	9.21	7.51	6.60
512-2829	215781-4†	64	A,C	95.000 3.740	90.000 3.543	78.740 3.100	85.000 3.346	9.29	7.59	6.66

† Post Length: 13 (.512"). ‡ Post Length: 17 (.669").



Vertical Receptacle Assemblies with Solder Posts

2.49 (.098") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Phosphor bronze.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2815	535089-4	96	A,B,C	93.980 3.700	90.000 3.543	78.740 3.100	85.000 3.346	7.89	6.96	6.43
512-2817	650458-4	64	A,C	93.980 3.700	90.000 3.543	78.740 3.100	85.000 3.346	6.23	5.46	5.06

Half Size

512-2819	535091-4	48	A,B,C	53.340 2.100	49.370 1.944	38.100 1.500	44.350 1.746	4.65	4.11	3.80
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3.30 (.130") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Phosphor bronze with plating.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2740	535090-4	96	A,B,C	93.980 3.700	90.000 3.543	78.740 3.100	85.000 3.346	7.89	6.96	6.43
512-2742	650956-4	64	A,C	93.980 3.700	90.000 3.543	78.740 3.100	85.000 3.346	6.23	5.46	5.06

Half Size

512-2744	535070-4	48	A,B,C	53.340 2.100	49.370 1.944	38.100 1.500	44.350 1.746	4.65	4.11	3.80
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Expanded Size

512-2748	535098-4	120	A,B,C	114.300 4.500	110.310 4.343	99.060 3.900	105.310 4.146	11.65	10.28	9.45
512-2750	650405-4	150	A,B,C	139.700 5.500	135.710 5.343	124.460 4.900	130.710 5.146	14.56	12.83	11.86

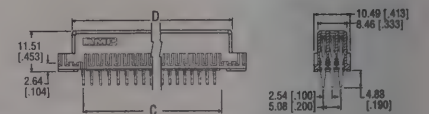
.457 (.180") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Phosphor bronze with plating.

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2821	535043-4	96	A,B,C	93.980 3.700	90.000 3.543	78.740 3.100	85.000 3.346	7.86	6.96	6.43
512-2823	650408-4	64	A,C	93.980 3.700	90.000 3.543	78.740 3.100	85.000 3.346	6.23	5.49	5.06

Half Size

512-2825	535071-4	48	A,B,C	53.340 2.100	49.370 1.944	38.100 1.500	44.350 1.746	4.65	4.11	3.80
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Vertical Receptacle Assemblies with Action Pin Posts



.30 × 0.61 (.012" × 0.024") for PC Board thickness 1.57 (.062") and above 4.83 (.190") post length.

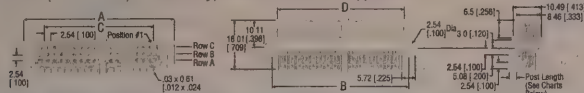
Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2752	535032-4	96	A,B,C	93.980 3.700	90.000 3.453	78.740 3.100	85.000 3.346	8.62	6.03	4.83
512-2754	535059-4	64	A,C	93.980 3.700	90.000 3.543	78.740 3.100	85.000 3.346	6.90	6.09	5.61

Half Size

512-2756	535034-4	48	A,B,C	53.340 2.100	49.370 1.944	38.100 1.500	44.350 1.746	5.18	4.58	4.20
512-2758	535068-4	32	A,C	53.340 2.100	49.370 1.944	38.100 1.500	44.350 1.746	4.16	3.66	3.38

Type R— Three Row Connectors

Grid: 2.54 x 2.54 (.100" x .100"). Inverse of Type C — for similar Bus applications.



Right-Angle Receptacle Assemblies with Solder Posts

2.79 (.110") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Phosphor Bronze with plating.

Standard Size

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2717	650461-4	96	A,B,C	93.870 3.696	88.900 3.500	78.740 3.100	85.000 3.346	8.36	7.76	7.16
512-2718	650870-4	64	A,C	93.870 3.696	88.900 3.500	78.740 3.100	85.000 3.346	6.34	5.89	5.44

Half Size

512-2714	650868-4	48	A,B,C	53.240 2.096	48.260 1.900	38.100 1.500	44.350 1.746	5.46	5.07	4.68
512-2762	650867-4	32	A,C	53.240 2.096	48.260 1.900	38.100 1.500	44.350 1.746	4.37	4.06	3.74

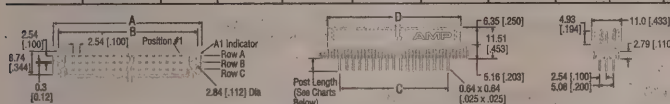
Expanded Size

512-2764	650874-4	120	A,B,C	114.200 4.496	109.220 4.300	99.060 3.900	105.210 4.142	12.01	11.15	10.30
512-2766	650875-4	150	A,B,C	139.600 5.496	134.620 5.300	124.460 4.900	130.610 5.142	15.04	13.96	12.89

4.24 (.167") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Phosphor Bronze with plating.

Standard Size

512-2851	650462-4	96	A,B,C	93.870 3.696	88.900 3.500	78.740 3.100	85.000 3.346	8.36	7.76	7.16
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Vertical Pin Assemblies with Solder Posts

3.30 (.130") post length. Housing: Polyester, grey, 94V-0 rated. Contacts: Brass with plating.

Standard Size

512-2853	650908-5	96	A,B,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	5.66	4.97	4.20
512-2855	650933-5	64	A,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	4.51	3.97	3.34

Half Size

512-2856	650479-5	48	A,B,C	54.370 2.140	49.350 1.943	38.100 1.500	47.370 1.865	3.89	3.41	2.88
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VL and MCA Standard Edge .050 Series Connectors

- Easy Mating of High Circuit Count Daughter Boards
- Underwriter Laboratories Inc. File No. E28476
- CSA Certified File No. LR7189A

.100" Post Length, 30p Gold Plating, Straight Leads

Stock No.	Mfr.'s Type	No. of Dual Pos.	Configuration	Length	EACH		
					1-49	50-99	100-499
512-2858	650090-1	56	1 Key - 2 Pylons	3.14"	1.12	1.08	.98
512-2860	650091-1	66	1 Key - 1 Web - 2 Pylons	3.74"	1.54	1.47	1.35
512-2862	650092-1	91	1 Key - 2 Pylons	4.89"	1.90	1.82	1.66
512-2864	650706-1	97	1 Key - 1 Web - 2 Pylons	5.29"	3.10	2.95	2.71
512-2866	650707-1	101	1 Key - 1 Web - 2 Pylons	5.49"	3.18	2.86	2.78

68 Position Pin Headers and Accessories — NEW —

Right-angle pin headers, available in standard, raised and stacked standard profiles, provide attachment to the host equipment and feature three levels of sequencing. Both standard and raised profile pin headers offer thru-hole and surface-mount lead configurations for top or bottom mounting. Stacked standard profile pin headers permit 136 circuit connections with thru-hole lead configurations for top mounting. An organizer on the 68- and 136-position headers and 4-sided post lead-in aids in the placement of the headers on the PC board. The true position of the leads is held to 0.30 (.012). This allows a small hole size, 0.84 (.033), to be used in the PC pattern, which gives the designer flexibility in routing signal paths. Guide rails and card guides facilitate the insertion and removal of the memory cards. Pin headers find wide use in such equipment as: computer, office, photographic, communications, industrial, test and medical, and pay.

Standard Profile, Pin Headers

Stock No.	Mfr.'s Type	No. of Pos.	Board Mount	Lead Type	EACH		
					1-49	50-99	100-499
512-9400	535653-1	68	Top	Thru-Hole	4.97	4.42	4.03
512-9402	535651-1	68	Top	Surface mount	4.73	4.20	3.84
512-9404	535654-1	68	Bottom	Thru-Hole	4.97	4.42	4.03
512-9406	535652-1	68	Bottom	Surface mount	4.73	4.20	3.84

Raised Profile, Pin Headers

512-9408	535655-1	68	Top	Thru-hole	5.18	4.60	4.20
512-9410	535657-1	68	Top	Surface mount	4.91	4.36	3.98
512-9412	535656-1	68	Bottom	Thru-hole	5.18	4.60	4.20
512-9414	535658-1	68	Bottom	Surface mount	4.91	4.36	3.98

Stacked Standard Profile, Pin Header, With Holddown

512-9416	146027-1	132	Top	Thru-hole	11.70	10.73	10.20
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Vertical Pin Assemblies with Solder Posts (Continued)

4.57 (.180") post length. Housing: Polyester, Grey, 94V-0 rated. Contacts: Brass with Plating.

Standard Size

Stock No.	Mfr.'s Type	No. of Pos.	Rows Loaded	Dimensions - mm/in				EACH		
				A	B	C	D	1-24	25-49	50-99
512-2721	650470-5	96	A,B,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	5.40	4.75	4.00
512-2722	650934-5	64	A,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	4.29	3.77	3.18

Half Size

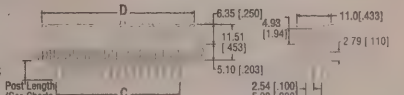
512-2712	650477-5	48	A,B,C	54.370 2.140	49.350 1.943	38.100 1.500	47.370 1.865	3.70	3.25	2.74
512-2768	650936-5	32	A,C	54.370 2.140	49.350 1.943	38.100 1.500	47.370 1.865	3.11	2.73	2.31

Expanded Size

512-2770	650910-5	120	A,B,C	115.190 4.535	110.310 4.343	99.060 3.900	108.330 4.265	8.47	7.44	6.29
512-2772	650911-5	150	A,B,C	140.590 5.535	135.710 5.343	124.460 4.900	133.730 5.265	10.18	8.94	7.54

Vertical Pin Assemblies with ACTION PIN Posts

0.64 (.025") square, for PC Board thickness 2.36 (.093") and above.



Standard Size 6.35 (.250") Post Length

512-2723	650889-5	96	A,B,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	7.17	6.86	5.98
512-2774	650912-5	64	A,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	5.45	5.22	4.54

Half Size 6.35 (.250") Post Length

512-2776	650918-5	48	A,B,C	54.370 2.140	49.350 1.943	38.100 1.500	47.370 1.865	4.72	4.52	4.18
512-2778	650931-5	32	A,C	54.370 2.140	49.350 1.943	38.100 1.500	47.370 1.865	3.73	3.57	3.30

Standard Size 13.23 (.521") Post Length

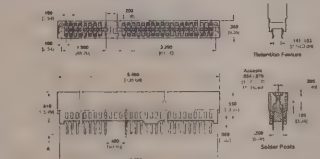
512-2724	650909-5	96	A,B,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	7.54	7.21	6.67
512-2784	650930-5	64	A,C	95.000 3.740	90.000 3.543	78.740 3.100	88.010 3.465	5.71	5.46	5.05

Half Size 13.23 (.521") Post Length

512-2786	650917-5	48	A,B,C	54.370 2.140	49.350 1.943	38.100 1.500	47.370 1.865	4.06	3.89	3.60
512-2788	650932-5	32	A,C	54.370 2.140	49.350 1.943	38.100 1.500	47.370 1.865	3.92	3.75	3.47

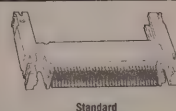
Standard Edge II Connectors

- Housing: Black Glass-Filled Polyester 94V-0 Rated
- Contacts: Phosphor Bronze, Plated with 30p Gold



.100" (2.54) Centerline, Special 18/31 Dual Combination Connector, Vertical Solder Posts

Stock No.	Mfr.'s Type	No. of Dual Pos.	Description	Length	EACH		
					1-24	25-49	50-99
512-2868	645169-2	52	Retention Leads	5.35"	1.81	1.67	1.55
512-2870	645169-3	52	Straight Leads	5.35"	1.81	1.67	1.55



Guide Rails and Guide Rail Assembly

Stock No.	Mfr.'s Type	Description	For Use With	EACH		
				1-24	25-49	50-99
512-9418	535664-1	(Left) with holddown	Standard	2.27	2.07	1.91
512-9420	535664-2	(Right) with holddown	Standard	2.27	2.07	1.91
512-9422	535661-1	(Left) with holddown	Raised	2.27	2.07	1.91
512-9424	535661-2	(Right) with holddown	Raised	2.27	2.07	1.91
512-9426	146035-1	(Left) with holddown	Stacked	4.55	4.17	3.84
512-9428	146035-2	(Right) with holddown	Stacked	4.55	4.17	3.84
512-9430	146033-1	Guide assembly, ESD	Standard	3.71	3.40	3.14
512-9432	146034-1	Guide assembly, ESD	Raised	3.71	3.40	3.14

Ejector Assemblies

512-9434	146021-1	With right button	Standard	4.79	4.26	3.88
512-9436	146019-1	With left button	Standard	4.79	4.26	3.88
512-9438	146022-1	With right button	Raised	4.79	4.26	3.88
512-9440	146020-1	With left button	Raised	4.79	4.26	3.88
512-9442	146036-1*	Left or right	Stacked	9.81	8.72	7.95

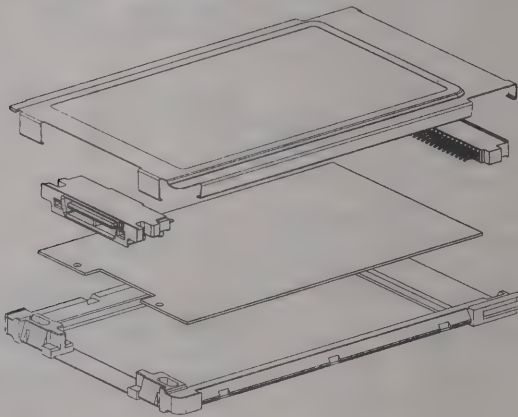
*Ejector with both buttons on same side; can be used for either left or right orientation.

Frame Kit Selection Guide

Frame Kit Configuration		Frame Kit Mfr.'s Type		Frame Kit Selection Guide			Cable Assemblies* Cable Connector Kits†	
Style	No. of Pos.	With Recess Cover	Without Recess Cover	68-Position Receptacle Assembly Mfr.'s Type	I/O Connector Assembly Mfr.'s Type	Plug Assembly Mfr.'s Type	Mfr.'s Type	Description
Type II Unshielded 1.27 (.050) CL	9	557920-1	557920-3	535632-1 or 535688-1	557908-1	558314-1	557707-1* 557707-2* 557707-3* 557707-4*	Unshielded Cable, Without Grommet Unshielded Cable, With Grommet Shielded Cable, Without Grommet Shielded Cable, With Grommet
	15	557920-2	557920-4	535632-1 or 535688-1	557908-2	557715-2	557712-1* 557712-2* 557712-3*	Shielded Cable, Without Grommet Unshielded Cable, Without Grommet Unshielded Cable, With Grommet
Type II Shielded 0.8 (.031) CL	15	558133-1 558133-2†	558133-4	535632-1 or 535688-1	558134-3 Keyed 1 558134-1 Keyed 2 558134-4 Keyed 3	—	558127-1† 558127-2† 558127-3† 558126-1† 558126-2† 558126-3†	With Plastic Latch, Keyed 2 With Plastic Latch, Keyed 1 With Plastic Latch, Keyed 3 With Metal Latch, Keyed 2 With Metal Latch, Keyed 1 With Metal Latch, Keyed 3
	33	558133-3 558133-6†	558133-5	535632-1 or 535688-1	558134-5 (Keyed 1) 558134-2 (Keyed 2) 558134-6 (Keyed 3)	—	558277-1† 558126-4† 558277-2†	With Metal Latch, Keyed 1 With Metal Latch, Keyed 2 With Metal Latch, Keyed 3
Type I Shielded 0.8 (.031) CL (For I/O Applications)	15	558135-3 558135-4†	558135-1 558135-2†	146061-1	558289-2 (Keyed 1) 558289-1 (Keyed 2)	—	558127-1† 558127-2† 558126-1† 558126-2†	With Plastic Latch, Keyed 2 With Plastic Latch, Keyed 1 With Metal Latch, Keyed 2 With Metal Latch, Keyed 1
Type I (For Memory Card Applications)	No I/O Port Offset PCB	558138-1	558138-2	146061-1	—	—	—	—

†Frame kits with LED openings.

Series I, Type II Unshielded



Frame Kit

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-24	25-99	100-499
512-9700	557920-1	9	With Recessed Label Area	4.00	3.69	3.43
512-9702	557920-2	15	With Recessed Label Area	4.41	4.07	3.78
512-9704	557920-3	9	Without Recessed Label Area	4.00	3.69	3.43
512-9706	557920-4	15	Without Recessed Label Area	4.41	4.07	3.78

I/O Connector Assembly

512-9708	557908-1	9	Keyed Header	3.85	3.55	3.30
512-9710	557908-2	15	Keyed Header	4.53	4.18	3.88

Plug Assembly

512-9712	558314-1	9	Keyed Plug	4.88	4.51	4.19
512-9714	557715-2	15	Keyed Plug	5.22	4.82	4.48

Cable Assemblies (Length: 269 mm)

512-9716	557707-1	9	Unshielded Without Grommet	7.31	6.75	6.27
512-9718	557707-2	9	Unshielded Without Grommet	8.23	7.60	7.06
512-9720	557707-3	9	Shielded Without Grommet	8.11	7.49	6.96
512-9722	557707-4	9	Shielded With Grommet	9.08	8.38	7.79
512-9724	557712-1	15	Shielded Without Grommet	9.46	8.73	8.11
512-9726	557712-2	15	Shielded Without Grommet	9.10	8.40	7.80
512-9728	557712-3	15	Shielded With Grommet	10.03	9.26	8.60

68-Position Receptacle Assemblies

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-24	25-99	100-499
512-9796	535632-1	68	Surface Mount	5.46	5.04	4.68
512-9798	535688-1	68	Straddle Mount	5.46	5.04	4.68
512-9800	146061-1	68	Surface Mount	5.46	5.04	4.68

Series II, Types I and II, Shielded, 0.8 mm

Frame Kit, Type I and II for I/O Applications

Stock No.	Mfr.'s Type	No. of Pos.	Type	Description	EACH		
					1-24	25-99	100-249
512-9730	558135-1	15	I	Offset PB, Without Recessed Label Area	4.41	4.07	3.78
512-9732	558135-2	15	I	Offset PB, Without Recessed Label Area, LED Opening	4.41	4.07	3.78
512-9734	558135-3	15	I	Offset PB, With Recessed Label Area	4.41	4.07	3.78
512-9736	558135-4	15	I	Offset PB, With Recessed Label Area, LED Opening	4.83	4.46	4.14
512-9738	558133-1	15	II	With Recessed Label Area	4.41	4.07	3.78
512-9740	558133-2	15	II	With Recessed Label Area, LED Opening	4.83	4.46	4.14
512-9742	558133-3	33	II	With Recessed Label Area	4.85	4.48	4.16
512-9744	558133-4	15	II	Without Recessed Label Area	4.41	4.07	3.78
512-9746	558133-5	33	II	Without Recessed Label Area	4.85	4.48	4.16
512-9748	558133-6	33	II	Without Recessed Label Area, LED Opening	4.83	4.46	4.14

I/O Assembly, Type I And II

512-9762	558289-1	15	I	Key 2	4.97	4.59	4.26
512-9764	558289-2	15	I	Key 1	4.97	4.59	4.26
512-9766	558134-1	15	II	Key 2	4.97	4.59	4.26
512-9768	558134-2	33	II	Key 2	7.09	6.55	6.08
512-9770	558134-3	15	II	Key 1	4.97	4.59	4.26
512-9772	558134-4	15	II	Key 3	4.97	4.59	4.26
512-9774	558134-5	33	II	Key 1	7.09	6.55	6.08
512-9776	558134-6	33	II	Key 3	7.09	6.55	6.08

Frame Kit, Type I For Memory Card Applications

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
512-9750	558138-1	No I/O Port, Offset PCB, With Recessed Label Area	4.41	4.07	3.78
512-9752	558138-2	No I/O Port, Offset PCB, Without Recessed Label Area	4.41	4.07	3.78
512-9754	558361-1	No I/O Port, Centered PCB, With Recessed Label Area	4.49	4.15	3.85
512-9756	558361-2	No I/O Port, Centered PCB, Without Recessed Label Area	4.49	4.15	3.85

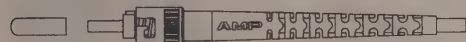
Frame Kit, Type I for DRAM Applications

512-9758	558360-1	No I/O Port, Centered PCB, With Recessed Label Area	4.49	4.15	3.85
512-9760	558360-2	No I/O Port, Centered PCB, Without Recessed Label Area	4.49	4.15	3.85

Cable Connector Kits

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-24	25-99	100-499
512-9778	558126-1	15	Metal Latch, Key 2	5.77	5.32	4.94
512-9780	558126-2	15	Metal Latch, Key 1	5.77	5.32	4.94
512-9782	558126-3	15	Metal Latch, Key 3	5.77	5.32	4.94
512-9784	558127-1	15	Plastic Latch, Key 2	5.65	5.22	4.84
512-9786	558127-2	15	Plastic Latch, Key 1	5.65	5.22	4.84
512-9788	558127-3	15	Plastic Latch, Key 3	5.65	5.22	4.84
512-9790	558126-4	33	Metal Latch, Key 2	7.74	7.14	6.63
512-9792	558277-1	33	Metal Latch, Key 1	7.74	7.14	6.63
512-9794	558277-2	33	Metal Latch, Key 3	7.74	7.14	6.63

ST Style Connectors



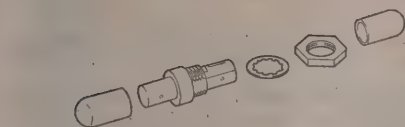
AMP's ceramic ferruled ST compatible connectors offer high performance (.3 dB avg. loss) and great value. The plastic ferrule connectors offer good performance (.7 dB avg. loss) at a lower price. For cable diameters up to 3 mm.

Stock No.	Mfr.'s Type	Ferrule Type	Fiber Type	EACH	
				1-24	25-49
512-6500	501380-1	Ceramic	125/Multimode	8.26	7.44
512-6505	501380-6	Ceramic	140/Multimode	8.26	7.44
512-6510	502579-2	Ceramic	Singlemode	12.92	11.93

Tool Kit for ST Style Connectors

512-6541. Model 503746-1.....EACH 694.01

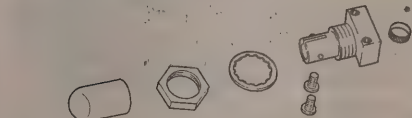
ST Style Coupling Receptacle



Metal alignment sleeve, use for singlemode or multimode applications. Joins two ST connectors in free hanging or panel mount applications. Includes lock washer, nut, and two dust caps. Nickel plated zinc die cast.

512-6565. Model 504021-1. 1-24.....EACH 6.29
25-49.....EACH 5.75 50-99.....EACH 5.60

ST Style Active Device Receptacle



Join ST connectors to LEDs or detectors in TO-18, TO-46, or TO-52 packages. Mount to PC board or through panel. Packaged with lock washer, nut, alignment ring, mounting screws, and dust cap. Nickel plated zinc die cast.

512-6570. Model 501474-1. 1-24.....EACH 6.48
25-49.....EACH 5.98 50-99.....EACH 5.56

SC Type Connector and Coupling Receptacle



Singlemode connectors compatible with all SC type connectors. High performance and simple assembly. Insertion Loss: .3 dB avg. Return Loss: better than 40 dB. Pre-radiused ferrule ensures a PC finish. Panel mountable receptacle mates two SC style connectors. Includes dust caps. Use for both multimode and singlemode. Plastic housing and metal alignment sleeve.

SC Type Connectors

Stock No.	Mfr.'s Type	Housing Color	Fiber Type	EACH	
				1-24	25-49
512-6566	502883-1	Beige	125/Simplex Multimode	12.90	11.75
512-6575	502882-2	Blue	126/Simplex Multimode	20.31	18.75
512-6567	503553-1	Beige	125/Duplex Multimode	25.46	23.18
512-6568	503554-1	Blue	126/Duplex Singlemode	39.36	35.85

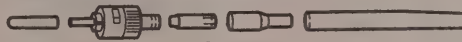
SC Coupling Receptacle

512-6580. Model 502632-8. 1-24.....EACH 13.48
25-49.....EACH 12.44 50-99.....EACH 11.56

Termination Kit for SC Type Connector

512-6586. Model 503746-5.....EACH 663.11

LightCrimp™ Connectors



Epoxyless connectors terminate fiber cables the easy way, with no epoxy mess or curing. Crimp on the connectors with the special tool and polish, in less than two minutes. Insertion Loss: Singlemode — .2 dB avg.; Multimode — .2 dB avg.

ST Style

Stock No.	Mfr.'s Type	Ferrule Type	Fiber Type	EACH	
				1-24	25-49
512-6515	503453-1	Plastic	125/Multimode	8.78	8.03
512-6545	504034-1	Stainless Steel	125/Multimode	10.11	9.34
512-6656	504001-1	Ceramic	125/Multimode	12.48	11.59
512-6555	504000-1	Ceramic	126/Singlemode	26.89	24.83

SC Style

Stock No.	Mfr.'s Type	Ferrule Type	Fiber Type	EACH	
				1-24	25-49
512-6563	503692-1	Ceramic	125/Simplex Multimode	12.90	10.93
512-6564	503693-1	Ceramic	125/Duplex Multimode	25.00	22.78

Tool Kit for LightCrimp™ Connectors

512-6561. Model 503330-1. ST Kit.....EACH 969.41
512-6562. Model 503706-1. SC Kit.....EACH 835.35

General Purpose Epoxy and Applicators

Recommended for all epoxy style fiber connectors. One tube each of resin and catalyst terminates up to 200 connectors. Use with applicators (syringes) listed. Cures in 30 minutes at 100°C, or 24 hrs. at room temperature.

512-6590. Model 502418-1. Epoxy.....EACH 31.10
512-6595. Model 501473-3. Applicator.....EACH 1.05

Polishing Film

Package of ten 8½ × 11 sheets of connector polishing film. Each package can be used to polish up to 100 connectors.

512-6600. Model 228433-8. 5 µm. 1-4.....PK./10 53.87
5-9.....PK./10 49.73
512-6605. Model 228433-7. 1 µm. 1-4.....PK./10 53.87
5-9.....PK./10 49.73
512-6610. Model 228433-5. 0.3 µm. 1-4.....PK./10 53.87
5-9.....PK./10 49.73

FDDI (FSD) Connector



AMP Fixed Shroud Duplex (FSD) connectors meet the specs of ANSI X3T9 (FDDI). Ceramic or plastic ferrules; plastic housing; polypropylene strain relief; and dust cap with A, B, and M keys. Average Loss: .3dB. Use kit below and epoxy shown on this page.

For 125 µm Multimode Fibers in Zip-Style Jacket (Ceramic)
512-6665. Model 502015-1. 1-24.....EACH 20.65
25-49.....EACH 19.07 50-99.....EACH 17.70

For 125 µm Multimode Fibers in Zip-Style Jacket (Plastic)
512-6666. Model 503347-5. 1-24.....EACH 16.55
25-49.....EACH 15.19 50-99.....EACH 14.11

Termination Kit for FDDI Connector

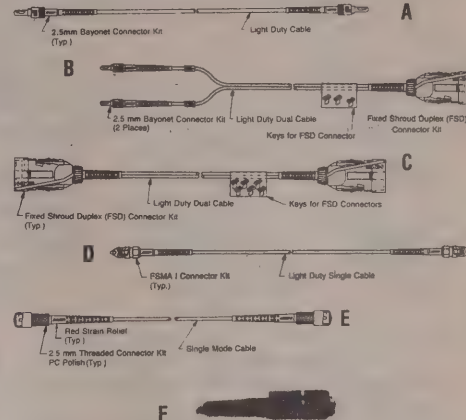
512-6671. Model 503746-6.....EACH 1084.40

Fiber Optic Cable

Single fiber cable, 3mm in diameter with OFNR (riser rated) flame rating. Premium, 100 kpsi proof tested.

Stock No.	Mfr.'s Type	Cable Type	PER 100 METERS
512-6620	502083-1	62.5/125 (FDDI Grade)	166.60
512-6630	501530-1	Singlemode	146.20

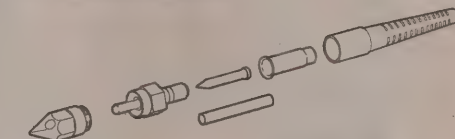
Fiber Optic Cable Assemblies



Use these pre-terminated assemblies for equipment hookup, testing, or experimentation. These cable assemblies are manufactured with 62.5/125, FDDI grade, OFNR rated fiber cable. They are 100% tested. All assemblies are 1 meter long.

Stock No.	Mfr.'s Type	Description	No. of Fibers	Fig.	EACH	
					1-4	5-9
512-6635	502144-1	ST/ST	1	A	28.48	26.28
512-6640	502125-1	FDDI/ST	2	B	60.18	55.55
512-6645	502122-1	FDDI/FDDI	2	C	63.89	58.97
512-6650	502149-1	FSMA/FSMA	1	D	34.53	31.87
512-6655	501868-5	FC/FC (Singlemode)	1	E	44.52	41.10
512-6660	503166-1	SC/SC (Singlemode)	1	F	44.82	39.53

FSMA Connectors



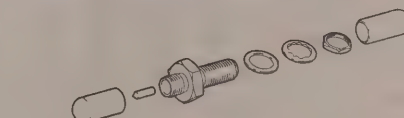
Compatible with all 905 FSMA connectors. The 905 type features a polymer tip that self aligns with the mating receptacle for low loss.

125/Multimode
512-6676. Model 504566-1. 1-24.....EACH 9.32
25-49.....EACH 8.60 50-99.....EACH 7.99

Termination Kit for FSMA Connectors

512-6696. Model 503746-2.....EACH 623.35

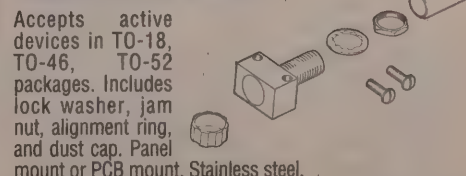
FSMA Coupling Receptacle



Joins two free-hanging or panel mounted FSMA connectors. Stainless steel, with lock washer, jam nut, alignment sleeve, and dust caps.

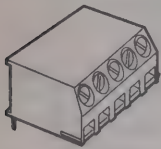
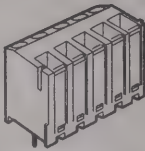
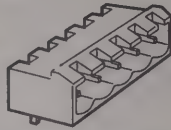
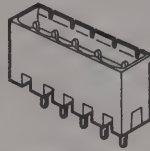
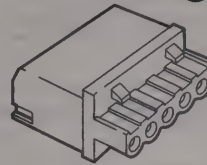
512-6685. Model 501049-1. 1-24.....EACH 11.42
25-49.....EACH 10.55 50-99.....EACH 9.80

FSMA Device Mount



512-6690. Model 501055-1. 1-24.....EACH 11.53
25-49.....EACH 10.64 50-99.....EACH 9.88

TERMI-BLOK™ Stacking Connectors

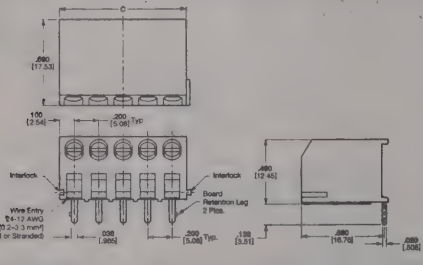
PCB Terminal Block,
Right AnglePCB Terminal Block,
VerticalHeader Assembly,
Right Angle, Closed EndsHeader Assembly,
Vertical, Closed EndsPluggable
Terminal Block

- Recognized Under The Component Program Of Underwriters Laboratories Inc., File No. E60677
- Certification By Canadian Standards Association, File No. LR 7189A-442
- Product Under A Quality Management System Certified To ISO 9001
- Housings: UL 94V-0
- .200 (5.08) Centers
- Color: Black

The new, modular design TERMI-BLOK connector consists of one-piece right-angle and vertical mount PCB terminal blocks, and cable connectors with mating right-angle or vertical mount PCB headers.

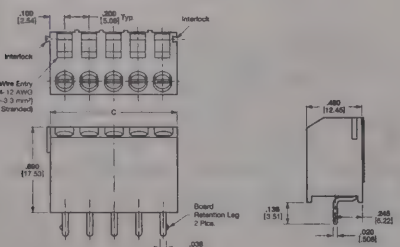
Stackable terminal block connectors feature screw clamp contacts that accept wire size range 24-12 AWG (0.2-3.3 mm²), solid or stranded. Wire entry is parallel to the screws (deviation <30°).

PCB Terminal Block, Right-Angle



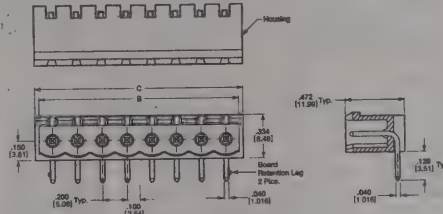
Stock No.	Mfr.'s Type	No. of Pos.	Dim. (In.)	EACH		
				1-99	100-499	500-999
512-8300	786469-1	1	.200	.45	.41	.33
512-8302	786469-2	2	.400	.90	.81	.65
512-8304	786469-3	3	.600	1.35	1.22	.97
512-8306	786469-4	4	.800	1.80	1.63	1.29
512-8308	786469-5	5	1.000	2.25	2.04	1.61
512-8310	1-786469-6	6	1.200	2.70	2.44	1.93
512-8312	1-786469-7	7	1.400	3.15	2.85	2.25
512-8314	786469-8	8	1.600	3.60	3.26	2.57
512-8315	1-786469-9	9	1.800	4.04	3.66	2.89
512-8318	786469-7	10	2.000	4.49	4.07	3.21

PCB Terminal Block, Vertical



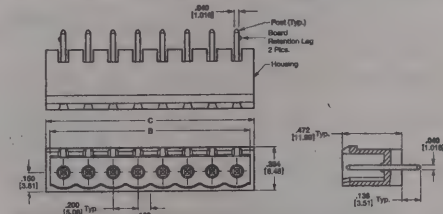
Stock No.	Mfr.'s Type	No. of Pos.	Dim. (In.)	EACH		
				1-99	100-499	500-999
512-8320	786473-1	1	.200	.45	.41	.33
512-8322	786473-2	2	.400	.90	.81	.65
512-8324	786473-3	3	.600	1.35	1.22	.97
512-8326	786473-4	4	.800	1.80	1.63	1.29
512-8328	786473-5	5	1.000	2.25	2.04	1.61
512-8330	1-786473-6	6	1.200	2.70	2.44	1.93
512-8332	1-786473-7	7	1.400	3.15	2.85	2.25
512-8334	786473-8	8	1.600	3.60	3.26	2.57
512-8336	1-786473-9	9	1.800	4.04	3.66	2.89
512-8338	786473-7	10	2.000	4.49	4.07	3.21

Header Assembly, Right-Angle, Closed Ends



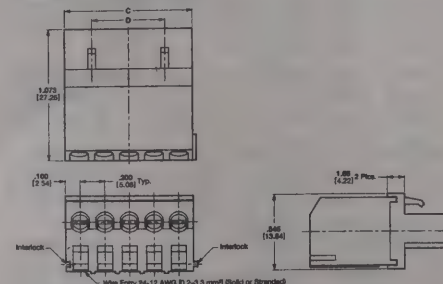
Stock No.	Mfr.'s Type	No. of Pos.	Dim. (In.)		EACH		
			B	C	1-99	100-499	500-999
512-8340	1-786488-1	2	.410	.450	.39	.34	.28
512-8342	1-786488-2	3	.610	.650	.58	.52	.41
512-8344	1-786488-3	4	.810	.850	.76	.69	.54
512-8346	1-786488-4	5	1.010	1.050	.94	.86	.68
512-8348	1-786488-5	6	1.210	1.250	1.15	1.03	.82
512-8350	1-786488-6	7	1.410	1.450	1.33	1.20	.95
512-8352	1-786488-7	8	1.610	1.650	1.51	1.37	1.08
512-8354	1-786488-8	9	1.810	1.850	1.72	1.55	1.23
512-8356	1-786488-9	10	2.010	2.050	1.90	1.72	1.36

Header Assembly, Vertical, Closed Ends



Stock No.	Mfr.'s Type	No. of Pos.	Dim. (In.)		EACH		
			B	C	1-99	100-499	500-999
512-8358	1-786486-1	2	.410	.450	.39	.34	.28
512-8360	1-786486-2	3	.610	.650	.58	.52	.41
512-8362	1-786486-3	4	.810	.850	.76	.69	.54
512-8364	1-786486-4	5	1.010	1.050	.94	.86	.68
512-8366	1-786486-5	6	1.210	1.250	1.15	1.03	.82
512-8368	1-786486-6	7	1.410	1.450	1.33	1.20	.95
512-8370	1-786486-7	8	1.610	1.650	1.51	1.37	1.08
512-8372	1-786486-8	9	1.810	1.850	1.72	1.55	1.23
512-8374	1-786486-9	10	2.010	2.050	1.90	1.72	1.36

Pluggable Terminal Block



Stock No.	Mfr.'s Type	No. of Pos.	Dim. (In.)		EACH		
			B	C	1-99	100-499	500-999
512-8376	786478-1	1	.200	—	.58	.51	.41
512-8378	786478-2	2	.400	—	1.13	1.02	.81
512-8380	786478-3	3	.600	.200	1.70	1.53	1.21
512-8382	786478-4	4	.800	.400	2.25	2.04	1.61
512-8384	786478-5	5	1.000	.600	2.82	2.55	2.02
512-8386	1-786478-6	6	1.200	.800	3.39	3.06	2.42
512-8388	1-786478-7	7	1.400	1.000	3.94	3.57	2.82
512-8390	786478-8	8	1.600	1.200	4.51	4.08	3.23
512-8392	1-786478-9	9	1.800	1.400	5.06	4.60	3.62
512-8394	786478-7	10	2.000	1.600	5.63	5.10	4.03

FLEXI-BLOK™ Terminal Block System



AMP FLEXI-BLOK™ terminal block assemblies can be custom-made in seconds. Any number of blocks, assembled on tape can be pulled from a convenient, stackable dispenser carton. Cutting the desired number of blocks and the required length of track can be accomplished with a handy cutting tool or a hacksaw. The track, GE NORLY EN 265, conforms to curved surfaces. Both the track and the blocks are self-extinguishing. To complete a proper assembly, after selecting the size blocks with appropriate electrical capacity, track is cut to the length of the required number of terminal blocks, plus two extra spaces to accommodate end stops. After the strip of terminal blocks is slid onto the track, insertion of an end stop in each end completes the assembly. Pre-drilled holes in the track allow quick mounting on flat or curved surfaces. In addition to direct application of wire ends under screw heads, plates with FASTON tabs or jumper tabs can be installed on size #6 and #8 FLEXI-BLOK™ assemblies.

#6 Blue FLEXI-BLOK™ and Accessories

Stock No.	Mfr.'s Type	Description	Pkg. Size	PER PACK
512-9992	1-604102-1	One block assembly on tape with nickel-plated brass screws (100-block dispenser carton)	100	31.47
512-8604	1-601805-1	3' long track (accommodates 80 positions, 2 end stops)	1	2.43
512-6038	603817-4	3' long flanged track for marker I.D. (accommodates 80 positions, 2 end stops)	1	3.91
512-8624	604111-1	End stops (2 required per assembly)	100	6.29
512-4081	604008-1	Cutting tool (tape or track)	1	24.65
512-6019	601985-2	Jumper tab	1	.15
512-1989	3-601989-1	FASTON™ flat double tab	100	24.89
512-1990	3-601989-2	FASTON™ 45° double tab	100	31.16
512-1991	3-601989-3	FASTON™ 90° double tab	100	22.67

#8 Yellow FLEXI-BLOK™ and Accessories

Stock No.	Mfr.'s Type	Description	Pkg. Size	PER PACK
512-8643	1-604152-1	One block assembly on tape with nickel-plated brass screws (100-block dispenser carton)	100	37.15
512-1806	1-601806-1	3' long track (accommodates 60 positions, 2 end stops)	1	3.00
512-8682	604161-1	End stops (2 required per assembly)	100	6.57
512-4801	604008-1	Cutting tool (tape or track)	1	24.65
512-6045	604591-1	Jumper tab	1	.09
512-1989	3-601989-1	FASTON™ flat double tab	100	24.89
512-1990	3-601989-2	FASTON™ 45° double tab	100	31.16
512-1991	3-601989-3	FASTON™ 90° double tab	100	22.67

Kits

#6 FLEXI-BLOK™ Kit — Standard Track

100-block assembly; 25 ea. stops; 2 ea. 1-601805-1, track. 512-8048. 601804-8.....EACH 43.96

#6 FLEXI-BLOK™ Kit — Flanged Track

One #6 kit consisting of 1 ea. 1-604102-1, 100-block assembly; 50 ea. 604111-1, end stops; 7 ea. 7.25 (184.15) flanged track. 512-8657. 604007-1.....EACH 48.50

#8 FLEXI-BLOK™ Kit — Standard Track

One #8 kit consisting of 1 ea. 1-604152-1, 100-block assembly; 50 ea. 604161-1, end stops; 8 ea. 9.5 (241.3) track. 512-8049. 604336-1.....EACH 72.11

Introduction

The cost of EMI/RFI control has dropped dramatically with the introduction of Amphenol Canada's new FCC Series of filtered modular jacks, D-subminiature and Micro-Ribbon. At less than half the cost of previous industry levels, the FCC Series products have already solved EMI/RFI problems for a host of electronic equipment designers. These filtered connectors are useful for dealing with the two main EMI/RFI control issues.

FCC Compliance

FCC Docket 20780, Part 15, Subpart J imposes electromagnetic radiation emission limitations upon

manufacturers of both Industrial (Class A) and Commercial (Class B) products. The FCC Series of filtered connectors are instrumental in passing these requirements because the chief cause of noncompliance is traceable to noise radiated from the I/O cables. A filtered connector at the I/O port removes the noise before it exits the system.

Noise Protection

Unwanted EMI/RFI noise or electrostatic discharge can be removed from an I/O cable if a filtered connector is used at the I/O port. This prevents false signals and protects the equipment from damaging voltage spikes thereby greatly enhancing device immunity from external effects.

FCC17 Series — Filtered D-Sub Connectors

Designed to provide EIA RS-232 and RS-449 compatibility. Interchangeable with standard non-filtered Amphenol 17 Series D-Subs and connectors meeting MIL-C-24308. **Materials.** Shell: High strength zinc diecast or stamped steel. **Contacts:** Phosphor bronze. **Inserts:** High strength thermoplastic material (complies with UL flammability requirements of 94V-0 per UL-STD-94). **Finish.** Shell: Bright tin plating per MIL-T-10727. **Contacts:** 20 μ gold plating per MIL-G-45204 on contact area over 100 μ nickel plating. **Operating Temperature:** -40°C to +85°C.

Solder Cup (Plug) — Fig. A

Stock No.	Mfr.'s Type	No. of Contacts	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0005	FCC17-E09PM-210	9	470	10.78	9.80	7.16
625-0010	FCC17-E09PM-240	9	820	10.89	9.90	7.23
625-0015	FCC17-A15PM-210	15	470	14.57	13.24	9.67
625-0020	FCC17-A15PM-240	15	820	14.73	13.39	9.78
625-0025	FCC17-B25PM-210	25	470	16.58	15.07	11.01
625-0030	FCC17-B25PM-240	25	820	16.85	15.32	11.19
625-0035	FCC17-C37PM-210	37	470	22.79	20.72	15.13
625-0040	FCC17-C37PM-240	37	820	23.21	21.10	15.41

Solder Cup (Receptacle) — Fig. A

Stock No.	Mfr.'s Type	No. of Contacts	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0045	FCC17-E09SM-210	9	470	11.90	10.82	7.90
625-0050	FCC17-E09SM-240	9	820	12.01	10.92	7.98
625-0055	FCC17-A15SM-210	15	470	15.37	13.97	10.21
625-0060	FCC17-A15SM-240	15	820	15.48	14.07	10.28
625-0065	FCC17-B25SM-210	25	470	18.73	17.03	12.44
625-0070	FCC17-B25SM-240	25	820	19.01	17.28	12.62
625-0075	FCC17-C37SM-210	37	470	30.24	27.49	20.08
625-0080	FCC17-C37SM-240	37	820	30.66	27.87	20.36

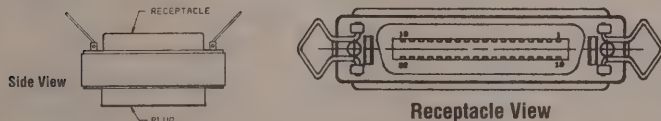
Straight PCB (Plug) — Fig. B

Stock No.	Mfr.'s Type	No. of Contacts	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0085	FCC17-E09PE-210	9	470	11.58	10.53	7.67
625-0090	FCC17-E09PE-240	9	820	11.58	10.53	7.67
625-0095	FCC17-A15PE-210	15	470	14.06	12.78	9.32
625-0100	FCC17-A15PE-240	15	820	14.06	12.78	9.32
625-0105	FCC17-B25PE-210	25	470	16.54	15.04	10.96
625-0110	FCC17-B25PE-240	25	820	16.54	15.04	10.96
625-0111	FCC17-C37PE-210	37	470	23.99	21.81	15.89
625-0112	FCC17-C37PE-240	37	820	23.99	21.81	15.89

Straight PCB (Receptacle) — Fig. B

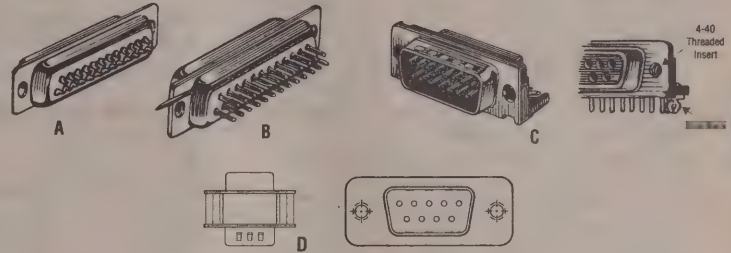
Stock No.	Mfr.'s Type	No. of Contacts	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0115	FCC17-E09SE-210	9	470	11.58	10.53	7.67
625-0120	FCC17-E09SE-240	9	820	11.58	10.53	7.67
625-0125	FCC17-A15SE-210	15	470	14.06	12.78	9.32
625-0130	FCC17-A15SE-240	15	820	14.06	12.78	9.32
625-0135	FCC17-B25SE-210	25	470	16.54	15.04	10.96
625-0140	FCC17-B25SE-240	25	820	16.54	15.04	10.96
625-0145	FCC17-C37SE-210	37	470	23.99	21.81	15.89
625-0150	FCC17-C37SE-240	37	820	23.99	21.81	15.89

FCC57 Series — Filtered Micro-Ribbon Adapters



Materials. Shell: High strength zinc diecast (except 50 size adapter is aluminum diecast). **Contacts:** Phosphor bronze. **Inserts:** High strength thermoplastic material (complies with UL flammability requirements of 94V-0 per UL-STD 94). **Finish.** Shell: Zinc plating on 50 size, tin plating on all 36 size and 50 size adapter. **Contacts:** 30 μ gold plating per MIL-G-45204 on all contacting areas over copper underplate (50 μ nickel barrier on 50 size adapter). **Operating Temperature:** -40°C to +85°C.

Stock No.	Mfr.'s Type	No. of Positions	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0295	FCC57-09360-110	36	470	37.30	33.91	25.43
625-0300	FCC57-09360-130	36	820	37.30	33.91	25.43
625-0305	FCC57-09500-410	50	470	21.58	19.62	14.53
625-0310	FCC57-09500-430	50	820	21.58	19.62	14.53



.318 (Footprint) Right Angle PCB with 4-40 Thread (Plug) — Fig. C

Stock No.	Mfr.'s Type	No. of Contacts	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0155	FCC17-E09PA-410	9	470	11.58	10.53	7.67
625-0160	FCC17-E09PA-440	9	820	11.58	10.53	7.67
625-0165	FCC17-A15PA-410	15	470	14.06	12.78	9.32
625-0170	FCC17-A15PA-440	15	820	14.06	12.78	9.32
625-0175	FCC17-B25PA-410	25	470	16.54	15.04	10.96
625-0180	FCC17-B25PA-440	25	820	16.54	15.04	10.96
625-0185	FCC17-C37PA-410	37	470	23.99	21.81	15.89
625-0190	FCC17-C37PA-440	37	820	23.99	21.81	15.89

.318 (Footprint) Right Angle PCB with 4-40 Thread (Receptacle) — Fig. C

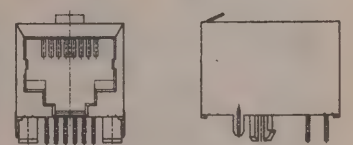
Stock No.	Mfr.'s Type	No. of Contacts	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0195	FCC17-E09SA-410	9	470	11.58	10.53	7.67
625-0200	FCC17-E09SA-440	9	820	11.58	10.53	7.67
625-0205	FCC17-A15SA-410	15	470	14.06	12.78	9.32
625-0210	FCC17-A15SA-440	15	820	14.06	12.78	9.32
625-0215	FCC17-B25SA-410	25	470	16.54	15.04	10.96
625-0220	FCC17-B25SA-440	25	820	16.54	15.04	10.96
625-0225	FCC17-C37SA-410	37	470	23.99	21.81	15.89
625-0230	FCC17-C37SA-440	37	820	23.99	21.81	15.89

Pin to Socket Adapter (Plug) — Fig. D

Stock No.	Mfr.'s Type	No. of Contacts	CAP (pF)	EACH		
				1-9	10-49	50-99
625-0235	FCC17-E09AD-210	9	470	24.78	22.53	16.78
625-0240	FCC17-E09AD-240	9	820	24.78	22.53	16.78
625-0245	FCC17-E09AD-290	9	5600	25.50	23.18	17.26
625-0250	FCC17-A15AD-210	15	470	27.89	25.35	18.88
625-0255	FCC17-A15AD-240	15	820	27.89	25.35	18.88
625-0260	FCC17-A15AD-290	15	5600	29.03	26.39	19.65
625-0265	FCC17-B25AD-210	25	470	31.05	28.23	21.03
625-0270	FCC17-B25AD-240	25	820	31.05	28.23	21.03
625-0275	FCC17-B25AD-290	25	5600	32.99	29.99	22.33
625-0280	FCC17-C37AD-210	37	470	36.85	33.50	24.94
625-0285	FCC17-C37AD-240	37	820	36.85	33.50	24.94
625-0290	FCC17-C37AD-290	37	5600	39.74	36.13	26.90

Filtered and Shielded Modular Jacks

The FRJ series of Shielded and Filtered Modular Jacks offers low cost and effective EMC control within standard RJ-45 connector footprints. EMC control is offered by a completely shielded connector and/or with the use of a high resistivity, high impedance ferrite block. No board layout changes are required for its use. Simply replace the standard non-filtered connector for superior EMC performance.



Materials. Shield: Copper Alloy. **Contacts:** Phosphor Bronze, Gold over 20 μ Pd. over Ni. **Insert:** Thermoplastic (Complies with UL 94V-0). **Filter:** High Impedance, High Resistivity, Ferrite Block. **Electrical.** Current Rating: 1.5 Amps. **Voltage Rating:** 125 Volts AC. **UL and CSA File No.:** LR68598-11.

Non-Shielded

Stock No.	Mfr.'s Type	Description	EACH		
			1-49	50-99	100-249
625-0325	FRJ-408	Standard	1.55	1.32	1.12
625-0330	FRJ-448	Filtered	2.40	2.04	1.73

Shielded and Filtered

Stock No.	Mfr.'s Type	Description	EACH		
			1-49	50-99	100-249
625-0335	FRJ-488	Shielded	2.23	1.90	1.62
625-0340	FRJ-468	Filtered and Shielded	3.08	2.62	2.22
625-0345	FRJ-438	Shielded	2.23	1.90	1.62
625-0350	FRJ-418	Filtered and Shielded	3.08	2.62	2.22

Formerly MIL-C-5015 Types A and B



Code of Wire Sizes



Test Current

Contact Size	16	12	8	4	0
Amperes	13	23	46	80	150

The following inserts are available for crimp type contacts. See page 221 for details.

12S-3	16S-8	18-20	28-11
14S-1	18-1	20-4	28-12
14S-2	18-4	20-7	28-20
14S-5	18-11	20-27	28-21
14S-7	18-12	22-14	—
16S-1	18-19	24-2	—

Service
Limiting Operating
Voltages at sea level

	INST	A	D	E	B	C
DC	250	700	1250	1750	2450	4200
AC (rms)	200	500	900	1250	1750	3000

Service Chart above shows Army-Navy ratings for aircraft use. INST service normally for low voltages and currents.

Effective Creepage (nominal)	Inch	1/16	1/8	3/16	1/4	5/16	1
	mm	1.57	3.18	4.75	6.35	7.92	25.40
Mechanical Spacing (nominal)	Inch	1/16	1/8	3/16	1/4	5/16	1
	mm	1.57	3.18	4.75	6.35	7.92	25.40

†† High Voltage Contact. Rating 24,000 volts DC, 17,000 volts R.M.S., 60 CPS at sea level – 41 amps.
Maximum – in mated condition with connector potted.

☒ Inactive for for new military design but available for replacement or non-military purposes.

Connector Size – O.D. of Receptacle Coupling Threads

Conn. Size	O.D.	Conn. Size	O.D.	Conn. Size	O.D.	Conn. Size	O.D.
	In. mm		In. mm		In. mm		In. mm
—	—	14S	7/8 22.22	18	1 1/8 28.57	24	1 1/2 38.10
10SL	5/8 15.87	16S	1 25.40	20	1 1/4 31.75	28	1 3/4 44.45
12SL	3/4 19.05	—	—	—	—	32	2 1/32 51.59
12S	3/4 19.05	16	1 25.40	22	1 3/8 34.92	36	2 1/4 57.15

Ordering Information

1. Select the insert and configuration. The table of insert configuration identifies the size, number of contacts, and contact wire size. The letter "P" identifies pin (male) contacts and the letter "S" identifies socket (female) contacts.
2. Select the receptacle shell. For wall (thick)—Series 3100A; for unmounted—Series 3101A; for box or panel—Series 3102A. Series 3102A isn't threaded on the back and is used when a cable clamp isn't required.
3. Select the plug shell. Straight—Series 3106A; straight, quick disconnect—Series 3107A; straight, split backshell—Series 3106B; right angle—Series 3108A; right angle, split backshell—Series 3108B.
4. Select the shell finish. Drab olive cadmium plate is standard. To order shells with a clear cadmium finish (bright metal) add (639) to the end of the connector part number.

Black zinc (621) and Electroless Nickel (689) finishes are also available.

5. Miscellaneous. Amphenol suggests that the connector on the power source side of the connection contain socket contacts to reduce chance of short circuit or accidental injury.
6. Putting it together. If you have selected socket contacts for the insert in the receptacle, then the insert in the mating plug must contain pin contacts. For ease in ordering, the listings that follow have the mates for the receptacles on the same line.
7. Accessories. All shells except 3102A are threaded for a cable clamp. Cable clamps are available from Allied in either drab olive or clear (bright metal) cadmium plate.
8. **Warning.** (A) You must select a plug shell to mate with a receptacle. (B) Pins mate with sockets. If you select socket contacts for the receptacle, please designate pin contacts for the plug.

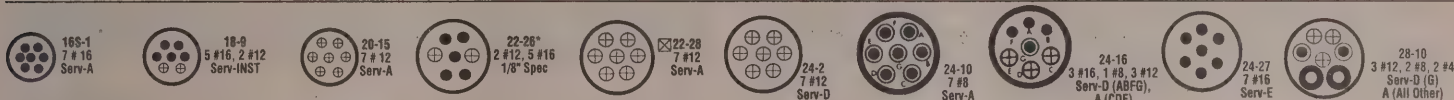
1 Contact 					2 Contacts 				
2 Contacts (continued) 					3 Contacts 				
3 Contacts (continued) 					4 Contacts 				
4 Contacts (continued) 					5 Contacts 				
5 Contacts (continued) 					6 Contacts 				

Formerly MIL-C-5015 Types A and B

File #E115497

File #LR69183

7 Contacts



8 Contacts



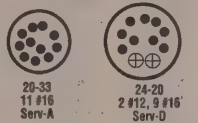
9 Contacts



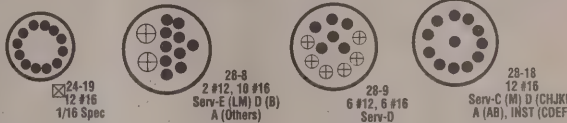
10 Contacts



11 Contacts



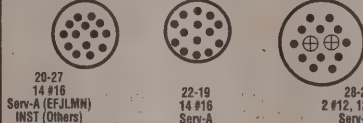
12 Contacts



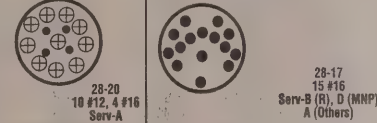
13 Contacts



14 Contacts



15 Contacts



16 Contacts



17 Contacts



19 Contacts



20 Contacts



22 Contacts



23 Contacts



24 Contacts



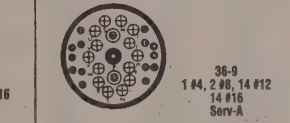
26 Contacts



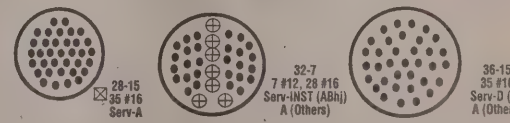
30 Contacts



31 Contacts



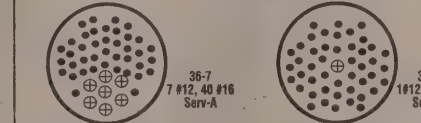
35 Contacts



37 Contacts



47 Contacts



48 Contacts



52 Contacts



Receptacles

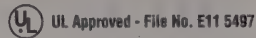


Dimensions Table

Connector Size	A Coupl. Threads	K	L	L ₁ 3102A	L ₂ 3106A 3107A	L ₃ 3106B	L ₄ 3108A	L ₅ 3108B	M	N	N ₁ 3102A	O Panel Opening	Q	R	S	U 3108A	U ₁ 3108B	Y	X ₁ 3108B	Y ₁ 3108B	V Fitting Threads
10SL	5/8-24	5/64	19/32	61/64	13/8	—	15/16	1 1/2	9/16	3/4	1 1/16	0.812	7/8	23/32	1	1	1	1 1/16	—	—	5/8-24
12S	3/4-20	5/64	1 1/32	31/32	1 1/16	—	1 3/8	1 9/16	9/16	—	1 1/16	0.812	1	13/16	1 3/32	1	1 1/16	1 1/16	1/2	—	3/4-20
12SL	3/4-20	5/64	—	27/32	1 1/16	—	1 1/2	—	—	25/32	1 1/16	0.812	—	13/16	1 3/32	—	1 1/16	—	—	—	3/4-20
12	3/4-20	5/64	—	121/64	1 1/8	—	1 3/4	—	3/4	9/16	1 1/16	0.812	7/8	13/16	1 3/32	—	1 1/16	—	—	—	3/4-20
14S	7/8-20	5/64	1 1/16	61/64	1 1/16	1 1/16	1 3/8	1 23/32	9/16	1	3/4	0.938	1 1/8	29/32	1 3/16	1	1 1/8	1 1/16	2 1/32	—	3/4-20
16S	1-20	5/64	1 31/64	61/64	1 29/64	1 1/16	1 1/2	1 3/4	9/16	1	7/8	1.062	1 1/4	31/32	1 3/8	1 1/8	1 1/8	1 1/16	—	1 1/2	7/8-20
16	1-20	1/8	1 57/64	1 3/8	1 57/64	—	1 15/16	2 1/8	3/4	1	7/8	1.062	1 1/4	31/32	1 3/8	1 1/8	1 1/8	1 1/16	—	1 1/2	7/8-20
18	1 1/8-18	1/8	2	1 3/8	2	2 1/16	1 15/16	2 1/8	3/4	1 1/8	1	1.188	1 1/16	1 1/16	1 3/8	1 1/8	1 1/8	1 1/16	—	1 1/2	1-20
20	1 1/4-18	1/8	2 1/8	1 3/8	2 1/8	2 1/8	2 1/8	2 1/8	3/4	1 1/4	1 1/8	1.312	1 1/16	1 1/16	1 3/8	1 1/8	1 1/8	1 1/16	—	1 1/2	1 1/8-18
22	1 3/8-18	1/8	2 1/8	1 3/8	2 1/8	2 1/8	2 1/8	2 1/8	3/4	1 3/8	1 1/4	1.438	1 1/16	1 1/16	1 3/8	1 1/8	1 1/8	1 1/16	—	1 1/2	1 1/8-18
24	1 1/2-18	1/8	2 1/4	1 3/8	2 1/4	2 1/4	2 1/4	2 1/4	13/16	1 1/2	1 3/8	1.562	1 1/16	1 1/16	1 3/8	1 1/4	1 1/8	1 1/16	—	1 1/2	1 1/8-18
28	1 3/4-18	1/8	2 3/4	1 3/8	2 3/4	2 3/4	2 3/4	2 3/4	13/16	1 3/4	1 3/8	1.812	1 1/16	1 1/16	1 3/8	1 1/2	1 1/8	1 1/16	—	1 1/2	1 1/8-18
32	2-18	1/8	2 3/4	1 15/32	2 3/4	2 3/4	2 3/4	2 3/4	7/8	2 1/32	2 1/8	2.062	2 1/32	2 1/32	1 3/4	2 1/4	1 3/4	1 1/2	—	1 1/2	2-18
36	2 1/4-16	1/8	2 3/8	1 15/32	2 3/8	2 11/32	2 11/16	2 27/32	7/8	2 1/4	2 1/8	2.312	2 15/32	2 15/32	2 15/16	2 1/2	1 15/16	2 1/2	—	1 1/2	2-18

Receptacles mate with plugs on the same line in the table on the next page.

Formerly MIL-C-5015 Types A and B



See Page 217 for Dimension Table. MS Receptacles mate with MS mating plugs that are on the same line in the table below. *Standard shells have cadmium plating with drab olive chromate finish. In shell sizes 12S, 14S, 16, 16S, 18, 20, 22, 24, and 28, clear chromate over cadmium plating (639), black zinc over zinc plating (621), or electroless

nickel plating (689) are also available. Add the shell finish identification to the end of part number to specify a shell finish other than drab olive. * notes the shell styles that are available with all four of these finish choices.

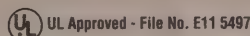
MS Receptacles

Number of Contacts	Shell Insert/Size	97-3100A*		97-3101A*		97-3102A*	
		EACH		EACH		EACH	
		1-9	10-49	1-9	10-49	1-9	10-49
3	10SL-3P	10.02	7.35	13.39	9.05	7.66	5.18
2	10SL-4P	9.35	6.34	12.79	8.64	7.06	5.20
1	12-5P	—	—	—	—	7.66	5.18
1	12-5S	—	—	—	—	8.68	5.88
2	12S-3P	9.01	6.49	10.63	7.18	5.95	4.44
2	12S-3S	9.13	6.57	10.75	7.67	6.27	4.66
3	12SL-844P	—	—	—	—	13.05	11.74
4	14S-1P	10.34	7.41	12.39	8.79	7.34	5.37
3	14S-1S	10.57	7.55	12.62	8.94	7.38	5.39
4	14S-2P	11.40	8.13	12.35	8.76	7.32	5.36
4	14S-2S	12.27	8.70	13.00	9.20	7.92	5.97
1	14S-4P	17.81	12.03	21.69	14.67	11.09	7.50
1	14S-4S	18.16	15.21	22.53	15.22	11.90	10.78
5	14S-5P	11.40	8.13	13.27	9.36	8.05	5.87
5	14S-5S	11.75	8.34	13.78	9.73	8.60	6.24
6	14S-6P	11.75	8.34	13.78	9.73	8.60	6.24
6	14S-6S	11.80	8.43	14.06	9.91	8.75	6.33
3	14S-7P	10.34	7.41	12.39	8.79	7.34	5.37
3	14S-7S	10.57	7.55	12.62	8.94	7.38	5.39
2	14S-9P	9.91	7.13	11.81	8.43	6.59	4.86
2	14S-9S	9.95	7.14	12.27	8.70	6.73	4.95
3	16-7P	16.47	13.88	16.47	13.88	10.23	8.25
4	16-7S	18.99	16.26	18.99	16.26	12.49	10.63
4	16-9P	15.63	10.97	16.13	11.30	9.95	7.14
4	16-9S	17.33	12.13	17.95	12.54	11.98	8.51
3	16-10P	13.78	10.84	14.08	11.27	10.66	7.56
3	16-10S	15.27	12.04	15.57	10.92	10.13	7.25
2	16-11P	14.38	10.13	14.75	10.37	8.75	6.33
2	16-11S	15.80	11.11	16.44	11.53	10.50	7.51
1	16-12P	16.16	13.76	16.16	13.76	10.00	8.16
1	16-12S	18.46	15.85	18.46	15.85	12.03	10.25
7	16S-1P	12.94	9.16	13.84	9.76	8.63	6.27
2	16S-1S	14.08	9.92	14.97	10.52	9.85	7.06
2	16S-4P	12.71	8.98	13.74	9.71	8.05	5.87
2	16S-4S	13.14	9.29	14.38	10.13	8.28	6.02
3	16S-5P	12.29	8.71	13.14	9.29	7.92	5.76
3	16S-5S	12.39	8.79	13.53	9.57	8.28	6.02
3	16S-6P	24.96	16.87	24.96	16.87	14.59	9.88
3	16S-6S	25.96	17.55	25.96	17.55	15.16	10.25
5	16S-8P	12.62	8.94	13.72	9.66	8.57	6.20
5	16S-8S	13.00	9.20	14.06	9.91	8.75	6.33
10	18-1P	15.60	10.94	17.43	12.18	11.29	8.04
10	18-1S	16.93	11.88	18.81	13.11	12.35	8.76
2	18-3P	14.06	9.91	16.13	11.30	9.23	6.65
2	18-3S	17.09	11.97	19.18	13.37	12.10	8.58
4	18-4P	12.94	9.16	14.71	10.34	8.57	6.05
4	18-4S	13.84	9.76	15.57	10.92	9.15	6.58
3	18-5P	15.10	10.22	15.10	10.22	7.66	5.99
3	18-5S	16.86	11.40	16.86	11.40	9.31	7.66
8	18-8P	15.60	10.94	17.43	12.18	11.29	8.04
8	18-8S	16.57	11.59	18.27	12.76	12.27	8.70
7	18-9P	16.57	11.59	18.49	12.90	11.40	8.13
7	18-9S	17.87	12.48	19.73	13.74	12.62	8.94
4	18-10P	15.27	10.73	16.93	11.88	10.57	7.55
4	18-10S	16.57	11.59	18.27	12.76	12.27	8.70
5	18-11P	15.27	10.73	16.93	11.88	10.57	7.55
5	18-11S	15.60	10.94	17.43	12.18	11.29	8.04
6	18-12P	14.20	10.02	16.10	11.29	9.71	6.98
6	18-12S	15.27	10.73	16.93	11.88	10.57	7.55
4	18-13P	32.20	21.77	32.20	21.77	19.59	14.41
4	18-13S	36.10	24.41	36.10	24.41	22.74	17.62
1	18-16P	15.34	10.79	17.31	12.11	10.13	7.25
1	18-16S	17.87	12.48	19.73	13.74	12.62	8.94
10	18-19P	20.60	14.34	22.65	15.71	16.44	11.53
10	18-19S	17.31	12.11	18.87	13.14	12.62	8.94
5	18-20P	15.32	10.77	17.09	11.97	9.95	7.14
5	18-20S	16.13	11.30	18.20	12.72	10.97	7.84
3	18-22P	14.06	9.91	16.13	11.30	9.23	6.65
3	18-22S	15.32	10.77	18.27	12.76	9.95	7.14
5	18-29P	25.78	17.43	27.34	18.49	16.22	10.97
5	18-29S	25.78	17.43	29.35	19.84	16.22	10.97
1	18-420P	—	—	—	—	42.48	30.30
1	18-420S	—	—	—	—	45.83	32.90
3	20-3P	16.16	10.92	17.43	11.78	10.00	6.75
3	20-3S	21.30	14.42	22.40	15.16	15.08	10.19
4	20-4P	15.63	10.97	16.76	11.74	10.34	7.41
4	20-4S	19.44	16.20	18.84	13.13	15.60	12.09
3	20-6P	26.53	17.95	28.56	19.30	15.71	10.62
3	20-6S	27.19	18.40	29.06	19.65	15.92	10.77
8	20-7P	15.63	10.97	16.76	11.74	10.34	7.41
8	20-7S	17.06	11.94	17.95	12.54	11.75	8.34

MS Mating Plugs

Shell Insert/Size	97-3106A*		97-3107A*		97-3106B*		97-3108A*		97-3108B*	
	EACH		EACH		EACH		EACH		EACH	
	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
10SL-3S	11.39	7.70	—	—	—	—	19.95	13.48	14.72	9.95
10SL-4S	10.81	7.32	—	—	—	—	19.35	15.12	14.08	9.54
12-5S	13.27	8.95	—	—	—	—	—	—	—	—
12-5P	12.36	8.35	—	—	—	—	—	—	—	—
12S-3S	9.65	6.94	14.56	10.38	—	—	20.60	14.34	11.81	8.43
12S-3P	9.15	6.58	14.06	10.03	—	—	20.56	14.30	11.75	8.34
12SL-844S	24.29	21.81	—	—	—	—	—	—	—	—
14S-1S	10.57	7.55	15.76	11.23	12.39	8.79	20.39	14.18	11.75	8.34
14S-1P	10.34	7.42	15.54	11.08	12.35	8.76	20.22	14.08	11.49	8.16
14S-2S	11.70	8.35	16.89	12.13	12.94	9.16	20.60	14.34	12.27	8.70
14S-2P	10.29	7.36	15.49	11.02	12.29	8.71	20.17	14.05	11.43	8.14
14S-4S	18.16	13.40	23.35	17.06	22.48	15.19	38.68	26.15	20.71	14.01
14S-4P	17.81	12.03	23.01	15.70	21.51	14.52	37.81	25.56	20.03	13.53
14S-5S	11.75	8.34	16.89	12.13	13.74	9.71	21.57	14.98	12.68	8.97
14S-5P	11.40	8.13	16.60	11.79	13.14	9.29	21.06	14.64	12.35	8.76
14S-6S	11.81	8.43	17.00	12.08	13.84	9.29	21.77	15.14	13.00	9.20
14S-6P	11.75	8.34	16.94	12.01	13.74	9.71	21.57	14.98	12.68	8.97
14S-7S	10.57	7.55	15.76	11.23	12.39	8.79	20.39	14.18	11.75	8.34
14S-7P	10.34	7.41	15.54	11.08	12.35	8.76	20.22	14.08	11.49	8.16
14S-9S	12.94	9.16	18.12	12.81	14.48	10.72	19.81	13.79	11.29	8.04
14S-9P	9.91	7.11	15.11	10.78	11.78	8.41	19.75	13.75	10.98	7.84
16-7S	17.81	14.12	22.44	17.39	—	—	48.11	32.06	21.14	14.29
16-7P	15.14	11.75	19.77	15.01	—	—	45.29	35.23	18.82	12.73
16-9S	15.85	11.65	20.49	14.91	—	—	29.28	20.19	19.96	13.90
16-9P	14.93	10.50	19.56	13.76	—	—	27.82	19.20	18.27	12.76
16-10S	14.48	10.21	19.12	13.46	—	—	25.81	17.87	17.43	12.18
16-10P	15.16	11.03	19.80	14.30	—	—	24.50	16.97	16.10	12.70
16-11S	15.32	10.77	19.96	14.84	—	—	28.03	19.34	18.49	12.90
16-11P	13.56	9.59	18.22	12.85	—	—	28.31	18.18	16.84	11.78
16-12S	16.92	13.73	21.56	17.00	—	—	39.03	31.22	20.80	14.06
16-12P	15.08	11.66	19.70	14.93	—	—	41.01	31.90	18.46	12.47
16S-1S	12.94	9.16	16.94	11.98	15.63	10.97	26.89	18.58	14.93	10.50
16S-1P	11.75	8.34	15.76	11.19	14.71	10.34	25.74	17.79	13.78	9.73
16S-4S	11.98	8.51	16.00	11.34	15.32	10.77	27.59	19.03	14.06	9.91
16S-4P	11.40	8.13	15.42	10.96	14.75	10.37	26.98	18.63	13.69	9.65
16S-5S	11.40	8.13	15.42	10.96	14.20	10.02	25.21	17.44	13.27	9.36
16S-5P	10.98	7.84	14.99	10.67	14.06	9.91	24.96	17.28	13.00	9.20
16S-6S	21.53	14.54	25.53	17.38	26.19	17.72	50.96	34.45	24.67	15.84
16S-6P	20.71	11.79	24.73	14.62	26.35	17.80	49.02	33.13	24.67	15.84
16S-8S	11.78	8.41	15.79	11.23	14.75	10.37	25.76	17.80	13.84	9.76
16S-8P	11.43	8.14	15.46	10.97	14.35	10.10	25.23	17.45	13.53	9.57
18-1S	16.44	11.53	23.27	16.31	18.87	13.14	30.42	20.96	19.60	13.65
18-1P	14.97	10.52	21.79	15.31	17.73	12.39	29.24	20.16	18.27	1

Formerly MIL-C-5015 Types A and B



UL Approved - File No. E11 5497



CSA Certified - File No. LR69183

See Page 217 for Dimension Table. MS Receptacles mate with MS mating plugs that are on the same line in the table below. Standard shells have cadmium plating with drab olive chromate finish. In shell sizes 12S, 14S, 16, 16S, 18, 20, 22, 24, and 28, clear chromate over cadmium plating (639), black zinc over zinc plating (621) or electroless

nickel plating (689) are also available. Add the shell finish identification to the end of the part number to specify a shell finish other than drab olive. * notes the shell styles that are available with all four of these finish choices.

MS Receptacles

Number of Contacts	Shell Insert/Size	97-3100A*		97-3101A*		97-3102A*	
		EACH		EACH		EACH	
		1-9	10-49	1-9	10-49	1-9	10-49
6	20-8P	33.82	22.87	36.10	24.41	22.74	16.49
6	20-8S	39.47	26.67	41.63	28.14	28.56	21.37
13	20-11P	37.81	25.56	39.64	26.79	26.53	20.04
13	20-11S	57.82	43.54	59.87	40.48	46.89	37.61
5	20-14P	36.00	24.35	37.65	25.45	24.67	18.14
5	20-14S	45.86	33.35	48.17	32.56	35.00	27.37
7	20-15P	17.33	12.13	18.20	12.72	11.81	8.43
7	20-15S	22.96	15.93	24.03	16.65	17.73	12.39
9	20-16P	17.43	12.18	18.27	12.76	12.27	8.70
9	20-16S	18.46	12.89	19.40	13.53	13.14	9.29
6	20-17P	18.82	15.84	19.77	15.28	12.36	9.85
6	20-17S	22.74	19.48	23.95	18.95	16.47	13.50
9	20-18P	20.05	13.98	21.32	14.82	14.06	9.91
9	20-18S	22.04	15.30	22.95	15.92	16.13	11.30
3	20-19P	21.12	17.75	22.24	17.21	14.77	11.74
3	20-19S	25.69	22.18	26.88	21.62	19.43	16.16
9	20-21P	32.13	21.70	33.82	22.87	20.94	14.64
9	20-21S	33.76	22.83	36.00	24.35	22.70	16.33
2	20-23P	18.71	13.05	19.73	13.74	12.62	8.94
2	20-23S	20.17	14.05	21.37	14.85	14.38	10.13
4	20-24P	32.79	22.18	34.41	23.27	21.51	15.23
4	20-24S	40.64	27.48	42.42	28.67	29.42	22.10
14	20-27P	17.80	12.44	18.84	13.13	12.39	8.79
14	20-27S	19.40	13.53	20.39	14.18	14.08	9.92
17	20-29P	19.32	13.45	20.17	14.05	13.84	9.76
17	20-29S	21.18	14.72	22.04	15.30	15.63	10.97
11	20-33P	21.31	14.82	22.36	15.52	15.32	10.77
11	20-33S	21.79	15.16	22.83	15.84	15.65	10.99
2	22-1P	19.43	14.59	20.29	13.72	11.73	9.35
2	22-1S	22.51	17.59	23.48	18.37	15.10	12.36
3	22-2P	21.03	14.59	21.79	15.16	13.74	9.71
3	22-2S	25.23	17.45	26.10	18.05	18.27	12.76
4	22-4P	37.13	25.09	38.96	26.37	24.25	18.02
4	22-4S	42.19	28.53	43.85	29.66	29.35	22.28
6	22-5P	34.55	23.35	36.19	24.88	21.91	15.21
6	22-5S	36.05	23.75	36.27	24.90	22.62	15.69
2	22-8P	29.35	19.84	31.10	21.03	16.22	10.97
2	22-8S	37.08	25.05	38.74	26.19	24.04	17.33
3	22-9P	30.96	20.94	32.20	21.77	17.81	12.13
3	22-9S	39.14	26.47	40.91	27.65	26.29	19.48
4	22-10P	30.71	21.18	31.88	21.96	18.20	12.68
4	22-10S	31.80	21.91	33.38	22.96	19.59	13.64
2	22-11P	28.56	19.30	30.38	20.54	15.71	10.62
2	22-11S	30.96	20.94	32.20	21.77	17.81	12.13
5	22-12P	37.13	27.77	38.96	28.54	24.25	22.54
5	22-12S	43.28	29.27	44.55	30.12	30.38	23.17
5	22-13P	34.41	23.27	36.17	24.45	21.51	15.42
5	22-13S	36.19	26.21	39.81	26.90	25.73	18.78
19	22-14P	21.49	14.93	22.04	15.30	14.97	10.52
19	22-14S	24.27	16.80	25.11	17.38	17.95	12.54
6	22-15P	36.81	24.88	38.68	26.15	23.95	17.21
6	22-15S	44.67	30.20	46.69	31.57	32.13	24.78
9	22-16P	22.19	17.18	22.83	15.42	14.77	11.94
9	22-16S	22.51	17.65	23.48	15.88	15.10	12.41
8	22-18P	19.96	13.90	21.03	14.59	13.00	9.20
8	22-18S	20.17	14.05	21.31	14.82	13.14	9.29
14	22-19P	21.06	14.64	21.88	15.19	14.75	10.37
14	22-19S	21.49	15.45	22.04	15.30	14.97	10.52
9	22-20P	20.56	14.30	21.53	14.94	13.56	9.59
9	22-20S	21.53	14.94	22.44	15.59	14.42	10.14
4	22-22P	24.03	16.65	24.96	17.28	16.85	11.77
4	22-22S	29.83	20.57	30.69	21.15	22.65	15.71
8	22-23P	22.90	15.87	24.03	16.65	15.80	11.71
8	22-23S	29.05	20.04	30.13	20.77	22.04	15.30
7	22-26P	38.06	25.73	39.64	26.79	25.63	18.69
7	22-26S	43.28	29.27	44.55	30.12	30.38	23.17
9	22-27P	22.51	15.20	23.48	15.88	15.10	10.22
9	22-27S	24.37	16.87	25.23	17.04	16.86	11.40
7	22-28P	37.65	25.45	39.14	26.47	24.67	18.34
7	22-28S	51.94	36.30	53.66	36.29	38.96	31.06
5	22-34P	34.41	23.27	36.17	24.45	21.51	15.42
5	22-34S	36.10	24.41	37.65	25.45	22.74	16.70
7	24-2P	21.61	15.01	21.72	15.14	14.20	10.02
7	24-2S	25.83	17.87	25.96	17.95	18.49	12.90
16	24-5P	26.64	18.42	26.83	18.52	18.31	12.78
16	24-5S	29.81	20.57	29.85	20.59	21.52	14.94
8	24-6P	42.66	29.24	42.74	29.28	27.91	19.29
8	24-6S	54.99	37.55	55.22	37.74	40.86	28.03
16	24-7P	24.90	17.24	24.96	17.28	17.43	12.18
16	24-7S	26.83	18.52	26.89	18.58	19.36	13.50
2	24-9P	41.38	27.98	41.63	28.14	26.21	19.16
2	24-9S	45.70	30.89	45.86	30.99	30.96	23.57
7	24-10P	26.64	18.44	26.83	18.52	18.31	12.78

MS Mating Plugs

Shell Insert/Size	97-3106A*		97-3107A*		97-3106B*		97-3108A*		97-3108B*	
	EACH		EACH		EACH		EACH		EACH	
	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
20-8S	42.42	28.67	47.38	32.15	46.69	31.57	72.12	48.75	48.71	32.94
20-8P	37.08	25.05	42.02	28.53	41.38	27.98	66.91	45.25	43.28	29.27
20-11S	60.71	42.81	65.66	46.29	65.11	45.04	90.89	61.46	66.91	45.25
20-11P	40.91	27.65	45.86	31.12	44.67	30.20	70.60	47.73	46.89	31.69
20-14S	49.02	33.13	53.96	36.61	53.18	34.83	78.74	53.22	55.05	37.21
20-14P	38.74	26.19	43.69	29.66	42.58	28.78	68.28	46.14	44.55	30.12
20-16S	24.54	17.00	29.50	20.48	26.64	18.42	39.16	26.88	27.55	19.02
20-16P	18.84	13.13	23.78	16.61	20.60	14.34	33.29	22.91	21.77	15.14
20-16S	20.13	14.03	25.07	17.48	21.91	15.21	34.55	23.75	22.83	15.84
20-16P	18.87	13.14	23.81	16.62	20.75	14.44	33.44	23.01	21.88	15.19
20-17S	24.47	18.71	29.42	22.19	25.71	20.96	46.59	37.26	28.11	19.00
20-17P	20.71	15.02	25.65	18.49	21.64	17.30	41.09	32.86	23.95	16.20
20-18S	23.83	16.52	28.78	20.50	25.31	18.02	40.07	27.48	26.83	18.52
20-18P	21.81	15.15	26.75	18.61	24.05	16.67	38.10	26.14	25.11	17.38
20-19S	27.38	21.35	32.32	24.82	28.42	23.64	50.57	40.46	30.94	20.91
20-19P	22.70	16.93	27.65	20.40	23.87	19.22	43.93	35.15	26.08	17.63
20-21S	36.81	24.88	41.76	28.35	38.94	26.35	66.62	45.04	42.58	28.78
20-21P	35.00	23.67	39.95	27.13	37.28	25.21	65.11	44.02	41.38	27.98
20-23S	21.93	15.22	26.88	17.85	24.14	16.73	38.26	26.25	25.23	17.45
20-23P	20.17	14.05	25.12	16.65	22.58	15.66	36.55	25.11	23.65	16.37
20-24S	43.62	29.48	48.58	32.96	45.27	30.61	73.12	49.43	49.12	33.21
20-24P	36.00	24.35	40.95	27.81	37.75	25.52	65.62	44.37	41.71	28.21
20-27S	20.75	14.44	25.71	17.90	22.83	15.84	35.50	24.40	23.82	16.51
20-27P	19.36	13.49	24.31	16.96	21.49	14.93	33.92	23.34	23.65	16.37
20-29S	22.67	15.72	27.61	19.20	24.82	17.20	37.22	25.55	25.74	17.79
20-29P	20.58	14.33	25.53	17.79	22.67	15.72	35.35	24.31	23.65	16.37
20-33S	23.45	16.28	28.40	19.75	25.65	17.75	39.74	27.25	26.83	18.52
20-33P	22.83	15.84	27.79	19.31	25.11	17.38	39.37	27.01	26.10	18.05
22-1S	22.51	17.59	31.91	24.23	24.23	19.63	51.80	41.44	26.96	18.22
22-1P	19.43	14.59	28.85	21.22	21.14	16.62	47.35	37.87	23.48	15.88
22-2S	24.45	17.45	33.88	24.07	28.05	19.35	43.11	29.53	29.28	20.18
22-2P	20.92	14.59	30.34	21.22	23.82	16.51	38.93	26.72	25.11	17.38
22-4S	42.19	28.53	51.60	35.14	45.25	30.58	74.98	50.69	50.11	33.87
22-4P	37.13	25.09	46.55	31.71	40.38	27.29	70.17	47.45	44.67	30.29
22-5S	34.55	23.75	43.95	30.38	39.24	26.92	65.55	44.72	41.71	28.60
22-5P	34.11	23.45	43.52	30.09	39.09	26.84	66.00	45.00	41.60	28.52

Formerly MIL-C-5015 Types A and B



UL Approved - File No. E11 5497



CSA Certified - File No. LR69183

See Page 217 for Dimension Table. MS Receptacles mate with MS mating plugs that are on the same line in the table below. *Standard shells have cadmium plating with drab olive chromate finish. In shell sizes 12S, 14S, 16, 16S, 18, 20, 22, 24, and 28, clear chromate over cadmium plating (639), black zinc over zinc plating (621), or electroless

nickel (689) plating are also available. Add the shell finish identification to the end of the part number to specify a shell finish other than drab olive. * notes the shell styles that are available with all four of these finish choices.

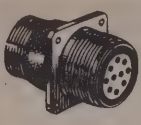
MS Receptacles

Number of Contacts	Shell Insert/Size	97-3100A*		97-3101A*		97-3102A*	
		EACH		EACH		EACH	
		1-9	10-49	1-9	10-49	1-9	10-49
7	24-10S	31.80	21.91	39.37	27.01	32.31	22.24
10	24-11P	26.31	21.16	26.70	21.21	18.82	15.26
9	24-11S	33.61	27.20	33.66	27.23	25.85	21.32
12	24-12P	53.75	36.67	54.11	36.57	38.74	30.77
E	24-12S	64.51	46.29	64.54	46.31	49.05	40.38
7	24-16P	44.55	30.12	44.67	30.20	29.42	22.48
7	24-16S	52.28	35.34	52.38	35.40	37.08	28.86
12	24-19P	45.33	31.04	45.67	31.29	30.90	21.28
12	24-19S	47.91	32.79	47.99	32.83	33.76	23.23
11	24-20P	24.96	17.28	25.05	17.33	16.57	11.59
11	24-20S	25.11	17.38	25.23	17.45	16.84	11.78
10	24-21P	43.28	29.27	43.54	29.43	28.00	20.99
10	24-21S	46.37	31.35	46.69	31.57	31.18	23.71
4	24-22P	28.05	19.35	28.09	19.40	19.75	13.75
4	24-22S	34.51	23.72	34.60	23.77	26.31	18.18
7	24-27P	36.50	25.07	36.54	25.11	21.91	15.22
7	24-27S	37.43	25.71	38.04	26.11	22.90	15.87
24	24-28P	25.96	17.95	26.10	18.05	18.81	13.11
24	24-28S	29.24	20.16	29.37	20.24	21.88	15.19
9	28-1P	53.18	35.98	56.00	39.49	38.96	28.30
9	28-1S	68.09	46.04	73.03	49.37	53.75	41.84
14	28-2P	27.22	18.82	30.13	20.77	19.40	13.53
14	28-2S	28.85	19.92	31.72	21.85	21.31	14.82
3	28-3P	49.02	33.13	54.28	36.70	34.55	24.80
3	28-3S	52.28	35.34	57.16	38.63	37.81	27.65
3	28-6P	33.18	22.41	35.95	28.56	25.01	20.57
3	28-6S	37.11	25.07	40.13	32.08	28.91	24.11
12	28-8P	47.47	32.09	52.71	35.64	33.18	23.21
12	28-8S	49.02	33.13	54.28	36.70	34.55	24.80
12	28-9P	49.06	33.55	53.79	36.77	35.57	24.45
12	28-9S	53.49	36.54	58.33	39.83	39.88	27.37
7	28-10P	58.07	39.27	62.57	42.30	45.18	33.35
7	28-10S	73.03	49.37	77.88	52.65	60.42	45.78
22	28-11P	27.55	19.02	30.13	20.77	20.56	14.30
22	28-11S	33.09	22.77	35.51	24.41	26.10	18.05
26	28-12P	28.48	19.63	31.06	21.39	21.61	15.01
26	28-12S	30.23	22.77	35.51	24.41	26.10	18.05
35	28-15P	31.83	21.93	34.51	23.72	24.96	17.28
35	28-15S	36.47	25.05	39.16	26.88	29.64	20.42
20	28-16P	28.17	19.45	30.18	21.24	21.49	14.93
20	28-16S	28.48	19.63	31.06	21.39	21.55	15.01
15	28-17P	46.89	31.69	52.28	35.34	32.78	22.15
15	28-17S	50.24	33.96	55.28	37.38	36.10	24.41
12	28-18P	26.10	18.05	28.85	19.92	19.01	13.27
12	28-18S	28.14	19.42	31.33	21.58	20.36	14.30
10	28-19P	44.88	30.71	49.90	34.13	30.08	21.70
10	28-19S	54.23	37.06	59.15	40.40	41.71	28.21
14	28-20P	27.87	18.86	30.66	20.73	20.34	13.74
14	28-20S	30.75	21.18	33.61	22.72	23.68	16.01
37	28-21P	32.84	22.62	35.39	24.35	25.83	17.87
37	28-21S	36.95	25.37	39.66	27.20	30.23	20.85
2	32-5P	38.71	29.97	41.38	31.70	29.48	19.95
2	32-5S	43.00	31.35	45.25	34.93	33.42	22.99
23	32-6P	37.00	29.11	39.53	30.87	29.11	23.92
23	32-6S	52.71	40.83	55.28	42.60	44.78	36.93
35	32-7P	68.28	46.14	73.03	49.37	52.99	40.47
35	32-7S	87.23	58.98	91.77	62.04	71.47	56.98
30	32-8P	37.84	25.99	40.18	27.56	30.23	20.85
30	32-8S	38.50	26.42	40.65	27.87	30.75	21.18
23	32-13P	35.62	27.48	38.33	29.25	26.70	22.10
23	32-13S	40.62	31.57	45.38	38.19	31.65	26.64
4	32-17P	84.08	59.45	88.59	59.88	68.28	54.28
4	32-17S	92.12	62.80	96.78	65.43	76.50	61.34
52	32-414P	57.93	39.55	60.56	41.33	49.77	33.64
52	32-414S	77.01	52.45	79.52	54.14	69.13	47.87
22	36-1P	70.60	47.73	72.90	49.31	47.47	32.84
22	36-1S	88.46	59.81	90.89	61.46	65.20	48.67
4	36-5P	124.81	84.39	126.97	85.85	101.14	80.81
4	36-5S	147.87	99.97	149.77	101.26	124.32	101.51
6	36-6P	71.02	55.19	72.14	56.13	57.39	49.08
6	36-6S	86.89	67.83	88.20	68.77	73.41	63.15
47	36-7P	56.13	43.18	57.13	44.12	42.65	35.75
47	36-7S	61.86	47.82	63.08	48.76	48.37	40.90
47	36-8P	94.23	63.72	96.46	65.20	70.97	53.68
47	36-8S	100.92	68.25	103.25	69.79	77.59	59.62
31	36-9P	112.19	75.85	114.52	77.41	88.82	70.20
31	36-9S	135.96	91.93	138.33	93.53	112.79	91.04
48	36-10P	46.58	31.93	47.61	32.58	35.35	24.31
48	36-10S	50.29	34.40	51.35	35.11	38.86	26.66
35	36-15P	78.74	53.22	78.55	53.47	55.54	37.53
35	36-15S	86.57	58.54	85.71	58.33	63.47	42.91
52	36-403P	112.19	75.85	114.52	77.41	88.82	70.20
52	36-403S	150.35	101.66	152.93	103.38	127.31	104.17

MS Mating Plugs

Shell Insert/ Size	97-3106A*		97-3107A*		97-3108B*		97-3108A*		97-3108B*	
	EACH		EACH		EACH		EACH		EACH	
	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
24-10P	34.60	23.77	42.84	29.58	39.74	27.25	53.98	36.88	37.16	25.52
24-11S	34.02	27.48	42.27	32.28	38.74	31.25	69.00	55.19	43.98	34.61
24-11P	26.92	21.46	35.18	27.23	31.65	25.20	59.91	47.94	29.23	23.30
24-12S	65.20	46.55	73.47	52.34	74.80	50.57	100.87	68.21	59.48	48.38
24-12P	54.69	36.98	62.93	42.77	64.07	43.33	89.87	60.75	58.16	38.78
24-16S	52.99	35.81	61.23	41.62	62.23	42.09	88.30	59.70	55.27	36.85
24-16P	45.44	30.73	53.69	36.51	54.90	37.12	80.92	54.69	45.71	30.48
24-19S	49.05	33.55	57.29	39.35	57.89	39.53	82.77	56.33	53.47	36.52
24-19P	45.99	31.50	54.23	37.30	54.99	37.55	79.76	54.29	50.67	34.65
24-20S	25.45	17.61	33.70	23.40	30.69	21.15	44.85	30.70	28.05	19.35
24-20P	25.23	17.45	33.49	23.26	30.40	20.94	44.46	30.45	27.87	19.24
24-21S	47.06	31.83	55.30	37.62	56.53	38.20	82.54	55.82	48.71	32.94
24-21P	46.69	31.57	54.90	37.38	49.66	33.58	78.89	53.35	43.49	29.00
24-22S	34.94	24.02	43.18	29.81	40.07	27.48	54.34	37.14	37.43	25.71
24-22P	28.63	19.77	36.87	25.55	33.73	23.21	48.02	32.85	31.14	21.46
24-27S	38.31	26.31	46.56	32.09	47.38	32.43	72.29	49.26	42.74	29.28
24-27P	37.22	25.55	45.47	31.35	45.99	31.50	70.69	48.17	41.60	28.53
24-28S	29.61	20.42	37.85	26.21	34.22	23.55	47.05	32.22	31.83	21.93
24-28P	26.31	18.20	34.56	23.99	30.75	21.18	43.70	29.94	28.76	19.84
28-1S	69.98	47.80	80.66	55.30	74.89	50.63	105.00	70.98	60.48	50.63
28-1P	55.05	37.21	65.73	44.72	60.01	40.56	90.13	60.92	55.61	37.08
28-2S	30.13	20.77	40.80	28.27	32.82	22.58	50.80	33.76	32.97	22.68
28-2P	28.14	19.42	38.82	26.92	30.91	21.30	47.30	32.38	31.33	21.58
28-3S	54.11	36.57	64.78	44.07	58.94	39.84	88.88	60.10	56.53	38.20
28-3P	50.83	34.38	61.50	41.87	55.72	37.68	86.18	58.28	50.32	33.55
28-6S	38.06	30.08	48.74	37.56	41.05	32.79	66.94	53.54	49.31	32.88
28-6P	34.20	26.53	44.88	34.04	37.11	29.24	61.63	49.31	43.98	29.33
28-8S	50.83	34.38	61.50	41.87	55.72	37.68	86.18	58.20	54.90	37.12
28-8P	49.05	33.16	59.72	40.65	54.28	36.70	84.12	56.89	47.96	31.97
28-9S	55.22	37.74	65.89	45.24	59.91	40.90	88.55	60.23	60.46	41.26
28-9P	50.96	34.84	61.65	42.34	55.36	37.83	84.17	57.29	56.17	38.37
28-10S	74.71	51.75	85.39	59.24	88.82	60.05	106.48	72.00	81.78	54.54
28-10P	59.65	40.31	70.32	47.81	64.20	43.99	91.30	61.74	62.23	42.09
28-11S	34.07	23.42	44.76	30.92	36.44	25.04	51.33	35.08	36.83	25.31
28-11P	28.40	19.61	39.09	27.12	30.83	21.24	45.61	31.23	31.06	21.39
28-12S	34.07	23.42	44.76	30.92	36.44	25.04	51.33	35.08	36.83	25.31
28-12P	29.53	20.36	40.20	27.85	28.57	19.70	46.58	31.88	32.13	22.15
28-15S	37.73	25.90	48.39	33.40	39.82	27.32	54.67	37.37	40.31	27.65
28-15P	32.84	22.62	43.51	30.12	35.35	24.31	49.86	34.11	35.50	24.40
28-16S	29.53	20.36	40.20	27.85	31.83	21.93	46.58	31.88	32.79	22.18
28-16P	29.24	20.16	43.25	27.66	31.67	21.81	46.29	31.67	32.46	21.93
28-17S	52.28	35.34	62.94	42.84	56.90	38.46	87.23	58.98	53.75	36.33
28-17P	48.89	33.04	59.57	40.55	53.75	36.33	83.71	56.69	52.48	26.67
28-18S	29.28	20.18	39.96	27.68	32.13	22.15	48.58	33.23	32.41	22.32
28-18P	27.22	18.82	37.90	26.32	29.85	20.59	46.45	31.81	30.20	20.83
28-19S	56.28	38.45	66.96	45.95	60.65	41.41	89.61	60.97	61.57	42.02
28-19P	47.08	32.24	57.76	39.73	51.67	35.33	80.41	54.73	52.29	35.74
28-20S	33.61	22.70	44.28	30.20	34.50	23.32	50.04	33.82	31.65	24.41
28-20P	30.36	20.53	41.04	28.03	33.22	24.63	46.89	31.69	29.72	22.41
28-21S	38.07	26.13	44.75	33.63	40.44	27.73	55.06	37.62	40.72	27.93
32-21P	33.72	23.21	44.41	30.71	36.10	24.80	50.83	34.74	36.44	25.04
32-5S	50.04	33.85	—	—	50.04	38.15	—	—	47.97	39.81
32-5P	45.39	30.69	—	—	45.83	30.97	—	—	40.63	36.55
32-6S	58.70	47.54	—	—	59.01	39.88	—	—	59.01	52.71
32-6P	43.00	34.54	—	—	43.24	29.24	—	—	43.24	39.71
32-7S	98.85	66.84	—	—	99.20	67.08	—	—	84.28	65.49
32-7P	80.15	54.20	—	—	80.79	54.63	—	—	61.21	54.63
32-8S	43.93	30.11	—	—	44.27	30.31	—	—	46.29	31.67
32-8P	43.42	29.74	—	—	43.71	29.94	—	—	45.65	31.26
32-13S	47.35	32.01	—	—	47.64	32.20	—	—	47.64	38.19
32-13P	42.07	28.46	—	—	42.61	28.80	—	—	47.35	34.11
32-17S	103.66	70.60	—	—	104.20	70.44	—	—	100.35	69.42
32-17P	95.83	64.80	—	—	96.28	65.09	—	—	73.44	66.06
32-414S	84.58	58.43	—	—	83.48	56.82	—	—	85.79	58.37
32-414P	64.89	44.91	—	—	64.51	43.97	—	—	66.79	45.56
36-1S	97.90	66.19	—	—	99.67	67.37	—	—	87.23	61.90
36-1P	80.15	54.20	—	—	81.82	55.31	—	—	52.98	47.67
36-5S	156.76	105.98	—	—	158.41	107.11	—	—	141.18	109.47
36-5P	133.79	90.46	—	—	135.74	91.77	—	—	105.00	90.85
36-6S	92.12	68.42	—	—	95.82	63.16	—	—	83.28	74.93
36-6P	76.24	55.79	—	—	77.44	52.36	—	—	69.23	62.29
36-7S	67.23	48.45	—	—	68.36	46.22	—	—	65.54	54.94
36-7P	61.16	43.80	—	—	62.48	42.26	—	—	55.88	50.29
36-8S	110.19	74.48	—	—	112.19	75.65	—	—	79.76	71.78
36-8P	103.66	70.06	—	—	105.48	71.32	—	—	73.81	66.43
36-9S	145.25	98.19	—	—	147.00	99.38	—	—	109.19	98.25
36-9P	121.66	82.25	—	—	123.51	83.51	—	—	90.32	81.28
36-10S	54.75	37.41	—	—	55.84	38.14	—	—	58.22	39.74
36-10P	51.20	36.05	—	—	52.07	35.61	—	—	54.67	37.37
36-15S	92.61	62.92	—	—	97.90	66.19	—	—	95.54	64.59
36-15P	85.26	58.02	—	—	90.13	60.92	—	—	59.89	46.54
36-403S	159.91	108.11	—	—	162.09	109.58	—	—	128.32	111.85
36-403P	121.66	82.25	—	—	123.51	83.51	—	—	108.38	81.28

97 Series Rear Release Crimp Type



See Page 217 for Dimension Table.

UL, CSA Recognized. High speed termination, closed entry. Reduces fatigue failure at wire contact junction. Intermateable and intermountable with 97 Series and MIL-C-5015 type shell styles, both plugs and receptacles. Utilizes Standard 97 Series bright cadmium plated shells and insert configurations. Designed for use with stamped and formed type crimp contacts. The size 16 contact design features insulation crimp support. Use with standard hardware for 97 Series connector. Order accessories with (639) plating deviation to match connector plating. **Specifications. Standard Shell Finish:** Clear chromate over cadmium plate. **Inserts:** Molded 94V-0 UL rated material. **Contacts:** Copper Alloy formed, silver plated; gold plating also available. **Wire Sizes:** 12-30 AWG. UL File #E115497. CSA File #LR69183. **Operating Temperature Range:** -55°C to +125°C. **Contacts sold separately. (See Contacts and Tools below.)**

Receptacles

Number of Contacts	Shell Size and Style	97-4100A		97-4101A		97-4102A	
		EACH		EACH		EACH	
		1-9	10-49	1-9	10-49	1-9	10-49
2	12S-3P	9.43	6.79	11.11	7.92	5.59	4.19
2	12S-3S	9.43	6.79	11.11	7.92	5.59	4.19
3	14S-1P	9.66	6.96	11.80	8.42	6.43	4.75
3	14S-1S	9.66	6.96	11.80	8.42	6.43	4.75
4	14S-2P	10.97	7.84	11.78	8.39	6.22	4.59
4	14S-2S	10.97	7.84	11.78	8.39	6.22	4.59
5	14S-5P	10.00	7.16	12.16	8.63	6.72	4.94
5	14S-5S	10.00	7.16	12.16	8.63	6.72	4.94
3	14S-7P	9.66	6.96	11.80	8.42	6.43	4.75
3	14S-7S	9.66	6.96	11.80	8.42	6.43	4.75
7	16S-1P	11.56	8.22	12.47	8.85	7.09	5.21
7	16S-1S	11.56	8.22	12.47	8.85	7.09	5.21
5	16S-8P	11.35	8.10	12.43	8.82	6.90	5.08
5	16S-8S	11.35	8.10	12.43	8.82	6.90	5.08
10	18-1P	13.19	9.32	14.16	10.65	8.39	6.07
10	18-1S	13.19	9.32	14.16	10.65	8.39	6.07
4	18-4P	12.64	8.95	14.47	10.21	7.72	5.61
4	18-4S	12.64	8.95	14.47	10.21	7.72	5.61
5	18-11P	13.65	9.63	15.54	10.92	9.14	6.58
5	18-11S	13.65	9.63	15.54	10.92	9.14	6.58
6	18-12P	13.27	9.35	14.98	10.54	8.00	6.04
6	18-12S	13.27	9.35	14.98	10.54	8.00	6.04
10	18-19P	18.07	12.61	20.19	14.07	13.13	9.67
10	18-19S	18.07	12.61	20.19	14.07	13.13	9.67
5	18-20P	14.58	10.29	16.80	11.75	8.83	6.63
5	18-20S	14.58	10.29	16.80	11.75	8.83	6.63
4	20-4P	16.49	11.56	17.58	12.31	10.36	7.72
4	20-4S	16.49	11.56	17.58	12.31	10.36	7.72
8	20-7P	14.74	10.36	15.68	11.01	8.79	6.59
8	20-7S	14.74	10.36	15.68	11.01	8.79	6.59
14	20-27P	14.88	10.48	15.88	11.17	8.87	6.66
14	20-27S	14.88	10.48	15.88	11.17	8.87	6.66
19	22-14P	17.99	12.59	18.92	13.18	10.91	8.13
19	22-14S	17.99	12.59	18.92	13.18	10.91	8.13
7	24-2P	23.85	16.54	23.97	16.61	15.42	11.30
7	24-2S	23.85	16.54	23.97	16.61	15.42	11.30
22	28-11P	25.52	17.65	28.07	19.38	17.42	12.70
22	28-11S	25.52	17.65	28.07	19.38	17.42	12.70
26	28-12P	24.76	17.15	27.29	18.86	16.63	12.16
26	28-12S	24.76	17.15	27.29	18.86	16.63	12.16
14	28-20P	25.28	17.10	27.94	18.89	17.74	11.99
14	28-20S	25.28	17.10	27.94	18.89	17.74	11.99
37	28-21P	24.61	17.06	27.47	19.65	16.83	12.31
37	28-21S	24.61	17.06	27.47	19.65	16.83	12.31

Mating Plugs

Shell Size and Style	97-4106A		97-4106B		97-4107A		97-4108B	
	EACH		EACH		EACH		EACH	
	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
12S-3S	9.18	6.62	—	—	13.21	8.93	11.44	8.15
12S-3P	9.18	6.62	—	—	13.21	8.93	11.44	8.15
14S-1P	9.66	6.90	11.68	8.29	14.06	9.50	10.91	7.79
14S-1S	9.66	6.90	11.68	8.29	14.06	9.50	10.91	7.79
14S-2P	9.64	6.94	11.70	8.33	14.04	9.49	10.97	7.84
14S-2S	9.64	6.94	11.70	8.33	14.04	9.49	10.97	7.84
14S-5P	10.00	7.16	12.08	8.58	14.40	9.73	10.97	7.84
14S-5S	10.00	7.16	12.08	8.58	14.40	9.73	10.97	7.84
14S-7P	9.66	6.96	11.68	8.29	14.06	9.50	10.91	7.79
14S-7S	9.66	6.96	11.68	8.29	14.06	9.50	10.91	7.79
16S-1P	10.34	7.41	13.17	9.30	13.61	9.20	12.44	8.83
16S-1S	10.34	7.41	13.17	9.30	13.61	9.20	12.44	8.83
16S-8S	10.06	7.21	13.13	9.29	13.27	8.97	12.19	8.66
16S-8P	10.06	7.21	13.13	9.29	13.27	8.97	12.19	8.66
18-1S	12.70	8.98	15.23	10.71	18.83	12.73	15.97	11.22
18-1P	12.70	8.98	15.23	10.71	18.83	12.73	15.97	11.22
18-4S	11.96	8.49	14.53	10.25	18.02	12.18	15.48	10.86
18-4P	11.96	8.49	14.53	10.25	18.02	12.18	15.48	10.86
18-11S	12.95	9.17	15.84	11.12	19.08	12.90	16.45	11.54
18-11P	12.95	9.17	15.84	11.12	19.08	12.90	16.45	11.54
18-12S	12.40	8.80	15.38	10.81	18.51	12.51	15.91	11.19
18-12P	12.40	8.80	15.38	10.81	18.51	12.51	15.91	11.19
18-19S	17.59	12.33	16.31	12.68	24.03	16.24	18.09	13.03
18-19P	17.59	12.33	16.31	12.68	24.03	16.24	18.09	13.03
18-20S	13.76	9.72	16.89	11.81	19.98	13.51	17.79	12.44
18-20P	13.76	9.72	16.89	11.81	19.98	13.51	17.79	12.44
20-4S	18.09	12.64	20.34	14.15	22.66	15.32	21.32	14.83
20-4P	18.09	12.64	20.34	14.15	22.66	15.32	21.32	14.83
20-7S	16.26	11.40	18.37	12.84	20.75	14.03	19.48	13.59
20-7P	16.26	11.40	18.37	12.84	20.75	14.03	19.48	13.59
20-27S	16.29	11.42	18.47	12.89	20.77	14.04	19.83	13.80
20-27P	16.29	11.42	18.47	12.89	20.77	14.04	19.83	13.80
22-14S	17.99	12.59	20.77	14.45	27.01	18.26	22.04	15.32
22-14P	17.99	12.59	20.77	14.45	27.01	18.26	22.04	15.32
24-2S	24.16	16.75	25.01	17.33	32.40	21.90	26.55	18.37
24-2P	24.16	16.75	25.01	17.33	32.40	21.90	26.55	18.37
28-11S	26.53	18.37	29.06	20.05	37.30	25.21	29.48	20.34
28-11P	26.53	18.37	29.06	20.05	37.30	25.21	29.48	20.34
28-12S	25.78	17.83	28.28	19.55	36.44	24.64	28.72	19.83
28-12P	25.78	17.83	28.28	19.55	36.44	24.64	28.72	19.83
28-20S	26.25	17.26	28.85	19.79	37.47	25.33	29.10	19.67
28-20P	26.25	17.26	28.85	19.79	37.47	25.33	29.10	19.67
28-21S	25.81	17.85	28.24	19.75	36.47	24.65	28.72	19.83
28-21P	25.81	17.85	28.24	19.75	36.47	24.65	28.72	19.83

Contacts and Tools

Size 12-Silver Plated Contacts

Stock No.	Mfr.'s Type	Wires Sizes (AWG)	PK/100	
			1-4	5-9
714-3100	97-38-1216P-4(920) Pin	12-16	30.30	27.06
714-3110	97-38-1216S-4(920) Socket	12-16	33.55	30.30

Size 16-Silver Plated Contacts

714-3113	97-45-1418P-4(920) Pin	14-18	22.72	20.56
714-3115	97-45-1418S-4(920) Socket	14-18	24.88	22.72
714-3120	97-45-1622P-4(920) Pin	16-22	22.72	20.56
714-3130	97-45-1622S-4(920) Socket	16-22	24.88	22.72
714-3140	97-45-2026P-4(920) Pin	20-26	22.72	20.56
714-3150	97-45-2026S-4(920) Socket	20-26	24.88	22.72

Size 16-Silver Plated Short Socket Contacts*

Stock No.	Mfr.'s Type	Wires Sizes (AWG)	PK/100	
			1-4	5-9
714-3154	97-55-1418S-4(920) Socket	14-18	24.88	22.72
714-3155	97-55-1622S-4(920) Socket	16-22	24.88	22.72
714-3156	97-55-2026S-4(920) Socket	20-26	24.88	22.72

* For size 10SL, 12S, 14S and 16S.

Size 12-Gold Plated Contacts

714-3160	97-38-1216P-5(920) Pin	12-16	103.89	93.06
714-3170	97-38-1216S-5(920) Socket	12-16	110.38	97.39

Size 16-Gold Plated Contacts

714-3175	97-45-1622P-5(929) Pin	16-22	51.94	45.45
714-3180	97-45-1622S-5(920) Socket	16-22	58.43	51.94
714-3185	97-45-2026P-5(920) Pin	20-26	51.94	45.45
714-3190	97-45-2026S-5(920) Socket	20-26	58.43	51.94

Size 16-Gold Plated Short Socket Contacts*

Stock No.	Mfr.'s Type	Wires Sizes (AWG)	PK/100	
			1-4	5-9
714-3195	97-55-1622S-5(920) Socket	16-22	58.43	51.94
714-3197	97-55-2026S-5(920) Socket	20-26	58.43	51.94

* For size 10SL, 12S, 14S and 16S.

Insertion/Extraction Tools

Stock No.	Mfr.'s Type	Contact Size	EACH	
			1-9	10-24
714-3192	M81969/14-03	16	3.92	3.58
714-3194	M81969/14-04	12	4.60	3.77

Hand Crimp Tools

Stock No.	Mfr.'s Type	Wire Sizes (AWG)	EACH	
			1-9	10-24
714-3196	357-578	12-22	231.75	
714-3198	357-579	20-30	231.75	

Series 16S MS-Type Miniature Solder Connectors

Pressure-proof and completely weather-proof miniature connectors. Widely used in instrumentation and miniaturized electronic equipment. These highly reliable connectors are available in both small and large shell sizes providing enough variation for a wide range of applications. Contacts are gold over silver plating. Aluminum shells feature quick bayonet coupling. Small receptacles mount in 13/16" hole; secure through four 1/8" holes on 25/32" centers. Large receptacles require 1 1/16" hole with four 1/8" holes on 1 1/16" centers. Plugs are 2 1/16" long. Small plugs are 5/16" dia.; large plugs are 19/64" in dia. Rated 500 volts rms, except *600 volts. All have strain relief clamps. Shells are aluminum with neutral-color chromium finish. Dielectric material is diallyl phthalate. All have 'O' ring seals. **Av. shipping wt.:** 3 oz.

Dimensions (Inches)

	A	B	C	D	E
Small	5/16	3/8	1 1/16	25/32	25/64
Large	1 1/16	2 1/32	1 1/8	3 1/32	3 1/64



On Allied Stock Numbers marked with †, the part is available in the following finishes: Standard — (no code), cadmium plate with drab olive chromate finish; (639) — cadmium plate with clear

chromate finish; (621) — zinc with black zinc finish; (689) — electroless nickel. For finishes other than drab olive, add the finish identification to the end of the part number.

Type 97-60 Dust Caps

For Receptacles

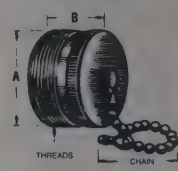
Provides protection against live circuits and keeps out dirt and dust when connector is not in use. Has internal threads especially designed for use with Series 3100A, 3101A and 3102A receptacles. Beaded chain. A soft rubber disc sits on the connector shell forming a watertight joint. **Average shipping weight: 2 oz.**



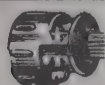
Stock No.	Mfr.'s Type	Fits Shell	Dimensions (Inches)			EACH	
			Threads	A	B	1-9	10-49
714-2538	97-60-10	10S, 10SL	5/8-24	13/16	7/16	2.91	2.50
714-2540	97-60-12	12S, 12SL	3/4-20	15/16	7/16	2.71	2.31
714-2542†	97-60-14	14, 14S	7/8-20	1 1/16	7/16	2.81	2.46
714-2544†	97-60-16	16, 16S	1-20	1 1/8	7/16	3.22	2.80
714-2546†	97-60-18	18	1 1/8-18	1 5/16	7/16	3.63	3.20
714-2548†	97-60-20	20	1 1/4-18	1 7/16	7/16	4.38	3.87
714-2550†	97-60-22	22	1 3/8-18	1 9/16	7/16	4.59	4.07
714-2552†	97-60-24	24	1 1/2-18	1 11/16	7/16	6.59	5.84
714-2554†	97-60-28	28	1 3/4-18	—	1/2	6.46	5.73
714-2556	97-60-32	32	2-18	2 1/16	1/2	10.60	8.41
714-2558	97-60-36	36	2 1/4-16	2 1/16	1/2	12.37	10.30

For Plugs

Male caps and chains especially designed for Series 3106, 3107 and 3108 plugs. Have external threads and are used on all plugs where a coupling ring is provided. Provide excellent protection against live circuits in a wide variety of applications. Beaded chain. **Average shipping weight: 2 oz.**



Stock No.	Mfr.'s Type	Fits Shell	Dimensions (Inches)			EACH	
			Threads	A	B	1-9	10-49
714-2539	97-60-10P	10S, 10SL	5/8-24	5/8	2 1/32	3.39	3.01
714-2541	97-60-12P	12S, 12SL	3/4-20	3/4	2 1/32	6.69	5.92
714-2543†	97-60-14P	14, 14S	7/8-20	7/8	2 1/32	4.33	3.96
714-2545†	97-60-16P	16, 16S	1-20	1	2 1/32	4.92	4.37
714-2547†	97-60-18P	18	1 1/8-18	1 1/8	2 1/32	6.08	5.42
714-2549†	97-60-20P	20	1 1/4-18	1 1/4	2 1/32	10.91	9.81
714-2551†	97-60-22P	22	1 3/8-18	1 3/8	2 1/32	11.27	10.14
714-2553†	97-60-24P	24	1 1/2-18	1 1/2	2 1/32	13.45	12.10
714-2555†	97-60-28P	28	1 3/4-18	1 3/4	2 1/32	8.34	7.47
714-2557	97-60-32P	32	2-18	2	2 1/32	23.37	19.48
714-2559	97-60-36P	36	2 1/4-16	2 1/4	2 1/32	16.78	13.98



AN3057 Cable Clamps

For jacketed cable or wires protected by tubing. Supports at plug or receptacle. Use with rubber bushing for firm grip. **Weight: 3 1/2 oz.**

Stock No.	Mfr.'s Type	Fits Shell	Max. Cable O.D. Inches	EACH		
				1-9	10-49	50-99
714-2500	97-3057-3	6S, 10S	1/4	6.39	4.80	4.32
714-2501†	97-3057-4	10SL, 12, 12S	5/16	5.25	3.98	3.58
714-2503†	97-3057-6	12SL, 14, 14S	7/16	5.36	4.13	3.71
714-2505†	97-3057-8	16, 16S	9/16	5.79	4.59	4.18
714-2507†	97-3057-10	18	5/8	4.84	4.01	3.16
714-2533†	97-3057-10-6*	18	1/2	5.55	4.22	3.80
714-2509†	97-3057-12	20, 22	3/4	5.36	4.13	3.71
714-2534†	97-3057-12-6*	20, 22	1/2	5.59	4.26	3.85
714-2511†	97-3057-16	24, 28	15/16	5.47	4.45	4.00
714-2513	97-3057-20	32	1 1/4	7.68	5.85	5.26
714-2515	97-3057-24	36	1 3/4	7.99	6.06	5.45

*Step-down.



MS3420 Telescoping Boots

Amphenol Series 97-79-513

Rubber bushing designed for MS3057A cable clamp. Protects wire bundles and unjacketed cables from possible damage by cable clamp. Telescope for use with cable to small in relation to connector used. **Shipping weight: 1 1/2 oz.**

Stock No.	Mfr.'s Type	Cable O.D.	EACH		
			1-9	10-49	50-99
714-2579	97-79-513-3	0.130	.58	.52	.46
714-2580	97-79-513-4	0.220	.65	.59	.52
714-2581	97-79-513-6	0.312	.67	.61	.54
714-2582	97-79-513-8	0.437	.58	.52	.46
714-2583	97-79-513-10	0.562	.65	.59	.52
714-2584	97-79-513-12	0.625	.83	.74	.67
714-2585	97-79-513-16	0.750	1.34	1.20	1.08
714-2586	97-79-513-20	0.937	1.34	1.20	1.08
714-2587	97-79-513-24	1.250	1.34	1.20	1.08

MS3057A Cable Clamp



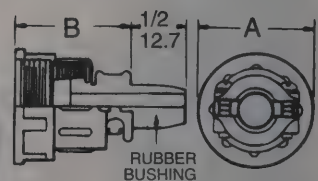
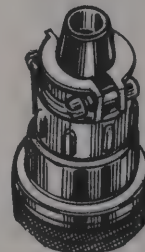
Strong, lightweight. Both clamping halves float so that cable is always centered for maximum strain relief. MS3420 boot (not included) provides support and weatherproofing. Boots may be used for small cables (Order from Table above right). **Shipping weight: 5 oz.**

Stock No.	Mfr.'s Type	Fits Shell	Max. Cable O.D. Inches	EACH		
				1-9	10-49	50-99
714-2502†	97-3057-1004	10SL, 12, 12S	5/16	3.52	2.81	2.53
714-2504†	97-3057-1007	12SL, 14, 14S	7/16	3.68	2.94	2.66
714-2506†	97-3057-1008	16, 16S	9/16	3.95	3.05	2.73
714-2508†	97-3057-1010	18	5/8	3.41	2.66	2.39
714-2510†	97-3057-1012	20, 22	3/4	3.40	2.65	2.38
714-2512†	97-3057-1016	24, 28	15/16	3.57	2.84	2.57
714-2514	97-3057-1020	32	1 1/4	5.16	4.12	3.71
714-2516	97-3057-1024	36	1 3/8	5.39	4.02	3.61

Waterproof Cable Clamps

The complete waterproof cable clamp assembly Type 97-67 (for use with MS connectors) consists of an AN3057 Cable Clamp, a rubber bushing, washer and an AN3055 Adapter. It is available for all sizes MS and 97 plugs.

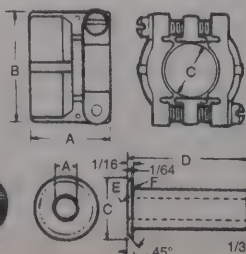
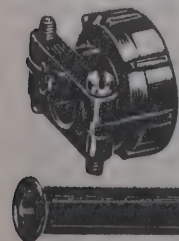
Stock No.	Mfr.'s Type	Max. Cable O.D. Inches	Connector Size	Weight Lbs. Per 100	Dimensions (Inches)			EACH		
					Threads	A	B	1-9	10-49	50-99
714-2000	97-67-12-4	7/32	10SL, 12S, 12	3.82	5/8-24	2 5/32	1 17/32	13.59	10.20	9.18
714-2006†	97-67-14-6	11/32	12SL, 14S, 14	5.54	3/4-20	2 9/32	1 19/32	14.65	10.99	9.89
714-2008†	97-67-16-8	7/16	16S, 16	6.92	7/8-20	1 11/16	1 19/32	14.88	11.18	10.05
714-2010†	97-67-16-6	11/32	16S, 16	5.84	7/8-20	1 11/16	1 19/32	14.72	11.03	9.93
714-2015†	97-67-18-8	11/32	18	5.94	1-20	1 9/16	1 19/32	14.15	10.62	9.56
714-2017†	97-67-18-6	7/16	18	7.10	1-20	1 9/16	1 19/32	15.22	11.41	10.28
714-2025†	97-67-18-10	9/16	18	8.79	1-20	1 9/16	1 19/32	15.54	11.66	10.49
714-2030†	97-67-22-8	7/16	20, 22	7.27	1 1/8-18	1 9/8	1 19/32	15.71	11.78	10.61
714-2035†	97-67-22-10	9/16	20, 22	8.97	1 1/8-18	1 9/8	1 9/32	15.86	11.91	10.71
714-2040†	97-67-22-12	11/16	20, 22	12.65	1 1/8-18	1 9/8	1 17/32	17.85	13.39	12.04
714-2040†	97-67-28-10	11/16	24, 28	9.12	1 7/8-18	1 5/8	1 17/32	17.22	12.91	11.63
714-2048†	97-67-28-12	11/16	24, 28	12.86	1 7/8-18	1 5/8	1 17/32	19.48	14.60	13.14
714-2050†	97-67-28-16	27/32	24, 28	14.95	1 7/8-18	1 5/8	1 17/32	19.12	14.34	12.91
714-2055	97-67-32-20	1 1/32	32	22.27	1 3/4-18	1 11/8	1 17/32	43.15	37.94	37.94
714-2060	97-67-36-16	27/32	36	16.36	2-18	2 1/16	1 17/32	31.98	27.18	27.18



97 Series Cable Clamps With Rubber Bushing

For unjacketed cable and wires. Both clamping halves float for maximum strain relief. Two telescoping bushings are furnished with shells sizes 24 and larger.

Stock No.	Mfr.'s Type	Shell Size	Max. Cable O.D. Inches	Dimensions (Inches)				EACH		
				Threads	A	B	C	1-9	10-49	50-99
714-2560†	97-3057-1004-1	10SL, 12, 12S	5/16	5/8-24	0.795	0.842	5/16	4.33	3.84	3.40
714-2561†	97-3057-1007-1	12SL, 14, 14S	7/16	3/4-20	0.850	0.995	7/16	4.38	3.88	3.44
714-2562	97-3057-1008-1	16, 16S	9/16	7/8-20	0.920	1.120	9/16	4.51	4.13	3.65
714-2563	97-3057-1010-1	18	5/8	1-20	0.920	1.216	5/8	3.90	3.50	3.11
714-2564†	97-3057-1012-1	20, 22	3/4	1 1/8-18	0.927	1.403	3/4	4.07	3.56	3.15
714-2565†	97-3057-1016-1	24, 28	15/16	1 1/8-18	1.015	1.683	15/16	5.15	4.59	4.08
714-2566	97-3057-1020-1	32	1 1/4	1 3/4-18	1.095	2.050	1 1/4	7.24	6.57	5.81
714-2567	97-3057-1024-1	36	1 3/8	2-18	1.156	2.245	1 3/8	7.77	6.98	6.17



17 Series D Subminiature

Conforms to NFC 93-425, EIA standard RS-232-C — RS-449. Two-piece black thermoplastic insulator. UL94 V0 rated. Nonremovable contacts. Shell is steel yellow chromated over zinc. Contacts are screw machined (male brass, female bronze). Plating is gold over nickel. Normal voltage is 300V_{eff} 50 Hz at a current rating of 7.5A.

Fixed Contact Solder Cup — Male (Plug)

Fig. A

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8029	17-DE9P	9	2.14	1.85	1.55
720-8030	17-DA15P	15	2.59	2.23	1.87
720-8031	17-DB25P	25	3.92	3.16	2.66
720-8032	17-DC37P	37	5.01	4.18	3.27
720-8033	17-DD50P	50	6.67	5.56	4.36

Fixed Contact Solder Cup (Stamped and Formed Contacts) — Male (Plug)

Fig. A

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8019	17S-DE9P	9	.76	.63	.50
720-8020	17S-DA15P	15	1.33	1.07	.91
720-8021	17S-DB25P	25	1.95	1.57	1.33
720-8022	17S-DC37P	37	2.75	2.22	1.87
720-8023	17S-DD50P	50	4.59	3.70	3.12

Fixed Contact Dip Solder — Male (Plug) PCB

Fig. B

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8039	17-DE9P-V	9	2.74	2.28	1.79
720-8040	17-DA15P-V	15	3.05	2.54	1.99
720-8041	17-DB25P-V	25	3.64	3.13	2.64
720-8042	17-DC37P-V	37	6.88	5.73	4.49
720-8043	17-DD50P-V	50	9.62	8.01	6.28

Fixed Contact Wire Wrap — Male (Plug) PCB

Fig. C

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8059	17-DE9P-F179	9	6.30	5.25	4.11
720-8060	17-DA15P-F179	15	7.46	6.21	4.87
720-8061	17-DB25P-F179	25	8.82	7.35	5.76
720-8062	17-DC37P-F179	37	13.29	11.08	8.68
720-8063	17-DD50P-F179	50	16.61	13.85	10.85

Two-Piece Grommet Type Backshell

Housing: ABS polymer. Plating: Nickel over copper. Grommet: PVC. Hardware: Steel, clear zinc finish.

Plastic (Black)

Stock No.	Mfr.'s Type	Contacts In D-Sub	EACH		
			1-24	25-99	100-499
720-0051	17-1724-1	9	1.42	1.22	1.03
720-0052	17-1725-1	15	2.21	1.78	1.50
720-0052	17-1726-1	25	2.43	2.18	1.83
720-0053	17-1727-1	37	2.50	2.01	1.70
720-0054	17-1728-1	50	3.14	2.53	2.13



D-Sub Connectors for Flat Cable Termination

RS-232 and RS-449 standard and interchangeable with all industry standard D-Subs. Insulator Material: Gray, glass-filled polycarbonate (UL94V-0). Contacts: Phosphor bronze with gold plating over nickel. Flange: Metal, detents on the plugs. Termination: 26 AWG solid and 28 AWG stranded conductors on .050" ribbon cable. Rated: 1 Amp, 125 VAC. Temperature Rating: -25°C to +105°C.

Metal Flange Plugs (Male)

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
715-9077	841-17-DEFR-A9P	9	5.63	4.85	4.08
715-9078	841-17-DAFR-A15P	15	5.96	4.97	3.89
715-9080	841-17-DBFR-A25P	25	7.06	5.88	4.61
715-9082	841-17-DCFR-A37P	37	10.34	8.62	6.75

Plastic Plugs (Male)

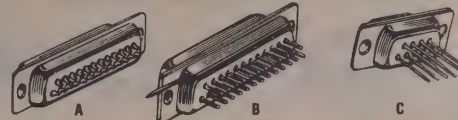
Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
715-9120	841-17-DEFR-B9P	9	5.47	4.71	3.96
715-9122	841-17-DAFR-B15P	15	5.96	4.97	3.89
715-9124	841-17-DBFR-B25P	25	6.66	5.55	4.35
715-9126	841-17-DCFR-B37P	37	10.07	8.39	6.57

Metal Flange Receptacles (Female)

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
715-9071	841-17-DEFR-A9S	9	5.63	4.85	4.08
715-9072	841-17-DAFR-A15S	15	5.96	4.97	3.89
715-9074	841-17-DBFR-A25S	25	7.06	5.88	4.61
715-9076	841-17-DCFR-A37S	37	10.34	8.62	6.75

Plastic Receptacles (Female)

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
715-9128	841-17-DEFR-B9S	9	5.47	4.71	3.96
715-9130	841-17-DAFR-B15S	15	5.96	4.97	3.89
715-9132	841-17-DBFR-B25S	25	6.66	5.55	4.35
715-9134	841-17-DCFR-B37S	37	10.07	8.39	6.57



Fixed Contact Solder Cup — Female (Receptacle)

Fig. A

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8034	17-DE9S	9	3.71	2.91	2.45
720-8035	17-DA15S	15	3.56	3.06	2.58
720-8036	17-DB25S	25	5.62	4.53	3.82
720-8037	17-DC37S	37	9.34	7.79	6.10
720-8038	17-DD50S	50	9.95	8.30	6.50

Fixed Contact Solder Cup (Stamped & Formed Contacts) — Female (Recept.)

Fig. A

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8024	17S-DE9S	9	.81	.67	.53
720-8025	17S-DA15S	15	1.42	1.15	.97
720-8026	17S-DB25S	25	2.07	1.67	1.41
720-8027	17S-DC37S	37	2.98	2.41	2.03
720-8028	17S-DD50S	50	5.16	4.16	3.51

Fixed Contact Dip Solder — Female (Recept.) PCB

Fig. B

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8044	17-DE9S-V	9	5.26	4.53	3.81
720-8045	17-DA15S-V	15	7.43	6.20	4.85
720-8046	17-DB25S-V	25	11.46	9.55	7.48
720-8047	17-DC37S-V	37	19.67	16.39	12.84
720-8048	17-DD50S-V	50	26.70	22.25	17.43

Fixed Contact Wire Wrap — Female (Recept.) PCB

Fig. C

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-99	100-499
720-8064	17-DE9S-F179	9	7.53	6.07	5.11
720-8065	17-DA15S-F179	15	8.76	7.30	5.72
720-8066	17-DB25S-F179	25	11.33	9.44	7.40
720-8067	17-DC37S-F179	37	17.33	14.44	11.31
720-8068	17-DD50S-F179	50	22.73	18.95	14.84

Metalized Plastic

Stock No.	Mfr.'s Type	Contacts In D-Sub	EACH		
			1-24	25-99	100-499
720-0055	17-1724-2	9	2.36	1.82	1.54
720-0057	17-1725-2	15	3.01	2.32	1.96
720-0058	17-1726-2	25	3.38	2.73	2.30
720-0059	17-1727-2	37	4.07	3.50	2.95

44 Series Environmentally-Sealed Connectors

44 Series high-performance environmentally-sealed connectors feature a resilient, one-piece design incorporating crimp contacts, in six insert configurations. Primary and secondary mating seals and discrete wire seals resist liquids. Ideal for auto/truck, marine, industrial, traffic control, security and mining ventilation systems. 250 VAC RMS at 8 A continuous. Temperature Range: -40° to +125°C. (Order contacts and tooling separately.)

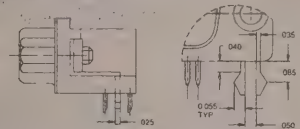
Plug

Stock No.	Mfr.'s Type	No. of Contacts	EACH	
			1-24	25-99
720-4400	44-103-10001	1	1.66	1.34
720-4402	44-103-10002	2	1.66	1.34
720-4404	44-103-10003	3	1.71	1.38
720-4406	44-103-10004	4	1.77	1.43
720-4408	44-103-10005	5	1.77	1.43
720-4410	44-103-10006	6	1.84	1.48

Poke-Home Contacts

Stock No.	Mfr.'s Type	Description	EACH	
			1-4	5-9
720-4424	44-100-1414P-100	Pin (Small Pack)	17.31	14.57
720-4426	44-100-1414P-1000	Pin (Bulk Pack)	102.70	98.12
720-4428	44-102-1414S-100	Socket (Small Pack)	35.91	29.62
720-4430	44-102-1414S-1000	Socket (Bulk Pack)	224.77	211.09

Right Angle — Front Metal Shell D-Subminiature Connector

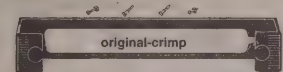


Amphenol's 617 series right angle connectors are a state of the art design. The front metal shell helps reduce EMI/RFI emissions. Contacts are selectively plated for high performance at a low cost. Specifications. Temperature Range: -55°C to +105°C. Voltage Rating: 1000 VAC at sea level. Current Rating: 5 amp. Dielectric: Glass filled thermoplastic, black, UL 94 V0. Shells: Steel/tin plated. Contacts: Precision formed copper alloy. Contact Plating: Goldflash over nickel. Contact Forces: Engagement — 18 oz. max.; Separation — .75 oz. min. Mounting Feature: #4-40 threadhole with female screwlock. .318 Footprint.

Split Arrowhead Boardlock — Fig. A

Stock No.	Mfr.'s Type	Description	EACH	
			1-24	25-99
720-6170	617-C009P-BF221	9-Contact-Plug	1.37	1.18
720-6175	617-C009S-BF220	9-Contact-Socket	1.37	1.18
720-6180	617-C015P-BF221	15-Contact-Plug	1.99	1.61
720-6185	617-C015S-BF220	15-Contact-Socket	1.61	1.38
720-6190	617-C025P-BF221	25-Contact-Plug	1.81	1.56
720-6195	617-C025S-BF220	25-Contact-Socket	1.81	1.56
720-6200	617-C037P-BF221	37-Contact-Plug	3.12	2.51
720-6205	617-C037S-BF220	37-Contact-Socket	2.51	2.16

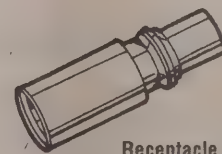
Slide Lock Assemblies



Two posts are required per connector.

Stock No.	Mfr.'s Type	Size	EACH		
			1-24	25-99	100-499
720-0080	17-D-51224-1	E	1.82	1.52	1.19
720-0082	17-D-51220-1	A	1.63	1.36	1.06
720-0084	17-D-51221-1	B	1.99	1.66	1.30
720-0086	17-D-51222-1	C	2.42	2.02	1.58
720-0088	17-D-51223-1	D	4.38	3.65	2.86
720-0091†	17-D-53018-X	Post	3.19	2.66	2.08

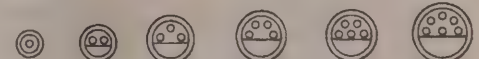
†Per Pack of 10 sets.



Receptacle



Plug



Contact Configurations

Receptacles

Stock No.	Mfr.'s Type	No. of Contacts	EACH	
			1-24	25-99
720-4412	44-104-10001-2	1	1.70	1.37
720-4414	44-104-10002-2	2	1.74	1.41
720-4416	44-104-10003-2	3	1.80	1.45
720-4418	44-104-10004-2	4	1.88	1.52
720-4420	44-104-10005-2	5	1.88	1.52
720-4422	44-104-10006-2	6	1.97	1.59

IDC Socket Connectors



MIL-C 83503 compatible. .100" x .100" grid. Two slots for polarization (except 10 and 14 contact sizes). Duplex plated contacts for lower per line cost. Center polarizing position. UL and CSA recognized. **Insulation Material:** glass reinforced thermoplastic. UL flammability rating 94V-0. **Contact Material:** beryllium copper. **Contact Area Plating:** 15 µ gold over nickel. **Wire Accommodation:** AWG 26 stranded; AWG 28 solid and stranded, AWG 30 solid. **Current Rating:** 1 amp. **Withstanding Voltage:** 1000 V rms at sea level-terminated. **Temp. Rating:** -55°C to +221°C.

Polarization Tabs.

715-9328, 842-800-1211-002, 1-4PK/100 11.70 5-9PK/100 10.53

Connectors

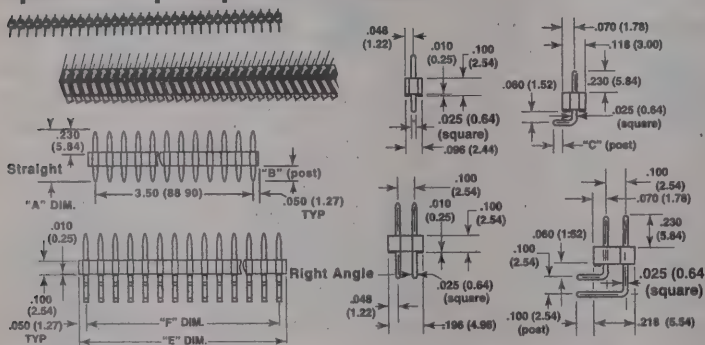
Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-499*
715-9310	842-812-1022-134	10	.69	.58	.45
715-9311	842-812-1422-134	14	.87	.74	.63
715-9312	842-812-1622-134	16	.92	.79	.66
715-9313	842-812-2022-134	20	1.02	.88	.74
715-9314	842-812-2622-134	26	1.77	1.37	1.16
715-9315	842-812-3422-134	34	1.75	1.41	1.19
715-9316	842-812-4022-134	40	2.34	1.81	1.53
715-9317	842-812-5022-134	50	2.74	2.12	1.79

Accessories—Strain Reliefs

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-499*
715-9320	842-800-1206-030	10	.21	.19	.15
715-9321	842-800-1206-031	14	.21	.19	.15
715-9322	842-800-1206-032	16	.21	.19	.15
715-9323	842-800-1206-033	20	.21	.19	.15
715-9324	842-800-1206-034	26	.21	.19	.15
715-9325	842-800-1206-035	34	.24	.21	.16
715-9326	842-800-1206-036	40	.24	.21	.16
715-9327	842-800-1206-037	50	.24	.21	.16

*Contact the closest sales office for quantity pricing.

Spectra-Strip® Unprotected Headers*



UL and CSA Recognized. **Contacts:** phosphor bronze with duplex plated 15 micro inch gold/tin. .100" contact spacing. **Insulation Material:** glass reinforced black thermoplastic. **Current Rating:** 1 amp. **Dielectric Withstanding Voltage:** 7500 VAC rms. **Operating Temperature:** -55°C to +105°C. **Sold with 36 pins only.**

Standard Single Row Headers

Stock No.	Mfr.'s Type	Configuration	Dimensions			EACH		
			A	B	C	1-24	25-49	50-99
715-9176	842-800-272-005	Straight (1 x 36)	.430"	.100"	—	2.01	1.83	1.47
715-9181	842-800-840-005	Right Angle (1 x 36)	—	—	.100"	2.27	2.06	1.66

Standard Double Row Headers

Stock No.	Mfr.'s Type	Configuration	Dimensions		EACH		
			E	F	1-24	25-49	50-99
715-9186	842-800-560-005	Straight (2 x 36)	3.60"	3.50"	3.51	3.19	2.58
715-9191	842-801-056-005	Right Angle (2 x 36)	3.60"	3.50"	3.34	3.04	2.62

703-91T Series Miniature Circular Connectors

Nickel-plated brass shell with thermoplastic dielectric. Silver-plated contacts. Screw-lock solder termination. Accept 20 AWG (.05) wire maximum. Receptacle panel mounting with hex nut.

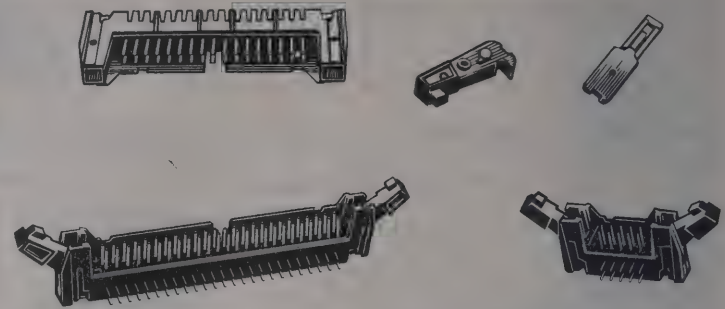
Straight Cable Plugs

Stock No.	Mfr.'s Type	No. of Contacts	EACH	
			1-24	25-99
720-7030	703-91T-3260-001	3	7.28	6.27
720-7032	703-91T-3300-001	4	7.22	6.22
720-7034	703-91T-3360-001	5	7.55	6.50
720-7036	703-91T-3400-001	6	8.08	6.95

Front-Mounting Receptacles

Stock No.	Mfr.'s Type	No. of Contacts	EACH	
			1-24	25-99
720-7038	703-91T-3263-009	3	4.92	4.23
720-7040	703-91T-3303-009	4	4.81	4.14
720-7042	703-91T-3363-009	5	4.97	4.28
720-7044	703-91T-3403-009	6	5.19	4.47

Spectra-Strip® Protected Headers



The 816 series protected headers are for applications requiring positive connect and fast disconnect capabilities. MIL-C 83503 21B/24A and 25A compatible and have snap-in polarization tabs. Solder plated tails avoid solder bath contamination. Lock and eject latches optional (no tooling required to install). UL and CSA recognized. **Insulation Material:** glass reinforced thermo-plastic. UL flammability rating, 94V-0. **Contact Material:** phosphor bronze. **Contact Area Plating:** 30 µ gold over nickel. **Current Rating:** 1 amp. **Withstanding Voltage:** 1000 V rms at sea level. **Temperature Rating:** -55°C to +105°C (-67°F to +221°F).

Straight Solder Tail .062" PCB. Tail Length: .100". Tail Coined: .028" diameter.

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-499*
715-9230	842-816-1020-035	10	1.00	.86	.72
715-9231	842-816-1420-035	14	1.49	1.20	1.02
715-9232	842-816-1620-035	16	1.62	1.31	1.10
715-9233	842-816-2020-035	20	1.51	1.30	1.10
715-9234	842-816-2620-035	26	2.26	1.82	1.54
715-9235	842-816-3420-035	34	2.77	2.24	1.88
715-9236	842-816-4020-035	40	2.54	2.19	1.84
715-9237	842-816-5020-035	50	3.06	2.63	2.21

Straight Solder Tail for .125" PCB. Tail Length: .160".

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-499*
715-9260	842-816-1021-035	10	1.00	.86	.72
715-9261	842-816-1421-035	14	1.50	1.21	1.02
715-9262	842-816-1621-035	16	1.63	1.32	1.11
715-9263	842-816-2021-035	20	1.52	1.31	1.10
715-9264	842-816-2621-035	26	2.27	1.83	1.55
715-9266	842-816-4021-035	40	2.56	2.20	1.85
715-9267	842-816-5021-035	50	3.08	2.65	2.23

Right Angle Solder Tail for .062" PCB. Tail Length: .100". Tail Coined: .028" diameter.

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-499*
715-9240	842-816-1022-035	10	1.02	.88	.74
715-9242	842-816-1622-035	16	1.66	1.34	1.13
715-9243	842-816-2022-035	20	1.55	1.34	1.12
715-9244	842-816-2622-035	26	2.32	1.87	1.58
715-9245	842-816-3422-035	34	2.30	1.98	1.66
715-9246	842-816-4022-035	40	2.62	2.25	1.90
715-9247	842-816-5022-035	50	3.15	2.71	2.28

Right Angle Solder Tail for .125" PCB. Tail Length: .160".

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-499*
715-9272	842-816-1623-035	16	1.69	1.36	1.15
715-9274	842-816-2623-035	26	1.90	1.64	1.38
715-9277	842-816-5023-035	50	3.22	2.77	2.33

Accessories

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
715-9250	842-800-1607-005	Short Latch**	.22	.20	.17
715-9251	842-800-1607-006	Long Latch†	.22	.20	.17

**For use with socket connectors without strain relief. †For use with socket connectors with strain relief.

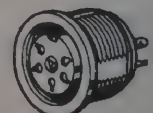
Polarization Tabs

715-9252, Model 842-800-1611-003PK/100 9.00

— NEW —



Plug



Receptacle



3



4



5



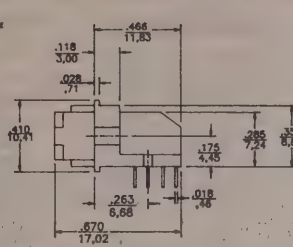
6

SCSI II "D" and Micro Ribbon Connectors

Amphenol® SPECTRA-STRIP/ITD

SCSI II PCB Mount Half Pitch "D" Connector

Amphenol's 257 series is a high density connector system which meets ANSI requirements for SCSI II (small computer system interface), and is suitable for a variety of input/output applications. The low profile design allows that connector to be used in applications where space is at a premium. **Materials:** Contact: Phosphor Bronze. **Contact Plating:** 30 microinches gold on mating end, 100-200 microinches tin/lead on termination end, all over 50-100 microinches nickel. **Front Shell:** Steel. **Front Shell Plating:** 100 microinches (min.) tin. **Metal Housing:** Zinc alloy. **Metal Housing Plating:** Nickel. **Insulator:** Black thermoplastic, UL 94V0 rated. **Electrical Performance:** Current Rating: 1 amp. Insulation Resistance: 1000 megaohms (min.). Dielectric Withstanding Voltage: 500 VAC (min.) at sea level. Contact Resistance: 25 milliohms (max.). **Mechanical Performance:** Operating Temperature Range: -55°C to +105°C.



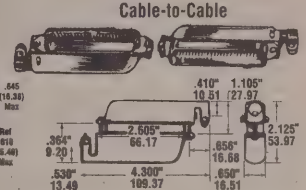
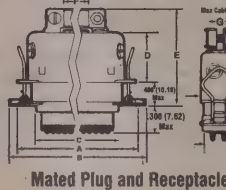
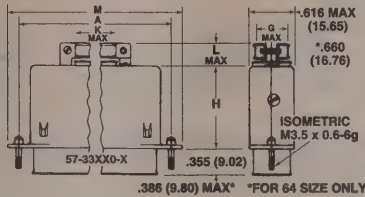
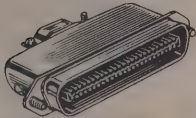
With Latches Only Plus Board Locks

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-24	25-49	50-99
715-0257	257-B050S-AM42	50	8.94	8.13	6.27
715-0258	257-B068S-AM42	68	11.17	10.15	7.83

With Latches and Rails

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-24	25-49	50-99
715-0259	257-B050S-AM11	50	8.79	7.99	6.16
715-0260	257-B068S-AM11	68	11.17	10.15	7.83

57-Series Connectors



Copper alloy contacts, selectively plated gold-over-copper for excellent current carrying characteristics. UL94 V0 rated diallyl phthalate dielectric per MIL-M14F Type MDG, for operation at up to 700 volts DC (sea level) without shorting or flashover. Zinc-plated steel outer shell, with clear chrome finish, for corrosion resistance. Trapezoidal-shape shell assures correct polarity. **Current Capacity:** 5 amps per contact. **Voltage Rating:** 700 volts DC at sea level. **Operating Temperature:** -55°C to +105°C (-67°F to +122°F). **Wire Sizes:** Solid - 22 gauge, max.; stranded - 24 gauge, maximum.

Plugs - Top Cable Entry Zinc plated shells for screw locking.

Stock No.	Mfr.'s Type	Number of Contacts	EACH		
			1-24	25-49	50-99
720-1750	57-33240-1	24	9.17	7.74	6.42
720-1751	57-33360-1	36	11.33	9.56	7.93
720-1752	57-33500-1	50	8.02	6.77	5.62

Cable-to-Panel Connectors

Plugs with top cable entry. Receptacles with spring latches.

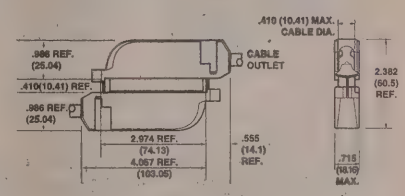
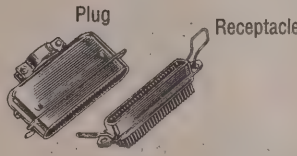
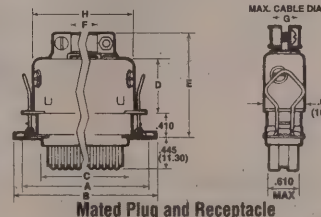
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
720-1722	57-30140	14-Contact Plug	6.84	5.77	4.79
720-1726	57-40140	14-Contact Socket	5.01	4.23	3.51
720-1723	57-30240	24-Contact Plug	6.86	5.79	4.80
720-1727	57-40240	24-Contact Socket	5.43	4.58	3.80
720-1724	57-30360	36-Contact Plug	8.24	6.95	5.77
720-1728	57-40360	36-Contact Socket	5.86	4.94	4.10
720-1725	57-30500	50-Contact Plug	8.98	7.57	6.28
720-1729	57-40500	50-Contact Socket	7.10	5.99	4.97

Cable-to-Cable Connectors

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
720-1708	57-10500-7	50-Contact Plug	8.47	6.93	5.86
720-1719	57-20500-7	50-Contact Socket	8.07	6.81	5.65

157 Series I.D.C. Termination

Current Capacity: 5 amps per contact. **Voltage Rating:** 700 VDC at sea level. **Operating Temperature:** -67°F to +221°F (-55°C to +105°C). **Wire Size:** 24 and 26 AWG solid conductor; 26 and 28 AWG stranded conductor. **Contacts:** Selectively plated 20µ" gold over 50µ" nickel on a copper alloy base. **Dielectric:** Fiberglass-filled polyester. **Shells:** Zinc plated steel with clear chrome coating. Trapezoidal shape assures positive polarization.



Cable-to-Panel Connectors

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
720-5200	157-32140	14-Contact Plug	5.84	4.93	4.09
720-5210	157-42140	14-Contact Receptacle	4.23	3.57	2.96
720-5202	157-32240	24-Contact Plug	6.59	5.56	4.61
720-5212	157-42240	24-Contact Receptacle	4.84	4.08	3.39
720-5204	157-32360	36-Contact Plug	7.47	6.30	5.23
720-5214	157-42360	36-Contact Receptacle	5.17	4.37	3.62
720-5206	157-32500	50-Contact Plug	8.53	7.20	5.97
720-5216	157-42500	50-Contact Receptacle	5.88	4.96	4.12

Cable-to-Cable Connectors

Low profile plastic hood.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
720-5220	157-72500-3 (431)	50-Contact Plug	6.44	5.43	4.51
720-5225	157-82500-3 (431)	50-Contact Receptacle	6.28	5.50	4.40

Cable-to-Cable Low Profile Plastic Hood

Ultra low profile steel hood.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
720-5230	157-72500-18	50-Contact Plug	8.06	6.80	5.64
720-5235	157-82500-18	50-Contact Receptacle	8.04	6.79	5.63

Low profile steel hood.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
720-5240	157-72500-3	50-Contact Plug	6.92	5.84	4.85
720-5245	157-82500-3	50-Contact Receptacle	6.38	5.70	4.80

Tools for 157 Series

Stock No.	Mfr.'s Type	Description	EACH
720-8006	356-251	Insertion/repair tool	112.00

Amphenol® Microribbon Connectors

These connectors are interchangeable with Amphenol 57 Series and 157 Series connectors. Special contact design allows the use of standard .050" flat ribbon cable for termination. **Contacts:** Copper alloy/gold plating. **Dielectric:** Polycarbonate resin (UL94V-0)/blue. Rated 250 VAC rms, 1 amp. **Test Voltage:** 500 VAC rms at sea level. **Operating Temperature:** -55°C to +105°C.

Amphenol Plugs

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-24	25-49
715-9110	850-57F-30360-20	36	8.87	7.39
715-9112	850-57F-30500-20	50	10.00	8.33

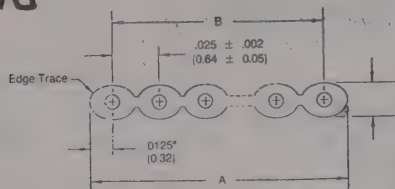
Receptacles W/Spring Latch

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-24	25-49
715-9114	850-57F-40360-20	36	8.76	7.30
715-9116	850-57F-40500-20	50	9.23	7.70

Metal Front Shell Receptacles

Stock No.	Mfr.'s Type	Number of Contacts	EACH		
			1-24	25-49	50-99
715-9150	850-57FE-40360-20	36	11.38	9.48	7.43
715-9152	850-57FE-40500-20	50	12.29	10.24	8.02

Spectra-Zip® PVC .025" Center Cable — 191-3003 Series



Spectra-Strip .025" center zip cable is designed to meet industry requirements for interconnect miniaturization. Features include quick and easy IDC termination, UL recognition and inexpensive PVC dielectric. Applications include any system requiring a higher signal density or an inexpensive alternative to transmission cable. The cable is rated for 105°C (+221°F) operating temperature and 150 volts. One edge of the cable is marked for polarity reference. **Physical Characteristics:** Conductors: 30 AWG solid bare copper. Insulation: PVC, .0075" wall. Thickness: 0.025" ± 0.002". Pitch: 0.025" ± 0.002". Color: Gray (one edge black). **UL style:** 2678; rated 105°C (+221°F).

- ▶ Allows Increased Miniaturization
- ▶ Highly Flexible PVC Insulation
- ▶ Fast, Low-Cost Mass Termination

- ▶ UL Recognized Style
- ▶ Precise Spacing for Controlled Electrical Characteristics

Stock No.	Mfr.'s Type	No. of Conductors	Dimensions — In.		PER 100'	
			Width A	Span B	1-4	5-9
608-2915	843-191-3003-026	26	.650	.625±.005	51.17	42.98
608-2920	843-191-3003-034	34	.850	.825±.005	66.91	56.21
608-2925	843-191-3003-040	40	1.000	.975±.006	78.72	66.12
608-2930	843-191-3003-050	50	1.250	1.225±.006	98.40	82.66
608-2935	843-191-3003-060	60	1.500	1.475±.006	118.08	99.19
608-2937	843-191-3003-068	68	1.700	1.675±.006	134.88	112.40
608-2940	843-191-3003-080	80	2.000	1.975±.006	150.78	113.09
608-2945	843-191-3003-100	100	2.500	2.475±.007	196.80	165.30

Spectra-Strip® Jacketed Shielded Cable

- ▶ Round Cable That Mass Terminates
- ▶ High Flexibility

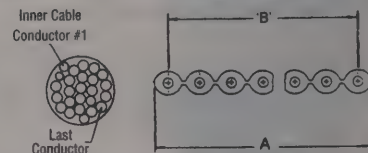
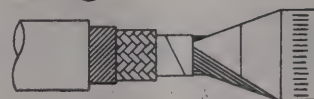
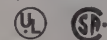
- ▶ Twisted Pair Electrical Characteristics
- ▶ Helps Meet FCC Regulations UL, CSA and CL2

Cable combines into a single construction, the handling and shielding features of round cable and the mass termination capabilities of flat cable. This product is designed for routing in tight spaces where a round shape is more practical and where a foil/braid shield is necessary to help meet FCC requirements for EMI/RFI suppression. Conductors: 28 AWG-7/36 tinned copper. Jacket: Black PVC, .030" nom. wall. Temperature Rating: -20° to +105°C (-4° to +221°F).

Round Twist 'N' Flat™ Jacketed Shielded Cable — 159-2832 Series

Physical Characteristics: Color Code: Brown, red, orange, yellow, green, blue, violet, gray, white, black and repeat with tan common. Insulation: PVC, .010" wall laminated between .005" clear PVC film. Thickness: .042" ± .003". Pitch: .050" ± .005". Twist Length: 17.5" (consult Allied for other available lengths). Flat Length: 2.5". Shielding: Aluminum/polyester foil, with minimum 90% coverage tinned copper braid. **UL Style:** Inner Cable — 20130; Composite — 20381.

Stock No.	Mfr.'s Type	No. of Pairs	Dimensions — In.		PER 100'	
			Width A	Span B	1-4	5-9
608-2830	843-159-2832-010	5	.526	.450±.015	142.96	122.65
608-2835	843-159-2832-014	7	.726	.650±.015	149.58	128.35
608-2840	843-159-2832-016	8	.826	.750±.015	157.28	134.95
608-2845	843-159-2832-020	10	1.026	.950±.015	167.18	143.45
608-2850	843-159-2832-026	13	1.326	1.250±.015	180.37	154.75
608-2855	843-159-2832-034	17	1.726	1.650±.015	211.58	181.50
608-2860	843-159-2832-040	20	2.026	1.905±.020	227.53	195.28
608-2865	843-159-2832-050	25	2.526	2.450±.020	261.22	224.10

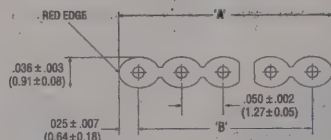


Round 'N' Flat™ Jacketed Shielded Cable — 159-2801 Series

Physical Characteristics: Color Code: Gray with red edge. Insulation: PVC, .010" wall. Thickness: .035" ± .003". Pitch: .050" ± .003". Shielding: Aluminum/polyester tape, with minimum 90% coverage tinned copper braid. **UL Style:** Inner Cable — 2651; Composite — 20381. CSA Certified.

Stock No.	Mfr.'s Type	No. of Conductors	Dimensions — In.		PER 100'	
			Width A	Span B	1-4	5-9
608-2870	843-159-2801-010	10	.500	.450±.007	110.29	88.16
608-2875	843-159-2801-020	20	1.000	.950±.011	121.51	104.25
608-2880	843-159-2801-025	25	1.250	1.200±.011	130.28	111.75
608-2885	843-159-2801-026	26	1.300	1.250±.011	133.45	114.50
608-2890	843-159-2801-034	34	1.700	1.650±.015	155.88	134.60
608-2895	843-159-2801-037	37	1.850	1.800±.015	160.80	137.95
608-2900	843-159-2801-040	40	2.000	1.950±.015	165.15	141.70
608-2905	843-159-2801-050	50	2.500	2.450±.015	199.24	170.95
608-2910	843-159-2801-060	60	3.000	2.950±.015	223.48	191.70

Spectra-Zip® Planar Cable (Gray)

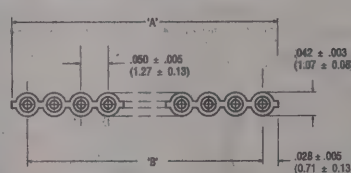


- ▶ 28 AWG, 7/36, .050 Centers, Strand Tinned Copper
- ▶ Fast, Low Cost Mass Termination for All Standard 50 MIL Insulation Displacement (IDC) Connectors
- ▶ High Flexible Gray PVC Insulation with One Red Edge

- ▶ U.L. and CSA Recognized
- ▶ Voltage Rating: 300 V
- ▶ Current Rating: 1 Amp

Stock No.	Mfr.'s Type	No. of Conductors	Dimensions — In.		PER 100'	
			Width A	Span B	1-4	5-9
608-7110	843-191-2801-110	10	.500	.450±.007	18.38	16.63
608-7114	843-191-2801-114	14	.700	.650±.007	22.38	20.25
608-7116	843-191-2801-116	16	.800	.750±.011	25.59	23.14
608-7120	843-191-2801-120	20	1.000	.950±.011	31.97	28.93
608-7124	843-191-2801-124	24	1.200	1.150±.011	38.36	34.71
608-7125	843-191-2801-125	25	1.250	1.200±.011	39.97	36.16
608-7126	843-191-2801-126	26	1.300	1.250±.011	41.56	37.61
608-7134	843-191-2801-134	34	1.700	1.650±.011	54.36	49.18
608-7137	843-191-2801-137	37	1.850	1.800±.012	59.15	53.52
608-7140	843-191-2801-140	40	2.000	1.950±.015	63.95	57.86
608-7150	843-191-2801-150	50	2.500	2.450±.015	79.94	72.32
608-7160	843-191-2801-160	60	3.000	2.950±.015	95.92	86.79
608-7164	843-191-2801-164	64	3.200	3.150±.020	102.31	92.58

3C® Color Coded Planar Cable

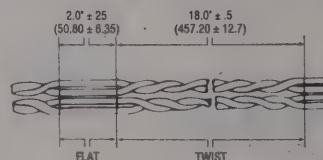


- ▶ 28 AWG, 7/36, .050 Centers, Strand Tinned Copper
- ▶ Double Contour Allows Termination from Either Side of Cable, Easy Conductor Separation for Circuit Routing
- ▶ U.L. and CSA Recognized

- ▶ Fast, Low Cost Mass Termination to All Standard 50 MIL Insulation Displacement (IDC) Connectors
- ▶ Voltage Rating: 300 V
- ▶ Current Rating: 1 Amp

Stock No.	Mfr.'s Type	No. of Conductors	Dimensions — In.		PER 100'	
			Width A	Span B	1-4	5-9
608-7210	843-135-2801-010	10	.505	.450±.015	37.97	31.48
608-7214	843-135-2801-014	14	.705	.650±.007	48.51	40.25
608-7216	843-135-2801-016	16	.805	.750±.015	55.44	46.00
608-7220	843-135-2801-020	20	1.005	.950±.015	69.30	57.51
608-7224	843-135-2801-024	24	1.205	1.150±.015	78.07	64.77
608-7225	843-135-2801-025	25	1.255	1.200±.015	81.30	67.47
608-7226	843-135-2801-026	26	1.305	1.250±.015	84.56	70.17
608-7234	843-135-2801-034	34	1.705	1.650±.015	110.58	91.76
608-7237	843-135-2801-037	37	1.855	1.800±.015	120.33	97.16
608-7240	843-135-2801-040	40	2.005	1.950±.020	130.09	107.95
608-7250	843-135-2801-050	50	2.505	2.450±.020	162.62	134.86
608-7260	843-135-2801-060	60	3.005	2.950±.020	195.14	161.94
608-7264	843-135-2801-064	64	3.205	3.150±.020	208.16	172.74

Twist 'N' Flat Planar Cable



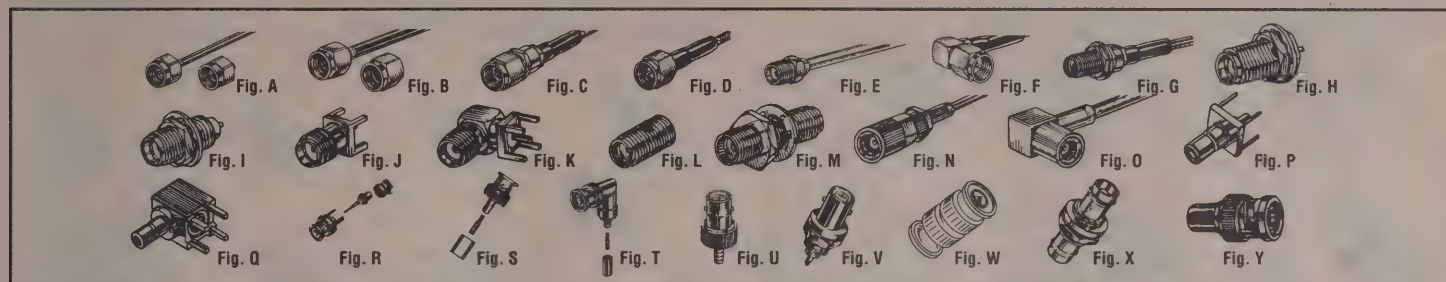
- ▶ 28 AWG, 7/36, .050 Center, Tinned Strand Copper
- ▶ Unique Design Allows Mass Termination to IDC Connectors
- ▶ Up to 64 Conductors (32 pr.) with Precise Spacing for Controlled Electrical Characteristics
- ▶ Highly Flexible PVC Insulation is Color Coded with a Tan Common to Allow Ten Repeatable Colors

- ▶ Double Contour at Flat Sections Allows Termination from Either Side of Cable, Easy Conductor Separation for Circuit Routing
- ▶ U.L. and CSA Recognized
- ▶ Voltage Rating: 300 V
- ▶ Current Rating: 1 Amp

Twist 'N' Flat cable combines the time and cost savings of mass termination with the electrical performance of twisted pairs, making it ideal for high speed computers and communications equipment. Labor savings of 95% and more compared to automatic strip and crimp terminations are readily achieved. Twist 'N' Flat cable consists of stranded round conductors insulated with color coded PVC, twisted into pairs and laminated between layers of PVC film to form a planar cable. The twist in adjacent pairs is reversed to reduce crosstalk even further. Standard cables alternate 18-inch long twisted pair sections with 2-inch flat sections in which the conductors are laminated in parallel. This cable is packaged in 100-foot lengths in dispenser boxes with a footage indicator. 28 AWG, 7/36, .050 centers.

Stock No.	Mfr.'s Type	No. of Pairs	Dimensions — In.		PER 100'	
			Width A	Span B	1-4	5-9
608-7310	843-132-2801-010	5	.530	.450±.015	50.27	45.70
608-7314	843-132-2801-014	7	.730	.650±.015	70.37	63.98
608-7316	843-132-2801-016	8	.830	.750±.015	80.43	73.12
608-7320	843-132-2801-020	10	1.030	.950±.015	100.54	91.40
608-7326	843-132-2801-026	13	1.330	1.250±.015	130.71	118.83
608-7334	843-132-2801-034	17	1.730	1.650±.015	170.92	155.39
608-7340	843-132-2801-040	20	2.030	1.950±.020	201.09	182.81
608-7350	843-132-2801-050	25	2.530	2.450±.020	251.37	228.52
608-7360	843-132-2801-060	30	3.030	2.950±.020	301.63	274.21
608-7364	843-132-2801-064	32	3.230	3.150±.020	321.73	292.49

Subminiature Coaxial Connectors



SMA Plugs

Stock No.	Mfr.'s Type	Fig.	Cable RG/U	Cable Attachment		Construction Notes	EACH	
				Outer	Inner		1-24	25-99
713-4200	901-9273	A	.086" (2.2 mm) semi-rigid RG-405 (M17/133)	Solder	Press fit	Center conductor of cable is press fit into pre-installed center contact. Not gasketed.	6.32	5.27
713-4201	901-9201-1A	B	.141" (3.6 mm) semi-rigid RG-402 (M17/130)	Solder	None	Center conductor and insulation of cable used as center contact and insulator of connector	4.75	3.96
713-4206	901-9601-3	C	RG-174, 179, 187, 188, 316	Braid crimp	Solder	Captivated contact	14.87	12.39
713-4208	901-9601-3SF	C	RG-174, 179, 187, 188, 316	Braid crimp	Solder	Captivated contact	18.02	15.02
713-4210	901-9511-3	D	RG-174, 179, 187, 188, 316	Braid crimp	Solder	Non-captive contact	8.30	6.88
713-4212	901-9511-3SF	D	RG-174, 179, 187, 188, 316	Braid crimp	Solder	Non-captive contact	8.04	6.70

SMA Angle Plugs, Straight Jacks, Bulkhead Jacks

Stock No.	Mfr.'s Type	Fig.	Cable RG/U	Conn. Type	Cable Attachment		Plating	Construction Notes	EACH	
					Outer	Inner			1-24	25-99
713-4214	901-9202-AA	E	.141" (3.6 mm) semi-rigid RG-402 (M17/130)	Jack	Solder to body	Solder	Gold plated	—	9.45	7.88
713-4216	901-9531-1	F	RG-55, 142, 223, 400	Angle Plug	Braid crimp	Solder	Gold plated body and nut	Captivated contact	15.56	12.97
713-4218	901-9531-SF	F	RG-55, 142, 223, 400	Angle Plug	Braid crimp	Solder	Passivated body and nut	Captivated contact	11.93	9.94
713-4220	901-9531-3	F	RG-174, 179, 187, 188, 316	Angle Plug	Braid crimp	Solder	Gold plated body and nut	Captivated contact	13.46	11.22
713-4222	901-9531-3SF	F	RG-174, 179, 187, 188, 316	Angle Plug	Braid crimp	Solder	Passivated body and nut	Captivated contact	13.10	10.92
713-4224	901-9610-3	G	RG-174, 179, 187, 188, 316	Bulkhead jack	Braid crimp	Solder	Gold plated body and nut	Captivated contact	15.79	13.34

SMA Bulkhead and Printed Circuit Receptacles, Female Contacts

Stock No.	Mfr.'s Type	Fig.	Description	Terminal Type	Plating	Construction Notes	EACH	
							1-24	25-99
713-4228	901-9211	H	Bulkhead jack receptacle rear mount	Solder cup	Gold plated	Captive contact/.062" (1.6 mm) exposed TFE	10.67	8.89
713-4230	901-9211-SF	H	Bulkhead jack receptacle rear mount	Solder cup	Passivated	Captive contact/.062" (1.6 mm) exposed TFE	8.88	7.40
713-4232	901-9220	I	Bulkhead jack receptacle front or rear mount	Blunt post	Gold plated	Captive contact/.062" (1.6 mm) exposed TFE	8.78	7.32
713-4234	901-9220-SF	I	Bulkhead jack receptacle front or rear mount	Blunt post	Passivated	Captive contact/.062" (1.6 mm) exposed TFE	8.53	7.11
713-4236	901-144	J	Printed circuit board straight jack receptacle	Blunt post	Gold plated	Captive contact/BeCu body and legs	10.65	8.87
713-4238	901-143	K	Printed circuit board angle jack receptacle	Blunt post	Gold plated	Captive contact/BeCu body and legs	19.65	16.38

SMA In-Series Adapters

Stock No.	Mfr.'s Type	Fig.	Description		Notes	Plating	EACH	
							1-24	25-99
713-4240	901-9217	L	Straight	Jack-jack	DC-18GHz max. VSWR 1.14 captive contact	Gold plated	18.12	15.10
713-4244	901-9209-A	M	Bulkhead	Jack-jack front or rear mount	DC-18GHz max. VSWR 1.14 captive contact	Gold plated	15.86	13.21
713-4246	901-9209-ASF	M	Bulkhead	Jack-jack front or rear mount	DC-18GHz max. VSWR 1.14 captive contact	Passivated	13.90	11.59

SMB Plugs, Angle Plugs, Bulkhead and Printed Circuit Receptacles

Amphenol SMB connectors meet or exceed the requirements of MIL-C-39012 series SMB. These subminiature units feature snap-on mating and broadband performance with low reflection DC-4 GHz (usable to 10 GHz). The connectors shown in this catalog are 50 Ω impedance, with voltage rating of 375 V peak.

Stock No.	Mfr.'s Type	Fig.	Cable RG/U	Connector Description	Cable Attachment		Construction Notes	EACH	
					Outer	Inner		1-24	25-99
713-4270	903-285P-51S	N	RG-174, 179, 187, 188, 316	Plug	Crimp	Solder	Gold plated body	8.32	6.93
713-4272	903-370P-51S	N	RG-174, 179, 187, 188, 316	Plug	Crimp	Solder	Nickel plated body	8.29	6.91
713-4274	903-289P-51A	O	RG-174, 179, 187, 188, 316	Plug, angle plug	Crimp	Solder	Gold plated body	5.88	4.90
713-4276	903-367P-51A	O	RG-174, 179, 187, 188, 316	Plug, angle plug	Crimp	Solder	Nickel plated body	6.15	5.13
713-4278	903-287P-51S	N	RG-178, 196	Plug	Crimp	Solder	Gold plated body	13.04	10.87
713-4280	903-371P-51S	N	RG-178, 196	Plug	Crimp	Solder	Nickel plated body	8.30	6.91
713-4282	903-291P-51A	O	—	Angle plug	Crimp	Solder	Gold plated body	7.04	5.86
713-4284	903-368P-51A	O	—	Angle plug	Crimp	Solder	Nickel plated body	6.28	5.23
713-4288	903-415J-51P	P	—	PC jack receptacle post terminal/four legs	—	—	Gold plated body	4.73	3.94
713-4290	903-496J-51S	P	—	PC jack receptacle post terminal/four legs	—	—	Nickel plated body	5.19	4.32
713-4292	903-373J-51A	Q	—	PC jack receptacle post terminal/four legs	—	—	Tin lead pit body/legs/leak tight	7.12	6.81

RFX — Commercial BNC Connectors

3-Piece Plugs — 50 Ohm and 75 Ohm

Stock No.	Mfr.'s Type	Fig.	Cable RG/U	Cable Attachment		Imp.	EACH	
				Outer	Inner		1-24	25-99
713-9002	31-4541-RFX	R	59, 62	—	Quicktrim®	50 Ohm	3.65	3.05
713-9004	31-71000-RFX1	S	6	Crimp	Crimp	75 Ohm	2.29	1.97
713-9006	31-71008-RFX1	S	59, 62	Crimp	Crimp	75 Ohm	2.27	1.89
713-9008	31-71013-RFX	S	179, 187	Crimp	Crimp	75 Ohm	2.49	2.07

3-Piece Angle Plug — 75 Ohm

713-9066	31-71010-RFX	T	59, 62	Crimp	Crimp	75 Ohm	5.61	4.67
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3-Piece Crimp Jacks

713-9068	31-71009-RFX	U	59, 62	Crimp	Crimp	75 Ohm	2.27	1.89
713-9069	31-71014-RFX	U	179, 187	Crimp	Crimp	75 Ohm	2.56	2.14

Bulkhead Receptacle Front Mount

Stock No.	Mfr.'s Type	Fig.	Imp.	EACH	
				1-24	25-99
713-9087	31-221-75RFX	V	75 Ohm	2.27	1.89

Straight Adapter — Plug to Plug

713-9104	31-218-7RFX1	W	75 Ohm	8.65	7.21
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Bulkhead Adapter — Jack to Jack

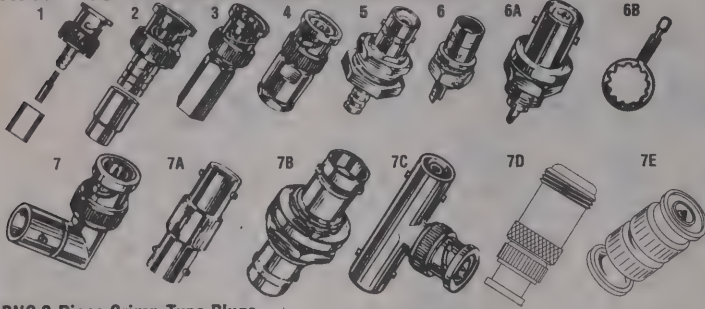
713-9117	31-220N-75RFX	X	75 Ohm	3.78	3.15
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Resistor Terminated Male Cap

713-9097	46650-51-RFX	Y	50 Ohm	4.39	3.65
713-9098	46650-75-RFX	Y	75 Ohm	3.05	2.54
713-9099	46650-93-RFX	Y	93 Ohm	3.15	2.63

Note: These connectors meet or exceed military specification, but aren't on the RPL and are intended for commercial use only. Military specification numbers, where shown, are for reference only.

RFX™ Commercial Coaxial Connectors



BNC 3-Piece Crimp-Type Plugs

Miniature bayonet-lock units. 50 Ohm impedance. Operate with low reflection DC-4GHz on 50 Ohm cables and DC-500 MHz on 75 Ohm cables.

Stock No.	Mfr.'s Type	RG/U Cable	Fig.	Cable Attachment		UG Ref. Number	EACH		
				Outer	Inner		1-24	25-99	100-249
713-9000	31-5558-RFX	6	1	Crimp	Crimp	—	2.51	1.99	1.62
713-9005	31-320-RFX1	58, 141, 142	1	Crimp	Crimp	—	1.55	1.23	1.01
713-9007	36650-3RFX1	Plenum 58	1	Crimp	Crimp	—	1.87	1.56	1.27
713-9010	31-321-RFX1	59, 62	1	Crimp	Crimp	—	1.55	1.23	1.01
713-9012	68175-1RFX1	Plenum 59	1	Crimp	Crimp	—	1.41	1.17	.96
713-9015	31-315-RFX	174, 188, 316	1	Crimp	Crimp	—	2.11	1.67	1.37
713-9020	31-242-RFX	179, 187	1	Crimp	Crimp	—	2.54	2.07	1.77
713-9025	31-321-1RFX1	Belden 8281	1	Crimp	Crimp	—	2.07	1.64	1.34

BNC 2-Piece Single Crimp Plugs

713-9030	31-5557-RFX	58, 141, 142	2	Crimp	Press fit	—	2.73	2.17	1.86
713-9035	31-5559-RFX	Plenum 58	2	Crimp	Press fit	—	2.85	2.26	1.94
713-9040	31-5556-RFX	59, 62	2	Crimp	Press fit	—	2.65	2.10	1.80
713-9045	31-5560-RFX	Plenum 59, 62	2	Crimp	Press fit	—	2.73	2.17	1.86

BNC SureTwist® Plugs

713-9050	31-5137-RFX	58, 141, 142	3	SureTwist®	—	—	1.94	1.55	1.26
713-9055	31-5136-RFX	59, 62	3	SureTwist®	—	—	1.95	1.55	1.26

BNC Clamp-Type Plugs

713-9060	31-2-RFX	58, 141, 142	4	Clamp	Solder	UG-88	2.15	1.72	1.40
713-9065	31-212-RFX	59, 62	4	Clamp	Solder	UG-260B	2.93	2.33	2.00

BNC Bulkhead Jacks

713-9070	31-318-RFX	174, 188, 316	5	Crimp	Crimp	—	2.45	1.94	1.67
713-9075	31-245-RFX	179, 187	5	Crimp	Crimp	—	4.13	3.27	2.81

Front Mount BNC Bulkhead Receptacles

Stock No.	Mfr.'s Type	Description	Fig.	Terminal Type	UG Ref. Number	EACH		
						1-24	25-99	100-249
713-9080	31-10-RFX	Isolated from panel	6	Solder cup grounding tab	—	3.33	2.64	2.27
713-9081	31-10-75RFX	Isolated from ground, 75 Ohms	6	Solder cup grounding tab	—	3.33	2.64	2.27
713-9085	31-221-RFX1	.125" max. panel	6A	Solder cup	UG-1094	1.38	1.09	.89
713-9090	31-236-RFX	.125" max. panel	6A	Solder cup	UG-625B	2.58	2.05	1.76
713-9095	31-10152-RFX	Lug for inside panel for ground wire to circuit	6B	Solder cup	—	.45	.37	.30

BNC Adapters

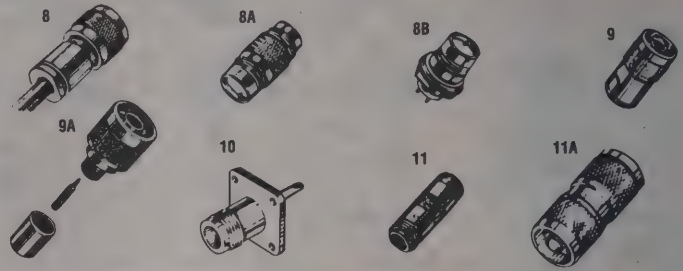
713-9100	31-9-RFX	Right angle jack-plug	7E	—	UG-306	6.99	5.82	5.00
713-9102	31-218-RFX	Straight plug-plug	7E	—	UG-491A/U	6.51	5.43	4.65
713-9105	31-219-RFX1	Straight jack-jack	7A	—	UG-914	2.28	1.81	1.47
713-9110	31-220G-RFX	Bulkhead pressurized jack-jack	7B	—	UG-492A	4.18	3.48	2.99
713-9115	31-220N-RFX	Bulkhead non-sealed jack-jack	7B	—	—	3.91	3.10	2.66
713-9120	31-208-RFX	Tee jack-plug-jack	7C	—	UG-274A	3.81	3.03	2.60
713-9125	31-217-RFX	BNC plug-n-jack	7D	—	UG-349A/U	13.99	11.66	9.52

Trihex Crimp Tools



Stock No.	Mfr.'s Type	For	On	EACH
713-9190	CTL-1	3-piece crimp BNC, TNC	RG58, 59, 62, Plenum 58, 59, 62	50.80
713-9192	CTL-2	3-piece crimp BNC, TNC, 2-piece BNC	RG6, 174, 188, 316, 179, 187 and Belden 8281, 58, 59, 62, Plenum 58, 59, 62	50.80
713-9194	CTL-3	3-piece crimp N	58, 8, 213, 214, Ethernet cables	50.80
713-9196	CTL-4	Center contacts	Belden 8227, 9207, 89207, IBM 7362211	50.80
713-9197	CTL-5	BNC, TNC, Mini UHF, Type N, 3-piece crimp	RG55, 58, 141, 142, 223, 303, 400, 59, 62, 140, 210, Plenum 59, 62; Used on Belden 9907, 9258, 9259	50.80

Twinax and N-Type Connectors



Keyed 90° Twinax Connectors

Plug, Twin Male Contacts

Stock No.	Mfr.'s Type	RG/U Cable	Fig.	Cable Attachment		IBM Ref. Number	EACH		
				Outer	Inner		1-24	25-99	100-249
713-9130	82-5589-RFX1	Belden 8227, 9207, IBM 7362211	8	Clamp	Solder or Crimp	7362229	5.52	4.60	3.95

Stock No.	Mfr.'s Type	Description	Fig.	IBM Ref. Number	EACH		
					1-24	25-99	100-499
713-9135	82-5588-RFX	Straight adapter jack-jack	8A	7362230	5.84	4.87	4.17
713-9140	82-5590-RFX	Bulkhead receptacle front-mount solder cup terminal	8B	7362179	7.54	6.28	5.39

N Cable Plugs

Stock No.	Mfr.'s Type	RG/U Cable	Fig.	Cable Attachment		UG Ref. Number	EACH		
				Outer	Inner		1-24	25-99	100-249
713-9160	82-202-RFX	8, 9, 144, 165, 213, 214, 216, 225	9	Clamp	Solder	UG-21D	4.54	3.78	3.24
713-9165	82-4426-11RFX	8, 9, 144, 165, 213, 214, 216, 225 and Ethernet*	9A	Crimp	Crimp	—	5.12	4.27	3.66

*Ethernet = Xerox trademark.

N Panel Receptacle

Stock No.	Mfr.'s Type	Description	Fig.	IBM Ref. Number	EACH		
					1-24	25-99	100-249
713-9170	82-97-RFX	Front or rear mount	10	UG-58A	3.22	2.56	2.19

N Adapters

713-9175	82-101-RFX	Straight jack-jack	11	UG-29A	4.70	3.92	3.36
713-9180	82-100-RFX	Straight plug-plug	11A	UG-57B	7.62	6.35	5.44

UHF Connectors



Low cost for general purpose. Peak voltage rating: 500V. Operates satisfactory DC-300 MHz.

Straight Plugs — Male Contacts

Stock No.	Mfr.'s Type	MIL Type Ref.	Cable Term.	Fig.	For RG/U Cable	EACH		
						1-24	25-99	100-249
713-9200	83-1SP-15RFX	PL-259	UG Std. Nickel Plated	13	8, 9, 11, 13, 63, 87A, 149, 213, 214, 216, 225	1.76	1.40	1.14
713-9205	83-822-RFX†	PL-259	UG Std.	13	8, 9, 11, 13, 63, 87A, 149, 213, 214, 216, 225	3.15	2.50	2.15
713-9215	83-58-FCP-RFX	—	FCP Clamp	14	58, 141, 142	2.65	2.10	1.80

Panel Receptacle

713-9220	83-1R-RFX	SO-239	Standard	15	—	2.00	1.59	1.29
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Adapter — Polystyrene Insulation

713-9230	83-1J-RFX	PL258	Straight jack-jack	16	—	3.17	2.52	2.16
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Bulkhead Receptacle

713-9225	83-878-RFX	—	Rear mount	17	—	2.51	2.00	1.71
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Reducing Adapters

713-9235	83-185-RFX	UG 175/U	—	18	58, 141, 142	.35	.30	.24
713-9240	83-168-RFX	UG 176/U	—	18	59, 62, 71, 140, 210	.36	.30	.24

† TFE insulation.

BNC Plugs and Jacks

Straight Plugs. Recognized under the component program of UL, Inc. Male contacts. **Weather-proof only when used in combination with other Amphenol BNC connectors. 50 ohm impedance. TFE insulation, except † rexolite insulation.

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Coaxial Cable	EACH		
						1-24	25-99	100-249
713-9575	6775	UG-959	Std. clamp	A	8, 9	9.96	8.30	7.11
713-1041	31-202	UG-88C	Mil clamp II	A	55, 58, 141, 142, 223, 400	3.26	2.58	2.22
713-1150	31-3202	UG-88E	Mil clamp I	A	55, 58, 141, 142, 223, 400	3.65	3.05	2.61
713-8658	31-3301	M39012/16-0101	Mil clamp II	A	55, 58, 141, 142, 223, 400	4.08	3.40	2.91
713-1003	31-2	UG-88	Std. clamp	A	58, 141, 142, 400	3.44	2.73	2.34
713-1025	31-18	UG-88B	Std. clamp	A	58, 141, 142, 400	3.68	2.92	2.74
713-8660	36875	—	MIL crimp II	B	55, 142, 223, 400	5.06	4.22	3.62
713-1082	31-326	M23329/3-02	MIL crimp II	B	55, 142, 223	5.21	4.34	3.72
713-1100	31-4320	M39012/16-0013	MIL crimp II	B	58, 141	4.73	3.94	3.38
713-8662	31-320	M23329/3-01	MIL crimp I	B	58, 141	4.24	3.54	3.03
713-9784	36775	—	Quick crimp	B	58, 141	4.37	3.64	3.12
713-1110	31-4700	—	FCP	C	58	4.60	3.83	3.29
713-9782	36650-1003	—	Quick crimp	B	RG-58 Plenum	3.32	2.77	2.37
713-1104	31-3212	UG-260D	Mil clamp I	B	59	3.93	3.27	2.81
713-8004	31-4702	—	FCP	C	59	4.47	3.73	3.20
713-9819	68175-1005	—	Quick crimp	B	20 AWG 59	4.39	3.66	3.14
713-1017	31-12†	UG-260	Std. clamp	A	59, 62, 61, 140, 210, 302	3.91	3.10	2.66
713-1027	31-21†	UG-260A	Std. clamp	A	59, 62, 71, 140, 210, 302	4.64	3.68	3.16
713-1059	31-212	UG-260B	MIL crimp II	A	59, 62, 71, 140, 210, 302	3.34	2.65	2.27
713-1106	31-3302	M39012/16-0102	Mil clamp II	A	59, 62, 71, 140, 210, 302	4.39	3.66	3.27
713-1085	31-321	M23329/3-05	MIL crimp I	B	59, 62, 71, 140, 210, 302	4.37	3.64	3.12
713-9818	68175	—	MIL crimp II	B	59, 140, 210, 302	3.95	3.29	2.82
713-8001	31-359	—	Orig. crimp	D	59, 62, 140, 210, 302	10.25	8.54	7.65
713-1102	31-4321	M39012/16-0015	MIL crimp II	B	59, 62, 140, 210, 302	5.17	4.31	3.69
713-9820	68175-1004	—	MIL crimp II	B	59, 62, 140, 210, 302	4.05	3.38	2.90
713-8003	31-4541	—	Quick trim	A	59, 62	5.15	4.29	3.68
713-9821	68175-1011	—	Crimp-crimp	B	RG-59, 62 Plenum	3.34	2.78	2.39
713-1080	31-242	—	MIL crimp I	B	179, 187, 316	5.80	4.83	4.14
713-1083	31-315	—	MIL crimp I	B	174, 188, 316	4.73	3.94	3.38
713-8002	31-371	—	Orig. crimp	D	174, 179, 187, 188, 316	11.55	9.63	8.25
713-9828	69475	—	Mil clamp I	A	174, 179, 188, 316	6.49	5.41	4.64
713-9658	15875	—	Std. clamp	A	178, 196	6.26	5.22	4.47
713-1087	31-321-1000	—	MIL crimp II	B	Alpha 9807/Belden 8281	4.95	4.13	3.54
713-8663	31-320-1006	**	Crimp-crimp	B	Thinnest Belden 89907	4.03	3.36	2.28

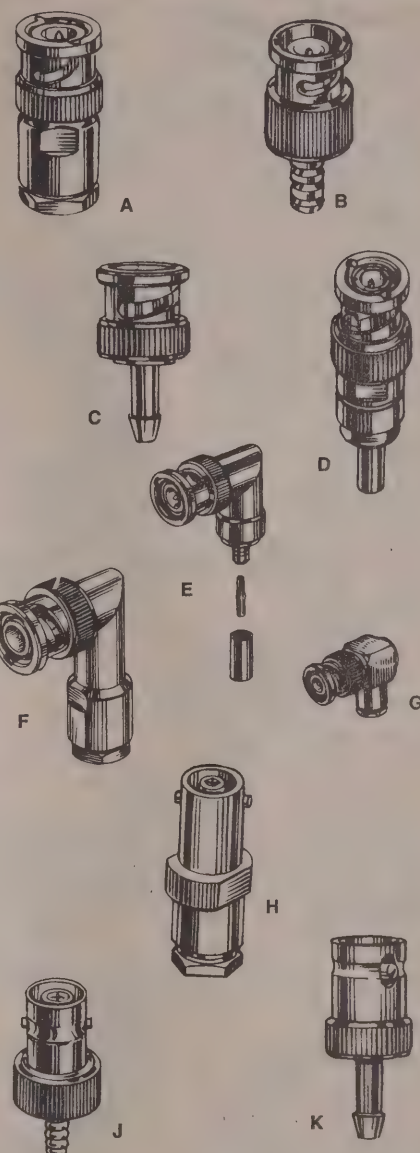
** IEEE 802.3 10 base 2.

BNC Angle Plugs

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Coaxial Cable	1-24	25-99	100-249
713-1089	31-335	—	Crimp-crimp	E	55, 58, 141, 142, 223, 400	19.87	16.56	14.19
713-1044	31-204	UG-913	Clamp-solder	F	55, 58, 141, 142, 223, 400	34.97	27.76	26.06
713-1090	31-336	—	Crimp-crimp	E	59, 62, 140, 210	16.11	13.42	11.51
713-9600	8575	—	Clamp-solder	G	59, 62, 140, 210	23.33	19.44	17.38

Straight Jacks. Recognized under the component program of UL, Inc. Female contacts. **Each BNC connector is considered to be weatherproof when used only in combination with other Amphenol BNC connectors described in this catalog. 50 ohm impedance. TFE insulation.

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Coaxial Cable	1-24	25-99	100-249
713-1046	31-205	UG-89B	Mil clamp I	H	55, 58, 141, 142, 223, 400	4.79	3.80	3.26
713-1007	31-5	UG-89	Mil clamp I	H	58, 141, 142, 223, 400	4.81	3.81	3.27
713-9785	36800	—	Quick-crimp	J	58, 141	4.47	3.73	3.20
713-1113	31-4703	—	FCJ	K	59, 62, 71, 140, 210	14.72	12.27	11.01
713-1018	31-15	UG-261	Mil clamp I	H	59, 62, 71, 140, 210	7.04	5.58	5.24
713-1060	31-215	UG-261B	Mil clamp I	H	59, 62, 71, 140, 210	7.52	5.97	5.62
713-8050	31-4328	M39012/17-0015	MIL crimp II	J	59, 62, 140, 210	6.97	5.81	5.21
713-9815	68150	—	Quick-crimp	J	59, 62, 140, 210	4.77	3.97	3.41
713-1084	31-317	—	MIL crimp I	J	174, 188	9.16	7.63	6.54



75 Ohm BNC Connectors

These connectors can be used in a variety of applications where true 75 ohm performance is needed to insure lower signal distortion. They may be matched with standard 50 ohm BNC without damage or intermittence.

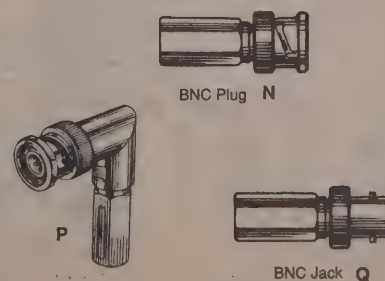
Straight Plugs

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Coaxial Cable	EACH		
						1-24	25-99	100-249
713-8608	31-70008	—	Crimp-crimp	L	59	3.02	2.52	2.16
713-8622	31-71008-2000	—	Crimp-crimp	L	RG-59, 62 Plenum	5.36	4.46	3.83
713-8624	31-71008-1000	—	Crimp-crimp	L	Duo foil RG-59 Plenum	8.88	7.40	6.64
713-8628	31-71013	—	Crimp-crimp	L	RG-179 FEP	6.07	5.06	4.34

BNC Suretwist® Connectors

Specifications. Electrical Frequency Range: 0-300 MHz typical. Voltage Rating: 500 V peak. Dielectric Withstanding Voltage: 1500 V rms. Material Body: Zinc Die-cast. Coupling Sleeve: Brass. Insulator: Polyethylene. Plating: Contact—Tin Dip; Other Metal Parts—ASTROPLATE®. ENVIRONMENTAL Thermal Limits: -67° to +185°F (-55° to +85°C). Non-weatherproof.

Stock No.	Mfr.'s Type	Description	Cable	Fig.	EACH		
					1-24	25-99	100-249
713-1137	31-5137	BNC plug	58, 58B	N	5.31	4.43	3.80
713-1139	31-5139	BNC jack	58, 58B	Q	5.31	4.43	3.80
713-1136	31-5136	BNC plug	59, 59A, 62, 62A	N	3.84	3.20	2.75
713-1154	31-5154	BNC angle plug	59, 59A, 62, 62A	P	7.62	6.35	5.45
713-1138	31-5138	BNC jack	59, 59A, 62, 62A	Q	5.57	4.64	3.98
713-1169	31-5369	BNC plug	RG-62 Teflon	N	5.59	4.66	4.17



BNC Coaxial Connectors

Rear-Mounted Bulkhead Jacks

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Cable	EACH		
						1-24	25-99	100-249
713-1048	31-206	UG-909	MIL clamp 1	A	58, 141, 142, 400	6.41	5.08	4.36
713-1888	31-318	—	MIL crimp 1	B	174, 188	8.65	7.21	6.18
713-8666	86350	—	Std. clamp	A	174, 179, 187, 188	11.26	9.38	8.39

Panel Receptacles

713-1043	31-203	UG-290A	Solder cup	C	No. 3-56 tapped flange holes	4.18	3.32	2.85
713-1005	31-3	UG-290	Solder cup	C	No. 3-56 tapped flange holes	5.54	4.40	4.12

Front Mount Bulkhead Receptacles — Internal Tooth Lockwasher

713-1011	31-10-75	—	Solder cup, Ground Tab	E	Isolated from ground, 75 ohms	4.37	3.47	2.97
713-1012	31-10	—	Solder cup	E	Isolated thermoplastic insulation	4.37	3.47	2.97
713-1099	31-2221	UG-1094A	Solder cup	D	Standard type	2.49	2.08	1.70
713-1073	31-221	UG-1094	Solder cup	D	Thin panel	2.13	1.77	1.44
713-1079	31-236	UG-625B	Solder cup	D	Standard type	2.35	1.95	1.59
713-9571	5575	UG-625	Solder cup	D	Standard type	3.34	2.78	2.39
713-1078	31-239	UG-657A	Solder cup	D	Pressurized	5.84	4.87	4.17
713-1035	31-102	UG-657	Solder cup	D	Pressurized	4.58	3.63	3.12
713-1108	31-3375	M39012/21-0001	Solder cup	D	Gold plated contact	3.00	2.50	2.15

Straight Adapters

713-1067	31-218	UG-491A	Plug-plug	F	—	7.16	5.97	5.12
713-1069	31-219	UG-914	Jack-jack	G	—	4.22	3.52	3.02

75 Ohm Impedance Matching Straight Adapter and Front Mounted Bulkhead Jack

713-8618	31-70018	—	Solder cup	D	—	5.57	4.64	3.98
713-8619	31-70019	—	Jack-jack	G	—	4.60	3.83	3.29

Angle Adapters

713-1013	31-9	UG-306	Jack-plug	H	—	10.48	8.32	7.14
713-8668	31-209	UG-306A	Jack-plug	H	—	11.21	9.34	8.01

Bulkhead Adapters

Stock No.	Mfr.'s Type	MIL Type	Adapter Ends	Fig.	Description	EACH		
						1-24	25-99	100-249
713-1071	31-220H	UG-492A	Jack-jack	J	Pressurized/glass — TFE internal lockwasher	7.18	5.99	5.13
713-1072	31-220N	—	Jack-jack	J	Non-pressurized version	6.26	5.22	4.47
713-8670	31-2220	UG-492B	Jack-jack	J	Pressurized/glass — TFE external lockwasher	14.55	12.13	10.84
713-8005	31-3220	UG-492D	Jack-jack	J	Pressurized/glass — TFE external lockwasher/thick panel	9.20	7.67	6.57
713-9555	4425	—	Jack-jack	J	Standard/internal lockwasher	14.03	11.69	10.46
713-8028	31-4803	—	Jack-jack	J	Isolated from the panel white molded thermoplastic insulation	10.12	8.44	7.23

Tee Adapters

713-1010	31-8	UG-274	Jack-plug-jack	K	Standard	9.93	7.88	6.76
713-1053	31-208	UG-274A	Jack-plug-jack	K	Beryllium outer contact	8.25	6.55	5.62

Male Cap

713-1008	31-6	CW-123	—	L	Standard weatherproof	3.36	2.66	2.29
713-1031	31-26	M39012/25-0006	—	L	Standard weatherproof	3.63	2.88	2.47
713-8674	31-17	CW-159	—	L	Shorting male constant	5.23	4.36	3.74

Accessories

713-8676	31-759	—	—	N	Grounding lug, inside panel on front mount receptacles	.45	.37	.30
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Resistor Terminated Cap

713-8671	46650-51	**	—	M	BNC Terminator 50 Ω, 5%, 1 W	12.14	10.12	8.67
713-8672	46650-75	**	—	M	BNC Terminator 75 Ω, 5%, 1 W	12.29	10.24	8.78

** IEEE 802.3 10 base 2.

BNC PC Mount Bulkhead Receptacles (Hardware sold separate)

Stock No.	Mfr.'s Type	Description	Mounting PIN Type	Fig.	EACH		
					1-24	25-99	100-249
713-7200	31-5431	Isolated white valox housing	Round	P	4.58	3.82	3.27
713-7201	31-5431-1010	Isolated white valox housing	Fork	P	4.58	3.82	3.27
713-7202	31-5486	Isolated white valox housing	Round	Q	4.58	3.82	3.27
713-7203	31-5840	Metal housing	Round	P	4.79	3.99	3.42
713-7204	31-5840-1010	Metal housing	Fork	P	4.79	3.99	3.42
713-7205	31-5486-1010	Isolated white valox housing	Fork	P	4.58	3.82	3.27
713-7206	31-5852	HEX Nut (mounting hardware)	—	—	.80	.70	.60
713-7207	31-5853	Lockwasher (mounting hardware)	—	—	.82	.72	.62

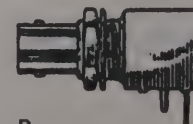
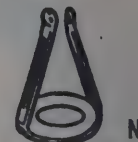
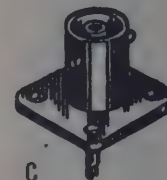
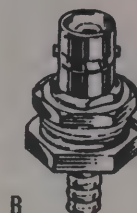
Vertical BNC Receptacle (PCB)

.040" diameter post terminal, .125" long. Zinc body, bright tin/lead over copper base finish. Gold plated contact, TFE insulation.

713-7160	31-5329	3-Leg Vertical BNC receptacle .040" dia. post terminal	—	R	5.04	4.20	3.60
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Between Series Straight Adapters (Not Illustrated)

Stock No.	Mfr.'s Type	MIL Type	Description	EACH		
				1-24	25-99	100-249
713-1095	31-830	UG-201/U	BNC jack-N-plug	9.68	8.07	6.59
713-1063	31-216	UG-201A/U	BNC jack-N-plug	11.13	8.84	7.57
713-1033	31-28	UG-273/U	BNC jack-UHF-plug	8.90	7.07	6.06
713-8008	14000	UG-83/U	N jack-UHF-plug	17.92	14.93	13.35
713-1065	31-217	UG-349A/U	BNC plug-N-jack	10.75	8.96	7.68
713-9500	2900	UG-255/U	BNC plug-UHF-jack	9.66	8.05	7.21
713-8007	4400	UG-146/U	N plug-UHF-jack	13.36	11.13	9.54



N Coaxial Connectors

Type N Straight Plugs

Medium size. Threaded coupling. Up microwave frequencies. Male contacts. Weatherproof. 50 ohm impedance. TFE insulation.

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Cable	EACH		
						1-24	25-99	100-249
713-3345	82-340	M39012/01-B0007	MIL-crimp-1	A	8, 213	7.94	6.62	5.67
713-3311	82-61	UG-21B	MIL-clamp-1	B	8, 9, 213, 214, 225	7.46	6.21	5.33
713-8014	82-96	UG-21C	MIL-clamp-1	B	8, 9, 213, 214, 225	7.27	6.06	5.19
713-8015	82-202	UG-21D	MIL-clamp-1	B	8, 9, 213, 214, 225	5.65	4.71	4.03
713-8016	82-312	UG-1185	CC-clamp	B	8, 9, 213, 214, 225	6.70	5.58	5.00
713-8678	34000*	UG-536	STD-clamp	B	58, 141, 142	12.20	10.17	8.72
713-9762	34025	UG-536B	MIL-clamp 1	B	58, 141, 142	6.41	5.34	4.58
713-9765	34525	UG-603A	MIL-clamp 1	B	59, 62, 71, 140, 210	11.26	9.38	8.04
713-3420	82-4426-1001	—	Crimp-crimp	A	Ethernet® Cables	9.11	7.60	6.80

Type N Straight Jacks – Female contacts.

713-3313	82-63	UG-23B	MIL-clamp 1	C	8, 9, 87, 213, 214, 225	8.44	7.04	6.03
713-9772	35025	—	MIL-clamp 1	C	58, 141, 142	12.83	10.69	9.56

Type N Female Panel Receptacles

713-8017	82-24	UG-58	Standard	D	—	4.68	3.90	3.35
713-3336	82-97	UG-58A	Standard	D	—	4.68	3.90	3.35

Type N Female Front Mounted Bulkhead Receptacle

713-3378	82-811	UG-680	Standard	E	—	14.91	12.43	11.11
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Type N Adapters – 50 ohms impedance. TFE insulation.

713-3315	82-65	UG-29A	jack-jack	G	—	9.81	8.17	7.01
713-3340	82-100	UG-57B	plug-plug	F	—	8.65	7.21	6.18
713-3330	82-101	UG-29B	jack-jack	G	—	7.06	5.88	5.04

Type N Angle Adapter

713-3314	82-64	UG-27A	milre body/jack-plug	H	—	20.33	16.94	14.52
713-8020	82-213	UG-27C	cubic body/plug-jack	H	—	22.37	18.64	15.96

Type N Bulkhead Adapter

713-3316	82-66*	UG-30	jack-jack†	J	—	18.77	15.65	13.41
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Terminator

Stock No.	Mfr.'s Type	Description**	Fig.	EACH		
				1-24	25-99	100-249
713-3440	82-5721-1000	Terminator, 49.9Ω, 1%; 1W	K	22.34	18.62	16.65

*Copolymer of styrene insulation. †Pressurized. **IEEE 802.3 10 base 2. Ethernet® is a Xerox Trademark.

UHF Connectors

Non-constant impedance. Non-weatherproofed. Mica-filled phenolic insulation. Peak voltage rating: 500 V. Operates satisfactorily up to 300 MHz.

Straight Plugs – Male Contacts

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Cable	EACH		
						1-24	25-99	100-249
713-3517	83-85P	—	Braid crimp	N	8, 11, 149, 213	6.68	5.57	4.77
713-3518	83-15P	PL-259	UG Std. Silver plated	N	8, 9, 11, 13, 63, 87, 149, 213, 214, 216, 225	2.94	2.45	2.10
713-3519	83-15P-1050	PL-259	UG Std. Nickel plated	N	8, 9, 11, 13, 63, 87, 149, 213, 214, 216, 225	1.99	1.66	1.35
713-3562	83-822†	PL-259A	UG Std.	N	8, 9, 11, 13, 63, 87, 149, 213, 214, 216, 225	3.15	2.63	2.25
713-3537	83-58FCP	—	FCP clamp	M	58, 141	2.92	2.43	2.09
713-3505	83-58SP	—	Braid crimp	Q	58, 141	3.63	3.03	2.60
713-3556	83-776	UG-203	Clamp set screw	P	58, 141	17.72	14.77	13.21
713-8009	83-59SP	—	Braid crimp	Q	59, 62, 140, 210	4.58	3.82	3.12
713-3550	83-750	UG-111	UG Std.	N	59, 62, 71, 140, 210	3.30	2.75	2.25

Panel Receptacles

713-3514	83-1R	SO-239	Standard	R	—	2.15	1.79	1.46
713-3559	83-798	SO-239A	TFE insulation	R	—	4.03	3.36	2.88

Bulkhead Receptacle

713-8680	83-878	—	Rear mount‡	S	—	2.63	2.19	1.88
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Adapters – Polystyrene Insulation

713-3512	83-1J	PL-258	Straight/jack-jack	T	—	3.34	2.78	2.39
713-3507	83-1F	UG-363	Bulkhead/jack-jack	U	—	10.14	8.45	7.25
713-3503	83-1AP	UG-646	Angle/jack-plug	V	—	5.80	4.83	4.14
713-3523	83-1T	M-358	Tee/jack-plug-jack	W	—	8.30	6.91	5.93

Reducing Adapters

713-3547	83-185	UG-175	—	X	55, 58, 141, 142	.64	.54	.44
713-3545	83-168	UG-176	—	X	59, 62, 71, 140, 210	.60	.50	.41

Hood

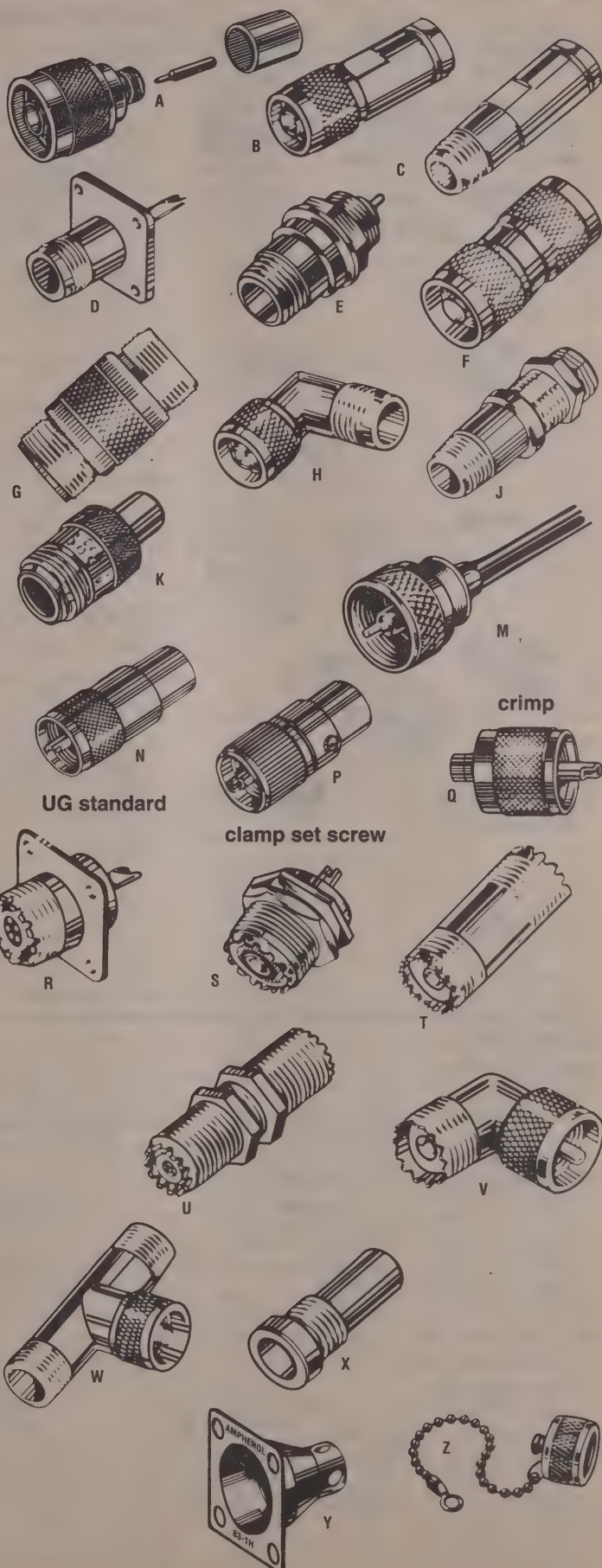
For use with panel receptacles 83-1R, 83-1RTY, 83-716, 83-798.

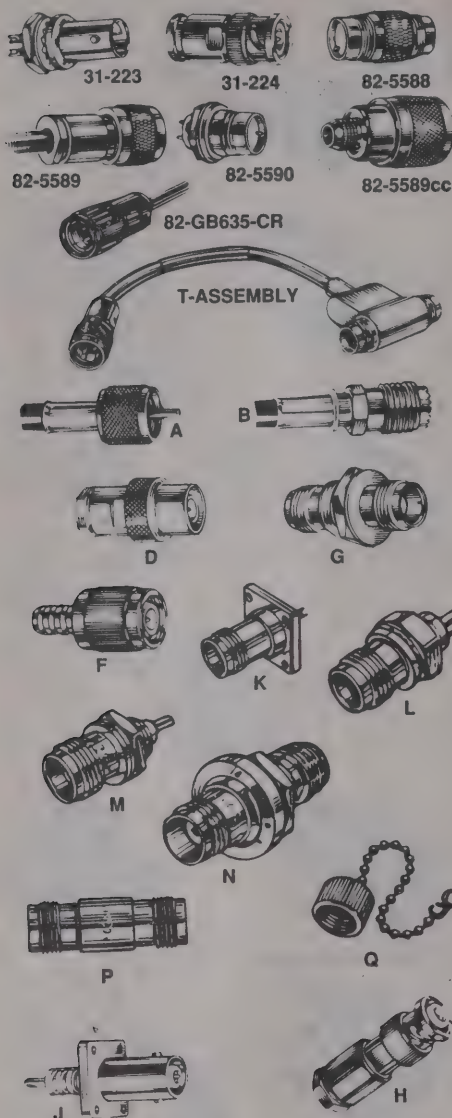
713-8011	83-765	UG-177	—	Y	58, 141	2.13	1.77	1.44
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Accessories

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-249
713-3502	83-1AC	Male cap and chain	Z	7.27	6.06	5.19

*Copolymer of styrene insulation. †TFE insulation. ‡Mica-filled phenolic.





Twin Coaxial Connectors

Straight Plugs

Stock No.	Mfr.'s Type	Mating & Polarization	Construction	Contacts	EACH		
					1-24	25-99	100-249
713-1076	31-224	Polarized, BNC	V-groove clamp	1 male, 1 female	7.73	6.44	5.52
713-1087	31-226	Polarized BNC	TFE Insulation V-groove clamp	1 male, 1 female	10.75	8.96	7.68
713-8024	82-GB635-CR*†	KEYED 90°	Clamp and solder or crimp	Insulated twin male	10.42	8.68	7.44
713-8025	82-5589	KEYED 90°	V-groove clamp	Twin Male	9.64	8.03	6.89
713-8030	82-5589CC	—	Crimp-crimp	Twin Male	22.37	18.64	15.98
713-8031	82-10588	—	Bag of contacts for 82-5589CC	—	45.75—PK/50		
713-3449	82-5749	KEYED 90°	V-groove clamp for plenum cable	Twin Male	13.86	11.55	10.34

Front Mounted Bulkhead Receptacles

713-1075	31-223	Polarized, BNC	—	1 female, 1 male	14.93	12.44	10.67
713-1096	31-225	Polarized BNC	TFE Insulation	1 male, 1 female	13.84	11.53	10.38
713-8026	82-5590	Keyed 90°	Noryl insulation	Twin female	16.61	13.84	11.87

Straight Adapter

713-8027	82-5588	Keyed 90°	Noryl insulation	Twin female	19.13	15.94	13.67
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T-Assemblies. Tee-shaped jack-to-jack at one end for connection to the network and a twinax plug for mating with a monitor or related peripheral equipment at the other end.

713-4100†	95-555-11101	—	IBM std monochrome assembly	—	59.33	50.43	46.31
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Miniature-UHF Connectors. 50 Ohm impedance nominal, Polypropylene insulation, 335RMS, 0-25 MHz.

Stock No.	Mfr.'s Type	Fig.	Description	For RG/U Cables	Termination	EACH		
						1-24	25-99	100-249
713-3215	81-115	A	Plug	55, 58A, 58B, 58C	Crimp	2.29	1.91	1.64
713-3216	81-116	B	Jack	55, 58A, 58B, 58C	Crimp	3.02	2.52	2.16

TNC Connectors. Non-Constant Impedance 500 Volts, 0-300 MHz.

Stock No.	Mfr.'s Type	Fig.	Description	For RG/U Cables	EACH		
					1-24	25-99	100-249
713-8006	77175	D	Plug, Mil clamp 1	55, 58, 141, 142, 223, 400	12.53	10.45	8.96
713-8650	79875	D	Plug, Mil clamp 1	55, 58, 141, 142, 223, 400	12.56	10.47	9.36
713-8654	36825	F	Plug, quick crimp	58, 141	4.12	3.43	2.94
713-1115	31-2300	K	Panel receptacle 3-56 tapped flangehole	—	9.14	7.61	6.80
713-1122	31-4805	L	Bulkhead receptacle isolated front mount	—	7.71	6.42	5.77
713-1116	31-2301	M	Bulkhead receptacle front mount	—	5.90	4.92	4.40
713-8029	31-4804	G	Bulkheads adapter jack-jack isolated	—	18.94	15.79	14.10
713-9856	79100	N	Bulkhead adapter jack-jack	—	44.35	36.96	33.05
713-1120	31-4791	P	Straight adapter jack-jack	—	9.58	7.98	6.84
713-9855	78750	Q	Male cap and chain	—	7.77	6.48	5.78

MHV (High Voltage) Connectors. Similar to BNC, but do not intermate, Weatherproof, non-constant impedance. For applications up to 5000 volts at frequencies up to 50 MHz.

Stock No.	Mfr.'s Type	MIL Type	Fig.	Description	For RG/U Cables	EACH		
						1-24	25-99	100-249
713-9770	29100	—	H	Straight plug/STD clamp	55, 141, 142	10.65	8.87	7.61
713-8012	28000	UG-932	H	Straight plug/STD clamp	59, 62, 71	9.81	8.17	7.01
713-8013	27000	UG-931	J	Rear mounted panel receptacle	—	8.76	7.30	6.26

*IBM 8113119 cross reference.

†IBM 6457102 cross reference.

Crimp Tools

Economy Trihex Crimp Tools — Fig. A

Stock No.	Mfr.'s Type	Connector Types	Cable Types	EACH
713-9190	CTL-1	BNC, TNC	RG58, 59, 62, Plenum 58, 59, 62	50.80
713-9192	CTL-2	BNC, TNC	RG6, 174	50.80

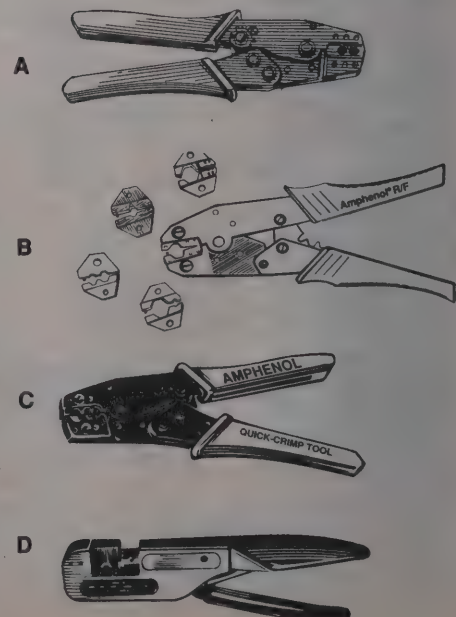
Econohex™ Crimp Tools and Dies—Feature Exchangeable/Replaceable Dies—Fig. B

Stock No.	Mfr.'s Type	Description	For RG/U Cables	EACH
713-6100	227-987	handle without dies	—	94.75
713-6207	227-983	handle with die 227-1417	—	176.40
713-6105	227-1420	die set only	8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393	56.21
713-6106	227-1419	die set only	55, 58, 59, 62, 140, 141, 142, 142B, 210, 223, 302, 303, 400	56.21
713-6107	227-1418	die set only	122, 161, 174, 179, 180, 187, 188, 195, 316	56.21
713-6108	227-1417	die set only	twin-ax	72.15

Tri-Hex Quick Crimp Tool — Fig. C. Heavy-duty steel construction. Full-cycle, reinforced ratchet control. Can be used on BNC/TNC/UHF/MHV/ SMA connectors for RG/U cables 55, 58, 59, 62, 140, 141, 142, 210, 223, 303, and 400. Stands up to in-the-field use. 713-6205. Model 227-962. Tri-hex quick crimp tool. **EACH 173.19**

Twin-Hex Tool System—Fig. D

Stock No.	Mfr.'s Type	MIL Type	For Connector Series	For RG/U Cables	EACH
713-6200	227-944	M22520/5-01	Frame (die not included)	—	258.65
713-6209	227-1221-09	M22520/5-09	BNC, TNC, SMA	174, 179B, 186A 187A, 316	123.17
713-6208	227-1221-03	M22520/5-03	SMA, SMB	174, 179B, 186A 187A, 316	123.17
713-6210	227-1221-11	M22520/5-11	BNC, TNC, MHV, UHF, SMA	55, 58, 141, 142, 223, 303, 400	123.17
713-6220	227-1221-13	M22520/5-13	BNC, TNC, UHF, SMA	59, 62, 140, 210,	123.17
713-6225	227-1221-25	—	N, SC	8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393,	123.17
713-6230	227-980-1	—	75-Ohm BNC	59	199.81
713-6235	227-1414	—	82-5589CC	Alpha 9818	135.55
713-6234	227-1409	—	Mini-UHF	58, 58A, 58B, 58C	149.00





PowerPole® Connectors

Powerpole® connector modules feature a single pole, genderless connector half. This module consists of a color-coded housing and a silver-plated, crimp-type contact. The module is designed to mate with another identical module. The housing is durable, high-impact resistant polycarbonate (UL94V-2 flammability rating). An internal stainless steel leaf

spring forces contacts to maintain constant pressure. The contacts are sold separately and are made from highly conductive silver-plated copper. UL recognized file No. E26226. CSA certified file No. LR25154. Powerpole® is a registered trademark of Anderson Power Products.

15/30/45 Amp Connectors



- .32" x .32" x .97" Housing
- 1.63" Length for a Mated Set

Housings

Stock No.	Mfr.'s Type	Color	EACH	
			1-99	100-999
803-0100	1327G6	Black	.30	.25
803-0101	1327G8	Blue	.30	.25
803-0102	1327G21	Brown	.30	.25
803-0103	1327G18	Gray	.30	.25
803-0104	1327G5	Green	.30	.25
803-0105	1327G17	Orange	.30	.25
803-0108	1327	Red	.30	.25
803-0109	1327G7	White	.30	.25
803-0110	1327G16	Yellow	.30	.25

Contacts Standard

Stock No.	Mfr.'s Type	Description	Wire AWG	EACH	
				1-99	100-999
803-0120	1332	For 15 Amp	16-20	.15	.13
803-0125	1331	For 30 Amp	12-16	.15	.13
803-1000	261G2LP	For 45 Amp	10	.36	.32

PCB Contacts 25 Amps

Stock No.	Mfr.'s Type	Description	Wire AWG	EACH	
				1-99	100-999
803-0126	1377G4	Straight 1.72"	—	.60	.54
803-0127	1377G3	Straight 2.16"	—	.60	.54
803-0128	1377G2	Right Angle .400	—	.60	.54
803-0129	1377G1	Right Angle .700	—	.60	.54

The SB® Series Connector

2 pole 50, 175, 350 Amp, 600 Volt Connectors



Dimensions

Mfr.'s Type	A		B		C		D		E		F		G		H		J dia.	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
SB 50	0.750	19.0	0.250	6.4	0.718	18.2	1.437	36.5	1.875	47.6	3.187	80.9	0.453	11.5	0.625	15.9	0.144	3.7
SB 175	1.125	28.5	0.437	11.0	1.093	27.8	2.187	55.6	3.125	79.4	5.250	133.3	0.750	19.0	1.000	25.4	0.265	6.7
SB 350	1.125	28.5	1.375	35.0	1.375	35.0	2.750	69.8	4.250	108.0	7.187	182.6	1.062	27.0	1.312	33.3	0.265	6.7

- Single Piece Housing — Unitized Construction Provides Industrial Quality Durability
- Individually Replaceable Contacts — Enables Safe Replacement of Contacts
- Spring Loaded Silver Plated Contoured Contacts — Self-Wiping Cleaning Action Assures Greater Conductivity and Longer Life

- Polycarbonate Housing — Non-Conductive Material Can Be Used Safely With Industrial Batteries
- Mechanically Keyed and Color Identified — Prevents Mismatching of Voltage

The SB® Connector was designed by Anderson Power Products® and has 30 years performance on electric vehicles. Other applications include quick disconnect for computer systems, uninterruptible power and power distribution systems.

SB® 50 Series Connectors 2-Pole

Housings with Springs and 2 Contacts

Stock No.	Mfr.'s Type	Color	Wire AWG	Cable Well Dia.		EACH
				In.	mm	
803-0400	6319	Gray	6	.221	5.613	4.63
803-0402	6319G1	Gray	10-12	.136	3.454	5.08
803-0404	6331G1	Red	6	.221	5.613	4.63
803-0406	6331G2	Red	10-12	.136	3.454	5.08

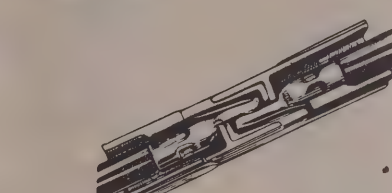
Housings with Springs (No Contacts)

803-0408	992	Gray	—	—	—	2.94
803-0410	992G1	Red	—	—	—	2.94

Contacts (Sets/2)

803-0412	903G1	—	6	.221	5.613	2.34
803-0414	904G1	—	10-12	.136	3.454	2.80

75 Amp Connectors



- .63" x .63" x 1.88" Housing
- 3.20" Length for Mated Set

Housings

Stock No.	Mfr.'s Type	Color	EACH	
			1-24	25-99
803-0200	5916G4	Black	1.24	1.03
803-0202	5916	Blue	1.24	1.03
803-0206	5916G6	Green	1.35	1.13
803-0208	5916G7	Red	1.24	1.03
803-0210	5916G5	White	1.24	1.03

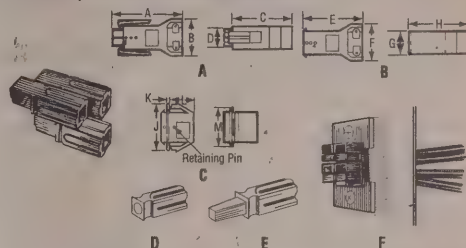
Contacts

Stock No.	Mfr.'s Type	Description	EACH	
			1-24	25-99
803-0215	5900	For 6 AWG wire	.96	.80
803-0220	5915	For 10-12 AWG wire	1.39	1.16

Tools for 15/45/75 Amp Connectors

Stock No.	Mfr.'s Type	Description	EACH
803-0300	111038G2	Insertion/extraction tool	10.20
803-0311	1351G1	15/30/45, 12-20 AWG, 4 pt. crimp tool, non-cycle and cycle controlled	161.50
803-0326	1352G1	75A/50A, 6-10 AWG, 4 pt. crimp tool, cycle controlled	204.00

Accessories for Connector Assemblies



The connector modules have dovetail locking grooves molded into the housing. The housing can be assembled to form a multi-pole connector.

15/30 Amp Modules

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-24	25-99
803-0140	1460G1	A	4 Pole plug housing with latch	1.12	.93
803-0142	1460G2	A	6 Pole plug housing with latch	1.38	1.15
803-0144	1461G1	B	4 Pole plug housing without latch	1.22	1.02
803-0146	1461G2	B	6 Pole plug housing without latch	1.38	1.15
803-0148	1470G1	C	4 Pole snap-in receptacle*	1.18	.99
803-0150	1470G2	C	6 Pole snap-in receptacle**	1.46	1.22
803-0152	1399G1	D	Short space key, red	.30	.25
803-0153	1399G2	E	Long spacer key, red	.30	.25
803-0155	115G1	—	Cable clamp hardware pack (4 hole)	.79	.66
803-0156	115G2	—	Cable clamp hardware pack (6 hole)	.90	.75
803-0158	110G9	—	Snap-in receptacle retaining pin	.13	.11

*Panel knockout size 1.00" x 1.25". **Panel knockout size 1.00" x 1.62".

Stock No.	Mfr.'s Type	Fig.	Description	PER SET	
				1-24	25-99
803-0160	1462G1	F	Bulkhead 2 or 4 pole mounting clamps (set/2)	2.81	2.34
803-0162	1462G2	F	Bulkhead 3 or 6 pole mounting clamps (set/2)	2.81	2.34
803-0164	110G16	—	Retaining pin — 1 row of housings	.24	.22
803-0165	110G17	—	Retaining pin — 2 row of housings	.26	.24

SB® 350 Series Connectors 2-Pole

Housings with Springs and 2 Contacts

Stock No.	Mfr.'s Type	Color	Wire AWG	Cable Well Dia.		EACH
				In.	mm	
803-0450	6320G1	Gray	2/0	.484	12.294	17.28
803-0452	6320G5	Gray	3/0	.578	14.681	18.51
803-0454	6320G2	Gray	4/0	.641	16.281	18.51
803-0456	6320G4	Gray	300 MCM	.765	19.431	26.25
803-0458	6321G1	Blue	2/0	.484	12.294	17.28
803-0460	6321G5	Blue	3/0	.578	14.681	18.51
803-0462	6321G2	Blue	4/0	.641	16.281	18.51
803-0464	6321G4	Blue	300 MCM	.765	19.431	26.25
803-0466	6322G1	Red	2/0	.484	12.294	17.28
803-0468	6322G5	Red	3/0	.578	14.681	18.51
803-0470	6322G2	Red	4/0	.641	16.281	18.51
803-0472	6322G4	Red	300 MCM	.765	19.431	26.25
803-0474	6323G1	Yellow	2/0	.484	12.294	17.28
803-0476	6323G5	Yellow	3/0	.578	14.681	18.51
803-0478	6323G2	Yellow	4/0	.641	16.281	18.51
803-0480	6323G4	Yellow	300 MCM	.765	19.431	26.25
803-0482	6324G1	Green	2/0	.484	12.294	17.28
803-0484	6324G5	Green	3/0	.578	14.681	18.51
803-0486	6324G2	Green	4/0	.641	16.281	18.51
803-0488	6324G4	Green	300 MCM	.765	19.431	26.25

Housings with Springs (No Contacts)

803-0490	906	Gray	—	—	—	11.00
803-0492	912	Blue	—	—	—	11.00
803-0494	913	Red	—	—	—	11.00
803-0496	914	Yellow	—	—	—	11.00
803-0498	931	Green	—	—	—	11.00

Contacts (Sets/2)

803-0500	907	—	2/0	.484	12.294	11.42
803-0502	916	—	3/0	.578	14.681	12.67
803-0504	908	—	4/0	.641	16.281	12.67
803-0506	910	—	300 MCM	.765	19.431	19.56

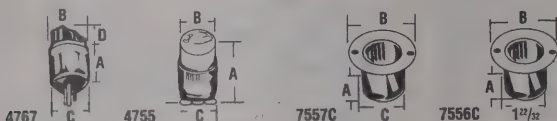
Crimp Tools

Stock No.	Mfr.'s Type	For Use With	Description	EACH
803-0326	1352G1	SB® 50 Series	Manual Hand Tool	204.00
803-0508	1368	SB® 175/350 Series	Hydraulic Hand Tool	2840.00

**Midget Hart-Lock Devices (2-Pole, 2-Wire, 15 A; 125 V)**

7428N (backwired dead front) and 7427 (for polarized and nonpolarized plugs) are black nylon/phenolic with cord grip for 7/16" to 1/2" OD cords. Both are 1 13/16" long. 7466 and 7468 are bakelite with metal housings. NEMA ML1-R, ML1-P ANSI C73.29.

Stock No.	Mfr.'s Type	Dimensions (In.)			Description	EACH	
		A	B	C		1-9	10-49
813-7428	7428N	1 13/16	1	—	Male Cap	8.93	8.04
813-7427	7427	1 13/16	1	—	Female Conn.	10.66	9.02
813-7466	7466	.937	1 9/8	1 1/8	Flanged Inlet	15.00	13.12
813-7468	7468	.781	1 9/8	1 1/8	Flanged Outlet	11.21	10.09

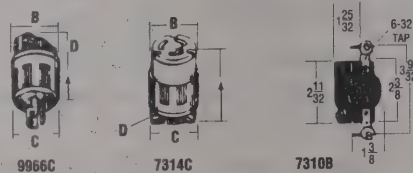
Hart-Lock Devices* (3-Pole, 3-Wire; 10 A; 250 V, 15 A; 125 V)

Gray nylon/lexan suitable for 105°C continuous use. 4767 and 4755 have dual range cord grip clamps for .250" to .656" OD cords and are backwired dead front designed. 7556C and 7557C have backwired clamp type terminals. *Not UL listed.

Stock No.	Mfr.'s Type	Dimensions (In.)			Description	EACH	
		A	B	C		1-9	10-49
813-7572	4767	1 5/16	1 11/32	1 1/2	Male Cap	14.82	13.34
813-4755	4755	2 1/8	1 11/32	1 1/2	Female Conn.	25.10	21.20
813-7556	7556C	1 27/32	2 9/16	1 29/32	Flanged Inlet	20.00	17.00
813-7557	7557C	1 27/32	2 9/16	1 29/32	Flanged Outlet	21.80	19.62

Hart-Lock Devices* (3-Pole, 3-Wire; 20 A; 125 V/250 V)

Gray nylon/lexan suitable for 105°C continuous use. All items have dual range cord grip clamps for .375"-1.000" O.D. cords and backwired dead front.



Stock No.	Mfr.'s Type	Dimensions (In.)				Description	EACH	
		A	B	C	D		1-9	10-49
813-6312	9966C	2 11/32	2	2 1/8	5/8	Male Plug	18.81	16.93
813-7313	7314C	3 7/16	—	2 1/8	5/8	Female Conn.	29.07	26.16
813-7310	7310B	—	—	—	—	Receptacle	25.27	22.74

Safety Grip™ Connectors Straight Blade Devices (2-Pole, 3 Wire Grounding 15 A and 20 A; 125 V)

These devices have cord grips for .250"-.656" diameter cords. Nylon/lexan™ backwired dead front construction. Complies with NEMA WD1-1979 requirements. NEMA 5-15R, 5-15P ANSI C73.11. *Lexan is a registered trademark of General Electric.



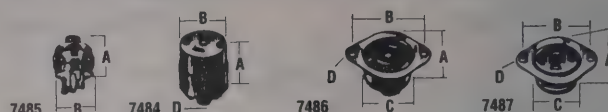
Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-49
813-6266	6266	Male Dead Front Plug (15 A)	11.30	10.10
813-6269	6269	Female Cord Connector (15 A)	19.10	17.10
813-6766	6766	Male Dead Front Plug (20 A)	15.20	13.68
813-6769	6769	Female Cord Connector (20 A)	26.00	23.40

Little Midget Hart-Lock Devices (2-Pole, 3-Wire Grounding 15 A, 125 V)

While similar to the previous parts, these devices have a hollow brass grounding sleeve. Cord grips are the same size. NEMA ML2-R, ML2-P.



Stock No.	Mfr.'s Type	Dimensions (In.)		Description	EACH	
		A	B		1-9	10-49
813-7593	7593	2 7/32	1 7/64	Female Conn.	15.01	13.51
813-7594	7594	1 15/64	1 9/16	Male Cap	11.59	10.43

Little Midget Hart-Lock Devices (3-Pole, 3-Wire Grounding 15 A; 125 V/250 V)

These devices are for 3-conductor cables and have clamps for .281" to .421" OD cord. Devices are polarized to prevent incorrect connection. NEMA ML3-R, ML-3P. ANSI C73.30.

Stock No.	Mfr.'s Type	Dimensions (In.)				Description	EACH	
		A	B	C	D		1-9	10-49
813-7484	7484	1 1/4	1 9/32	—	—	Female Conn.	15.20	13.68
813-7485	7485	2 7/32	1 9/32	—	—	Male Cap	11.78	10.60
813-7486	7486	1 9/8	1 9/4	1 7/32	5/32	Flanged Inlet	13.68	12.31
813-7487	7487	1 9/8	1 9/4	1 11/64	5/32	Flanged Outlet	16.53	14.88

Hart-Lock Locking Devices (2-Pole, 3-Wire)

These devices feature nylon/lexan backwired dead front construction and dual range cord grip.

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-49
813-4720	4721	15 A; 125 V NEMA L5-15P ANSI C73.42	12.16	10.95
813-4730	4731	15 A; 125 V NEMA L5-15R ANSI C73.42	21.85	19.67
813-6565	6565	15 A; 250 V NEMA L6-15P ANSI C73.74	13.40	12.06
813-6566	6566	15 A; 250 V NEMA L6-15R ANSI C73.74	23.60	21.24
813-6202	6202	20 A; 125 V NEMA L5-20P ANSI C73.72	15.01	13.51
813-6204	6204	20 A; 125 V NEMA L5-20R ANSI C73.72	23.75	21.38
813-6212	6212	20 A; 250 V NEMA L6-20P ANSI C73.75	15.01	13.51
813-6214	6214	20 A; 250 V NEMA L6-20R ANSI C73.75	23.75	21.38
813-6332	6332	30 A; 125 V NEMA L5-30P ANSI C73.73	25.00	22.50
813-6334	6334	30 A; 125 V NEMA L5-30R ANSI C73.73	49.40	44.46
813-6342	6342	30 A; 250 V NEMA L6-30P ANSI C73.76	25.20	22.68
813-6344	6344	30 A; 250 V NEMA L6-30R ANSI C73.76	49.80	44.82

Autogrip™ Plugs and Connectors (2-Pole, 3-Wire)

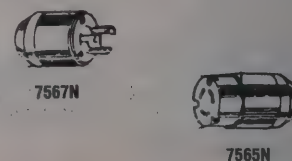
Thermoplastic dead front, backwired plugs and thermoplastic connectors. Automatic cord grip clamps the cord during assemble.



Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-49
813-5266	5266N	Straight blade plug; (15 A; 125 V NEMA 5-15P ANSI C73.11)	11.02	9.92
813-5269	5269N	Straight blade connector; (15 A; 125 V NEMA 5-15R ANSI C73.11)	18.18	16.36
813-5366	5366N	Straight blade plug; (20 A; 125 V NEMA 5-20P ANSI C73.11)	15.60	14.04
813-5369	5369N	Straight blade connector; (20 A; 125 V NEMA 5-20R ANSI C73.12)	26.20	23.58
813-5666	5666N	Straight blade plug; (15 A; 250 V NEMA 6-15P ANSI C73.20)	13.80	12.42
813-5669	5669N	Straight blade connector; (15 A; 250 V NEMA 6-15R ANSI C73.20)	23.80	21.42

Autogrip™ Plugs and Connectors (3-Pole, 3-Wire)

Thermoplastic dead front, backwired plugs and thermoplastic connectors. Automatic cord grip clamps the cord during assemble.

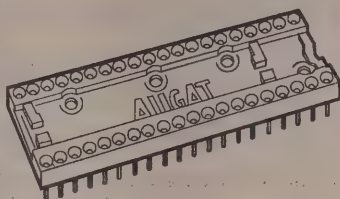


Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-49
813-7567	7567N	Locking plug; 3-pole, 3-wire (10 A; 250 V, 15 A; 125 V)	14.04	12.64
813-7555	7565N	Locking connector; 3-pole, 3-wire (10 A; 250 V, 15 A; 125 V)	24.51	22.06

IC Sockets

500 Series — Machined Contact, Solid Insulator, DIP Sockets

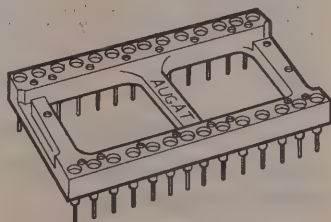
- PC Board Thickness Range: .062" and .092"
- Contact Spacing: .100 Centers
- PC Termination: .125"
- Recognized Under the Component Program of Underwriters Laboratories, Inc. File No. E111362
- Precision Four-Finger Inner Contact Provides Concentric Funnel Entry for Easy Flat and Round Lead Insertion
- BeCu Inner Contact for Maximum Mechanical and Electrical Performance



Stock No.	Mfr.'s Type	No. of Contacts	Plating		EACH		
			Contact	Sleeve	1-24	25-99	100-499
905-6000	506-AG10D	6	Gold	Gold	1.61	1.43	1.32
905-6005	506-AG11D	6	Gold	Tin/Lead	1.04	.92	.86
905-6010	506-AG12D	6	Tin/Lead	Tin/Lead	.68	.62	.57
905-6015	508-AG10D	8	Gold	Gold	1.86	1.65	1.53
905-6020	508-AG11D	8	Gold	Tin/Lead	1.35	1.20	1.11
905-6025	508-AG12D	8	Tin/Lead	Tin/Lead	.88	.78	.72
905-6030	514-AG10D	14	Gold	Gold	2.76	2.45	2.27
905-6035	514-AG11D	14	Gold	Tin/Lead	1.88	1.67	1.54
905-6040	514-AG12D	14	Gold	Tin/Lead	1.23	1.09	1.01
905-6050	516-AG10D	16	Gold	Gold	3.04	2.79	2.54
905-6055	516-AG11D	16	Gold	Tin/Lead	2.06	1.83	1.69
905-6060	516-AG12D	16	Tin/Lead	Tin/Lead	1.38	1.26	1.15
905-6065	518-AG10D	18	Gold	Gold	3.81	3.49	3.19
905-6070	518-AG11D	18	Gold	Tin/Lead	2.60	2.31	2.14
905-6075	520-AG10D	20	Gold	Gold	4.38	4.01	3.66
905-6080	520-AG11D	20	Gold	Tin/Lead	2.91	2.67	2.44
905-6085	520-AG12D	20	Tin/Lead	Tin/Lead	1.75	1.56	1.44
905-6090	522-AG10D	22	Gold	Gold	4.51	4.13	3.77
905-6100	522-AG11D	22	Gold	Tin/Lead	3.16	2.90	2.64
905-6105	524-AG10D	24	Gold	Gold	5.23	4.80	4.38
905-6110	524-AG11D	24	Gold	Tin/Lead	3.53	3.23	2.95
905-6115	528-AG10D	28	Gold	Gold	5.93	5.27	4.87
905-6120	528-AG11D	28	Gold	Tin/Lead	3.81	3.50	3.19
905-6125	528-AG12D	28	Tin/Lead	Tin/Lead	2.41	2.21	2.02
905-6130	532-AG10D	32	Gold	Gold	6.73	6.17	5.62
905-6135	532-AG11D	32	Gold	Tin/Lead	4.47	4.10	3.74
905-6140	532-AG12D	32	Tin/Lead	Tin/Lead	2.76	2.53	2.31
905-6145	536-AG10D	36	Gold	Gold	7.27	6.66	6.08
905-6150	536-AG11D	36	Gold	Tin/Lead	4.93	4.52	4.13
905-6155	540-AG10D	40	Gold	Gold	8.10	7.20	6.66
905-6160	540-AG11D	40	Gold	Tin/Lead	5.40	4.95	4.51
905-6165	540-AG12D	40	Tin/Lead	Tin/Lead	3.45	3.16	2.89

800 Series — Machined Contact, Open Insulator, DIP Sockets

- Precision Four-Finger Inner Contact Provides Concentric Funnel Entry for Easy Flat and Round Lead Insertion
- BeCu Inner Contact for Maximum Mechanical and Electrical Performance
- PC Board Thickness Range: .062" and .092"
- PC Termination: .125"
- Contact Spacing: .100 Centers
- Recognized Under the Component Program of Underwriters Laboratories, Inc. File No. E111362



Stock No.	Mfr.'s Type	No. of Contacts	Plating		EACH		
			Contact	Sleeve	1-24	25-99	100-499
905-6260	808-AG10D	8	Gold	Gold	1.82	1.62	1.50
905-6265	808-AG11D	8	Gold	Tin/Lead	1.35	1.20	1.11
905-6270	814-AG10D	14	Gold	Gold	2.70	2.40	2.22
905-6275	814-AG11D	14	Gold	Tin/Lead	1.88	1.67	1.54
905-6280	816-AG10D	16	Gold	Gold	3.02	2.69	2.48
905-6285	816-AG11D	16	Gold	Tin/Lead	2.06	1.83	1.69
905-6290	818-AG10D	18	Gold	Gold	3.74	3.43	3.13
905-6295	820-AG10D	20	Gold	Gold	4.37	3.89	3.59
905-6300	820-AG11D	20	Gold	Tin/Lead	2.97	2.64	2.44
905-6305	824-AG11D	24	Gold	Tin/Lead	3.59	3.19	2.95
905-6310	828-AG10D	28	Gold	Gold	5.71	5.24	4.78
905-6315	828-AG11D	28	Gold	Tin/Lead	3.99	3.65	3.33
905-6320	832-AG10D	32	Gold	Gold	6.60	6.05	5.52
905-6325	832-AG11D	32	Gold	Tin/Lead	4.47	4.10	3.74
905-6330	840-AG10D	40	Gold	Gold	7.82	7.16	6.53
905-6335	840-AG11D	40	Gold	Tin/Lead	5.40	4.95	4.51

500 Series — Economy Series Contact Solid Insulator, DIP Sockets

- 10D-ES Series: Contact Plating: 30 µ" Gold Over Nickel; Sleeve Plating: 10 µ" Gold
- 11D-ES Series: Contact Plating 30 µ" Gold Over Nickel; Sleeve Plating: Tin/Lead
- 11D-ESL Series: Contact Plating: 10 µ" Gold Over Nickel ; Sleeve Plating: Tin/Lead

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
905-6170	514-AG10D-ES	14	1.13	1.01	.94
905-6175	514-AG11D-ES	14	.71	.63	.59
905-6180	514-AG11D-ESL	14	.62	.56	.52
905-6185	516-AG10D-ES	16	1.30	1.15	1.07
905-6190	516-AG11D-ES	16	.82	.73	.67
905-6195	516-AG11D-ESL	16	.71	.63	.59
905-6200	520-AG10D-ES	20	1.62	1.44	1.33
905-6205	520-AG11D-ES	20	1.02	.91	.84
905-6210	520-AG11D-ESL	20	.89	.79	.74
905-6215	524-AG11D-ES	24	1.22	1.09	1.01
905-6220	528-AG10D-ES	28	2.27	2.02	1.87
905-6225	528-AG11D-ES	28	1.43	1.27	1.17
905-6230	528-AG11D-ESL	28	1.25	1.11	1.03
905-6235	532-AG11D-ES	32	1.63	1.45	1.34
905-6240	532-AG11D-ESL	32	1.43	1.27	1.18
905-6245	540-AG10D-ES	40	3.24	2.88	2.67
905-6250	540-AG11D-ES	40	2.04	1.81	1.68
905-6255	540-AG11D-ESL	40	1.79	1.59	1.47

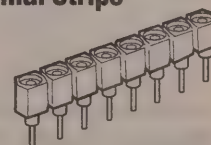
800 Series — Economy Series Contact Open Insulator, Dip Sockets

- 11D-ES Series: Contact Plating: 30µ" Gold Over Nickel; Sleeve Plating: Tin/Lead
- 11D-ESL Series: Contact Plating 10µ" Gold Over Nickel; Sleeve Plating: Tin/Lead
- 12D-ES Series: Contact Plating: Tin/Lead; Sleeve Plating: Tin/Lead

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
905-6340	814-AG11D-ES	14	.71	.63	.59
905-6345	814-AG11D-ESL	14	.62	.56	.52
905-6350	814-AG12D-ES	14	.54	.48	.44
905-6355	816-AG11D-ES	16	.82	.73	.67
905-6360	816-AG11D-ESL	16	.71	.63	.59
905-6365	816-AG12D-ES	16	.61	.54	.50
905-6370	820-AG11D-ES	20	1.02	.91	.84
905-6375	820-AG11D-ESL	20	.89	.79	.74
905-6380	820-AG12D-ES	20	.77	.68	.63
905-6385	824-AG11D-ES	24	1.22	1.09	1.01
905-6390	824-AG11D-ESL	24	1.07	.95	.88
905-6395	824-AG12D-ES	24	.92	.82	.76
905-6400	828-AG11D-ES	28	1.43	1.27	1.17
905-6405	828-AG11D-ESL	28	1.25	1.11	1.03
905-6410	828-AG12D-ES	28	1.07	.95	.88
905-6415	832-AG11D-ES	32	1.63	1.45	1.34
905-6420	832-AG11D-ESL	32	1.43	1.27	1.18
905-6425	832-AG12D-ES	32	1.28	1.14	1.06
905-6430	840-AG11D-ES	40	2.04	1.81	1.68
905-6435	840-AG11D-ESL	40	1.79	1.59	1.47
905-6440	840-AG12D-ES	40	1.53	1.36	1.26
905-6445	864-AG11D-ES	64	3.26	2.90	2.68
905-6450	864-AG11D-ESL	64	2.86	2.54	2.35

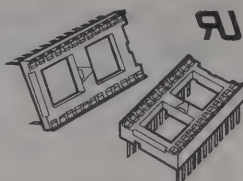
500 Series — SIP Sockets / Socket Terminal Strips

- Non-wicking closed bottom sleeve gives 100% protection against flux and solder contamination
- Breakaway feature for breaking strips into any desired shorter lengths (no special tooling required)
- Withstands most severe environmental conditions including military requirements of high shock and vibration
- Two-piece tapered entry closed entry inner contact and machined outer sleeve
- Accepts any IC lead and component leads .016"-.021" diameter, .105" min. length
- Uses: microprocessor sockets, hybrid IC sockets, Q.I.L. sockets, component sockets, test points



Stock No.	Mfr.'s Type	No. of Contacts	Contact Plating	EACH		
				1-99	100-499	500-999
905-3072	510AG91D08ES	8	30µ Gold	.61	.55	.46
905-3074	510AG91D08ESL	8	10µ Gold	.44	.41	.37
905-3076	510AG90D10ES	10	30µ Gold	.76	.70	.64
905-3078	510AG90D10ESL	10	10µ Gold	.59	.55	.49
905-3080	510AG91D10ES	10	30µ Gold	.69	.63	.50
905-3082	510AG91D10ESL	10	10µ Gold	.61	.46	.44
905-3084	510AG90D20ES	20	30µ Gold	1.85	1.41	1.32
905-3086	510AG90D20ESL	20	10µ Gold	1.44	1.10	1.03
905-3088	510AG91D20ES	20	30µ Gold	1.14	1.06	.95
905-3090	510AG91D20ESL	20	10µ Gold	1.01	.93	.84

200C Series — Stamped Single Beam Contact, Closed Bottom DIP Sockets

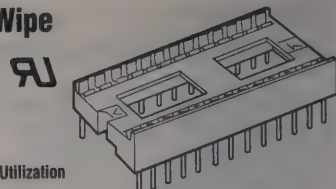


- Contact Spacing: .100 Centers
- Insulator: Thermoplastic Polyester Rated 94V-0
- Contacts: Phosphor Bronze (per QQ-B-750), Beryllium Copper (per QQ-C-533)
- Plating: Tin/Lead (per MIL-P-81728)
- High Normal Force Results in Gas Tight Connections
- Non-Wicking, Closed Bottom Design Gives Protection Against Solder Contamination
- Protected Open Entry for Easy Insertion of ICs by Hand or by Automatic Insertion
- Anti-Overstress Design Protects Contacts, Helps Eliminate Damage From Oversize Leads and Maintains Consistent Normal Force
- Recognized Under the Component Program of Underwriters Laboratories, Inc. File No. E111362

Augat 200C Series single beam face wipe contact provides maximum normal force and consistent mechanical performance in Augat's lowest cost socket.

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-99	100-499	500-999
905-1000	214-AG19DC	14	.15	.13	.12
905-1005	216-AG19DC	16	.17	.15	.14
905-1010	220-AG19DC	20	.20	.18	.17
905-1015	224-AG10DC	24	.24	.22	.21
905-1020	224-AG19DC	24	.24	.22	.21
905-1025	228-AG19DC	28	.28	.25	.24
905-1030	232-AG19DC	32	.32	.29	.27
905-1035	240-AG19DC	40	.40	.36	.34

300C Series — Stamped Dual Wipe Contact DIP Sockets

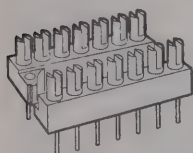


- Contact Spacing: .100 Centers
- Insulator: Thermoplastic Polyester Rated 94V-0
- Contacts: Phosphor Bronze
- Plating: Tin/Lead
- Available in Open Frame Style Allowing Maximum Utilization of Circuit Board Real Estate
- Standoffs Facilitate Board Cleaning
- Low Profile Design
- Recognized Under the Component Program of Underwriters Laboratories, Inc. File No. E111362

The Augat 300C Series dual wipe contact adds a new family of product to Augat's low cost DIP socket line.

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-99	100-499	500-999
905-1040	308-AG19DC	8	.14	.12	.11
905-1045	316-AG19DC	16	.17	.15	.14
905-1050	318-AG19DC	18	.19	.17	.16
905-1055	320-AG19DC	20	.21	.19	.18
905-1060	324-AG10DC	24	.25	.22	.21
905-1065	324-AG19DC	24	.24	.22	.21
905-1070	328-AG19DC	28	.29	.26	.25
905-1075	332-AG19DC	32	.33	.30	.28
905-1080	340-AG19DC	40	.41	.37	.35

600 Series — AG and CG Plug Adapter Assemblies



- AG Style Machined Round Pin Machined Printed Circuit Terminal
- CG Style Machined Slotted Pin Machined Printed Circuit Terminal
- Precision Machined Pins
- Used for Interposing Discrete Components
- Terminals Are the Same Dimension as IC Board Patterns
- Option of Round or Slotted Pin Styles

The 600 Series is a high quality machine pin molded adapter which is used to assemble hybrid and special network circuits. The .018" diameter precision pin allows the adapter to be plugged into socket or wire wrapable panels repeatedly.

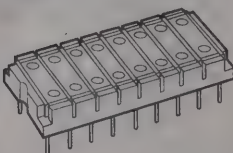
Tin Plated

Stock No.	Mfr.'s Type	No. of Pins	Pin Style	EACH		
				1-24	25-49	50-99
905-1085	608-AG1T	8	Round	2.24	2.09	1.92
905-1090	608-CG1T	8	Slotted	1.71	1.57	1.46
905-1095	614-AG1T	14	Round	3.91	3.61	3.36
905-1100	614-CG1T	14	Slotted	2.75	2.52	2.33
905-1105	616-AG1T	16	Round	4.47	4.12	3.83
905-1110	616-CG1T	16	Slotted	3.14	2.88	2.66
905-1115	620-AG1T	20	Round	5.59	5.15	4.79
905-1120	620-CG1T	20	Slotted	4.26	3.93	3.66
905-1125	624-AG1T	24	Round	6.71	6.19	5.77
905-1130	624-CG1T	24	Slotted	5.12	4.72	4.39

Gold Plated

Stock No.	Mfr.'s Type	No. of Pins	Pin Style	EACH		
				1-24	25-49	50-99
905-1135	608-AG1	8	Round	2.71	2.50	2.32
905-1140	608-CG1	8	Slotted	2.71	2.50	2.32
905-1145	614-AG1	14	Round	4.74	4.37	4.07
905-1150	614-CG1	14	Slotted	4.51	4.13	3.81
905-1155	616-AG1	16	Round	5.42	5.00	4.65
905-1160	616-CG1	16	Slotted	5.00	4.58	4.23
905-1165	620-AG1	20	Round	6.77	6.25	5.81
905-1170	620-CG1	20	Slotted	6.77	6.25	5.81
905-1175	624-AG1	24	Round	8.13	7.50	6.97
905-1180	624-CG1	24	Slotted	8.13	7.50	6.97

8136-475 Series — Programming Jumper Plug Assemblies



- Low Profile: Only .100" High, X and Y Stackability
- Jumper Pin Assembly Spans 7.62/.300" Centers to Connect Opposing Contacts in I.C. Patterns, or 2.54/.100" Centers to Connect Adjacent Pins

8136-475 Series of programmed jumper plugs offer the unique combination of low cost and flexible signal path selection. Standard configurations are supplied programmed across rows.

Stock No.	Mfr.'s Type	No. of Pins	Plating	EACH	
				1-99	100-499
905-1185	8136-475G1	1-Unit	Tin	.78	.65
905-1190	8136-475G7	7-Unit	Tin	2.50	2.29
905-1195	8136-475G8	8-Unit	Tin	2.74	2.51
905-1200	8136-475G9	9-Unit	Tin	2.92	2.67
905-1205	8136-651P2	Jumper Pin (.100")	Gold	.16	.15
905-1210	8136-650P2	Jumper Pin (.300")	Gold	.21	.18

Transistor Sockets



8060



8059



8058

► Polarization: Dot, Notch, Bump

► Contact Plating: 30 µ" Gold per MIL-G-45204

The Augat Transistor sockets utilize hi-rel machined outer sleeves and gold plated inner contacts assembled into a low profile insulator. The funnel entry design eliminates distortion or damage to the contact with misalignment or oversized leads. The sockets accept .016" to .020" dia. pins. All have a 3A current rating. This Series features a large tapered entry for easy lead insertion and a closed bottom sleeve providing 100% prevention of solder or flux wicking.

Stock No.	Mfr.'s Type	No. of Pins	Insulator	Terminal Style	EACH		
					1-24	25-49	50-99
905-1213	8058-1G50±	8	Teflon	PC	6.26	5.74	5.30
905-1225	8058-39G3±	8	Teflon	PC	5.93	5.47	5.08
905-1230	8059-2G1*	3	Nylon (Red)	PC	1.58	1.40	1.27
905-1235	8059-2G5*	8	Nylon (Green)	PC	3.38	3.11	2.89
905-1240	8059-2G6*	8	Nylon (Green)	PC	3.07	2.83	2.64
905-1245	8059-2G7*	8	Nylon (Orange)	PC	3.38	3.11	2.89
905-1250	8060-1G5±	3	Teflon	Pocket	5.58	5.14	4.78
905-1253	8060-1G11±	3	Teflon	PC	3.70	3.39	3.13
905-1255	8060-1G6±	4	Teflon	Pocket	6.70	6.18	5.74

*Bump. †Notch. ±Dot.

Holtite® Series Zero Profile Solderless Sockets



- Available Qualified to MIL-83505/6
- Zero Socket Profile
- Precision-Machined, Tapered-Entry, Four Finger Contact
- Solderless, Gas-Tight, Press-Fit Insertion
- Contact: Beryllium Copper per QQ-C-530
- Finish: Gold Plated .000030" per MIL-G-45204 Over Nickel per QQ-N-290 or Tin/Lead per MIL-P-81728

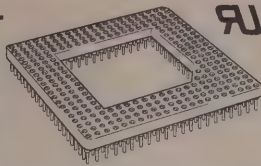
The solderless zero profile Holtite® contact is designed to be press fit into the plated-thru hole of a printed wiring board. This unique design allows the plated-thru hole to become the component socket. The precision-machined geometry allows for the controlled displacement of plated material without damaging the hole, or affecting the normal mechanical and electrical contact performance.

Stock No.	Mfr.'s Type	Finish	EACH		
			1-99	100-499	500-999
905-1265	8134-HC-5P2	Gold-Plated	.12	.11	.10
905-1270	8134-HC-5P3	Tin/Lead-Plated	.10	.08	.07
905-1275	8134-HC-6P2	Gold-Plated	.13	.12	.11

PGA, PLCC, and ZIP Sockets/PQFP Adapters

PGA (LIF) Sockets for Intel Pentium Devices

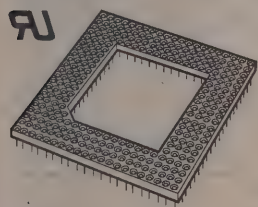
— NEW —



- ▶ Augat's Sockets Include Super Low Insertion Force 1.3 oz. (LIF) Contact
- ▶ Non-Wicking Closed Bottom, Precision Sleeve Protects 100% Against Flux and Solder Contamination
- ▶ Sockets Compatible with IR Vaporphase Soldering
- ▶ Recognized Under the Component Program of Underwriters Laboratories Inc. File E111362

Stock No.	Mfr.'s Type	No. of Pins	Intel Socket	EACH		
				1-49	50-99	100-499
905-0100	PGM238-7A1916-V	238	#2	7.29	5.83	4.86
905-0102	PGM237-7A1927-V	237	#3	7.29	5.83	4.86
905-0104	PGM273-7A2111-V	273	#4	8.36	6.69	5.57
905-0106	PIS296-7A37A3-V	296	#5	26.38	21.98	18.84

PGM/PGMA Series Pin Grid Array Sockets/Adapters



PGM Series

- ▶ Low Insertion and Withdrawal Force Contacts
- ▶ Non-Wicking Closed Bottom, Precision Sleeve Protects 100% Against Flux and Solder Contamination
- ▶ Contact Sleeves Are Recessed into a Molded Insulator for Extra Protection and Greater Surface Area a Presentation with Vacuum Pick Up for Automatic Insertion Systems
- ▶ Recognized Under the Component Program of Underwriters Laboratories, Inc. File No. E111362
- ▶ Insulator: Thermoplastic Polyester UL Rated 94V-0
- ▶ Plating: Contacts — 30 µ" Gold; Sleeve — Tin/Lead

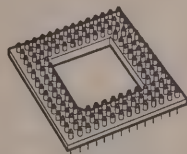
Sockets

Stock No.	Mfr.'s Type	No. of Positions	EACH	
			1-24	25-49
905-3030	PGM068-1A1132-V	68	4.52	3.83
905-3031	PGM085-7A1107-V*	85	3.89	2.81
905-3033	PGM114-7A1345-V*	114	7.56	6.98
905-3035	PGM121-7A1312-V*	121	5.54	4.00
905-3037	PGM128-7A1359-V*	128	8.49	7.83
905-3040	PGM132-1A1414-V	132	9.81	9.05
905-3042	PGM145-1A1521-V	145	10.77	9.94
905-3044	PGM168-1A1715-V	168	12.48	11.52
905-3046	PGM169-1A1708-V	169	12.55	11.58
905-3048	PGM238-1A1916-V	238	17.68	16.31
905-3050	PGM273-1A2111-V	273	20.28	18.71

* Contact Plating: 10 µ" gold.

PGMA Series

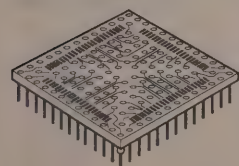
- ▶ Precision Machined Pins
- ▶ Molded Plastic Insulators
- ▶ .018" Diameter, Radius Tipped P.C. Termination for Repeated Insertion Into and Withdrawal From Pin Grid Array Sockets
- ▶ Insulator: Thermoplastic Polyester UL Rated 94V-0
- ▶ Plating: Terminals — 10µ" Gold



Adapters

Stock No.	Mfr.'s Type	No. of Positions	EACH	
			1-18	10-31
905-3052	PGMA068-2A1132	68	11.18	10.31
905-3054	PGMA085-2A1107	85	13.30	12.27
905-3056	PGMA114-2A1345	114	18.73	17.29
905-3058	PGMA121-2A1312	121	18.93	17.47
905-3060	PGMA128-2A1359	128	21.03	19.41
905-3062	PGMA132-2A1414	132	21.69	20.02
905-3064	PGMA145-2A1521	145	22.68	20.93
905-3068	PGMA168-2A1715	168	27.60	25.48
905-3070	PGMA169-2A1708	169	26.43	24.40

PQFP Series Plastic Quad Flat Pack Adapters

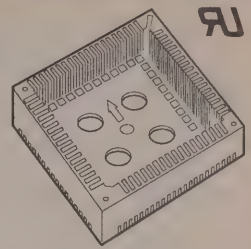


Augat had developed a high reliability adapter which accepts JEDEC PQFP GULLWING Devices and adapts them to a Pin Grid Array configuration or EIA (Types A and B as proposed by the EIA P-5.2 Committee) configurations.

Stock No.	Mfr.'s Type	No. of Positions	EACH	
			1-9	10-24
905-3089	PQFP-100A	100	35.14	32.63
905-3091	PQFP-100B	100	35.14	32.63
905-3092	PQFP-132A	132	43.11	40.03
905-3094	PQFP-132B	132	43.11	40.03

PCS Series "Type A" Sockets for PLCC Packages

- ▶ Visual Aids External to Socket Assure Easy Registration to Printed Wiring Board
- ▶ Easy Access for Probing Installed Chip Carrier
- ▶ Accepts JEDEC PLCC's MO-47 AA-AH (20-84), MO-052 AE (32 RECT)
- ▶ Recognized Under the Component Program of Underwriters Laboratories, Inc. File No. E111362
- ▶ Plating: Tin/Lead Over Nickel



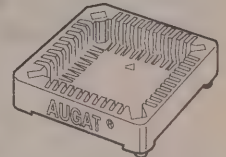
The Augat PCS Series Chip Carrier solder tail sockets accept Jedec Type "A" plastic leaded chip carriers on .050" (1.27mm) centers. These dependable sockets combine positive retention of package with high normal force to insure outstanding electrical and mechanical performance. The solder tail design allows through-hole board patterns on .100" (2.54mm) grid.

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
905-3002	PCS-028A-1	28	1.34	1.19	1.07
905-3004	PCS-032A-1	32	1.43	1.27	1.15
905-3006	PCS-044A-1	44	1.71	1.52	1.37
905-3008	PCS-052A-1	52	2.11	1.87	1.69
905-3010	PCS-068A-1	68	2.00	1.78	1.60
905-3012	PCS-084A-1	84	2.55	2.26	2.04

905-3014. TX8136-20/84PCS. Extraction Tool.....EACH 20.32

PCS-SMU Series Ultra Low Profile SMT Sockets for PLCC Packages

- ▶ Visual Aids External to Socket Assure Easy Registration to Printed Wiring Board
- ▶ Easy Access for Probing Installed Chip Carrier
- ▶ Accepts JEDEC PLCC's MO-47 AA-AH (20-84), MO-052 AE (32 RECT)
- ▶ Recognized Under the Component Program of Underwriters Laboratories, Inc. File No. E111362
- ▶ Plating: Tin/Lead Over Nickel

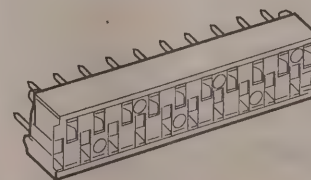


The Augat SMU Series Surface Mount chip carrier sockets are an "Ultra" low profile, .175" (4.45 mm) for JEDEC dimensioned PLCC devices. The lower profile is to accommodate height packaging restrictions in high density disk drive and laptop applications. With a PCB footprint which matches PLCC device and an open insulator design to facilitate placement and inspection, the Augat SMU Series meets your high density packaging needs.

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
905-3016	PCS-028SMU-11	28	1.49	1.32	1.20
905-3018	PCS-032SMU-11	32	1.60	1.41	1.28
905-3020	PCS-044SMU-11	44	1.77	1.57	1.41
905-3022	PCS-052SMU-11	52	2.35	2.08	1.88
905-3024	PCS-068SMU-11	68	2.33	2.06	1.86
905-3026	PCS-084SMU-11	84	2.45	2.17	1.96

905-3014. TX8136-20/84PCS. Extraction Tool.....EACH 20.32

2500 Series Stamped Contact ZIP Sockets



- ▶ High Reliability Gas Tight Contacts
- ▶ Closed Bottom to Eliminate Wicking Damage During Wave Solder
- ▶ Anti-Overstress Protection for the Contact
- ▶ Protected Entry to Ensure Proper Alignment of IC to Socket
- ▶ End to End — Side to Side Stackable to Minimize Valuable PCB Real Estate
- ▶ Tapered Leads for Ease of Inserting the Socket into the PCB

The Augat family of ZIP Sockets uses only half the space of DIP for twice the memory on your board.

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-99	100-499	500-999
905-3096	2500-ITT-116	16	.47	.39	.34
905-3098	2500-ITT-120	20	.63	.52	.45
905-3100	2500-ITT-124	24	.75	.63	.54

— **NEW** —

SOJ Sockets

- Sizes Range from 24 to 40 Positions
- 10.16 mm (.400") and 7.62 mm (.300") Centerlines

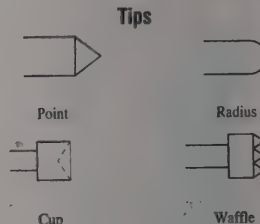
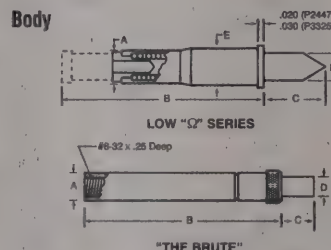
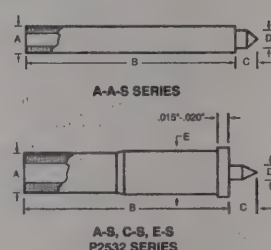
- ▶ High Normal Force Contacts Insure Long Term Reliability
- ▶ High Temperature Plastic

Augat's new SOJ Socket provides the user an easy means of socketing their SOJ devices. These full featured devices are available in a variety of sizes. **Material Specifications.** Contact: Phosphor bronze. **Insulator:** 94 V-0 thermoplastic. **Plating:** 200 μ min. tin over 75 μ Ni. **Performance Characteristics.** **Current Rating:** 1.0 amp. **Dielectric Withstanding Voltage:** 600 VAC RMS for 60 seconds. **Insulation Resistance:** 10,000 $\text{M}\Omega/500$ VDC. **Contact Resistance:** 20 m Ω . **Operating Temperature:** -55°C to +105°C. **Durability:** 25 cycles. **Mating Force:** 20 lbs. max. **Unmating Force:** 2 lbs. min.

Stock No.	Mfr.'s Type	No. of Pins	With Locating Post	Dimensions (in.)										EACH		
				A	B	C	D	E	F	G	H	J	K	1-99	100-499	500-999
905-0108	165-200005-04	24	No	.550	.916	.550	.500	.800	.850	.644	.325	.346	.300	1.24	1.10	.99
905-0110	165-200005-14	24	Yes	.550	.916	.550	.500	.800	.850	.644	.325	.346	.300	1.13	1.00	.91
905-0112	165-200005-05	26	No	.550	.965	.600	.550	.850	.902	.694	.325	.346	.300	1.45	1.28	1.16
905-0114	165-200005-15	26	Yes	.550	.965	.600	.550	.850	.902	.694	.325	.346	.300	1.18	1.05	.94
905-0116	165-200005-06	28	No	.550	1.010	.650	.600	.900	.952	.744	.325	.346	.300	1.49	1.32	1.20
905-0118	165-200005-16	28	Yes	.550	1.010	.650	.600	.900	.952	.744	.325	.346	.300	1.16	1.03	.93
905-0120	165-200005-03	28	No	.646	1.010	.650	.500	.900	.951	.743	.425	.445	.400	1.32	1.17	1.05
905-0122	165-200005-13	28	Yes	.646	1.010	.650	.500	.900	.951	.743	.425	.445	.400	1.32	1.17	1.05
905-0124	165-200005-07	32	No	.550	1.160	.750	.700	1.000	1.050	.844	.325	.346	.300	1.20	1.06	.96
905-0126	165-200005-17	32	Yes	.550	1.160	.750	.700	1.000	1.050	.844	.325	.346	.300	1.20	1.06	.96
905-0128	165-200005-02	32	No	.646	1.110	.750	.600	1.000	1.050	.843	.425	.445	.400	1.60	1.41	1.28
905-0130	165-200005-12	32	Yes	.646	1.110	.750	.600	1.000	1.050	.843	.425	.445	.400	1.80	1.41	1.28
905-0132	165-200005-01	40	No	.646	1.310	.950	.800	1.200	1.250	1.040	.425	.445	.400	1.61	1.43	1.29
905-0134	165-200005-11	40	Yes	.646	1.310	.950	.800	1.200	1.250	1.040	.425	.445	.400	1.61	1.43	1.29

Pylon® - Non Replaceable Spring Loaded Pogo® Contacts

Construction is an outer tubular body with an inner spring-loaded plunger. Contacts have rugged, one-piece machined bodies. For applications in test and interface assemblies where multiple connections must be made.



0.050" Centerline Spacing/.030" Travel — Max. 2 Amps

Stock No.	Mfr.'s Type	Dimensions					Tip Description	Spring Force Initial-Final Oz.	Plating Plunger Socket	EACH		
		A	B	C	D	E				1-24	25-99	100-999
905-7042	A-S-C	.035"	.200"	.030"	.014"	.037	60° Point Contact	0.7-1.6	Gold	2.19	2.02	1.88
905-7044	A-S-R	.035"	.200"	.030"	.014"	.037	Radius Contact	0.7-1.6	Gold	1.99	1.82	1.68
905-7046	A-A-S-C	.030"	.280"	.030"	.021"	—	60° Point Contact	0.6-2.5	Gold	2.79	2.57	2.39
905-7048	A-A-S-R	.030"	.280"	.030"	.021"	—	Radius Contact	0.6-2.5	Gold	2.79	2.57	2.39

0.075" Centerline Spacing/.045" Travel — Max. 5 Amps

905-7050	C-S-C	.042"	.350"	.045"	.026"	.045"	60° Point Contact	0.5-4.5	Gold	2.79	2.57	2.39
905-7052	C-S-R	.042"	.350"	.045"	.026"	.045"	Radius Contact	0.5-4.5	Gold	2.79	2.57	2.39

0.156" Centerline Spacing/.140" Travel — Max. 5 Amps

905-7054	P2532-1	.088"	.673"	.139"	.059"	.093"	Radius Contact	1-3	Gold	3.05	2.81	2.69
905-7050	P2532-2	.088"	.673"	.139"	.059"	.093"	60° Point Contact	1-3	Gold	3.05	2.81	2.69

0.100" Centerline Spacing/.065" Travel — Max .5 Amps

905-7058	E-S-C	.062"	.430"	.065"	.045"	.065"	60° Point Contact	1.5-3	Gold	3.09	2.84	2.72
905-7060	E-S-R	.062"	.430"	.065"	.045"	.065"	Radius Contact	1.5-3	Gold	3.09	2.84	2.72
905-7062	E-S-F	.062"	.430"	.065"	.045"	.065"	Flat	1.5-3	Gold	3.09	2.84	2.72
905-7064	E-S-W	.062"	.430"	.115"	.070"	.065"	.070° Waffle Con.	1.5-3	Gold	3.24	2.94	2.86
905-7066	E-S-V	.062"	.430"	.115"	.090"	.065"	120° Cup Contact	1.5-3	Gold	3.09	2.84	2.72

Low "Ω" Series (<10mΩ) /0.300" Travel (P2447) /0.100" Travel (P3325) — Max. 10 Amps

Low resistance is achieved by making Pogo® plunger and terminal as a single unit. Construction eliminates the resistance of spring and body.

905-7068	P2447-1W	.153"	1.000"	.445"	.116"	.156"	.185" Waffle Con.	6-18	NI	9.08	8.38	8.01
905-7070	P3325-0	—	.645"	.100"	.061"	.085"	Radius Contact	5-10	Gold	2.60	2.40	2.29
905-7072	P3325-1	—	.645"	.150"	.090"	.085"	120° Cup Contact	5-10	Gold	2.60	2.40	2.29

"THE BRUTE" (<5mΩ) /.250" Travel — Max. 25 Amps

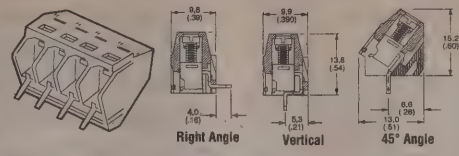
905-7074	P4301-IF	.187"	1.500"	.250"	.155"	—	Flat	16-32	Gold	7.43	6.85	6.55
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EURO and PC Terminal Blocks and Block Headers



5LE Series — EURO Terminal Blocks

- Connection on 5mm (.197") Centers
 - Standoffs for Flux Cleaning
 - Captive M2.5 Screws
 - Superior Elevator Wire-Clamp with Wire Guard
 - Modular Housing: End to End Stackability with Snap Together/Stay Together Design
 - Dead Front Design Protects Against Shock
 - Housing Withstands Wave Line Temperatures
- In Accordance with VDE0110
2 Thru 4 Positions Molded to Length (Snap Together Larger Sizes)



Housing Material: Thermoplastic, UL recognized flammability classification 94V-0, 105°C max. operating temperature. Terminals: Bright acid-tin plated copper alloy. Solderability: MIL-STD-202, Method 208. Rating: 10 amps/300 volts, 15 amps/150 volts (limited rating). Wire Range: 14-28 AWG (solid or stranded). Recommended PC Hole Size: .062" diameter. UL File Number: E54800. CSA File Number: LR30811.

Stock No.	Mfr.'s Type	No. of Positions	Mounting Style	Color	EACH		
					1-24	25-99	100-249
905-8000	5LEV-02	2	Vertical	Green	.64	.58	.52
905-8002	5LEV-02-1	2	Vertical	Black	.56	.51	.46
905-8004	5LER-02	2	Right-Angle	Green	.69	.62	.56
905-8006	5LER-02-1	2	Right-Angle	Black	.61	.55	.50
905-8008	5LEA-02	2	45° Angle	Green	.69	.62	.56
905-8010	5LEA-02-1	2	45° Angle	Black	.61	.55	.50
905-8012	5LEV-03	3	Vertical	Green	.96	.87	.78
905-8014	5LEV-03-1	3	Vertical	Black	.84	.76	.68
905-8016	5LER-03	3	Right-Angle	Green	1.03	.93	.84
905-8018	5LER-03-1	3	Right-Angle	Black	.92	.83	.75
905-8020	5LEA-03	3	45° Angle	Green	1.03	.93	.84
905-8022	5LEA-03-1	3	45° Angle	Black	.92	.83	.75
905-8024	5LEV-04	4	Vertical	Green	1.28	1.15	1.04
905-8026	5LEV-04-1	4	Vertical	Black	1.12	1.01	.91
905-8028	5LER-04	4	Right-Angle	Green	1.37	1.24	1.11
905-8030	5LER-04-1	4	Right-Angle	Black	1.22	1.10	.99
905-8032	5LEA-04	4	45° Angle	Green	1.37	1.24	1.11
905-8034	5LEA-04-1	4	45° Angle	Black	1.22	1.10	.99

5LEE, 2LEE Series — EURO Terminal Blocks

- Connection on 5mm (.197") and 5.08mm (.200") Centers
- Standoffs for Flux Cleaning
- Captive M2.5 Screws
- Superior Elevator Wire-Clamp with Wire Guard
- Modular Housing: End to End Stackability with Locking Dovetails
- Dead Front Design Protects Against Shock
- Housing Withstands Wave Line Temperatures
- In Accordance with VDE0110

Housing Material: Thermoplastic, UL recognized flammability classification 94V-0, 105°C max. operating temperature. Color: Green. Terminals: Bright acid-tin plated copper alloy. Solderability: MIL-STD-202, Method 208. Rating: 10 amps/300 volts, 15 amps/150 volts (limited rating). Wire Range: 14-28 AWG (solid or stranded). Recommended PC Hole Size: .062" diameter. UL File Number: E54800. CSA File Number: LR30811.

Stock No.	Mfr.'s Type	No. of Positions	Centers	Dimension D	EACH		
					1-24	25-99	100-249
905-8100	5LEEV-04	4	5mm	.590	1.53	1.38	1.24
905-8102	2LEEV-04	4	.200"	.600	1.53	1.38	1.24
905-8104	5LEEV-06	6	5mm	.590	2.29	2.06	1.86
905-8106	2LEEV-06	6	.200"	.600	2.29	2.06	1.86

2M Series — Terminal Blocks

- Maintains Center to Center Spacing When Installed End to End
 - High Density: Connections on 5.1mm Centers (0.2")
 - Dead Front Design Protects Against Shock
 - Standoffs for Flux Cleaning
 - Captive 3-48 UNC Screws
 - Spring-Loaded Wire Protector
 - Extra Large Entry for Stranded Wire, Multiple Wires or Up to #12 AWG Single Wire
- Barrier Material: Thermoplastic polyester, UL recognized flammability classification 94V-0, black, 120°C max. operating temperature. Terminals: Bright acid-tin over copper plated brass. Rating: 20 amps/300 volts (limited rating). Wire Range: 12-22 AWG. UL File Number: E54800. CSA File Number: LR30811.
-

Stock No.	Mfr.'s Type	No. of Positions	Dimensions		Mounting Style	EACH		
			A	B		1-24	25-99	100-249
905-8108	2MV-02	2	.02	.04	Vertical	.61	.55	.50
905-8110	2MR-02	2	.02	.04	Right-Angle	.69	.62	.56
905-8112	2MV-03	3	.04	.06	Vertical	.91	.82	.74
905-8114	2MR-03	3	.04	.06	Right-Angle	1.04	.94	.84
905-8116	2MV-04	4	.06	.08	Vertical	1.22	1.10	.99
905-8118	2MR-04	4	.06	.08	Right-Angle	1.38	1.24	1.12
905-8120	2MV-05	5	.08	1.00	Vertical	1.52	1.37	1.23
905-8122	2MR-05	5	.08	1.00	Right-Angle	1.73	1.56	1.40
905-8124	2MV-06	6	1.00	1.20	Vertical	1.82	1.64	1.48
905-8126	2MR-06	6	1.00	1.20	Right-Angle	2.07	1.87	1.68
905-8128	2MV-07	7	1.20	1.40	Vertical	2.13	1.92	1.73
905-8130	2MR-07	7	1.20	1.40	Right-Angle	2.42	2.18	1.96
905-8132	2MV-08	8	1.40	1.60	Vertical	2.43	2.19	1.97
905-8134	2MR-08	8	1.40	1.60	Right-Angle	2.76	2.49	2.24
905-8136	2MV-10	10	1.80	2.00	Vertical	3.04	2.74	2.46
905-8138	2MR-10	10	1.80	2.00	Right-Angle	3.46	3.12	2.80
905-8140	2MV-12	12	2.20	2.40	Vertical	3.65	3.29	2.96
905-8142	2MR-12	12	2.20	2.40	Right-Angle	4.15	3.74	3.36

5ESD, 2ESD Series — EURO Terminal Blocks

- Pluggable Euro Blocks
 - Superior Elevator Wire-Clamp with Wire Guard
 - Connections on 5mm (.197") and 5.08mm (.200") Centers
 - Dead Front Design Protects Against Shock
 - Captive M2.5 Screws
 - Housing Withstands Wave Line Temperatures
 - In Accordance with VDE0110
- Housing Material: Thermoplastic, UL recognized flammability classification 94V-0, 105°C max. operating temperature. Color: Green. Terminals: Bright acid-tin plated copper alloy. Rating: 10 amps/300 volts, 15 amps/150 volts (limited rating). Wire Range: 14-28 AWG (solid or stranded). UL File Number: E54800. CSA File Number: LR30811.
-

Stock No.	Mfr.'s Type	No. of Positions	Centers	EACH		
				1-24	25-99	100-249
905-8036	5ESDV-02	2	5mm	1.12	1.01	.91
905-8038	2ESDV-02	2	.200"	1.12	1.01	.91
905-8040	5ESDV-04	4	5mm	2.23	2.01	1.81
905-8042	2ESDV-04	4	.200"	2.23	2.01	1.81
905-8044	5ESDV-06	6	5mm	3.35	3.02	2.72
905-8046	2ESDV-06	6	.200"	3.35	3.02	2.72
905-8048	5ESDV-08	8	5mm	4.47	4.03	3.62
905-8050	2ESDV-08	8	.200"	4.47	4.03	3.62
905-8052	5ESDV-10	10	5mm	5.58	5.03	4.52
905-8054	2ESDV-10	10	.200"	5.58	5.03	4.52
905-8056	5ESDV-12	12	5mm	6.70	6.03	5.43
905-8058	2ESDV-12	12	.200"	6.70	6.03	5.43

25EV Series — EURO Block

- Superior Elevator Wire-Clamp with Wire Guard
- Connections on .250" (6.35mm) Centers
- Modular Housing: End to End Stackability with Snap Together/Stay Together Design
- Dead Front Design Protects Against Shock
- Standoffs for Flux Cleaning
- Captive M3 Screws
- High Temperature Housing Withstands Wave Line Temperatures
- In Accordance with VDE0110

Housing Material: Thermoplastic, UL recognized flammability classification 94V-0, 120°C max. operating temperature. Color: Black. Terminals: Bright acid-tin plated copper alloy. Solderability: MIL-STD-202, Method 208. Elevator Box: Zinc plated steel with yellow chromate coating. Screws: Zinc plated steel with yellow chromate coating, M3. Rating: 10 amps/300 volts, 15 amps/150 volts (limited rating). Wire Range: 10-22 AWG. Max. Tightening Torque: 5.0 lb. inch. UL File Number: E54800. CSA File Number: LR30811.

Stock No.	Mfr.'s Type	No. of Positions	Centers	EACH		
				1-24	25-99	100-249
905-8061	25EV-02-1	2	.250"	.72	.65	.59
905-8063	25EV-03-1	3	.250"	1.11	1.03	.89
905-8065	25EV-04-1	4	.250"	1.43	1.30	1.14

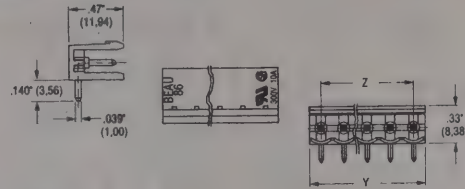
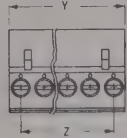
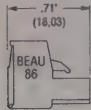
5EHD, 2EHD Series — EURO Block Headers

- Pluggable Euro Block Header
 - Connections on 5mm (.197") and 5.08mm (.200") Centers
 - Shrouded Header Design Protects Header Pins and Enables Latching to Plug Side
 - Closed End Style Prevents Misalignment of Plug and Header
 - Housing Withstands Wave Line Temperatures
 - In Accordance with VDE0110
- Housing Material: Thermoplastic, UL recognized flammability classification 94V-0, 105°C max. operating temperature. Color: Green. Terminals: Bright acid-tin plated copper alloy. Solderability: MIL-STD-202, Method 208. Recommended PC Hole Size: .062" diameter. Rating: 10 amps/300 volts, 15 amps/150 volts (limited rating). UL File Number: E54800. CSA File Number: LR30811.
-

Stock No.	Mfr.'s Type	No. of Positions	Mounting Style	Centers	EACH		
					1-24	25-99	100-249
905-8060	5EHDV-02	2	Vertical	5mm	.43	.39	.35
905-8062	5EHDR-02	2	Right-Angle	5mm	.43	.39	.35
905-8064	2EHDV-02	2	Vertical	.200"	.43	.39	.35
905-8066	2EHDR-02	2	Right-Angle	.200"	.43	.39	.35
905-8068	5EHDV-04	4	Vertical	5mm	.87	.79	.71
905-8070	5EHDR-04	4	Right-Angle	5mm	.87	.79	.71
905-8072	2EHDV-04	4	Vertical	.200"	.87	.79	.71
905-8074	2EHDR-04	4	Right-Angle	.200"	.87	.79	.71
905-8076	5EHDV-06	6	Vertical	5mm	1.30	1.17	1.06
905-8078	5EHDR-06	6	Right-Angle	5mm	1.30	1.17	1.06
905-8080	2EHDV-06	6	Vertical	.200"	1.30	1.17	1.06
905-8082	2EHDR-06	6	Right-Angle	.200"	1.30	1.17	1.06
905-8084	5EHDV-08	8	Vertical	5mm	1.73	1.56	1.40
905-8086	5EHDR-08	8	Right-Angle	5mm	1.73	1.56	1.40
905-8088	2EHDV-08	8	Vertical	.200"	1.73	1.56	1.40
905-8090	2EHDR-08	8	Right-Angle	.200"	1.73	1.56	1.40
905-8092	5EHDV-10	10	Vertical	5mm	2.16	1.95	1.75
905-8094	5EHDR-10	10	Right-Angle	5mm	2.16	1.95	1.75
905-8096	2EHDV-10	10	Vertical	.200"	2.16	1.95	1.75
905-8098	2EHDR-10	10	Right-Angle	.200"	2.16	1.95	1.75

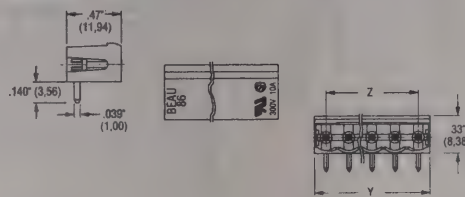
Pluggable Terminal Blocks (.200" Spacing) Series 86 With Rising Cage Pressure Clamps

- Holds Wires For Secure, Reliable Contact
- Industry Standard Interface
- End-To-End Stackable
- High Flammability Rating (94V-0)
- Wire Range: 12-30 AWG



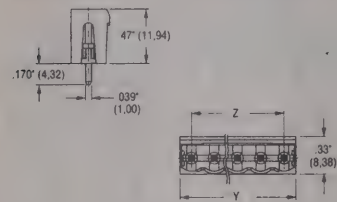
Header, 90°

Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2044	861802	2	.395	.200	.37	.34	.29
607-2045	861803	3	.595	.400	.67	.51	.44
607-2048	861804	4	.795	.600	.90	.67	.58
607-2050	861805	5	.995	.800	1.12	.84	.73
607-2052	861806	6	1.195	1.000	1.35	1.01	.88
607-2054	861807	7	1.395	1.200	1.57	1.18	1.02
607-2056	861808	8	1.595	1.400	1.80	1.35	1.17
607-2058	861809	9	1.795	1.600	2.02	1.52	1.31
607-2060	861810	10	1.995	1.800	2.24	1.68	1.46
607-2062	861812	12	2.395	2.200	2.69	2.02	1.75
607-2064	861816	16	3.195	3.000	3.59	2.69	2.33



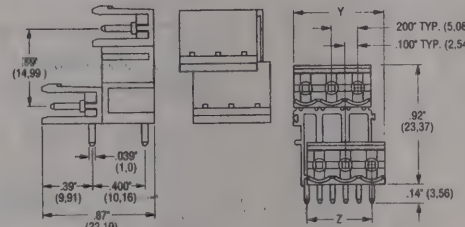
Plug, Right-Angle

Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2000	860502	2	.395	.200	1.07	.97	.88
607-2002	860503	3	.595	.400	1.76	1.32	1.15
607-2004	860504	4	.795	.600	2.35	1.76	1.53
607-2006	860505	5	.995	.800	2.94	2.21	1.91
607-2008	860506	6	1.195	1.000	3.53	2.65	2.29
607-2010	860507	7	1.395	1.200	4.12	3.09	2.68
607-2012	860508	8	1.595	1.400	4.70	3.53	3.06
607-2014	860509	9	1.795	1.600	5.29	3.97	3.44
607-2016	860510	10	1.995	1.800	5.88	4.41	3.82
607-2018	860512	12	2.395	2.200	7.06	5.29	4.59
607-2020	860516	16	3.195	3.000	9.41	7.06	6.11



Header, 90°, Closed End

Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2066	861902	2	.445	.200	.37	.34	.29
607-2068	861903	3	.645	.400	.67	.51	.44
607-2070	861904	4	.845	.600	.90	.67	.58
607-2072	861905	5	1.045	.800	1.12	.84	.73
607-2074	861906	6	1.245	1.000	1.35	1.01	.88
607-2076	861907	7	1.445	1.200	1.57	1.18	1.02
607-2078	861908	8	1.645	1.400	1.80	1.35	1.17
607-2080	861909	9	1.845	1.600	2.02	1.52	1.31
607-2082	861910	10	2.045	1.800	2.24	1.68	1.46
607-2084	861912	12	2.445	2.200	2.69	2.02	1.75
607-2086	861916	16	3.245	3.000	3.59	2.69	2.33

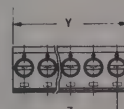
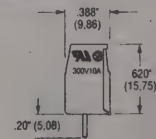


Header, Straight Thru, Closed End

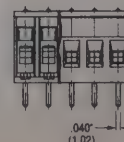
Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2022	861602	2	.445	.200	.37	.34	.29
607-2024	861603	3	.645	.400	.67	.51	.44
607-2026	861604	4	.845	.600	.90	.67	.58
607-2028	861605	5	1.045	.800	1.12	.84	.73
607-2030	861606	6	1.245	1.000	1.35	1.01	.88
607-2032	861607	7	1.445	1.200	1.57	1.18	1.02
607-2034	861608	8	1.645	1.400	1.80	1.35	1.17
607-2036	861609	9	1.845	1.600	2.02	1.52	1.31
607-2038	861610	10	2.045	1.800	2.24	1.68	1.46
607-2040	861612	12	2.445	2.200	2.69	2.02	1.75
607-2042	861616	16	3.245	3.000	3.59	2.69	2.33

Fixed PCB Terminal Blocks (.200" Spacing) Series 88 With Rising Cage Pressure Clamps

- Holds Wires For Secure, Reliable Contact
- Molded To Length
- High Flammability Rating (94V-0)
- Extra High Conductivity Contacts
- Wire Range: 12-30 AWG
- Small Footprint: .388"

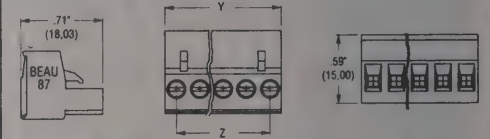


Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2182	880502	2	.395	.200	.63	.57	.50
607-2184	880503	3	.595	.400	1.14	.86	.74
607-2186	880504	4	.795	.600	1.52	1.14	.99
607-2188	880505	5	.995	.800	1.91	1.43	1.24
607-2190	880506	6	1.195	1.000	2.29	1.72	1.49
607-2192	880507	7	1.395	1.200	2.67	2.00	1.73
607-2194	880508	8	1.595	1.400	3.05	2.29	1.98
607-2196	880509	9	1.795	1.600	3.43	2.57	2.23
607-2198	880510	10	1.995	1.800	3.81	2.86	2.48
607-2200	880512	12	2.395	2.200	4.57	3.43	2.97
607-2202	880516	16	3.195	3.000	6.10	4.58	3.97



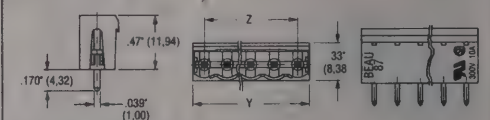
Pluggable Terminal Blocks (5.0 mm Spacing) Series 87 With Rising Cage Pressure Clamps

- Holds Wires For Secure, Reliable Contact
- Industry Standard Interface
- End-To-End Stackable
- High Flammability Rating (94V-0)
- Wire Range: 12-30 AWG



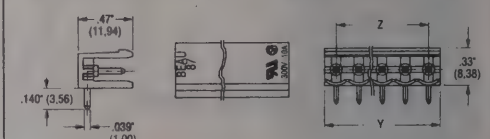
Plug, Right-Angle

Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2092	870502	2	.389	.197	1.07	.97	.88
607-2094	870503	3	.586	.394	1.76	1.32	1.15
607-2096	870504	4	.783	.591	2.35	1.76	1.53
607-2098	870505	5	.980	.788	2.94	2.21	1.91
607-2100	870506	6	1.177	.985	3.53	2.65	2.29
607-2102	870507	7	1.374	1.182	4.12	3.09	2.68
607-2104	870508	8	1.571	1.379	4.70	3.53	3.06
607-2106	870509	9	1.768	1.576	5.29	3.97	3.44
607-2108	870510	10	1.965	1.773	5.88	4.41	3.82
607-2110	870512	12	2.359	2.167	7.06	5.29	4.59
607-2112	870516	16	3.147	2.955	9.41	7.06	6.11



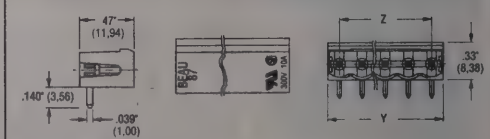
Header, Straight Thru, Closed End

Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2114	871602	2	.439	.197	.37	.34	.29
607-2116	871603	3	.636	.394	.67	.51	.44
607-2118	871604	4	.833	.591	.90	.67	.58
607-2120	871605	5	1.030	.788	1.12	.84	.73
607-2122	871606	6	1.227	.985	1.35	1.01	.88
607-2124	871607	7	1.424	1.182	1.57	1.18	1.02
607-2126	871608	8	1.621	1.379	1.80	1.35	1.17
607-2128	871609	9	1.818	1.576	2.02	1.52	1.31
607-2130	871610	10	2.015	1.773	2.24	1.68	1.46
607-2132	871612	12	2.409	2.167	2.69	2.02	1.75
607-2134	871616	16	3.197	2.955	3.59	2.69	2.33



Header, 90°

Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2138	871802	2	.389	.197	.37	.34	.29
607-2140	871803	3	.586	.394	.67	.51	.44
607-2142	871804	4	.783	.591	.90	.67	.58
607-2144	871805	5	.980	.788	1.12	.84	.73
607-2146	871806	6	1.177	.985	1.35	1.01	.88
607-2148	871807	7	1.374	1.182	1.57	1.18	1.02
607-2150	871808	8	1.571	1.379	1.80	1.35	1.17
607-2152	871809	9	1.768	1.576	2.02	1.52	1.31
607-2154	871810	10	1.965	1.773	2.24	1.68	1.46
607-2156	871812	12	2.359	2.167	2.69	2.02	1.75
607-2158	871816	16	3.147	2.955	3.59	2.69	2.33



Header, 90°, Closed End

Stock No.	Mfr.'s Type	No. Of Poles	Dim. (in.)		EACH		
			Y	Z	1-99	100-249	250-499
607-2160	871902	2	.389	.197	.37	.34	.29
607-2162	871903	3	.586	.394	.67	.51	.44
607-2164	871904	4	.783	.591	.90	.67	.58
607-2166	871905	5	.980	.788	1.12	.84	.73
607-2168	871906	6	1.177	.985	1.35	1.01	.88
607-2170	871907	7	1.374	1.182	1.57	1.18	1.02
607-2172	871908	8	1.571	1.379	1.80	1.35	1.17
607-2174	871909	9	1.768	1.576	2.02	1.52	1.31
607-2176	871910	10	1.965	1.773	2.24	1.68	1.46
607-2178	871912	12	2.359	2.167	2.69	2.02	1.75
607-2180	871916	16	3.147	2.955	3.59	2.69	2.33

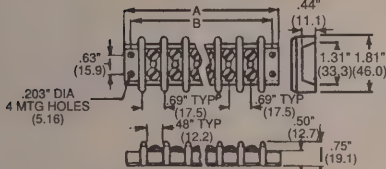
Double-Row Terminal Strips and Accessories



21000 21000CB

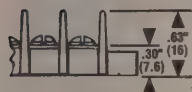


28000



76000

77000



78000

Model	Dimensions			
	W x H	Terminal Centers	Mtg. Hole Dia.	Screw Size
Series 21000	1.31" x .63"	.563"	.209"	8-32
Series 76000	.88" x .63"	.375"	.160"	6-32
Series 77000	.88" x .44"	.375"	.160"	6-32
Series 78000	1.13" x .55"	.430"	.180"	6-32
Series 28000	1.81" x .75"	.688"	.203"	10-32

Double-Row Terminal Strips

Series 21000. Open back construction. $\frac{9}{16}$ " terminal centers. 30 amp current rating (UL). **Voltage Rating, rms:** UL recognized, Class B-600; Class C-600. **CSA Certified:** 300 @ 30 amps. **Withstand Volts, rms:** 10500. **Insulator Material:** general purpose phenolic. UL temp. index 150°C. Black. **Width x Height:** $1\frac{1}{16}$ " x $\frac{9}{16}$ ". **Max. AWG:** 12. **Terminal Screws:** No. 8-32 x $\frac{9}{16}$ " binding head screws. Steel, cadmium plated.

Stock No.	Mfr.'s Type	No. of Circuits	EACH			
			1-24	25-49	50-99	100-249
607-1116	21002	2	.99	.90	.77	.69
607-1126	21003	3	1.86	1.59	1.36	1.22
607-1136	21004	4	1.87	1.60	1.37	1.23
607-1156	21006	6	2.55	2.21	1.99	1.79
607-1176	21008	8	2.96	2.35	2.01	1.76
607-1196	21010	10	3.93	3.40	3.06	2.75
607-1216	21012	12	4.53	4.12	3.71	3.34
607-1236	21014	14	6.02	5.42	4.87	4.39
607-1256	21016	16	7.02	6.32	5.68	5.12
607-1276	21018	18	7.99	7.19	6.47	5.82
607-1296	21020	20	8.85	7.97	7.17	6.45

Series 28000. Open back construction. $\frac{11}{16}$ " terminal centers. 50 amp current rating (UL). **Voltage Rating, rms:** UL Recognized, Class B-600; Class C-600. **CSA Certified:** 600 @ 50 amps. **Withstand Volts, rms:** 10500. **Insulator Material:** general purpose phenolic. UL temp. index 150°C. Black. **Width x Height:** $1\frac{1}{16}$ " x $\frac{9}{16}$ ". **Max. AWG:** 6 lugged. **Terminal Screws:** No. 10-32 x $\frac{9}{16}$ " binding head screws. Brass, nickel plated.

607-1402	28002	2	2.87	2.46	2.21	1.99
607-1403	28003	3	4.03	3.46	3.11	2.80
607-1404	28004	4	5.03	4.53	4.08	3.67
607-1405	28005	5	6.18	5.47	4.93	4.43
607-1406	28006	6	6.59	5.99	5.39	4.85
607-1408	28008	8	9.65	8.69	7.82	7.04
607-1410	28010	10	11.90	10.71	9.64	8.67
607-1412	28012	12	14.33	12.89	11.61	10.45

Series 77000. Closed back construction. $\frac{3}{8}$ " terminal centers. 20 amp current rating (UL). **Voltage Rating, rms:** UL Recognized, Class B-250; Class C-150. **CSA Certified:** 150 @ 20 amps. **Withstand Volts, rms:** 7500. **Insulator Material:** thermoplastic, glass-filled. UL temp. index 95°C. UL flame retardant rating 94V-0. Black. **Width x Height:** $\frac{7}{8}$ " x $\frac{7}{16}$ ". **Max. AWG:** 14. **Terminal Screws:** No. 6-32 x $\frac{1}{8}$ " binding head screws. Steel, cadmium plated.

607-1113	77002	2	.76	.69	.59	.53
607-1123	77003	3	.84	.77	.65	.59
607-1133	77004	4	1.08	.94	.80	.72
607-1143	77005	5	1.42	1.22	1.04	.94
607-1153	77006	6	1.65	1.42	1.22	1.09
607-1163	77007	7	2.04	1.75	1.49	1.35
607-1173	77008	8	2.06	1.78	1.52	1.37
607-1183	77009	9	2.52	2.16	1.94	1.75
607-1193	77010	10	2.35	2.04	1.84	1.65
607-1203	77011	11	2.94	2.52	2.27	2.04
607-1213	77012	12	2.66	2.30	2.07	1.86
607-1233	77014	14	3.73	3.20	2.88	2.59
607-1243	77015	15	4.04	3.46	3.12	2.81
607-1253	77016	16	4.19	3.59	3.23	2.91
607-1273	77018	18	4.40	3.96	3.56	3.21
607-1293	77020	20	4.18	3.80	3.42	3.08
607-1313	77022	22	5.25	4.73	4.26	3.83
607-1333	77024	24	5.84	5.26	4.73	4.26
607-1353	77026	26	6.48	5.83	5.25	4.72
607-1373	77028	28	6.98	6.29	5.66	5.09
607-1393	77030	30	7.21	6.49	5.84	5.26

Series 21000CB. Closed back construction. $\frac{9}{16}$ " terminal centers. 30 amp current rating (UL). **Voltage Rating, rms:** UL recognized Class B-600; Class C-600. **CSA Certified:** 300 @ 30 amps. **Withstand Volts, rms:** 9000. **Insulator Material:** general purpose phenolic. UL temp. index 150°C. Black. **Width x Height:** $1\frac{1}{16}$ " x $\frac{21}{32}$ ". **Max. AWG:** 12. **Terminal Screws:** No. 8-32 x $\frac{9}{16}$ " binding head screws. Steel, cadmium plated.

Stock No.	Mfr.'s Type	No. of Circuits	EACH			
			1-24	25-49	50-99	100-249
607-1117	21002CB	2	1.45	1.24	1.06	.96
607-1137	21004CB	4	2.46	2.11	1.90	1.71
607-1157	21006CB	6	3.56	3.05	2.75	2.47
607-1177	21008CB	8	4.04	3.63	3.27	2.94
607-1197	21010CB	10	5.21	4.68	4.22	3.80
607-1217	21012CB	12	5.29	4.81	4.33	3.89
607-1237	21014CB	14	7.05	6.34	5.71	5.14
607-1257	21016CB	16	8.20	7.38	6.64	5.98
607-1277	21018CB	18	9.34	8.40	7.56	6.81
607-1297	21020CB	20	10.36	9.32	8.39	7.55
607-1317	21024CB	24	12.30	11.07	9.96	8.97

Series 76000. High barrier, closed back construction. $\frac{3}{8}$ " terminal centers. 20 amp current rating (UL). **Voltage Rating, rms:** UL recognized Class B-250; Class C-150. **CSA Certified:** 300 @ 20 amps. **Withstand Volts, rms:** 10500. **Insulator Material:** thermoplastic, glass filled. UL temp. index 95°C. UL flame retardant rating 94V-0. Black. **Width x Height:** $\frac{7}{8}$ " x $\frac{9}{16}$ ". **Max. AWG:** 14. **Terminal Screws:** No. 6-32 x $\frac{1}{4}$ " binding head screws. Steel, cadmium plated.

607-1112	76002	2	.76	.69	.59	.53
607-1122	76003	3	1.00	.90	.77	.69
607-1132	76004	4	1.08	.94	.80	.72
607-1142	76005	5	1.66	1.42	1.22	1.10
607-1152	76006	6	1.65	1.42	1.22	1.10
607-1162	76007	7	2.04	1.75	1.49	1.35
607-1172	76008	8	2.06	1.78	1.52	1.37
607-1182	76009	9	2.52	2.16	1.94	1.75
607-1192	76010	10	2.35	2.04	1.84	1.65
607-1212	76012	12	2.66	2.30	2.07	1.86
607-1232	76014	14	3.73	3.20	2.88	2.59
607-1242	76015	15	4.04	3.46	3.12	2.81
607-1252	76016	16	4.19	3.59	3.23	2.91
607-1272	76018	18	4.40	3.96	3.56	3.21
607-1292	76020	20	4.94	4.45	4.01	3.61
607-1312	76022	22	5.25	4.73	4.26	3.83
607-1332	76024	24	5.84	5.26	4.73	4.26
607-1352	76026	26	6.48	5.83	5.25	4.72
607-1372	76028	28	6.98	6.29	5.66	5.09
607-1392	76030	30	7.21	6.49	5.84	5.26

Series 78000. Closed back construction. $\frac{7}{16}$ " terminal centers. 20 amp current rating. **Voltage Rating:** UL recognized, Class B-250; Class C-300. **CSA Certified:** 300 @ 20 amps. **Withstand Volts, rms:** 7500. **Insulator Material:** same as Series 77000, left. **Width x Height:** $1\frac{1}{8}$ " x $\frac{35}{64}$ ". **Max. AWG:** 14. **Terminal Screws:** Same as Series 77000.

607-1114	78002	2	.92	.83	.71	.64
607-1124	78003	3	1.23	1.05	.90	.81
607-1134	78004	4	1.45	1.25	1.07	.96
607-1144	78005	5	1.63	1.41	1.21	1.09
607-1154	78006	6	2.14	1.83	1.65	1.49
607-1164	78007	7	2.58	2.22	2.00	1.80
607-1174	78008	8	2.32	2.01	1.81	1.63
607-1184	78009	9	2.95	2.53	2.27	2.05
607-1194	78010	10	3.31	2.83	2.55	2.29
607-1204	78011	11	3.77	3.23	2.91	2.62
607-1214	78012	12	3.97	3.40	3.06	2.76
607-1234	78014	14	4.40	3.96	3.56	3.21
607-1244	78015	15	4.68	4.21	3.79	3.41
607-1254	78016	16	4.89	4.40	3.96	3.56
607-1274	78018	18	5.37	4.83	4.35	3.91
607-1294	78020	20	5.85	5.27	4.74	4.27
607-1314	78022	22	6.52	5.87	5.28	4.75
607-1334	78024	24	7.04	6.34	5.70	5.13
607-1354	78026	26	7.66	6.89	6.20	5.58
607-1374	78028	28	8.28	7.45	6.71	6.04
607-1394	78030	30	8.69	7.82	7.04	6.34

Accessories

Insulating/Marker Strips

Non-feed-thru. Vulcanized fiber. **Marker Strip Width:** 76000 and 77000, 1.13" (28.6mm); 78000, 1.31" (33.3mm). **Imprinting Character Height:** 0.13" (3.2mm).

Stock No.	Mfr.'s Type	For Series	EACH			
			1-24	25-49	50-99	100-249
607-1054	VF-14004-101	76000, 77000	.49	.43	.37	.34
607-1056	VF-14006-101	76000, 77000	.55	.49	.42	.38
607-1058	VF-14008-101	76000, 77000	.58	.52	.43	.36
607-1060	VF-14010-101	76000, 77000	.54	.49	.41	.34
607-1062	VF-14012-101	76000, 77000	.56	.51	.42	.35
607-1064	VF-14014-101	76000, 77000	.76	.69	.58	.53
607-1066	VF-14016-101	76000, 77000	.79	.71	.60	.54
607-1068	VF-14020-101	76000, 77000	.73	.66	.55	.46
607-1055	VF-18004-101	78000	.52	.47	.40	.36
607-1057	VF-18006-101	78000	.63	.57	.48	.44
607-1059	VF-18008-101	78000	.68	.60	.52	.47
607-1061	VF-18010-101	78000	.69	.63	.56	.51
607-1063	VF-18012-101	78000	.87	.78	.66	.60
607-1065	VF-18014-101	78000	.77	.70	.58	.49
607-1067	VF-18016-101	78000	.94	.84	.72	.65
607-1071	VF-18020-101	78000	1.52	1.31	1.12	1.01

For Series 76000 and 77000

Stock No.	Mfr.'s Type	For Series	EACH	
			1-49	50-99
607-1000	141	One-sided solder terminal	.10	.09
607-1002	142	Two-sided solder terminal	.13	.12
607-1003	143	Short solder bottom terminal	.07	.06
607-1011	1431	Hole mount jumper (77000)	.08	.07
607-1012	1432	Slotted jumper (77000)	.08	.07
607-1031	7631	Hole mount jumper (76000)	.12	.10
607-1032	7632	Slotted jumper (76000)	.12	.10
607-1033	7233/2	Edge on jumper	.10	.09

For Series 78000

607-1043	7833	Edge on jumper	.18	.16
607-1081	1831	Hole mount jumper	.09	.08
607-1082	1832	Slotted jumper	.09	.08
607-1083	183	Short solder bottom terminal	.10	.09

Series 3300 Connectors



Series 3300 connectors are interchangeable with Series 300 types and are designed for panel and cable mounting. **Specifications.** Current Rating (individual contacts): 10 amps. **Voltage Rating, rms:** 750 volts, 250 volts (UL). **Plug Contact Material:** brass, cadmium plated. **Socket Contact:** phosphor bronze, cadmium plated. **Pre-grounding Contact Material:** heavy duty plated brass. **Base Insulating Material:** high-grade

phenolic, black. **Backshell:** thermoplastic. **Finishes:** Cable clamp, screws, latch and keeper, angle bracket — steel, bright nickel electroplate. Deep Bracket — steel, baked black wrinkle enamel finish over zinc chromate plating. *Polarized.

Plugs (Cable Clamp Top) (Fig. A)

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-249
607-0402	P-3302-CCT	2	2.95	2.53	2.28	2.05
607-0403	P-3303-CCT	3	3.18	2.73	2.46	2.21
607-0404	P-3304-CCT	4	3.34	2.86	2.58	2.32
607-0406	P-3306-CCT	6	3.68	3.15	2.84	2.55
607-0407	P-3306-8-CCT*	6	3.86	3.31	2.98	2.68
607-0408	P-3308-CCT	8	4.04	3.47	3.12	2.81
607-0412	P-3312-CCT	12	4.56	4.10	3.69	3.33
607-0422	PG-3312-CCE	12	8.76	7.88	7.09	6.38

Sockets with Keeper (Fig. D)

For connecting two cable-mounted connectors.

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-249
607-0602	S-3302-CCT-K	2	4.50	4.05	3.65	3.28
607-0604	S-3304-CCT-K	4	5.20	4.68	4.21	3.79
607-0606	S-3306-CCT-K	6	5.70	5.13	4.62	4.15
607-0607	S-3306-8-CCT-K*	6	5.98	5.38	4.84	4.36
607-0608	S-3308-CCT-K	8	6.41	5.77	5.20	4.68
607-0612	S-3312-CCT-K	12	7.74	6.45	5.53	4.90

Sockets (Cable Clamp Top) (Fig. B)

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-249
607-0552	S-3302-CCT	2	3.19	2.74	2.46	2.22
607-0553	S-3303-CCT	3	3.36	2.88	2.59	2.33
607-0554	S-3304-CCT	4	3.54	3.03	2.73	2.46
607-0556	S-3306-CCT	6	4.04	3.46	3.12	2.81
607-0557	S-3306-8-CCT*	6	4.04	3.64	3.28	2.95
607-0558	S-3308-CCT	8	4.28	3.85	3.47	3.12
607-0562	S-3312-CCT	12	5.53	4.98	4.48	4.03

Plugs with Panel Latch (Fig. C). For locking a cable-mounted connector with latch to a panel-mounted connector. Used with AB angle chassis up to 1/16" thick, max.

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-249
607-0442	P-3302-CCT-L	2	4.25	3.82	2.88	3.10
607-0443	P-3303-CCT-L	3	4.79	4.31	3.39	3.49
607-0444	P-3304-CCT-L	4	4.67	4.20	3.17	3.40
607-0446	P-3306-CCT-L	6	4.94	4.45	3.17	3.61
607-0447	P-3306-8-CCT-L*	6	5.20	4.68	3.53	3.79
607-0448	P-3308-CCT-L	8	5.19	4.68	3.52	3.79
607-0452	P-3312-CCT-L	12	6.13	5.51	4.60	4.47

Sockets with Deep Brackets (Fig. E)

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-249
607-0666	S-3306-DB	6	4.66	4.19	3.77	3.40
607-0667	S-3306-8-DB*	6	4.89	4.40	3.96	3.56
607-0672	S-3312-DB	12	6.62	5.95	5.36	4.82

Sockets with Angle Brackets (Fig. F)

Stock No.	Mfr.'s Type	No. of Contacts	EACH			
			1-24	25-49	50-99	100-249
607-0632	S-3302-AB	2	2.03	1.74	1.48	1.34
607-0633	S-3303-AB	3	2.11	1.81	1.55	1.39
607-0634	S-3304-AB	4	2.10	1.80	1.62	1.46
607-0636	S-3306-AB	6	2.54	2.18	1.96	1.77
607-0637	S-3306-8-AB*	6	2.67	2.29	2.06	1.85
607-0638	S-3308-AB	8	3.06	2.62	2.36	2.13
607-0642	S-3312-AB	12	4.01	3.61	3.25	2.92

Series 5400 15 AMP

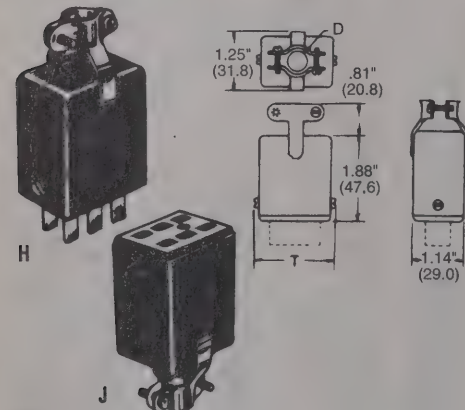
Cable clamp top connectors are designed for use in panel and cable mounting applications. They are interchangeable with Series 2400 or 400 type connectors. **Current Rating (individual contacts):** 15 amps. **Voltage Rating:** 1750 volts; 250 volts (UL rated at 250V, AC or DC max. between adjacent contacts). **Plug Contact Material:** brass, cadmium plated. **Socket Contact:** phosphor bronze, cadmium plated. **Pre-grounding Contact Rating:** up to 30 amps at rated voltages. **Pre-grounding Contact Material:** heavy-duty plated brass. **Base Insulating Material:** high-grade phenolic, black. Thermoplastic backshell. Includes steel, bright nickel electroplated cable clamp and screws. UL recognized, File No. E34763. CSA certified, File No. 22156.

Plugs (Fig. H)

Stock No.	Mfr.'s Type	No. of Contacts	Dim. D-T	EACH			
				1-24	25-49	50-99	100-249
607-0754	P-5404-CCT	4	.44" 1.23"	6.49	5.84	5.26	4.73
607-0756	P-5406-CCT	6	.44" 1.67"	7.35	6.61	5.95	5.36
607-0758	P-5408-CCT	8	.56" 2.11"	8.04	7.24	6.51	5.86
607-0762	P-5412-CCT	12	.63" 2.98"	9.30	8.37	7.53	6.78

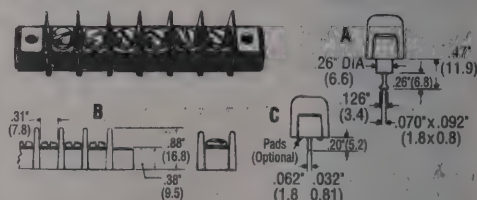
Sockets (Fig. J)

Stock No.	Mfr.'s Type	No. of Contacts	Dim. D-T	EACH			
				1-24	25-49	50-99	100-249
607-0854	S-5404-CCT	4	.44" 1.23"	7.03	6.32	5.69	5.12
607-0856	S-5406-CCT	6	.44" 1.67"	7.81	7.02	6.32	5.69
607-0858	S-5408-CCT	8	.56" 2.11"	8.64	7.78	7.00	6.30
607-0862	S-5412-CCT	12	.63" 2.98"	10.31	9.28	8.35	7.52



Series 72000 Single Row Terminal Strips

Single row types have the terminals imbedded into the walls of the insulator on both sides. This provides a pull-out strength over twice as great as competitive designs. High barrier construction offer lower overall height. **Specifications.** **Terminal Centers:** 3/8". **Current Rating (UL):** 20 amps. **Voltage Rating (rms):** UL recognized, Class B: 250; Class C: 150. **CSA Certified:** 300 @ 20 amps. **Withstand Volts, rms:** 10500. **Insulator Mat.:** thermoplastic, glass-filled. UL temp. index, 95°C. UL flame retardant rating 94V-0. **Black. W x H:** 5/8 x 21/32". **Max. AWG:** 14. **Terminal Screws:** No. 6-32 x 1/4" binding head screws. Steel, cadmium plated. PC bottom terminals are brass, bright electro-tinned.



Insulated Solder Turret — Fig. A

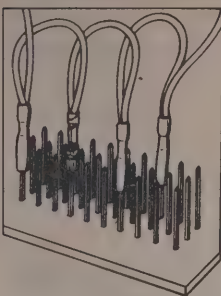
Stock No.	Mfr.'s Type	No. of Circuits	EACH			
			1-24	25-49	50-99	100-249
607-0922	72202	2	.99	.91	.77	.69
607-0923	72203	3	1.39	1.20	1.02	.92
607-0924	72204	4	1.72	1.48	1.27	1.15
607-0926	72206	6	2.31	2.00	1.71	1.54
607-0928	72208	8	2.80	2.43	2.18	1.97
607-0930	72210	10	4.02	3.45	3.10	2.79
607-0932	72212	12	4.00	3.47	3.12	2.81

Closed Black Type — Fig. B

Stock No.	Mfr.'s Type	No. of Circuits	EACH			
			1-24	25-49	50-99	100-249
607-0902	72102	2	.98	.89	.75	.68
607-0904	72104	4	1.55	1.34	1.14	1.03
607-0906	72106	6	2.12	1.82	1.56	1.40
607-0908	72108	8	2.56	2.20	1.98	1.78
607-0910	72110	10	3.11	2.67	2.40	2.16
607-0912	72112	12	3.59	3.08	2.77	2.49

PC Bottom Terminal Type (.20" L x .062" x .032") — Fig. C

Stock No.	Mfr.'s Type	No. of Circuits	EACH			
			1-24	25-49	50-99	100-249
607-0952	72502	2	.90	.81	.69	.62
607-0954	72504	4	1.46	1.26	1.08	.97
607-0956	72506	6	2.03	1.75	1.49	1.35
607-0958	72508	8	2.46	2.12	1.91	1.72
607-0960	72510	10	3.50	3.00	2.70	2.43
607-0962	72512	12	3.49	3.02	2.71	2.44



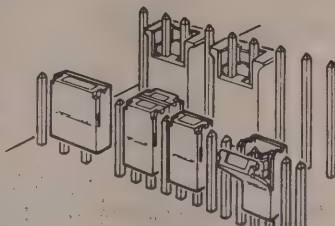
Daisy Chain Jumpers

- MAXI-PV contacts provide constant high electrical and mechanical reliability after repeated cycles
- Board As Shown Not Included With Jumpers

Eliminate wire measuring, stripping, soldering or hand-tool terminating. Maxi-PV contacts provide constant high electrical and mechanical reliability after repeated cycles. Contact has brass body and beryllium copper spring. **Contact area:** 1µm (40 µ inch) gold over nickel. **Reminder:** Gold flash. **Current rating:** 2.5 A. **Resistance:** 4 mΩ maximum. **Insertion Force (max.):** 4.30 N (430 gf) with withdrawal force (min.) 0.75N(75gf). **Temperature range:** -65°C to +105°C. AWG 28 stranded copper wire conductor with PVC insulation. PVC shrinkable tubing. **Packaging:** 250 contacts per reel. **518-0001.** 47254-000PER REEL 232.87

Bergcon® System Mini Jump™ Jumpers

65474 Series. Jumpers feature high density packaging, stackable on 0.100 inch spacing. Offer single row, two positions per row. For bussing, programming and switch replacement. Replace conventional printed circuit board switches. Virtually eliminates accidental de-programming. Mate to 0.025 inch square and round pins. Dual metal PV contact design provide excellent retention after repeated cycling. Available in glass-filled thermoplastic polyester housing, color blue. Gold flash over nickel finish. **Insulation resistance:** 1x10⁵ MΩ minimum. **Temperature range:** -65°C to +125°C. Contact has a brass or cupro nickel body and a beryllium copper spring. Rated at 3A maximum, with initial resistance of 11 mΩ maximum, 15 mΩ maximum after tests. UL recognized, CSA



Stock No.	Mfr.'s Type	Plating	EACH	
			1-99	100-999
518-0005	65474-002	100 µ in. tin-lead over nickel	.34	.30
518-0009	65474-010	30 µ in. gold over nickel	.42	.38

Low Profile Jumper System

- Pins shown are not included with jumper

68786 Series. Economy jumper system applicable for bussing, programming, and switch replacement. Low profile permits high-density packaging. Dual beam contact. Offer 0.100 inch spacing and two positions standard. Housed in thermoplastic polyester rated UL94V-0, color black. **Insulation resistance:** 50,000 MΩ minimum. **Temperature range:** -55°C to +120°C. **Withstanding voltage:** 750 Vrms. **Contact current rating:** 2.5 A maximum. **Resistance:** 15 mΩ maximum. Mates with 0.025 inch square pin. Contact made of phosphor-bronze. **Type 68786-202** is plated 30µ inch gold; **68786-302**, 100µ inch tin/lead.



518-0021. 68786-202. 1-99.....EACH	.16	100-999.....EACH	.14
518-0022. 68786-302. 1-99.....EACH	.14	100-999.....EACH	.12

Male Crimp-To-Wire Pins

- Crimp-to-Wire Pin shown installed in Mini-Latch Housing

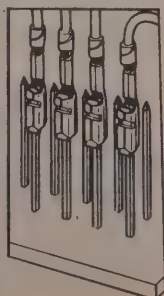
Crimp-to-Wire Pin fits in mini-latch housings. Mates to MiniPV receptacles. 0.100 inch minimum spacing. Brass contact and gold finish. **Current rating:** 3 A continuous depending on wire size. **Resistance:** 5 mΩ maximum. **Temperature range:** -65°C to +125°C. UL recognized.

Stock No.	Mfr.'s Type	For AWG	EACH	
			1-99	100-999
518-0100	48115-000	28-32	.58	.47
518-0101	48116-000	22-26	.58	.47
518-0102	48117-000	18-20	.58	.47

Bergcon® System Crimp-To-Wire MaxiPV™ Receptacles

Two-piece design provides low resistance, high pressure, gas-light connection. Mate to 0.025 inch round or square pins. 0.125 inch spacing. Contact has brass body, beryllium copper spring and gold finish. **Current rating:** 5 A continuous depending on wire size. **Type 46227** accepts AWG 18 or 20. **Type 46237** accepts AWG 22, 24, or 26. **Resistance:** 4mΩ maximum. **Temperature range:** -65°C to +125°C. Come with standard spring force, recommended for Maxi-Latch housing 12 through 56 positions. UL recognized, CSA certified.

518-0120.46227-000. 1-99.....EACH	.44
100-999.....EACH	.36
518-0121.46237-000. 1-99.....EACH	.44
100-999.....EACH	.36



Bergcon® System Polarization Plug



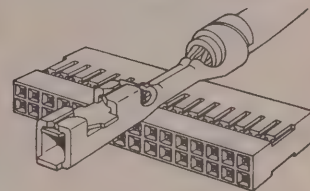
Polarization plugs for mini and maxi latch housings are made of nylon and come in white. **Temperature range:** -40° C to +105 °C. UL recognized.

518-0025. 65307-001 1-99.....EACH	.15	100-999.....EACH	.14
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Bergcon® Crimp-To-Wire MiniPV™ Receptacles

- Mini-PV Receptacle shown with Latch Housing

Mate to 0.019 inch and 0.025 inch round or square pins. Dual-metal contact design provides constant retention force after repeated cycles. These female receptacles have beryllium-copper spring and brass body. Offer superior electrical and mechanical characteristics. Standard spring force is recommended for use in Mini-Latch housings 40-72 positions. High spring force for Mini-Latch housings

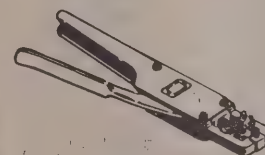


Stock No.	Mfr.'s Type	AWG	Spring Force	Plating*	EACH	
					1-99	100-999
518-0129	47716-000	18, 20	High	3	.15	.13
518-0130	48266-000	18, 20	Standard	1	.30	.27
518-0003	47750-000	22, 24, 26	Ultra-High	3	.15	.13
518-9997	47712-000	22, 24, 26	High	4	.36	.32
518-0132	48234-000	22, 24, 26	High	1	.29	.26
518-0131	48235-000	22, 24, 26	Standard	1	.29	.26
518-0134	47747-000	22, 24, 26	Standard	3	.15	.13
518-0135	47748-000	28, 30, 32	High	3	.15	.13
518-0133	48252-000	28, 30, 32	Standard	2	.29	.26

*1=30 µ inch gold over nickel with gold flash; 2=15 µ inch gold over nickel with gold flash; 3=100 µ inch tin-lead; 4= 40 µ inch gold over nickel with gold flash.

Handtools

Lightweight, rugged hand tools have ratchet-action handle that assures complete crimp cycle. For application on crimp-to-wire PV receptacles and pins.

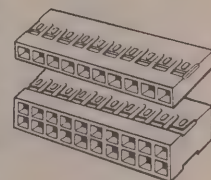


HT Series

Stock No.	Mfr.'s Type	Description	EACH
518-0050	HT-73	Mini PV, 18-20 AWG	524.64
518-0051	HT-80	PV Removal Tool	1.17
518-0052	HT-95	Mini PV, 22-32 AWG	545.23
518-0054	HT-49	Mini PV, 18-20 AWG	563.26
518-0055	HT-48	Mini PV, 22-26 AWG	542.64
518-0056	HT-102	Pin contacts; 22-32 AWG	543.52
518-0057	HT-110	Pin contacts; 18-20 AWG	563.92

65039/65043 Series Mini-Latch PV™ Housing

For use with dual metal Mini-PV contacts and crimp-to-wire pins. Allows simultaneous connections of Mini-PV terminated conductors on 0.100" x 0.100" or 0.100" x 0.200" double row, to accommodate Mini-PV receptacles or crimp-to-wire male pins. Accepts crimp-to-wire Mini-PV range AWG 22-36, and crimp-to-wire pin AWG 22-32. Made of modified polyphenylene oxide rated UL 94V-1, color Black. **Insulation resistance:** 1 x 10⁵ MΩ minimum. **Temperature range:** -40°C to +105°C. **Withstanding voltage:** 1000 Vrms at sea level. **Latching force:** 6.5 lbs. minimum per position. Optional polarization plug.

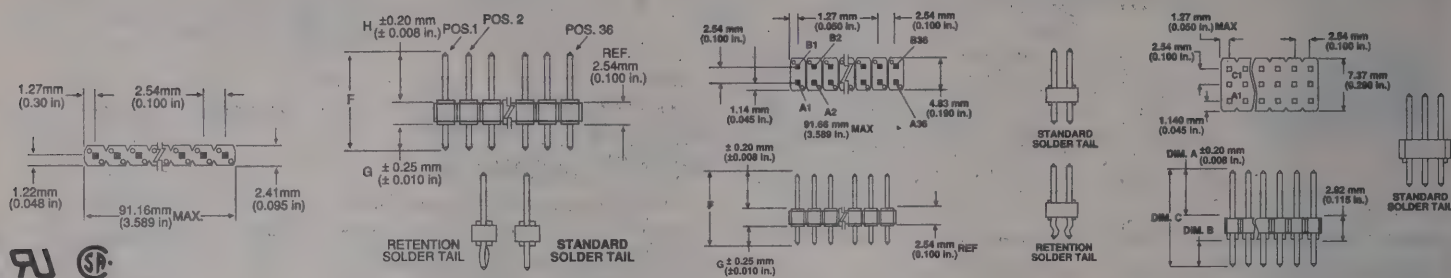


Single Row, 0.100 Inch Centers

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—Inches	EACH	
				1-99	100-499
518-0150	65039-035	2	0.200	.49	.43
518-0151	65039-034	3	0.300	.53	.47
518-0152	65039-033	4	0.400	.60	.53
518-0153	65039-032	5	0.500	.66	.58
518-0154	65039-031	6	0.600	.70	.62
518-0155	65039-030	7	0.700	.80	.70
518-0156	65039-029	8	0.800	.89	.78
518-0157	65039-027	10	1.000	.99	.87

Double Row, 0.100 x 0.100 Inch Centers

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—Inches	EACH	
				1-99	100-499
518-0170	65043-035	4	0.200	.89	.78
518-0171	65043-034	6	0.300	.89	.78
518-0172	65043-033	8	0.400	1.05	.92
518-0173	65043-032	10	0.500	1.17	1.03
518-0174	65043-031	12	0.600	1.28	1.13
518-0175	65043-030	14	0.700	1.53	1.31
518-0176	65043-029	16	0.800	1.58	1.39
518-0177	65043-027	20	1.000	1.65	1.45
518-0178	65043-017	40	2.000	2.96	2.63

Bergstik® II Headers


"Retentive sticks" headers have optional retention tail that provides 0.5 lb. minimum retention prior to soldering on 0.062 inch thick p.c. boards. Can be manually broken to the desired length. Drawn 0.025 inch square wire presents four surfaces suitable for the wrapping. Pins positioned on 0.100" centers. Stand-offs allow cleaning to eliminate soldering contaminants. Header body made of glass-filled nylon rated UL 94V-0, color black. **Insulation Resistance:** 500 MΩ minimum. **Temperature Range:** -65°C to +105°C. **Withstanding Voltage:** 1500 Vrms at sea level. Phosphor bronze pin, current rating, 3 A maximum. Retention force to body, 2 lbs. in either direction. UL recognized, CSA certified.

Straight Single Row Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions			Plating	EACH	
			"H" Mating End	"G" Tail End	"F" Overall Length		1-99	100-499
518-1046	68000-236	36	.230	.095	.425	2	2.89	2.57
518-1048	68000-436	36	.230	.095	.425	4	1.18	1.03
518-1052	68001-236	36	.230	.120	.450	2	2.89	2.57
518-1054	68001-436	36	.230	.120	.450	4	1.18	1.03
518-1058	68002-236	36	.230	.150	.480	2	2.91	2.60
518-1060	68002-436	36	.230	.150	.480	4	1.45	1.28
518-1064	78511-236	36	.318	.120	.538	2	2.97	2.63
518-1066	78511-436	36	.318	.120	.538	4	1.18	1.03

Straight Double Row Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	"H" Mating End	"G" Tail End	"F" Overall Length	Plating	1-99	100-499
518-1020	67996-272	72	.230	.095	.425	2	5.74	5.10
518-1022	67996-472	72	.230	.095	.425	4	2.35	2.05
518-1026	67997-272	72	.230	.120	.450	2	5.74	5.10
518-1028	67997-472	72	.230	.120	.450	4	2.35	2.05

Straight Triple Row Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions			Plating	EACH	
			"H" Mating End	"G" Tail End	"C" Bend Dist. From Plastic		1-99	100-499
518-1087	68702-236	108	.230	.120		2	13.59	12.27

Right Angle Single Row Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions			Plating	EACH	
			"H" Mating End	"G" Tail End	"C" Bend Dist. From Plastic		1-99	100-499
518-1089	68015-236	36	.230	.090	.060	2	2.97	2.63
518-1091	68015-436	36	.230	.090	.060	4	1.18	1.03
518-1090	68016-236	36	.230	.120	.060	2	2.97	2.63
518-1092	68016-436	36	.230	.120	.060	4	1.18	1.03

Right Angle Double Row Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions			Plating	EACH	
			"H" Mating End	"G" Tail End	"C" Bend Dist. From Plastic		1-99	100-499
518-1100	68020-272	72	.230	.095		2	6.00	5.26
518-1102	68020-472	72	.230	.095		4	2.35	2.05
518-1103	68021-272	72	.230	.120		2	6.00	5.29
518-1105	68021-472	72	.230	.120		4	2.35	2.05
518-1107	79257-272	72	.230	.120		2	6.00	5.32
518-1124	79257-472	72	.230	.120		4	2.86	2.50

Plating Codes

2 — 15 μ inch gold over 50 μ inch nickel

4 — 150 μ inch tin-lead

6 — 30 μ inch GXT™ with gold flash over 50 μ inch nickel

Straight Single Row Retentive Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions			Plating	EACH	
			"H" Mating End	"G" Tail End	"C" Bend Dist. From Plastic		1-99	100-499
518-1070	69190-402	2	.230	.120		4	.18	.16
518-1072	69190-403	3	.230	.120		4	.20	.19
518-1074	69190-404	4	.230	.120		4	.28	.26
518-1078	69190-410	10	.230	.120		4	.51	.45
518-1071	69190-202	2	.230	.120		2	.41	.35
518-1073	69190-203	3	.230	.120		2	.48	.42
518-1075	69190-204	4	.230	.120		2	.59	.51
518-1076	69190-210	10	.230	.120		2	1.07	.93
518-1088	69190-610	10	.230	.120		6	.94	.83

Straight Double Row Retentive Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	"H" Mating End	"G" Tail End	"C" Bend Dist. From Plastic	Plating	1-99	100-499
518-1000	69192-404	4	.230	.120		4	.26	.22
518-1002	69192-406	6	.230	.120		4	.33	.29
518-1004	69192-408	8	.230	.120		4	.43	.30
518-1008	69192-420	20	.230	.120		4	.99	.87
518-1001	69192-204	4	.230	.120		2	.56	.50
518-1003	69192-206	6	.230	.120		2	.66	.59
518-1005	69192-208	8	.230	.120		2	.87	.77
518-1007	69192-220	20	.230	.120		2	2.01	1.76

Right Angle Single Row Retentive Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions			Plating	EACH	
			"H" Mating End	"G" Tail End	"C" Bend Dist. From Plastic		1-99	100-499
518-1109	69191-402	2	.230	.120	.060	4	.18	.16
518-1104	69191-403	3	.230	.120	.060	4	.23	.19
518-1106	69191-404	4	.230	.120	.060	4	.28	.26
518-1108	69191-405	5	.230	.120	.060	4	.33	.29
518-1110	69191-410	10	.230	.120	.060	4	.51	.45
518-1111	69191-202	2	.230	.120	.060	2	.41	.35
518-1112	69191-203	3	.230	.120	.060	2	.56	.48
518-1113	69191-205	5	.230	.120	.060	2	.66	.58
518-1114	69191-210	10	.230	.120	.060	2	1.12	1.00

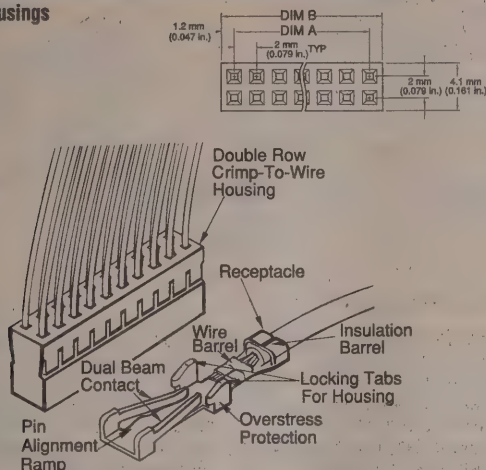
Right Angle Double Row Retentive Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions			Plating	EACH	
			"H" Mating End	"G" Tail End	"C" Bend Dist. From Plastic		1-99	100-499
518-1250	69193-404	4	.230	.120		4	.26	.23
518-1251	69193-408	8	.230	.120		4	.43	.39
518-1252	69193-420	20	.230	.120		4	.99	.88
518-1253	78299-204	4	.230	.120		2	.56	.50
518-1254	78299-208	8	.230	.120		2	.92	.82
518-1255	78299-220	20	.230	.120		2	2.04	1.80

Minitek II System, PLCC Sockets, and PCB Modular Jacks

Minitek II 2.0 mm (0.079") Connector System

Crimp-to-Wire Housings



Minitek II is a 2 mm (.079 in.) pitch connector system ideal for dense packaging board to board and wire to board interconnection.

Crimp to Wire Housings (Double Row)

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		EACH	
			A	B	1-99	100-499
518-5099	69307-004	4	0.079"	0.173"	.26	.24
518-5100	69307-008	8	0.236"	0.331"	.25	.23
518-5105	69307-010	10	0.315"	0.409"	.29	.26
518-5115	69307-014	14	0.472"	0.567"	.34	.31
518-5125	69307-020	20	0.709"	0.803"	.40	.36
518-9984	69307-050	50	1.890"	1.984"	.76	.69

Receptacle Contacts

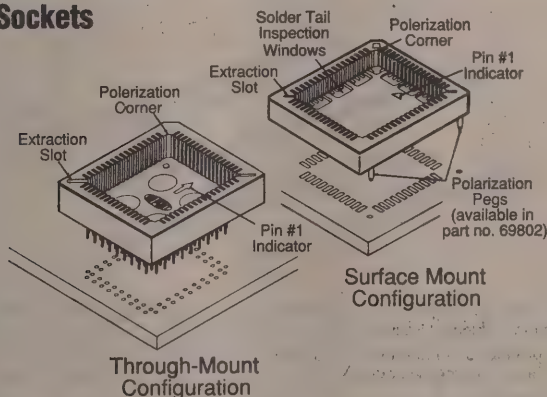
Stock No.	Mfr.'s Type	Wire AWG	Plating	PER PK./1000
518-5130	77138-001	26-30	8 Micro In. (Min.) Gold over Nickel	64.75

Hand-Crimp Tools

Type HT-151. Crimps 26-30 AWG.

518-5140. HT-151. EACH 728.57

PLCC Sockets



The plastic leaded chip carrier sockets (PLCC) are designed to carry JEDEC type A chips on 1.27 mm (.050") centerlines. They are available in surface mount and through mount configurations of 20, 28, 32, 44, 52, 68, 84, and 100 position. The socket's low profile design minimizes overall height. Contacts are tin-lead plated phosphor-bronze.

PCB II Modular Jacks

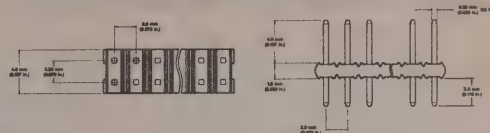
(.100 x .100 in.) centerlines. Vertical and horizontal configurations.

Stock No.	Mfr.'s Type	No. of Pos.	Configuration	EACH	
				1-99	100-499
518-5070	68897-001	4	Horizontal	.68	.62
518-5075	69253-001	4	Vertical	.76	.69
518-5080	68898-001	6	Horizontal	.78	.71
518-5085	69254-001	6	Vertical	.78	.71
518-5090	68899-001	8	Horizontal	.88	.80
518-5095	69255-001	8	Vertical	.88	.80

Straight Headers

Straight Headers (Double Row)

Housing Material: Glass filled nylon. Contact Plating: 8 micros in. gold.



Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-5155	86451-004	2 x 2	.21	.17
518-5160	86451-008	2 x 4	.39	.32
518-5165	86451-010	2 x 5	.50	.41
518-5175	86451-016	2 x 8	.78	.65
518-5176	86451-020	2 x 10	.98	.82
518-5181	86451-044	2 x 22	2.17	1.81
518-9987	86451-050	2 x 25	2.46	2.05

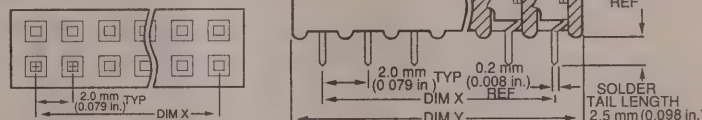
Shunts

Type 86730-001. Minitek II Shunt. Height: .138". Plating: 8 micro in. (min.) over gold plate. Color: Black.

518-5150. 86730-001. EACH .20

Vertical Card Connector (Double Row)

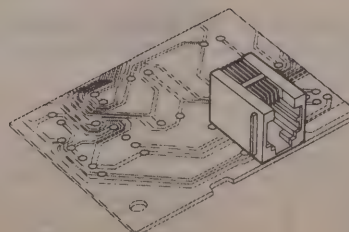
Housing Material: Glass filled PBT. Contact Plating: 8 micros in. gold.

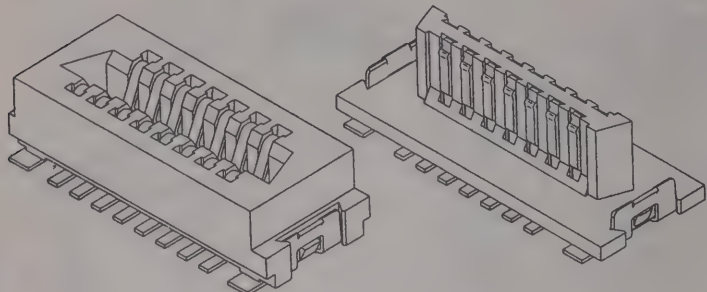


Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-5225	86455-004	2 x 2	.36	.30
518-5226	86455-008	2 x 4	.71	.56
518-5230	86455-016	2 x 8	1.36	1.11
518-5235	86455-020	2 x 10	1.51	1.21
518-5240	86455-022	2 x 11	1.61	1.32
518-5245	86455-040	2 x 20	2.92	2.39
518-5250	86455-044	2 x 22	3.33	2.66
518-5265*	86455-144	2 x 22	3.58	2.93
518-5285**	86455-344	2 x 22	3.38	2.76
518-5281	86455-050	2 x 25	3.78	3.02

*Contact Plating: 30 micro in. gold. **Contact Plating: 15 micro in. gold.

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH	
				1-99	100-499
518-5021	69394-020	20	Through Mount	1.51	1.26
518-5022	69394-028	28	Through Mount	1.51	1.26
518-5025	69394-032	32	Through Mount	1.64	1.36
518-5026	69394-044	44	Through Mount	1.88	1.57
518-5027	69394-052	52	Through Mount	2.00	1.67
518-5030	69394-068	68	Through Mount	1.60	1.33
518-5035	69394-084	84	Through Mount	1.92	1.60
518-5036	69394-100	100	Through Mount	3.43	2.86
518-5037	69802-020	20	Surface Mount with Locating Peg	1.18	.99
518-5038	69802-028	28	Surface Mount with Locating Peg	1.43	1.19
518-5040	69802-032	32	Surface Mount with Locating Peg	1.35	1.12
518-5041	69802-044	44	Surface Mount with Locating Peg	1.80	1.50
518-5042	69802-052	52	Surface Mount with Locating Peg	2.28	1.90
518-5045	69802-068	68	Surface Mount with Locating Peg	2.65	2.21
518-5050	69802-084	84	Surface Mount with Locating Peg	3.06	2.55
518-5052	69802-120	20	Surface Mount without Locating Peg	1.18	.99
518-5054	69802-128	28	Surface Mount without Locating Peg	1.43	1.19
518-5055	69802-132	32	Surface Mount without Locating Peg	1.35	1.12
518-5057	69802-144	44	Surface Mount without Locating Peg	1.80	1.50
518-5058	69802-152	52	Surface Mount without Locating Peg	2.28	1.90
518-5060	69802-168	68	Surface Mount without Locating Peg	2.65	2.21
518-5065	69802-184	84	Surface Mount without Locating Peg	3.06	2.55



CONAN™ 1.0 mm Pitch Connector System

Receptacle
Header
► Product Users: Manufacturers of Pagers, Cellular Phones, Notebook Computers, and Add-In Memory Boards

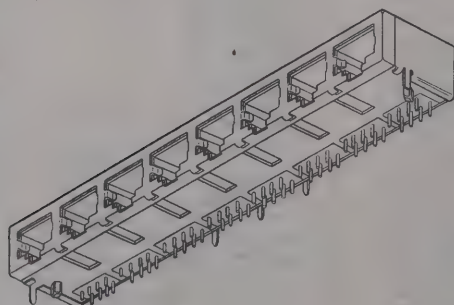
Low-profile, surface-mount connectors for close stacking of parallel circuit boards. Options available for 4.15 mm, 4.5 mm, 5.0 mm, 6.0 mm, or 7.0 mm mated connector height. Connectors feature reliable selectively-plated, blade-on-beam contacts on 1.0 mm pitch. **Current Rating:** 1 amp per contact. UL recognized, CSA certified.

Receptacles

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
518-7000	91930-21125	25	2.81	2.08	1.79
518-7005	91930-21141	41	4.14	3.07	2.63
518-7010	91930-21151	51	4.87	3.61	3.10
518-7015	91930-21169	69	6.36	4.71	4.04

Headers

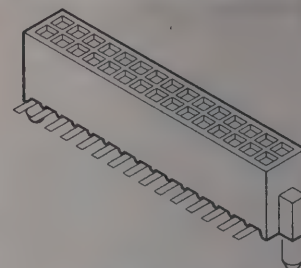
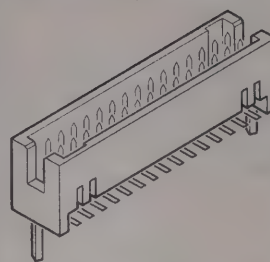
Stock No.	Mfr.'s Type	No. of Positions	Stacking Height	EACH		
				1-99	100-499	500-999
518-7020	91910-21425	25	6.00 mm	2.73	2.02	1.73
518-7025	91910-21525	25	7.00 mm	2.73	2.02	1.73
518-7030	91910-21141	41	4.15 mm	3.66	2.71	2.32
518-7035	91910-21441	41	6.00 mm	4.02	2.98	2.56
518-7040	91910-21541	41	7.00 mm	4.02	2.98	2.56
518-7045	91910-21151	51	4.15 mm	4.31	3.19	2.73
518-7050	91919-21569	69	7.00 mm	6.17	4.57	3.92

Gang Jack Right Angle P.C.B. Assembly


- Low Profile Style with Snap-In Peg
- Additional Ports, Footprints, and Unshielded Versions Available As Special Order Items

Insulation Resistance: 10 megohms minimum. **Dielectric Withstanding Volts:** 1000 volts RMS 60 Hz. **Current Ratings:** 2.0 amps DC. **Housing Material:** Thermoplastic. **Shielding:** .25 mm thick, copper alloy tin plated.

Stock No.	Mfr.'s Type	No. of Positions	Description	EACH	
				1-24	25-49
518-7105	94710-002	8	2 Port Right Angle Shielded	2.72	2.45
518-7110	94710-004	8	4 Port Right Angle Shielded	4.49	4.05
518-7115	94710-006	8	6 Port Right Angle Shielded	6.30	5.70
518-7120	94710-008	8	8 Port Right Angle Shielded	8.04	7.27

RIB-CAGE™ II 0.050" (1.27 mm) Surface-Mount Connectors

Shrouded Header
Receptacle Assembly

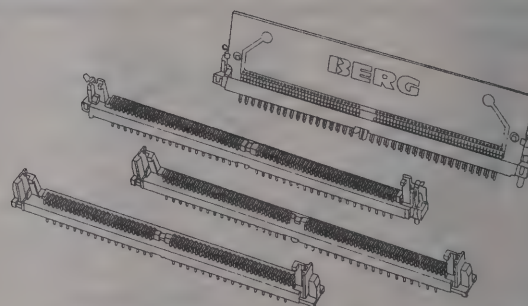
High-density, double-row Rib-Cage™ II surface-mount, vertical shrouded headers mate with surface-mount vertical receptacle assemblies. Both are 0.050 × 0.050" (1.27 × 1.27 mm) centerline systems. Black LCP housing, rated UL 94V-0. Hold-downs maintain proper alignment to PC board. Standoffs prevent entrapment of cleaning solutions. Compatible with vapor-phase and infrared reflow soldering processes. Contacts selectively 30 μ" minimum gold plated in contact area and 100 μ" tin/lead on solder tails. **Current Rating:** 1 amp DC. **Withstanding Voltage:** 800 VAC. **Temperature Rating:** -55° to +130°C. UL recognized, CSA certified.

Surface-Mount Vertical Header Assemblies for 6.4 mm BTB

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
518-7055	91855-110	20	2.32	1.72	1.55
518-7060	91855-125	50	4.75	3.52	3.17
518-7065	91855-135	70	6.16	4.56	4.11
518-7070	91855-140	80	6.84	5.07	4.57
518-7075	91855-150	100	8.56	6.34	5.71

Surface-Mount Vertical Receptacle Assemblies

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
518-7080	91872-610	20	2.92	2.16	1.95
518-7085	91872-625	50	5.94	4.40	3.96
518-7090	91872-635	70	7.70	5.70	5.13
518-7095	91872-640	80	8.56	6.34	5.71
518-7100	91872-650	100	10.69	7.92	7.13

SIMM Sockets


Designed for SIMM (single in-line memory module) applications, the Berg SIMM socket system offering includes 2.54 mm (0.100") and 1.27 mm (0.050") centerlines in vertical and low profile product configurations. Berg SIMM sockets are designed to accept standard JEDEC P.C. board thicknesses ranging from 1.19 mm (0.047") to 1.37 mm (0.054").

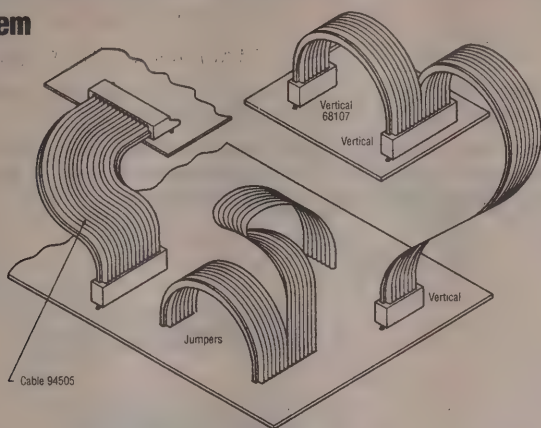
The Berg SIMM socket is available with either a standard plastic latch or a rugged metal latching system which better protects the socket from breaking if a SIMM is inserted or removed incorrectly. An overstress protection feature is included in both latching systems. This helps minimize latch damage during module insertion and prolongs the life of the latch.

Berg SIMM socket contacts are housed in a high temperature, glass-filled liquid crystal polymer (LCP) which is compatible with all manufacturing soldering processes.

Stock No.	Mfr.'s Type	Description	Plating	EACH	
				1-99	100-249
518-7125	87733-003	1 × 72 Vertical, Plastic Latch	Tin Lead	2.30	2.05
518-7130	87734-004	1 × 72 Low Profile, Plastic Latch	Tin Lead	2.78	2.56
518-7135	92247-113	1 × 72 Vertical, Metal Latch	GXT**	3.67	3.28
518-7140	92257-103	1 × 72 Low Profile, Metal Latch	Tin	2.76	2.46
518-7145	92258-103	1 × 72 Low Profile, Metal Latch	GXT**	3.96	3.55
518-7150	94718-003	1 × 72 Vertical, Plastic Latch	Tin	2.56	2.27
518-7155	94719-113	1 × 72 Vertical, Metal Latch	Tin	2.56	2.27

*GXT = "Better than gold" (palladium-nickel alloy with gold flash).

ReliCon™ System 2.00 mm (0.079") Centerline



- ▶ A New Way of Interconnection in Consumer, Automotive and Other, Cost Sensitive, Electronic Applications
- ▶ Pre-Loaded/One-Piece Socket Type Connector Designed for Use with Our ReliCon Cable
- ▶ A Low-Profile Design (0.118" Horizontal Version) Makes Reliflex a Useful Connector in Dense Packaging Operations
- ▶ Easy Insertion and Termination Eliminates the Need for Application Equipment Which Reduces Total Assembly Cost and Associated Defects
- ▶ Double-Faced Contact Which Touches Both Sides of the Mating Cable Conductors Increasing the Electrical Reliability of the Connection
- ▶ Retentive Leg Contacts Secure Connector to PC Board During Soldering

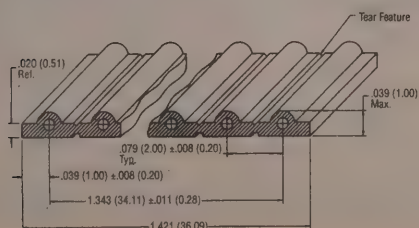
The ReliCon System is a practical and cost effective packaging approach for board-to-board/cable-to-board applications allowing maximum flexibility with minimum number of connectors and without cable/wire harness assemblies. **Materials.** Housing: GF PBT (UL-94-V0). **Color:** black. **Terminal:** Pre-tinned phosphor bronze. **Plating:** 40 microinches tin/lead. **Operating Environment.** Temperature Range: -40°C to 85°C.

2.00 mm Reliflex® Vertical Receptacles

Stock No.	Mfr.'s Type	No. of Positions	Description	EACH		
				1-99	100-499	500-999
518-8000	68107-003	3	Straight	.43	.36	.31
518-8005	68107-004	4	Straight	.47	.40	.34
518-8010	68107-005	5	Straight	.49	.41	.35
518-8015	68107-006	6	Straight	.54	.45	.38
518-8020	68107-007	7	Straight	.56	.46	.40
518-8025	68107-008	8	Straight	.52	.51	.44
518-8030	68107-009	9	Straight	.64	.53	.46
518-8035	68107-010	10	Straight	.68	.57	.49
518-8040	68107-011	11	Straight	.70	.58	.50
518-8045	68107-012	12	Straight	.74	.62	.53
518-8050	68107-013	13	Straight	.74	.62	.53
518-8055	68107-014	14	Straight	.76	.63	.54
518-8060	68107-015	15	Straight	.80	.67	.57
518-8065	68107-016	16	Straight	.82	.68	.59
518-8070	68107-017	17	Straight	.84	.70	.60
518-8075	68107-018	18	Straight	.88	.74	.63

2.00 mm Reliflex® Horizontal Receptacles

Stock No.	Mfr.'s Type	No. of Positions	Description	EACH		
				1-99	100-499	500-999
518-8080	68108-003	3	Right Angle	.43	.36	.31
518-8085	68108-004	4	Right Angle	.47	.40	.34
518-8090	68108-005	5	Right Angle	.49	.41	.35
518-8095	68108-006	6	Right Angle	.54	.45	.38
518-8100	68108-007	7	Right Angle	.56	.46	.40
518-8105	68108-008	8	Right Angle	.62	.51	.44
518-8110	68108-009	9	Right Angle	.64	.53	.46
518-8115	68108-010	10	Right Angle	.68	.57	.49
518-8120	68108-011	11	Right Angle	.70	.58	.50
518-8125	68108-012	12	Right Angle	.74	.62	.53
518-8130	68108-013	13	Right Angle	.76	.63	.54
518-8135	68108-014	14	Right Angle	.80	.67	.57
518-8140	68108-015	15	Right Angle	.82	.68	.59
518-8145	68108-016	16	Right Angle	.84	.70	.60
518-8150	68108-017	17	Right Angle	.88	.74	.63
518-8155	68108-018	18	Right Angle	.90	.75	.65



ReliCon™ Cable

- ▶ 18-Conductor
- ▶ Cable Tear Feature Allows for Maximum Design Flexibility

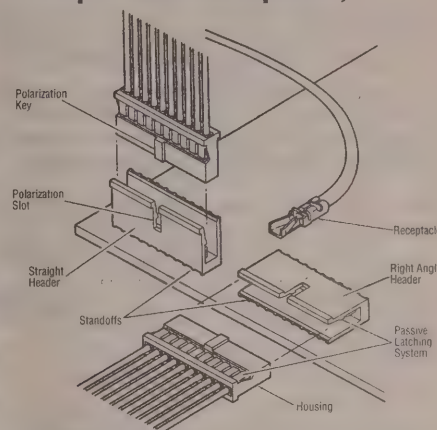
Material. Conductors: single strand 26 AWG tinned copper. **Insulation:** 0.010/0.25 PVC, gray. **Temperature Rating:** -20°C to +105°C. UL AWM 2651 (105°C, 300 volts). **Electrical Properties (measured in ground-signal mode).** Impedance: 130 ohms. Capacitance: 9.7 pF/ft. Inductance: .21 pH/ft. Prop. Delay: 1.35 ns/ft. **Voltage:** 300 volts. **Current:** 1.5 amps. **DC Resistance:** 41 ohms/1000 ft. **Insulation Resistance:** 100 megohms/1000 ft. Recommended plated thru-hole size is .030/0.76 for direct solder to board applications.

518-8160. 94505-001

PER 100 FT./ROLL 56.29

DURAMATE™ System — Crimp-To-Wire Receptacle, Housings and Headers; 2.00 mm (0.079") Centerline

- ▶ Mated Height of 9.3 mm
- ▶ Choices of Vertical or Right Angle Headers
- ▶ Polarization Prevents Mating Errors
- ▶ Range of Wire Gauges — 26 AWG to 30 AWG
- ▶ "Kinking" Feature on Board Side of Header Pin Eliminates "Floating" During Wave Soldering
- ▶ Retention Feature on Header Body Enables Connector to Withstand High Shock and Vibration without Unmating



Duramate is a highly reliable interconnect system on 2.00 mm centers. It features a dual beam crimp-to-wire receptacle terminal mated with 0.5 mm (0.020") square header pin which offers an excellent electrical and mechanical performance for wire to board applications. **Material.** Housing: polyphenylene oxide (UL94V-0); color — beige. Header: nylon 6,6 (UL94V-0); color — beige. **Temperature Rating:** -40°C to 105°C. **Contact:** Receptacle — phosphor bronze; finish — tin/lead; Pin — brass; finish — tin/lead.

Housings

Stock No.	Mfr.'s Type	No. of Positions	Housing Width		EACH	
			Inch	mm	1-99	100-499
518-8200	78183-002	2	.173	4.40	.04	.03
518-8205	78183-003	3	.252	6.40	.05	.04
518-8210	78183-004	4	.331	8.40	.06	.05
518-8215	78183-005	5	.409	10.40	.07	.06
518-8220	78183-006	6	.488	12.40	.08	.07
518-8225	78183-007	7	.567	14.40	.08	.07
518-8226	78183-008	8	.646	16.40	.09	.08
518-8230	78183-009	9	.724	18.40	.10	.09
518-8235	78183-010	10	.803	20.40	.11	.10
518-8240	78183-011	11	.882	22.40	.12	.11
518-8245	78183-012	12	.961	24.40	.13	.12
518-8250	78183-013	13	1.039	26.40	.14	.13
518-8255	78183-014	14	1.118	28.40	.14	.13
518-8260	78183-015	15	1.197	30.40	.15	.14

Headers

Straight		Right Angle		No. of Positions	Dimensions		EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		Inch	mm	1-99	100-499
518-8265	78185-002	518-8335	78186-002	2	.157	4.00	.07	.06
518-8270	78185-003	518-8340	78186-003	3	.236	6.00	.09	.08
518-8275	78185-004	518-8345	78186-004	4	.315	8.00	.11	.10
518-8280	78185-005	518-8350	78186-005	5	.394	10.00	.13	.12
518-8285	78185-006	518-8355	78186-006	6	.472	12.00	.15	.14
518-8290	78185-007	518-8360	78186-007	7	.551	14.00	.16	.15
518-8295	78185-008	518-8365	78186-008	8	.630	16.00	.18	.17
518-8300	78185-009	518-8370	78186-009	9	.709	18.00	.20	.19
518-8305	78185-010	518-8375	78186-010	10	.787	20.00	.22	.21
518-8310	78185-011	518-8380	78186-011	11	.866	22.00	.23	.22
518-8315	78185-012	518-8385	78186-012	12	.945	24.00	.25	.24
518-8320	78185-013	518-8390	78186-013	13	1.024	26.00	.27	.26
518-8325	78185-014	518-8395	78186-014	14	1.102	28.00	.29	.28
518-8330	78185-015	518-8400	78186-015	15	1.181	30.00	.30	.29

Crimp Receptacles and Crimp Tool (26-30 AWG)

Stock No.	Mfr.'s Type	Description	Insulation O.D. Size	EACH	PER PK./1000
518-8500	78180-101	Receptacle	1.00-1.40	—	8.12
518-8600	HT-153	Crimp Tool	—	784.62	—

Quickie™ IDC System Connectors

Quickie™ III provides "world class" quality at a globally competitive price. This product line is ideally suited for high-volume applications such as small computers, video equipment, instrumentation, office products, and automotive related packaging schemes.

The Quickie™ III female connector features a single-beam, long-wipe contact that provides a highly reliable electrical connection. The contact is made of a phosphor-bronze base material and is available

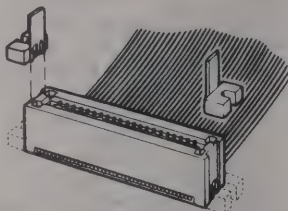
with gold over nickel, tin/lead, or Berg's exclusive "better than gold" GXT™ plating system.

Quickie™ III headers feature duplex-plated pins with either gold or GXT™ plating in the contact area. The solder-tail portion of the pin is fully plated with tin/lead.

Headers have dual polarization and are compatible with virtually all IDC specifications.

Quickie™ III Edge Card Connectors

Single-beam configuration provides high contact pressure for reliable electrical performance. Preloaded cover ensures cable positioning and protects contacts. Bridge-type cover enhances connector-to-cable production rates. Molded-in polarization. Housed in glass-filled thermoplastic polyester rated UL94-V-0. **Insulation resistance:** 1×10^5 M Ω minimum. **Temperature range:** -65°C to +125°C. **Withstanding voltage:** 500 Vrms. Contact made of phosphor-bronze. **Current rating:** 1A. **Resistance:** 15m Ω maximum.

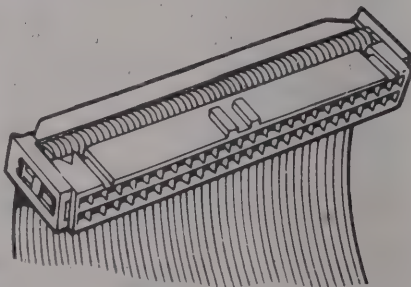


Quickie™ III Edge Card Connectors Without Mounting Ears
30 μ GXT™ finish.

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3009	71905-120	2 x 10	1.28	1.16
518-3012	71905-126	2 x 13	1.42	1.34
518-3016	71905-134	2 x 17	1.86	1.67
518-3019	71905-140	2 x 20	2.08	1.87
518-3021	71905-144	2 x 22	2.29	2.03
518-3024	71905-150	2 x 25	2.47	2.22
518-3030	71905-162	2 x 31	2.90	2.61
518-3031	71905-164	2 x 32	2.99	2.69

Quickie™ III Female Connectors

Pre-loaded adjustable bridge-type cover suits a wide range of cable. Reduces assembly time, protects contacts and offers precise cover-to-base alignment ensuring reliable termination. Cover's feed-through design allows cable to be inserted into either side of the connector for cable-end terminations. Also allows connector to pass smoothly over cable for daisy chain applications. Serrated slots in the cover assure accurate positioning of the cable over the contacts during assembly. Long wiping action ensures good contact. Polarization by means of polarization plug. Glass-filled thermoplastic polyester body rated UL94-V-0. **Insulation resistance:** 1×10^5 M Ω minimum. **Temperature range:** -65°C to +125°C. **Withstanding voltage:** 1000 Vrms. Phosphor bronze contact has finish of 30 μ GXT over pre-plated nickel. **Current rating:** 1A. **Resistance:** 15 m Ω maximum.



Central And Dual Polarization Quickie™ III Female Connectors
Standard female assembly includes strain relief.

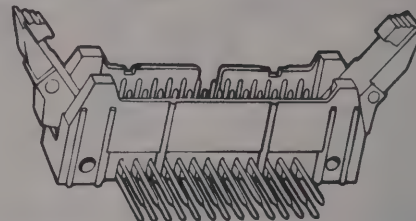
Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3100	71602-010	2 x 5	.63	.60
518-3102	71602-014	2 x 7	.76	.72
518-3104	71602-016	2 x 8	.82	.78
518-3106	71602-018	2 x 9	.92	.87
518-3108	71602-020	2 x 10	1.06	.96
518-3110	71602-026	2 x 13	1.37	1.22
518-3112	71602-034	2 x 17	1.82	1.63
518-3114	71602-040	2 x 20	2.02	1.81
518-3116	71602-044	2 x 22	2.15	1.95
518-3118	71602-050	2 x 25	2.38	2.15
518-3120	71602-060	2 x 30	2.58	2.33
518-3122	71602-064	2 x 32	2.69	2.44

Dual Polarization Quickie™ III Female Connectors

Standard female assembly includes strain relief.

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3150	71602-306	2 x 3	.56	.53
518-3152	71602-308	2 x 4	.59	.56
518-3154	71602-310	2 x 5	.63	.61
518-3156	71602-314	2 x 7	.76	.72
518-3158	71602-316	2 x 8	.82	.78
518-3162	71602-320	2 x 10	1.06	.96
518-3164	71602-326	2 x 13	1.37	1.22
518-3166	71602-334	2 x 17	1.82	1.63
518-3168	71602-340	2 x 20	2.02	1.81
518-3172	71602-350	2 x 25	2.27	2.04

Quickie™ III Right-Angle Headers

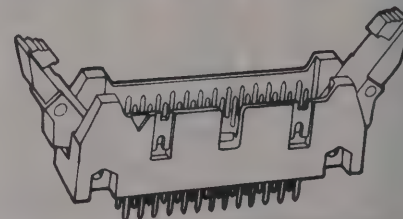


Four-walled shielding protects pins in unmated condition and prevents misalignment. Dual polarization by use of polarization keys. Lock and eject system minimizes PC space required and allows dense packaging design. Feature duplex-plated pins made of phosphor-bronze. **Current rating:** 1A. **Finish:** 30 μ GXT™ over nickel on the two contact sides of the pin and gold flash on the other two non-contact sides. Body is glass-filled thermoplastic polyester rated UL94-V-0. **Insulation resistance:** 1×10^5 M Ω minimum. **Temperature range:** -65°C to +125°C. **Withstanding voltage:** 1000 Vrms. Polarization achieved by cutting off pin and adding polarization plug to mating female connector.

Standard Latch Quickie™ III Right-Angle Headers

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3200	71922-106	2 x 3	1.07	.97
518-3204	71922-110	2 x 5	1.23	1.11
518-3206	71922-114	2 x 7	1.38	1.23
518-3208	71922-116	2 x 8	1.44	1.31
518-3212	71922-120	2 x 10	1.62	1.45
518-3214	71922-126	2 x 13	1.87	1.68
518-3216	71922-134	2 x 17	2.15	1.95
518-3218	71922-140	2 x 20	2.26	2.02
518-3220	71922-144	2 x 22	2.42	2.17
518-3222	71922-150	2 x 25	2.65	2.38
518-3224	71922-160	2 x 30	2.99	2.70
518-3226	71922-164	2 x 32	3.09	2.79

Quickie™ III Straight Header With Dual Polarization Slots



Standard Latch Quickie™ III Straight Headers

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3250	71918-106	2 x 3	1.07	.97
518-3254	71918-110	2 x 5	1.23	1.11
518-3256	71918-114	2 x 7	1.38	1.23
518-3258	71918-116	2 x 8	1.44	1.30
518-3260	71918-118	2 x 9	1.52	1.38
518-3262	71918-120	2 x 10	1.62	1.47
518-3264	71918-126	2 x 13	1.87	1.68
518-3266	71918-134	2 x 17	2.15	1.95
518-3268	71918-140	2 x 20	2.26	2.03
518-3272	71918-150	2 x 25	2.65	2.38
518-3274	71918-160	2 x 30	2.99	2.70
518-3276	71918-164	2 x 32	3.09	2.80

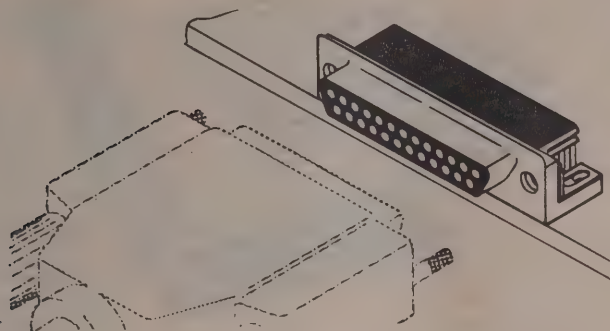
Optional Modular Mounting Hardware for Quickie™ III

Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
518-3040	67041-001	Mounting Ears/Hole	.13	.12
518-3041	67042-001	Mounting Ears/Slot	.13	.12

Quickie III Edge Card Connectors Incorporate optional mounting hardware. To obtain the equivalent of the Quickie II Edge Card Connectors with molded mounting ears and slots, order the corresponding Quickie II Edge Card Connectors and one modular hardware unit (two pieces must be bought to make one unit).

Right Angle D-Sub Headers and Quickie™ IDC D-Sub Connectors

Right Angle D-Subminiature Headers



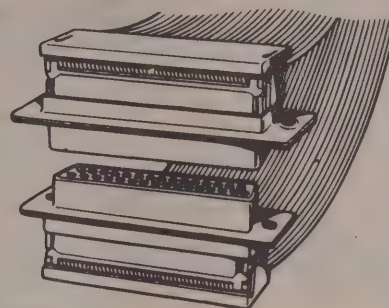
- Industry standard connector designs allow mating with both military and commercial D-Subminiature connectors.
- Metal shells ensure EMI protection.
- Right angle plugs and receptacles are available in 9, 15, 25, and 37 positions. Duplex plating is available in the contact areas with 30 μ in. (0.76 μ m) of gold over 50 μ in. (1.27 μ m) of nickel underplate, or gold flash over 50 μ in. (1.27 μ m) of nickel underplate.
- High density versions use 67% less space than standard connectors.
- All connectors are offered with PWB grounding and retentive feature. All are available with or without hex standoff.

Product offering includes the most popular versions used in today's market and state-of-the-art high density versions for new designs. These include the popular right angle short (.318) footprint and the traditional long footprint (.590) in 9, 15, 25, and 37 position versions and a high density version, offering 67% greater packaging density, in 15, 44, 62, and 104 position versions.

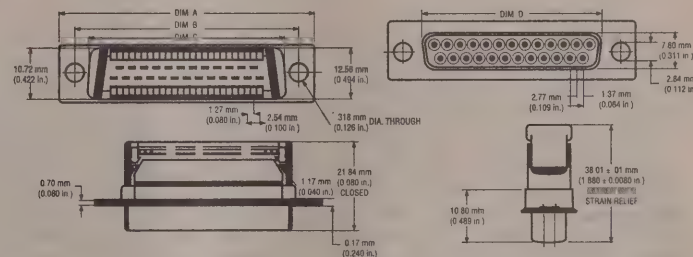
The housing is glass-filled thermoplastic polyester (UL 94V-0) with insulation resistance of 2 G Ω min. and a temperature range of -40°C to +105°C. Product can withstand voltage of 1000 Vrms min. The shell is a steel strip with a finish of 150 μ in. tin-lead plating. Contact base material-male is brass MIL C50 and the base material-female is phosphor-bronze CDA-510 with a finish of gold flash over 50 μ in. (1.27 μ m) nickel underplate at engagement area, 150 μ in. (3.81 μ m) tin-lead plate at termination area, or 30 μ in. (0.76 μ m) gold over 50 μ in. (1.27 μ m) nickel underplate at engagement area, 150 μ in. (3.81 μ m) tin-lead plate termination area. The current rating as 2 amps fully loaded with resistance of 30m Ω max.

Stock No.	Mfr.'s Type	No. of Pos.	Sex	High Density	Gold		Footprint		EACH	
					30	Flash	Short 0.318	Long 0.590	1-99	100-499
518-4200	86857-309	9	M	—	—	X	X	—	1.69	1.46
518-4202	86857-315	15	M	—	—	X	X	—	2.21	1.92
518-4204	86857-325	25	M	—	—	X	X	—	2.34	2.02
518-4210	86858-309	9	F	—	—	X	X	—	2.05	1.77
518-4212	86858-315	15	F	—	—	X	X	—	2.34	2.02
518-4214	86858-325	25	F	—	—	X	X	—	2.52	2.18
518-4216	86858-337	37	F	—	—	X	X	—	2.94	2.53
518-4220	86859-309	9	M	—	—	X	—	X	1.83	1.58
518-4222	86859-315	15	M	—	—	X	—	X	2.30	1.98
518-4224	86859-325	25	M	—	—	X	—	X	2.43	2.10
518-4230	86860-309	9	F	—	—	X	—	X	1.95	1.68
518-4232	86860-315	15	F	—	—	X	—	X	2.35	2.04
518-4234	86860-325	25	F	—	—	X	—	X	2.68	2.31
518-4236	86860-337	37	F	—	—	X	—	X	4.04	3.49
518-4240	71561-309	9	M	—	X	—	X	—	2.08	1.80
518-4242	71561-315	15	M	—	X	—	X	—	2.20	1.99
518-4244	71561-325	25	M	—	X	—	X	—	2.85	2.46
518-4250	71562-309	9	F	—	X	—	X	—	2.30	1.99
518-4252	71562-315	15	F	—	X	—	X	—	2.72	2.35
518-4254	71562-325	25	F	—	X	—	X	—	3.42	2.95
518-4256	71562-337	37	F	—	X	—	X	—	4.20	3.63
518-4260	71563-309	9	M	—	X	—	—	X	2.12	1.83
518-4262	71563-315	15	M	—	X	—	—	X	2.39	2.07
518-4264	71563-325	25	M	—	X	—	—	X	2.96	2.56
518-4270	71564-309	9	F	—	X	—	—	X	2.43	2.09
518-4272	71564-315	15	F	—	X	—	—	X	2.89	2.49
518-4274	71564-325	25	F	—	X	—	—	X	3.66	3.16
518-4276	71564-337	37	F	—	X	—	—	X	4.28	3.88
518-4282	86364-315	15	F	X	X	—	X	—	2.36	2.16

Quickie™ IDC D-Subminiature Connectors



Industry standard connector configurations that allow mating with military and commercial D-subminiature connectors. **Body:** Black glass-filled thermoplastic polyester, rated UL94V-0. **Contacts:** Copper alloy with gold plating over nickel. **Ratings:** 1 Amp DC, -65°C to +105°C temperature range. **Termination:** 28 AWG stranded or 30 AWG solid flat, flexible, round conductor cable.



Plastic Version

Series 66167 Plug, Plastic Shell

Stock No.	Mfr.'s Type	Contacts	Plating	EACH	
				1-99	100-499
518-4010	66167-009	9	30 μ gold over nickel	2.94	2.34
518-4016	66167-015	15	30 μ gold over nickel	4.04	3.21
518-4026	66167-025	25	30 μ gold over nickel	6.21	5.17
518-4038	66167-037	37	30 μ gold over nickel	7.92	6.60

Series 66168 Receptacle, Plastic Shell

518-4110	66168-009	9	30 μ gold over nickel	2.94	2.34
518-4116	66168-015	15	30 μ gold over nickel	4.04	3.21
518-4126	66168-025	25	30 μ gold over nickel	6.21	5.17
518-4138	66168-037	37	30 μ gold over nickel	7.92	6.60

Metal Version

Series 66169 Plug, Steel Shell With Tin-Plating Over Copper

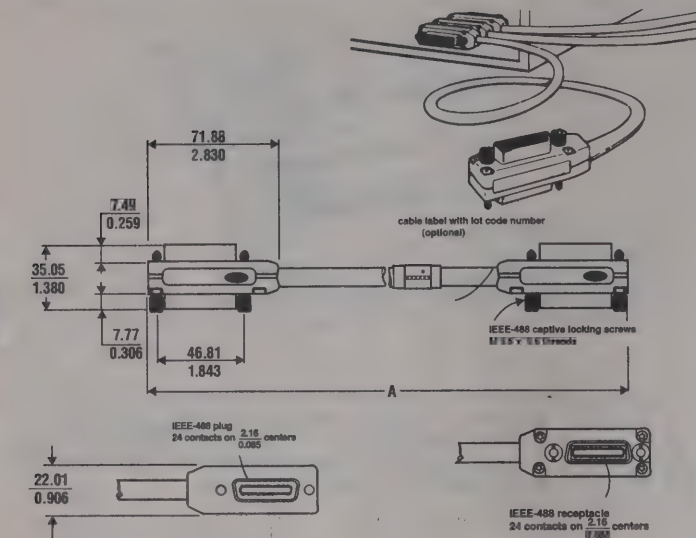
518-4009	66169-109	9	30 μ gold over nickel	3.34	2.89
518-4015	66169-115	15	30 μ gold over nickel	4.20	3.82
518-4025	66169-125	25	30 μ gold over nickel	5.70	5.16
518-4037	66169-137	37	30 μ gold over nickel	8.14	7.33
518-4059	66169-509	9	15 μ gold over nickel	3.34	2.89
518-4065	66169-515	15	15 μ gold over nickel	4.20	3.82
518-4075	66169-525	25	15 μ gold over nickel	5.70	5.10
518-4087	66169-537	37	15 μ gold over nickel	7.74	6.93

Series 66170 Receptacle, Steel Shell With Tin-Plating Over Copper

518-4109	66170-109	9	30 μ gold over nickel	3.34	2.89
518-4115	66170-115	15	30 μ gold over nickel	4.20	3.82
518-4125	66170-125	25	30 μ gold over nickel	6.00	5.40
518-4137	66170-137	37	30 μ gold over nickel	8.88	8.00
518-4159	66170-509	9	15 μ gold over nickel	3.18	2.89
518-4165	66170-515	15	15 μ gold over nickel	4.20	3.82
518-4175	66170-525	25	15 μ gold over nickel	5.70	5.10
518-4187	66170-537	37	15 μ gold over nickel	8.48	7.60

GPIO Shielded Cable Assemblies
Quickie™ IDC System Flat Cable


Compatible with Quickie™ connectors, flat cable is PVC insulated and features conductors made of soft annealed copper with tin finish and pitch of 0.050". **Type 76177** come with sequentially colored conductors and are UL listed-style 2884. All others have identification stripe to indicate the first position and are UL listed-style 2651. **Resistance:** >104 megohms/3m. **Temperature:** 105°C maximum. **Dielectric strength:** 1500 Vrms. **Impedance:** 105Ω stranded; 125Ω solid. **Capacitance:** 46 pF/m stranded; 43 pF/m solid. **Voltage rating:** UL 300 VAC. UL recognized, CSA certified.



General Purpose Interface Bus assemblies feature double shielded cable, metal cast connector housing and shield termination. Pre-loaded cantilever beam ensures low connector insertion force and minimum contact wear. Interface meets IEEE-488 specifications. **Spacing:** 0.85 inch. Connector has insulation resistance of 10 GΩ minimum, 1A maximum current rating, and 1,000 cycles durability. Contact force of 101, 5N per contact, with 24 contacts per connector side. Housed in black glass-filled thermoplastic polyester rated UL94V-0. Contact is of beryllium copper with 30μ inch gold over nickel finish. Shielded cover is of zinc alloy with nickel finish. Black oxidized steel captive locking screw and metric thread. Double shielded cable made of aluminum/mylar polyester film tape with braid and drain wire. Gray PVC insulation. **Material conductors:** AWG 26-7/34. Signal line resistance is 0.14 μm maximum, bulk resistance braid is 0.0085 Ω/m maximum. **Capacitance:** 150 pF/m maximum at 1kHz. Impedance of 70-75Ω. **Operating temperature:** 80°C maximum.

Standard GPIO Assembly Lengths

Stock No.	Mfr.'s Type	Dimension A Inches	EACH
518-4401	81190-005	23.62	70.57
518-4402	81190-010	43.30	75.91
518-4403	81190-020	82.68	92.92
518-4404	81190-040	161.42	113.31
518-4405	81190-060	240.16	133.71
518-4406	81190-080	318.90	154.02

**28 AWG Stranded Flat Cable
Series 76177 Color Coded Insulation**

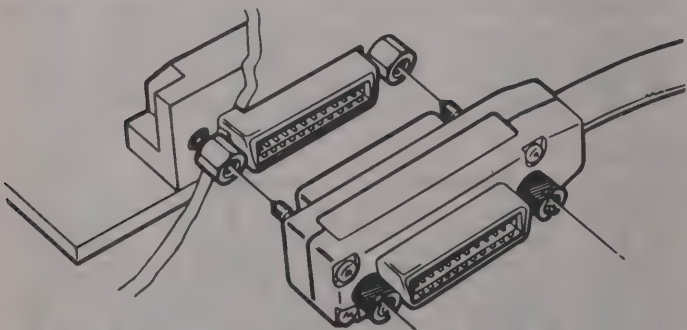
Stock No.	Mfr.'s Type	No. of Pos.	PER COIL OF 100'	
			1-4	5-9
518-3509	76177-009	9	24.48	22.03
518-3510	76177-010	10	27.20	24.48
518-3514	76177-014	14	38.08	34.27
518-3515	76177-015	15	40.80	36.72
518-3516	76177-016	16	43.52	39.17
518-3520	76177-020	20	54.40	48.96
518-3525	76177-025	25	68.00	61.20
518-3526	76177-026	26	70.70	63.63
518-3534	76177-034	34	92.46	83.21
518-3537	76177-037	37	100.62	90.56
518-3540	76177-040	40	108.78	97.90
518-3544	76177-044	44	119.66	107.69
518-3550	76177-050	50	135.98	122.38
518-3560	76177-060	60	163.16	146.84
518-3564	76177-064	64	174.04	156.64

**28 AWG Stranded Flat Cable
Series 76825 Gray Insulation**

518-3709	76825-009	9	11.14	10.03
518-3710	76825-010	10	12.38	11.14
518-3714	76825-014	14	18.48	16.85
518-3715	76825-015	15	19.91	18.05
518-3716	76825-016	16	19.78	17.80
518-3720	76825-020	20	24.74	22.27
518-3725	76825-025	25	30.92	27.83
518-3726	76825-026	26	37.51	34.30
518-3734	76825-034	34	44.48	40.26
518-3737	76825-037	37	48.40	43.83
518-3740	76825-040	40	49.46	44.51
518-3744	76825-044	44	60.74	54.67
518-3750	76825-050	50	61.82	55.64
518-3760	76825-060	60	77.68	70.26

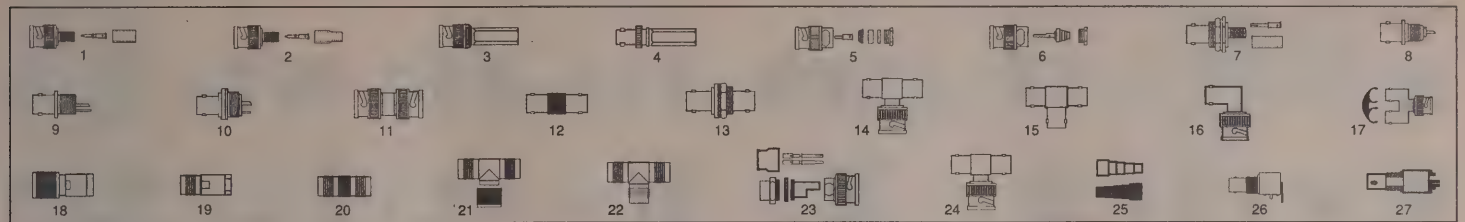
**28 AWG Stranded Flat Cable
Series 76164 Blue Insulation**

518-3910	76164-010	10	13.80	12.42
518-3914	76164-014	14	19.32	17.39
518-3916	76164-016	16	18.40	16.56
518-3920	76164-020	20	27.60	24.84
518-3926	76164-026	26	35.88	32.30
518-3934	76164-034	34	46.92	42.23
518-3940	76164-040	40	55.20	49.68
518-3944	76164-044	44	60.72	54.65
518-3950	76164-050	50	69.00	62.10
518-3960	76164-060	60	82.80	74.52

GPIO Headers


General Purpose Interface Bus Headers have 0.85 inch spacing. Connector has insulation resistance of 10 GΩ minimum, contact resistance of 10 mΩ maximum, withstanding voltage of 1000 VAC RMS, and current rating of 1.5A maximum. Contact force is 1-1, 5N per contact and durability is 1000 cycles, 24 contacts. Housed in glass-filled thermoplastic polyester UL listed 94V-0, color black. Contact material is beryllium copper, and finish is 30 μ inch gold over nickel in contact area and 100 μ inch tin-lead over nickel on the solder tail. Shield and R/A bracket are low carbon steel with nickel finish. Threaded clinching nuts are low carbon steel with cadmium and clear chromate. **Temperature range:** -55°C to +105°C.

Stock No.	Mfr.'s Type	Description	EACH
518-4410	68277-001	4-40 UNC 2B threaded holes	8.43



These high quality RF connectors are approved for use by the major manufacturers of computer networks and are used extensively for all interconnecting and accessory cables and panels.

BNC 3 Piece Crimp Plugs For Cable Mount

These 3 piece, dual crimp connectors feature Posi-Click contacts that "click" into place when installed insuring a perfect assembly. All crimp pins are gold plated and have a vent hole for optional soldering.

Stock No.	Mfr.'s Type	RG/U Cable	Fig.	EACH		
				1-24	25-99	100-499
202-0101	310A205A18	6 (18 AWG)	1	2.32	1.99	1.78
202-0102	310A205F	58 Stranded Conductor, 141	1	1.92	1.65	1.48
202-0104	310A205FS	58 Solid Conductor	1	2.00	1.71	1.54
202-0106	310A205FV	58 Thin-Net Plenum	2	2.00	1.71	1.54
202-0108	310A205FV2	RGB Monitor Cable	2	2.44	2.09	1.88
202-0110	310A204G	59, 62, 210 PVC	1	1.96	1.68	1.51
202-0112	310A205MV	174, 188, 316 (4 Pc.)	2	2.24	1.92	1.72
202-0114	310A205N	179, 187 (4 Pc.)	2	2.24	1.92	1.72
202-0116	310A205P	223	1	2.00	1.71	1.54
202-0118	310B205Q	True 75 Ohm/8281	1	3.24	2.78	2.49
202-0120	310A204T	59, 62 Plenum	2	2.08	1.78	1.60
202-0122	310A208W2	Mini 59 Coax, RGB 26 AWG	1	1.80	1.54	1.38

BNC Twist-On

BNC Twist-On connectors are field installable and require no tooling other than a stripping tool for the cable preparation. The center conductor is inserted into the unique Posi-Con contact, as the conductor is twisted onto the cable's outer jacket. Heavy nickel plated brass construction. Solid brass/gold pin.

Stock No.	Mfr.'s Type	RG/U Cable	Fig.	EACH		
				1-24	25-99	100-499
202-0140	310A405A*	6	3	2.28	1.95	1.75
202-0142	310A405F*	58 Solid Conductor	3	2.00	1.71	1.54
202-0144	310A405F1*	58 Plenum .172"-.178" OD	3	2.20	1.89	1.69
202-0146	310A405F2*	Thin Plenum .158"-.162" OD	3	2.20	1.89	1.69
202-0148	310A405F3*	Thin Plenum .150" OD	3	2.20	1.89	1.69
202-0150	310A405G*	59, 62 PVC	3	2.08	1.78	1.60
202-0152	310A405T*	59, 62 Plenum	3	2.08	1.78	1.60
202-0154	320A405F†	58 Solid Conductor	4	2.28	1.95	1.75
202-0156	320A405G†	59, 62 PVC	4	2.40	2.06	1.85

*Male. †Female.

BNC Bulkhead Jacks

Versions available for front mounting (F/M), rear mounting (R/M), crimp types, panel grounded, or isolated. These jacks are held in the panel by a hex-nut and lock washer. All units feature nickel plated brass bodies, gold/phosphor bronze contacts.

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-499
202-0200	321A245A	R/M Crimp, 6 1/2"	7	4.00	3.43	3.08
202-0202	321A245F	R/M Crimp, 58 1/2"	7	4.00	3.43	3.08
202-0206	321A245G	R/M Crimp, 59, 62, 214, 1 1/2"	7	4.00	3.43	3.08
202-0208	321A245M	R/M Crimp 174, 178, 316, 1 1/2"	7	4.00	3.43	3.08
202-0210	326A515	F/M Solder (Grounded) 3/8"	8	1.40	1.20	1.08
202-0212	326R515	F/M Solder (Isolated) 3/8"	9	1.72	1.47	1.32
202-0214	326Q556	F/M Solder (Isolated, metal 1/2")	10	4.16	3.57	3.20

Color Coded BNC Bulkhead Jacks

— NEW —

In addition to Bomar's white Valox isolated bulkhead jack, three new versions are available with a red, green, and blue insulated panel bushing and the matching color internal insulator. These are excellent for RGB interconnect applications — instantly color codes your panel ports. For panel thicknesses up to .125 inch. Special colors available with minimum order requirements.

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-499
202-0212	326R515	F/M Solder (Isolated) White Bushing	9	1.72	1.47	1.32
202-1002	326R515RD	F/M Solder (Isolated) Red Bushing	9	2.44	2.09	1.88
202-1004	326R515GN	F/M Solder (Isolated) Green Bushing	9	2.44	2.09	1.88
202-1006	326R515BL	F/M Solder (Isolated) Blue Bushing	9	2.44	2.09	1.88

BNC Adapters and "The Goalie"

The internal design offers the lowest possible reflected signal (VSWR) and guarantees no oxidation at the internal contact points as the connector ages.

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-499
202-0300	330A505	Male/Male Inline splice	11	3.68	3.15	2.83
202-0302	332A505	Fem./Fem. Inline splice	12	2.20	1.89	1.69
202-0304	335A544	Fem./Fem. Bulkhead	13	3.68	3.15	2.83
202-0306	335R544	Fem./Fem. Bulkhead Isolated	13	4.44	3.81	3.42

BNC Clamp Type Plugs, Standard and Taper Grip

Regular clamp types use a five piece construction while taper grip styles are of three piece design and require little cable preparation. Both types tightly clamp the shield to the connector body. Soldering on the contact pin is required. All materials are machined brass with gold contacts.

Stock No.	Mfr.'s Type	RG/U Cable	Fig.	EACH		
				1-24	25-99	100-499
202-0172	310A105F	58, 58A, 58C, 141	5	2.24	1.92	1.72
202-0174	310A105G	59, 62, 214	5	2.48	2.13	1.91
202-0178	310A304F	58, 58A, 58C, 141	6	3.68	3.15	2.83
202-0180	310A304G	59, 62, 214	6	3.60	3.09	2.77

Connectors For Twinax Cables

Standard Twinax connectors are impedance matched for 100 ohm cables and are used extensively with IBM computer systems. BNC *Saltconn* Twin is a crimp (or solder) plug with a patented design that simplifies assembly and uses a comparatively inexpensive Bomar hand tool. For .242" diameter twinaxial cables.

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-499
202-0400	210A104R	Twinax Cable Plug	18	5.40	4.63	4.15
202-0402	220A106R	Twinax Cable Jack	19	9.12	7.82	7.02
202-0404	232A006	Twinax Fem./Fem. Inline	20	6.96	5.97	5.35
202-0406	243A006	Twinax "T" F/M/F	21	17.60	15.09	13.54
202-0408	245A006	Twinax "T" F/F/F	22	15.20	13.03	11.69
202-0410	410A903Y1	BNC Twin Crimp Plug	23	6.24	5.35	4.80
202-0412	443A505	BNC Twin F/M/F "T"	24	11.60	9.94	8.92

202-0414. BD10410. Crimp Tool For 410A903Y1 EACH 130.00

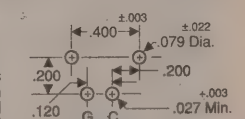
Cable Boots For Crimp Connectors

These boots fit snugly over the crimp ferrule and offer additional strain relief when cable is pulled straight back and superior strain relief to the side. Used also for color coding of cables to patch panels.

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-499
202-0182	CXB58A	Black, Fits RG58 PVC Cables	25	.44	.38	.34
202-0183	CXB58ABL	Blue, Fits RG58 PVC Cables	25	.44	.38	.34
202-0184	CXB58AGN	Green, Fits RG58 PVC Cables	25	.44	.38	.34
202-0185	CXB58ARD	Red, Fits RG58 PVC Cables	25	.44	.38	.34
202-0186	CXB58AYL	Yellow, Fits RG58 PVC Cables	25	.44	.38	.34
202-0187	CXB62A	Black, Fits RG62 PVC Cables	25	.40	.34	.31

Printed Circuit Board BNC Jacks

These popular BNC board jacks meet or exceed the highest industry standards. They are available in many standard configurations as shown. Additional versions are available upon request. All isolated jacks are constructed with molded Valox, in White or Black, over nickel plated zinc bodies. Contacts are Phosphor Bronze and plated with tin or gold. All metal versions are fully shielded. They are nickel plated zinc and utilize the same phosphor bronze contacts in either tin or gold plating.



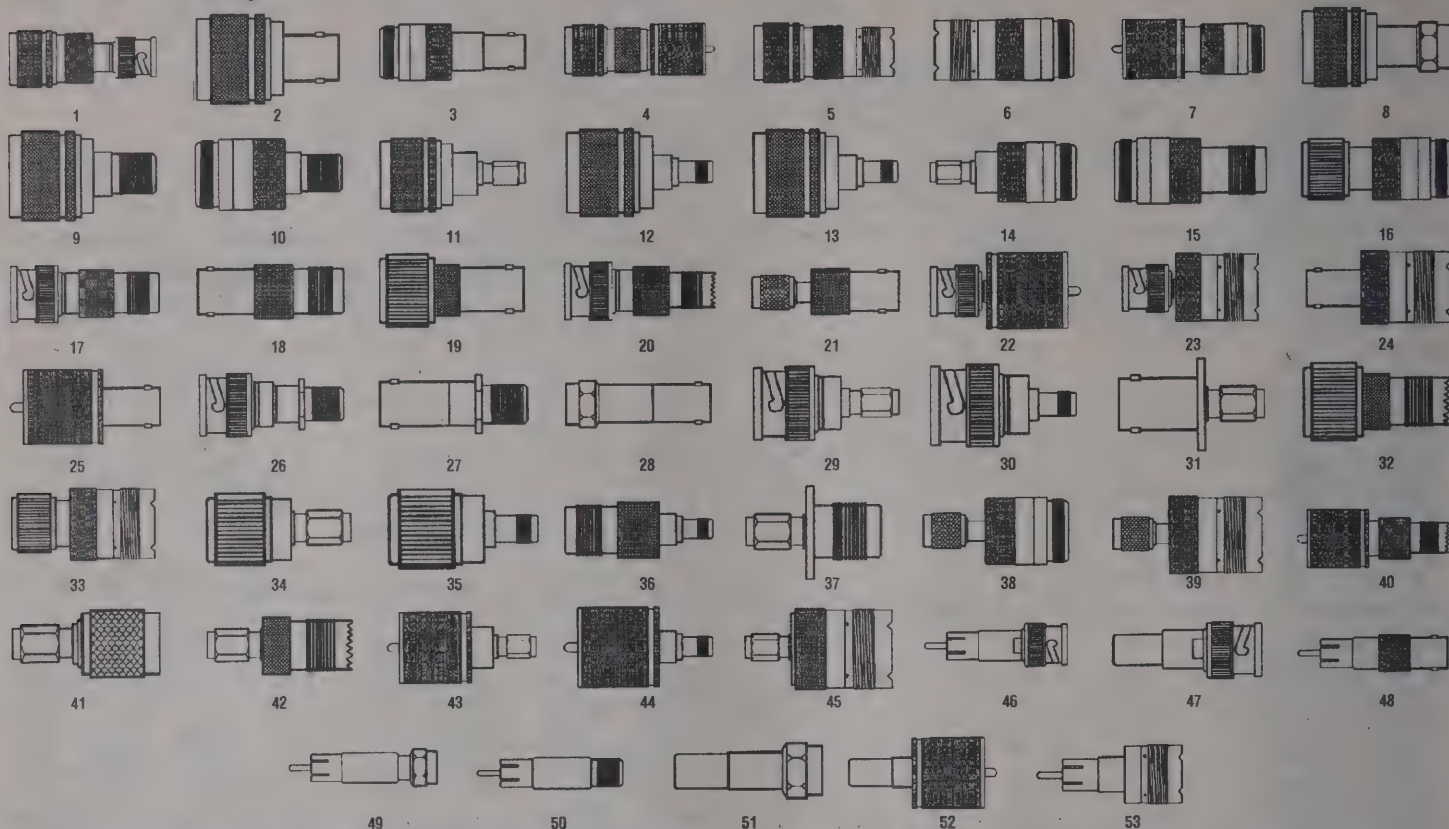
PC Board Configuration (Top View)

Stock No.	Mfr.'s Type	Type	Description	Fig.	EACH		
					1-24	25-99	100-499
202-0250	364A595	Right Angle	Standard Profile, White, Gold	26	1.40	1.20	1.08
202-0254	364A595B	Right Angle	Standard Profile, Black, Gold	26	1.88	1.61	1.45
202-0258	364A595BL	Right Angle	Low Profile, White, Gold	26	1.40	1.20	1.08
202-0262	364A595BLB	Right Angle	Low Profile, Black, Gold	26	1.92	1.65	1.48
202-0266	364M595	Right Angle	Standard Profile, Metal, Gold	26	2.64	2.26	2.03
202-0270	364M595L	Right Angle	Low Profile, Metal, Gold	26	2.64	2.26	2.03
202-0274	364S595	Vertical	Standard Profile, White, Gold	27	2.00	1.71	1.54
202-0278	364S595B	Vertical	Standard Profile, Black, Gold	27	2.04	1.75	1.57
202-0282	364S595M	Vertical	Standard Profile, Metal	27	2.60	2.23	2.00
202-0286	364LW	Hardware	Lock Washer For Panel Mounting	—	.08	.07	.06
202-0288	364NT	Hardware	Jam Nut For Panel Mounting	—	.16	.14	.12

"The Goalie" comes with a patented clip device that locks the mating cable plugs to the female ends. This unique feature protects an on-line network from accidental disconnect and possible loss of data. Rated at 3 GHz with a VSWR of 1.12:1.

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-99	100-499
202-0308	343A505	Fem./Male/Fem. "T"	14	2.94	2.52	2.26
202-0310	345A505	Fem./Fem./Fem. "T"	15	5.00	4.29	3.85
202-0312	351A505	Fem./Male Right Angle	16	4.16	3.57	3.20
202-0314	383U505	The Goalie with Clip	17	7.20	6.17	5.54

Between Series Adapters



Between Series Adapters solve a variety of connection problems where connectors of different types could ordinarily not be mated together. Each adapter has a different type coupling at each end allowing for a wide variety of interconnections

to fit almost all interconnection situations. All adapters are constructed of machined brass and are nickel plated.

Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-24	25-99	100-Up
202-0605	1303505	1	N Male to BNC Male	22.40	19.20	16.00
202-0610	1313505	2	N Male to BNC Female	8.13	6.97	5.81
202-0615	1323505	3	N Female to BNC Female	9.90	8.49	7.07
202-0620	1307505	4	N Male to UHF Male	8.13	6.97	5.81
202-0625	1317505	5	N Male to UHF Female	11.07	9.49	7.90
202-0630	1327505	6	N Female to UHF Female	11.37	9.74	8.12
202-0635	7311505	7	UHF Male to N Female	6.87	7.69	6.40
202-0640	1308505	8	N Male to F Male	7.87	6.74	5.62
202-0645	1318505	9	N Male to F Female	9.30	7.97	6.64
202-0650	1328505	10	N Female to F Female	6.10	6.94	5.79
202-0655	1309505	11	N Male to SMA Male	8.97	7.69	6.40
202-0660	1319505	12	N Male to SMA Female	8.43	7.23	6.02
202-0665	1329505	13	N Female to SMA Female	8.43	7.23	6.02
202-0670	9311505	14	SMA Male to TNC Female	10.20	8.74	7.29
202-0675	1325505	15	N Female to TNC Female	7.57	6.49	5.40
202-0680	5311505	16	TNC Male to N Female	5.47	4.69	3.90
202-0685	5315505	17	BNC Male to TNC Female	7.00	6.00	5.00
202-0690	5325505	18	BNC Female to TNC Female	5.23	4.49	4.12
202-0695	5313505	19	TNC Male to BNC Female	5.77	4.49	3.74
202-0700	5316505	20	BNC Male to Mini-UHF Female	4.07	3.49	2.90
202-0705	5313505	21	Mini-UHF Male to BNC Female	6.40	5.49	4.57
202-0710	5307505	22	BNC Male to UHF Male	5.53	4.74	3.95
202-0715	5317505	23	BNC Male to UHF Female	6.10	5.23	4.36
202-0720	5327505	24	BNC Female to UHF Female	8.13	6.97	5.81
202-0725	7313505	25	UHF Male to BNC Female	4.67	4.00	3.33
202-0730	7318505	26	BNC Male to F Female	5.13	4.40	3.67
202-0735	5328505	27	BNC Female to F Female			

Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-24	25-99	100-Up
202-0740	8313505	28	F Male to BNC Female	7.57	6.49	5.40
202-0745	3309505	29	BNC Male to SMA Male	7.57	6.49	5.40
202-0750	3319505	30	BNC Male to SMA Female	8.73	7.49	6.24
202-0755	9313505	31	SMA Male to BNC Female	11.63	9.97	8.31
202-0760	5316505	32	TNC Male to Mini-UHF Female	4.26	3.63	3.02
202-0765	5317505	33	TNC Male to UHF Female	4.93	4.23	3.52
202-0770	5309505	34	TNC Male to SMA Male	7.57	6.49	5.40
202-0775	5319505	35	TNC Male to SMA Female	8.73	7.49	6.24
202-0780	5329505	36	TNC Female to SMA Female	7.87	6.74	5.62
202-0785	9315505	37	SMA Male to TNC Female	7.57	6.49	5.40
202-0790	6311505	38	Mini-UHF Male to N Female	6.70	5.74	4.79
202-0795	6317505	39	Mini-UHF Male to UHF Female	5.60	4.80	4.00
202-0800	7316505	40	UHF Male to Mini-UHF Female	9.67	8.29	6.90
202-0805	9306505	41	SMA Male to Mini-UHF Male	7.87	6.74	5.62
202-0810	9316505	42	SMA Male to Mini-UHF Female	7.87	6.74	5.62
202-0815	7309505	43	UHF Male to SMA Male	7.87	6.74	5.62
202-0820	7319505	44	UHF Female to SMA Male	7.87	6.74	5.62
202-0825	9317505	45	SMA Female to UHF Male	8.13	6.97	5.81
202-0830	R0842	46	RCA Male to BNC Male	5.37	4.60	3.83
202-0835	R0843	47	RCA Female to BNC Male	3.13	2.69	2.24
202-0840	R0844	48	RCA Male to BNC Female	4.12	3.43	2.78
202-0845	R0847	49	RCA Male to F Male	3.33	2.86	1.88
202-0850	R0849	50	RCA Male to BNC Female	2.90	2.49	2.07
202-0855	R0851	51	RCA Female to F Male	2.63	2.25	1.88
202-0860	R0811	52	RCA Female to UHF Male	4.37	3.74	3.12
202-0865	R0822	53	RCA Male to UHF Female	3.80	3.26	2.71

RJ45 Category 5 Plugs and Boots

Category 5 Liner Plugs are supplied with an insertable liner for the conductors. The separated conductors are inserted into the liner, cut off squarely at bottom, inserted into RJ45 plug, then perfectly crimped. CXB300 series boots finish the installation with a color-coded strain relief assuring optimum performance.



Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-Up
202-1000	300568	8P8C Category 5 Plug for Round Twisted Pair, Solid	.56	.48	.43
202-1002	300568L	8P8C Category 5 Liner Plug for Round Twisted Pair, Solid	1.28	1.10	.98
202-1004	300568S	8P8C Category 5 Shielded Liner Plug for Round Twisted Pair, Solid	1.96	1.69	1.51
202-1006	300168	8P8C Non-Category 5 Plug for Round Twisted pair, Solid	.44	.38	.34
202-1008	300268	8P8C Non-Category 5 Plug for Round Twisted Pair, Stranded	.40	.34	.31
202-1010	300668S	8P8C Non-Category 5 Shielded for Round Twisted Pair, Solid	1.60	1.37	1.23
202-120X	CXB300	RJ45 Strain Relief Cable Boot (Color*)	.40	.34	.31

*Replace "X" in Stock No. for Color Selected; 1 — Beige, 2 — Black, 3 — Blue, 4 — Green, 5 — Gray, 6 — Red, 7 — White, 8 — Yellow.

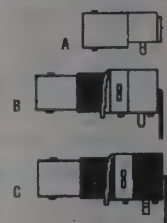
Super-Low™ Profile and Filtered BNC Jacks

Super-Low™

This right angle BNC jack is the lowest profile available anywhere. It is fully shielded because it is constructed of a zinc alloy and then plated with nickel. The phosphor bronze contact is plated with 15 micro inches of gold.

Filtered

These BNC right angle BNC printed circuit board jacks are capacitively decoupled by using two 4700 pF chip capacitors. This is the most cost effective way to efficiently filter out noise and eliminate ground loops on coaxial interconnections. Valox bodies are standard in black, but are available in white.



Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-24	25-99	100-Up
202-0574	364M595M	A	Super-Low Profile R/A PC BNC Jack	2.36	2.02	1.82
202-0575	364F595BLB	B	Filtered Low-Profile PC Jack, White 9400 pF	5.16	4.42	3.97
202-0580	364F595BL	C	Filtered Low-Profile PC Jack, Black 9400 pF	5.16	4.42	3.97

BNC Plugs

Crimp center conductor. Crimp braid with cable strain relief. Attractive wrap-around crimp sleeve flange; **Nominal Impedance:** 50 Ohms.

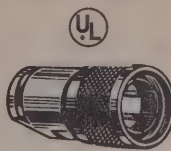
Working Voltage: 500 Volts, RMS at Sea Level. **Insulation Resistance:** 500 Megohms Min. **Dielectric Withstanding Voltage:** 1500 Volts, RMS at Sea Level VSWR 1.3 Max at 4 GHz.



Stock No.	Mfr.'s Type	For Cables	EACH	
			1-99	100-499
716-0258	CPMC-88-1	RG-58, 141	1.84	1.58
716-0259	CPMC-88-2	RG-59, RG-62	1.84	1.58

Keyed Twinax Plugs

Impedance: 95 Ohms Nominal. **Frequency Range:** 0-200 MHz. (Usage to 500 MHz with caution). **Voltage Rating:** 500 Volts Peak. **Material:** Contact - Brass, silver plated. **Other Metal Parts:** Brass non-tarnish finish. **Insulator:** Copolymer.



Stock No.	Mfr.'s Type	For Cables	EACH	
			1-99	100-499
716-0450	CP-TX-60	Belden 9207	5.90	5.31
716-0455	CP-TX-62	Belden TFE89207	7.50	6.75

Coaxial Baluns

Cambridge Products' Balun is a miniature, maintenance free transformer which allows you to connect from coaxial cable to either a (2) wire twisted pair or an RJ-11 telephone-type line cord. As a set, they are used to connect between the main frame computer and peripheral equipment.



Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
716-1000	CP-BLN-50-BP	BNC Plug	11.90	10.71

BNC Twist-On Connectors

Features patented twist-on cable attachment. No solder or special tools necessary. One-piece construction; utilizes patented self-contained, self-energizing contact.



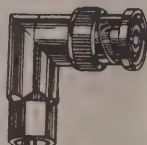
Male Plugs

Stock No.	Mfr.'s Type	Style	For Cables	EACH			
				1-99	100-499	500-999	1000-Up
716-0881	CPFI-UG88-1	BNC	RG-58	2.10	1.80	1.54	1.39
716-0882	CPFI-UG88-2	BNC	RG-59, RG-62	2.10	1.80	1.54	1.39
716-0883	CPFI-UG88-3	BNC	Belden 8281	2.73	2.34	2.11	1.90
716-0885	CPFI-UG88-5	BNC	RG-6	2.73	2.34	2.11	1.90
716-0890	CPFI-UG88-10	BNC	RG-TFE-59	2.73	2.34	2.11	1.90



Female Jacks

Stock No.	Mfr.'s Type	Style	For Cables	EACH			
				1-99	100-499	500-999	1000-Up
716-0981	CPFI-UG89-1	BNC	RG-58	3.68	3.15	2.84	2.55
716-0982	CPFI-UG89-2	BNC	RG-59, RG-62	3.15	2.70	2.43	2.19

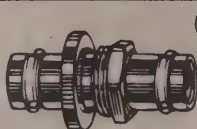


Male Right Angle Plugs

Stock No.	Mfr.'s Type	Style	For Cables	EACH			
				1-99	100-499	500-999	1000-Up
716-0911	CPFI-RA-1	BNC	RG-58	4.80	4.32	3.89	3.50
716-0912	CPFI-RA-2	BNC	RG-59, RG-62	4.80	4.32	3.89	3.50

BNC Adapters

Made of brass (QQ-B-626, Alloy 360, 1/2 hard), beryllium copper (Alloy No. 25), zamack (QQ-2-363-Comp A), and polyethylene (MIL-P-22748, Class A, Grade 5).



BNC Bulkhead Jack-Jack

Panel Mount Female-Female, 1/2" "D" Mounting Hole

Stock No.	Mfr.'s Type	Description	EACH			
			1-99	100-499	500-999	1000-Up
716-0411	CP-AD556	BNC Bulkhead Jack-Jack	4.20	3.60	3.24	2.92



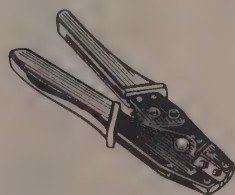
BNC Jack-Jack

Female-Female Splice, 1.275" Length

Stock No.	Mfr.'s Type	Description	EACH			
			1-99	100-499	500-999	1000-Up
716-0412	CP-AD555	BNC Jack-Jack	2.52	2.20	1.98	1.78

Controlled Cycle Hand Crimp Tool

Features interchangeable tool steel dies and controlled ratchet crimp cycle.



Stock No.	Mfr.'s Type	For Cables	EACH	
			1-4	5-9
716-2003	24-300P	RG-58 (2pc)	110.00	99.00
716-1999	24-304P	RG-58 (3pc)	110.00	99.00
716-1998	24-301P	RG-59, 62 (2pc)	110.00	99.00
716-2001	24-305P	RG-59, 62 (3pc)	110.00	99.00
716-2002	24-306P	RG-174	110.00	99.00

Twin-Ax and N-Boot and Hood

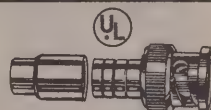
Available in Black only



Stock No.	Mfr.'s Type	Description	EACH			
			1-99	100-499	500-999	1000-Up
716-2102	25-7961	Twin-AX Boot & Hood	2.85	2.37	2.03	1.78

BNC Crimp-On Connectors

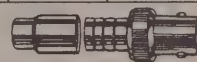
Features patented one-step termination with strain relief. No crimping center contact or solder needed. Two-piece connector construction; utilizes patented self-contained, self-energizing contact. Same electrical characteristics as BNC twist-on connectors.



Stock No.	Mfr.'s Type	For Cables	EACH			
			1-99	100-499	500-999	1000-Up
716-8810	CP-88-1	RG-58, 141	2.10	1.80	1.50	1.32
716-8820	CP-88-2	RG-59, RG-62	2.10	1.80	1.50	1.32

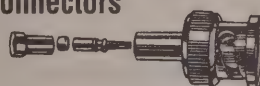
Female Jacks

Stock No.	Mfr.'s Type	For Cables	EACH			
			1-99	100-499	500-999	1000-Up
716-8910	CP-89-1	RG-58	2.94	2.52	2.27	2.04
716-8920	CP-89-2	RG-59, RG-62	2.94	2.52	2.27	2.04



BNC Mini Coaxial Crimp-On Connectors

Features crimp center conductor and crimp braid with cable strain relief. Same electrical characteristics as TNC twist-on connectors.



Stock No.	Mfr.'s Type	For Cables	EACH			
			1-99	100-499	500-999	1000-Up*
716-0274	CPM-88-19	RG-174, 188, 316	3.15	2.70	2.43	2.19
716-0279	CPM-88-20	RG-179	3.15	2.70	2.43	2.19

*Contact the Allied sales office nearest to you for price and delivery.

BNC Bulkhead Receptacles

Made of Brass (QQ-B-626, Alloy 360, 1/2 hard), beryllium copper (Alloy No. 25), zamack (QQ-2-363-Comp A), and polyethylene (MIL-P-22748, Class A, Grade 5). Same electrical characteristics as BNC twist-on connectors, no VSWR. Derlin insulation.



Stock No.	Mfr.'s Type	Style	Length	EACH			
				1-99	100-499	500-999	1000-Up
716-1094*	CP-1094-AST	BNC	1.187"	1.44	1.23	1.05	.95
716-1095	CP-1094-U	BNC	1.062"	1.10	.95	.75	.66
716-1092**	CP-625-U	BNC	1.062"	1.10	.95	.75	.66

*With solder tab. **Diameter .446", flat .188" - other diameters .382", flat .157".

TNC Twist On Connectors



Stock No.	Mfr.'s Type	Style	For Cables	EACH			
				1-99	100-499	500-999	1000-Up*
716-0681	CPFI-T-1	TNC	RG-58	3.15	2.70	2.43	2.19
716-0682	CPFI-T-2	TNC	RG-59, RG-62	3.15	2.70	2.43	2.19

*Contact the Allied sales office nearest to you for price and delivery.



Cablematic Coaxial Wire Stripper

Easy to use, provides fast simple coaxial wire stripping. Insert wire, rotate tool, and pull.

716-2004. Model CP-RG-58. 1-4EACH 21.75 5-9EACH 18.13
716-2005. Model CP-RG-59. 1-4EACH 21.75 5-9EACH 18.13

BNC Boots and Hoods

Colors Available: 1-Black, 2-Red, 3-Green, 4-Blue, 5-Yellow. Insert color number where N appears in the stock number.



Fig. A

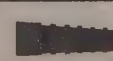


Fig. B



Fig. C

Available in Black Only

Stock No.	Mfr.'s Type	Fig.	Description	EACH			
				1-99	100-499	500-999	1000-Up
716-220N	25-7960	A	BNC Hood for 3 pc.Crimp plug	.32	.29	.24	.22
716-230N	25-7958	B	BNC Boot for RG-58, 141	.17	.15	.13	.12
716-240N	25-7959	B	BNC Boot for RG-59, 62	.17	.15	.13	.12
716-2501	25-B58	C	BNC Boot for RG-58, 141	.17	.15	.13	.12
716-2511	25-B58-TN	C	BNC Boot for RG-58 Thin NET	.17	.15	.13	.12
716-2521	25-B59	C	BNC Boot for RG-59, 62	.17	.15	.13	.12

300 Series



UL recognized file No. E19071. Rated 730 Volts rms. Contact Resistance: .016 Ohms max. Rated Current: 10 Amps.

Plugs With Angle Brackets (Fig. A)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3000	P-302-AB	2	1.20	0.87	0.75	0.64
750-3002	P-303-AB	3	1.28	0.93	0.82	0.69
750-3004	P-304-AB	4	1.40	0.98	0.88	0.75
750-3006	P-306-AB	6	1.81	1.30	1.14	0.99
750-3008	P-308-AB	8	2.09	1.52	1.33	1.13
750-3012	P-312-AB	12	2.10	1.53	1.34	1.14

Sockets With Angle Brackets (Fig. F)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3001	S-302-AB	2	1.24	0.89	0.78	0.67
750-3003	S-303-AB	3	1.53	1.11	0.96	0.83
750-3005	S-304-AB	4	1.61	1.16	1.03	0.86
750-3007	S-306-AB	6	2.11	1.53	1.35	1.14
750-3009	S-308-AB	8	2.50	1.80	1.58	1.37
750-3013	S-312-AB	12	5.24	3.96	3.67	3.15

Plugs With Cable Clamp In Top (Fig. B)

750-3200	P-302-CCT	2	2.24	1.60	1.41	1.21
750-3202	P-303-CCT	3	2.44	1.76	1.55	1.33
750-3204	P-304-CCT	4	2.74	1.98	1.73	1.50
750-3206	P-306-CCT	6	2.97	2.15	1.89	1.62
750-3208	P-308-CCT	8	3.12	2.24	2.06	1.79
750-3210	P-310-CCT	10	3.21	2.32	2.15	1.84
750-3212	P-312-CCT	12	3.43	2.47	2.28	1.95
750-3214	P-315-CCT	15	5.06	3.83	3.54	3.04
750-3216	P-318-CCT	18	5.21	3.93	3.65	3.13
750-3218	P-321-CCT	21	6.25	4.74	4.38	3.78
750-3220	P-324-CCT	24	7.37	5.57	5.15	4.44

Sockets With Cable Clamp In Top (Fig. G)

750-3201	S-302-CCT	2	2.37	1.71	1.50	1.28
750-3203	S-303-CCT	3	2.75	1.99	1.77	1.50
750-3205	S-304-CCT	4	2.81	2.01	1.78	1.52
750-3207	S-306-CCT	6	3.19	2.29	2.02	1.73
750-3209	S-308-CCT	8	3.65	2.65	2.44	2.11
750-3211	S-310-CCT	10	4.13	2.99	2.76	2.36
750-3213	S-312-CCT	12	4.49	3.39	3.13	2.69
750-3215	S-315-CCT	15	6.38	4.84	4.48	3.85
750-3217	S-318-CCT	18	6.84	5.17	4.78	4.12
750-3219	S-321-CCT	21	7.79	5.90	5.45	4.68
750-3221	S-324-CCT	24	8.29	6.30	5.81	5.00

Plugs With 90° Cable Clamp (Fig. C)

750-3100	P-302-CCE	2	2.37	1.71	1.50	1.28
750-3102	P-303-CCE	3	2.52	1.81	1.58	1.37
750-3104	P-304-CCE	4	2.88	2.06	1.83	1.57
750-3106	P-306-CCE	6	3.02	2.17	2.01	1.72
750-3108	P-308-CCE	8	3.19	2.31	2.13	1.83
750-3112	P-312-CCE	12	3.55	2.57	2.36	2.03

Sockets With 90° Cable Clamp (Fig. H)

750-3101	S-302-CCE	2	2.47	1.77	1.56	1.39
750-3103	S-303-CCE	3	2.75	1.99	1.77	1.50
750-3105	S-304-CCE	4	2.82	2.04	1.89	1.62
750-3107	S-306-CCE	6	3.24	2.34	2.17	1.87
750-3109	S-308-CCE	8	3.65	2.65	2.44	2.11
750-3113	S-312-CCE	12	4.49	3.39	3.13	2.69

Plugs - Cable Clamp In Top With Locks (Fig. D)

750-3300	P-302-CCT-L	2	3.86	2.78	2.58	2.22
750-3302	P-303-CCT-L	3	4.16	3.14	2.92	2.51
750-3304	P-304-CCT-L	4	4.07	3.08	2.84	2.44
750-3306	P-306-CCT-L	6	4.30	3.25	3.02	2.59
750-3308	P-308-CCT-L	8	4.51	3.42	3.14	2.70
750-3310	P-310-CCT-L	10	4.95	3.75	3.46	2.98
750-3312	P-312-CCT-L	12	5.34	4.04	3.74	3.22

Sockets - Cable Clamp In Top With Keepers (Fig. J)

750-3301	S-302-CCT-K	2	3.95	2.86	2.64	2.26
750-3303	S-303-CCT-K	3	4.49	3.39	3.13	2.69
750-3305	S-304-CCT-K	4	4.35	3.30	3.04	2.61
750-3307	S-306-CCT-K	6	4.76	3.61	3.35	2.87
750-3309	S-308-CCT-K	8	5.36	4.07	3.76	3.23
750-3311	S-310-CCT-K	10	7.56	5.74	5.32	4.57
750-3313	S-312-CCT-K	12	6.35	4.82	4.45	3.83

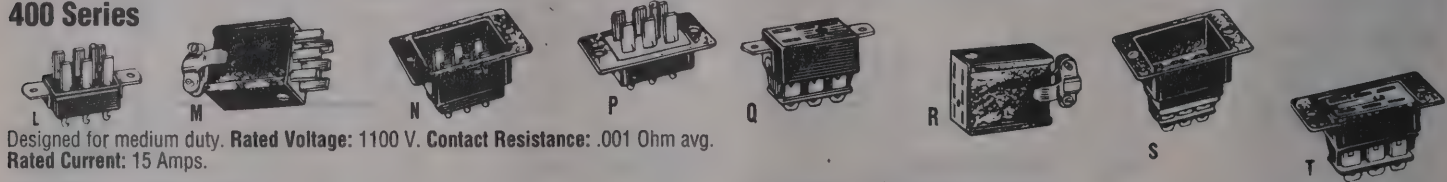
Plugs With Deep Brackets For Recessed Mounting (Fig. E)

750-3400	P-304-DB	4	3.28	2.35	2.18	1.88
750-3402	P-306-DB	6	3.44	2.48	2.29	1.96
750-3404	P-308-DB	8	3.66	2.65	2.44	2.11
750-3406	P-312-DB	12	4.38	3.34	3.08	2.65

Sockets With Deep Brackets For Recessed Mounting (Fig. K)

750-3401	S-304-DB	4	3.56	2.58	2.36	2.04
750-3403	S-306-DB	6	4.07	2.94	2.71	2.34
750-3405	S-308-DB	8	4.24	3.23	2.98	2.57
750-3407	S-312-DB	12	5.54	4.19	3.87	3.34

400 Series



Designed for medium duty. Rated Voltage: 1100 V. Contact Resistance: .001 Ohm avg. Rated Current: 15 Amps.

Plugs With Angle Brackets (Fig. L)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3052	P-404-AB	4	3.28	2.36	2.20	1.88
750-3054	P-406-AB	6	3.66	2.66	2.46	2.11
750-3056	P-408-AB	8	4.23	3.20	2.97	2.56

Sockets With Angle Brackets (Fig. Q)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3053	S-404-AB	4	4.19	3.03	2.80	2.40
750-3055	S-406-AB	6	5.00	3.80	3.49	3.02
750-3057	S-408-AB	8	6.33	4.80	4.44	3.82

Plugs With Cable Clamp On Top (Fig. M)

750-3250	P-402-CCT	2	7.41	5.62	5.18	4.46
750-3252	P-404-CCT	4	6.49	4.91	4.55	3.90
750-3254	P-406-CCT	6	7.38	5.58	5.17	4.44
750-3256	P-408-CCT	8	7.66	5.80	5.36	4.62
750-3258	P-410-CCT	10	8.89	6.73	6.23	5.36
750-3260	P-412-CCT	12	9.24	7.00	6.47	5.56

Sockets With Cable Clamp On Top (Fig. R)

750-3251	S-402-CCT	2	6.73	5.11	4.73	4.07
750-3253	S-404-CCT	4	7.84	5.92	5.48	4.70
750-3255	S-406-CCT	6	9.02	6.85	6.32	5.43
750-3257	S-408-CCT	8	10.35	7.84	7.26	6.23
750-3259	S-410-CCT	10	11.17	8.47	7.84	6.73
750-3261	S-412-CCT	12	12.93	9.80	9.07	7.79

Plugs With Deep Brackets For Recessed Mounting (Fig. N)

750-3354	P-406-DB	6	5.54	4.20	3.88	3.35
750-3356	P-408-DB	8	5.88	4.45	4.13	3.54
750-3360	P-412-DB	12	7.31	5.54	5.12	4.41

Sockets With Deep Brackets For Recessed Mounting (Fig. S)

750-3355	S-406-DB	6	7.18	5.44	5.04	4.33
750-3357	S-408-DB	8	8.63	6.55	6.07	5.21
750-3361	S-412-DB	12	11.12	8.43	7.79	6.69

Plugs With Shallow Brackets For Flush Mounting (Fig. P)

750-3452	P-404-SB	4	4.00	2.89	2.67	2.29
750-3454	P-406-SB	6	4.74	3.60	3.34	2.87
750-3456	P-408-SB	8	5.34	4.05	3.75	3.22
750-3460	P-412-SB	12	6.77	5.14	4.75	4.10

Sockets With Shallow Brackets For Flush Mounting (Fig. T)

750-3453	S-404-SB	4	5.00	3.80	3.49	3.02
750-3455	S-406-SB	6	5.92	4.49	4.16	3.56
750-3457	S-408-SB	8	12.22	9.28	8.59	7.38
750-3461	S-412-SB	12	9.76	7.41	6.86	5.89

Barrier Terminal Blocks, and Accessories

Barrier Terminal Blocks

Barrier

Interposing barriers between each terminal position yields substantially higher electrical ratings and provides an additional safeguard against shorting from frayed wires. The wide size range of "Jones" barrier terminal blocks, plus the several termination options and the available accessories permit flexibility of end use

Electrical Specifications

Series	Max. Volts RMS Without Marker Strip	Max. Volts RMS With Marker Strip	Max. Current In Amps	Max. Watts Per Terminal
140	1100	2000	15	3750
141	1100	2400	20	5000
142	1600	2600	30	7500

	Series 140		Series 141		Series 142	
	In.	MM	In.	MM	In.	MM
A	.875	22.23	1.125	28.58	1.312	33.34
B	.688	17.46	.875	22.23	1.062	26.99
C	.313	7.94	.422	10.72	.500	12.70
D	.375	9.53	.438	11.11	.563	14.29
E	.406	10.32	.500	12.70	.625	15.88
F	.250	6.35	.313	7.94	.375	9.53
G	.160	4.06	.175/.185	4.45/4.70	.209	5.31
H	5/40		6/32		8/32	
J	.141	3.57	.156	3.97	.203	5.16

Series 140

With Binding Head screw, for up to #16 solid wire.

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-4002	2-140	2	0.84	0.64	0.55	0.53
750-4003	3-140	3	1.00	0.75	0.67	0.57
750-4004	4-140	4	1.14	0.81	0.71	0.62
750-4005	5-140	5	1.29	0.94	0.82	0.71
750-4006	6-140	6	1.65	1.18	1.04	0.89
750-4007	7-140	7	1.76	1.29	1.12	0.96
750-4008	8-140	8	2.03	1.46	1.28	1.10
750-4009	9-140	9	2.33	1.62	1.47	1.26
750-4010	10-140	10	2.46	1.87	1.59	1.41
750-4012	12-140	12	2.96	2.14	1.88	1.61
750-4014	14-140	14	3.41	2.34	2.27	1.94
750-4015	15-140	15	3.49	2.50	2.31	1.90
750-4016	16-140	16	3.71	2.60	2.48	2.13
750-4018	18-140	18	4.00	2.89	2.67	2.29
750-4020	20-140	20	4.35	3.30	3.04	2.62
750-4024	24-140	24	5.19	3.92	3.65	3.12
750-4025	25-140	25	5.46	4.15	3.83	3.30

Series 140-Y

With Y terminal, for up to #16 solid wire.

Stock No.	Mfr.'s Type	Terminals	1-24	25-49	50-99	100-249
750-4102	2-140-Y	2	1.10	0.78	0.69	0.60
750-4103	3-140-Y	3	1.33	0.96	0.84	0.72
750-4104	4-140-Y	4	1.70	1.22	1.07	0.92
750-4106	6-140-Y	6	2.35	1.69	1.49	1.27
750-4108	8-140-Y	8	2.81	2.02	1.88	1.61
750-4110	10-140-Y	10	3.39	2.44	2.26	1.93
750-4112	12-140-Y	12	4.35	3.30	3.05	2.62
750-4114	14-140-Y	14	4.85	3.67	3.39	2.93
750-4116	16-140-Y	16	5.03	3.82	3.53	3.04
750-4120	20-140-Y	20	6.28	4.76	4.41	3.79

Series 141

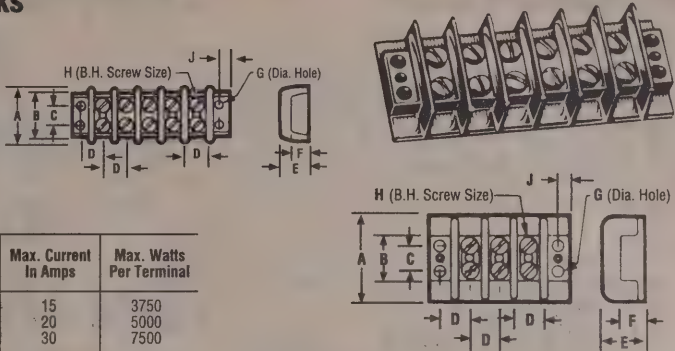
With Binding Head Screw, for up to #14 solid wire.

Stock No.	Mfr.'s Type	Terminals	1-24	25-49	50-99	100-249
750-4302	2-141	2	0.84	0.64	0.55	0.47
750-4303	3-141	3	1.55	1.13	1.00	0.84
750-4304	4-141	4	1.55	1.13	1.00	0.84
750-4305	5-141	5	1.76	1.29	1.12	0.96
750-4306	6-141	6	2.03	1.46	1.28	1.10
750-4307	7-141	7	2.50	1.80	1.57	1.39
750-4308	8-141	8	2.61	1.89	1.66	1.44
750-4310	10-141	10	3.09	2.23	1.95	1.68
750-4312	12-141	12	3.52	2.54	2.34	2.01
750-4314	14-141	14	4.01	3.83	2.80	2.40
750-4315	15-141	15	4.30	3.26	3.02	2.58
750-4316	16-141	16	4.51	3.42	3.14	2.70
750-4318	18-141	18	4.76	3.61	3.35	2.88
750-4320	20-141	20	5.63	4.25	3.83	3.39

Series 142

Accommodates up to #10 solid wires.

Stock No.	Mfr.'s Type	Terminals	1-24	25-49	50-99	100-249
750-4602	2-142	2	1.43	1.05	0.91	0.78
750-4603	3-142	3	1.72	1.25	1.10	0.93
750-4604	4-142	4	2.02	1.45	1.26	1.08
750-4605	5-142	5	2.80	2.08	1.84	1.57
750-4606	6-142	6	3.97	2.87	2.65	2.27
750-4607	7-142	7	4.13	3.12	2.89	2.49
750-4608	8-142	8	4.30	3.26	3.02	2.60
750-4609	9-142	9	5.60	5.00	4.63	3.98
750-4610	10-142	10	6.94	5.26	4.87	4.25
750-4612	12-142	12	7.29	5.52	5.11	4.38
750-4614	14-142	14	8.59	6.51	6.03	5.17
750-4615	15-142	15	8.61	6.53	6.05	5.19
750-4616	16-142	16	9.19	6.97	6.45	5.54



The 500 Series Jones barrier terminal blocks have high barriers and are designed for applications where electrical and mechanical performance requirements are especially critical. Bottoms are closed so insulating strips are not required. UL Recognized.

Dimensions

	Series 540		Series 541		Series 542	
	In.	MM	In.	MM	In.	MM
A	1.125	28.58	1.375	34.93	1.625	41.28
B	5.940	15.08	.750	19.05	.875	22.23
C	.313	7.94	.422	10.72	.500	12.70
D	.375	9.53	.438	11.11	.563	14.29
E	.609	15.48	.688	17.46	.875	22.23
F	.328	8.33	.375	9.53	.500	12.70
G	.160	4.06	.175/.185	4.45/4.70	.209	5.31
H	5/40 x 3/16		6/32 x 1/4		8/32 x 5/16	
J	.141	3.57	.156	3.97	.203	5.16

Series 540

Creepage distance: 1/2". 2300 V rms/15A.

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-5402	2-540	2	3.28	2.35	2.20	1.88
750-5403	3-540	3	4.15	3.13	2.92	2.50
750-5404	4-540	4	5.12	3.88	3.60	3.09
750-5406	6-540	6	5.86	4.44	4.11	3.52
750-5408	8-540	8	8.30	6.30	5.81	5.00
750-5410	10-540	10	8.93	6.76	6.27	5.39
750-5412	12-540	12	10.43	7.90	7.31	6.29
750-5414	14-540	14	12.93	9.81	9.07	7.81
750-5415	15-540	15	20.93	15.87	14.69	12.62
750-5416	16-540	16	23.91	16.63	15.40	13.24

Series 541

Creepage distance: 5/8". 2800 V rms/20A.

Stock No.	Mfr.'s Type	Terminals	1-24	25-49	50-99	100-249
750-5504	4-541	4	3.07	2.21	2.04	1.77
750-5506	6-541	6	8.88	6.72	6.23	5.35
750-5507	7-541	7	9.24	7.00	6.49	5.56
750-5508	8-541	8	9.28	7.02	6.51	5.58
750-5510	10-541	10	16.61	12.58	11.66	10.03
750-5512	12-541	12	17.00	12.89	11.93	10.25

Series 542

Creepage distance: 3/4". 4000 V rms/30A.

Stock No.	Mfr.'s Type	Terminals	1-24	25-49	50-99	100-249
750-5604	4-542	4	7.89	5.98	5.54	4.76
750-5606	6-542	6	10.56	7.99	7.41	6.35
750-5608	8-542	8	15.15	11.49	10.63	9.15
750-5610	10-542	10	16.03	12.16	11.26	9.69
750-5612	12-542	12	16.77	12.73	11.78	10.25



Solder Terminals

Optional terminals for use with barrier blocks. Refer to ordering information below for type and terminal block cross-reference.

Stock No.	Mfr.'s Type	For Use With	EACH			
			1-24	25-49	50-99	100-249
750-7650	3/4W-140	140/540	0.35	0.27	0.23	0.20
750-7651	W-140	140/540	0.35	0.27	0.23	0.20
750-7652	Y-140	140/540	0.35	0.27	0.23	0.20
750-7653	3/4W-141	141/541	0.49	0.36	0.31	0.27
750-7654	W-141	141/542	0.50	0.38	0.33	0.29
750-7655	Y-141	141/542	0.56	0.41	0.37	0.33
750-7656	3/4W-142	142/542	0.67	0.51	0.45	0.37
750-7657	W-142	142/542	0.61	0.47	0.41	0.34
750-7658	Y-142	142/542	0.67	0.51	0.45	0.34

Marker Strips

Marker strips identify terminal positions on barrier terminal blocks and insulate exposed portions of terminals from a conductive mounting surface. Marker strips for Series 140 are 1/32" thick, flame-retardant material and mount under the terminal strip. Shipping wt.: 2 oz. 1/8" white numerals standard.

Series 140

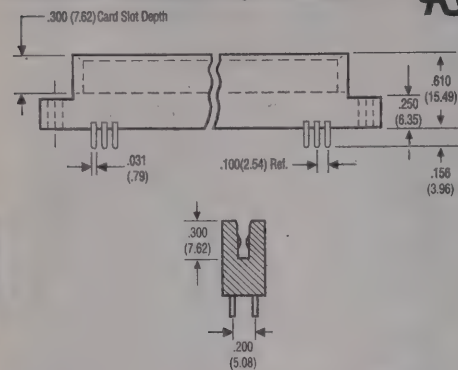
Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-5702	MS-2-140	2	0.53	0.39	0.36	0.30
750-5703	MS-3-140	3	0.53	0.39	0.36	0.30
750-5704	MS-4-140	4	0.53	0.39	0.36	0.30
750-5705	MS-5-140	5	0.53	0.39	0.36	0.30
750-5706	MS-6-140	6	0.53	0.39	0.36	0.30
750-5707	MS-7-140	7	0.67	0.49	0.42	0.37
750-5708	MS-8-140	8	0.67	0.49	0.42	0.37
750-5710	MS-10-140	10	0.72	0.53	0.46	0.40
750-5712	MS-12-140	12	0.72	0.53	0.46	0.40
750-5714	MS-14-140	14	0.82	0.63	0.53	0.46
750-5715	MS-15-140	15	0.82	0.63	0.53	0.46
750-5716	MS-16-140	16	0.93	0.72	0.63	0.52
750-5718	MS-18-140	18	0.93	0.72	0.63	0.52
750-5720	MS-20-140	20	1.20	0.87	0.77	0.67

Series 141

Stock No.	Mfr.'s Type	Terminals	1-24	25-49	50-99	100-249
750-5902	MS-2-141	2	0.53	0.39	0.36	0.30
750-5903	MS-3-141	3	0.53	0.39	0.36	0.30
750-5904	MS-4-141	4	0.53	0.39	0.36	0.30
750-5905	MS-5-141	5	0.67	0.49	0.42	0.37
750-5906	MS-6-141	6	0.67	0.49	0.42	0.37
750-5907	MS-7-141	7	0.67	0.49	0.42	0.37
750-5908	MS-8-141	8	0.78	0.56	0.50	0.44
750-5910	MS-10-141	10	0.72	0.53	0.46	0.40
750-5912	MS-12-141	12	0.82	0.63	0.53	0.46
750-5914	MS-14-141	14	0.93	0.72	0.63	0.52
750-5915	MS-15-141	15	1.11	0.81	0.69	0.61

.100" (2.54 mm) Density Card Edge Connectors

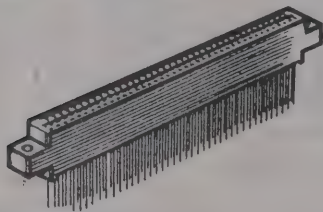
CARDCON™ Commercial Edge Connectors



.100" contact-to-contact spacing. Dip Solder Tails. Double readout, with mounting ears. .200" row spacing. Tails. .156" long. Current rating 3 amps. Insulation: UL 94V-0 rated black glass-filled polyester. UL recognized - file #E19071. Accepts .062" (1.59 mm) thick PC boards.

Stock No.	Mfr.'s Type	Pos./ Cont.	EACH			
			1-24	25-49	50-99	100-249
750-1060	50-12SN-11	12/24	1.07	.77	.68	.58
750-1062	50-15SN-11	15/30	1.33	.98	.83	.73
750-1064	50-18SN-11	18/36	1.61	1.15	1.02	.87
750-1066	50-22SN-11	22/44	1.96	1.42	1.25	1.06
750-1068	50-25SN-11	25/50	2.25	1.60	1.41	1.22
750-1070	50-30SN-11	30/60	2.68	1.93	1.70	1.46
750-1072	50-36SN-11	36/72	3.06	2.19	2.05	1.75
750-1074	50-43SN-11	43/86	3.64	2.76	2.54	2.18
750-1076	50-50SN-11	50/100	4.05	3.07	2.83	2.45

High Reliability Edge Connectors



.100" contact-to-contact spacing. Double readout on .200" (5.08mm) center. Bifurcated cantilever type contacts. Contact material: High-tensile brass alloy. Contact Plating: 30 μ inch gold over 30 μ inch nickel in contact area; 5 μ inch gold overall. Insulation: Green glass fiber-filled diallyl phthalate. Withstand voltage: 600VAC rms. Current Rating: 3 Amps. Accepts .062" (1.58mm) thick double sided PC boards. UL recognized -

Solder Tab. .250" tail length, .025" dia. pins

Stock No.	Mfr.'s Type	Pos./ Cont.	EACH			
			1-24	25-49	50-99	100-249
750-1219	50-30C-10	15/30	7.73	5.86	5.42	4.66
750-1220	50-44C-20	22/44	9.41	7.14	6.60	5.68
750-1221	50-72C-10	36/72	12.94	9.81	9.07	7.81
750-1222	50-80C-10	40/80	13.78	10.45	9.67	8.32
750-1223	50-86C-10	43/86	14.66	11.11	10.29	8.85
750-1224	50-100C-10	50/100	16.32	12.37	11.44	9.86

Dip Solder. .109" tail length, .025" dia. pins (without mounting ears).

Stock No.	Mfr.'s Type	Pos./ Cont.	EACH			
			1-24	25-49	50-99	100-249
750-1207	50-30C-20	15/30	6.78	5.15	4.75	4.10
750-1208	50-44C-20	22/44	8.32	6.30	5.84	5.02
750-1209	50-72C-20	36/72	11.56	8.77	8.11	6.97
750-1210	50-80C-20	40/80	12.46	9.46	8.76	7.52
750-1211	50-86C-20	43/86	13.38	10.15	9.39	8.08
750-1212	50-100C-20	50/100	15.15	11.47	10.62	9.15

Wire Wrap. .600" tail length, .025" dia. pins

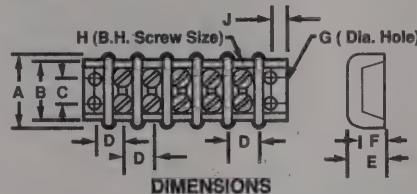
Stock No.	Mfr.'s Type	Pos./ Cont.	EACH			
			1-24	25-49	50-99	100-249
750-1160	50-30C-30	15/30	6.91	5.23	4.84	4.16
750-1161	50-44C-30	22/44	8.48	6.42	5.94	5.10
750-1162	50-72C-30	36/72	11.83	8.97	8.30	7.15
750-1163	50-80C-30	40/80	12.57	9.52	8.81	7.58
750-1164	50-86C-30	43/86	13.46	10.21	9.46	8.13
750-1165	50-100C-30	50/100	15.43	11.69	10.83	9.30

Barrier Terminal Blocks

Electrical Specifications

Series	Max. Volts RMS Without Marker Strip	Max. Volts RMS With Marker Strip	Max. Current In Amps	Max. Watts Per Terminal
164	1100 VAC rms	2000 VAC RMS	15	3750
176	1100 VAC rms	—	15	3750
172	1000 VAC rms	2000 VAC RMS	10	2500

Dimensions



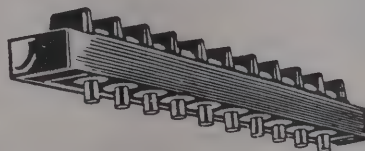
	Series 164		Series 176		Series 172	
	in.	mm	in.	mm	in.	mm
A	.875	22.23	.375	9.53	.625	15.88
B	.688	17.46	.375	9.53	.625	15.88
C	.313	7.94	—	—	.250	6.35
D	.375	9.53	.375	9.53	.250	6.35
E	.406	10.32	.500	12.70	.313	7.94
F	.250	6.35	.281	7.14	.219	5.56
G	.171/175	4.34/4.45	.156	3.96	.125	3.18
H	6-32x1/4	—	5-40	—	2-56x9/16	—
J	.141	3.57	.171	4.34	.125	3.18

UL Recognized - file E 61245. CSA - LR 31996.

Series 164

Similar in dimensions and electrical specifications to Series 140 and uses the same marker strip. Maximum wire size: 14 AWG, double row.

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-4902	2-164	2	1.84	1.33	1.16	1.00
750-4903	3-164	3	2.11	1.51	1.33	1.14
750-4904	4-164	4	2.48	1.79	1.57	1.35
750-4905	5-164	5	2.70	1.95	1.71	1.47
750-4906	6-164	6	2.77	2.01	1.85	1.60
750-4908	8-164	8	3.64	2.63	2.43	2.09
750-4910	10-164	10	4.88	3.70	3.42	2.95
750-4912	12-164	12	5.15	3.89	3.60	3.10
750-4914	14-164	14	5.65	4.28	3.97	3.42
750-4916	16-164	16	6.05	4.58	4.24	3.66
750-4920	20-164	20	6.71	5.07	4.69	4.04



Series 176

.375" density, single row, designed for PC board flow solder termination. Solder terminals: .093" (2.36mm) diameter. Maximum wire size: 16 AWG. Solder tail length: .125" (3.18mm) for .063" (1.60mm) thickness PC

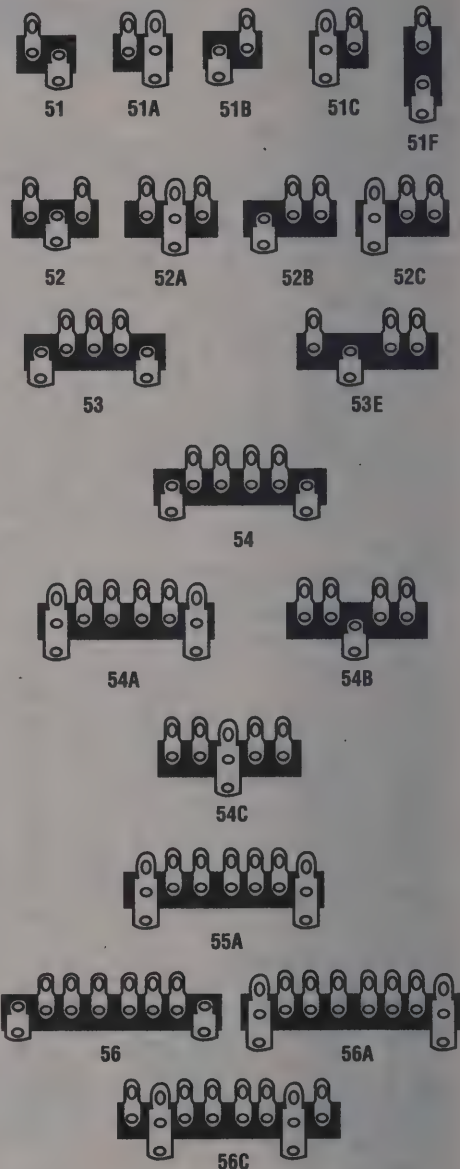
Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-5302	2-176-2	2	2.63	1.90	1.75	1.50
750-5303	3-176-2	3	3.24	2.35	2.16	1.86
750-5304	4-176-2	4	3.55	2.55	2.37	2.03
750-5305	5-176-2	5	3.97	2.86	2.66	2.28
750-5306	6-176-2	6	4.07	2.95	2.73	2.35
750-5308	8-176-2	8	4.45	3.38	3.12	2.69
750-5310	10-176-2	10	4.94	3.76	3.47	2.99

Series 172

.250" density. Maximum wire size: 18 AWG, double row.

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-5102	2-172	2	1.52	1.11	.97	.83
750-5104	4-172	4	2.31	1.68	1.47	1.27
750-5106	6-172	6	2.89	2.08	1.92	1.66
750-5108	8-172	8	3.58	2.58	2.39	2.05
750-5110	10-172	10	4.10	3.11	2.86	2.46
750-5112	12-172	12	4.72	3.57	3.32	2.84

Lug Type Terminal Strips

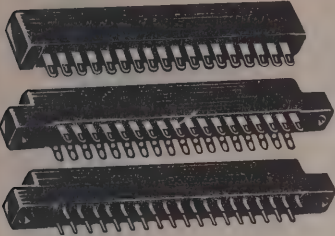


Cadmium plated steel lugs on .375" (9.53mm) density with .140" mounting hole diameter. Insulation material: UL94HB rated chocolate XPC.

Stock No.	Mfr.'s Type	Description	Mtg. Center	EACH			
				1-24	25-49	50-99	100-249
750-6615	51	1 lug	—	.39	.30	.27	.22
750-6616	51A	2 lugs, 1 Gnd.	—	.39	.30	.27	.22
750-6617	51B	1 lug	—	.39	.30	.27	.22
750-6618	51C	2 lugs, 1 Gnd.	—	.39	.30	.27	.22
750-6619	51F	1 lug	—	.71	.51	.44	.39
750-6620	52	2 lugs	—	.39	.30	.27	.22
750-6621	52A	3 lugs, 1 Gnd.	—	.51	.38	.34	.30
750-6622	52B	2 lugs	—	.39	.30	.27	.22
750-6623	52C	3 lugs, 1 Gnd.	—	.51	.38	.34	.30
750-6624	53	3 lugs	1.5"	.71	.51	.44	.39
750-6625	53E	3 lugs	—	.64	.47	.40	.36
750-6627	54	4 lugs	1.875"	.75	.58	.49	.42
750-6628	54A	6 lugs, 2 Gnd.	1.875"	.88	.67	.59	.49
750-6629	54B	4 lugs	—	.71	.51	.44	.39
750-6630	54C	5 lugs, 1 Gnd.	—	.75	.58	.49	.42
750-6632	55A	7 lugs, 2 Gnd.	2.250"	1.23	.88	.77	.67
750-6634	56	6 lugs	—	1.09	.78	.70	.61
750-6635	56A	8 lugs, 2 Gnd.	2.625"	1.09	.78	.70	.61
750-6636	56C	8 lugs, 2 Gnd.	1.875"	1.09	.78	.70	.61

PC Board Connectors

Cardcon® Edge Connectors



For .062" thickness single and double-sided PC boards. Blue glass-filled polyester 94 V-0 insulator. Meets requirements of MIL-C-21097. **Contact Style:** Semi-bellows bifurcated. **Contact Material:** Spring brass alloy 260. **Contact Plating:** Gold on contact area and gold flash on tail with copper underplate. **Termination:** Solder eyelet; dip solder with either .200" (5.08 mm) or .140" (3.56 mm) between row spacing. Available with or without mounting ears and 128" holes. **Test Voltage:** 1800 VAC rms at sea level. **Current:** 5 Amps.

.156" Contact-to-Contact Spacing, Dip Solder Tails. Double Readout, w/mounting ears .200" Row Spacing, Tails .156" long.

Stock No.	Mfr.'s Type*	Contacts	EACH			
			1-24	25-49	50-99	100-Up
750-1256	50-12SN-1	6	1.26	0.90	0.79	0.69
750-1257	50-20SN-1	10	1.84	1.33	1.15	1.00
750-1258	50-24SN-1	12	2.26	1.61	1.43	1.23
750-1259	50-30SN-1	15	2.60	1.87	1.65	1.42
750-1260	50-36SN-1	18	2.94	2.13	1.86	1.61
750-1261	50-44SN-1	22	2.94	2.12	1.97	1.69
750-1262	50-48SN-1	24	3.10	2.24	2.07	1.78
750-1263	50-50SN-1	25	3.24	2.35	2.16	1.86

*Board retention PC tails allow wave soldering.

.156" Contact-to-Contact Spacing, Dip Solder Tails. Double Readout, w/mounting ears .140" Row Spacing, Tails .125" long.

Stock No.	Mfr.'s Type*	Contacts	1-24	25-49	50-99	100-Up
750-1264	50-20SN-2	10	1.84	1.33	1.15	1.00
750-1265	50-24SN-2	12	2.26	1.61	1.43	1.23
750-1266	50-30SN-2	15	2.60	1.87	1.65	1.42
750-1267	50-36SN-2	18	2.94	2.13	1.86	1.61
750-1268	50-44SN-2	22	2.94	2.12	1.97	1.69
750-1269	50-48SN-2	24	3.10	2.24	2.07	1.78

.156" Contact-to-Contact Spacing, Dip Solder Tails. Double Readout, no mounting ears .200" Row Spacing, Tails .156" long.

Stock No.	Mfr.'s Type*	Contacts	1-24	25-49	50-99	100-Up
750-1270	50-12SN-3	6	1.91	1.38	1.21	1.04
750-1271	50-20SN-3	10	2.75	1.98	1.74	1.49
750-1272	50-24SN-3	12	3.08	2.22	1.96	1.68
750-1273	50-30SN-3	15	3.68	2.66	2.46	2.11
750-1274	50-36SN-3	18	3.83	2.76	2.55	2.19
750-1275	50-44SN-3	22	4.16	3.21	2.83	2.43
750-1276	50-48SN-3	24	4.53	3.43	3.17	2.73
750-1277	50-50SN-3	25	4.66	3.53	3.27	2.81

.156" Contact-to-Contact Spacing, Dip Solder Single Readout, w/mounting ears, tails .156" long.

Stock No.	Mfr.'s Type*	Contacts	1-24	25-49	50-99	100-Up
750-1278	50-6SN-5	6	1.77	1.27	1.12	0.97
750-1279	50-10SN-5	10	1.94	1.42	1.25	1.06
750-1280	50-12SN-5	12	2.37	1.73	1.50	1.30
750-1281	50-15SN-5	15	2.88	2.08	1.83	1.58
750-1282	50-18SN-5	18	3.62	2.61	2.41	2.08
750-1283	50-22SN-5	22	3.96	2.85	2.64	2.28
750-1284	50-24SN-5	24	4.14	3.14	2.90	2.49
750-1285	50-25SN-5	25	4.49	3.40	3.15	2.71

.156" Contact-to-Contact Spacing, Solder Eyelet — Single Readout, w/mounting ears.

Stock No.	Mfr.'s Type*	Contacts	1-24	25-49	50-99	100-Up
750-1286	50-6SN-7	6	1.77	1.27	1.12	0.97
750-1287	50-10SN-7	10	1.97	1.43	1.26	1.07
750-1288	50-12SN-7	12	2.37	1.73	1.50	1.30
750-1289	50-15SN-7	15	2.88	2.08	1.83	1.58
750-1290	50-18SN-7	18	3.62	2.61	2.41	2.08
750-1291	50-22SN-7	22	4.04	2.91	2.71	2.33
750-1292	50-24SN-7	24	4.17	3.16	2.93	2.51
750-1293	50-25SN-7	25	4.50	3.41	3.16	2.72

.156" Solder Eyelet — Double Readout, .200" Row Spacing.

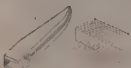
Stock No.	Mfr.'s Type*	Contacts	1-24	25-49	50-99	100-Up
750-1294	50-12SN-9	6	1.27	0.92	0.80	0.70
750-1295	50-20SN-9	10	1.63	1.18	1.03	0.90
750-1296	50-24SN-9	12	1.83	1.32	1.15	0.99
750-1297	50-30SN-9	15	2.08	1.51	1.32	1.13
750-1298	50-36SN-9	18	2.78	2.01	1.76	1.51
750-1299	50-44SN-9	22	3.06	2.19	2.04	1.75
750-1300	50-48SN-9	24	3.21	2.32	2.14	1.84
750-1301	50-50SN-9	25	3.35	2.42	2.24	1.92

Edge Connector Accessories

Card Guides

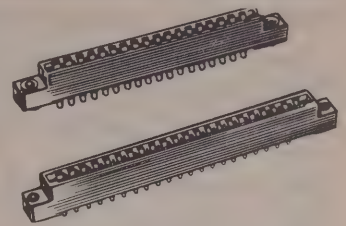
Stock No.	Mfr.'s Type	Color	EACH			
			1-24	25-49	50-99	100-Up
750-1237	50-GP-1	Green	0.82	0.62	0.55	0.46
750-1238	50-GP-18	Black	0.82	0.62	0.55	0.46

CARD GUIDES



Commercial Edge Connectors

Feature .156" contact-to-contact spacing. .200" row spacing on double row versions. Dip solder tails are .156" in length. These connectors will accept single or double sided .062" (1.59 mm) thick PC boards. **Current rating:** 5 Amps.



Single Readout Solder Eyelet

Stock No.	Mfr.'s Type	Contact Position	EACH			
			1-24	25-49	50-99	100-Up
750-1100	50-6A-20	6	2.24	1.59	1.41	1.21
750-1105	50-10A-20	10	2.48	1.79	1.57	1.35
750-1110	50-12A-20	12	2.85	2.05	1.88	1.62
750-1119	50-15A-20	15	3.43	2.48	2.31	1.98
750-1124	50-18A-20	18	4.31	3.25	3.02	2.59
750-1137	50-22A-20	22	4.82	3.65	3.38	2.90
750-1140	50-25A-20	25	5.62	4.26	3.94	3.40

5/32" Dip Solder

Stock No.	Mfr.'s Type	Contact Position	EACH			
			1-24	25-49	50-99	100-Up
750-1101	50-6B-10	6	2.24	1.59	1.41	1.21
750-1102	50-10B-10	10	2.43	1.77	1.56	1.34
750-1103	50-15B-10	15	3.43	2.48	2.31	1.98
750-1104	50-18B-10	18	4.31	3.25	3.02	2.59
750-1106	50-22B-10	22	4.72	3.58	3.30	2.84
750-1107	50-25B-10	25	5.62	4.26	3.94	3.40

Double Readout Solder Eyelet

Stock No.	Mfr.'s Type	Contact Position	EACH			
			1-24	25-49	50-99	100-Up
750-1199	50-12A-30	6	1.60	1.14	1.01	0.85
750-1166	50-20A-30	10	2.04	1.47	1.29	1.11
750-1167	50-24A-30	12	2.28	1.64	1.44	1.25
750-1168	50-30A-30	15	2.60	1.88	1.66	1.42
750-1169	50-36A-30	18	3.32	2.39	2.20	1.90
750-1170	50-44A-30	22	3.82	2.76	2.54	2.18
750-1171	50-50A-30	25	4.19	3.03	2.80	2.41

5/32" Dip Solder

Stock No.	Mfr.'s Type	Contact Position	EACH			
			1-24	25-49	50-99	100-Up
750-1172	50-12B-10	6	1.59	1.14	1.00	0.85
750-1173	50-20B-10	10	2.29	1.65	1.44	1.25
750-1174	50-24B-10	12	2.55	1.93	1.79	1.52
750-1175	50-30B-10	15	3.10	2.24	2.07	1.75
750-1176	50-36B-10	18	3.49	2.52	2.34	2.01
750-1177	50-44B-10	22	3.69	2.66	2.46	2.11
750-1178	50-50B-10	25	4.06	2.94	2.72	2.34

Double Readout Card Extender Edge Connector

For inter-connecting two or more .156" (3.962 mm) contact center 1/16" (.1558 mm) PC Boards. Glass fiber-filled diallyl phthalate per MIL-M-14, type SDG-F insulator. **Contact Style:** Bifurcated bellows of beryllium copper and gold contact plating. Solder eyelet termination. **Rated:** 830 VAC; 5 Amps rms at sea level.



Stock No.	Mfr.'s Type	Contact Position	EACH			
			1-24	25-49	50-99	100-Up
750-1050	50-12S-30	6	2.61	1.89	1.66	1.42
750-1051	50-20S-30	10	3.81	2.75	2.54	2.18
750-1052	50-24S-30	12	5.26	3.99	3.69	3.18
750-1053	50-30S-30	15	4.85	3.68	3.41	2.93
750-1054	50-36S-30	18	6.32	4.80	4.44	3.82
750-1055	50-44S-30	22	4.91	3.71	3.44	2.96
750-1056	50-50S-30	25	7.64	5.79	5.36	4.60



Between Contact
50-PK-2



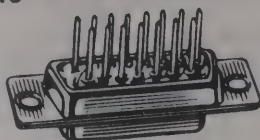
In-Contact
50-PK-1

Polarizing Keys

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-Up
750-1240	50-PK-1	In-Contact Type .156 center	0.17	0.13	0.11	0.10
750-1241	50-PK-2	Between-Contact Type .156 center	0.17	0.13	0.11	0.10

Basic D, D-Sub Miniature Connectors

This economical series is ideal for commercial applications. **Insulator Material:** Two-piece nylon. **Contact Material:** Machine copper alloy with gold over nickel contact plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** -65°F to +250°F. Non-removable contacts.



Solder Pot Contacts With Standard Shell

Stock No.	Mfr.'s Type	Description	Contacts	EACH			
				1-24	25-49	50-99	100-249
750-6700	DE-9P	Plug	9	2.81	2.14	1.79	1.55
750-6701	DE-9S	Socket	9	3.96	2.87	2.52	2.17
750-6702	DA-15P	Plug	15	3.74	2.70	2.50	2.15
750-6703	DA-15S	Socket	15	5.53	4.19	3.69	3.17
750-6704	DB-25P	Plug	25	4.07	3.09	2.72	2.34
750-6705	DB-25S	Socket	25	5.42	4.11	3.80	3.27
750-6706	DC-37P	Plug	37	7.20	5.46	5.05	4.35
750-6707	DC-37S	Socket	37	11.80	8.95	8.28	7.13
750-6708	DD-50P	Plug	50	9.48	7.19	6.65	5.73
750-6709	DD-50S	Socket	50	15.55	11.79	10.92	9.39

Wire Wrap

750-6710	DE-9P-F179	Plug	9	3.84	2.77	2.56	2.20
750-6711	DE-9S-F179	Socket	9	5.27	4.01	3.71	3.18
750-6712	DA-15P-F179	Plug	15	5.25	3.99	3.69	3.17
750-6713	DA-15S-F179	Socket	15	7.19	5.46	5.05	4.35
750-6714	DB-25P-F179	Plug	25	7.66	5.81	5.38	4.62
750-6715	DB-25S-F179	Socket	25	11.20	8.50	7.86	6.76
750-6716	DC-37P-F179	Plug	37	10.34	7.85	7.26	6.24
750-6717	DC-37S-F179	Socket	37	15.94	12.09	11.19	9.63
750-6718	DD-50P-F179	Plug	50	13.66	10.35	9.58	8.24
750-6719	DD-50S-F179	Socket	50	20.98	15.91	14.73	12.67

PC Contacts (For 1/8" Boards)

750-6720	DE-9PV	Plug	9	4.02	2.90	2.69	2.31
750-6721	DE-9SV	Socket	9	5.47	4.15	3.84	3.31
750-6722	DA-15PV	Plug	15	5.88	4.46	4.12	3.54
750-6723	DA-15SV	Socket	15	9.37	6.05	5.59	4.81
750-6724	DB-25PV	Plug	25	7.91	7.06	6.53	5.62
750-6725	DB-25SV	Socket	25	13.33	10.11	9.35	8.04
750-6726	DC-37PV	Plug	37	13.58	10.30	9.53	8.20
750-6727	DC-37SV	Socket	37	19.16	14.53	13.45	11.57
750-6728	DD-50PV	Plug	50	15.30	11.60	10.73	9.23
750-6729	DD-50SV	Socket	50	25.91	19.65	18.19	15.65

Basic D, Dataphone Connectors



A high reliability connector designed specifically for use on data signal calling devices. **Insulation Material:** Two-piece diallyl phthalate per MIL-M-14 type GDI-30. **Contact Material:** Copper alloy with gold over copper plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** -65°F to +275°F.

Stock No.	Mfr.'s Type	Description	Contacts	EACH			
				1-24	25-49	50-99	100-249
750-6730	DA-19603-403	Plug	15	10.32	7.83	7.23	6.22
750-6731	DA-19603-404	Socket	15	13.79	10.45	9.67	8.33
750-6990	DA-51225-1	Hood	15	2.59	1.86	1.65	1.40
750-6734	DB-19604-432	Plug	25	12.30	9.31	8.62	7.42
750-6735	DB-19604-433	Socket	25	26.23	19.90	18.41	15.84
750-6992	DB-51226-1A	Hood	25	2.90	2.09	1.83	1.58

Hand Tools and Stay Bands

UNI Clinch D Single Wire Hand Insertion Tool (Fig. A) Type SD-UC. Designed to insert one 24-26 AWG wire at a time. Uni Clinch D is used as a field repair tool by field service engineers.

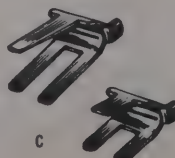
750-6778.....EACH 88.35

Super D Manual Stay Band Tool (Fig B) Type SD-MSBT. Designed for applying the steel stay band/strain relief to the cable before termination of wires to the Super D Connector, the manual Stay Band tool applies both Stay Band sizes to the full range of cable sizes.

750-6779.....EACH 94.50

Super Stay Bands (Fig. C)

Stock No.	Mfr.'s Type	Contacts	EACH			
			1-24	25-49	50-99	100-249
750-6780	SD-9-15-SB	9 and 15	.07	.06	.05	.04
750-6782	SD-25-37-SB	25 and 37	.09	.08	.06	.05



Series 1 Commercial and Military Connectors

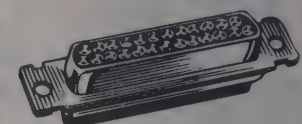
Series 1 connectors consist of monoblock glass fiber-filled diallyl phthalate insulation material. **Contact Termination:** Non-removable solder pot. **Contact Material:** Copper alloy with gold over copper plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** -65°F to 300°F.



Stock No.	Mfr.'s Type	Description	Contacts	EACH			
				1-24	25-49	50-99	100-249
750-6738	DEM-9P	Plug	9	5.73	4.35	4.02	3.46
750-6739	DEM-9S	Socket	9	8.26	6.26	5.79	4.99
750-6740	DAM-15P	Plug	15	8.33	6.31	5.85	5.02
750-6741	DAM-15S	Socket	15	12.23	9.27	8.58	7.39
750-6742	DBM-25P	Plug	25	12.67	9.61	8.88	7.65
750-6743	DBM-25S	Socket	25	19.34	14.67	13.57	11.68
750-6744	DCM-37P	Plug	37	17.78	13.48	12.48	10.73
750-6745	DCM-37S	Socket	37	27.66	20.97	19.42	16.69
750-6746	DDM-50P	Plug	50	23.14	17.56	16.24	13.98
750-6747	DDM-50S	Socket	50	36.58	27.73	25.68	22.07

Series 3 Commercial and Military Connectors

High-reliability connectors with improved heat resistance. An outstanding feature of these connectors is the crimp, snap-in, rear release contacts. They are ideal for field repair and replacement. **Insulation Material:** Monoblock glass fiber-filled diallyl per MIL-M-14, type GDI-30-F. **Contact Material:** Copper alloy with gold over copper plating. **Current Rating:** 5 Amps. **Operating Temperature:** -65°F to +300°F. Military connectors have all the same features and meet the requirements of MIL-C-24308.



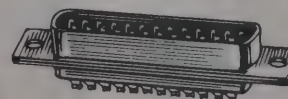
Series 3 Commercial Grade Connectors

Stock No.	Mfr.'s Type	Description	Contacts	EACH			
				1-24	25-49	50-99	100-249
750-6748	DEMA-9P	Plug	9	15.60	11.82	10.95	9.41
750-6749	DEMA-9S	Socket	9	16.01	12.13	11.24	9.66
750-6750	DAMA-15P	Plug	15	22.80	16.69	15.45	13.29
750-6751	DAMA-15S	Socket	15	22.53	17.08	15.80	13.60
750-6752	DBMA-25P	Plug	25	33.15	25.13	23.27	20.01
750-6753	DBMA-25S	Socket	25	33.76	25.60	23.70	20.38
750-6754	DCMA-37P	Plug	37	46.23	35.06	32.45	27.91
750-6755	DCMA-37S	Socket	37	46.98	35.63	32.97	28.35
750-6756	DDMA-50P	Plug	50	59.58	45.19	41.81	35.97
750-6757	DDMA-50S	Socket	50	60.46	45.86	42.44	36.49

Series 3 Military Grade Connectors

750-6758	M24308/4-1F	Plug	9	8.18	6.20	5.73	4.93
750-6759	M24308/2-1F	Socket	9	10.56	8.00	7.41	6.37
750-6760	M24308/4-2F	Plug	15	11.09	8.42	7.80	6.71
750-6761	M24308/2-2F	Socket	15	15.04	11.40	10.55	9.07
750-6762	M24308/4-3F	Plug	25	16.00	12.13	11.24	9.66
750-6763	M24308/2-3F	Socket	25	22.51	17.06	15.79	13.59
750-6764	M24308/4-4F	Plug	37	21.79	16.53	15.30	13.16
750-6765	M24308/2-4F	Socket	37	31.39	23.80	22.02	18.96
750-6766	M24308/4-5F	Plug	50	33.95	25.74	23.81	20.50
750-6767	M24308/2-5F	Socket	50	46.96	35.62	32.95	28.35

Basic D II Connectors



The low cost version with all the performance characteristics of the Basic D Series. (They cost less because they have stamped instead of machined contacts.) Ideal for commercial applications where cost is a factor. **Insulation Material:** Two-piece nylon. **Contact Material:** Copper alloy (stamped) with gold over nickel plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Temperature Range:** -65°F to +250°F.

Basic D II Plugs

Stock No.	Mfr.'s Type	Contacts	EACH			
			1-24	25-49	50-99	100-249
750-6768	DE-9PII	9	2.17	1.56	1.38	1.17
750-6770	DA-15PII	15	3.02	2.19	1.92	1.66
750-6772	DB-25PII	25	4.29	3.24	2.85	2.46
750-6774	DC-37PII	37	5.54	4.20	3.89	3.35
750-6776	DD-50PII	50	7.31	5.54	5.14	4.40

Basic D II Sockets

750-6769	DE-9SII	9	3.07	2.21	1.94	1.68
750-6771	DA-15SII	15	4.05	3.07	2.84	2.45
750-6773	DB-25SII	25	5.26	3.99	3.69	3.18
750-6775	DC-37SII	37	9.11	6.91	6.39	5.50
750-6777	DD-50SII	50	12.27	9.29	8.60	7.41

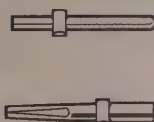
Econo D, Super D, and Lyte-Series D Connectors

CINCH CONNECTORS

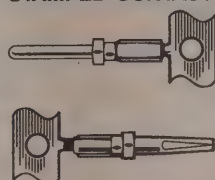
Econo D Connectors



MACHINED CONTACTS



STAMPED CONTACTS



The D°C series has a two-piece insulator as well as crimp, snap-in-rear contacts that can be inserted by hand. An economical connector ideal for commercial applications where field replacement of contacts is required at a lower cost than high-reliability connectors. **Insulator Material:** Two-piece thermoplastic polyester UL-94-VO rated. **Voltage Rating:** 1000 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** -65°F to +125°F. The D°U version is UL recognized with the same specs as D°C series. **Contact Material:** Copper alloy (machined), cadmium copper (stamped) with gold over nickel plating.

All contacts in this column sold each in multiples of 50.

Econo D Machined Contacts

Stock No.	Mfr.'s Type	Description	EACH	
			100-4900	
750-6784	030-1952-000	Pin	.15	
750-6785	030-1953-000	Socket	.25	

Econo D Stamped Contacts

750-6786	030-1960-005	Pin	.14
750-6787	030-1957-005	Socket	.18

D°C Connectors with Machined Contacts

Stock No.	Mfr.'s Type	Description	Contacts	EACH			
				1-24	25-49	50-99	100-249
750-6788	DEC-9P	Plug	9	3.54	2.54	2.36	2.03
750-6789	DEC-9S	Socket	9	4.40	3.34	3.09	2.66
750-6790	DAC-15P	Plug	15	4.70	3.56	3.29	2.83
750-6791	DAC-15S	Socket	15	6.53	4.95	4.58	3.93
750-6792	DBC-25P	Plug	25	7.00	5.30	4.91	4.23
750-6793	DBC-25S	Socket	25	9.90	7.50	6.95	5.96
750-6794	DCC-37P	Plug	37	9.91	7.51	6.96	5.97
750-6795	DCC-37S	Socket	37	14.08	10.67	9.88	8.50
750-6796	DDC-50P	Plug	50	12.77	9.68	8.96	7.70
750-6797	DDC-50S	Socket	50	18.39	13.94	12.90	11.09

Connectors Less Contacts

750-6798	DEC-9PFO	Plug	9	1.62	1.17	1.02	.88
750-6799	DEC-9SFO	Socket	9	1.62	1.17	1.02	.88
750-6800	DAC-15PFO	Plug	15	1.68	1.21	1.06	.92
750-6801	DAC-15SFO	Socket	15	1.68	1.21	1.06	.92
750-6802	DBC-25PFO	Plug	25	1.92	1.39	1.22	1.04
750-6803	DBC-25SFO	Socket	25	1.72	1.23	1.09	.94
750-6804	DCC-37PFO	Plug	37	2.33	1.69	1.48	1.28
750-6805	DCC-37SFO	Socket	37	2.25	1.61	1.41	1.22
750-6806	DDC-50PFO	Plug	50	2.44	1.77	1.55	1.33
750-6807	DDC-50SFO	Socket	50	2.31	1.66	1.46	1.27

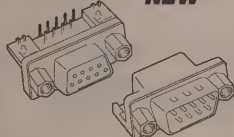
D°U Connectors Less Contacts

750-6808	DEU-9P-FO	Plug	9	1.62	1.17	1.02	.88
750-6809	DEU-9S-FO	Socket	9	1.62	1.17	1.02	.88
750-6810	DAU-15P-FO	Plug	15	1.68	1.21	1.06	.92
750-6811	DAU-15S-FO	Socket	15	1.68	1.21	1.06	.92
750-6812	DBU-25P-FO	Plug	25	1.92	1.39	1.22	1.04
750-6813	DBU-25S-FO	Socket	25	1.72	1.23	1.09	.94
750-6814	DCU-37P-FO	Plug	37	2.33	1.69	1.48	1.28
750-6815	DCU-37S-FO	Socket	37	2.25	1.61	1.41	1.22
750-6816	DDU-50P-FO	Plug	50	2.44	1.77	1.55	1.33
750-6817	DDU-50S-FO	Socket	50	2.31	1.66	1.46	1.27

Lyte-Series "The Low Cost Interconnect Alternative"

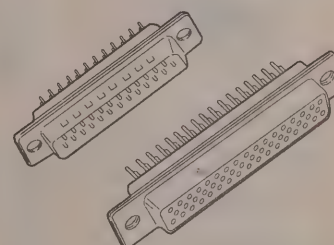
Metal Front Shell Right Angle PCB Connector .318 Mount

- Contact Tails Are Formed at 90° Angle to Front Face of Connector for PCB Mounting
- Boardlocks Allow for Grounding of Front Shell to PC Board and Are Tin Plated for Solderability
- Boardlocks Provide Mechanical Fastening to Board for Stability during Wave Soldering Processes
- 4-40 Threaded Hole Facilitates Secure Mounting to Panels
- Insulation Material: Black UL94V-0 Rated Glass-Filled Polyester
- Mates with Industry Compatible Connectors
- Contact Material: Plug — Brass; Socket — Phosphorus Bronze
- Contact Plating: Gold Over Nickel in Mating Area; Tin Over Nickel on Tails
- Shell/Boardlock Material: Steel
- Shell/Boardlock Plating: Tin Plated
- Screwlock Material: Brass
- Screwlock Plating: Tin Plated
- Operating Temperature: -55°C to +105°C



Metal Shell Straight PCB Connector .109" (2.77 mm) Density

- Tin Lead Plating on Contact Tails to Meet Solderability Per MIL-STD-202, Method 205
- Mates with Industry Compatible Connectors
- Insulation Material: Black, UL94V-0 Rated, Glass-Filled PBT
- Contact Material: Plug — Brass; Socket — Phosphorus Bronze
- Contact Plating: Gold Over Nickel in Mating Area; Tin/Lead Over Nickel on Tails
- .125" PC Board Thickness
- Shell Material: Steel
- Shell Plating: Tin Plated
- Operating Temperature: -55°C to +105°C



Stock No.	Mfr.'s Type	Description	Contacts	EACH		
				1-24	25-49	50-99
750-0120	DEKL-09PATI-F	Plug*	9	.56	.51	.46
750-0122	DEKL-09SAT-F	Socket	9	.56	.51	.46
750-0124	DAKL-15PATI-F	Plug*	15	.69	.62	.56
750-0126	DAKL-15SAT-F	Socket	15	.69	.62	.56
750-0128	DBKL-25PATI-F	Plug*	25	.90	.81	.74
750-0130	DBKL-25SAT-F	Socket	25	.81	.73	.66
750-0132	DEKL-09PATI-E	Plug*	9	.73	.66	.60
750-0134	DEKL-09SAT-E	Socket	9	.70	.63	.57
750-0136	DAKL-15PATI-E	Plug*	15	.84	.76	.69
750-0138	DAKL-15SAT-E	Socket	15	.81	.73	.66
750-0140	DBKL-25PATI-E	Plug*	25	1.04	.93	.85
750-0142	DBKL-25SAT-E	Socket	25	1.23	1.11	1.01

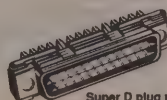
*With Grounding Indents.

Stock No.	Mfr.'s Type	Description	Contacts	EACH		
				1-24	25-49	50-99
750-0100	DEKL-09PUTI	Plug*	9	.41	.37	.34
750-0102	DEKL-09SUT	Socket	9	.39	.35	.32
750-0104	DAKL-15PUTI	Plug*	15	.50	.45	.41
750-0106	DAKL-15SUT	Socket	15	.53	.48	.44
750-0108	DBKL-25PUTI	Plug*	25	.69	.62	.56
750-0110	DBKL-25SUT	Socket	25	.65	.58	.53
750-0112	DCKL-37PUTI	Plug*	37	1.04	.94	.85
750-0114	DCKL-37SUT	Socket	37	.96	.87	.79
750-0116	DDKL-50PUTI	Plug*	50	1.92	1.73	1.57
750-0118	DDKL-50SUT	Socket	50	1.67	1.51	1.37

*With Grounding Indents.

Super D Plastic Connectors

Exclusive new plastic D-Subminiature connector. Available in 9, 15, 25 and 37 contact sizes. **Contact Material:** Copper base alloy. **Contact Plating:** Gold on contact mating area and gold on contact terminating area, with copper underplate. **Termination:** Insulation displacement with one of three Cinch terminating tools. Stranded wire 24-26 AWG with .045" diameter max. PVC insulation is displaced and wire is driven into termination to form four positive contacts on each conductor. **Metal Stay Band/Strain Relief:** .036" (9.14 mm) steel. **Polarization:** D or keystone shape insures one way mating. **Wire Strain Relief:** One required for 9 contact size. Two required for other sizes. **Withstanding Voltage Rating:** 1000 volts rms AC — sea level, 1400 volts DC. **Current Rating:** 3 amps. **EIA Standard:** Surpasses EIA STD. RS449 for 9 and 37 contacts interface for DTE and DCE equipment. Also meets RS232 for 25 contact size. **MIL-C-24308:** Super D is designed to meet applicable performance requirements of MIL-C-24308. UL Recognized.



Plain Flange Plugs with Mounting Holes and Sockets

Stock No.	Mfr.'s Type	Description	Contacts	EACH			
				1-24	25-49	50-99	100-249
750-6818	TE-9P	Plug	9	2.47	1.86	1.72	1.48
750-6826	TE-9S	Socket	9	2.29	1.73	1.62	1.38
750-6820	TA-15P	Plug	15	3.40	2.56	2.38	2.05
750-6828	TA-15S	Socket	15	3.07	2.33	2.14	1.84
750-6822	TB-25P	Plug	25	4.84	3.67	3.40	2.91
750-6830	TB-25S	Socket	25	4.35	3.29	3.05	2.62
750-6824	TC-37P	Plug	37	6.70	5.06	4.69	4.03
750-6832	TC-37S	Socket	37	6.03	4.56	4.21	3.63

Prices Subject To Change — We Always Ship At The Lowest Price In Effect

Econo D* A Subminiature Connectors

These subminiature connectors feature crimp-type insulation-grip contact providing increased holding power. Evenly distributed crimp pressure provides consistent termination integrity making them more reliable than conventional rear-release crimp, snap-in contacts. **Insulator Material:** Two-piece glass-filled thermoplastic. **Contact Material:** Stamped copper alloy with gold over nickel contact plating. **Voltage Rating:** 1000 VAC, 5 Amps rms at sea level. **Operating Temperature:** -65°F to +125°F. For ordering accessories, the second letter in Mfr.'s Type is SHELL SIZE.

D* A Plugs Less Contacts

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-49	50-99
750-6934	DEA-9PFO	9	1.54	1.11	.98
750-6936	DAA-15PFO	15	1.76	1.25	1.11
750-6938	DBA-25PFO	25	2.04	1.46	1.29
750-6940	DCA-37PFO	37	2.36	1.73	1.50
750-6942	DDA-50PFO	50	2.40	1.75	1.52

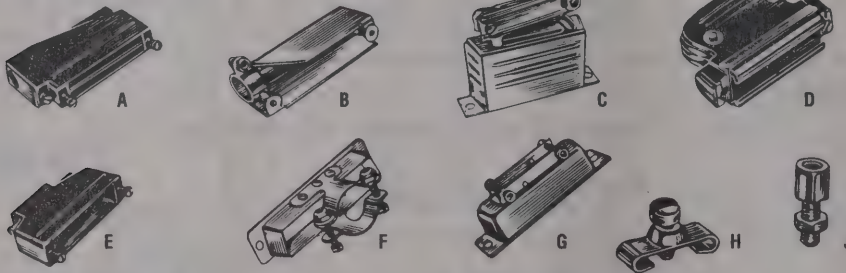
D* A Sockets Less Contacts

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-49	50-99
750-6935	DEA-9SFO	9	2.73	1.97	1.73
750-6937	DAA-15SFO	15	2.95	2.13	1.86
750-6939	DBA-25SFO	25	2.07	1.46	1.29
750-6941	DCA-37SFO	37	2.36	1.78	1.50
750-6943	DDA-50SFO	50	2.40	1.75	1.52

Contacts for D* A Connectors (Reel of 300)

Stock No.	Mfr.'s Type	Description	Wire Size	EACH	
				1-9	10-Up
750-6954	DGP-3-1	Plug	AWG-20-26	31.71	30.87
750-6955	DGS-3-1	Socket	AWG-20-26	36.00	33.30
750-6956	DGP-3-3	Plug	AWG-28-30	30.00	29.40
750-6957	DGS-3-3	Socket	AWG-28-30	36.00	33.30

D-Subminiature Connector Accessories



90° Plastic Junction Shell (Fig. A)

Stock No.	Mfr.'s Type	Shell Size	EACH		
			1-24	25-49	50-99
750-6970	DB-51213-1	B	2.75	1.98	1.74

Right Angle Junction Shell (Fig. B)

Stock No.	Mfr.'s Type	Shell Size	EACH		
			1-24	25-49	50-99
750-6972	DA-19977-1	A	2.94	2.12	1.97
750-6974	DB-19977-2	B	3.19	2.31	2.12
750-6976	DC-19977-3	C	3.31	2.39	2.21
750-6978	DD-19977-4	D	3.58	2.58	2.39
750-6979	DE-19977-5	E	3.66	2.66	2.45

Deep Straight Clamp Junction Shell (Fig. C)

Stock No.	Mfr.'s Type	Shell Size	EACH		
			1-24	25-49	50-99
750-6980	DA-24658	A	4.10	3.10	2.86
750-6982	DB-24659	B	3.51	2.52	2.35
750-6984	DC-24660	C	3.66	2.66	2.45
750-6986	DD-24661	D	4.10	2.96	2.74
750-6988	DE-24657	E	4.18	3.17	2.94

Data Phone Hoods (Fig. D)

Stock No.	Mfr.'s Type	Shell Size	EACH		
			1-24	25-49	50-99
750-6990	DA-51225-1	A	2.59	1.86	1.65
750-6992	DB-51226-1A	B	2.90	2.09	1.83

Tinned Shell Plugs Less Contacts, Without Indents and Notches

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-49	50-99
750-6944	DEA-9PTFO	9	1.84	1.33	1.15
750-6946	DAA-15PTFO	15	1.84	1.39	1.30
750-6948	DBA-25PTFO	25	2.30	1.68	1.47
750-6950	DCA-37PTFO	37	2.41	1.82	1.69
750-6952	DDA-50PTFO	50	2.43	1.87	1.71

Tinned Shell Sockets Less Contacts, Without Indents and Notches

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-49	50-99
750-6945	DEA-9STFO	9	3.01	2.17	1.91
750-6947	DAA-15STFO	15	2.04	1.46	1.30
750-6949	DBA-25STFO	25	2.09	1.60	1.47
750-6951	DCA-37STFO	37	2.66	1.92	1.69
750-6953	DDA-50STFO	50	2.69	1.94	1.71

Tinned Shell Plugs Less Contacts, With Indents and Without Notches

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-24	25-49	50-99
750-6958	DEA-9PTFO	9	1.67	1.27	1.16
750-6960	DAA-15PTFO	15	1.85	1.40	1.30
750-6962	DBA-25PTFO	25	2.36	1.78	1.66
750-6964	DCA-37PTFO	37	2.42	1.83	1.70
750-6966	DDA-50PTFO	50	2.45	1.85	1.72

Plastic Straight Junction Shell (Fig. E)

Stock No.	Mfr.'s Type	Shell Size	EACH		
			1-24	25-49	50-99
750-6994	DA-51210-1	A	2.49	1.79	1.57
750-6996	DB-51212-1	B	2.40	1.75	1.52
750-6998	DE-51218-1	E	2.33	1.69	1.48

Round Clamp Junction Shell (Fig. F)

Stock No.	Mfr.'s Type	Shell Size	EACH		
			1-24	25-49	50-99
750-7010	DA-20961	A	7.42	5.62	5.20
750-7012	DB-20962	B	3.55	2.55	2.37

Straight Clamp Junction Shell (Fig. G)

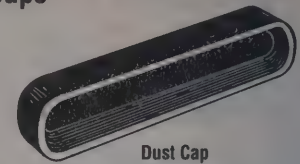
Stock No.	Mfr.'s Type	Shell Size	EACH		
			1-24	25-49	50-99
750-7014	DA-19678-1*	A	2.31	1.66	1.46
750-7016	DB-19678-2*	B	2.69	1.94	1.70
750-7018	DC-19678-3**	C	3.15	2.27	2.10
750-7020	DD-19678-4**	D	3.41	2.47	2.29

* Requires 2 cable locking screws. ** Requires 3 cable locking screws.

Screw Lock Assemblies (Fig. H & J)

Stock No.	Mfr.'s Type	Shell Size	Fig.	EACH		
				1-24	25-49	50-99
750-7000	D-20419-0	A, B, C, E	H	.50	.37	.33
750-7002	D-20419-16	A, B, C, E	H	.88	.68	.59
750-7004	D-20420-0	D	H	.79	.60	.52
750-7006	D-20420-12	D	H	1.09	.79	.69
750-7008	D-20418-2	All	J	.92	.70	.61

Dust Caps



Polyethylene dust caps to protect D-Subs from dust, moisture, and other contaminants that affect performance.

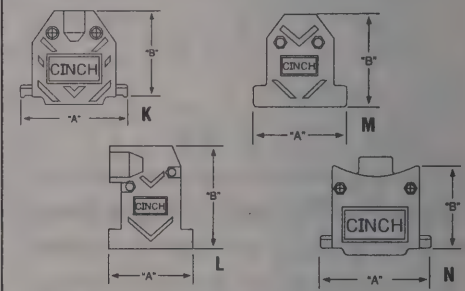
For D-Sub Socket Connectors

Stock No.	Mfr.'s Type	Shell Size	Connector Contacts	EACH		
				1-24	25-49	50-99
750-7038	DE-59-20	E	9	1.60	1.15	1.01
750-7039	DA-59-20	A	15	1.60	1.15	1.01
750-7040	DB-59-20	B	25	1.54	1.12	.99
750-7041	DC-59-20	C	37	1.60	1.15	1.01
750-7042	DD-59-20	D	50	1.60	1.15	1.01

For D-Sub Plug Connectors

Stock No.	Mfr.'s Type	Shell Size	Connector Contacts	EACH		
				1-24	25-49	50-99
750-7033	DE-60-20	E	9	1.60	1.15	1.01
750-7034	DA-60-20	A	15	1.60	1.15	1.01
750-7035	DB-60-20	B	25	1.54	1.12	.99
750-7036	DC-60-20	C	37	1.60	1.15	1.01
750-7037	DD-60-20	D	50	1.60	1.15	1.01

Back Shells



These backshells fit both standard and high-density D-Subminiature Connectors. All listed items include a set of PVC compression inserts that enable them to fit a range of cable sizes. All items have zinc-plated steel hardware. Series DPH has a cover of black ABS polymer. Series DCH (metallized plastic) has the same and is plated with nickel over copper. Series DMH is die-cast zinc.

Plastic and Metallized Plastic Two-Piece Backshells (Fig. K)

Stock No.	Mfr.'s Type	Connector Contacts Std./1.5 Density	Dim. B Height	Cable Dia. In.	EACH		
					1-24	25-49	50-99
750-7045	DPH-E-001	9/15	1.397	.190/350	1.60	1.15	1.01
750-7046	DPH-E-001	9/15	1.397	.190/350	2.34	1.71	1.50
750-7047	DPH-A-001	15/26	1.526	.190/350	1.86	1.35	1.19
750-7049	DPH-B-001	25/44	1.655	.190/460	1.96	1.42	1.25
750-7050	DCH-B-001	25/44	1.655	.190/460	2.96	2.24	2.08
750-7051	DPH-C-001	37/62	1.830	.300/680	2.44	1.76	1.55

Right Angle Ethernet Backshells (Fig. L)

Stock No.	Mfr.'s Type	Shell Size	Dim. B Height	Cable Dia. In.	EACH		
					1-24	25-49	50-99
750-7060	DMH-A-901X	15	1.850	.190/350	4.38	3.31	3.07

Two-Piece Diecast Ethernet Backshells (Fig. M)

Stock No.	Mfr.'s Type	Shell Size	Dim. B Height	Cable Dia. In.	EACH		
					1-24	25-49	50-99
750-7056	DMH-A-001XS	15	1.505	.190/350	4.38	3.31	3.07
750-7058	DMH-A-001XL	15	1.850	.190/350	4.38	3.31	3.07

Two-Piece Diecast EM/RFI Shielded Backshells (Fig. N)

Stock No.	Mfr.'s Type	Shell Size	Dim. B Height	Cable Dia. In.	EACH		
					1-24	25-49	50-99
750-7062	DMH-E-001	9/15	1.465	.190/350	3.37	2.43	2.26
750-7068	DMH-C-001	37/62	1.800	.300/680	5.29	4.02	3.71

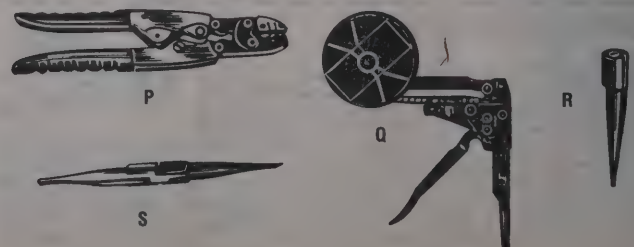
Tools

Fig. P. #BT-20-HC Hand Crimp Tool. For terminating loose crimp and poke contacts. 750-7022 EACH 500.73

Fig. Q. Two types of transport for connector chains available in 20-30 AWG for B type crimping. 750-7024. #GHC-B (20-26 AWG) EACH 902.90
750-7026. #GHC-B1 (28-30 AWG) EACH 928.60

Fig. R. #CET-20-11 Extraction Tool. For extracting high reliability crimp and poke contacts. 750-7028 EACH .70

Fig. S. Military and Commercial Insertion/Extraction Tools. For inserting/extracting crimp and poke contact after termination. 750-7030. Military Type #CIET-20-HD EACH 5.80
750-7032. Commercial Type #CIET-20-HDB EACH 2.58

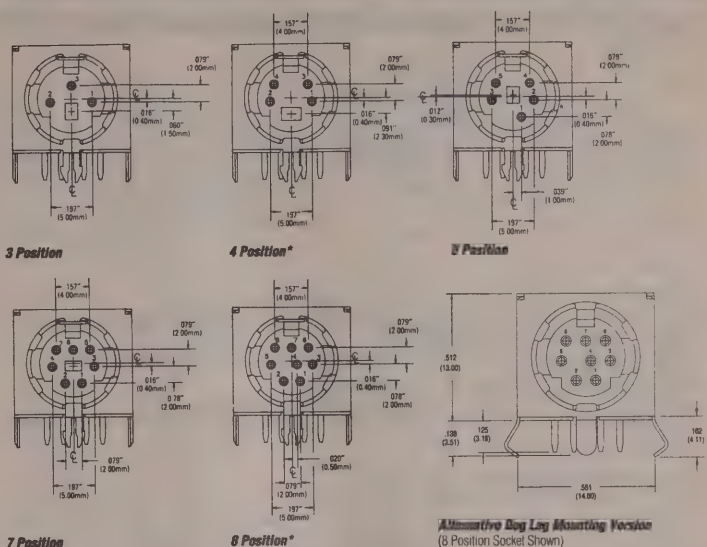


Shielded I/O Connector Circular Mini-DIN Socket

— NEW —

- Right Angle PCB Mounted Super-Shielded Socket
- Improved Design Maximizes Shielding and Saves Space
 - Tail Aligner Positions Contacts for Reliable Insertion into PCB
 - "Super-Shielding" on Front Face of Sockets Helps Reduce EMI/RFI/ESD
 - Boardlocks Provide Mechanical Holddown During Wave Soldering Processes
 - Compatible with Defacto Industry Standard Mini-DIN Plugs
 - Suitable for Robotic Assembly
 - Durability: Withstands Minimum 500 Mating/Unmating Cycles
- Solderability: Meets MIL-STD-202, Method 208
- Insulation Material: UL94V-0 Rated Glass-Filled Polyester, Black on Front Face, Platinum Color on Base
- Contact Material: Phosphor Bronze
- Contact Plating: 30 μ in. (0.76 Micron) Min. Gold Over Nickel in Mating Area; Tin/Lead Over Nickel on Tails
- Shield: Material — Phosphor Bronze; Plating — Bright Electro-Tin Lead Over Nickel, Tin Over Nickel on Econo Version
- Contact Rating: 2 Amps at 12 VDC; 1 Amp at 100 VAC

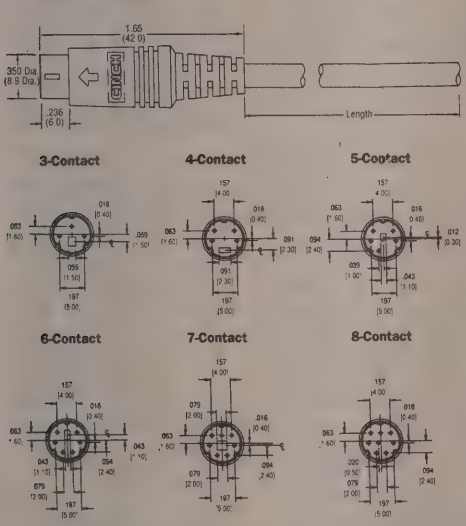
Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH		
				1-24	25-49	50-99
750-0166	MDSS-3S	3	Straight Leg	1.06	.77	.71
750-0168	MDSS-3DLS	3	Dog Leg	1.05	.76	.70
750-0170	MDSS-4S	4	Straight Leg	1.08	.79	.72
750-0172	MDSS-4DLS	4	Dog Leg	1.08	.79	.72
750-0174	MDSS-5S	5	Straight Leg	1.12	.82	.75
750-0176	MDSS-5DLS	5	Dog Leg	1.12	.82	.75
750-0178	MDSS-6S	6	Straight Leg	1.13	.82	.75
750-0180	MDSS-6DLS	6	Dog Leg	1.13	.82	.75
750-0182	MDSS-7S	7	Straight Leg	1.18	.86	.79
750-0184	MDSS-7DLS	7	Dog Leg	1.18	.86	.79
750-0186	MDSS-8S	8	Straight Leg	1.22	.89	.82
750-0188	MDSS-8DLS	8	Dog Leg	1.22	.89	.82



Circular Mini-DIN Plugs

Single-Ended Cable Assembly

— NEW —



- Pre-Assembled with Standard Shielded Cable Lengths
- Molded-In Strain Relief
- Shielding System Designed to Meet FCC Requirements for EMI/RFI Suppression
- Insulation Material: Plug Insulator — UL94V-0 Rated Nylon; Plug Overmold — PVC (Black or Beige); Cable Jacket — PVC (Black or Beige)

Contact Plating: Gold Flash Over Nickel

Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH		
				1-24	25-49	50-99
750-0190	MDC-3P05	3	1 m, Black	9.80	7.44	6.88
750-0192	MDC-3P08	3	1 m, Beige	9.80	7.44	6.88
750-0194	MDC-4P05	4	1 m, Black	10.31	7.82	7.24
750-0196	MDC-4P08	4	1 m, Beige	10.31	7.82	7.24
750-0198	MDC-4P13	4	2 m, Black	12.96	9.83	9.10
750-0200	MDC-4P15	4	2 m, Beige	12.96	9.83	9.10
750-0202	MDC-4P15	4	3 m, Black	15.61	11.84	10.96
750-0204	MDC-4P15	4	3 m, Beige	15.61	11.84	10.96
750-0206	MDC-5P05	5	1 m, Black	10.79	8.18	7.57
750-0208	MDC-5P08	5	1 m, Beige	10.79	8.18	7.57
750-0210	MDC-6P05	6	1 m, Black	11.29	8.56	7.92
750-0212	MDC-6P08	6	1 m, Beige	11.29	8.56	7.92
750-0214	MDC-6P13	6	2 m, Black	13.94	10.57	9.78
750-0216	MDC-6P13	6	2 m, Beige	13.94	10.57	9.78

Contact Plating: 30 μ Gold Over Nickel

Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH		
				1-24	25-49	50-99
750-0246	MDC-3P06	3	1 m, Black	10.47	7.94	7.35
750-0248	MDC-3P09	3	1 m, Beige	10.47	7.94	7.35
750-0250	MDC-4P06	4	1 m, Black	11.10	8.42	7.79
750-0252	MDC-4P09	4	1 m, Beige	11.10	8.42	7.79
750-0254	MDC-5P06	5	1 m, Black	11.71	8.88	8.22
750-0256	MDC-5P09	5	1 m, Beige	11.71	8.88	8.22

- UL Recognized: File E19071; CSA Certified: File LR31996-6
- Contact Material: Plug — Phosphor Bronze
- Shield Material: Steel
- Shield Plating: Nickel
- Standard Cable Composition: Shielded Cable with 0.197 Inch OD Jacket over 28 AWG Stranded Wire Conductors

Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH		
				1-24	25-49	50-99
750-0218	MDC-6P15	6	3 m, Black	16.59	12.58	11.64
750-0220	MDC-6P15	6	3 m, Beige	16.59	12.58	11.64
750-0222	MDC-7P05	7	1 m, Black	11.77	8.92	8.26
750-0224	MDC-7P08	7	1 m, Beige	11.77	8.92	8.26
750-0226	MDC-7P13	7	2 m, Black	14.42	10.93	10.12
750-0228	MDC-7P15	7	2 m, Beige	14.42	10.93	10.12
750-0230	MDC-7P15	7	3 m, Black	17.07	12.94	11.98
750-0232	MDC-7P15	7	3 m, Beige	17.07	12.94	11.98
750-0234	MDC-8P05	8	1 m, Black	12.27	9.31	8.61
750-0236	MDC-8P08	8	1 m, Beige	12.27	9.31	8.61
750-0238	MDC-8P13	8	2 m, Black	14.92	11.32	10.47
750-0240	MDC-8P13	8	2 m, Beige	14.92	11.32	10.47
750-0242	MDC-8P15	8	3 m, Black	17.57	13.33	12.33
750-0244	MDC-8P15	8	3 m, Beige	17.57	13.33	12.33

Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH		
				1-24	25-49	50-99
750-0258	MDC-6P06	6	1 m, Black	12.35	9.37	8.67
750-0260	MDC-6P09	6	1 m, Beige	12.35	9.37	8.67
750-0262	MDC-7P06	7	1 m, Black	12.96	9.83	9.10
750-0264	MDC-7P09	7	1 m, Beige	12.96	9.83	9.10
750-0266	MDC-8P06	8	1 m, Black	13.59	10.31	9.54
750-0268	MDC-8P09	8	1 m, Beige	13.59	10.31	9.54

Commercial Datacomm Adapters

Pre-Wired Modular Assemblies

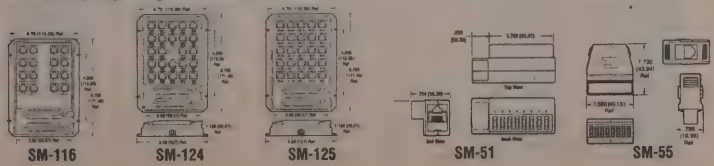
Consists of five modular jack sockets bridged to predetermined contacts of an in-line pair of 50-position miniature ribbon connectors wired back-to-back. Provides one, two, and three-pair modular access to a connectorized 25-pair cable.

For Bridge (Half Tap) Applications

Stock No.	Mfr.'s Type	Color Code	No. of Mod. Jack Pins	Mini Ribbon Assembly Contact Pairs Mod. Jack Pos.					EACH
				1	2	3	4	5	
750-7400	SM-1	White	2	(1,26)	(2,27)	(3,28)	(4,29)	(5,30)	38.51
750-7410	SM-10	Gray	6	(1,26)	(4,29)	(7,32)	(10,35)	(13,38)	45.54
				(2,27)	(5,30)	(8,33)	(11,36)	(14,39)	
				(3,28)	(6,31)	(9,34)	(12,37)	(15,40)	
750-7419	SM-19*	Gray	4	(1,26)	(4,29)	(7,32)	(10,35)	(13,38)	105.34
				(2,27)	(5,30)	(8,33)	(11,36)	(14,39)	
750-7420	SMK-20†	Gray	6						50.17

*SM-19 has an LED associated with each jack to indicate line status. †Kit requires plier-type termination tool.

Housing: UL94V-0 rated gray thermoplastic. Modular Jacks: UL94V-0 rated gray thermoplastic. Miniature Ribbon: UL94V-0 rated glass-filled polyester. Modular Jack: Meets Telephone USOC current rating requirements. Miniature Ribbon: 5 amps. Operating Temperature: -40°C to +85°C.



SM-116. 16 Modular Jack Sockets. Provide six-wire modular access to 25-pair cable. Each miniature ribbon socket is wired to eight, six-wire modular jacks. Can be used as a modular cross-connect system.

750-7430 SM-116 EACH 106.83

SM-124. 24 Modular Jack Sockets. Provides four-wire modular access to 25-pair cable. Each miniature ribbon socket is wired to twelve, four-wire modular jacks. Provides external wire leads if required.

750-7432 SM-124 EACH 101.73

SM-125. 25 Modular Jack Sockets. Provides input/output connection for 25-pair cable. Provides two-wire modular access to 25-pair cable. Consists of 25, two-wire modular jack sockets bridged to predetermined contacts in an in-line pair of 50-position miniature ribbon connectors.

750-7434 SM-125 EACH 85.72

SM-51. Converts Keyset to Single Line. Converts keyset telephone station to single line station. Designed for use with 66E-type mounting blocks. Consists of a modular jack which will accept a two-, four-, six-, or eight-wire modular plug, pre-wired to metal spring contacts.

750-7436 SM-51 EACH 8.43

SM-55. Modular Four-Pair Line Access to Cross-Connect Blocks. Designed to provide four-, six-, and eight-wire modular access to cross-connect blocks. Designed for use with 66M-type mounting blocks. Consists of an eight-position modular jack pre-wired to metal spring contacts.

750-7438 SM-55 EACH 8.43

RS232 to Modular Jack Adapters

One-piece, slim-line housing with two captive 4-40 mounting screws, eight-wire modular access to RS232 input/output connector. Pre-wired versions 100% inspected and tested. UL recognized-file E19071. CSA-LR 31996-3.

25-Position D-Subminiature Plug to RJ45 8-Wire Modular Jack

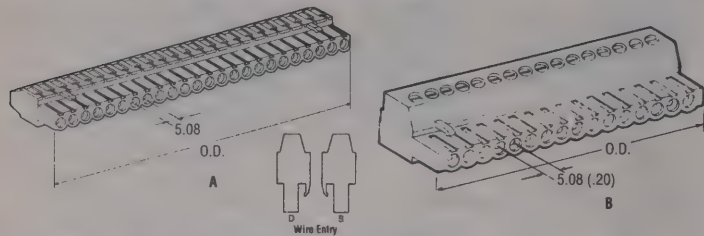
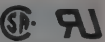
Stock No.	Mfr.'s Type	Modular Jack Position								Jumpers	EACH
		1	2	3	4	5	6	7	8		
750-7450	FM-001	7 (AB)	4 (CA)	2 (BA)	20 (CD)	3 (BB)	8 (CF)	7 (AB)	5 (CB)	—	15.79
750-7455	FM-003	—	20 (CD)/6 (CC)	1	3 (BB)	7 (AB)	2 (BA)	8 (CF)	—	4 to 5†	17.44
750-7460	FM-005	—	5 (CB)	2 (BA)	20 (CD)	3 (BB)	8 (CF)	7 (AB)	4 (CA)	—	15.79

25-Position D-Subminiature Receptacle to RJ45 8-Wire Modular Jack

Stock No.	Mfr.'s Type	Modular Jack Position								Jumpers	EACH
		1	2	3	4	5	6	7	8		
750-7465	FF-001	7 (AB)	4 (CA)	2 (BA)	20 (CD)	3 (BB)	8 (CF)	7 (AB)	5 (CB)	—	15.41
750-7470	FF-003	—	20 (CD)/6 (CC)	1	3 (BB)	7 (AB)	2 (BA)	8 (CF)	—	4 to 5†	17.10
750-7475	FF-005	—	5 (CB)	2 (BA)	20 (CD)	3 (BB)	8 (CF)	7 (AB)	4 (CA)	—	15.68

†D-Subminiature positions are jumpered together.

Series PA256/5.08 and PA257/5.08 Terminal Blocks (5.08 mm Spacing)



- Versatility — Housings Include Vertical and Horizontal Options for Insertion of Wires
- Easy Wire Insertion and Reduced Connection Time — Terminals are Provided In The Open Position and Wire Entry Is Tapered for Easy Entry and Faster Assembly
- Secure Wire Connections — Bar and Collar Design Insures Secure Connections Repeatedly and Eliminates Terminal Degradation
- No Lost or Missing Screws — Screws are Captive Within Housing
- Break Resistant and Flame Retardant — Block molded in 94V0 Thermoplastic Material
- Safety Recognitions — UL Recognized Under File No. E62557, CSA Certified Under Report No. LR39186-1, Meets VDE 0110
- Wire Range: 22-12 AWG

Vertical Module — Fig. A (Wire Entry-D)

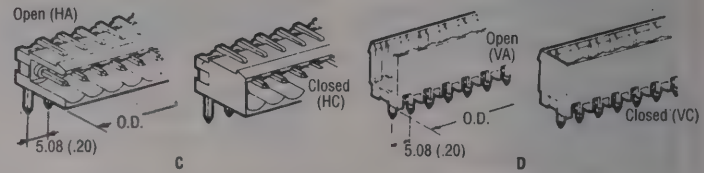
Stock No.	Mfr.'s Type	No. of Terminals	Dimension O.D.	EACH	
				1-99	100-499
764-2000	PA256/5.08/2VD	2	0.4"	.97	.80
764-2002	PA256/5.08/3VD	3	0.6"	1.46	1.20
764-2004	PA256/5.08/4VD	4	0.8"	1.95	1.60
764-2006	PA256/5.08/5VD	5	1.0"	2.41	1.98
764-2008	PA256/5.08/6VD	6	1.2"	2.92	2.40
764-2010	PA256/5.08/7VD	7	1.4"	3.39	2.78
764-2012	PA256/5.08/8VD	8	1.6"	3.89	3.19
764-2014	PA256/5.08/9VD	9	1.8"	4.36	3.58
764-2016	PA256/5.08/10VD	10	2.0"	4.85	3.98
764-2018	PA256/5.08/12VD	12	2.4"	5.80	4.76
764-2020	PA256/5.08/16VD	16	3.2"	7.75	6.36

Vertical Module — Fig. A (Wire Entry-S)

Stock No.	Mfr.'s Type	No. of Terminals	Dimension O.D.	EACH	
				1-99	100-499
764-2001	PA256/5.08/2VS	2	0.4"	.97	.80
764-2003	PA256/5.08/3VS	3	0.6"	1.46	1.20
764-2005	PA256/5.08/4VS	4	0.8"	1.95	1.60
764-2007	PA256/5.08/5VS	5	1.0"	2.41	1.98
764-2009	PA256/5.08/6VS	6	1.2"	2.92	2.40
764-2011	PA256/5.08/7VS	7	1.4"	3.39	2.78
764-2013	PA256/5.08/8VS	8	1.6"	3.89	3.19
764-2015	PA256/5.08/9VS	9	1.8"	4.36	3.58
764-2017	PA256/5.08/10VS	10	2.0"	4.85	3.98
764-2019	PA256/5.08/12VS	12	2.4"	5.80	4.76
764-2021	PA256/5.08/16VS	16	3.2"	7.75	6.36

Horizontal Module — Fig. B

Stock No.	Mfr.'s Type	No. of Terminals	Dimension O.D.	EACH	
				1-99	100-499
764-2022	PA256/5.08/2H	2	0.4"	.92	.75
764-2024	PA256/5.08/3H	3	0.6"	1.39	1.14
764-2026	PA256/5.08/4H	4	0.8"	1.83	1.51
764-2028	PA256/5.08/5H	5	1.0"	2.28	1.87
764-2030	PA256/5.08/6H	6	1.2"	2.75	2.26
764-2032	PA256/5.08/7H	7	1.4"	3.20	2.63
764-2034	PA256/5.08/8H	8	1.6"	3.67	3.01
764-2036	PA256/5.08/9H	9	1.8"	4.12	3.38
764-2038	PA256/5.08/10H	10	2.0"	4.56	3.75
764-2040	PA256/5.08/12H	12	2.4"	5.48	4.50
764-2042	PA256/5.08/16H	16	3.2"	7.32	6.00



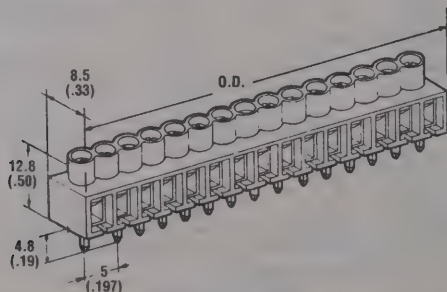
Horizontal Headers — Fig. C

Stock No.	Mfr.'s Type	No. of Terminals	Type	Dimension O.D.	EACH	
					1-99	100-499
764-2044	PA257/5.08/2HA	2	Open	0.4"	.36	.29
764-2046	PA257/5.08/2HC	2	Closed	0.4"	.36	.29
764-2048	PA257/5.08/3HA	3	Open	0.6"	.50	.41
764-2050	PA257/5.08/3HC	3	Closed	0.6"	.50	.41
764-2052	PA257/5.08/4HA	4	Open	0.8"	.65	.53
764-2054	PA257/5.08/4HC	4	Closed	0.8"	.65	.53
764-2056	PA257/5.08/5HA	5	Open	1.0"	.81	.66
764-2058	PA257/5.08/5HC	5	Closed	1.0"	.81	.66
764-2060	PA257/5.08/6HA	6	Open	1.2"	.98	.81
764-2062	PA257/5.08/6HC	6	Closed	1.2"	.98	.81
764-2064	PA257/5.08/7HA	7	Open	1.4"	1.14	.94
764-2066	PA257/5.08/7HC	7	Closed	1.4"	1.14	.94
764-2068	PA257/5.08/8HA	8	Open	1.6"	1.30	1.06
764-2070	PA257/5.08/8HC	8	Closed	1.6"	1.30	1.06
764-2072	PA257/5.08/9HA	9	Open	1.8"	1.45	1.19
764-2074	PA257/5.08/9HC	9	Closed	1.8"	1.45	1.19
764-2076	PA257/5.08/10HA	10	Open	2.0"	1.61	1.32
764-2078	PA257/5.08/10HC	10	Closed	2.0"	1.61	1.32
764-2080	PA257/5.08/12HA	12	Open	2.4"	1.96	1.60
764-2082	PA257/5.08/12HC	12	Closed	2.4"	1.96	1.60
764-2084	PA257/5.08/16HA	16	Open	3.2"	2.60	2.13
764-2086	PA257/5.08/16HC	16	Closed	3.2"	2.60	2.13

Vertical Headers — Fig. D

Stock No.	Mfr.'s Type	No. of Terminals	Type	Dimension O.D.	EACH	
					1-99	100-499
764-2088	PA257/5.08/2VA	2	Open	0.4"	.36	.29
764-2090	PA257/5.08/2VC	2	Closed	0.4"	.36	.29
764-2092	PA257/5.08/3VA	3	Open	0.6"	.50	.41
764-2094	PA257/5.08/3VC	3	Closed	0.6"	.50	.41
764-2096	PA257/5.08/4VA	4	Open	0.8"	.65	.53
764-2098	PA257/5.08/4VC	4	Closed	0.8"	.65	.53
764-2100	PA257/5.08/5VA	5	Open	1.0"	.81	.66
764-2102	PA257/5.08/5VC	5	Closed	1.0"	.81	.66
764-2104	PA257/5.08/6VA	6	Open	1.2"	.98	.81
764-2106	PA257/5.08/6VC	6	Closed	1.2"	.98	.81
764-2108	PA257/5.08/7VA	7	Open	1.4"	1.14	.94
764-2110	PA257/5.08/7VC	7	Closed	1.4"	1.14	.94
764-2112	PA257/5.08/8VA	8	Open	1.6"	1.30	1.06
764-2114	PA257/5.08/8VC	8	Closed	1.6"	1.30	1.06
764-2116	PA257/5.08/9VA	9	Open	1.8"	1.45	1.19
764-2118	PA257/5.08/9VC	9	Closed	1.8"	1.45	1.19
764-2120	PA257/5.08/10VA	10	Open	2.0"	1.61	1.32
764-2122	PA257/5.08/10VC	10	Closed	2.0"	1.61	1.32
764-2124	PA257/5.08/12VA	12	Open	2.4"	1.96	1.60
764-2126	PA257/5.08/12VC	12	Closed	2.4"	1.96	1.60
764-2128	PA257/5.08/16VA	16	Open	3.2"	2.60	2.13
764-2130	PA257/5.08/16VC	16	Closed	3.2"	2.60	2.13

Series PA266/5, 7.5, 10 mm Terminal Blocks (5, 7.5, 10 mm Spacing)



- Easy Wire Insertion and Reduced Connection Time — Terminals Are Provided In The Open Position and Wire Entry Is Tapered for Easy Entry and Faster Assembly
- Eliminates Broken Solder Connections — Terminals Design Eliminates Transmission of Tightening Torque to P.C. Board While Installing Wires
- No Lost or Missing Screws — Screws are Captive Within Housing
- Break Resistant and Flame Retardant — Block Molded in 94V0 Thermoplastic Material
- Safety Recognitions — UL Recognized Under File No. E62557, CSA Certified Under Report No. LR39186-1, Meets VDE 0110
- Wire Range: 14-22 AWG

5 mm

Stock No.	Mfr.'s Type	No. of Terminals	Dimension O.D.	EACH	
				1-99	100-499
764-2132	PA266/5/2	2	.45"	.31	.26
764-2134	PA266/5/3	3	.65"	.47	.38
764-2136	PA266/5/4	4	.85"	.56	.46
764-2138	PA266/5/5	5	1.05"	.74	.61
764-2140	PA266/5/6	6	1.24"	.87	.72
764-2142	PA266/5/7	7	1.44"	1.03	.84
764-2144	PA266/5/8	8	1.64"	1.16	.95
764-2146	PA266/5/9	9	1.83"	1.32	1.08
764-2148	PA266/5/10	10	2.03"	1.45	1.19
764-2150	PA266/5/12	12	2.42"	1.75	1.43
764-2152	PA266/5/16	16	3.21"	2.33	1.91

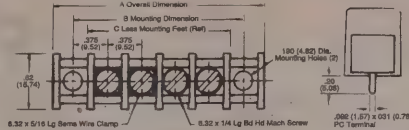
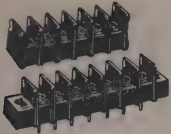
7.5 mm

Stock No.	Mfr.'s Type	No. of Terminals	Dimension O.D.	EACH	
				1-99	100-499
764-2154	PA266/7.5/2	2	.57"	.34	.28
764-2156	PA266/7.5/3	3	.87"	.51	.42
764-2158	PA266/7.5/4	4	1.14"	.67	.55

10 mm

Stock No.	Mfr.'s Type	No. of Terminals	Dimension O.D.	EACH	
				1-99	100-499
764-2160	PA266/10/2	2	.65"	.37	.30
764-2162	PA266/10/3	3	1.05"	.53	.43
764-2164	PA266/10/4	4	1.44"	.71	.58
764-2166	PA266/10/5	5	1.83"	.89	.73
764-2168	PA266/10/6	6	2.23"	1.07	.88
764-2170	PA266/10/7	7	2.62"	1.26	1.03
764-2172	PA266/10/8	8	3.01"	1.42	1.16
764-2174	PA266/10/9	9	3.41"	1.60	1.31
764-2176	PA266/10/10	10	3.80"	1.78	1.46
764-2178	PA266/10/12	12	4.59"	2.08	1.71

38000 and 38010 Series Terminal Blocks



3/8" centerline terminal blocks. Available in two surface mount styles — no bottom termination (Type 38000) or printed circuit pin (Type 38010). For wire range of 22-12 AWG. Excellent chemical resistance, 3000 (typical) breakdown voltage; .03% water absorption; 94 V-0 flammability rating. 300 V, 20 A. Terminals are brass, tin plated. Polypropylene housing.

38000 Series — Surface Mount Closed Back, No Bottom Termination

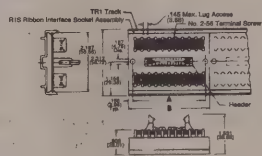
Stock No.	Mfr.'s Type	No. Of Terminals	A±.031 Overall Dimension (In.)	B±.031 Mounting Dimension (In.)	C±.031 Less Mtg. Ft. (In.)	EACH		
						1-49	50-99	100-249
764-0050	38000-2	2	1.575	1.125	.825	.66	.59	.51
764-0051	38000-3	3	1.950	1.500	1.200	.91	.81	.70
764-0052	38000-4	4	2.325	1.875	1.575	1.21	1.04	.90
764-0053	38000-5	5	2.700	2.250	1.950	1.47	1.26	1.09
764-0054	38000-6	6	3.075	2.625	2.325	1.73	1.48	1.28
764-0055	38000-8	8	3.825	3.375	3.075	2.14	1.84	1.67
764-0056	38000-10	10	4.575	4.125	3.825	2.64	2.27	2.06
764-0057	38000-12	12	5.325	4.875	4.575	3.13	2.69	2.44

38010 Series — Surface Mount, Printed Circuit Pin

Stock No.	Mfr.'s Type	No. Of Terminals	A±.031 Overall Dimension (In.)	B±.031 Mounting Dimension (In.)	C±.031 Less Mtg. Ft. (In.)	EACH		
						1-49	50-99	100-249
764-0058	38010-2	2	1.575	1.125	.825	.79	.69	.58
764-0059	38010-3	3	1.950	1.500	1.200	1.10	.92	.78
764-0060	38010-4	4	2.325	1.875	1.575	1.44	1.18	1.01
764-0061	38010-5	5	2.700	2.250	1.950	1.72	1.42	1.21
764-0062	38010-6	6	3.075	2.625	2.325	2.08	1.72	1.46
764-0063	38010-8	8	3.825	3.375	3.075	2.55	2.11	1.89
764-0064	38010-10	10	4.575	4.125	3.825	3.13	2.58	2.32
764-0065	38010-12	12	5.325	4.875	4.575	3.71	3.06	2.75

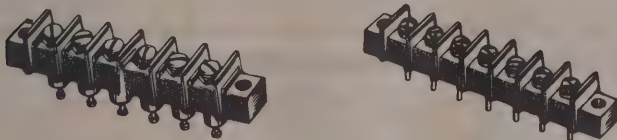
Ribbon Or Flat Cable Interface Sockets

Features convenient mating, track mounting, and wire clamp on terminal blocks. Rated at 1 A, 125 V. **Terminal Blocks:** Break-resistant thermoplastic. **Terminals:** No. 2-56 screws with clamp, 1/8" center to center spacing. **Wire:** Up to No. 16 AWG. **Headers:** 2 rows of .025" square tin-plated pins on .100" centers with hook retainers. Designed to mate with all standard connectors.



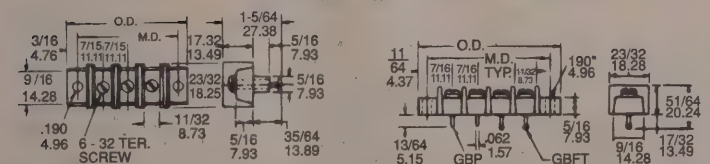
Stock No.	Mfr.'s Type	No. Of Pins	A (In.)	B (In.)	EACH			
					1-9	10-24	25-49	50-99
764-0530	RIS20	20	2.688	3.000	24.65	22.75	21.13	20.54
764-0531	RIS26	26	3.438	3.750	29.65	27.37	25.41	24.71
764-0532	RIS34	34	4.438	4.750	36.81	33.97	31.55	30.67
764-0533	RIS40	40	5.188	5.500	42.43	39.17	36.37	35.36
764-0534	RIS50	50	6.438	6.750	50.90	46.98	43.63	42.42

Feed-Through Terminal Blocks



GFT

GBP



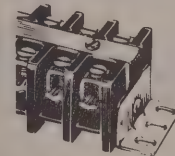
Rated 20 A, 300 V, with a 150°C (302°F) continuous use temperature rating. **Max. Width:** .718" ±.030". Terminals on 7/16" center to center spacing. The blocks are made from black thermo-set phenolic. The screw terminals have a No. 6-32 plated steel screw which accepts wire from 22 AWG to 12 AWG (per UL).

Type GFTXW

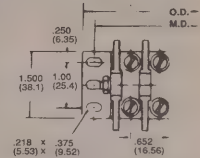
Similar to type GFT but the blocks are made from thermoplastic (UL rated for 105° continuous use) and also have wire clamps included. The two items listed are offered at special pricing. 2-26 terminal types are available by special order with a 10 piece minimum required per item.

Stock No.	Mfr.'s Type	No. Of Terminals	EACH			
			1-9	10-24	25-49	50-99
764-0523	GFTXW-3	3	2.31	1.84	1.57	1.39
764-0525	GFTXW-5	5	3.83	3.11	2.85	2.76

Type H Sectional, High-Power Terminal Blocks

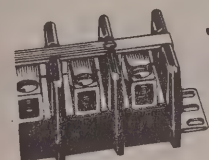


These blocks have a maximum diameter of 2.0" and .652" center to center spacing. The housing is thermoplastic-polyester with a white fiber circuit marking strip. Rated 75 A, 600 V and 130°C (266°F) continuous use temperature. Unique bar and traveling collar design eliminates the lugging of wire. UL recognized for wire sizes 16 AWG to 4 AWG. Copper terminals with high-pressure solderless connectors. Items with 11-30 terminals are available by special order. Special order minimum is 10 pieces for each item.

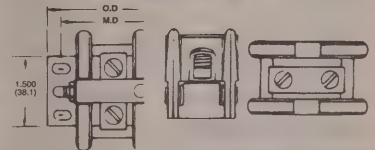


Stock No.	Mfr.'s Type	No. Of Terminals	Mounting Dimension (In.)	Overall Dimension (In.)	EACH		
					1-9	10-24	25-49
764-0001	H-1	1	1.676	2.355	3.69	2.92	2.51
764-0002	H-2	2	2.328	3.006	5.73	4.78	4.09
764-0003	H-3	3	2.979	3.658	8.00	6.66	5.71
764-0004	H-4	4	3.631	4.309	10.22	8.52	7.30
764-0005	H-5	5	4.282	4.961	12.44	10.37	8.89
764-0006	H-6	6	4.934	5.612	14.67	12.22	10.48
764-0007	H-7	7	5.585	6.264	16.93	14.11	12.09
764-0008	H-8	8	6.237	6.915	19.16	15.96	13.68
764-0009	H-9	9	6.888	7.567	21.38	17.82	15.27
764-0010	H-10	10	7.540	8.218	23.62	19.69	16.87

Type T High Current Terminal Blocks



UL Standard 1059, CSA Guide No. 184-N-90. These blocks have a maximum diameter of 2.5" and 1.169" ±.030" center to center spacing. The housing is black phenolic rated for 125 A, 600 V, and for 150°C (302°F) continuous use. Tubular, high-pressure solderless connections of electrolytically pure copper accommodate wire without lugging and provide 100% conductivity. The thermo-set phenolic molding has a white fiber marking strip. Thru-bolt construction. UL recognized for wire 6 AWG to 10 AWG. Available in 1-6 terminals. Items not listed are available by special order. A minimum of 10 pieces per item is required on unlisted items.



Stock No.	Mfr.'s Type	No. Of Terminals	Mounting Dimension (In.)	Overall Dimension (In.)	EACH			
					1-9	10-24	25-49	50-99
764-0601	T-1	1	2.183	2.683	8.47	7.82	7.26	7.06
764-0602	T-2	2	3.342	3.842	15.69	14.48	13.45	13.08
764-0603	T-3	3	4.500	5.000	23.02	21.25	19.73	19.18
764-0604	T-4	4	5.659	6.159	30.35	28.01	26.01	25.29
764-0605	T-5	5	6.817	7.317	37.67	34.77	32.29	31.39

Type GBP. Printed Circuit Board Design — UL Standard 1059, CSA Guide 184-N-90

The printed circuit pin is tin-plated brass and is .062" in diameter. 21-26 terminal types are available by special order with a minimum of 10 pieces required per item.

Stock No.	Mfr.'s Type	No. Of Terminals	Mounting Dimension (M.D.) (In.)	Overall Dimension (O.D.) (In.)	EACH			
					1-9	10-24	25-49	50-99
764-0402	GBP-2	2	1.312	1.687	1.21	1.03	.94	.91
764-0403	GBP-3	3	1.750	2.125	1.70	1.45	1.32	1.28
764-0404	GBP-4	4	2.187	2.562	2.18	1.86	1.70	1.65
764-0405	GBP-5	5	2.625	3.000	2.67	2.28	2.09	2.02
764-0406	GBP-6	6	3.062	3.437	3.16	2.70	2.47	2.39
764-0407	GBP-7	7	3.500	3.875	3.65	3.12	2.85	2.76
764-0408	GBP-8	8	3.937	4.312	4.14	3.53	3.23	3.13
764-0409	GBP-9	9	4.375	4.750	4.63	3.95	3.61	3.50
764-0410	GBP-10	10	4.812	5.187	5.11	4.37	3.99	3.87
764-0412	GBP-12	12	5.682	6.062	6.09	5.20	4.75	4.61
764-0414	GBP-14	14	6.567	6.937	7.10	6.06	5.54	5.37
764-0415	GBP-15	15	7.000	7.375	7.59	6.48	5.92	5.74
764-0416	GBP-16	16	7.437	7.812	8.07	6.89	6.30	6.10
764-0418	GBP-18	18	8.312	8.687	9.05	7.73	7.06	6.84
764-0420	GBP-20	20	9.187	9.562	10.03	8.56	7.83	7.58

Type GFT. Fully Insulated Terminals UL Standard 059, CSA Guide 184-N-90

The turret-type solder pin is tin-plated brass. .074" typical diameter with a .114" typical diameter turret at the end. 21-26 terminal types are available by special order with a minimum of 10 pieces required per item.

Stock No.	Mfr.'s Type	No. Of Terminals	Mounting Dimension (M.D.) (In.)	Overall Dimension (O.D.) (In.)	EACH			
					1-9	10-24	25-49	50-99
764-0502	GFT-2	2	1.312	1.687	1.32	1.13	1.03	1.00
764-0503	GFT-3	3	1.750	2.125	1.90	1.62	1.48	1.43
764-0504	GFT-4	4	2.187	2.562	2.49	2.13	1.95	1.89
764-0505	GFT-5	5	2.625	3.000	3.10	2.65	2.42	2.35
764-0506	GFT-6	6	3.062	3.437	3.71	3.16	2.89	2.80
764-0507	GFT-7	7	3.500	3.875	4.31	3.68	3.36	3.26
764-0508	GFT-8	8	3.937	4.312	4.91	4.19	3.83	3.72
764-0509	GFT-9	9	4.375	4.750	5.52	4.71	4.31	4.17
764-0510	GFT-10	10	4.812	5.187	6.09	5.20	4.75	4.61
764-0512	GFT-12	12	5.682	6.062	7.30	6.23	5.70	5.52
764-0514	GFT-14	14	6.567	6.937	8.51	7.26	6.64	6.43
764-0515	GFT-15	15	7.000	7.375	9.11	7.78	7.11	6.89
764-0516	GFT-16	16	7.437	7.812	9.71	8.29	7.58	7.34
764-0518	GFT-18	18	8.312	8.687	10.89	9.30	8.50	8.23
764-0520	GFT-20	20	9.187	9.562	12.10	10.33	9.44	9.15

All dimensions shown are ±.030".

Nylon Insulated Banana Jacks

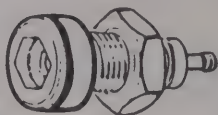
For standard .175" banana plug. Formed brass contact, bright-tinned finish. Come with nickel-plated nut. **Panel Thickness:** to .343". **Current:** 15 A. **Contact Resistance:** 0.010 ohms.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0157	108-0901-001	White	.51	.44	.35
528-0158	108-0902-001	Red	.51	.44	.35
528-0159	108-0903-001	Black	.51	.44	.35
528-0160	108-0904-001	Green	.51	.44	.35
528-0161	108-0906-001	Orange	.51	.44	.35
528-0162	108-0907-001	Yellow	.51	.44	.35
528-0163	108-0908-001	Brown	.51	.44	.35
528-0164	108-0910-001	Blue	.51	.44	.35
528-0165	108-0912-001	Violet	.51	.44	.35
528-0166	108-0913-001	Gray	.51	.44	.35

Military Insulated Metal-Clad Tip Jacks

For .080" diameter standard tip plug. Comes with nylon body and nickel-plated washer. Gold-plated turret terminal contact with wrap-around beryllium copper spring. Come with nickel-plated contact and nut. Mount panels to .218" thick. **Breakdown Voltage:** 8000 VDC. **Current:** 10 A. Conform with MS-16108, Rev. F of MIL-STD-242A and MIL-C-39024/10.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0107	105-0201-200	White	2.06	1.75	1.40
528-0108	105-0202-200	Red	2.06	1.75	1.40
528-0109	105-0203-200	Black	2.06	1.75	1.40

Insulated Metal-Clad Standard Tip Jacks

For .080" diameter standard tip plug. Nylon body and nickel-plated threaded, brass jacket. Silver-plated contact is phosphor bronze with slotted terminal. Come with nickel-plated nut. Mount panels to .218" thick. **Breakdown Voltage:** 5700 Vrms minimum. **Current:** 10 A.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0184	105-0251-001	White	.88	.75	.60
528-0185	105-0252-001	Red	.88	.75	.60
528-0186	105-0253-001	Black	.88	.75	.60

Vertical Test Jacks

Mount through .052" hole and require minimum mounting area. Accepts .080" dia. tip plugs. Silver-plated machined or formed beryllium copper contacts. 5 amps.



Machined Contacts

Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0213	105-0851-001	White	.62	.53	.42
528-0214	105-0852-001	Red	.62	.53	.42
528-0215	105-0853-001	Black	.62	.53	.42

Formed Contacts

Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0219	105-2201-201	White	.56	.48	.38
528-0220	105-2202-201	Red	.56	.48	.38
528-0221	105-2203-201	Black	.56	.48	.38

Rib-Loc® Tip Jacks

Accept standard .080" diameter tip plugs. Simply press into mounting hole. Silver-plated terminals. **Current:** 5 A. **Breakdown Voltage:** 3500 Vrms. **Contact Resistance:** 0.005 ohm max.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0208	105-1041-001	White	.86	.73	.59
528-0209	105-1042-001	Red	.86	.73	.59
528-0210	105-1043-001	Black	.86	.73	.59

Insulated Solderless Banana Plugs



For standard .175" banana jack. Tapered insulated nylon handle. Connect with wire up to 16 gauge. Nickel-plated brass body with nickel silver plug spring. **Current:** 15 A. **Contact Resistance:** 0.010 ohms.

Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0147	108-0301-001	White	.89	.76	.61
528-0302	108-0302-001	Red	.89	.76	.61
528-0149	108-0303-001	Black	.89	.76	.61
528-0304	108-0304-001	Green	.89	.76	.61
528-0306	108-0306-001	Orange	.89	.76	.61
528-0152	108-0307-001	Yellow	.89	.76	.61
528-0310	108-0310-001	Blue	.89	.76	.61
528-0155	108-0312-001	Violet	.89	.76	.61
528-0156	108-0313-001	Gray	.89	.76	.61

Insulated Hex Body Banana Plugs

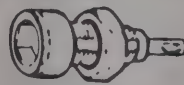


For standard banana jacks of 0.175" across flats. Wire can be soldered to threaded-stud or flared and held by stud for solderless connection. Accept up to 16-gauge wire. Nylon insulated handle is UL approved for self extinguishing. Plug is nickel-plated brass with a current rating of 15 amps, breakdown voltage of 3500 Vrms, minimum, and contact resistance of 0.010 ohms maximum.

Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0197	108-1762-101	Red	1.50	1.28	1.02
528-0198	108-1763-101	Black	1.50	1.28	1.02

Insulated Standard Tip Jacks

For standard .080" diameter tip plug. Nylon body, phosphor bronze contact. **Panel Thickness:** .437" max. **Current:** 10 A. **Breakdown Voltage:** 5700 Vrms minimum.



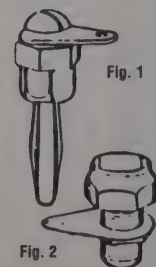
Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0174	105-0801-001	White	.64	.55	.44
528-0175	105-0802-001	Red	.64	.55	.44
528-0176	105-0803-001	Black	.64	.55	.44
528-0179	105-0807-001	Yellow	.64	.55	.44
528-0181	105-0810-001	Blue	.64	.55	.44

Insulated Stacking Dual Banana Plugs

Molded body incorporates polarity indication and stain relief for wire leads. Machined brass studs extend length of pins. **Voltage Breakdown:** 3500 Vrms. **Capacity Plug to Plug:** 1.3 pf. **Current Capacity:** 15 amps. Set screw to 14 AWG.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0225	108-0252-001	Red	4.69	3.99	3.19
528-0226	108-0253-001	Black	4.69	3.99	3.19



Panel Mount Uninsulated Banana Plugs And Jacks

Brass body per QQ-B-626D. Plugs have nickel silver springs per QQ-C-585. **Screw Type Plugs (Fig. 1):** 108-0753, for standard jack; .125" panel thickness, 14 gauge wire; 15 A. 108-0771, jumbo jack, panel thickness .093" to .500"; 12 gauge; 40 A. **Jacks Have Nickel Finish (Fig. 2):** Type 108-0740, .375" panel thickness; 12 gauge wire; 15 A; pierced lug.

Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-24	25-99	100-999
528-0169	108-0753-001	1	Plug, 6-32 screw	1.01	.86	.69
528-0171	108-0771-001	1	Jumbo plug with screw	2.55	2.17	1.74
528-0172	108-0740-001	2	Standard jack	1.04	.89	.71

Insulated Standard Binding Posts



For standard .175" diameter banana plug. Flatted, insulating nylon body prevents turning. Silver-plated brass stud has turret termination. Come with nickel-plated nut. **Current:** 15 A. **Breakdown Voltage:** 5700 Vrms minimum. **Panel Thickness:** .281" max.

Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0137	111-0101-001	White	1.63	1.39	1.11
528-0138	111-0102-001	Red	1.63	1.39	1.11
528-0139	111-0103-001	Black	1.63	1.39	1.11
528-0140	111-0104-001	Green	1.63	1.39	1.11
528-0141	111-0106-001	Orange	1.63	1.39	1.11
528-0142	111-0107-001	Yellow	1.63	1.39	1.11
528-0143	111-0108-001	Brown	1.63	1.39	1.11
528-0144	111-0110-001	Blue	1.63	1.39	1.11
528-0146	111-0113-001	Gray	1.63	1.39	1.11

Insulated Deluxe Tip Jacks

For .080" diameter standard tip plug. Machined silver-plated brass contact with turret terminal and wrap-around beryllium copper spring. Come with threaded nylon body and nickel-plated nut. Mount in panels to .437" thick. **Current:** 10 A. **Breakdown Voltage:** 5700 Vrms minimum.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0117	105-0601-001	White	.90	.77	.61
528-0118	105-0602-001	Red	.90	.77	.61
528-0119	105-0603-001	Black	.90	.77	.61
528-0120	105-0604-001	Green	.90	.77	.61
528-0123	105-0608-001	Brown	.90	.77	.61
528-0124	105-0610-001	Blue	.90	.77	.61

Insulated Tip Jacks With Sleeve Assembly

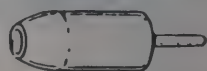
For standard .080" diameter tip plug. Machined, silver-plated brass contact with turret terminal and wrap-around beryllium copper spring. Assembled body and handle are nylon. For panel thicknesses to .125"; 10 A. **Contact Resistance:** 0.010 ohms.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0101	105-0701-001	White	1.19	1.01	.81
528-0102	105-0702-001	Red	1.19	1.01	.81
528-0103	105-0703-001	Black	1.19	1.01	.81

Insulated Solderless Tip Plugs

For .080" diameter standard tip jacks. Nylon insulating handle with nickel-plated brass plug contact. Accept wire sizes to 16 gauge. Head recessed to reduce shock hazard. **Current:** 10 A. **Breakdown Voltage:** 3500 Vrms.



Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-99	100-999
528-0127	105-0301-001	White	.70	.59	.47
528-0128	105-0302-001	Red	.70	.59	.47
528-0129	105-0303-001	Black	.70	.59	.47
528-0130	105-0304-001	Green	.70	.59	.47

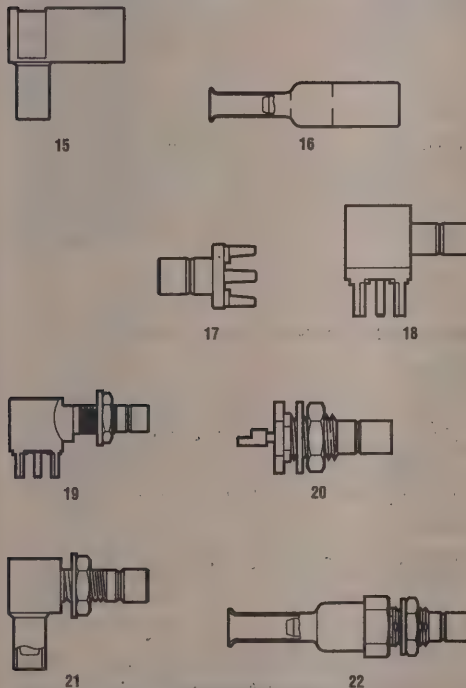
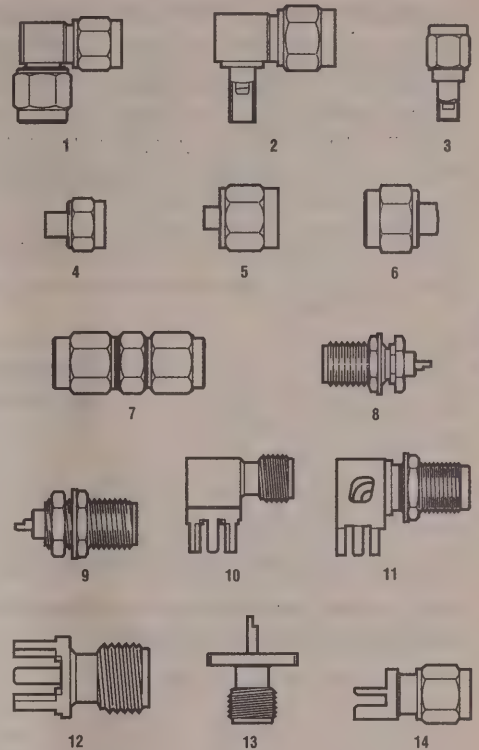
SMA Coaxial Connectors — 50 Ohm

Plugs

Stock No.	Mfr.'s Type	Fig.	Description	For RG Cable	Plating	EACH	
						1-9	10-49
528-0241	142-0203-101	1	Right Angle, Clamp Type	161, 174, 188, 316	Gold over Brass	12.42	11.02
528-2000	142-0403-101	2	Right Angle, Crimp Type	161, 174, 188, 316	Gold over Brass	7.75	6.98
528-2002	142-0403-106	2	Right Angle, Crimp Type	161, 174, 188, 316	Nickel over Brass	7.14	6.43
528-2004	142-0403-011	3	Straight, Solder or Crimp Type	161, 174, 188, 316	Gold over Brass	6.63	5.97
528-2006	142-0403-016	3	Straight, Solder or Crimp Type	161, 174, 188, 316	Nickel over Brass	6.02	5.42
528-2008	142-0694-021	4	Straight, Solder without Contact, Slide-On Nut, Thick Wall	.141 Semi-Rigid	Gold over Brass	2.24	2.02
528-2010	142-0693-001	5	Straight, Solder with Contact, Captive Nut, Thick Wall	.086 Semi-Rigid	Gold over Brass	3.98	3.58
528-2012	142-0694-011	6	Straight Solder, without Contact, Thread-On Nut, Thin Wall	.141 Semi-Rigid	Gold over Brass	1.94	1.74
528-0242	142-0203-011	7	Straight Clamp Type	174, 316	Gold over Brass	15.18	13.66

Jack Receptacles

528-0240	142-0701-401	8	Rear-Mount Bulkhead Jack	—	Gold over Brass	6.17	5.55
528-0239	142-0701-411	9	Front-Mount Bulkhead Jack	—	Gold over Brass	8.45	7.60
528-0229	142-0701-321	10	0.281" Right Angle PC Mount Jack, Solder Type	—	Gold over Brass	13.71	12.34
528-0230	142-0701-326	10	0.281" Right Angle PC Mount Jack, Solder Type	—	Nickel over Brass	12.85	11.57
528-2014	142-0701-301	10	0.155" Right Angle PC Mount Jack, Solder Type	—	Gold over Brass	9.84	8.86
528-2016	142-0701-306	10	0.155" Right Angle PC Mount Jack, Solder Type	—	Nickel over Brass	9.33	8.40
528-2018	142-0701-501	11	0.155" Right Angle Bulkhead Jack, Solder Type	—	Gold over Brass	10.91	9.82
528-3231	142-0701-211	12	0.281" Straight PC Mount Jack, Solder Type	—	Gold over Brass	9.12	8.21
528-0233	142-0701-201	12	0.200" Straight PC Mount Jack, Solder Type	—	Gold over Brass	7.63	6.87
528-0234	142-0701-631	13	4-Hole Flange Mount Jack, Solder Type	—	Gold over Brass	11.02	9.92
528-0235	142-0701-621	13	2-Hole Flange Mount Jack, Solder Type	—	Gold over Brass	8.70	8.54
528-0238	142-0701-801	14	End Launch PC Mount Jack, for 0.062" PC Board	—	Gold over Brass	8.80	7.76



SMB Coaxial Connectors — 50 Ohm

Plugs

Stock No.	Mfr.'s Type	Fig.	Description	For RG Cable	Plating	EACH	
						1-9	10-49
528-0243	131-1402-101	15	Right Angle, Crimp Type, for Flexible Cable	178, 196	Gold over Brass	6.98	6.28
528-0244	131-1402-116	15	Right Angle, Crimp Type, for Flexible Cable	178, 196	Nickel over Brass	6.00	5.40
528-0247	131-1403-101	15	Right Angle, Crimp Type, for Flexible Cable	174, 188, 316	Gold over Brass	6.43	5.66
528-0248	131-1403-116	15	Right Angle, Crimp Type, for Flexible Cable	174, 188, 316	Nickel over Brass	5.33	4.95
528-0245	131-1403-001	16	Straight Crimp Type, for Flexible Cable	174, 188, 316	Gold over Brass	7.04	6.34
528-0246	131-1403-016	16	Straight Crimp Type, for Flexible Cable	174, 188, 316	Nickel over Brass	5.94	5.34

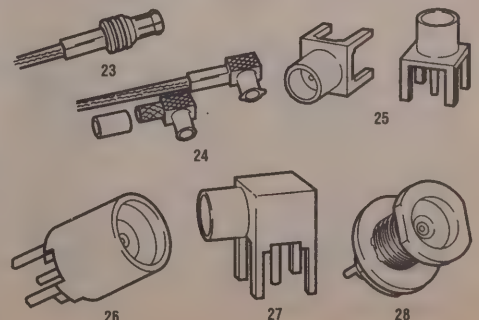
Jack Receptacles

528-0249	131-1701-201	17	0.155" Straight PC Mount Jack	—	Gold over Brass	2.84	2.42
528-0250	131-1701-206	17	0.155" Straight PC Mount Jack	—	Nickel over Brass	2.64	2.26
528-2020	131-1701-211	17	0.095" Straight PC Mount Jack	—	Gold over Brass	2.45	2.20
528-2022	131-1701-216	17	0.095" Straight PC Mount Jack	—	Nickel over Brass	2.19	1.97
528-0251	131-3701-301	18	0.155" Right Angle PC Mount Jack	—	Gold over Brass	6.06	5.45
528-0252	131-3701-306	18	0.155" Right Angle PC Mount Jack	—	Nickel over Brass	5.51	4.96
528-2024	131-1701-371	18	0.155" Right Angle PC Mount Jack	—	Gold over Die Cast	4.59	4.13
528-2026	131-1701-376	18	0.155" Right Angle PC Mount Jack	—	Nickel over Die Cast	4.39	3.95
528-2028	131-3701-341	19	0.155" Right Angle Bulkhead Jack, PC Mount	—	Gold over Brass	6.53	5.88
528-2030	131-3701-346	19	0.155" Right Angle Bulkhead Jack, PC Mount	—	Nickel over Brass	6.17	5.55
528-0253	131-3701-401	20	Rear-Mount Bulkhead Jack	—	Gold over Brass	6.55	5.89
528-0254	131-3701-406	20	Rear-Mount Bulkhead Jack	—	Nickel over Brass	6.30	5.67
528-2032	131-3303-501	21	Right Angle Bulkhead Jack, Crimp Type	161, 174, 179, 187, 188, 316	Gold over Brass	7.19	6.44
528-2034	131-3303-406	22	Straight Bulkhead Jack, Crimp Type	161, 174, 179, 187, 188, 316	Nickel over Brass	7.04	6.33

MCX Coaxial Connectors

► 30% smaller than the SMB Connectors

Stock No.	Mfr.'s Type	Fig.	Description	For RG Cable	Plating	EACH	
						1-9	10-49
528-2036	133-3403-001	23	Straight Cable Plug	316	Gold over Brass	6.10	5.61
528-2038	133-3402-101	24	Right Angle Cable Plug	178	Gold over Brass	5.40	4.97
528-2040	133-3403-101	24	Right Angle Cable Plug	316	Gold over Brass	5.40	4.97
528-2042	133-3701-201	25	.155" Straight PC Mount Jack	—	Gold over Brass	4.05	3.65
528-2044	133-3701-211	25	.110" Straight PC Mount Jack	—	Gold over Brass	4.00	3.60
528-2046	133-3701-221	25	.068" Straight PC Mount Jack	—	Gold over Brass	4.05	3.65
528-2048	133-3701-231	26	.100" Straight PC Mount Jack	—	Gold over Brass	4.75	4.28
528-2050	133-3701-301	27	.155" Right Angle PC Mount Jack	—	Gold over Brass	7.80	7.18
528-2052	133-3701-311	27	.110" Right Angle PC Mount Jack	—	Gold over Brass	8.00	7.36
528-2054	133-3701-401	28	Front Mount Bulkhead Jack	—	Gold over Brass	6.40	5.89





Heavy Duty Han® Series Industrial Power Connectors

Listed below are the most popular configurations in Harting's versatile Han® series of power connectors. Application possibilities are extensive — both electronic and electrical. All series have UL and CSA approvals. The HAN D®, HAN E®, HAN A®, and HAN® HsB series have several international approvals.

Inserts feature leading protective ground, polarization, interchangeability of male and female inserts in hoods and housings, and the ability to use the inserts without hoods for rack and panel applications.

Hoods and housings are in accordance with International Standard IEC529 (DIN40050) degree of protection IP65 which complies in full with NEMA Type 4. They feature electrical connection with protective ground and high mechanical strength and vibration resistance.

Founded in 1945 HARTING ELEKTRONIK has become one of the World's leading manufacturers and suppliers of Industrial Power Connectors designed to meet demanding industrial applications and environments.

HARTING Heavy Duty Han® Connectors are applicable in a wide variety of electronic and electrical applications including for example:

Power Utilities
Chemical Plants
Machine Tool Controls
Industrial Instrumentation
Conveyor Equipment

and many more.

All hoods and housings are in accordance with International Standard IEC 529 (DIN 40050) degree of protection IP 65 which specifies that enclosures are protected against windblown dust and rain, splashing water and hose directed water.

This degree of protection complies in full with NEMA Type 4 (Publication No. 250-1979) requirements.

All HARTING Han® series connectors are:

Recognized under file # E 80178 and

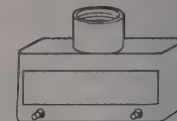
Approved under certified file # 18753.

A complete connector consists of the following components:

Hoods with
— top or side entry
— low or high profile
— single or double locking lever

Male/Female inserts with
— screw clamp or
— crimp contact or
— cage-clamp spring termination

Housings (panel or surface mount)
— one or two side entry
— low or high profile
— single or double locking lever
— with or without plastic spring cover
— protective covers available
— labels according to CSA-approval



Hood
Die-Cast
Aluminum



Male contacts
Silver or
Gold plated



Male insert
UL Recognized
Material



Female insert
UL Recognized
Material



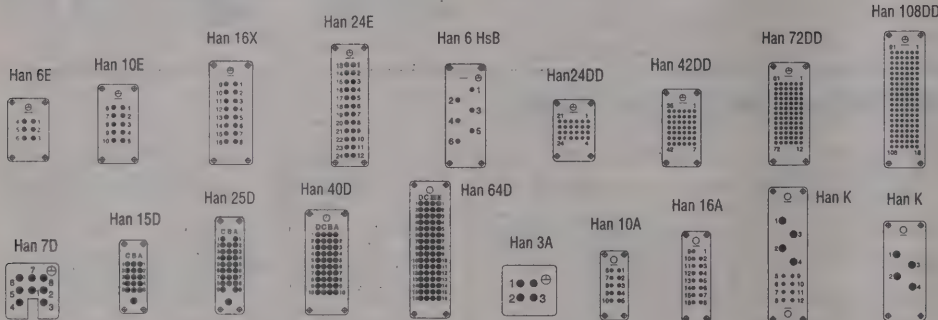
Female contacts
Silver or
Gold plated



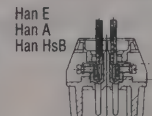
Housing
Die-Cast
Aluminum

View From Termination Side

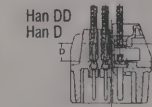
All inserts are with an integrated ground clip.



Screw Terminal



Crimp Terminal



Inserts	max. wire gauge (sq. inch)	Stripping length a (inch)
Han 3A	3.875 x 10 ⁻³	0.177
Han A	3.875 x 10 ⁻³	0.276
Han E	3.875 x 10 ⁻³	0.276
Han HsB	9.300 x 10 ⁻³	0.453

Wire gauge (mm ²)	AWG	Internal diameter e (inch)	Stripping length a (inch)
0.14 ... 0.37	26-22	0.0354	0.315
0.5	20	0.0433	0.315
0.75 ... 1	18	0.0571	0.315
1.5	16	0.0689	0.315
2.5	14	0.0886	0.236
4	12	0.1122	—

Inserts

Material: Thermoplastic resin.

Contacts: Copper alloy, hard-silver plated.

Han A® Inserts. Screw terminal contacts included.

Male Insert

Stock No.	Mfr.'s Type	No. of Cont.	Hood/Housing Series	EACH	
				1-9	10-24
597-1250	09.20.003.2611	3	Han 3A	6.19	5.58
597-1260	09.20.010.2612	10	Han 10A	13.01	11.71
597-1270	09.20.016.2612	16	Han 16A	17.18	15.47

Female Insert

597-1255	09.20.003.2711	3	Han 3A	6.43	5.79
597-1265	09.20.010.2812	10	Han 10A	14.11	12.70
597-1275	09.20.016.2812	16	Han 16A	20.30	18.27

Han D® Inserts. Crimp contacts ordered separately.

Male Insert

597-1150	09.21.007.3031*	7	Han 3A	3.94	3.38
597-1160	09.21.015.3001	15	Han 10A	8.27	7.45
597-1170	09.21.025.3001	25	Han 16A	8.53	7.68
597-1180	09.21.040.3001	40	Han 16E	10.87	9.79
597-1190	09.21.064.3001	64	Han 24E	11.28	10.16

Female Insert

597-1155	09.21.007.3131*	7	Han 3A	3.94	3.38
597-1165	09.21.015.3101	15	Han 10A	8.27	7.45
597-1175	09.21.025.3101	25	Han 16A	8.53	7.68
597-1185	09.21.040.3101	40	Han 16E	11.04	9.94
597-1195	09.21.064.3101	64	Han 24E	11.42	10.28

*For plastic hoods/housings only.

Han® DD Inserts. Crimp contacts ordered separately.

Male Insert

Stock No.	Mfr.'s Type	No. of Cont.	Hood/Housing Series	EACH	
				1-9	10-24
597-1100	09.16.024.3001	24	Han 6E	12.52	11.27
597-1110	09.16.042.3001	42	Han 10E	14.39	12.95
597-1120	09.16.072.3001	72	Han 16E	14.72	13.25
597-1130	09.16.108.3001	108	Han 24E	15.80	14.22

Female Insert

597-1105	09.16.024.3101	24	Han 6E	12.52	11.27
597-1115	09.16.042.3101	42	Han 10E	14.39	12.95
597-1125	09.16.072.3101	72	Han 16E	14.72	13.25
597-1135	09.16.108.3101	108	Han 24E	15.80	14.22

Han E® Inserts. Screw terminal contacts included. With wire protection.

Male Insert

597-1000	09.33.006.2601	6	Han 6E	9.66	8.70
597-1010	09.33.010.2601	10	Han 10E	12.31	11.08
597-1020	09.33.016.2601	16	Han 16E	13.56	12.20
597-1030	09.33.024.2601	24	Han 24E	18.39	16.55

Female Insert

597-1005	09.33.006.2701	6	Han 6E	9.98	8.98
597-1015	09.33.010.2701	10	Han 10E	12.70	11.43
597-1025	09.33.016.2701	16	Han 16E	14.67	13.21
597-1035	09.33.024.2701	24	Han 24E	19.89	17.90

Options not stocked by Allied: Inserts for Crimp Contacts or for Cage-Clamp spring terminal.

Han® HsB Inserts. Screw terminal contacts included.

Male Insert

597-1050	09.31.006.2601	6	Han 16E	19.38	17.44
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Female Insert

597-1055	09.31.006.2701	6	Han 16E	20.48	18.43
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Han® K Inserts. Screw terminal contacts included.

Male Insert

Stock No.	Mfr.'s Type	No. of Cont.	Hood/Housing Series	EACH	
				1-9	10-24
597-1300	09.38.012.2601	4	Han 24E	64.43	57.99
597-1310	09.38.006.2611	4	Han 16E	61.88	55.70

Female Insert

597-1305	09.38.012.2701	4	Han 24E	74.19	66.78
597-1315	09.38.006.2711	4	Han 16E	76.86	69.18

P = Power contacts - for up to 80A Current - 4AWG Wires max.
S = Signal Contacts - 16A 14AWG Wires max.

Han® D/DD Crimp contacts (Silver-Plated)

Male Insert

Stock No.	Mfr.'s Type	AWG	PER PK./100
597-1500	09.15.000.6106	14	51.14
597-1502	09.15.000.6101	16	51.14
597-1504	09.15.000.6102	18	51.14
597-1506	09.15.000.6103	20	51.14
597-1509	09.15.000.6107	22-26	51.14

Female Insert

597-1510	09.15.000.6206	14	51.55
597-1512	09.15.000.6201	16	51.55
597-1514	09.15.000.6202	18	51.55
597-1516	09.15.000.6203	20	51.55
597-1519	09.15.000.6207	22-26	51.55

Standard Housings

Housings are in accordance with International Standard IEC 529 (DIN40050) degree of protection IP65 which complies in full with NEMA Type 4. They feature electrical connection with protective ground and high mechanical strength and vibration resistance.

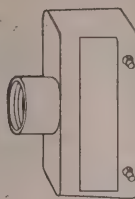
Provide excellent mechanical and electrical protection in demanding environments. **Material:** light metal alloy or thermoplastic. **Color:** Silver Grey. Can be used with either male or female inserts.



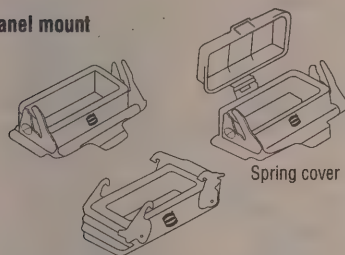
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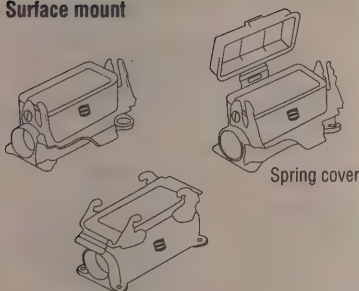


Panel mount



Dimensions in inches

Surface mount



Dimensions in inches

Housings (mate with Hoods on next page)

Single lever mate with single lever peg.

Panel Mount

Han 6E – Dim A 2.756", Dim B 3.150" (single lever)

Stock No.	Mfr.'s Type	Dimensions (In.)			EACH	
		c	e	h	1-9	10-24
597-2300	09.30.006.0301	1.260	1.693	1.12	11.89	10.70
597-2302	09.30.006.0302 ³	1.260	1.693	1.12	18.52	16.67

Han 10E – Dim A 3.268", Dim B 3.661" (single lever)

597-2310	09.30.010.0303 ³	1.260	1.693	1.12	24.98	22.49
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Han 10E – Dim A 3.268", Dim B 3.661" (double lever)

597-2316	09.30.010.0301	1.260	1.693	1.12	17.44	15.70
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Han 16E – Dim A 4.055", Dim B 4.449" (single lever)

597-2320	09.30.016.0306 ³	1.260	1.693	1.12	26.59	23.93
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Han 16E – Dim A 4.055", Dim B 4.449" (double lever)

597-2326	09.30.016.0301	1.260	1.693	1.12	18.39	16.55
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Han 24E – Dim A 5.118", Dim B 5.512" (single lever)

597-2330	09.30.024.0307	1.260	1.693	1.12	20.81	18.73
597-2332	09.30.024.0304 ³	1.260	1.693	1.12	30.45	27.41

Han 24E – Dim A 5.118", Dim B 5.512" (double lever)

597-2336	09.30.024.0301	1.260	1.693	1.12	19.89	17.90
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Han 32E* – Dim A 4.331", Dim B 4.882" (double lever)

597-2340	09.30.032.0301	2.559	3.504	1.30	34.00	30.60
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Han 48E** – Dim A 5.827", Dim B 6.496" (single lever)

597-2350	09.30.048.0301	2.756	3.543	1.58	73.60	66.24
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Han 3A – Dim A – Dim B 1.102" (single lever)

597-2500	09.20.003.0301 ¹	1.181	1.575	0.91	5.83	5.25
597-2502	09.20.003.0320 ²	1.181	1.575	0.91	4.18	3.58

Han 10A – Dim A 2.756" Dim B 3.189" (single lever)

597-2510	09.20.010.0301	0.689	1.142	1.02	11.93	10.74
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Han 16A – Dim A 3.386" Dim B 3.780" (single lever)

597-2520	09.20.016.0301	0.689	1.142	1.02	16.12	14.51
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Han 32A† – Dim A 3.622" Dim B 4.016" (double lever)

597-2530	09.20.032.0301	1.654	2.205	1.12	22.82	20.54
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Surface Mount (two-sided entry except Han 3A)

Han 6E – Dim A 2.756", Dim B 3.228" (single lever)

Stock No.	Mfr.'s Type	Dimensions (In.)				EACH	
		c	e	h	NPT	1-9	10-24
597-2400	09.30.506.1291	1.575	2.047	2.03	1/2"	18.43	16.59
597-2402	09.30.506.1296 ³	1.575	2.047	2.03	1/2"	32.17	28.95

Han 10E – Dim A 3.228", Dim B 3.701" (single lever)

597-2470	09.30.510.0292	1.772	2.244	2.36	3/4"	28.86	25.97
597-2414	09.30.510.0298 ³	1.772	2.244	2.36	1"	33.70	30.33

Han 10E – Dim A 3.228", Dim B 3.701" (double lever)

597-2416	09.30.510.0272	1.772	2.244	2.36	3/4"	29.04	26.14
597-2418	09.30.510.0273	1.772	2.244	2.36	1"	29.86	26.87

Han 16E – Dim A 4.134", Dim B 4.606" (single lever)

597-2420	09.30.516.1290	1.772	2.244	3.03	3/4"	27.76	24.98
597-2422	09.30.516.0291	1.772	2.244	3.03	1"	55.78	50.20

Han 16E – Dim A 4.134", Dim B 4.606" (double lever)

597-2426	09.30.516.1270	1.772	2.244	2.21	3/4"	27.89	25.70
597-2428	09.30.516.0271	1.772	2.244	3.03	1"	53.80	48.42

Han 24E – Dim A 5.197", Dim B 5.699" (single lever)

597-2430	09.30.524.1295 ³	1.772	2.244	2.21	3/4"	36.51	32.86
597-2432	09.30.524.0296 ³	1.772	2.244	3.15	1"	59.92	53.93

Han 24E – Dim A 5.197", Dim B 5.699" (double lever)

597-2436	09.30.524.1270	1.772	2.244	2.21	3/4"	28.71	25.84
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Han 32E* – Dim A 4.409", Dim B 4.921" (double lever)

597-2440	09.30.532.0272	2.638	3.543	3.54	1 1/4"	94.93	85.44
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Han 48E** – Dim A 4.870", Dim B 5.551" (single lever)

597-2450	09.30.548.0296 ³	4.173	4.724	3.90	1 1/4"	149.61	134.65
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Han 3A – Dim A 1.181", Dim B 1.575" (single lever)

597-2550	09.20.503.1250 ³	—	1.595	1.04	3/8"	11.61	10.45
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Han 10A – Dim A 1.890", Dim B 2.500" (single lever)

597-2560	09.20.510.0291	1.575	1.969	2.05	1/2"	22.79	20.51
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Han 16A – Dim A 2.520", Dim B 3.150" (single lever)

597-2570	09.20.516.0291	1.575	1.969	2.24	1/2"	26.33	23.70
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Han 32A† – Dim A 3.701", Dim B 4.173" (double lever)

597-2580	09.20.532.0271	1.811	2.244	3.23	1"	40.67	36.60
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*Han 32E holds 2 inserts that fit Han 16E. **Han 48E holds 2 inserts that fit Han 24E. †Han 32A holds 2 inserts that fit Han 16A. ¹Metal. ²Thermoplastic. ³with thermoplastic spring cover.

Additional Heavy Duty Han® Connector Series Available From Harting.

Series		Han® K 8/24		Han® K 4/8		Han® EAV		Han® Hv E		Han® Hv ES	
Current		16A	10A	80A	16A	16A		16A		16A	
Voltage	CSA/UL	600 V	300V CSA 250V UL	600 V UL		600 V UL		600 V UL		600 V UL	
	VDE0110	380V AC 450V DC	380V AC 450V DC	380 V AC 450 V DC		380 V AC/450 V DC		500 V AC/600 V DC		750 V AC/900 V DC	
No. Of Contacts		8	24	4	8	6, 10, 16, 24		3, 6, 10, 12, 16, 20, 26, 32		3, 6, 10, 12, 20	

Standard Hoods

Hoods are in accordance with International Standard IEC 529 (DIN40050) degree of protection IP65 which complies in full with NEMA Type 4. They feature electrical connection with protective ground and high mechanical strength and vibration resistance.

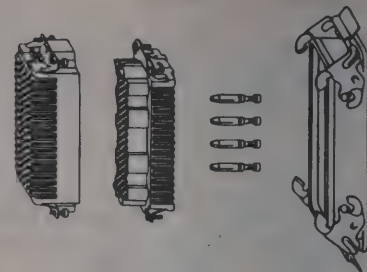
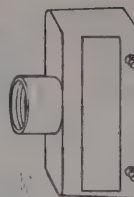
Provide excellent mechanical and electrical protection in demanding environments. **Material:** light metal alloy or thermoplastic. **Color:** Silver Grey. Can be used with either male or female inserts.



Recognized
File # E 80178



Certified
File # E 18753



5

Hoods (mate with housings on previous page) Hoods with single lever peg mate with housing with a single lever.

Han 6E – Side-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	Dimensions (in.)					EACH	
		a	b	h	NPT	1-9	10-24	
597-2000	09.30.506.1541	2.362	1.693	1.69	1/2"	11.49	10.35	
597-2002	09.30.506.0542	2.362	1.693	2.76	3/4"	16.72	15.05	
597-2004	09.30.506.0543	2.362	1.693	2.76	1"	14.15	12.74	

Han 10E – Side-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2010	09.30.510.0542	2.874	1.693	2.76	3/4"	24.06	21.65
597-2012	09.30.510.0543	2.874	1.693	2.76	1"	25.84	23.26

Han 10E – Side-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2016	09.30.510.0522	2.874	1.693	2.76	3/4"	20.14	18.13
597-2018	09.30.510.0523	2.874	1.693	2.76	1"	23.01	20.71

Han 16E – Side-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2022	09.30.516.1540	3.681	1.693	2.36	3/4"	18.24	16.42
597-2024	09.30.516.0541	3.681	1.693	2.99	1"	27.95	25.16

Han 16E – Side-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2028	09.30.516.1520	3.681	1.693	2.36	3/4"	15.43	13.89

Han 24E – Side-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2030	09.30.524.1540	4.724	1.693	2.36	3/4"	21.58	19.42
597-2032	09.30.524.0541	4.724	1.693	2.99	1"	28.19	25.37

Han 24E – Side-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2036	09.30.524.1520	4.724	1.693	2.36	3/4"	17.37	15.42

Han 32E* – Side-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2040	09.30.532.0522	3.701	3.248	3.70	1 1/4"	66.44	59.80

Han 48E – Side-Entry, Single Lever Peg**

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2050	09.30.548.0540	5.197	3.543	3.86	1"	64.05	57.65

Han 3A – Side-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2200	09.20.503.1640 ¹	1.043	1.043	1.81	3/8"	9.12	8.29
597-2202	09.20.503.0620 ²	1.043	1.043	1.97	3/8"	5.18	4.67

Han 10A – Side-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2210	09.20.510.1541	2.480	1.161	2.15	1/2"	14.81	13.33
597-2212	09.20.510.0541	2.480	1.417	2.54	3/4"	20.47	18.43

Han 16A – Side-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2220	09.20.516.1541	3.130	1.161	2.15	1/2"	15.79	14.21
597-2222	09.20.516.0541	3.130	1.417	2.78	3/4"	19.96	17.97

Han 32A † – Side-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2230	09.20.532.0521	3.228	2.205	2.95	1"	28.10	25.29

*Han 32E holds 2 inserts that fit Han 16E. **Han 48E holds 2 inserts that fit Han 24E. †Holds 2 inserts that fit Han 16A. ¹Metal. ²Thermoplastic.

Han 6E – Top-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	Dimensions (in.)					EACH	
		a	b	h	NPT	1-9	10-24	
597-2100	09.30.506.1441	2.362	1.693	1.58	1/2"	12.47	11.22	
597-2102	09.30.506.0442	2.362	1.693	2.76	3/4"	16.42	14.78	
597-2104	09.30.506.0443	2.362	1.693	2.76	1"	14.71	13.24	

Han 10E – Top-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2110	09.30.510.0442	2.874	1.693	2.76	—	24.20	21.78
597-2112	09.30.510.0443	2.874	1.693	2.76	—	28.74	25.87

Han 10E – Top-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2116	09.30.510.0422	2.874	1.693	2.76	3/4"	24.01	21.61
597-2118	09.30.510.0423	2.874	1.693	2.76	1"	22.61	20.35

Han 16E – Top-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2122	09.30.516.1440	3.681	1.693	1.77	3/4"	18.09	16.28
597-2126	09.30.516.0441	3.681	1.693	2.99	1"	26.75	22.74

Han 16E – Top-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2128	09.30.516.1420	3.681	1.693	1.77	3/4"	16.03	14.43

Han 24E – Top-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2130	09.30.524.0440	4.724	1.693	2.99	3/4"	30.46	27.41
597-2132	09.30.524.0441	4.724	1.693	2.99	1"	29.88	26.90

Han 24E – Top-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2136	09.30.524.0420	4.724	1.693	2.99	3/4"	26.28	23.65

Han 32E* – Top-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2140	09.30.532.0422	3.700	3.250	3.70	1 1/4"	65.56	59.00

Han 48E – Top-Entry, Single Lever Peg**

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2150	09.30.548.0441	5.197	3.543	3.86	1 1/4"	59.83	53.85

Han 3A – Top-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2250	09.20.503.1440 ¹	1.043	1.043	1.77	3/8"	5.14	4.63
597-2252	09.20.503.0420 ²	1.043	1.043	2.21	3/8"	5.16	4.65

Han 10A – Top-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2260	09.20.510.1440	2.480	1.161	1.85	1/2"	14.72	13.25
597-2262	09.20.510.0441	2.480	1.417	2.54	3/4"	22.41	20.17

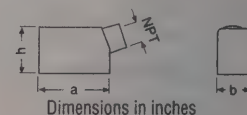
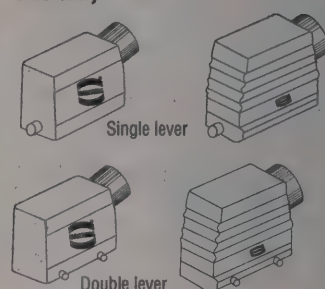
Han 16A – Top-Entry, Single Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2270	09.20.516.1441	3.130	1.161	1.85	1/2"	17.06	15.36
597-2272	09.20.516.0441	3.130	1.417	2.78	3/4"	23.30	20.97

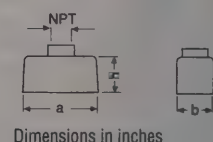
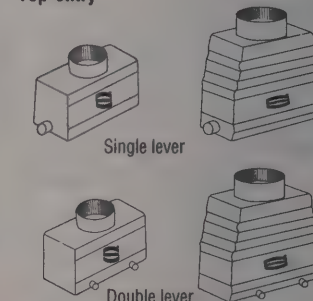
Han 32A † – Top-Entry, Double Lever Peg

Stock No.	Mfr.'s Type	a	b	h	NPT	1-9	10-24
597-2280	09.20.532.0421 ¹	3.228	2.205	2.95	1"	25.79	23.21

Side-entry



Top-entry



Crimp Tool and Accessories



BUCHANAN Crimp Tool

597-1525. 09.99.000.0001EACH 770.70

Locator for D/DD

597-1530. 09.99.000.0311EACH 5.32

Depth Adjustment Gauge

Stock No.	Mfr.'s Type	AWG	EACH
597-1532	09.99.000.0230	14	39.18
597-1534	09.99.000.0231	16	44.12
597-1536	09.99.000.0007	18-20	44.14
597-1538	09.99.000.0203	22-26	44.40



Insertion Tool

597-1540. 09.99.000.0059EACH 21.66



Mini Removal Tool

597-1550. 09.99.000.0052EACH 16.68



Removal Tool

597-1545. 09.99.000.0012EACH 81.78

Replacement Tip

597-1547. 09.99.000.0004EACH 1.62

A comprehensive range of miniature connectors designed to meet the requirements of internal and external connections of the future.

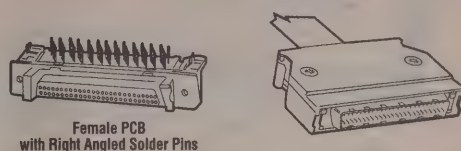
Pin and Socket I/O Connectors

Series 60.01/02/03

- ▶ Reduced Size: Contact Pitch of 1.27 mm (.050 inches)
- ▶ High Contact Density: Double Standard D-Sub
- ▶ E.M.I./R.F.I. Protected: Metal Shells and Hoods for Optimum Screening
- ▶ Polarized by "D" Shape

S.C.S.I.
I.P.I.
H.I.P.P.I.
RS 232 E

- ▶ Locking Device: Quick Latch and Jackscrew
- ▶ Male and Female IDC Versions for Discrete Wire 28 to 30 AWG
- ▶ Male and Female Connector with Straight and Angled Solder Pins
- ▶ Many Connector Sizes: From 20 to 100 Ways



Female PCB
with Right Angled Solder Pins

PCB Female Connectors

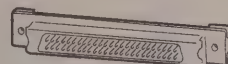
Stock No.	Mfr.'s Type	No. of Contacts	Termination*	EACH
				1-25
597-3010	60 01 020 5102	20	S	4.89
597-3012	60 01 020 5140	20	R/A	4.89
597-3014	60 01 026 5102	26	S	5.22
597-3016	60 01 026 5140	26	R/A	5.11
597-3018	60 01 050 5102	50	S	5.92
597-3020	60 01 050 5140	50	R/A	5.81
597-3022	60 01 068 5102	68	S	9.16
597-3024	60 01 068 5140	68	R/A	8.83

*S = Straight Solder Pins; R/A = Right Angled Solder Pins with Snap-in Clips (Snap-in clips only available for Female Connectors).

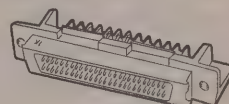
PCB Male Connectors

Stock No.	Mfr.'s Type	No. of Contacts	Termination*	EACH
				1-25
597-3026	60 01 020 5202	20	S	5.44
597-3028	60 01 020 5232	20	R/A	5.08
597-3030	60 01 050 5202	50	S	6.58
597-3032	60 01 050 5232	50	R/A	5.81
597-3034	60 01 068 5202	68	S	10.19
597-3036	60 01 068 5232	68	R/A	9.49

*S = Straight Solder Pins; R/A = Right Angled Solder Pins with M2.5 Thread (Male Connector not available with snap-in clips).



Male PCB
with Straight Solder Pins



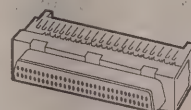
Male PCB
with Right Angled Solder Pins

Cable Female Connectors

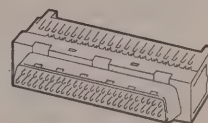
Stock No.	Mfr.'s Type	No. of Contacts	Ø	EACH
				1-25
597-3038	60 03 020 5100	20	.5 - .65 mm	5.08
597-3040	60 03 020 5120	20	.8 - .88 mm	5.08
597-3041	60 03 050 5100	50	.5 - .65 mm	6.25
597-3042	60 03 050 5120	50	.8 - .88 mm	6.25
597-3044	60 03 068 5100	68	.5 - .65 mm	8.35
597-3046	60 03 068 5120	58	.8 - .88 mm	8.35

Cable Male Connectors

Stock No.	Mfr.'s Type	No. of Contacts	Ø	EACH
				1-25
597-3048	60 03 020 5200	20	.5 - .65 mm	4.60
597-3050	60 03 020 5210	20	.65 - .8 mm	4.60
597-3052	60 03 026 5200	20	.5 - .65 mm	4.67
597-3054	60 03 050 5200	50	.5 - .65 mm	5.37
597-3056	60 03 050 5210	50	.65 - .8 mm	5.37
597-3058	60 03 068 5200	68	.5 - .65 mm	7.54
597-3060	60 03 068 5210	68	.65 - .8 mm	7.54



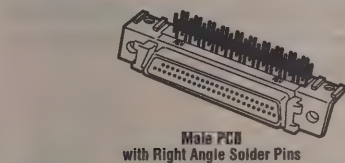
Female IDC



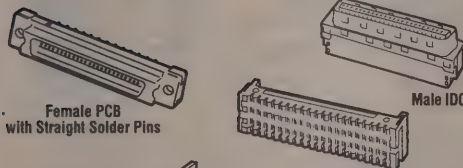
Male IDC



Female PCB
with Right Angle Solder Pins



Male PCB
with Right Angle Solder Pins



Female PCB
with Straight Solder Pins

Male IDC

Female IDC

Bellows Contact I/O Connectors

Series 60.11/13

- ▶ Reduced Size: Contact Pitch of 1.27 mm (.050 inches)
- ▶ High Contact Density: Double Standard Delta Ribbon
- ▶ E.M.I./R.F.I. Protected: Metal Shells and Hoods for Optimum Screening
- ▶ Polarized by "D" Shape

- ▶ Locking Device: Quick Latch
- ▶ Male and Female IDC Versions for Discrete Wire 28 to 30 AWG
- ▶ Male and Female Connectors with Straight and Angled Solder Pins
- ▶ Many Connector Sizes: From 20 to 96 Ways

PCB Female Connectors

Stock No.	Mfr.'s Type	No. of Contacts	Termination*	EACH
				1-25
597-3072	60 11 020 5140	20	R/A	5.00
597-3076	60 11 026 5140	26	R/A	5.33
597-3077	60 11 036 5140	36	R/A	5.89
597-3078	60 11 050 5102	50	S	6.58
597-3079	60 11 050 5140	50	R/A	6.03
597-3082	60 11 068 5102	68	S	10.19
597-3084	60 11 068 5140	68	R/A	9.16

*S = Straight Solder Pins; R/A = Right Angled Solder Pins with Snap-in Clips (Snap-in clips only available for Female Connectors).

PCB Male Connectors

Stock No.	Mfr.'s Type	No. of Contacts	Termination*	EACH
				1-25
597-3086	60 11 020 5232	20	R/A	4.75
597-3088	60 11 050 5202	50	S	6.58
597-3090	60 11 050 5232	50	R/A	5.81
597-3092	60 11 068 5232	68	R/A	8.90
—	—	—	—	—
—	—	—	—	—

*S = Straight Solder Pins; R/A = Right Angled Solder Pins with M2.5 Thread (Male Connector not available with snap-in clips).

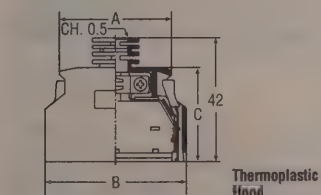
Cable Female Connectors

Stock No.	Mfr.'s Type	No. of Contacts	Ø	EACH
				1-25
597-3094	60 13 020 5100	20	.5 - .65 mm	5.00
597-3096	60 13 050 5100	50	.5 - .65 mm	6.14
597-3098	60 13 068 5100	68	.5 - .65 mm	8.13
—	—	—	—	—
—	—	—	—	—

Cable Male Connectors

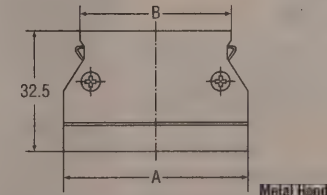
Stock No.	Mfr.'s Type	No. of Contacts	Ø	EACH
				1-25
597-3100	60 13 020 5200	20	.5 - .65 mm	5.00
597-3102	60 13 026 5200	26	.5 - .65 mm	5.08
597-3103	60 13 036 5200	36	.5 - .65 mm	5.81
597-3104	60 13 050 5200	50	.5 - .65 mm	6.14
597-3106	60 13 068 5200	68	.5 - .65 mm	8.13

Hoods



Thermoplastic with Internal Metal Screen
(For Male Bellows Cable Connectors)

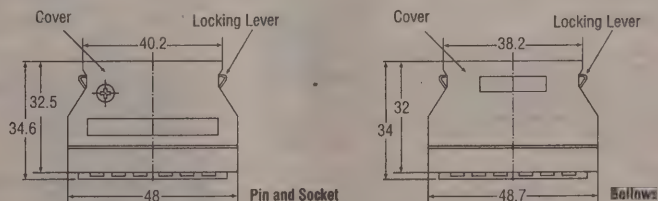
Stock No.	Mfr.'s Type	Size	B	EACH
				1-25
597-3110	60 13 020 0153	20	29.65 mm	4.64
597-3111	60 13 036 0153	36	39.81 mm	5.08
597-3112	60 13 050 0153	50	48.70 mm	5.70
597-3114	60 13 068 0153	68	60.13 mm	6.36



Metal (For Male and Female Pin and Socket and Female Bellows Cable Connectors)

Stock No.	Mfr.'s Type	Size	B	EACH
				1-25
597-3116	60 03 020 0155	20	28.95 mm	5.41
597-3120	60 03 050 0155	50	48.00 mm	6.70
597-3122	60 03 068 0155	68	59.43 mm	7.25
—	—	—	—	—

Terminators



Stock No.	Mfr.'s Type	No. of Contacts	Description	EACH
				1-25
597-3130	60 03 050 1001*	50	Single-end alternative 1	24.87
597-3132	60 03 050 1002*	50	Single-end alternative 2	33.70
597-3134	60 03 050 1003*	50	Differential	27.74

*For Pin and Socket.



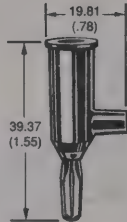
Solderless Stackup Banana Plug

Wire firmly held in place with internal setscrew, eliminating soldering. Assembly of test leads simplified. **Upper:** Banana jack, 4.22 mm (.166) dia., brass. **Lower:** Banana plug. Spring, one piece heat treated beryllium copper. Fits standard 4.22 mm (.166) dia. banana jack. **Rating:** 5000 WVDC, 15 Amps, +50°C (+122°F) Max. +150°C (+302°F).

Stock No.	Mfr.'s Type	Color	PER PKG./10
885-0301	1325-0	Black	11.70
885-0302	1325-2	Red	11.70
885-1327	1325-4	Yellow	11.70
885-0305	1325-5	Green	11.70

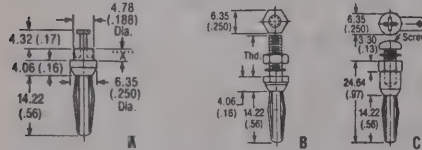
Solderless Stackup Standard Banana Plug With Safety Collar

Features integral safety collar that insulates exposed wire leads. Wire firmly held in place with internal setscrew, eliminates soldering, simplifies assembly of test leads. **Upper:** Banana jack, 4.22 mm (.166) dia., brass. **Lower:** Banana plug. Spring, one piece heat treated beryllium copper. Fits standard 4.22 mm (.166) dia. banana jack. **Rating:** 5000 WVDC, 15 Amps, +50°C (+122°F) Max.



Stock No.	Mfr.'s Type	Color	PER PKG./10
885-0460	1825-0	Black	11.70
885-0462	1825-2	Red	11.70
885-1827	1825-3	Orange	11.70
885-0464	1825-4	Yellow	11.70
885-0465	1825-5	Green	11.70
885-1830	1825-6	Blue	11.70
885-0469	1825-9	White	11.70

Banana Plugs



Material: Banana plug body, brass. Spring, one piece heat treated beryllium copper. Fits standard 4.22 mm (.166) dia. banana jack. **Finish:** Nickel plated. **Rating:** 5000 WVDC, 15 Amps.

Fig. A Rivet Type Banana Plug with Turret

Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires.

885-3260, 3261. (Dim. "X" = 2.67 (.105)).....PER PKG./10 11.20
885-3261, 3261. (Dim. "X" = 3.43 (.135)).....PER PKG./10 11.20

Fig. B Banana Plug with Threaded Stud

Threaded stud for rapid mounting. Furnished with hex nut and tin plated solder lug.

885-3263, 3263. (6.32 x 12.7 (.50) Thread).....PER PKG./10 12.80

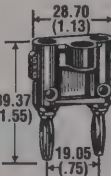
Fig. C Banana Plug with Screw

Mounts to various size panels. Furnished with screw and tin plated solder lug.

885-3265, 3265. (6.32 x 6.4 (.25) Screw).....PER PKG./10 14.90
885-3266, 3266. (8.32 x 6.4 (.25) Screw).....PER PKG./10 14.90

Standard Double Banana Plug

Setscrews secure leads. Simplifies cable construction or component mounting. **Upper:** Double banana jack, 4.22 mm (.166) dia., brass. **Lower:** Double banana plug. Spring, one piece heat treated beryllium copper. Fits standard 4.22 mm (.166) dia. banana jack. **Rating:** 5000 WVDC, 15 Amps, +50°C (+122°F) Max. (Model 4698, +150°C (+302°F) Max.



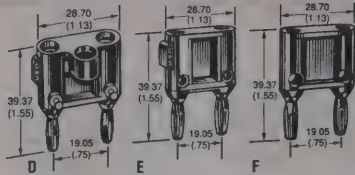
Stock No.	Mfr.'s Type	Color	EACH
885-0100	MDP-0	Black	2.02
885-0101	MDP-2	Red	2.02
885-4898	4698-0†	Black	2.29

Triple Banana Plug

Stock No.	Mfr.'s Type	Color	EACH
885-2970	2970-0	Black	4.10
885-2971	2970-2	Red	4.10

†Polyphenylene Sulfide Insulation.

Double Banana Plugs



Upper: Double banana jack, 4.22 mm (.166) dia., brass, nickel-plated. **Lower:** Double banana plug. Spring, one piece heat treated beryllium copper, nickel plated. Fits standard 4.22 mm (.166) dia. banana jack.

Fig. D Double Banana Plug with Solder Turret Terminals

MDP-R-600 molded precision 600 ohm resistor fits .166" diameter banana jacks, .750" plug spacing, 0.5 watt, +50°C. MDP-ST standard double banana plug with solder turrets. **Rating:** 5000 WVDC, 15 Amps, +55°C. Similar to Model MDP, except has bright tin plated solder turret terminals for permanent noise-free connections of cables and components. Black Polypropylene Insulation.

885-0021, MDP-ST.....EACH 2.82
885-0600, MDP-R-600.....EACH 8.79

Fig. E Component Mounting Double Banana Plug

Setscrews secure leads. Features recess for mounting small components. ABS Insulation.

885-1330, 1330-0 (Black).....EACH 2.24
885-1331, 1330-2 (Red).....EACH 2.24

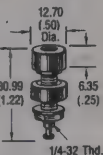
Fig. F Double Banana Plug with Shorting Bar

Banana plug internally shorted with #18 AWG wire. Banana jacks provide top stackup. Cross holes 4.22 mm (.166) dia. in body provide side stackup connections. ABS Insulation.

885-0110, MDP-S-0 (Black).....EACH 3.35
885-0023, MDP-S-2 (Red).....EACH 3.35
885-0024, MDP-S-9 (White).....EACH 3.35

Banana Jack

Closed entry jack 4.22 mm (.166) dia. x 23.37 (.920) deep. Mounts in panels from 1.60 mm (.063) to 9.53 mm (.375) thick. Nickel plated lockwasher and 1/4-32 hex nut. **Material:** Brass. **Rating:** 2500 WVDC 15 Amps, +115°C (+239°F) Max.



Bright Tin Plated Brass

Stock No.	Mfr.'s Type	Color	PER PKG./10
885-0400	1581-0	Black	8.50
885-0401	1581-2	Red	8.50
885-1583	1581-4	Yellow	8.50
885-1584	1581-5	Green	8.50
885-1585	1581-6	Blue	8.50
885-1586	1581-9	White	8.50

Gold Plated Brass

Stock No.	Mfr.'s Type	Color	PER PKG./10
885-2854	2854-0	Black	17.57
885-2855	2854-2	Red	17.57
885-2856	2854-4	Yellow	17.57
885-2857	2854-5	Green	17.57
885-2859	2854-6	Blue	17.57
885-2860	2854-9	White	17.57

4 mm and 2 mm — NEW — Banana Plugs

Material: Nickel plated, brass. **Spring:** Beryllium copper. **Insulation:** Nylon. **Rating:** 750 VRMS, ≤2 m Ω.

885-6140, 5934-0, 4mm (.16), 25 Amps, Black.....PER PK./10 5.60
885-6142, 5934-2, 4mm (.16), 25 Amps, Red.....PER PK./10 5.60
885-6144, 5936-0, 2mm (.08), 5 Amps, Black.....PER PK./10 4.50
885-6146, 5936-2, 2mm (.08), 5 Amps, Red.....PER PK./10 4.50

Uninsulated Banana Jack

Threaded for rapid mounting. Used with standard banana plugs. Furnished with hex nut and solder lug. **Material:** Banana jack and hex nut, brass. Solder lug, copper. **Finish:** Banana jack and hex nut, nickel plated. Solder lug, tin plated. **Rating:** 15 Amps.

885-3267, (Unassembled).....PER PKG./10 8.00

Single Banana Plug Splice

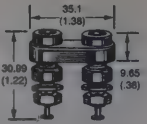
Provides rapid method for splicing single banana plug patch cords. Reduces the necessity of storing extra long patch cords. Molded thermoplastic body provides protective insulation, 4.22 mm (.166) dia. banana jack. **Material:** Brass. **Finish:** Nickel plated. **Insulation:** Polypropylene. **Rating:** 5000 WVDC, 15 Amps, +55°C. (+131°F) Max.

885-1829, 1829-0, (Black).....PER PKG./10 13.39



Double Banana Jack

Closed entry receptacle 4.22 mm (.166) dia. x 23.37 (.920) deep on 19.05 mm (.750) centers. Mounts in panels from 1.60 mm (.063) to 9.53 mm (.375) thick. Nickel plated lockwasher and 1/4-32 hex nut. One black and one red jack. Choice of black or red mounting base. **Material:** Brass. **Finish:** Bright tin plated. **Rating:** 2500 WVDC, 15 Amps +115°C (+239°F) Max.



885-2269, 2269-0, (Black).....EACH 2.40
885-2270, 2269-2, (Red).....EACH 2.40

Binding Post and Shorting Link

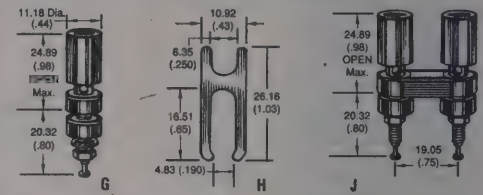


Fig. G Standard Binding Post

Accepts standard banana plug. Thin line design for high-density packaging. Nickel plated 8-32 hex nut and lockwasher included. 2.54 mm (.100) dia. cross hole is perpendicular with flat on insulator. Mounts in panels 1.57 mm (.062) to 6.35 mm (.250) thick. **Rating:** 2500 WVDC, 15 Amps, +115°C (+239°F) Max.

885-3760, 3760-0, (Black).....EACH 2.34
885-3761, 3760-2, (Red).....EACH 2.34
885-3762, 3760-5, (Green).....EACH 2.34

Fig. H Shorting Link for Standard Binding Posts

Shorting link for standard binding posts on 19.05 mm (.750) centers. A snap-on feature holds link on post when short not needed. **Material:** Brass, 0.79 mm (.031) thick. **Finish:** Nickel plated. **Rating:** 15 Amps.

885-4115, 4115.....PER PKG./10 6.40

Fig. J Double Binding Post Assembly

Nickel-plated 8-32 hex nut and lockwasher included. One red and one black tin plated binding post (type 3760) with double mounting base. **Material:** Double binding post with captive thumb nut, brass. Accepts standard banana plug. **Finish:** Bright tin plated. **Insulation:** Polycarbonate. **Rating:** 2500 WVDC, 15 Amps, +115°C (+239°F) Max.

885-4243, 4243-0, (Black, unassembled).....EACH 4.58
885-4244, 4243-2, (Red, unassembled).....EACH 4.58

Miniature Banana Plugs

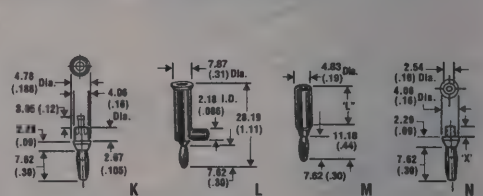


Fig. K Rivet Type with Turret

Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires. Mount in 1.57 mm (.062) panel. **Material:** Miniature banana plug body, brass. Spring, one piece heat treated beryllium copper. Fits miniature 2.64 mm (.104) dia. banana jack. **Finish:** Gold plated. **Rating:** 2500 WVDC, 5 Amps.

885-3273, 3273.....PER PKG./10 9.10

Fig. L Solderless Stackup with Safety Collar

Wire firmly held in place with setscrew. The integral collar insulates leads and acts as a strain relief by preventing the flexing of lead at setscrew. **Upper:** Miniature banana jack, 2.64 mm (.104) dia., brass, gold plated. **Insulation:** ABS. **Lower:** Miniature banana plug. Spring, one piece heat treated beryllium copper, gold plated. Fits miniature 2.64 mm (.104) dia. banana jack. **Rating:** 2500 WVDC, 5 Amps, +50°C (+122°F) Max.

885-2945, 2945-0, (Black).....EACH 2.82
885-2946, 2945-2, (Red).....EACH 2.82

Fig. M Solder Type

Miniature in-line plug for use with miniature binding posts or banana jacks. Wire is soldered directly to threaded plug. **Material:** Miniature banana plug body, brass. Spring, one piece heat treated beryllium copper. Fits miniature 2.64 mm (.104) dia. banana jack. **Finish:** Gold plated. **Insulation:** Nylon. **Rating:** 2500 WVDC, 5 Amps, +80°C (+176°F) Max.

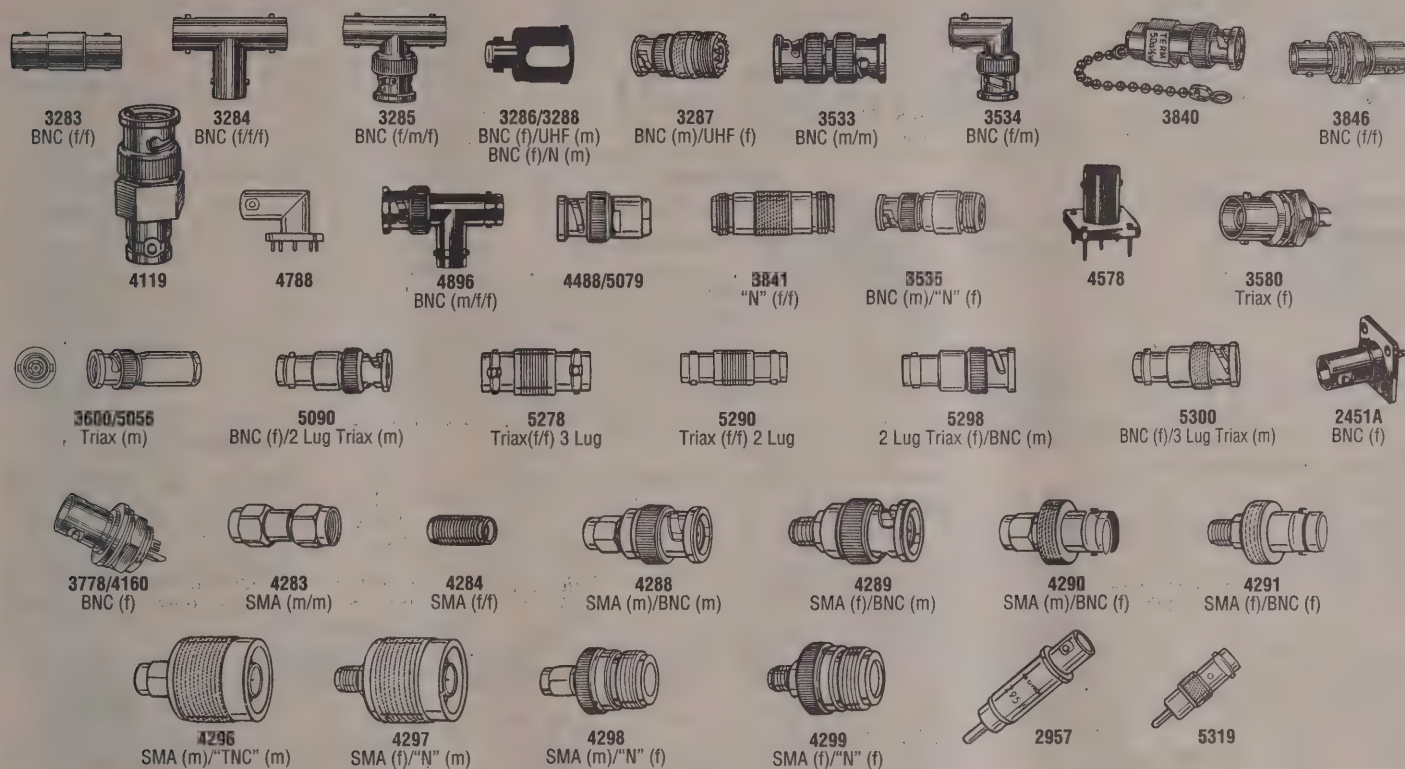
885-3690, 3690-0, (Black; Dim. "L" = 11.43 (.45)).....PER PKG./10 15.40
885-3691, 3690-2, (Red; Dim. "L" = 11.43 (.45)).....PER PKG./10 15.40

Fig. N Rivet Type

Excellent for riveting to panels or boards. **Material:** Miniature banana plug body, brass. Spring, one piece heat treated beryllium copper. Fits miniature 2.64 mm (.104) dia. banana jack. **Finish:** Gold plated. **Rating:** 2500 WVDC, 5 Amps.

885-3268, 3268, (Dim. "X" = 2.39 (.094)).....PER PKG./10 9.10
885-3272, 3272, (Dim. "X" = 3.96 (.156)).....PER PKG./10 9.10

Coaxial/Triaxial Connectors and Adapters



Coaxial Adapters, Accessories, Terminations, Mounts

Stock No.	Mfr.'s Type	Description	EACH
885-0750	3283	BNC Female to Female	4.42
885-0751	3284	BNC "T", 3 Females	12.89
885-0752	3285	BNC "T", Female/Male/Female	11.66
885-3286	3286	BNC Female to UHF Male	7.61
885-3287	3287	UHF Female to BNC Male	11.56
885-3533	3533	BNC Male to Male	8.31
885-0800	3534	Right Angle BNC Female/BNC Male	10.12
885-0940	3840-50	BNC Resistor Termination, 50 Ohm	9.53
885-0941	3840-75	BNC Resistor Termination, 75 Ohm	9.53
885-0945	3846	Isolated Ground BNC Female/Female	14.27
885-4119	4119-50	BNC Feed-Thru Termination, 50 Ohm	42.55
885-4788	4788	BNC Right Angle Female PC Mount	14.75
885-4896	4896	BNC "T", Male/Female/Female	18.00
885-4488	4488	BNC Male Cable Plug (2)	3.83
885-5079	5079	BNC Male Cable Plug, 75 Ohm (1)	8.79

Type N Adapters

885-3288	3288	BNC Female/Type N Male	7.99
885-3841	3841	Type N Female/Female	9.80
885-3535	3535	BNC Male/Type N Female	11.45

PC Mount

885-4578	4578	BNC Female PC Mount	9.32
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Triaxial Connectors

885-0850	3580	2 Lug Bulkhead Female	13.69
885-3600	3600	2 Lug Male Cable Plug Belden 9272	15.71
885-5056	5056	2 Lug Male Cable Plug Belden 9222	18.69
885-5090	5090	2 Lug BNC Female/Triaxial Male	20.34
885-5278	5278	3 Lug Triaxial Female/Female	15.28
885-5291	5290	2 Lug Triaxial Female/Female	16.08
885-5298	5298	2 Lug Triaxial Female/BNC Male	19.06
885-5306	5300	3 Lug BNC Female/Triaxial Male	18.64

Panel And Bulkhead Receptacles

Stock No.	Mfr.'s Type	Description	EACH
885-2451	2451A	BNC Female Panel	4.26
885-0899	3778	BNC Isolated Ground Female Bulkhead	8.36
885-4160	4160	BNC Female Bulkhead	3.25

SMA Adapters

885-4283	4283	SMA Male/Male	30.57
885-4284	4284	SMA Female/Female	30.51
885-4288	4288	SMA Male to BNC Male	27.53
885-4289	4289	SMA Female to BNC Male	28.54
885-4290	4290	SMA Male to BNC Female	21.73
885-4292	4291	SMA Female to BNC Female	22.05
885-4296	4296	SMA Male to "N" Male	35.09
885-4297	4297	SMA Female to "N" Male	32.80
885-4298	4298	SMA Male to "N" Female	29.07
885-4299	4299	SMA Female to "N" Female	25.13

Phono Adapters

885-2957	2957	BNC Female to Phono Plug, 1.95° L	7.99
885-5319	5319	BNC Female to Phono Plug, 1.53° L	5.06



Universal Adapter Kits

Models 5698 and 5748 Adapter Kits allow users to make their own adapter combinations, such as SMA to BNC or BNC to double banana plug. Adapter ends are joined with coupling nuts.

Universal Adapter Kit. Kit contains 2 pcs. each: BNC male, BNC female, TNC male, TNC female, SMA male, SMA female, "N" male, "N" female, four intermediate couplers, one double banana plug and one double banana jack.

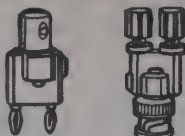
885-5698. 5698. Black.....EACH 109.00

Maxi Universal Adapter Kit. Kit contains 2 pcs. each: BNC male, BNC female, TNC male, TNC female, SMA male, SMA female, "N" male, "N" female, UHF male, UHF female, Mini UHF male, Mini UHF female, "F" male, "F" female, RCA male, RCA female, six intermediate couplers, one double banana plug, one double banana jack and one sampler.

885-5748. 5748EACH 219.00

Coaxial Adapters

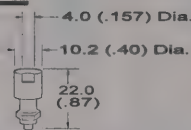
Type 3269 BNC female to miniature double banana plug fits miniature .104" diameter banana jacks. **Rating:** 500 VRMS, +50°C. Type 3296 miniature binding posts to BNC male rated same as 3269.



Stock No.	Mfr.'s Type	Description	EACH
885-3269	3269	BNC Female to Mini. Dbl. Banana-Black	9.69
885-3296	3296	Mini. Binding Post to BNC Male-Black	18.32

4 mm and 2 mm Banana Jacks

Material: Nickel plated, brass. **Insulation:** Nylon. **Rating:** 750 VRMS, ≤ mΩ.

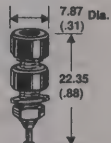


885-6155. 5933-0. 4 mm. (.16), 20 Amps, Black.	PK./10 3.00
885-6156. 5933-2. 4 mm. (.16), 20 Amps, Red	PK./10 3.00
885-6157. 5935-0. 2 mm. (.08), 5 Amps, Black	PK./10 4.50
885-6158. 5935-2. 2 mm. (.08), 5 Amps, Red	PK./10 4.50

Miniature Banana Jacks

Insulated Banana Jack

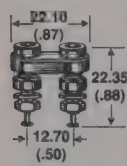
Closed entry 2.64 mm (.104) dia. jack. Mounts in panels up to 6.35 mm (.250) thick. Nickel plated 8-32 hex nut and lockwasher included. **Material:** Brass. **Finish:** Gold plated **Insulation:** Polycarbonate. **Rating:** 1500 WVDC, 5 Amps, +115°C. (+239°F). Max.



885-2140. 2142-0 (Black). 1-24	PK./10 10.70
885-2142. 2142-2 (Red). 1-24	PK./10 10.70
885-2145. 2142-5 (Green). 1-24	PK./10 10.70
885-2146. 2142-6 (Blue). 1-24	PK./10 10.70
885-2149. 2142-9 (White). 1-24	PK./10 10.70

Insulated Double Banana Jack

Closed entry 2.64 mm (.104) dia. jack. Mounts in panels up to 4.77 mm (.188) thick. Nickel plated 8-32 hex nut and lockwasher included. **Material:** Brass. **Finish:** Gold plated **Insulation:** Polycarbonate. One black and one red jack. Choice of black or red mounting base. **Rating:** 1500 WVDC, 5 Amps, +115°C. (+239°F). Max.



885-2143. 2143-0 (Black). 1-24	EACH 2.93
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Type 5363 Clip Adapters

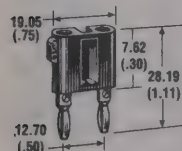
Insulated minigator clip to .025" square pin rated 1000 WVDC, 3 amps, +50°C.



Stock No.	Mfr.'s Type	Description	EACH
885-5000	5363-0	Insulated minigator clip-Black	3.04
885-5010	5363-2	Insulated minigator clip-Red	3.04

Miniature Double Banana Plugs

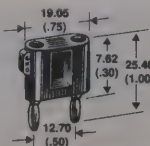
Miniature Double Banana Plug with Setscrews
Internal setscrews to secure cable or component leads. **Upper:** Miniature double banana jack. Brass, gold plated. **Insulation:** ABS. **Lower:** Miniature double banana plug. Spring, one piece heat treated beryllium copper, gold plated. Fits miniature 2.64 mm (.104) dia. banana jack. **Rating:** 2500 WVDC, 5 Amps, +50°C. (+122°F). Max.



885-2240. 2244-0 (Black). 1-24	EACH 3.99
25-49	EACH 3.79
885-2242. 2244-2 (Red). 1-24	EACH 3.99
25-49	EACH 3.79

Miniature Double Banana Plug with Shorting Bar

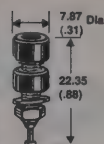
Upper: Miniature double banana jack. Brass, gold plated. **Insulation:** ABS. **Lower:** Miniature double banana plug. Spring, one piece heat treated beryllium copper, gold plated. Fits miniature 2.64 mm (.104) dia. banana jack. **Rating:** 2500 WVDC, 5 Amps, +50°C. (+122°F). Max.



885-2030. 2035-0 (Black). 1-24	EACH 4.31
25-49	EACH 4.10
885-2032. 2035-2 (Red). 1-24	EACH 4.31
25-49	EACH 4.10

Pin Jack

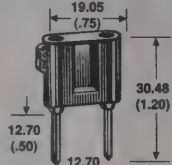
Closed entry 2.03 mm (.080) pin jack. Mounts in panels to 6.35 mm (.250) mm thick. Nickel plated 8-32 hex nut and lockwasher included. **Material:** Pin jack body, brass. Spring, beryllium copper. **Finish:** Pin jack body, gold plated, **Insulation:** Polycarbonate. **Rating:** 1500 WVDC, 5 Amps, +115°C. (+239°F). Max.



885-3540. 3542-0 (Black). 1-24	PK./10 12.80
885-3542. 3542-2 (Red). 1-24	PK./10 12.80
885-3545. 3542-5 (Green). 1-24	PK./10 12.80
885-3549. 3542-9 (White). 1-24	PK./10 12.80

Miniature Double Pin Tip Plug with Shorting Bar

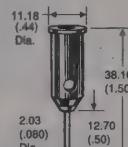
Ideal as a connecting link for use with 12.70 mm (.500) spaced pin jacks. 2.03 mm (.080) spaced pin jacks. 2.03 mm (.080) double pin tip plug internally solder-bonded with #20 AWG wire. "Shorting bar" stamped on insulation. **Upper:** Double pin jack. Spring, beryllium copper, gold plated. **Insulation:** ABS. **Lower:** Double pin tip plug. Brass, gold plated. **Rating:** 3000 WVDC, 5 Amps, +50°C. (+122°F). Max.



885-3452. 3452-0 (Black). 1-24	EACH 3.99
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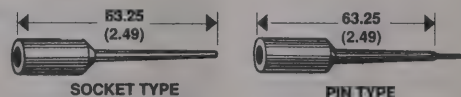
Banana Jack to Pin Tip Plug

Permits standard banana plug patch cords to be used with equipment having tip jacks. Cross hole 4.22 mm (.166) dia. provides side stackup connection. **Upper:** Banana jack. 4.22 mm (.166) dia. brass, nickel plated. **Insulation:** ABS. **Lower:** Pin tip plug. Brass, nickel plated. **Rating:** 3000 WVDC, 5 Amps, +50°C. (+122°F). Max.



885-1430. 1432-0 (Black). 1-24	PK./10 9.60
885-1432. 1432-2 (Red). 1-24	PK./10 9.60

Connector Test Adapters



An ideal test adapter for rapid testing of the hard-to-get at contacts or multipin/socket rack or panel connectors. Flexible tip allows testing of adjacent contacts. Flexibility and full insulation protects against shorting or contact damage. The model 4690 also fits .635 mm (.025) sq. pins. **Upper:** Banana jack. 4.22 mm (.166) dia., brass, nickel plated. **Insulation:** Polyvinyl chloride (PVC). **Lower:** Socket type, copper. Pin type, brass. Gold plated. See tab block. **Rating:** 2500 WVDC, +50°C. (+122°F). Max.

Socket Type

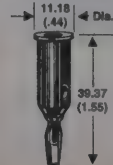
Stock No.	Mfr.'s Type	Color	Contact Size	Amps	EACH
885-4690	4690-0	Black	22/.762 (.030) Dia.	5.0	3.83
885-4692	4690-2	Red	22/.762 (.030) Dia.	5.0	3.83
885-3560	3560-0	Black	20/1.02 (.040) Dia.	7.5	2.93
885-3562	3560-2	Red	20/1.02 (.040) Dia.	7.5	2.93
885-3561	3562-0	Black	16/1.60 (.063) Dia.	13.0	3.20
885-3556	3562-2	Red	16/1.60 (.063) Dia.	13.0	3.20
885-3564	3564-0	Black	12/2.36 (.093) Dia.	23.0	5.17
885-3563	3564-2	Red	12/2.36 (.093) Dia.	23.0	5.17

Pin Type

885-4790	4691-0	Black	22/.762 (.030) Dia.	5.0	2.93
885-4792	4691-2	Red	22/.762 (.030) Dia.	5.0	2.93
885-3660	3561-0	Black	20/1.02 (.040) Dia.	7.5	3.20
885-3662	3561-2	Red	20/1.02 (.040) Dia.	7.5	3.20
885-3664	3563-0	Black	16/1.60 (.063) Dia.	13.0	2.77
885-3666	3563-2	Red	16/1.60 (.063) Dia.	13.0	2.77
885-3667	3565-0	Black	12/2.36 (.093) Dia.	23.0	2.77
885-3665	3565-2	Red	12/2.36 (.093) Dia.	23.0	2.77

Pin Jack to Banana Plug

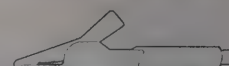
Permits pin tip cords to be used with equipment having banana jacks. **Upper:** Pin jack. Spring, beryllium copper, gold plated. Accepts 2.03 mm (.080) dia. pin. **Insulation:** ABS. **Lower:** Banana plug. Body, brass. Spring, one piece heat treated beryllium copper. Nickel plated. **Rating:** 2500 WVDC, 5 Amps, +50°C. (+122°F). Max.



885-1809. 1809-0 (Black)	PK./10 18.11
885-1810. 1809-2 (Red)	PK./10 18.11

Insulated Alligator Clip Banana Jack

Material: Alligator clip, steel. Accepts standard banana plug. **Finish:** Nickel plated. **Insulation:** Vinyl. **Rating:** +50°C. (+122°F). Max.



885-2241. 2240-0 (Black). 1-24	PK./10 5.90
885-2243. 2240-2 (Red). 1-24	PK./10 5.90
Alligator Clips. Heavy Duty Large. Grip up to .37" protected up to 250V. Overall length 3.14".	
885-5785. 5785-0 (Black)	EACH 3.67
885-5786. 5785-2 (Red)	EACH 3.67
Large with screw connection for wires up to 18 AWG. Overall Length: 3.17".	
885-5787. 5786-0 (Black)	EACH 2.80
885-5788. 5786-2 (Red)	EACH 2.80
Medium with standard banana jack. Overall Length: 2.20".	
885-5789. 5787-0 (Black)	EACH 2.69
885-5790. 5787-2 (Red)	EACH 2.69
Miniature insulated with miniature banana jack. Overall Length: 1.57".	
885-5791. 5788-0 (Black)	PK./10 14.70
885-5792. 5788-2 (Red)	PK./10 14.70
Disposable alligator clip. Features button fix/re-lease for lead retention. Overall Length: 2.09".	
885-5793. 5791-0 (Black)	PK./10 10.44
885-5794. 5791-2 (Red)	PK./10 10.44

Insulated Spade Lug

Upper: Model 1614, banana jack, brass, nickel plated. **Insulation:** ABS. **Lower:** 1.52 mm (.060) thick spade lug, brass, nickel plated. **Rating:** 5000 WVDC, 15 Amps, +50°C. (+122°F). Max.

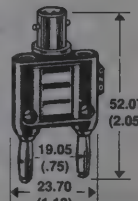
885-1610. 1614-0 (Black). 1-24	EACH 1.81
885-1612. 1614-2 (Red). 1-24	EACH 1.81

BNC Adapters

BNC Female to Double Banana Plug

Permits BNC male to be used with equipment having banana jacks. Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables. Cross holes 4.22 mm (.166) dia. in body provide side stackup connections. **Upper:** BNC female. **Impedance:** 50 Ohms. **Insulation:** ABS, black. **Lower:** Double banana plug. Body, brass. Spring, one piece heat treated beryllium copper. Nickel plated. **Rating:** Operating Voltage: 500 VRMS Max., +50°C. (+122°F). Max.

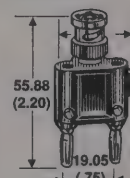
885-0250. 1269. 1-24	EACH 5.48
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BNC Male to Double Banana Plug

Permits BNC female to be used with equipment having banana jacks. Cross holes 4.22 mm (.166) dia. in body provide side stackup connections. **Upper:** BNC male. **Impedance:** 50 Ohms. **Insulation:** ABS, black. **Lower:** Double banana plug. Body, brass. Spring, one piece heat treated beryllium copper. Nickel plated. **Rating:** Operating Voltage: 500 VRMS Max., +50°C. (+122°F). Max.

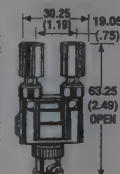
885-1270. 1270. 1-24	EACH 8.57
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Standard Double Binding Posts to BNC Male

Permits single or double plugs to be used with equipment having a BNC female. **Upper:** Double binding post with captive thumb nut. Brass, nickel plated. Accepts standard banana plugs. Polycarbonate insulation. One black and one red. **Insulation:** ABS, black. **Lower:** BNC male. **Impedance:** 50 Ohms. **Rating:** Operating Voltage: 500 VRMS Max., +50°C. (+122°F). Max.

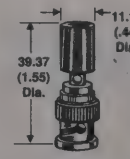
885-0255. 1296. 1-24	EACH 10.22
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Single Binding Post to BNC Male

Permits single banana plug to be used with equipment having a BNC female. **Upper:** Binding post with captive thumb nut. Brass, nickel plated. Accepts standard banana plugs. **Insulation:** Polycarbonate. **Lower:** BNC male. **Impedance:** 50 Ohms. **Rating:** Operating Voltage: 500 VRMS Max., +50°C. (+122°F). Max.

885-3430. 3430-0 (Black) 1-24	EACH 5.11
885-3432. 3430-2 (Red) 1-24	EACH 5.11

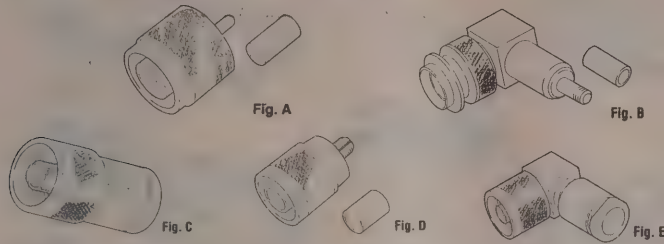


Standard Banana Jacks

Type 4921 panel mount banana jack fits Type 4933 and other special Pomona sheathed plugs. **Rating:** 1200 VAC or DC, 15 Amps, +115°C.

Stock No.	Mfr.'s Type	Description	EACH
885-4921	4921-0	Black	2.40
885-4922	4921-2	Red	2.40

TNC and N Type Coaxial Connectors



Connectors below all have silver-plated bodies and contacts, except for connectors which are MIL-C-39012, they have silver bodies and gold contacts.

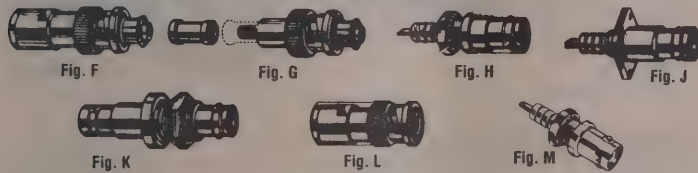
TNC Type

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	MIL-No. 39012/	EACH	
					1-24	25-99
517-3500	KA-59-400-M06	A	Belden 1478, 9880	—	8.57	7.14
517-3502	KA-59-69	A	174, 188, 316, 179, 187	—	10.23	8.18
517-3504	KA-59-406-M06	A	58, 141, 303	—	5.64	4.70
517-3506	KA-59-236	B	55, 142, 223, 400	30-0011	18.06	15.05

N Type

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	MIL-No. 39012/	1-24	25-99
517-3508	KN-59-176	C	8, 213, 11, 9, 214, 216, 393	01-0005	12.46	9.97
517-3510	KN-59-239	D	9, 214, 225, 393	01-0501	10.80	8.64
517-3512	KN-59-242	D	55, 142, 223, 400	01-0503	14.28	11.42
517-3514	KN-59-298	E	8, 9, 213, 214	05-0101	51.40	41.12

High Voltage Connectors



These connectors use bayonet-type coupling, do not intermate with other high voltage series or with BNC Connectors.

SHV-Series

Manufactured to National Bureau of Standards specification ND 545. These connectors feature an improved interface over MHV connectors. Center contacts are recessed to prevent shock hazards when the connectors are unmated. **Material Bodies and Fittings:** brass, QQ-B-626 — Alloy 360/2H. **Insulators:** Teflon, MIL-P-19468. **Bodies, Fittings and Outer Contacts Finish:** TR-5* except where noted. **atings at Sea Level:** Operating — 3500 VAC or 5000 VDC; Test — 5,000 VAC; 10,000 VDC.

Plugs — Conventional Construction with Female Contact

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	Special Features	EACH	
					1-24	25-99
517-1000	1705-14	F	59, 59A, 59B, 62, 62A, 62B, 62C, 71, 71A, 71B, 210	—	13.74	12.39

Plugs — Weatherproof K-Grip Jr® Construction with Female Contact

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	Special Features	1-24	25-99
517-1010	1705-2	G	58", 58A", 58C, 141, 141A	Crimp Contact	13.82	11.52
517-1155	1705-1	G	59, 59A, 59B, 62, 62A, 62B, 62C, 210	Crimp Contact	13.90	11.58

*Crimping the center conductor isn't recommended for these cable types.

Bulkhead Receptacle with Male Contact

Stock No.	Mfr.'s Type	Fig.	Special Features	EACH	
				1-24	25-99
517-1090	1704-1	H	Front Mounting	11.46	9.55

Panel Receptacles with Male Contact

Stock No.	Mfr.'s Type	Fig.	Special Features	1-24	25-99
517-1100	1707-1	J	—	14.51	12.09
517-1155	1709-1	K	Jack-Jack Bulkhead (Male-Male)	18.95	17.05

MHV Connector

This forerunner of the SHV-series was designed for high voltage applications of BNC connectors. They aren't intermateable with BNC Connectors. **atings:** 3500 VAC, 5000 VDC Operating; 5000 VAC, 6500 VDC test.

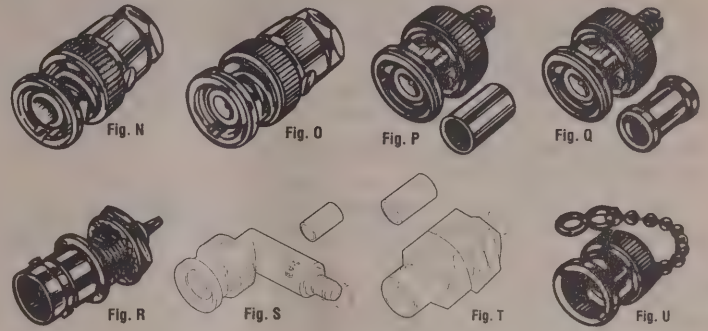
Plugs — Conventional Construction

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	EACH	
				1-24	25-99
517-1502	UG-932AU	L	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	11.74	9.78

Bulkhead Receptacles

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-24	25-99
517-1510	KV-79-15	M	Front Mount TR-5* Finish	13.93	11.61
517-1512	KV-79-16	M	Front Mount Silver Finish	17.48	14.57

BNC — Miniature Coaxial Connectors



These connectors are rated at 500 Volt RMS. **Frequency Range:** 0-4 GHz. **Impedance:** 50 Ohm except for the 75 Ohm impedance listings. Silver-plated bodies are finished with TR-4* chromate treatment to resist tarnish and salt spray. The rest are finished with TR-5* electro-deposited plating that has superior resistance to tarnish and corrosion.

Straight Plugs — Silver-Plated with TR-4* Finish

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	MIL-No. M39012/	EACH	
					1-24	25-99
517-3002	UG-88E/U	N	58, 58A, 58C, 141, 141A, 55A, 142, 142A, 223, 55, 55B, 142B	—	3.95	3.29
517-3001	KC-59-544	N	58, 58A, 58C, 141, 141A, 55A, 142, 142A, 223, 55, 55B, 142B	16-0101	3.80	3.17
517-3003	KC-59-545	N	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	16-0102	4.07	3.39
517-3006	KC-59-61	Q	58, 58A, 58C, 141, 141A	16B0004	6.52	5.43
517-3007	KC-59-195	Q	58, 58A, 58C, 141, 141A	16B0004	4.56	3.80
517-3015	KC-59-220	Q	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	16B0008	5.41	4.51

Straight Plugs — Non-Ferrous Body with TR-5* Plating

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	1-24	25-99
517-3004	KC-59-557-M06	P	179, 179B, 187, 187A, 174, 188, 188A, 316	3.92	3.27
517-3005	KC-59-152	P	174, 188, 188A, 316	6.49	5.41
517-3008	KC-59-123	P	58, 58A, 58C, 141, 141A	3.30	2.75
517-3009	KC-59-128	P	59, 59A, 59B, 62, 62A, 62B, 62C, 210	3.34	2.78
517-3012	KC-59-294	P	59, 59A, 59B, 62, 62A, 62B, 62C, 210	3.50	2.98
517-3013	KC-59-299	P	Belden 8281, WE 724	3.38	2.82

Straight Plugs — 75 Ohm Impedance — Gold Contact

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	1-24	25-99
517-3516	2025-44-9	P	735A	8.29	7.46
517-3518	2025-76-9	P	734A, 734D	20.12	18.11
517-3016	2025-36-9	P	59, 140, Belden 8279	3.92	3.53
517-3017	2025-58-9	P	Belden 8281, 8281B, 8281F, 9141, 88281	3.42	3.08
517-3030	2025-51-9	P	Belden 1426A, 8241F, 9259	4.22	3.80
517-3031	2025-59-9	P	Belden 8241, 8241A	3.86	3.47
517-3520	2025-79-9	P	Belden 1694A, 9248	4.69	3.76

Right Angle Plugs — 75 Ohm Impedance — Gold Contact

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	1-24	25-99
517-3522	2026-16-9	S	734A, 734D	31.25	28.13
517-3524	2026-17-9	S	735A	27.35	24.62

Bulkhead Receptacles — Silver Plated with TR-4* Finish

Stock No.	Mfr.'s Type	Fig.	Description	MIL-No. M39012/	EACH	
					1-24	25-99
517-3076	KC-79-105	R	Front Mount	21-0001	5.32	4.43
517-3077	KC-79-106	R	Front Mount	21-0002	2.64	2.20
517-3046	UG-1094/U	R	Front Mount	—	1.80	1.50
517-3047	UG-1094AU	R	Front Mount	—	2.12	1.77

Bulkhead Receptacles — 75 Ohm Impedance — Gold Contact

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	1-24	25-99
517-3526	2022-17-29	T	734A, 734D	16.10	14.49
517-3527	2022-18-29	T	735A	21.09	18.98

Accessory

Stock No.	Mfr.'s Type	Fig.	Description	1-24	25-99
517-3084	KC-89-87	U	Cap w/Beaded Chain	3.26	2.72

Crimp Tools and Dies

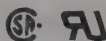
KTH-1000



Ratcheted Tool won't release until a crimp is complete. The tool features removable/replaceable die sets for termination of a variety of cables on a variety of connectors. Die sets sold as separate items.

Stock No.	Mfr.'s Type	Description	EACH
517-3090	KTH-1000	Tool frame	260.40
517-3091	KTH-2001	Die for connectors on RG-58, 141	67.85
517-3092	KTH-2002	Die for connectors on RG-59, 62	74.85
517-3093	KTH-2021	Die for SHV on RG-58, 141	68.50
517-3094	KTH-2061	Die for SHV on RG-58, 141	80.66
517-3095	KTH-2062	Die for SHV on RG-59, 62	86.00

PC Board Terminal Blocks



KRES, KS and KRM Series Terminal Blocks feature a high-density modular screw-clamp wire connection system designed for PCB applications. Each contact is wire-protected for clean, safe connections. KRES Series available in straight, 90°, and 45° angle mount. The 2-piece KCS Series is available in straight and 90° versions. KRM Series offers a low profile package in a "dove-tail" design. Spacing includes 3.5 mm, 5 mm, and 5.08 mm. **Material:** PA 6/6, Light grey (5 mm), Dark grey (5.08 mm).

Female Socket, 5 mm (.197") Pitch, Upright Version
10 A, 250 V; Mates with KSC Blocks.

Stock No.	Mfr.'s Type	No. of Poles	Block Length (In.)	EACH			
				1-99	100-499	500-999	1000-Up
742-0002	KB2	2	0.394	.46	.43	.39	.36
742-0004	KB3	3	0.591	.67	.63	.57	.53
742-0006	KB4	4	0.787	.77	.70	.65	.60
742-0008	KB6	6	1.181	.82	.75	.70	.66

Female Socket, 5 mm (.197") Pitch, 90° Version
10 A, 250 V. Mates with KSC Blocks.

742-0022	KBW2	2	0.394	.46	.43	.39	.36
742-0024	KBW3	3	0.591	.67	.61	.57	.53
742-0026	KBW4	4	0.787	.77	.71	.65	.60
742-0028	KBW6	6	1.181	.82	.75	.70	.65

Terminal Block, 5 mm (.197") Pitch

10 A, 250 V, 12-22 AWG. Mates with Female Sockets KB, KBW. Height: .665".

742-0073	KSC2	2	0.394	.69	.63	.58	.54
742-0075	KSC3	3	0.591	.91	.84	.77	.72
742-0076	KSC4	4	0.787	1.07	.98	.90	.84
742-0079	KSC6	6	1.181	1.35	1.23	1.14	1.06

Terminal Block, 5 mm (.197") Pitch, Upright Version with Holes for Test Clips
15 A, 250 V, 12-22 AWG. Height: .551".

742-0033	KRES2	2	0.394	.73	.67	.63	.58
742-0034	KRES3	3	0.591	.80	.74	.68	.63
742-0035	KRES4	4	0.787	.87	.80	.74	.69
742-0036	KRES6	6	1.181	.99	.91	.84	.78
742-0038	KRES8	8	1.575	1.36	1.24	1.15	1.07
742-0039	KRES10	10	1.969	2.04	1.87	1.72	1.60

Terminal Block, 5 mm (.197") Pitch, 90° Angle Version
15 A, 250 V, 12-22 AWG. Height: .327".

742-0040	KRESL2	2	0.394	.56	.51	.47	.44
742-0042	KRESL3	3	0.591	.73	.67	.62	.58
742-0043	KRESL4	4	0.787	.81	.74	.69	.64
742-0045	KRESL5	5	0.984	1.13	1.03	.95	.88
742-0044	KRESL6	6	1.181	1.32	1.21	1.12	1.04
742-0046	KRESL8	8	1.575	1.76	1.61	1.49	1.38
742-0048	KRESL10	10	1.969	2.19	1.74	1.61	1.50

Two-Tier Terminal Block, 5 mm (.197") Pitch
15 A, 250 V, 12-22 AWG. Height: 1.142".

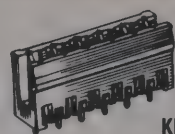
742-1600	KRD8	8	0.886	3.13	2.87	2.65	2.46
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Terminal Block, 5 mm (.197") Pitch, Upright Version
15 A, 250 V, 12-22 AWG. Height: .551".

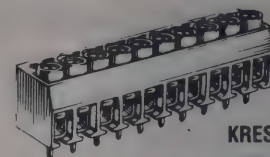
742-0050	KRESS2	2	0.394	.46	.42	.39	.36
742-0052	KRESS3	3	0.591	.58	.53	.49	.46
742-0054	KRESS4	4	0.787	.71	.65	.60	.56
742-0056	KRESS5	5	0.984	.77	.71	.65	.60
742-0058	KRESS6	6	1.181	.91	.84	.77	.72
742-0059	KRESS8	8	1.575	1.24	1.13	1.05	.97
742-0060	KRESS10	10	1.969	1.55	1.42	1.31	1.22
742-0061	KRESS12	12	2.364	1.80	1.65	1.52	1.42

Terminal Block, 5 mm (.197") Pitch, 45° Angle Version
15 A, 250 V, 12-22 AWG. Height: .551".

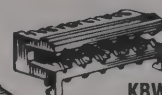
742-0062	KRESW2	2	0.394	.59	.54	.50	.46
742-0064	KRESW3	3	0.591	.72	.66	.61	.57
742-0065	KRESW4	4	0.787	.88	.81	.74	.69
742-0067	KRESW5	5	0.984	1.06	.97	.90	.83
742-0066	KRESW6	6	1.181	1.37	1.26	1.16	1.08
742-0068	KRESW8	8	1.575	1.61	1.48	1.37	1.27
742-0070	KRESW10	10	1.969	2.03	1.86	1.71	1.59



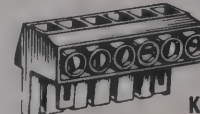
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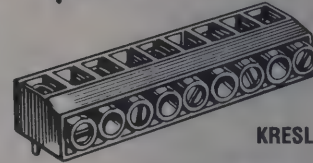
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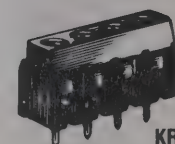
KBW



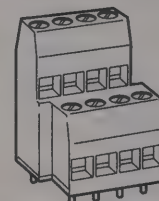
KSC



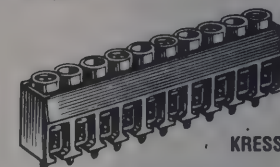
KRESL



KRM



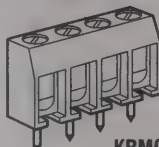
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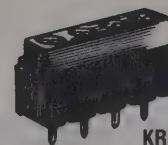
KRESS



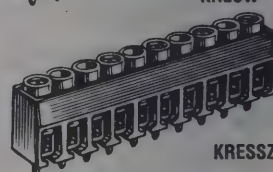
KRESW



KRMZ



KRMZ



KRESSZ

Terminal Block, 5.08 mm (.200") Pitch, Upright Version
15 A, 250 V, 12-22 AWG. Height: .551".

Stock No.	Mfr.'s Type	No. of Poles	Block Length (In.)	EACH			
				1-99	100-499	500-999	1000-Up
742-0150	KRESSZ2	2	0.400	.46	.42	.39	.36
742-0152	KRESSZ3	3	0.600	.66	.60	.56	.52
742-0154	KRESSZ4	4	0.800	.80	.73	.68	.63
742-0156	KRESSZ6	6	0.120	.91	.84	.77	.72
742-0158	KRESSZ8	8	0.160	1.24	1.13	1.05	.97
742-0160	KRESSZ10	10	0.200	1.55	1.42	1.31	1.22

Miniature Terminal Block, 5.08 mm (.200") Pitch, Upright Version, Clamp with Wire Protection
Height: .394".

742-0082	KRMZ2	2	0.400	.37	.31	.28	.26
742-0083	KRMZ3	3	0.600	.56	.46	.42	.38
742-0084	KRMZ4	4	0.800	.80	.66	.61	.57
742-0088	KRMZ8	8	1.600	1.47	1.22	1.13	1.05

Miniature Terminal Block, 5 mm (.197") Pitch, Upright Version, Clamp with Wire Protection
Height: .394".

742-1602	KRM2	2	0.394	.37	.31	.28	.26
742-1604	KRM3	3	0.591	.56	.46	.42	.39
742-1606	KRM4	4	0.787	.80	.66	.61	.57
742-1608	KRM6	6	1.181	1.11	.91	.84	.79
742-1610	KRM8	8	1.575	1.47	1.22	1.13	1.05

Miniature Terminal Block, 3.5 mm (.138") Pitch, Upright Version, Clamp with Wire Protection
6 A, 250 V, 16 AWG. Height: .323".

742-1612	KRMC2	2	0.276	.41	.34	.31	.29
742-1614	KRMC3	3	0.413	.59	.49	.45	.42
742-1616	KRMC4	4	0.551	.79	.66	.61	.57
742-1618	KRMC6	6	0.827	1.20	1.00	.93	.86
742-1620	KRMC8	8	1.102	1.61	1.34	1.25	1.15

Relay Sockets



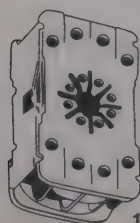
Pin Rail Mount

Stock No.	Mfr.'s Typ	Description	No. of Contacts	EACH		
				1-9	10-24	25-99
742-1240**	108PGS	8 pole octal base	8	4.69	4.23	3.91
742-1241**	111PGS	11 pole octal base†	11	5.48	4.95	4.57
742-1242*	RSS14	14 pole octal base	14	6.95	6.38	5.88

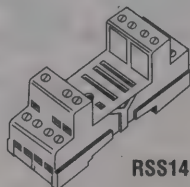
Chassis-Mount Rated 380 Volt, 10 Amp

742-1258	11 PGF	11 pole socket with metal flange	11	1.89	1.71	1.57
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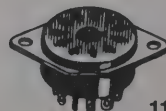
*Rated 250 Volts 5 Amps. **Rated 250 Volts 10 Amps. †Not shown.



108PGS

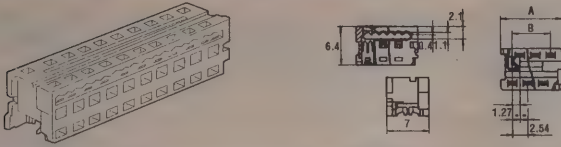


RSS14



11PGF

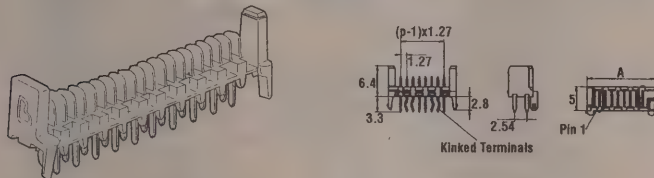
Micromodul Connectors 1.27 mm



Micromodul Insulation Displacement Connectors

Contact Distance: 1.27 mm. Nominal Power: 1.2 A. Nominal Voltage: 250 VAC.

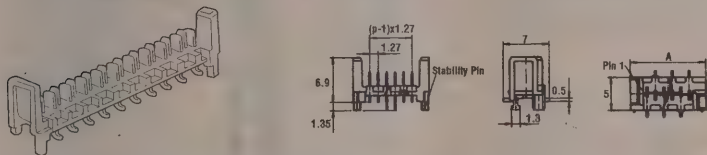
Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7000	MICA 4	4	7.59	3.81	.32	.27
742-7002	MICA 6	6	10.13	6.35	.45	.38
742-7004	MICA 8	8	12.67	8.89	.58	.48
742-7006	MICA 10	10	15.21	11.43	.71	.59
742-7008	MICA 20	20	27.91	24.13	1.35	1.12
742-7010	MICA 36	36	48.23	44.45	2.42	2.02



Micromodul — Contact Header

Dual row, staggered. PCB spacing 2.54 mm. Contact Distance: 1.27 mm. Nominal Power: 1.2 A. Nominal Voltage: 250 VAC.

Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7012	MICS 4	4	8.86	—	.20	.16
742-7014	MICS 6	6	11.40	—	.32	.27
742-7016	MICS 8	8	13.94	—	.45	.38
742-7018	MICS 10	10	16.48	—	.58	.48
742-7020	MICS 20	20	29.18	—	1.22	1.02
742-7022	MICS 36	36	49.50	—	1.43	1.19



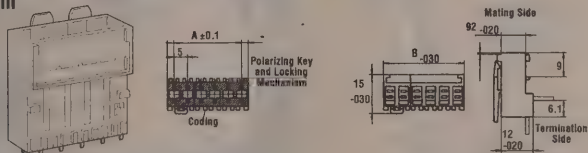
Micromodul — Contact Header, Surface Mount

Dual row staggered. PCB spacing 2.54 mm. Contact Distance: 1.27 mm. Nominal Power: 1.2 A. Nominal Voltage: 250 VAC.

Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7056	MICS/SMD 4	4	8.86	—	.56	.47
742-7058	MICS/SMD 6	6	11.40	—	.67	.56
742-7060	MICS/SMD 8	8	13.94	—	.80	.66
742-7062	MICS/SMD 10	10	16.48	—	.91	.75
742-7064	MICS/SMD 20	20	29.18	—	1.51	1.25

Macromodul Connectors 5.0 mm

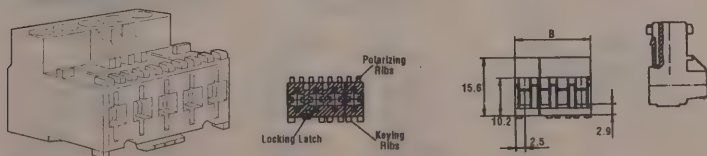
Rast 5 System



Indirect Insulation Displacement Connector

Wire section 0.20-0.34 mm², stackable without loss pitch. Nominal Current: 5 A/60°C. Nominal Voltage: 250 VAC.

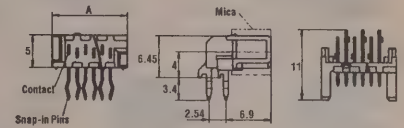
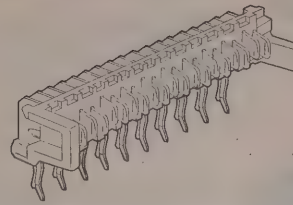
Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7048	3621 02 K00	2	5	10	.64	.53
742-7050	3621 03 K00	3	10	15	.92	.77
742-7052	3621 04 K00	4	15	20	1.19	.99
742-7054	3621 05 K00	5	20	25	1.43	1.19



Indirect Connector

Wire section up to 4.0 mm², with screw terminals. Nominal Current: 10 A/60°C. Nominal Voltage: 250 VAC.

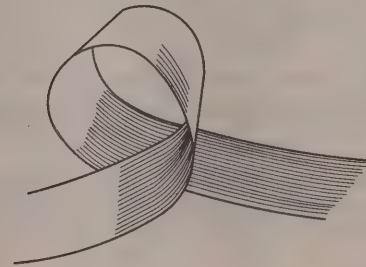
Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7066	3611 02 K00	2	5	10	1.65	1.38
742-7068	3611 03 K00	3	10	15	2.08	1.73
742-7070	3611 04 K00	4	15	20	2.64	2.20
742-7072	3611 05 K00	5	20	25	2.94	2.49



Micromodul Contact Headers, Right Angle Version

Dual row, staggered. PCB spacing 2.54 mm. Contact Distance: 1.27 mm. Nominal Power: 1.2 A. Nominal Voltage: 250 VAC.

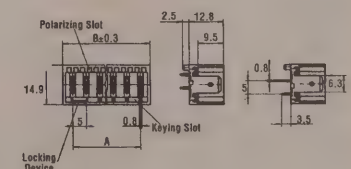
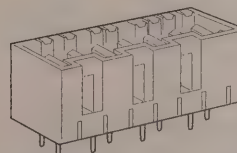
Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7024	MICSW 4	4	8.86	—	.72	.60
742-7026	MICSW 6	6	11.40	—	1.03	.86
742-7028	MICSW 8	8	13.94	—	1.13	.94
742-7030	MICSW 10	10	16.48	—	1.24	1.12
742-7034	MICSW 20	20	29.18	—	1.81	1.51



Ribbon Cable (Gray)

1.27 mm pitch stranded wire 28 AWG. Nominal Voltage: 300 V. Nominal Power: 1.2 A per conductor.

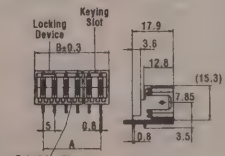
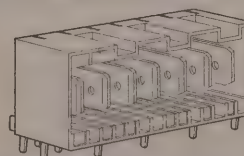
Stock No.	Mfr.'s Type	No. of Conductors	PER ROLL/ 50 METERS	
742-7036	1.27 LIYV 4	4	33.15	
742-7038	1.27 LIYV 6	6	48.45	
742-7040	1.27 LIYV 8	8	63.75	
742-7042	1.27 LIYV 10	10	79.05	
742-7044	1.27 LIYV 20	20	155.55	
742-7046	1.27 LIYV 36	36	270.30	



Contact Header, Upright Version

Nominal Current: 6 A/60°C. Nominal Voltage: 250 VAC.

Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7074	3641 02 K00	2	5	12	.61	.51
742-7076	3641 03 K00	3	10	17	.75	.62
742-7078	3641 04 K00	4	15	22	.91	.75
742-7080	3641 05 K00	5	20	27	1.08	.90



Contact Header, Right Angle Version

Nominal Current: 6 A/60°C. Nominal Voltage: 250 VAC.

Stock No.	Mfr.'s Type	No. of Poles	Dimension (mm)		EACH	
			A	B	1-99	100-249
742-7082	3642 02 K00	2	5	12	.65	.54
742-7084	3642 03 K00	3	10	17	.80	.66
742-7086	3642 04 K00	4	15	22	.97	.81
742-7088	3642 05 K00	5	20	27	1.08	.90



RS

RK



RSF



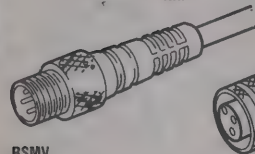
RKF



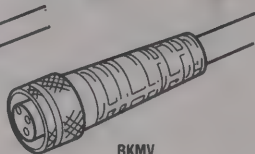
RSV



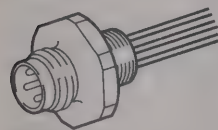
RKV



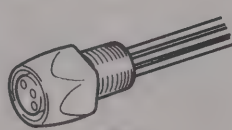
RSMV



RKMV



RSMF



RKMV

Waterproof Connectors For Quick-Disconnect Sensors

Threaded circular connectors are resistant to water and oil. Designed for proximity sensors and limit switches. "Mini" style 16 AWG and "Pico" style 8 mm. "Mini" is rated 12 A (3 pole) and 9 A (4 and 5 pole) 16 AWG STO cable. IP68 NEMA 68 rated. "Pico" style is rated at 4 A. 75 mm PVC cable. IP67 NEMA 68 rated. Crosses to Brad Harrison Connectors.

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
742-1500	RS301-638/6F	Quick-disconnect male plug; 3 pole, 6' 16 AWG	13.92	12.53
742-1502	RS401-639/6F	Quick-disconnect male plug; 4 pole, 6' 16 AWG	18.12	16.31
742-1504	RS501-677/6F	Quick-disconnect male plug; 5 pole, 6' 16 AWG	21.62	19.46
742-1506	RK30-638/6F	Quick-disconnect female plug; 3 pole, 6' 16 AWG	14.19	12.77
742-1508	RK40-639/6F	Quick-disconnect female plug; 4 pole, 6' 16 AWG	17.55	15.80
742-1510	RK50-677/6F	Quick-disconnect female plug; 5 pole, 6' 16 AWG	19.64	17.68
742-1512	RSF301-638/1F	Male receptacle, 1/2" 14NPT; 3 pole, 1' 16 AWG	8.89	8.00
742-1514	RSF401-639/1F	Male receptacle, 1/2" 14NPT; 4 pole, 1' 16 AWG	9.62	8.66
742-1516	RSF501-677/1F	Male receptacle, 1/2" 14NPT; 5 pole, 1' 16 AWG	10.50	9.45
742-1518	RKF301-638/1F	Female receptacle, 1/2" 14NPT; 3 pole, 1' 16 AWG	11.25	10.13
742-1520	RKF401-639/1F	Female receptacle, 1/2" 14NPT; 4 pole, 1' 16 AWG	11.42	10.28
742-1522	RKF501-677/1F	Female receptacle, 1/2" 14NPT; 5 pole, 1' 16 AWG	11.64	10.48
742-1022	RKV	Female protector cap for RK/RKF Series	8.25	7.43
742-1020	RSV	Male protector cap for RS/RSF Series	6.29	5.66
742-1524	RSMV3-62/2M	Quick-disconnect male plug; 3 pole, 2 meters, 8 mm	13.25	11.93
742-1526	RSMV4-07/2M	Quick-disconnect male plug; 4 pole, 2 meters, 8 mm	14.20	12.78
742-1528	RKMV3-62/2M	Quick-disconnect female plug; 3 pole, 2 meters, 8 mm	11.74	10.57
742-1530	RKMV4-07/2M	Quick-disconnect female plug; 4 pole, 2 meters, 8 mm	12.65	11.39
742-1532	RSMF3/0.5M	Male receptacle, 3 pole, .5 meters, 8 mm	11.44	10.30
742-1534	RSMF4/0.5M	Male receptacle, 4 pole, .5 meters, 8 mm	13.07	11.77
742-1536	RKMV3/0.5M	Female receptacle, 3 pole, .5 meters, 8 mm	13.19	11.87
742-1538	RKMV4/0.5M	Female receptacle, 4 pole, .5 meters, 8 mm	14.72	13.25

Circular DIN-Locking, Mini-DIN and Snap-In DIN Connectors

Designed for a wide variety of applications — ideal for new designs and replacements. Modern streamlined appearance. Precision-built to exacting standards; outside metal housing and locking ring. All contacts soldered for insured quality. Available in 3 to 12 contacts; black chrome finish available upon request. **Contact your nearest Allied facility for items not shown.**

Stock No.	Mfr.'s Type	Description	No. of Contacts	EACH	
				1-99	100-249
742-1100	XS32	Male plastic shielded plug; mates with XK or B Series	3	.65	.54
742-1102	XS52		5	.87	.81
742-1104	XS62		6	1.22	.97
742-1107	XS82		8	1.21	.96
742-1108	XK32	Female plastic shielded plug; mates with XS Series	3	.97	.90
742-1110	XK52		5	.97	.90
742-1112	XK62		6	1.24	1.10
742-1114	XK82		8	1.35	1.21
742-1116	B31	Shielded chassis socket, mates with XS Series	3	.97	.91
742-1118	B51		5	1.06	.97
742-1120	B61		6	1.38	1.26
742-1122	B81		8	1.47	1.34
742-1124	KFV30	Female chassis socket, with lock-ring; mates with SV, WSV Series	3	3.35	3.07
742-1126	KFV50		5	3.22	2.95
742-1128	KFV60		6	3.39	3.11
742-1129	KFV70		7	4.01	3.67
742-1138	KFV80		8	3.72	3.41
742-1132	KV30	Female plug, dull chrome, with flush lock-ring; mates with SV, WSV, SFV Series	3	7.11	6.42
742-1134	KV50		5	7.45	6.72
742-1136	KV60		6	7.62	6.87
742-1138	KV80		8	7.94	7.17
742-1140	SFV30	Male chassis socket, with lock-ring; mates with KV, WKV Series	3	2.38	2.18
742-1142	SFV50		5	2.54	2.33
742-1144	SFV60		6	2.75	2.52
742-1146	SFV80		8	2.93	2.68
742-1148	SV30	Male plug, dull chrome, with flush lock-ring; mates with KV, WKV, KFV Series	3	6.68	6.03
742-1150	SV50		5	6.83	6.16
742-1152	SV60		6	7.06	6.38
742-1154	SV80		8	7.22	6.52
742-1156	WKV30	Female plug, right-angle style, with flush lock-ring; mates with SFV, SV, WSV Series	3	7.41	6.79
742-1158	WKV50		5	7.72	7.08
742-1160	WKV60		6	7.90	7.24
742-1162	WKV80		8	8.21	7.53
742-1164	WSV30	Male plug, right-angle style, with flush lock-ring; mates with KFV, KV, WKV Series	3	6.30	5.77
742-1166	WSV50		5	6.48	5.94
742-1168	WSV60		6	6.65	6.10
742-1170	WSV80		8	6.88	6.30
742-1540	TM 0508A/3	Mini-DIN miniature female receptacles for PCBs with metal cover	3	.98	.88
742-1542	TM 0508A/4		4	1.02	.92
742-1544	TM 0508A/6		6	1.10	.99
742-1548	TM 0508A/8		8	1.18	1.06
742-1550	MP-371/S3	Mini-DIN miniature male plugs	3	.92	.83
742-1552	MP-371/S4		4	.94	.85
742-1554	MP-371/S6		6	1.04	.94
742-1556	MP-371/S8		8	1.18	1.06



XS



B



KFV



KV



SFV



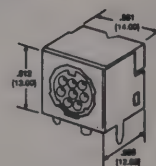
SV



WKV



WSV



TM



MP



TM0508A/3



TM0508A/4



MP-371/S3



MP-371/S4



TM0508A/6



TM0508A/8



MP-371/S6



MP-371/S8

SMA Series Coaxial Plug and Jack Connectors



All SMA miniature connectors meet or exceed requirements of MIL-C-39012. Part number suffix-02 indicates passivated stainless steel finish, while part number suffix-00 indicates gold plated finish.

Semi-Rigid Cable, Direct Solder Attachment: RG 402/U (.141 in.), RG 405/U (.085 in.)

Stock No.	Mfr.'s Type	Description	Fig.	RG/U Cable	EACH
					1-9
513-1001	2001-5003-02	Std. Plug with Contact	A1	402	5.80
513-1005	2001-7985-02	Std. Plug with Contact	A1	405	7.01
513-1010	2004-7941-00	Bulkhead Jack	A2	402	14.15
513-1015	2004-7985-00	Bulkhead Jack	A2	405	12.77
513-1020	2007-7941-02	Right Angle Plug	A3	402	14.52

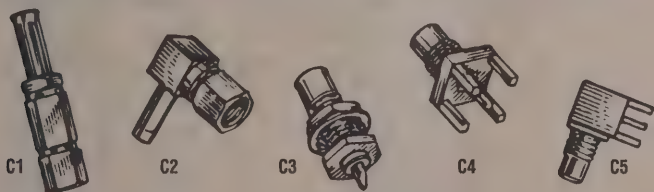
SMB Series Snap-on Coaxial Plug and Jack Connectors

M/A-COM Omni Spectra uses beryllium copper center contacts and brazed right angle bodies for increased durability in all SMB Series connectors. All connectors are gold plated.

Flexible Cable Crimp Attachment

Stock No.	Mfr.'s Type	Description	Fig.	Coaxial Cable	EACH
					1-9
513-1100	5131-5007-09	Std. Flex. Cable Plug	B1	174, 188, 316	7.25
513-1105	5131-5011-09	Std. Flex. Cable Plug	B1	178, 196	7.52
513-1110	5137-5010-09	Right Angle Plug	B2	174, 188, 316	8.69
513-1115	5137-5011-09	Right Angle Plug	B2	178, 196	10.37

SMC Series Screw-On Coaxial Plug and Jack Connectors



M/A-COM Omni Spectra uses beryllium copper center contacts and brazed right angle bodies for increased durability in all SMC Series connectors. All connectors are gold plated.

SMA Coaxial Adapters



Semi-Rigid Cable, Direct Solder Attachment: RG 402/U (.141 in.), RG 405/U (.085 in.) (con't.)

Stock No.	Mfr.'s Type	Description	Fig.	RG/U Cable	EACH
					1-9
513-1025	2007-7985-02	Right Angle Plug	A3	405	15.20
513-1030	2098-5066-54	Solder Assembly Kit	A4	402/405	663.58

Flexible Cable, Solder Attachment

513-1042	2031-5002-02	Std. Plug	A5	55, 58, 141, 142, 223, 303, 400	7.91
513-1043	2037-5005-02	Right Angle Plug	A7	55, 58, 141, 142, 223, 303, 400	16.61
513-1044	2031-5003-02	Std. Plug	A5	174, 188, 316	6.49
513-1045	2034-5008-00	Bulkhead Jack	A6	174, 188, 316	23.60
513-1050	2037-5006-02	Right Angle Plug	A7	174, 188, 316	16.61

Flexible Cable, Crimp Attachment

513-1055	2034-5005-02	Bulkhead Jack	A6	174, 188, 316	13.01
513-1060	2034-5031-02	Bulkhead Jack	A6	178, 196	16.68
513-1065	2037-5008-02	Right Angle Plug	A7	174, 188, 316	16.66
513-1070	2037-5100-02	Right Angle Plug	A7	178, 196	20.62

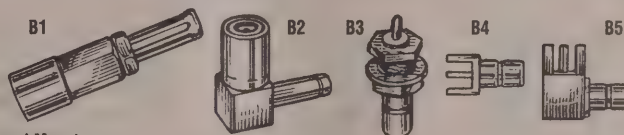
Econo-Crimp Assembly Tool for Flexible Cable

Includes five exchangeable hex dies: .105, .128, .178, .213, .255 inch.

513-1075, 2598-5005-54, Fig. A8 EACH 221.70

Panel Mount Receptacles

Stock No.	Mfr.'s Type	Description	Fig.	Terminal	EACH
					1-9
513-1080	2058-0000-02	Bulkhead Jack	A9	Solder Pot	11.94
513-1085	2056-0000-02	Bulkhead Jack	A10	Solder Pot	7.35
513-1086	2052-1350-02	2-Hole Flange Jack	A11	Solder Pot	9.08
513-1087	2052-0000-02	4-Hole Flange Jack	A12	Solder Pot	6.58
513-1088	2054-0000-02	4-Hole Flange Rt. Ang. Jack	A13	Straight	15.61
513-1090	2062-0000-00	Std. P.C. Mount Jack	A14	Straight	11.25
513-1095	2064-0000-00	Right Angle P.C. Jack	A15	Straight	19.60
513-1096	2052-1352-00	2-Hole Flange Jack	A16	Straight	10.87
513-1097	2052-1201-02	4-Hole Flange Jack	A17	Straight	6.97
513-1098	2054-1201-02	4-Hole Flange Rt. Ang. Jack	A18	Straight	12.98



Panel Mount

Stock No.	Mfr.'s Type	Description	Fig.	Terminal	EACH
					1-9
513-1120	5156-0000-09	Bulkhead Jack	B3	Solder Pot	3.81
513-1125	5162-5013-09	Std. P.C. Mount Jack	B4	Straight	5.21
513-1130	5164-5003-09	Right Angle P.C. Jack	B5	Straight	9.34

Flexible Cable Crimp Attachment

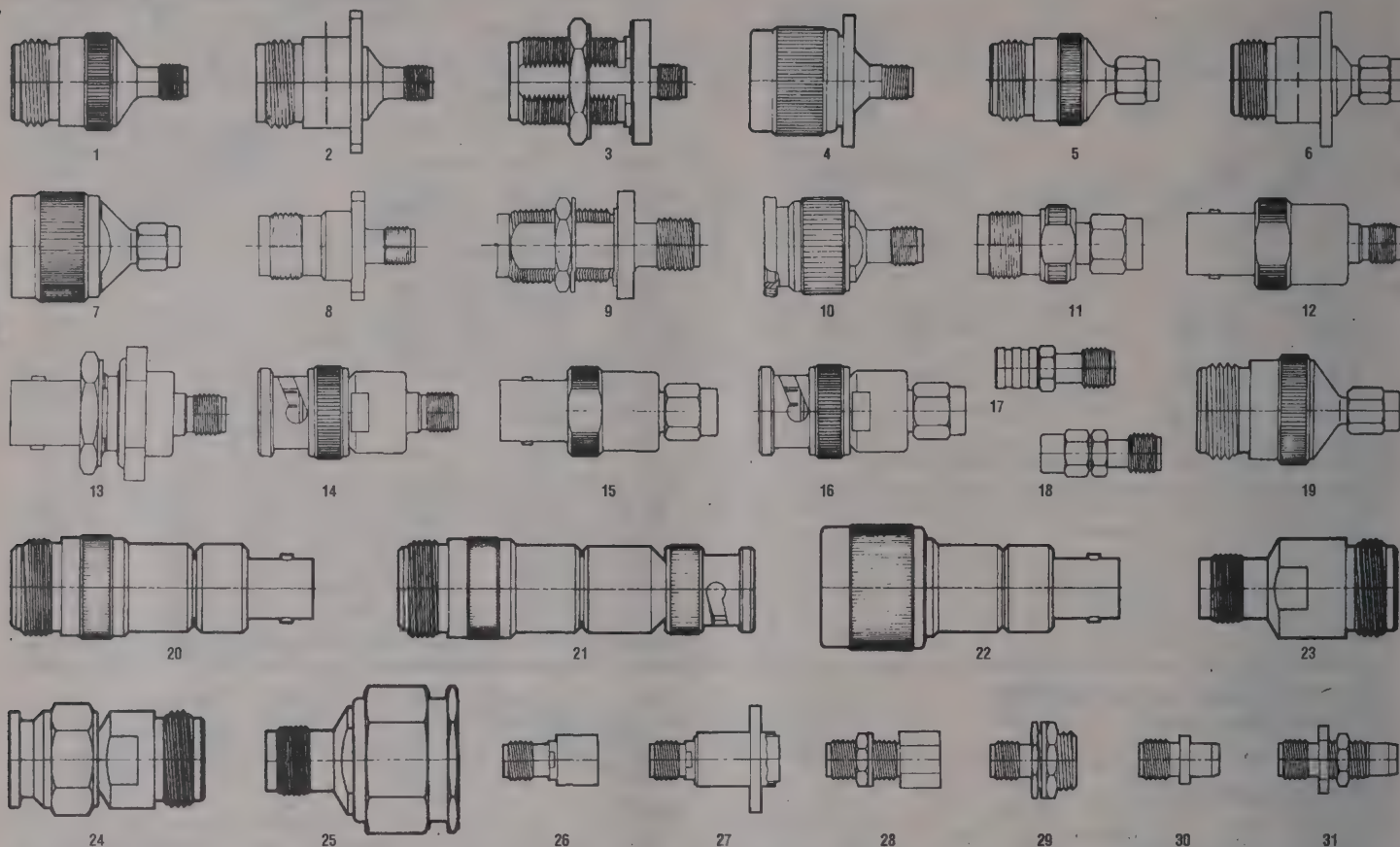
Stock No.	Mfr.'s Type	Description	Fig.	Coaxial Cable	EACH
					1-9
513-1200	5031-5014-09	Std. Flex. Cable Plug	C1	174, 188, 316	7.23
513-1205	5031-5007-09	Std. Flex. Cable Plug	C1	178, 196	7.23
513-1210	5037-7188-09	Right Angle Plug	C2	174, 188, 316	8.81
513-1215	5037-7196-09	Right Angle Plug	C2	178, 196	9.07

Panel Mount

Stock No.	Mfr.'s Type	Description	Fig.	Terminal	EACH
					1-9
513-1220	5056-0000-09	Bulkhead Jack	C3	Solder Pot	4.34
513-1225	5062-5003-09	Std. P.C. Mount Jack	C4	Straight	5.52
513-1230	5064-5003-09	Right Angle P.C. Jack	C5	Straight	9.47

Stock No.	Mfr.'s Type	Description	Fig.	EACH
				1-9
513-1500	2082-2700-00	7mm Precision to SMA Jack	A	100.51
513-1505	2081-2700-00	7mm Precision to SMA Plug	B	100.51
513-1510	3080-2240-00	N Jack to SMA Jack	C	66.96
513-1512	3084-2240-00	N Bulkhead Jack to SMA Jack	D	77.57
513-1513	3080-2242-00	N Jack to SMA Jack Flange	E	76.80
513-1515	3082-2240-00	N Plug to SMA Jack	F	46.33
513-1520	3082-2241-00	N Jack to SMA Plug	G	58.09
513-1525	3081-2241-00	N Plug to SMA Plug	H	58.08
513-1530	3180-2240-00	TNC Jack to SMA Jack	I	56.52
513-1533	3180-2242-00	TNC Jack to SMA Jack Flange	J	62.13
513-1535	3182-2240-00	TNC Plug to SMA Jack	K	62.53
513-1540	3182-2241-00	TNC Jack to SMA Plug	L	57.64
513-1545	3181-2241-00	TNC Plug to SMA Plug	M	55.96
513-1550	3280-2240-00	BNC Jack to SMA Jack	N	24.25
513-1553	3284-2240-00	BNC Bulkhead Jack to SMA Jack	O	37.84
513-1555	3282-2240-00	BNC Plug to SMA Jack	P	24.13
513-1560	3282-2241-00	BNC Jack to SMA Plug	Q	25.97
513-1565	3281-2241-00	BNC Plug to SMA Plug	R	33.15
513-1567	2081-0000-02	SMA Plug to Plug	S	16.90
513-1570	2082-5133-02	SMA Plug to Jack Connector Saver	T	19.46
513-1575	2088-1230-02	SMA Plug to Jack Right Angle	U	20.22
513-1577	2084-0000-02	SMA Jack to Jack Bulkhead Feed Through	V	16.78

Contact the closest sales office for quantity pricing.

Coaxial, Between-Series Adapters


M/A-COM Between-Series Coaxial Transmission Line Adapters provide convenient transitions between all popular series coaxial connectors. The adapter design provides a minimum length consistent with good electrical performance. The small, low VSWR, and

broad frequency coverage permits a wide range of applications in both measurement and systems use. All dielectrics are TFE fluorocarbon. The center contacts are made of beryllium copper, gold plated.

Stock No.	Mfr.'s Type	Fig.	Description	Operating Frequency	EACH	
					1-9	10-24
513-1510	3080-2240-00	1	Type N Jack to OSM (SMA) Jack	DC-12 GHz*	66.96	62.18
513-1700	3680-2240-00	1	Type N Jack to OSM (SMA) Jack	12.4-15.0 GHz**	87.12	80.90
513-1513	3080-2242-00	2	Flange Mount-N to OSM (SMA) Jack	High Freq.-18.0 GHz**	76.80	71.31
513-1702	3680-2242-00	2	Flange Mount-N to OSM (SMA) Jack	DC-12 GHz*	87.12	80.90
513-1512	3084-2240-00	3	Bulkhead Mount-N Jack to OSM (SMA) Jack with Gasket	12.4-15.0 GHz**	77.57	72.03
513-1704	3684-2240-00	3	Bulkhead Mount-N Jack to OSM (SMA) Jack with Gasket	High Freq.-18.0 GHz**	102.58	95.25
513-1706	3082-2242-00	4	Flange Mount-N Plug to OSM (SMA) Jack	DC-12 GHz*	76.80	71.31
513-1520	3082-2241-00	5	N Jack to OSM (SMA) Plug	12.4-15.0 GHz**	58.09	53.94
513-1708	3682-2241-00	5	N Jack to OSM (SMA) Plug	DC-12 GHz*	87.12	80.90
513-1710	3082-2243-00	6	Flange Mount-N Jack to OSM (SMA) Plug	High Freq.-18.0 GHz**	85.40	79.30
513-1525	3081-2241-00	7	N Plug to OSM (SMA) Plug	DC-12 GHz*	58.08	53.93
513-1533	3180-2242-00	8	Flange Mount-TNC Jack to OSM (SMA) Jack	12.4-18.0 GHz**	62.13	57.69
513-1712	3780-2242-00	8	Flange Mount-TNC Jack to OSM (SMA) Jack	DC-15.0 GHz†	115.32	107.09
513-1714	3184-2240-00	9	Bulkhead Mount-TNC to OSM (SMA) Jack	Mode Free to 18.0 GHz†	97.06	90.12
513-1716	3784-2240-00	9	Bulkhead Mount-TNC to OSM (SMA) Jack	DC-15.0 GHz†	120.55	111.94
513-1535	3182-2240-00	10	TNC Plug to OSM (SMA) Jack	Mode Free to 18.0 GHz†	62.53	58.07
513-1718	3782-2240-00	10	TNC Plug to OSM (SMA) Jack	DC-15.0 GHz†	95.77	88.93
513-1540	3182-2241-00	11	TNC Jack to OSM (SMA) Plug	Mode Free to 18.0 GHz†	57.64	53.52
513-1550	3280-2240-00	12	BNC Jack to OSM (SMA) Jack	DC-15.0 GHz†	24.25	22.28
513-1553	3284-2240-00	13	Bulkhead Mount-BNC Jack to OSM (SMA) Jack with Gasket	—	37.84	34.78
513-1555	3282-2240-00	14	BNC Plug to OSM (SMA) Jack	—	24.13	22.16
513-1560	3282-2241-00	15	BNC Jack to OSM (SMA) Plug	—	25.97	23.87
513-1565	3281-2241-00	16	BNC Plug to OSM (SMA) Plug	—	33.15	30.78
513-1720	5182-2240-00	17	SMB Plug to OSM (SMA) Jack	—	48.16	44.72
513-1722	5082-2240-00	18	SMC Plug to OSM (SMA) Jack	—	41.62	38.64
513-1724	3082-2201-00	19	N Jack to OSM Plug	DC-12.4 GHz†	180.65	167.75
513-1726	3080-2320-00	20	N Jack to BNC Jack	—	92.68	86.06
513-1728	3082-2321-00	21	N Jack to BNC Plug	—	103.22	95.85
513-1730	3082-2320-00	22	N Plug to BNC Jack	—	92.68	86.06
513-1732	3680-2310-02	23	TNC Jack to N Jack	—	124.52	115.62
513-1734	3682-2311-02	24	TNC Plug to N Jack	—	133.07	123.57
513-1736	3682-2310-02	25	TNC Jack to N Plug	—	133.07	123.57
513-1738	4580-2240-02	26	OSM (SMA) Jack to OSP (BMA) Jack	DC-18.0 GHz*	33.63	31.23
513-1740	4584-2242-02	27	Floating Flange Mount — OSM (SMA) Jack to OSP (BMA) Jack	DC-18.0 GHz*	88.16	81.86
513-1742	4584-2244-02	28	Bulkhead Mount — OSM (SMA) Jack to OSP (BMA) Jack	DC-18.0 GHz*	100.20	93.04
513-1744	4584-2240-02	29	Bulkhead Mount — OSM (SMA) Jack to OSP (BMA) Jack	DC-18.0 GHz*	47.41	44.02
513-1746	4582-2240-02	30	OSM (SMA) Jack to OSP (BMA) Plug	DC-18.0 GHz*	30.74	28.55
513-1748	4585-2240-02	31	Bulkhead Mount — OSM (SMA) Jack to OSP (BMA) Plug	DC-18.0 GHz*	54.89	50.97

*Max. VSWR 1.06+0.05 fGHz. **Max. VSWR .83+0.23 fGHz. †Max. VSWR 1.05+0.05 fGHz. ‡Max. VSWR 1.07+0.15 fGHz. §Max. VSWR 1.09+0.09 fGHz.

OSX Subminiature Snap-On Connectors

- ▶ 30% Smaller Mated Height Than SMB
- ▶ Improved Force to Engage/Disengage

- ▶ Snap-On Interface
- ▶ Broadband Frequency (DC-6 GHz)

OSX subminiature snap-on connectors are an excellent blend of size, weight, durability and performance for applications such as GPS, automotive, and wireless communications.

Plugs for Flexible Cable

Stock No.	Mfr.'s Type	Fig.	Description	For RG/U Cable	Body Plating	EACH	
						1-9	10-24
513-5000	5807-5001-09	A	Right Angle Cable Plug, Solder Type	174, 179, 187, 188, 316	Gold	4.00	3.65
513-5002	5831-5001-10	B	Straight Cable Plug, Crimp Type, Captured Center Contact	174, 179, 187, 188, 316	Nickel	3.65	3.06
513-5004	5831-5002-10	B	Straight Cable Plug, Crimp Type, Non-Captured Center Contact	178, 196	Nickel	3.45	2.87
513-5006	5831-5003-10	B	Straight Cable Plug, Crimp Type, Non-Captured Center Contact	174, 179, 187, 188, 316	Nickel	3.45	2.87
513-5008	5831-7316-10	B	Straight Cable Plug, Crimp Type, Non-Captured Center Contact	RD-316	Nickel	3.70	3.14
513-5010	5837-5002-10	C	Right Angle Cable Plug, Crimp Type	178, 196	Nickel	3.90	3.25
513-5012	5837-5003-10	C	Right Angle Cable Plug, Crimp Type	174, 179, 187, 188, 316	Nickel	3.25	2.35
513-5014	5837-5010-10	C	Right Angle Cable Plug, Crimp Type	RD-316	Nickel	3.50	2.55

Plugs for Semi-Rigid Cable

513-5016	5801-7985-09	D	Straight Cable, Solder Type	405 (.085)	Gold	11.04	9.25
513-5018	5807-7985-09	E	Right Angle Plug, Solder Type	405 (.085)	Gold	7.50	5.50

Plug PCB Mount

513-5028	5863-0000-10	G	Straight PCB Plug	—	Nickel	3.85	2.85
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Jacks for Flexible Cable

513-5020	5834-7396-10	F	Bulkhead Cable Jack	178, 196	Nickel	7.75	5.00
513-5022	5834-7388-10	F	Bulkhead Cable Jack	174, 179, 187, 188, 316	Nickel	7.75	5.00
513-5024	5834-7316-10	F	Bulkhead Cable Jack	RD-316	Nickel	7.75	5.00

Jack for Semi-Rigid Cable

513-5026	5802-7985-09	H	Straight Cable Jack, Solder Type	405 (.085)	Gold	18.00	15.00
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Jacks Feedthrough and PCB and Surface Mount

Stock No.	Mfr.'s Type	Fig.	Description	Dimensions		Body Plating	EACH	
				A	B		1-9	10-24
513-5030	5858-0000-10	I	Bulkhead Feedthrough Jack	—	—	Nickel	4.00	3.00
513-5032	5864-5001-10	J	Right Angle PCB Jack	.391	.155	Nickel	7.14	5.90
513-5034	5864-5002-10	J	Right Angle PCB Jack	.304	.068	Nickel	7.14	5.90
513-5036	5864-5003-10	J	Right Angle PCB Jack	.351	.115	Nickel	7.14	5.90
513-5038	5862-5002-10	K	Straight PCB Jack	.326	.115	Nickel	2.30	1.50
513-5040	5862-5003-10	K	Straight PCB Jack	.366	.155	Nickel	2.30	1.50
513-5042	5862-5004-10	K	Straight PCB Jack	.279	.068	Nickel	2.30	1.50
513-5044	5862-5007-13	L	Straight SMT Jack	—	—	Tin Lead	3.10	2.00
513-5046	5864-5008-13	M	Right Angle SMT Jack	—	—	Tin Lead	8.00	7.25

Straight End Launch

513-5048	5862-5018-13	N	Straight End Launch	—	—	Tin Lead	7.25	6.50
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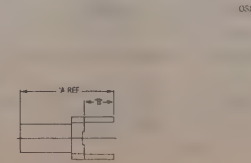
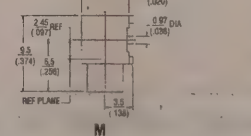
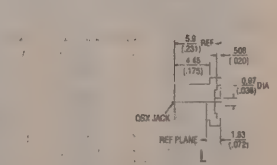
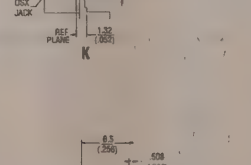
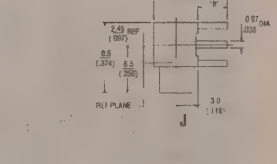
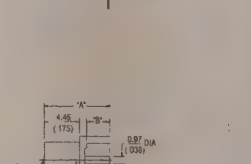
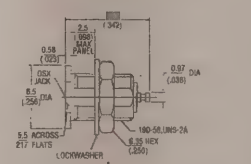
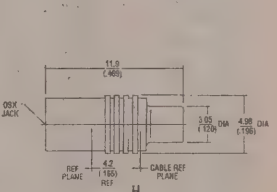
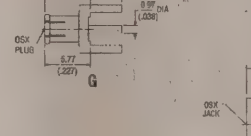
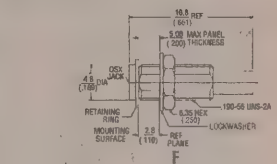
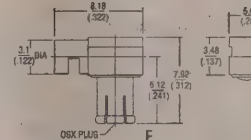
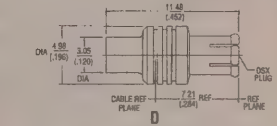
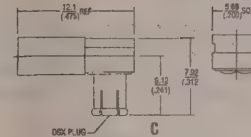
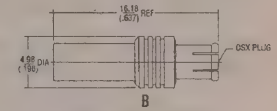
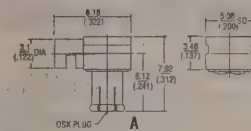
Straight Cable Terminal

513-5050	5818-5002-10*	O	Straight Cable Terminal, No Center Contact	.463	.155	Nickel	1.42	1.05
513-5052	5818-5003-10*	O	Straight Cable Terminal, No Center Contact	.423	.115	Nickel	1.42	1.05
513-5054	5818-5004-10†	O	Straight Cable Terminal, No Center Contact	.473	.155	Nickel	1.42	1.05
513-5056	5818-5005-10†	O	Straight Cable Terminal, No Center Contact	.433	.115	Nickel	1.42	1.05

*For RG-174/U, 179/U, 187/U, 188/U, 316/U. †For RG-178/U, 196/U.

Crimp Tool and Die

513-0830, 2598-5006-54. Crimp Tool	EACH 110.35
513-5060, 2598-5007-54. Die	EACH 66.20



Proseal Environmental Crimp Splices and Terminals

- Heat Tools For Industry
- Resists Water, Condensation, Salt and Corrosion
- Resists Abrasion: The tough nylon sleeve of Proseal components resist abrasion and cut-through damage, provides strain relief and protection from vibration and helps maintain the products insulation and sealing properties-even in very rugged environments
- Temperature: The nylon used in proseal devices is exceptionally heat-stable compared to that typically used in preinsulated termination products. Proseal devices remain flexible and impact-resistant long after other nylon termination products have become brittle

Proseal preinsulated heat-shrinkable nylon splicing and terminating devices provide a tough, environmentally sealed wire connection. They insulate and protect electrical connections from mechanical abuse wire pullout and abrasion. These components resist water, salt and other contaminants. The one-piece construction consists of a crimp barrel

Sealed Crimp Splices



1. Strip wires $\frac{3}{8}$ " and insert into crimp barrel of the correct Proseal size. Match the color of the splice with the color of the crimp cavity on the crimping tool.



2. Crimp.



3. Heat crimped splice with Master heat tool until tubing recovers and adhesive melts and flows.

Sealed Crimp Terminations



1. Strip wire $\frac{1}{4}$ " and insert into crimp barrel of the correct Proseal size. Match the color of the splice with the color of the crimp cavity on the crimping tool.



2. Crimp.



3. Heat crimped device with Master heat tool until tubing recovers and adhesive melts and flows. Avoid heating the outside metallic part.

Ring Terminals

Stock No.	Mfr.'s Type	Stud Size	Standard Pack	Color	PER PACK
861-0359	10359	#8	25	Red	9.60
861-0360	10360	#8	25	Blue	9.60
861-0361	10361	#8	25	Yellow	13.71
861-0362	10362	#8	100	Red	31.96
861-0363	10363	#8	100	Blue	31.96
861-0364	10364	#8	50	Yellow	25.30
861-0365	10365	#10	25	Red	9.68
861-0366	10366	#10	25	Blue	9.68
861-0367	10367	#10	25	Yellow	13.71
861-0368	10368	#10	100	Red	32.34
861-0369	10369	#10	100	Blue	32.34
861-0370	10370	#10	50	Yellow	25.30
861-0371	10371	$\frac{1}{4}$	25	Red	10.29
861-0372	10372	$\frac{1}{4}$	25	Blue	10.29
861-0373	10373	$\frac{1}{4}$	25	Yellow	13.83
861-0374	10374	$\frac{1}{4}$	100	Red	34.70
861-0375	10375	$\frac{1}{4}$	100	Blue	34.70
861-0376	10376	$\frac{1}{4}$	50	Yellow	25.49
861-0377	10377	$\frac{5}{16}$	25	Red	12.72
861-0378	10378	$\frac{5}{16}$	25	Blue	12.72
861-0379	10379	$\frac{5}{16}$	25	Yellow	14.32
861-0380	10380	$\frac{5}{16}$	100	Red	44.53
861-0381	10381	$\frac{5}{16}$	100	Blue	44.53
861-0382	10382	$\frac{5}{16}$	50	Yellow	26.48
861-0383	10383	$\frac{3}{8}$	25	Red	15.01
861-0384	10384	$\frac{3}{8}$	25	Blue	15.01
861-0385	10385	$\frac{3}{8}$	25	Yellow	16.84
861-0386	10386	$\frac{3}{8}$	100	Red	53.56
861-0387	10387	$\frac{3}{8}$	100	Blue	53.56
861-0388	10388	$\frac{3}{8}$	50	Yellow	31.58

Fork Terminals

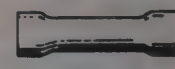
Stock No.	Mfr.'s Type	Stud Size	Standard Pack	Color	PER PACK
861-0389	10389	#8	25	Red	9.60
861-0390	10390	#8	25	Blue	9.60
861-0391	10391	#8	25	Yellow	13.71
861-0392	10392	#8	100	Red	31.96
861-0393	10393	#8	100	Blue	31.96
861-0394	10394	#8	50	Yellow	25.30
861-0395	10395	#10	25	Red	9.79
861-0396	10396	#10	25	Blue	9.79
861-0397	10397	#10	100	Red	32.76
861-0398	10398	#10	50	Yellow	25.30



Ring Terminal



Fork Terminal



Butt Splice

- Easy Installation: Proseal products are easily installed. A properly stripped wire is inserted into the metallic barrel, crimped and the tubing is heated with a Master heat tool
- Versatility: Proseal connectors accommodate wire gauge sizes 22 to 10. They are color-coded for easy identification of correct gauge sizes, yet are transparent for visual inspection of the finished splice

or terminal encased in a rugged heat-shrinkable nylon tubing lined with a special hot-melt adhesive. When the product is properly crimped and heated, the tubing shrinks and the adhesive melts and flows around the wire connection, creating an environmental seal.

Butt Splices

Stock No.	Mfr.'s Type	Standard Pack	Color	PER PACK
861-0399	10399	25	Red	15.39
861-0400	10400	25	Blue	15.39
861-0401	10401	25	Yellow	20.30
861-0402	10402	100	Red	55.12
861-0403	10403	100	Blue	55.12
861-0404	10404	50	Yellow	38.44

Tabs

Stock No.	Mfr.'s Type	Standard Pack	Color	PER PACK
861-0411	10411	25	Red	10.17
861-0412	10412	25	Blue	10.17
861-0413	10413	100	Red	34.32
861-0414	10414	100	Blue	34.32

Male Bullets

Stock No.	Mfr.'s Type	Standard Pack	Color	PER PACK
861-0417	10417	25	Red	20.99
861-0418	10418	25	Blue	20.99
861-0419	10419	100	Red	77.49
861-0420	10420	100	Blue	77.49

Female Bullets

Stock No.	Mfr.'s Type	Standard Pack	Color	PER PACK
861-0421	10421	25	Red	23.31
861-0422	10422	25	Blue	23.31
861-0423	10423	100	Red	86.90
861-0424	10424	100	Blue	86.90

Push-Ons

Stock No.	Mfr.'s Type	Tab Size	Standard Pack	Color	PER PACK
861-0405	10405	.250 x .032	25	Red	21.37
861-0406	10406	.250 x .032	25	Blue	21.37
861-0407	10407	.110 x .020	25	Red	15.70
861-0408	10408	.250 x .032	100	Red	79.05
861-0409	10409	.250 x .032	100	Blue	79.05
861-0410	10410	.110 x .020	100	Red	56.30

Pins

Stock No.	Mfr.'s Type	Pin Dia.	Standard Pack	Color	PER PACK
861-0415	10415	0.080	25	Red	12.53
861-0416	10416	0.080	100	Red	43.73

Proseal Splice Connector Kits and Tools

Proseal Environmental Splice Kit with ratcheting crimper, UT-100Si, protective cap, 15 red 22-18 ga., 25 blue 16-14 ga., and 10 yellow 12-10 ga. butt splices. Packaged in a rugged polyethylene tool case. 861-1225. 10225.....EACH 185.00

Proseal Environmental Splice Kit with ratcheting crimper, 15 red 22-18 ga., 25 blue 16-14 ga., and 10 yellow 12-10 ga. butt splices. Packaged in a rugged polyethylene tool case. No Ultratorch. 861-1349. 10349.....EACH 79.95



Non-ratcheting crimper tool.

861-3583. 35083.....EACH 25.20

Ratcheting crimper tool.

861-3584. 35084.....EACH 45.50



*Note: All accessories and replacement parts carried in Allied's inventory. Contact your local Allied sales office for assistance.

DIP Socket Series

- **Open Frame:** For Easy Inspection of Solder Joints and Better Air Flow
- **Closed Bottom Contacts:** Prevents Flux Intrusion and Solder Wicking
- **Stackability:** X and Y Stackable
- **BeCu Inner Contact:** For Optimal Electrical and Mechanical Performance
- **Accommodates:** 6-64 DIP ICs with .015" to .022" Diameter Leads

Contact Specification

All types on this page have an inner clip of beryllium copper alloy 172 with a plating of gold over nickel. The outer sleeve is 1/2 hard brass alloy with tin plating.

Contact Type	Tail Style	Length Inches	Above PCB Height
001B	Solder Tail	.125	.165
054B	Solder Tail	.180	.165
156B	Solder Tail	.082	.083
411B	Wire Wrap	3-Level	.193
710C	No Tail	No Tail	.016



Solder Tail



Plastic Pin Carrier (PPC)



3 Level Wire Wrap Tail

.125 Solder Tail-Gold/Tin Sleeve

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1005	DIP-306-001B	6	.299	7.60	.399	10.14	.18	.16	.14
978-1010	DIP-308-001B	8	.399	10.14	.399	10.14	.25	.22	.19
978-1015	DIP-314-001B	14	.699	17.76	.399	10.14	.41	.37	.31
978-1020	DIP-316-001B	16	.799	20.32	.399	10.14	.48	.43	.36
978-1025	DIP-318-001B	18	.899	22.84	.399	10.14	.52	.47	.39
978-1030	DIP-320-001B	20	.999	25.37	.399	10.14	.59	.53	.44
978-1035	DIP-322-001B	22	1.099	27.91	.399	10.14	.66	.59	.49
978-1040	DIP-324-001B	24	1.199	30.45	.399	10.14	.70	.63	.53
978-1045	DIP-328-001B	28	1.399	35.55	.399	10.14	.82	.73	.61

.180 Solder Tail-Gold Clip/Tin Sleeve

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1305	DIP-306-054B	6	.299	7.60	.399	10.14	.34	.31	.26
978-1310	DIP-308-054B	8	.399	10.14	.399	10.14	.45	.41	.34
978-1315	DIP-314-054B	14	.699	17.76	.399	10.14	.79	.71	.59
978-1320	DIP-316-054B	16	.799	20.32	.399	10.14	.91	.82	.68
978-1325	DIP-318-054B	18	.899	22.84	.399	10.14	1.02	.92	.77
978-1330	DIP-320-054B	20	.999	25.37	.399	10.14	1.13	1.02	.85
978-1335	DIP-322-054B	22	1.099	27.91	.399	10.14	1.25	1.12	.94
978-1340	DIP-324-054B	24	1.199	30.45	.399	10.14	1.36	1.22	1.02

.016 Above PCB Flush Profile PPC™ System (Plastic Pin Carrier)

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1780	PPC DIP-306-710C	6	.300	7.62	.400	10.16	.41	.37	.31
978-1782	PPC DIP-308-710C	8	.400	10.16	.400	10.16	.54	.49	.41
978-1784	PPC DIP-314-710C	14	.700	17.78	.400	10.16	.95	.86	.71
978-1786	PPC DIP-316-710C	16	.800	20.32	.400	10.16	1.09	.98	.82
978-1788	PPC DIP-318-710C	18	.900	22.86	.400	10.16	1.22	1.10	.92
978-1790	PPC DIP-320-710C	20	1.000	25.40	.400	10.16	1.36	1.22	1.02
978-1792	PPC DIP-322-710C	22	1.100	27.94	.400	10.16	1.50	1.35	1.12
978-1794	PPC DIP-324-710C	24	1.200	30.48	.400	10.16	1.63	1.47	1.22
978-1796	PPC DIP-328-710C	28	1.400	35.56	.400	10.16	1.90	1.71	1.43

.082 Solder Tail — Ultra Low Profile

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1740	DIP-050-306-156B	6	.300	7.62	.400	10.16	.39	.35	.29
978-1742	DIP-050-308-156B	8	.400	10.16	.400	10.16	.54	.49	.41
978-1744	DIP-050-314-156B	14	.700	17.78	.400	10.16	.97	.88	.73
978-1746	DIP-050-316-156B	16	.800	20.32	.400	10.16	1.11	1.00	.83
978-1748	DIP-050-318-156B	18	.900	22.86	.400	10.16	1.25	1.12	.94
978-1750	DIP-050-320-156B	20	1.000	25.40	.400	10.16	1.38	1.24	1.04
978-1752	DIP-050-322-156B	22	1.100	27.94	.400	10.16	1.52	1.37	1.14
978-1754	DIP-050-324-156B	24	1.200	30.48	.400	10.16	1.65	1.49	1.24
978-1756	DIP-050-328-156B	28	1.400	35.56	.400	10.16	1.93	1.73	1.45

3 Level Wire Wrap-Gold Clip/Gold Sleeve

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1406	DWW-306-411B	6	.299	7.60	.399	10.14	.54	.49	.41
978-1411	DWW-308-411B	8	.399	10.14	.399	10.14	.64	.57	.48
978-1416	DWW-314-411B	14	.699	17.76	.399	10.14	.75	.67	.56
978-1421	DWW-316-411B	16	.799	20.32	.399	10.14	1.50	1.35	1.12
978-1426	DWW-318-411B	18	.899	22.84	.399	10.14	1.68	1.51	1.26
978-1431	DWW-320-411B	20	.999	25.37	.399	10.14	1.86	1.67	1.39
978-1436	DWW-322-411B	22	1.099	27.91	.399	10.14	2.04	1.84	1.53
978-1441	DWW-324-411B	24	1.199	30.45	.399	10.14	2.22	2.00	1.67
978-1446	DWW-328-411B	28	1.399	35.55	.399	10.14	2.61	2.35	1.96

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1050	DIP-420-001B	20	.999	25.37	.499	12.68	.59	.53	.44
978-1055	DIP-422-001B	22	1.099	27.91	.499	12.68	.66	.59	.49
978-1060	DIP-424-001B	24	1.200	30.48	.500	12.70	.70	.63	.53
978-1065	DIP-624-001B	24	1.199	30.45	.699	17.76	.70	.63	.53
978-1070	DIP-628-001B	28	1.399	35.55	.699	17.76	.82	.73	.61
978-1075	DIP-632-001B	32	1.600	40.64	.700	17.78	.95	.86	.71
978-1085	DIP-640-001B	40	1.999	50.79	.699	17.76	1.18	1.06	.88
978-1090	DIP-648-001B	48	2.399	60.96	.699	17.76	1.41	1.26	1.05

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1345	DIP-328-054B	28	1.399	35.55	.399	10.14	1.59	1.43	1.19
978-1350	DIP-420-054B	20	.999	25.37	.499	12.68	1.13	1.02	.85
978-1355	DIP-422-054B	22	1.099	27.91	.499	12.68	1.25	1.12	.94
978-1360	DIP-624-054B	24	1.199	30.45	.699	17.76	1.36	1.22	1.02
978-1365	DIP-628-054B	28	1.399	35.55	.699	17.76	1.59	1.43	1.19
978-1370	DIP-640-054B	40	1.999	50.79	.699	17.76	2.27	2.04	1.70
978-1375	DIP-648-054B	48	2.399	60.96	.699	17.76	2.74	2.47	2.06
978-1380	DIP-964-054B	64	3.199	81.25	.999	25.38	3.65	3.28	2.74

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1798	PPC DIP-420-710C	20	1.000	25.40	.500	12.70	1.36	1.22	1.02
978-1800	PPC DIP-422-710C	22	1.100	27.94	.500	12.70	1.50	1.35	1.12
978-1802	PPC DIP-424-710C	24	1.200	30.48	.500	12.70	1.63	1.47	1.22
978-1804	PPC DIP-624-710C	24	1.200	30.48	.700	17.78	1.63	1.47	1.22
978-1806	PPC DIP-628-710C	28	1.400	35.56	.700	17.78	1.90	1.71	1.43
978-1808	PPC DIP-632-710C	32	1.600	40.64	.700	17.78	2.18	1.96	1.63
978-1810	PPC DIP-640-710C	40	2.000	50.80	.700	17.78	2.72	2.45	2.04
978-1812	PPC DIP-648-710C	48	2.400	60.96	.700	17.78	3.26	2.94	2.45

Stock No.	Mfr.'s Type	No. of Positions	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1758	DIP-050-420-156B	20	1.000	25.40	.500	12.70	1.27	1.14	.95
978-1760	DIP-050-422-156B	22	1.100	27.94	.500	12.70	1.41	1.27	1.06
978-1762	DIP-050-424-156B	24	1.200	30.48	.500	12.70	1.52	1.37	1.14
978-1764	DIP-050-624-156B	24	1.200	30.48	.700	17.78	1.52	1.37	1.14
978-1766	DIP-050-628-156B	28	1.400	35.56	.700	17.78	1.77	1.59	1.33
978-1768	DIP-050-632-156B	32	1.600	40.64	.700	17.78	2.04	1.84	1.53
978-1770	DIP-050-640-156B	40	2.000	50.80	.700	17.78	2.54	2.29	1.91
978-1772	DIP-050-648-156B	48	2.400	60.96	.700	17.78	3.04	2.73	2.28

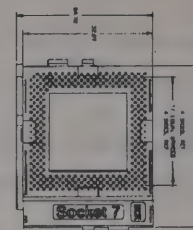
978-1451	DWW-420-411B	20	.999	25.37	.499	12.68	1.86	1.67	1.40
978-1456	DWW-422-411B	22	1.099	27.91	.499	12.68	2.04	1.84	1.53
978-1548	DWW-424-411B	24	1.200	30.48	.500	12.70	2.22	2.00	1.67
978-1461	DWW-624-411B	24	1.199	30.45	.699	17.76	2.22	2.00	1.67
978-1466	DWW-628-411B	28	1.399	35.55	.699	17.76	2.61	2.35	1.96
978-1471	DWW-640-411B	40	1.999	50.79	.699	17.76	2.97	2.67	2.23
978-1476	DWW-648-411B	48	2.399	60.96	.699	17.76	4.47	4.02	3.35
978-1481	DWW-964-411B	64	3.199	81.25	.999	25.38	5.94	5.34	4.45
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ZIF Sockets

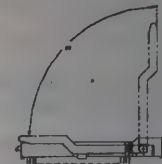
- ▶ Housing: LCP, Glass Filled, UL 94V-0 Rated
- ▶ Contact: Phosphor Bronze
- ▶ Plating (Contact Area): 30 μ " Gold Over 50 μ " Nickel

- ▶ Plating (Solder Tail): 100 μ " Tin-Lead Over 50 μ " Nickel
- ▶ Actuator: Die Cast Zinc Alloy
- ▶ Operating Temperature: -55°C to 105°C
- ▶ Operating Voltage: 250 VAC

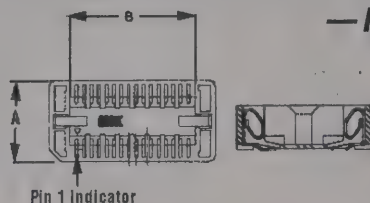
Stock No.	Mfr.'s Type	Socket No.	No. Of Pins	Matrix	EACH		
					1-24	25-99	100-499
978-5000	ZIF 97000-2010	#3	237	19 $\times$ 19	5.71	5.10	4.25
978-5002	ZIF 97050-2020	#5	320	19 $\times$ 19	9.25	8.32	6.94
978-5004	ZIF 97054-2020	#7	321	19 $\times$ 19	9.25	8.32	6.94



— NEW —



SOJ Sockets



— NEW —

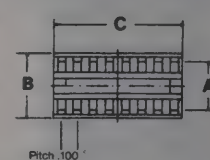
- ▶ Same Footprint as the Device They Socket
- ▶ Molded in High Temperature PPS
- ▶ All Solder Joints are 100% Inspectable

Stock No.	Mfr.'s Type	No. of Pos.	Width (A)	Length (B)	EACH		
					1-24	25-99	100-249
978-5142	SOJ 24P-3.0	24	.546	.915	1.44	1.18	.99
978-5144	SOJ 26P-3.0	26	.546	.965	1.44	1.18	.99
978-5146	SOJ 28P-3.0	28	.546	1.015	1.25	1.04	.87
978-5148	SOJ 28P-4.0	28	.646	1.015	1.38	1.14	.95
978-5150	SOJ 32P-4.0	32	.646	1.115	1.31	1.08	.90
978-5152	SOJ 40P-4.0	40	.646	1.315	1.38	1.14	.95
978-5154	SOJ 42P-4.0	42	.646	1.365	1.38	1.14	.95

Socket Express Stamped and Formed Economy DIP Sockets

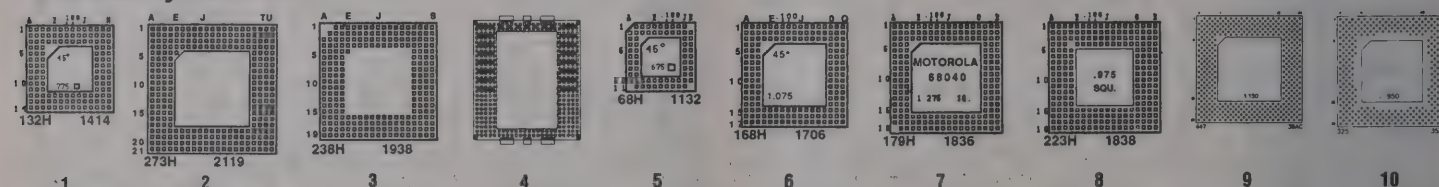
- ▶ Contacts: Phosphor Bronze
- ▶ Plating Surface: 5 μ " Tin
- ▶ Insulators: Polyester GV, VO, UL, 94

— NEW —



Stock No.	Mfr.'s Type	No. of Contacts	Dimensions (In.)			EACH		
			A	B	C	1-499	500-999	1000-4999
978-5100	SAF LCS-306-OT	6	.300	.395	.295	.04	.03	.02
978-5102	SAF LCS-308-OT	8	.300	.395	.395	.05	.04	.03
978-5104	SAF LCS-314-OT	14	.300	.395	.695	.08	.06	.05
978-5106	SAF LCS-316-OT	16	.300	.395	.795	.08	.06	.05
978-5108	SAF LCS-318-OT	18	.300	.395	.895	.10	.08	.06
978-5110	SAF LCS-320-OT	20	.300	.395	.995	.11	.09	.07
978-5112	SAF LCS-324-OT	24	.300	.395	1.195	.13	.10	.08
978-5114	SAF LCS-624-OT	24	.600	.695	1.195	.13	.10	.08
978-5116	SAF LCS-328-OT	28	.300	.395	1.395	.15	.12	.09
978-5118	SAF LCS-628-OT	28	.600	.695	1.395	.15	.12	.09
978-5120	SAF LCS-632-OT	32	.600	.695	1.595	.17	.14	.11
978-5122	SAF LCS-640-OT	40	.600	.695	1.995	.21	.17	.13
978-5124	SAF LCS-648-OT	48	.600	.695	2.395	.25	.20	.16

Pin Grid Array Sockets



- ▶ Footprint Options: Over 1000 Off-the-Shelf Footprints Available — Please Call!
- ▶ High Reliability, Ultra Low Insertion Force Pin Grid Array Sockets for Microprocessor, RISC, ASIC, FPGA, and DSP Devices

- ▶ Solder Tail, High Reliability Screw Machine Contacts
- ▶ Other Pin Options: 878S — Male/Male; 996E — Compliant Pressfit; 402B — Wire Wrap
- ▶ All-Solder Tail Pins

Insulator Body Material: High-temperature 40% glass reinforced UL94V-0. **Outer Sleeve:** 1/2 hard brass alloy 360. **Inner Contact:** Beryllium Copper alloy 172, 6-finger, 10 μ " gold over min. 50 μ " nickel. **Solder Tail Length:** 0.125". **Solder Tail Diameter:** .020". **Rated Voltage:** 100 VRMS/150 VDC. **Temperature Range:** -55°C to 200°C. **Current Rating:** 3 amp max. **Insulation Resistance:** 10K meg Ω min.



Stock No.	Mfr.'s Type	Device	Fig.	No. of Pins	Matrix	Tail Length	EACH		
							1-24	25-99	100-499
978-5006	PGA 132H012B1-1414R	Cyrix CS486DLC Intel i386DX	1	132	14 $\times$ 14	.125	4.49	3.99	3.59
978-5008	PGA 273H008B5-2119R	Intel Pentium MPU	2	273	21 $\times$ 21	.125	10.81	9.46	8.03
978-5010	PGA 238H008B5-1938R	Intel P24T	3	238	19 $\times$ 19	.125	9.15	7.32	6.59
978-5012	PZA 97201-2642	Intel P6	4	387	P6	.085	24.12	20.10	17.23
978-5014	PGA 68H012B1-1132R	Intel 80387 Intel i286	5	68	11 $\times$ 11	.125	2.72	2.32	1.96
978-5016	PGA 168H008B5-1706R	Intel i486 Intel 80860 Intel 80960CA	6	168	17 $\times$ 17	.125	5.81	5.17	4.65
978-5018	PGA 179H008B5-1836R	MIPS R4000PC Motorola 68040	7	179	18 $\times$ 18	.125	7.08	6.20	5.51
978-5020	PGA 223H008B5-1838R	Motorola DSP96002	8	223	18 $\times$ 18	.125	7.73	6.87	6.18
978-5022	PZA 447H011A-39AC	MIPS R4000SC and R4400SC	9	447	39 $\times$ 39	.125	26.08	23.94	21.30
978-5024	PZA 325H011A-35AA	Texas Instruments TMS320C40	10	325	35 $\times$ 35	.125	18.96	17.42	15.51

PLCC Sockets, Adapters, and Microshunt Blocks

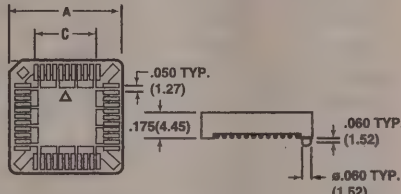
Crystal Oscillator Sockets — Full and Half Can

Clip/Shell Plating: 001 — G/T; 002 — C/G; 054 — G/T; 014 — T/T.

Stock No.	Mr.'s Type	Tail	No. of Positions	Length		Width		EACH		
				in.	mm	in.	mm	1-24	25-99	100-499
978-1000	DCO 304-001B	.125"	4	.669	17.76	.399	10.14	.46	.41	.33
978-1002	DCO 304-002B	.125"	4	.699	17.76	.399	10.14	.56	.50	.41
978-1003	DCO 304-054B	.180"	4	.699	17.76	.399	10.14	.54	.48	.39
978-1880	DCO 304-014B	.125"	4	.700	17.78	.400	10.16	.43	.39	.32
978-1882	DCO 304-014B/308	.125"	4	.400	10.16	.400	10.16	.43	.39	.32

PLCC Sockets

Surface Mount PLCC Sockets



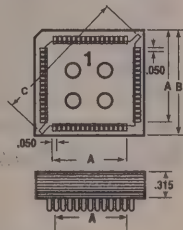
- ▶ Lowest Profile Available: .175" (4.44mm)
- ▶ Socket Has Standard JEDEC Mounting Pad Layout
- ▶ May Be Reflow Soldered By All Conventional Processes
- ▶ All Solder Joints Are Inspectable
- ▶ Polarization Notch Ensures Correct Alignment
- ▶ Pick and Place Tab for Automated Assembly Equipment (Add -P to Mr.'s Type)
- ▶ Packaged in Tubes or Tape and Reel

Insulator: High-temp. PPS, UL94V-0. Contacts: Phosphor bronze. Plating: 150µ" Tin/40µ" Nickel. Temperature Range: -55°C to +220°C. Current Rating: 1 amp.

Stock No.	Mr.'s Type	No. of Leads	Dimension A		Dimension C		EACH		
			in.	mm	in.	mm	1-24	25-99	100-499
978-2100	PLCC 20P-T-SMT	20	.600	15.24	.200	5.08	1.02	.92	.77
978-2105	PLCC 28P-T-SMT	28	.700	17.78	.300	7.62	1.02	.92	.77
978-2110	PLCC 32P-T-SMT	32	.700	17.78	.400	10.16	1.02	.92	.77
978-2115	PLCC 44P-T-SMT	44	.900	22.86	.500	12.70	1.20	1.08	.90
978-2120	PLCC 52P-T-SMT	52	1.000	25.40	.600	15.24	1.50	1.35	1.12
978-2125	PLCC 68P-T-SMT	68	1.213	30.81	.800	20.32	1.54	1.39	1.16
978-2130	PLCC 84P-T-SMT	84	1.413	35.89	1.000	25.40	1.70	1.53	1.28

Thru-Hole PLCC Sockets

- ▶ Conforms to EIA JEDEC Outline (Type A) for Plastic Lead Chip Carriers
- ▶ Polarization Indicators Assure Positive Chip Carrier Alignment
- ▶ Closed Bottom Prevents Solder Wicking
- ▶ Open Center and Stand-Offs Provide for Cooling and Thorough Cleaning after Soldering
- ▶ .310" Above PCB Profile



Insulator: High-temp. PPS, UL94V-0. Contacts: Phosphor bronze 5210. Plating: 200µ" Tin/50µ" Nickel. Temperature Range: PBT — -55°C to +140°C; PPS — -55°C to +220°C.

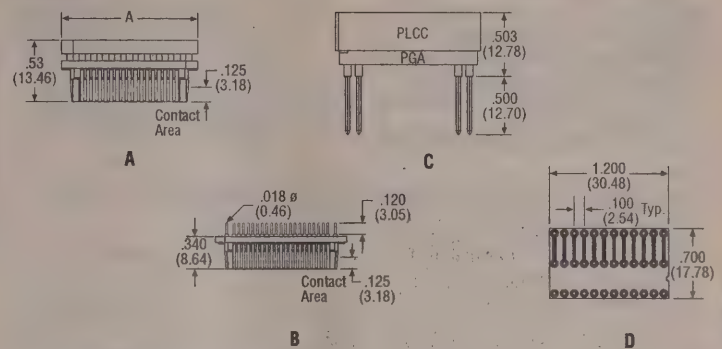
Stock No.	Mr.'s Type	No. of Leads	Dimension A		Dimension B		Dimension C		EACH		
			in.	mm	in.	mm	in.	mm	1-24	25-99	100-499
978-2200	PLCC 20P-T	20	.200	5.08	.613	15.57	.722	18.34	.86	.78	.65
978-2205	PLCC 28P-T	28	.300	7.62	.713	18.11	.866	22.00	.86	.78	.65
978-2207	PLCC 32P-T	32	.400	10.16	.795	20.19	.929	23.60	.95	.86	.71
978-2210	PLCC 44P-T	44	.500	12.70	.913	23.19	1.145	29.08	.97	.88	.73
978-2215	PLCC 52P-T	52	.600	15.24	1.060	26.92	1.304	33.12	1.00	.90	.75
978-2220	PLCC 68P-T-2	68	.800	20.32	1.217	30.91	1.584	40.23	1.07	.96	.80
978-2225	PLCC 84P-T-2	84	1.000	25.40	1.417	35.99	1.865	47.37	1.20	1.08	.90
978-2227	PLCC 100P-T	100	1.200	30.48	1.663	42.24	2.136	54.25	2.77	2.49	2.08

PLCC Extraction Tool

Easy to use extraction tool provides positive protection for both socket and device during removal. Two versions available: XT-2 for economy and XT-HD for higher performance.

978-2235. TOL PLCC-XT-2. Economy Tool.....EACH 19.38
978-2236. TOL PLCC-XT-HD. Precision Tool.....EACH 134.64

Adapters



PGA to PLCC Adapters — Fig. A

Stock No.	Mr.'s Type	PGA Top	PLCC Bottom	EACH		
				1-24	25-99	100-499
978-2502	ADP 44PGA/PLCC	8 × 8	44	44.84	40.76	34.49
978-2504	ADP 52PGA/PLCC	9 × 9	52	48.43	44.03	37.25
978-2506	ADP 68PGA/PLCC	11 × 11	68	44.37	40.34	34.13
978-2508	ADP 84PGA/PLCC	13 × 13	84	59.90	54.45	46.07

PLCC to PGA Adapters — Fig. B

Stock No.	Mr.'s Type	PGA Top	PLCC Bottom	EACH		
				1-24	25-99	100-499
978-2610	ADP 44PLCC/PGA	8 × 8	44	43.74	39.76	33.64
978-2612	ADP 52PLCC/PGA	9 × 9	52	28.58	25.98	21.99
978-2614	ADP 68PLCC/PGA	11 × 11	68	40.92	37.20	31.48
978-2616	ADP 84PLCC/PGA	13 × 13	84	66.30	60.27	51.00

PLCC 3-Level Wire Wrap Adapters — Fig. C

Stock No.	Mr.'s Type	PLCC	EACH		
			1-24	25-99	100-499
978-2620	ADP PLCC20-410B	20	7.55	6.86	5.81
978-2622	ADP PLCC28-410B	28	8.92	8.11	6.86
978-2624	ADP PLCC32-410B	32	9.98	9.07	7.67
978-2626	ADP PLCC44-410B	44	8.67	7.88	6.67
978-2628	ADP PLCC52-410B	52	9.49	8.46	7.16
978-2630	ADP PLCC68-410B	68	12.04	11.14	9.26
978-2632	ADP PLCC84-410B	84	15.16	13.75	11.60
978-2634	ADP PLCC100-410B	100	20.32	18.10	15.32

DIP Package Converters — Fig. D

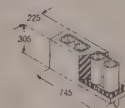
- ▶ Converts .3" DIP Devices to a .6" PCB Configuration for Either 24 or 28 Pin Devices and .6" DIP Devices to a .3" PCB Configuration for 24 and 28 Pin Devices
- ▶ Gold Clip/Tin Shell
- ▶ Hi-Rel Screw Machine Contacts

Stock No.	Mr.'s Type	Pin Count	PCB Row to Row	Device Row to Row	EACH		
					1-24	25-99	100-499
978-2638	ADP 324/624-011B	24	.6	.3	7.95	7.09	6.00
978-2640	ADP 328/628-011B	28	.6	.3	8.87	7.90	6.69
978-2642	ADP 624/324-011B	24	.3	.6	7.95	7.09	6.00
978-2644	ADP 628/328-011B	28	.3	.6	8.87	7.90	6.69

*Economical Molded DIP Adapter.

Fuse Sockets

- ▶ For Series 257 Automotive Style
- ▶ Fast-Acting, Blade Type, ATO Fuses



Stock No.	Mr.'s Type	Description	EACH		
			1-24	25-99	100-499
978-2652	FSH 2-257-C	Shrouded	.84	.67	.56

Microshunt Blocks

- ▶ Two Position Jumper On .100 Centers — Mates to .025 Square Post
- ▶ Gold or Tin Plating
- ▶ Test Point, Closed Top, or Handle for Easy Removal
- ▶ Dual-Wipe Contacts

Stock No.	Mr.'s Type	Max. Height H — in.	Plating	Features	EACH		
					1-99	100-499	500-999
978-1200	MSB 1770-G-C-STP	.177	15 µ AU	Stackable with test point	.16	.14	.12
978-1205	MSB 1770-T-C-STP	.177	100 µ SN	Stackable with test point	.13	.10	.09
978-1210	MSB 2360-G-C-STP	.236	15 µ AU	Stackable with test point	.16	.14	.12
978-1215	MSB 2360-T-C-STP	.236	100 µ SN	Stackable with test point	.13	.10	.09
978-1225	MSB 2560-G-C-C	.256	15 µ AU	Closed top	.16	.14	.12
978-1220	MSB 2560-T-C-C	.256	100 µ SN	Closed top	.13	.10	.09
978-1230	MSB 5370-G-H	.537	15 µ AU	Handle with test point	.20	.17	.15

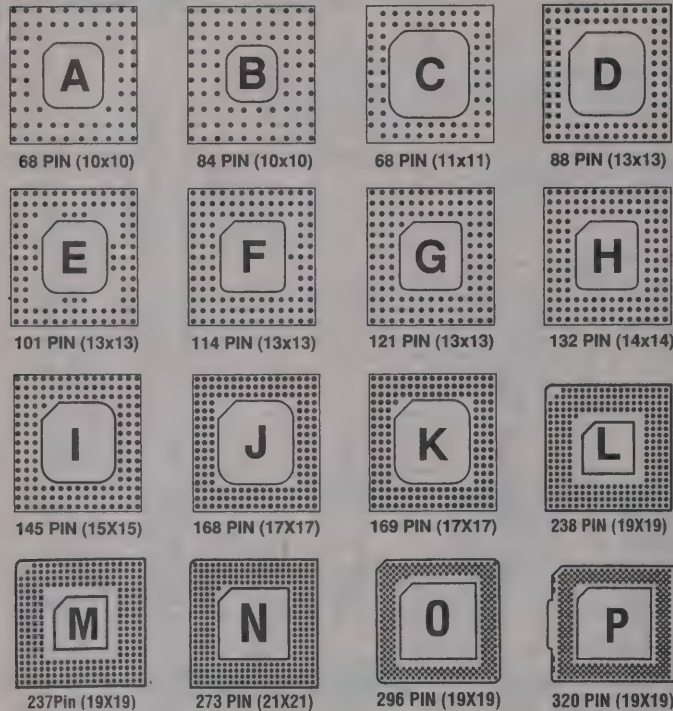
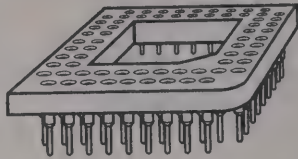
Pin Grid Array Sockets

Electrical

- ▶ Rated Current: 1A Per Contact
- ▶ Rated Voltage: 100 VRMS/150 VDC
- ▶ Contact Resistance: 10mΩ Max.
- ▶ Insulation Resistance: 10,000 MΩ Min.
- ▶ Capacitance: 1pF Max.
- ▶ Operating Temperature: -55 to +125°C

Material

- ▶ Insulator Body Material: Glass-Filled Thermoplastic Polyester UL-94 V-0 Rated
 - ▶ Pin (Outer Sleeve): Brass Per QQ-B-626, Precision Machined
 - ▶ Inner Contact: Beryllium Copper Per QQ-C-533, Heat Treated
 - ▶ Plating Pin: 200μ" Tin-Lead Over Nickel; Inner Contact: 30μ" Gold Over Nickel
- PGA Footprints — Top View of Socket



Standard Solder Tail

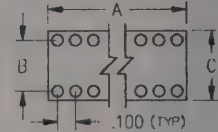
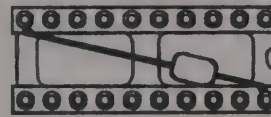
Stock No.	Mfr.'s Type	No. of Pins	Foot Print	Length & Width	EACH		
					1-24	25-99	100-499
900-0074	510-93-068-10-041001	68	A	1.000 SQ	2.74	2.49	2.08
900-0076	510-93-084-10-031001	84	B	1.000 SQ	3.08	2.80	2.35
900-0078	510-93-068-11-061001	68	C	1.100 SQ	2.74	2.49	2.08
900-0080	510-93-088-13-081001	88	D	1.300 SQ	3.25	2.95	2.47
900-0082	510-93-101-13-061001	101	E	1.300 SQ	3.48	3.16	2.65
900-0084	510-93-114-13-062001	114	F	1.300 SQ	3.70	3.36	2.98
900-0086	510-93-121-13-061001	121	G	1.300 SQ	4.16	3.75	3.15
900-0088	510-93-132-14-071001	132	H	1.400 SQ	4.57	4.15	3.47
900-0092	510-93-145-15-081001	145	I	1.500 SQ	4.99	4.54	3.80
900-0094	510-93-168-17-101002	168	J	1.700 SQ	5.78	5.26	4.37
900-0096	510-93-169-17-101002	169	K	1.700 SQ	5.83	5.30	4.41
900-0124	510-93-238-19-086002	238	L	1.900 SQ	9.10	8.20	7.37
900-0125	510-93-237-19-086003	237	M	1.900 SQ	10.24	9.22	8.30
900-0126	510-93-273-21-125002	273	N	2.100 SQ	10.44	9.40	8.50
900-0127	518-93-296-19-125002	296	O*	1.900 SQ	25.66	23.10	20.79
900-0128	518-93-320-19-126004	320	P†	1.900 SQ	27.74	24.97	22.47

*Without Heatsink Tabs. †With Heatsink Tabs.

3-Level Wrapost

Stock No.	Mfr.'s Type	No. of Pins	Foot Print	Length & Width	1-24	25-99	100-499
900-0098	523-93-068-10-041001	68	A	1.000 SQ	7.06	6.42	5.37
900-0100	523-93-084-10-031001	84	B	1.000 SQ	8.18	7.44	6.20
900-0102	523-93-068-11-061001	68	C	1.100 SQ	7.06	6.42	5.37
900-0104	523-93-088-13-081001	88	D	1.300 SQ	8.58	7.80	6.50
900-0106	523-93-101-13-061001	101	E	1.300 SQ	9.83	8.94	7.47
900-0108	523-93-114-13-062001	114	F	1.300 SQ	11.88	10.08	8.42
900-0110	523-93-121-13-061001	121	G	1.300 SQ	11.77	10.70	8.93
900-0112	523-93-132-14-071001	132	H	1.400 SQ	12.95	11.76	9.75
900-0116	523-93-145-15-081001	145	I	1.500 SQ	13.99	12.72	10.62
900-0118	523-93-168-17-101002	168	J	1.700 SQ	16.19	14.72	12.28
900-0120	523-93-169-17-101002	169	K	1.700 SQ	16.30	14.82	12.37

IC Sockets With Integral Decoupling Capacitor



Low profile IC-Socket with integral decoupling capacitor. 100 nF 20% - 50 V multilayer ceramic Epoxy encapsulated. **Temperature Range:** -25°C to +85°C. **Insertion Characteristics:** 4-finger standard.

Pin — 200μ" Tin, Solder Tab; Contact — 30μ" Gold

Stock No.	Mfr.'s Type	No. of Pins	Dimensions			EACH		
			A	B	C	1-24	25-99	100-499
900-0130	110-93-314-41-801	14	.700	.300	.400	1.40	1.26	1.14
900-0132	110-93-316-41-801	16	.800	.300	.400	1.50	1.35	1.22
900-0134	110-93-318-41-801	18	.900	.300	.400	1.60	1.45	1.31
900-0136	110-93-320-41-801	20	1.000	.300	.400	1.63	1.47	1.33
900-0138	110-93-324-41-801	24	1.200	.300	.400	1.86	1.68	1.52
900-0140	110-93-624-41-801	24	1.200	.600	.700	2.06	1.85	1.67
900-0142	110-93-628-41-801	28	1.400	.600	.700	2.22	2.00	1.80
900-0144	110-93-640-41-801	40	2.000	.600	.700	2.62	2.36	2.13

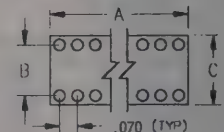
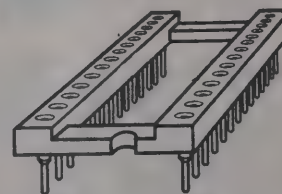
Pin — 10μ" Gold, Solder Tab; Contact — 30μ" Gold

Stock No.	Mfr.'s Type	No. of Pins	A	B	C	1-24	25-99	100-499
900-0146	110-13-314-41-801	14	.700	.300	.400	1.66	1.49	1.34
900-0148	110-13-316-41-801	16	.800	.300	.400	1.81	1.63	1.47
900-0150	110-13-318-41-801	18	.900	.300	.400	1.94	1.74	1.57
900-0152	110-13-320-41-801	20	1.000	.300	.400	2.00	1.80	1.62
900-0154	110-13-324-41-801	24	1.200	.300	.400	2.31	2.08	1.88
900-0156	110-13-624-41-801	24	1.200	.600	.700	2.51	2.26	2.04
900-0158	110-13-628-41-801	28	1.400	.600	.700	2.72	2.45	2.21
900-0160	110-13-640-41-801	40	2.000	.600	.700	3.22	2.90	2.61

Pin — 200μ" Tin, 3 Level Wrapost, .515 Length; Contact — 30μ" Gold

Stock No.	Mfr.'s Type	No. of Pins	A	B	C	1-24	25-99	100-499
900-0162	123-93-314-41-801	14	.700	.300	.400	2.26	2.04	1.84
900-0164	123-93-316-41-801	16	.800	.300	.400	2.50	2.25	2.03
900-0166	123-93-318-41-801	18	.900	.300	.400	2.71	2.43	2.19
900-0168	123-93-320-41-801	20	1.000	.300	.400	2.82	2.54	2.29
900-0170	123-93-324-41-801	24	1.200	.300	.400	3.47	3.13	2.82
900-0172	123-93-624-41-801	24	1.200	.600	.700	3.47	3.13	2.82
900-0174	123-93-628-41-801	28	1.400	.600	.700	3.87	3.48	3.14
900-0176	123-93-640-41-801	40	2.000	.600	.700	4.88	4.39	3.95

Shrink DIP Sockets — Solder Tail — Open Frame



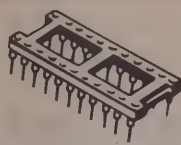
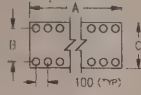
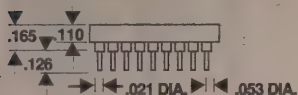
High density, dual-in-line sockets and strips for devices featuring .070" lead spacing. Four-finger beryllium copper contacts meet high vibration and shock requirements. **Insertion Characteristics:** 4-finger standard.

Stock No.	Mfr.'s Type	No. of Pins	Dimensions			EACH		
			A	B	C	1-24	25-99	100-499
900-0180	117-93-316-41-005	16	.572	.300	.390	1.07	.96	.87
900-0182	117-93-428-41-005	28	.992	.400	.490	1.81	1.63	1.47
900-0184	117-93-430-41-005	30	1.062	.400	.490	1.93	1.74	1.57
900-0186	117-93-448-41-005	48	1.692	.400	.490	3.10	2.78	2.51
900-0188	117-93-620-41-005	20	.712	.600	.690	1.29	1.16	1.05
900-0190	117-93-628-41-005	28	.992	.600	.690	1.81	1.63	1.47
900-0192	117-93-640-41-005	40	1.412	.600	.690	2.58	2.32	2.09
900-0194	117-93-642-41-005	42	1.482	.600	.690	4.09	3.51	2.97
900-0196	117-93-648-41-005	48	1.692	.600	.690	3.10	2.79	2.51
900-0198	117-93-652-41-005	52	1.832	.600	.690	3.26	2.93	2.64
900-0200	117-93-656-41-005	56	1.972	.600	.690	3.51	3.16	2.85
900-0202	117-93-664-41-005	64	2.252	.600	.690	4.01	3.61	3.25
900-0204	117-93-668-41-005	68	2.392	.600	.690	4.26	3.83	3.45
900-0206	117-93-764-41-005	64	2.252	.750	.840	4.01	3.61	3.25

Strip, DIP and Transistor Sockets



Standard Solder Tail DIP Sockets



Most popular line of standard low profile IC-Sockets. Open frame design leaves space beneath IC for improved heat dissipation, easier PCB cleaning and inspection.

Pin — 200µ" Tin; Contact — 30µ" Gold

Stock No.	Mfr.'s Type	No. of Pins	Dim. — Inches			EACH		
			A	B	C	1-24	25-99	100-499
900-0002	110-93-306-41-001	6	.300	.300	.400	.19	.17	.15
900-0004	110-93-308-41-001	8	.400	.300	.400	.24	.22	.20
900-0006	110-93-314-41-001	14	.700	.300	.400	.45	.41	.35
900-0008	110-93-316-41-001	16	.800	.300	.400	.50	.45	.38
900-0010	110-93-318-41-001	18	.900	.300	.400	.55	.50	.43
900-0012	110-93-320-41-001	20	1.000	.300	.400	.55	.50	.48
900-0014	110-93-324-41-001	24	1.200	.300	.400	.73	.66	.57
900-0015	110-93-328-41-001	28	1.400	.300	.400	.86	.78	.70
900-0016	110-93-422-41-001	22	1.100	.400	.500	.68	.62	.53
900-0017	110-93-424-41-001	24	1.200	.400	.500	.74	.67	.60
900-0018	110-93-624-41-001	24	1.200	.600	.700	.70	.64	.58
900-0020	110-93-628-41-001	28	1.400	.600	.700	.89	.81	.68
900-0022	110-93-632-41-001	32	1.600	.600	.700	1.00	.94	.78
900-0024	110-93-640-41-001	40	2.000	.600	.700	1.24	1.13	.95
900-0025	110-93-648-41-001	48	2.400	.500	.700	1.48	1.33	1.20
900-0207	110-93-950-41-001	50	2.500	.900	1.000	1.54	1.39	1.25
900-0209	110-93-964-41-001	64	3.200	.900	1.000	1.98	1.78	1.60

Pin — 200µ" Tin; Contact — 200µ" Gold

Stock No.	Mfr.'s Type	No. of Pins	Dim. — Inches			EACH		
			A	B	C	1-24	25-99	100-499
900-0220	110-99-306-41-001	6	.300	.300	.400	.15	.13	.12
900-0222	110-99-308-41-001	8	.400	.300	.400	.19	.17	.16
900-0224	110-99-314-41-001	14	.700	.300	.400	.34	.30	.27
900-0226	110-99-316-41-001	16	.800	.300	.400	.38	.35	.31
900-0228	110-99-318-41-001	18	.900	.300	.400	.43	.39	.35
900-0230	110-99-320-41-001	20	1.000	.300	.400	.48	.43	.39
900-0232	110-99-324-41-001	24	1.200	.300	.400	.58	.52	.47
900-0234	110-99-328-41-001	28	1.400	.300	.400	.67	.60	.55
900-0236	110-99-424-41-001	24	1.200	.400	.500	.58	.52	.47
900-0238	110-99-624-41-001	24	1.200	.600	.700	.58	.52	.47
900-0240	110-99-628-41-001	28	1.400	.600	.700	.67	.60	.55
900-0242	110-99-632-41-001	32	1.600	.600	.700	.77	.69	.62
900-0244	110-99-640-41-001	40	2.000	.600	.700	.96	.87	.78
900-0246	110-99-648-41-001	48	2.400	.600	.700	1.15	1.04	.93
900-0248	110-99-964-41-001	64	3.200	.900	1.000	1.54	1.38	1.25

Strip Sockets Solder Tail

On .100 Centers



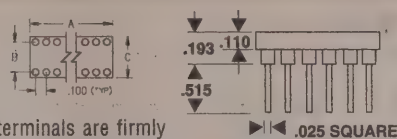
Materials. Insulator Body: Glass-filled thermoplastic polyester, self-extinguishing rated; UL94V-9; color — black; resistant against detergents, mineral acids, solvents, greases and oils (short time). **Receptacle (Sleeve):** Screw-machined brass, plated 200µ" tin-lead. **Pin:** Phosphor bronze, plated 200µ" tin-lead over 80-120µ" nickel. **Contact:** Stamped beryllium-copper, plated 30µ" gold. **Mechanical Life:** 100 cycles minimum.

Electrical Data. Rated Current: 1A. Rated Voltage: 100 VRMS/150VDC. Contact Resistance: 10mΩ max. Insulation Resistance: 10,000MΩ min. Dielectric Strength: 1000 VRMS min. Capacitance: 0.3 pF max.

Environmental Data. Operating Temperature Range: -55°C to +125°C. Vibration: 10-2000 Hz, 15g. Shock (No Elect. Discontinuity Greater Than 1 µs): 150 g. Solderability: IEC 68-2-20 Ta. Resistance to Soldering Heat: IEC 68-2-20, 260°C, 5s. Resistance to Atmospheric Corrosion: IEC 68-2-42 and 43.

Stock No.	Mfr.'s Type	No. of Pins	Length of Socket	EACH		
				1-24	25-99	100-499
900-0251	310-93-108-41-001	8	.800	.28	.25	.23
900-0255	310-93-110-41-001	10	1.000	.35	.31	.28
900-0260	310-93-114-41-001	14	1.400	.49	.44	.40
900-0265	310-93-120-41-001	20	2.000	.70	.63	.56
900-0270	310-93-130-41-001	30	3.000	1.04	.94	.85
900-0275	310-93-132-41-001	32	3.200	1.11	1.00	.90
900-0280	310-93-164-41-001	64	6.400	2.23	2.00	1.80

3-Level Wrapost DIP Sockets

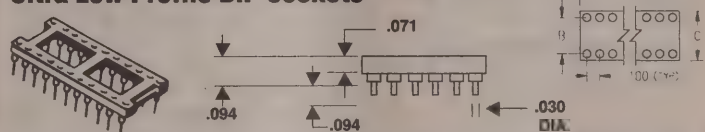


Solderless wrapost terminals are firmly locked in the insulator body to withstand torque of wrapping tool. Length of terminal for three-level wrapping.

Pin — 200µ" Tin; Contact — 30µ" Gold

Stock No.	Mfr.'s Type	No. of Pins	Dim. — Inches			EACH		
			A	B	C	1-24	25-99	100-499
900-0026	123-93-306-41-001	6	.300	.300	.400	.43	.39	.33
900-0028	123-93-308-41-001	8	.400	.300	.400	.62	.50	.42
900-0030	123-93-314-41-001	14	.700	.300	.400	.96	.87	.73
900-0032	123-93-316-41-001	16	.800	.300	.400	1.09	.99	.83
900-0034	123-93-318-41-001	18	.900	.300	.400	1.22	1.11	.93
900-0036	123-93-320-41-001	20	1.000	.300	.400	1.36	1.24	1.02
900-0038	123-93-324-41-001	24	1.200	.300	.400	1.65	1.50	1.25
900-0039	123-93-328-41-001	28	1.400	.300	.400	1.90	1.71	1.54
900-0040	123-93-422-41-001	22	1.100	.400	.500	1.76	1.36	1.12
900-0041	123-93-424-41-001	24	1.200	.400	.500	1.63	1.46	1.32
900-0042	123-93-624-41-001	24	1.200	.600	.700	1.63	1.48	1.23
900-0044	123-93-628-41-001	28	1.400	.600	.700	1.88	1.71	1.45
900-0046	123-93-632-41-001	32	1.600	.600	.700	2.18	1.98	1.65
900-0048	123-93-640-41-001	40	2.000	.600	.700	2.68	2.44	2.07
900-0049	123-93-648-41-001	48	2.400	.600	.700	3.86	5.27	4.74
900-0211	123-93-950-41-001	50	2.500	.900	1.000	5.39	3.05	2.75
900-0213	123-93-964-41-001	64	3.200	.900	1.000	4.34	3.91	3.52

Ultra Low Profile DIP Sockets

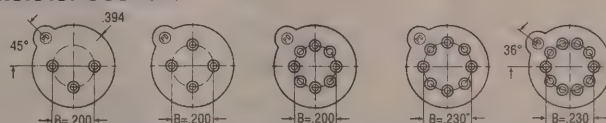


"Ultra low profile" dual-in-line sockets are equipped with specially designed contacts allowing .094" height above PCB. Special short contact requires .075" insertion depth only. Solder Tail Diameter: .030".

Pin — 200µ" Tin; Contact — 30µ" Gold

Stock No.	Mfr.'s Type	No. of Pins	Dim. — Inches			EACH		
			A	B	C	1-24	25-99	100-499
900-0050	115-93-306-41-003	6	.300	.300	.400	.33	.30	.25
900-0052	115-93-308-41-003	8	.400	.300	.400	.43	.39	.33
900-0054	115-93-314-41-003	14	.700	.300	.400	.69	.63	.54
900-0056	115-93-316-41-003	16	.800	.300	.400	.79	.72	.62
900-0058	115-93-318-41-003	18	.900	.300	.400	.91	.83	.70
900-0060	115-93-320-41-003	20	1.000	.300	.400	.98	.89	.75
900-0062	115-93-324-41-003	24	1.200	.300	.400	1.16	1.05	.88
900-0063	115-93-328-41-003	28	1.400	.300	.400	1.35	1.22	1.09
900-0064	115-93-422-41-003	22	1.100	.400	.500	1.07	.97	.82
900-0065	115-93-424-41-003	24	1.200	.400	.500	1.15	1.04	.94
900-0066	115-93-624-41-003	24	1.200	.600	.700	1.16	1.05	.88
900-0068	115-93-628-41-003	28	1.400	.600	.700	1.34	1.22	1.04
900-0070	115-93-632-41-003	32	1.600	.600	.700	1.54	1.40	1.28
900-0072	115-93-640-41-003	40	2.000	.600	.700	1.94	1.76	1.49
900-0073	115-93-648-41-003	48	2.400	.600	.700	2.31	2.08	1.87

Transistor Sockets



Series 917 TO Package Sockets exist with 3, 4, 8 and 10 contacts. Two 8 pin version feature pin centers either on a .200" or a .230" circle. **Plating Sleeve (Pin):** 200µ" Sn. **Plating Contact (Clip):** 30µ" Au.

Stock No.	Mfr.'s Type	No. of Pins	Type	Dim. B	EACH		
					1-24	25-99	100-499
900-0290	917-93-103-41-005	3	TO-5	.200	.45	.40	.36
900-0292	917-93-104-41-005	4	TO-5	.200	.59	.53	.48
900-0294	917-93-108-41-005	8	TO-5	.200	1.14	1.02	.92
900-0296	917-93-208-41-005	8	TO-100	.230	1.14	1.02	.92
900-0298	917-93-210-41-005	10	TO-100	.230	1.36	1.23	1.10

Pin Receptacles

200 µ" tin-plated precision machine brass shell fitted with stamped and hardened, 30 µ" gold-plated beryllium copper multi-finger spring contact.

PC Solder Mount

Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	Dimensions				PER PK./100	
					A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0500	0548-015011127100	1	.015-.021"	.038"	.058"	.034"	.031"	.155"	7.55	6.29
900-0502	0552-115011127100	2	.015-.021"	.043"	.055"	.038"	.016"	.136"	4.08	3.40
900-0504	0552-215011127100	2	.015-.021"	.043"	.055"	.038"	.016"	.170"	4.14	3.45
900-0506	1407-015011127100	4	.015-.021"	.043"	.055"	.038"	.031"	.146"	4.73	3.94
900-0508	0554-015011127100	5	.015-.021"	.043"	.056"	.038"	.038"	.160"	9.02	7.51
900-0510	0677-015013027100	6	.015-.025"	.054"	.063"	.049"	.041"	.248"	10.59	8.82
900-0512	0555-015012027100	7	.015-.025"	.056"	.072"	.051"	.038"	.160"	8.73	7.28
900-0514	0667-015013027100	8	.015-.025"	.060"	.072"	.055"	.016"	.161"	5.06	4.22
900-0516	0665-015013027100	10	.015-.025"	.064"	.080"	.058"	.088"	.180"	8.18	6.82
900-0518	0295-015010627100	12	.022-.032"	.065"	.077"	.060"	.014"	.259"	11.49	9.57
900-0520	0292-015010627100	13	.022-.032"	.073"	.093"	.068"	.030"	.250"	10.40	8.67
900-0522	0294-015010627100	14	.022-.032"	.078"	.090"	.073"	.018"	.206"	10.40	8.67
900-0524	0300-115014727100	16	.025-.037"	.045"	.078"	.040"	.210"	.320"	12.16	10.13
900-0526	0300-215014727100	16	.025-.037"	.045"	.078"	.040"	.210"	.397"	14.36	11.97
900-0528	0331-015011827100	17	.037-.043"	.074"	.090"	.069"	.025"	.150"	13.81	11.51
900-0530	0327-015013427100	18	.032-.047"	.077"	.090"	.072"	.018"	.206"	10.40	8.67
900-0532	0329-015013427100	19	.032-.047"	.077"	.090"	.072"	.018"	.221"	23.50	19.58
900-0534	0317-015013427100	24*	.032-.047"	.093"	.120"	.088"	.032"	.253"	15.08	12.56
900-0536	0322-015013427100	25	.032-.047"	.090"	.125"	.085"	.192"	.317"	18.69	15.57
900-0538	0316-015013427100	26	.032-.047"	.090"	.125"	.085"	.036"	.236"	12.95	10.79
900-0540	0314-015013427100	27†	.032-.047"	.090"	.125"	.085"	.036"	.236"	12.97	10.81
900-0542	0355-015010227100	32	.040-.050"	.105"	.118"	.101"	.016"	.290"	12.83	10.69
900-0544	0364-015011327100	34	.048-.064"	.103"	.120"	.098"	.018"	.213"	16.71	13.92
900-0546	0393-015010727100	38	.065-.082"	.147"	.188"	.142"	.100"	.412"	28.15	23.46
900-0548	0390-015010827100	40	.084-.102"	.147"	.188"	.142"	.105"	.465"	34.07	28.39

Hex Press Fit

Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0550	0553-115011127100	3	.015-.021"	.041"	.055"	.038"	.016"	.140"	8.02	6.68
900-0552	0553-215011127100	3	.015-.021"	.041"	.055"	.038"	.016"	.170"	8.08	6.73
900-0554	0252-015013227100	9	.015-.025"	.057"	.072"	.053"	.031"	.170"	10.28	8.57
900-0556	0279-015014727100	15	.025-.037"	.061"	.078"	.057"	.028"	.200"	14.52	12.10
900-0558	0328-015013427100	23	.032-.047"	.076"	.090"	.071"	.028"	.206"	13.06	10.88
900-0560	0365-015012327100	37	.045-.067"	.104"	.120"	.098"	.026"	.223"	20.87	17.39

PC Swage Mount 0.063" Thick Board

Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0562	0326-219010627100	11	.022-.032"	.060"	.094"	.058"	.200"	.294"	21.71	18.09
900-0564	0344-219013427100	20	.032-.047"	.067"	.125"	.065"	.230"	.324"	23.38	19.48

Knurled Press Fit

Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0566	0357-015013427100	22	.032-.047"	.078"	.102"	.072"	.080"	.220"	15.03	12.53
900-0568	0359-015013427100	28	.032-.047"	.089"	.110"	.080"	.037"	.250"	15.18	12.65
900-0570	0360-015013427100	29†	.032-.047"	.089"	.110"	.080"	.037"	.250"	16.03	13.36
900-0572	0358-015013427100	30	.032-.047"	.089"	.110"	.082"	.240"	.343"	15.87	13.23
900-0574	0366-015011327100	36†	.048-.064"	.108"	.136"	.102"	.037"	.250"	20.56	17.14
900-0576	0040-117013027020	35‡	.015-.025"	.055"	.072"	.053"	.200"	.460"	8.24	6.87
900-0578	0039-217013027020	35‡	.015-.025"	.055"	.072"	.053"	.200"	.560"	6.42	5.34
900-0580	0038-317013027020	35‡	.015-.025"	.055"	.072"	.053"	.200"	.700"	7.20	6.00

Crimp Barrel

Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0582	0348-033013427100	31‡	.032-.047"	—	.105"	.049"	.224"	.530"	34.54	28.78
900-0584	0370-019010727100	39*	.065-.082"	—	.100"	.050"	.440"	.690"	37.27	31.06

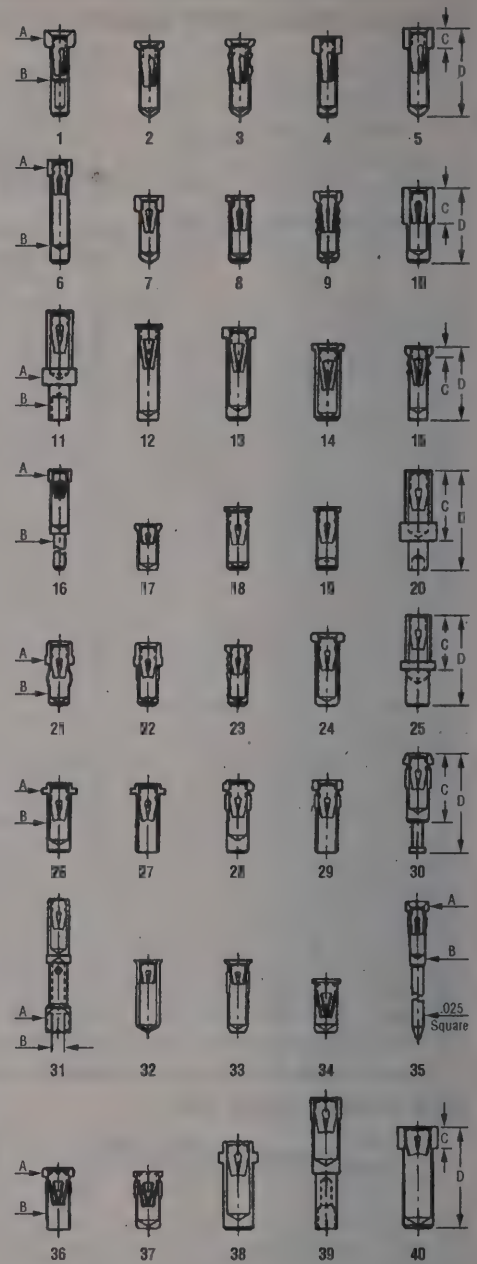
Lobed Press Fit

Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0586	0333-042013427100	21	.032-.047"	.076"	.102"	.074"	.080"	.220"	22.03	18.36

Quintagonal Press Fit

Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0588	0354-015010227100	33	.040-.050"	.103"	.118"	.088"	.020"	.290"	18.01	15.01

*Knockout Bottom. †Thru Hole. ‡#20A. #18A. †1-Level Wrapost. ‡2-Level Wrapost. ‡3-Level Wrapost.



Printed Circuit Pins

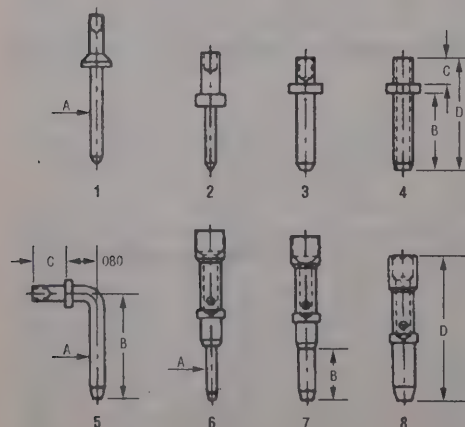
Precision machined, 20 µ" gold plated brass pins mate with receptacles. Annealed for crimping to wires or swaging to circuit boards. Receptacles above ordered separately.

PC Swage Mount

Stock No.	Mfr.'s Type	Fig.	Mounting Hole	Dimensions				Board Thickness	PER PK./100	
				A Dia.	B Length	C Length	D Length		1-5	6-10
900-0590	3117-100210000080	1	.035"	.025"	.188"	.047"	.206"	.0313"	4.28	3.57
900-0592	3117-200210000080	1	.035"	.025"	.188"	.078"	.291"	.0625"	33.86	28.22
900-0594	3112-100210000080	2	.043"	.025"	.125"	.051"	.201"	.0313"	4.22	3.52
900-0596	3112-200210000080	2	.043"	.025"	.125"	.082"	.232"	.0625"	3.43	2.86
900-0598	3101-100210000080	3	.043"	.040"	.150"	.051"	.221"	.0313"	3.67	3.06
900-0600	3101-200210000080	3	.043"	.040"	.150"	.082"	.252"	.0625"	2.16	1.80
900-0602	3102-100210000080	3	.043"	.040"	.188"	.051"	.259"	.0313"	3.90	3.25
900-0604	3102-200210000080	3	.043"	.040"	.188"	.082"	.290"	.0625"	4.10	3.42
900-0606	3103-100210000080	3	.043"	.040"	.300"	.051"	.371"	.0313"	5.67	4.73
900-0608	3103-200210000080	3	.043"	.040"	.300"	.082"	.402"	.0625"	4.86	4.05
900-0610	3222-200210000080	4	.043"	.040"	.150"	.082"	.252"	.0625"	6.69	5.58
900-0612	3301-214210000080	5	.043"	.040"	.257"	.082"	—	.0625"	13.50	11.25

#20A Crimp Barrel

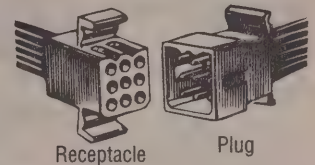
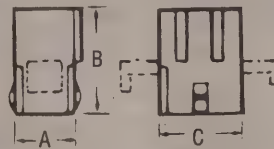
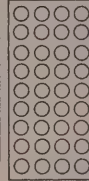
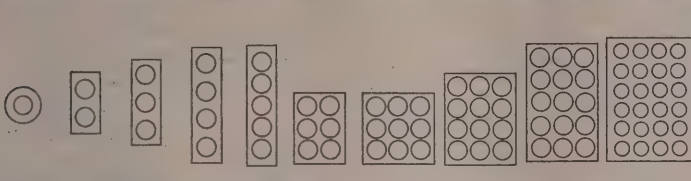
Stock No.	Mfr.'s Type	Fig.	Spring Range	Mounting Hole	A Dia.	B Dia.	C Length	D Length	1-5	6-10
900-0614	3603-007210000080	6	—	—	.040"	.188"	—	.588"	22.09	18.41
900-0616	3602-007210000080	7	—	—	.062"	.188"	—	.588"	23.38	19.48
900-0618	3601-107210000080	8	—	—	.080"	.200"	—	.506"	20.50	17.08



Nylon Housing Connectors and Accessories

Terminal Housings

Inexpensive nylon housing. Crimp contacts are available as a separate item. Tools are available to assist with termination and insertion/extraction. Rated 5 Amp, 250 Volt.



Miniature .062" Terminal Housings

Receptacles With Mounting Ears and Detent Windows/Detent

Stock No.	Mfr.'s Type	Number of Circuits	Qty. Per Pack	Dimensions (In.)			PER PKG.
				A	B	C	
863-0107	03-06-1022	2	10	.192	.81	0.340	3.60
863-0115	03-06-1038	3	10	.192	.78	0.484	3.98
863-0125	03-06-1041	4	10	.192	.78	0.630	5.36
863-0135	03-06-1055	5	5	.192	.78	0.775	3.73
863-0145	03-06-1061	6	5	.494	.78	0.344	3.03
863-0165	03-06-1091	9	5	.494	.78	0.489	3.07
863-0175	03-06-1121	12	5	.494	.78	0.634	3.52
863-0185	03-06-1151	15	5	.487	.78	0.776	4.71
863-0195	03-06-1241	24	5	.634	.75	0.918	9.55
863-0205	03-06-1361*	36	5	.689	.78	1.505	18.76

Plugs With Mounting Ears and Detent Windows/Detent

863-0104	03-06-2024	2	10	.300	.78	0.440	3.30
863-0112	03-06-2033	3	10	.300	.75	0.590	3.98
863-0120	03-06-2041	4	10	.295	.75	0.730	5.14
863-0130	03-06-2054	5	5	.310	.75	0.890	2.96
863-0140	03-06-2062	6	5	.600	.75	0.450	3.03
863-0160	03-06-2091	9	5	.590	.75	0.590	3.07
863-0170	03-06-2121	12	5	.590	.75	0.740	2.53
863-0180	03-06-2151	15	5	.590	.75	0.880	4.13
863-0190	03-06-2241	24	5	.740	.75	1.040	9.55
863-0200	03-06-2361	36	5	.802	.75	1.612	12.51

Receptacles With Detent Windows/Detent

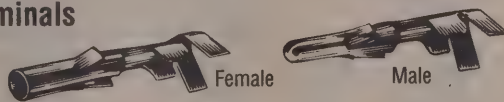
863-0105	03-06-1011	1	10	—	.78	0.183	1.92
863-0108	03-06-1023	2	10	.192	.81	0.340	3.26
863-0116	03-06-1032	3	10	.192	.78	0.484	3.98
863-0126	03-06-1042	4	10	.192	.78	0.630	5.36
863-0136	03-06-1056	5	5	.192	.78	0.775	3.73
863-0146	03-06-1062	6	5	.494	.78	0.344	3.03
863-0166	03-06-1092	9	5	.494	.78	0.489	3.07
863-0176	03-06-1122	12	5	.494	.78	0.634	3.52
863-0186	03-06-1152	15	5	.487	.78	0.776	4.71

Plugs With Detent Windows

863-0100	03-06-2011	1	10	—	.75	—	1.92
863-0103	03-06-2023	2	10	.300	.75	0.440	3.30
863-0111	03-06-2032	3	10	.300	.75	0.590	3.98
863-0121	03-06-2042	4	10	.295	.75	0.730	5.14
863-0131	03-06-2055	5	5	.310	.75	0.890	2.96
863-0141	03-06-2061	6	5	.600	.75	0.450	3.03
863-0161	03-06-2092	9	5	.590	.75	0.590	3.03
863-0171	03-06-2122	12	5	.590	.75	0.740	3.52
863-0181	03-06-2152	15	5	.590	.75	0.880	4.13
863-0191	03-06-2242	24	5	.740	.75	1.040	9.55

*with mounting ears only.

Crimp Type Terminals



Stock No.	Mfr.'s Type	Series	Type	Mating Dia.	Wire AWG Range	Use Hand Tool	PER PKG./100	
							1-4	5-9
863-0391	02-09-1104	Standard	Female	.093"	20-14	W-HT-1919	11.30	6.80
863-0395	02-09-2103	Standard	Male	.093"	20-14	W-HT-1919	11.30	6.80
863-0209	02-09-1119	Standard	Female	.093"	22-18	W-HT-1919	11.30	6.80
863-0405	02-09-2118	Standard	Male	.093"	22-18	W-HT-1919	11.30	6.80
863-0411	02-09-1144	Standard	Female	.093"	30-24	W-HT-1919	12.00	7.20
863-0415	02-09-2143	Standard	Male	.093"	30-24	W-HT-1919	12.00	7.20
863-0420	02-09-1134	PC Tail	Female	.093"	NA	NA	17.30	10.30
863-0425	02-09-2134	PC Tail	Male	.093"	NA	NA	17.30	10.30
863-0210	02-06-1103	Miniature	Female	.062"	24-18	W-HT-1921	11.20	7.30
863-0215	02-06-2103	Miniature	Male	.062"	24-18	W-HT-1921	11.20	7.30
863-0220	02-06-1132	Miniature	Female	.062"	30-24	W-HT-1921	11.20	7.30
863-0225	02-06-2132	Miniature	Male	.062"	30-24	W-HT-1921	11.20	7.30
863-0230	02-06-7103	PC Tail	Female	.062"	NA	NA	17.20	15.70
863-0235	02-06-8103	PC Tail	Male	.062"	NA	NA	17.20	15.70

Nylon Connector Designer Kits

Polarized nylon connector kits include male and female housings in all circuit capacities, terminals and tools, in individual compartments. Lightweight, unbreakable; snap-lock.

Type WM-72 Miniature Kit. 56 connectors using .062" terminals, crimp & ejector tools.

863-0600EACH 56.52

Type WM-50 Standard Kit. 45 connectors using .093" terminals, crimp & ejector tools.

863-0610EACH 64.42

Standard .093" Terminal Housings

Receptacles With Mounting Ears and Detent Lock

Stock No.	Mfr.'s Type	Number of Circuits	Qty. Per Pack	Dimensions (In.)			PER PKG.
				A	B	C	
863-0319	03-09-1027	2	10	.250	1.030	0.536	3.15
863-0325	03-09-1081	3	10	.236	1.015	0.670	5.00
863-0335	03-09-1041	4	10	.236	1.000	0.868	4.52
863-0355	03-09-1061	6	5	.632	1.015	0.434	3.60
863-0365	03-09-1091	9	5	.625	1.015	0.666	3.57
863-0375	03-09-1121*	12	5	.633	1.015	0.871	3.92
863-0385	03-09-1151*	15	5	.632	1.015	1.066	5.08

Plugs With Mounting Ears and Detent Lock

863-0310	03-09-2021	2	10	.352	1.000	0.639	4.18
863-0320	03-09-2031	3	10	.340	0.970	0.770	4.38
863-0330	03-09-2041	4	10	.338	1.000	0.971	4.52
863-0350	03-09-2061	6	5	.733	1.000	0.536	3.63
863-0360	03-09-2091	9	5	.730	0.970	0.770	3.72
863-0374	03-09-2122	12	5	.737	1.000	0.975	4.08
863-0380	03-09-2152	15	5	.734	1.000	1.169	4.86

Receptacles Without Ears or Detent Lock

863-0316	03-09-1022	2	10	.250	1.030	0.536	3.83
863-0327	03-09-1033	3	10	.236	1.015	0.670	4.38
863-0357	03-09-1063	6	5	.632	1.015	0.434	2.88
863-0367	03-09-1093	9	5	.625	1.015	0.666	3.57
863-0376	03-09-1122	12	5	.633	1.015	0.871	3.92
863-0386	03-09-1152	15	5	.632	1.015	1.066	5.08

Receptacles With Detent Lock Only

863-0305	03-09-1011	1	10	.234	1.000	—	2.08
863-0316	03-09-1022	2	10	.250	1.030	0.536	3.83
863-0326	03-09-1032	3	10	.236	1.015	0.670	4.77
863-0336	03-09-1042	4	10	.236	1.000	0.868	4.52
863-0345	03-09-1052	5	5	.243	1.000	1.066	3.60
863-0358	03-09-1064	6	5	.632	1.015	0.434	2.88
863-0368	03-09-1094	9	5	.625	1.015	0.666	3.57
863-0379	03-09-1126	12	5	.632	1.015	0.871	3.92

Plugs Without Mounting Ears

863-0300	03-09-2011	1	10	.358	1.000	—	2.08
863-0311	03-09-2022	2	10	.352	1.000	0.639	3.83
863-0321	03-09-2032	3	10	.340	0.970	0.770	4.38
863-0331	03-09-2042	4	10	.338	1.000	0.971	4.52
863-0341	03-09-2057	5	5	.338	0.969	1.169	2.76
863-0351	03-09-2062	6	5	.733	1.000	0.536	2.88
863-0361	03-09-2092	9	5	.730	0.970	0.770	3.57
863-0370	03-09-2121	12	5	.737	1.000	0.975	4.08
863-0381	03-09-2153	15	5	.734	1.000	1.169	4.86

*with mounting ears only.

Nylon Connector Tools



Prototype Crimping Tools. Balanced and weighted, machined from hardened steel.

Type W-HT-1919. For .093" pin terminals.

863-0520EACH 15.64

Type W-HT-1921. For .062" pin terminals.

863-0500EACH 15.64

Production Crimp Tools

Type W-HTR-1031-E. For .093" terminals, 14-22 AWG wires.

863-0560EACH 161.28

Type W-HTR-1719-C. For .062" terminals, 18-24 AWG wires.

863-0565EACH 204.80

Type W-HTR-2262-A. For .062" terminals, 24-30 AWG wires.

863-0550EACH 183.90

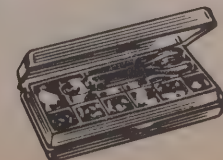
Extractor Tools. Remove terminal from connector housing without damage.

Type W-HT-2038. For .093" pin terminals.

863-0530EACH 15.06

Type W-HT-2285. For .062" pin terminals.

863-0510EACH 16.94



.093" Power Connectors

International Series

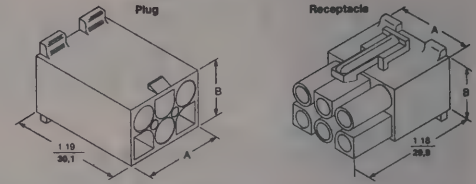
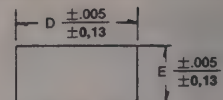
- UL Recognized, CSA Certified and TUV Licensed
- Positive Lock
- 600 Volt Rating*
- Up to 12 Amperes Per Circuit*
- Fully Isolated Terminals
- CSA File No. LR 19980, TUL License No. R-75107

Receptacles

Stock No.	Mfr.'s Type	No. of Circuits	Dimensions		PER PK./10	
			A	B	1-4	5-9
863-3000	19-09-1029	2	.56	.30	4.93	2.96
863-3005	19-09-1039	3	.83	.30	5.49	3.29
863-3010	19-09-1049	4	1.09	.30	5.70	3.42
863-3015	19-09-1069	6	.83	.56	6.67	4.00
863-3020	19-09-1099	9	.83	.83	7.61	4.57

Panel Mount Plug

Stock No.	Mfr.'s Type	No. of Circuits	Dimensions		PER PK./10	
			A	B	1-4	5-9
863-3025	19-09-2028	2	.58	.32	4.93	2.96
863-3030	19-09-2038	3	.85	.32	5.49	3.29
863-3035	19-09-2048	4	1.11	.32	5.70	3.42
863-3040	19-09-2068	6	.85	.59	6.39	3.83
863-3045	19-09-2098	9	.85	.87	7.29	4.38



Freehanging Plug

Stock No.	Mfr.'s Type	No. of Circuits	Dimensions		PER PK./10	
			A	B	1-4	5-9
863-3050	19-09-2029	2	.58	.32	4.93	2.96
863-3055	19-09-2039	3	.85	.32	5.49	3.29
863-3060	19-09-2049	4	1.11	.32	5.70	3.42
863-3065	19-09-2069	6	.85	.59	6.39	3.83
863-3070	19-09-2099	9	.85	.87	7.29	4.38

Crimp Type Terminals



Stock No.	Mfr.'s Type	Series	Type	Mating Dia.	Wire AWG Range	Use Hand Tool	PER PKG./100	
							1-4	5-9
863-0391	02-09-1104	Standard	Female	.093"	20-14	W-HT-1919	11.30	6.80
863-0395	02-09-2103	Standard	Male	.093"	20-14	W-HT-1919	11.30	6.80
863-0209	02-09-1119	Standard	Female	.093"	22-18	W-HT-1919	11.30	6.80
863-0405	02-09-2118	Standard	Male	.093"	22-18	W-HT-1919	11.30	6.80
863-0411	02-09-1144	Standard	Female	.093"	30-24	W-HT-1919	12.00	7.20
863-0415	02-09-2143	Standard	Male	.093"	30-24	W-HT-1919	12.00	7.20
863-0420	02-09-1134	PC Tail	Female	.093"	NA	NA	17.30	10.30
863-0425	02-09-2134	PC Tail	Male	.093"	NA	NA	17.30	10.30

Nylon Connector Tools



Prototype Crimping Tools. Balanced and weighted, machined from hardened steel. Type W-HT-1919. For .093" pin terminals.

863-0520.....EACH 15.64

Production Crimp Tools

Type W-HTR-1031-E. For .093" terminals, 14-22 AWG wires.

863-0560.....EACH 161.28

Extractor Tools. Remove terminal from connector housing without damage.

Type W-HT-2038. For .093" pin terminals.

863-0530.....EACH 15.06

Dual Row Straight Pin Breakaway Headers

- Stackable Side-to-Side and End-to-End (on Unbroken Edges)
- Easy Breakaway to Smaller Sizes
- Standoffs Facilitate Post Solder Cleaning
- Drawn .025" Square Wire Provides 4-Sided Smooth Surface for Quality Interface

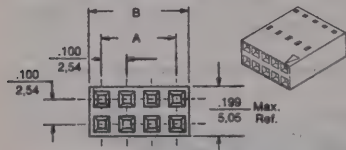
Mates with female connectors on .100" grid. Single and dual row PCB connectors: e.g. 70192, 7990. Single and dual row IDT connectors: e.g. 70400-A, 70451-A. Single and dual row crimp connectors: e.g. 70068-A, 70450-A. Ribbon cable connectors: e.g. 40312. Flat flexible connectors: e.g. 70430-A, 40556 Shunts; e.g. 7859, 90058.

.100" — Dimension C = .240"

Stock No.	Mfr.'s Type	No. of Circuits	Dimensions		EACH		
			D	1-49	50-99	100-249	
863-3075	10-89-1061	6	.110"	.77	.64	.55	
863-3080	10-89-1081	8	.110"	.92	.78	.66	
863-3085	10-89-1101	10	.110"	1.08	.90	.78	
863-3090	10-89-1161	16	.110"	1.57	1.31	1.12	
863-3095	10-89-1201	20	.110"	1.88	1.57	1.35	
863-3100	10-89-1261	26	.110"	2.47	2.02	1.73	
863-3105	10-89-1301	30	.110"	2.98	2.53	2.13	
863-3110	10-89-1341	34	.110"	3.31	2.75	2.32	
863-3115	10-89-1401	40	.110"	3.63	3.07	2.59	
863-3120	10-89-1501	50	.110"	5.17	4.31	3.69	

.100" — Dimension C = .320"

Stock No.	Mfr.'s Type	No. of Circuits	Dimensions		EACH		
			D	1-49	50-99	100-249	
863-3125	10-89-1063	6	.110"	.81	.68	.58	
863-3130	10-89-1083	8	.110"	.97	.81	.70	
863-3135	10-89-1103	10	.110"	1.14	.95	.82	
863-3140	10-89-1163	16	.110"	1.68	1.37	1.19	
863-3145	10-89-1203	20	.110"	1.98	1.65	1.41	
863-3150	10-89-1263	26	.110"	2.59	2.12	1.82	
863-3155	10-89-1303	30	.110"	3.13	2.61	2.27	
863-3160	10-89-1343	34	.110"	3.41	2.84	2.47	
863-3165	10-89-1403	40	.110"	3.89	3.18	2.76	
863-3170	10-89-1503	50	.110"	5.43	4.60	3.88	



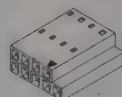
Dual Row Crimp Connector Housing

- End-to-End and Side-by-Side Stackable on .100" Grid
- For Use With 70058 and 71851 Box Crimp Terminal
- Mates with Molex Dual Row Headers 8723, 8724, 7233, 70203 and 8624; Also Mates with Molex Interim Clip 70013

Stock No.	Mfr.'s Type	No. of Circuits	Dimensions		PER PK./10	
			A	B	1-4	5-9
863-3175	22-55-2061	6	.200	.299	21.26	12.75
863-3180	22-55-2081	8	.200	.399	22.23	13.33
863-3185	22-55-2101	10	.400	.499	23.27	13.96
863-3190	22-55-2161	16	.700	.799	26.19	15.71
863-3195	22-55-2201	20	.900	.999	28.20	16.92
863-3200	22-55-2261	26	1.200	1.299	31.19	18.71
863-3215	22-55-2401	40	1.900	1.999	38.14	22.88

Single Row Crimp Connector Housing

- "A" Version, Non-Polarized, End-to-End and Side-by-Side Stackable
- For Use with Crimp Terminals 70021, 70058 and 71851
- Mates with Unshrouded Headers 7723, 70203, 8624, 70343 and 70344



Stock No.	Mfr.'s Type	No. of Circuits	PER PK./10	
			1-4	5-9
863-3250	50-57-9002	2	5.14	3.08
863-3255	50-57-9003	3	6.67	4.00
863-3260	50-57-9004	4	6.95	4.17
863-3265	50-57-9005	5	7.20	4.33
863-3270	50-57-9008	8	8.68	5.21
863-3275	50-57-9010	10	9.79	5.88
863-3280	50-57-9014	14	13.41	8.04

Crimp Terminals and Polarization Pin

- For Single and Dual Crimp Connector Housings
- For Use With All Versions of Connector Housings 70066 and 70450
- Terminals Accommodate Wire Ranges 22 and 24, 24-30, and 32-36
- Dual Beam, Fully Enclosed Box Contact with Locking Lance
- Mates with .100" Center Single or Dual-Row Headers or .025" Pins

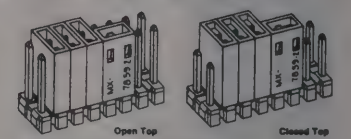
Stock No.	Mfr.'s Type	Wire Range	Plating	Insulation Max. OD	PER PK./100
863-3225	16-02-0104	22-24	30µ" Gold	.064	19.10
863-3230	16-02-0096	24-30	Tin Plated	.060	9.20
863-3235	16-02-0097	24-30	15µ" Gold	.060	15.40
863-3240	16-02-0098	24-30	30µ" Gold	.060	19.10

Polarization Pin (Universal)
863-3245. Model 15-04-0292.....

PER PK./10 1.85

Two Circuit Shunt or Jumper

- Mates with .100" Grid Male Connectors: Dual or Single Row Headers — e.g. 8624 and 70343, .025" Square and Round Wire Pins — e.g. 4168
- Easily Applied — No Soldering
- Reliable — No Accidental Disconnects
- Low Cost Alternative to DIP Switches
- Increases Current Flow and Decreases Resistance vs. DIP Switches
- Dual Beam Terminals: 2 Points of Contact Per Pin



- Open and Closed Top Versions
- Closed Top Prevents Upside Down Mating
- Stackable End-to-End and Side-to-Side

Specifications: Terminal Material: Phosphor Bronze. Housing: Glass filled polyester. U.L. recognized 94V-0. Contact Resistance: 15 milliohms maximum (gold). Current Rating: 2 amps at 30°C rise over ambient.

Stock No.	Mfr.'s Type	Type	Plating	PER PK./10
863-3285	15-29-1024	Open Top	15µ Gold	5.42
863-3290	15-29-1025	Closed Top	15µ Gold	4.90
863-3295	15-38-1024	Open Top	200µ Tin	4.17

K.K.® Series PC Board Connectors

.156 Series Crimp Terminals

Rated 250 VAC Maximum.
7 Amps Maximum (with 18 AWG wire) per UL.

PC Board Pins (Tin Plated)

Stock No.	Mfr.'s Type	Description	PK./100
863-0905	08-50-0401	.045" square, .750" long press fit pin	1-9 6.80

Tin Plated Contacts

Stock No.	Mfr.'s Type	Fig.	Wire Range	Insulation O.D.	PK./100
863-0900	08-50-0106	A	18-24 AWG	.110 (2.79 mm) Max.	5.90
863-0910	08-50-0108	A	22-26 AWG	.065 (1.65 mm) Max.	5.90

20 Millionths Min. Gold in Contact area with a flash overall

863-0915	08-56-0106	A	18-24 AWG	.110 (2.79 mm) Max.	14.70
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.156 Terminal Housing

Fig. B-1 mates with C & D, Fig. B-2 mates with E & F

With Locking Ramp			Without Locking Ramp			Circuits	PK./10
Stock No.	Mfr.'s Type	Fig.	Stock No.	Mfr.'s Type	Fig.		1-9
863-1005	09-50-3021	B-1	863-1000	09-50-7021	B-2	2	1.69
863-1015	09-50-3031	B-1	863-1010	09-50-7031	B-2	3	2.53
863-1025	09-50-3041	B-1	863-1020	09-50-7041	B-2	4	3.38
863-1035	09-50-3051	B-1	863-1030	09-50-7051	B-2	5	4.01
863-1045	09-50-3061	B-1	863-1040	09-50-7061	B-2	6	4.58
863-1048	09-50-3071	B-1	863-1049	09-50-7071	B-2	7	5.35
863-1055	09-50-3081	B-1	863-1050	09-50-7081	B-2	8	6.11
863-1058	09-50-3091	B-1	863-1052	09-50-7091	B-2	9	6.88
863-1065	09-50-3101	B-1	863-1060	09-50-7101	B-2	10	7.64
863-1075	09-50-3121	B-1	863-1070	09-50-7121	B-2	12	9.17

.156" (.045" Square pins) Friction Lock Header

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-1505	26-48-1025	C-2	2	1.69
863-1510	26-48-1035	C-2	3	2.53
863-1515	26-48-1045	C-2	4	3.20
863-1520	26-48-1055	C-2	5	4.05
863-1525	26-48-1065	C-2	6	4.62
863-1530	26-48-1085	C-2	8	6.20
863-1535	26-48-1105	C-2	10	7.75
863-1540	26-48-1125	C-2	12	9.25
863-1560	26-48-1245*	C-2	24*	13.40

* Make the desired 1-23 Circuit versions from this 24-circuit breakaway model.

.156" (.045" Square Pins) Right Angle Friction Lock Header

Mates with Fig. B-1

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-1605	26-48-1026	D	2	1.94
863-1610	26-48-1036	D	3	2.90
863-1615	26-48-1046	D	4	3.71
863-1620	26-48-1056	D	5	4.39
863-1625	26-48-1066	D	6	5.24
863-1630	26-48-1086	D	8	7.06
863-1635	26-48-1106	D	10	8.82

.156" (.045" Square Pins) Right Angle Header

Mates with Fig. B-2

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-1305	26-48-1022	E	2	1.52
863-1310	26-48-1032	E	3	2.27
863-1315	26-48-1042	E	4	3.06
863-1320	26-48-1052	E	5	3.56
863-1325	26-48-1062	E	6	4.10
863-1330	26-48-1082	E	8	5.48
863-1335	26-48-1102	E	10	6.87

.156" (.045" Square Pins) Straight Header

Mates with Fig. B-2

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-1405	26-48-1021	F	2	1.31
863-1410	26-48-1031	F	3	2.00
863-1415	26-48-1041	F	4	2.69
863-1420	26-48-1051	F	5	3.15
863-1425	26-48-1061	F	6	3.80
863-1430	26-48-1081	F	8	4.82
863-1435	26-48-1101	F	10	6.10
863-1440	26-48-1121	F	12	7.29

Tools

Stock No.	Mfr.'s Type	Description	EACH
863-0520	W-HT-1919	Crimp handtool for 08-50-0106	15.64
863-0540	W-HTR-2445-A	Crimp production tool	152.55
863-0500	W-HT-1921	Crimp handtool for 08-50-0108	15.64
863-0515	W-HT-1884	Extractor tool	3.17

.156" Centers KK® Kit

Included in the plastic case are 48 crimp terminal housings (2, 4, 5, 6, & 10 circuit), 24 straight headers, 24 right angle headers, 100 crimp terminals (18-24 AWG), 1 HT-1919 crimp tool, and 1 HT-1884 extractor tool.

863-0930. KK-156. 1-Up.....EACH 41.30

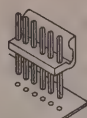


Fig. C-1

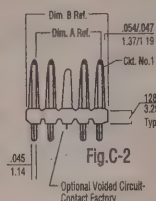


Fig. C-2

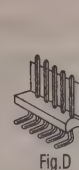


Fig. D

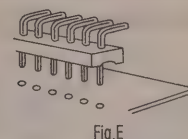


Fig. E

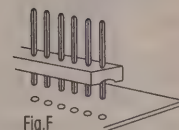


Fig. F

.100 Series Crimp Terminals

Rated for 250 VAC Maximum, 2.5 Amps Maximum (with 22 AWG-wire) per UL.

Tin Plated

For Fig. B-1 & B-2

Stock No.	Mfr.'s Type	Fig.	Wire Range	Insulation O.D.	PK./100
863-0920	08-50-0114	A	22-30 AWG	.062 (1.57 mm) Max.	1-9 9.40

20 Millionths Min. Gold in Contact area with gold flash overall

863-0925	08-56-0110	A	22-30 AWG	.062 (1.57 mm) Max.	15.20
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.100 Terminal Housing

B-1 mates with Fig. C & D, B-2 mates with Fig. E & F

With Locking Ramp			Without Locking Ramp			Circuits	PK./10
Stock No.	Mfr.'s Type	Fig.	Stock No.	Mfr.'s Type	Fig.		1-9
863-2000	22-01-2027	B-1	863-2005	22-01-2021	B-2	2	1.30
863-2012	22-01-2037	B-1	863-2014	22-01-2031	B-2	3	2.00
863-2010	22-01-2047	B-1	863-2015	22-01-2041	B-2	4	2.81
863-2020	22-01-2057	B-1	863-2025	22-01-2051	B-2	5	3.30
863-2030	22-01-2067	B-1	863-2035	22-01-2061	B-2	6	3.91
863-2040	22-01-2087	B-1	863-2045	22-01-2081	B-2	8	4.79
863-2050	22-01-2107	B-1	863-2055	22-01-2101	B-2	10	5.97
863-2060	22-01-2127	B-1	863-2065	22-01-2121	B-2	12	7.15

.100" Center (.025" Square Pins) Straight Header

Mates with Fig. B-1

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-2405	22-23-2021	C-1	2	3.15
863-2410	22-23-2031	C-1	3	4.24
863-2415	22-23-2041	C-1	4	4.65
863-2420	22-23-2051	C-1	5	5.83
863-2425	22-23-2061	C-1	6	6.11
863-2435	22-23-2081	C-1	8	7.36
863-2445	22-23-2101	C-1	10	8.34
863-2455	22-23-2121	C-1	12	10.00

.100" Center (.025" Square Pins) Right Angle Header

Mates with Fig. B-1

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-2505	22-05-3021	D	2	5.90
863-2510	22-05-3031	D	3	6.74
863-2515	22-05-3041	D	4	7.57
863-2520	22-05-3051	D	5	8.27
863-2525	22-05-3061	D	6	9.24
863-2535	22-05-3081	D	8	11.25
863-2545	22-05-3101	D	10	11.81
863-2555	22-05-3121	D	12	13.34

.100" (.025" Square Pins) Right Angle

Mates with Fig. B-2

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-2205	22-05-2021	E	2	2.43
863-2210	22-05-2031	E	3	3.60
863-2215	22-05-2041	E	4	4.83
863-2220	22-05-2051	E	5	5.49
863-2225	22-05-2061	E	6	6.60
863-2235	22-05-2081	E	8	8.82
863-2245	22-05-2101	E	10	10.00
863-2255	22-05-2121	E	12	11.95

.100" (.025" Square Pins) Straight Header

Mates with Fig. B-2

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10
863-2105	22-03-2021	F	2	2.14
863-2110	22-03-2031	F	3	3.30
863-2115	22-03-2041	F	4	4.16
863-2120	22-03-2051	F	5	4.93
863-2125	22-03-2061	F	6	5.90
863-2135	22-03-2081	F	8	6.95
863-2145	22-03-2101	F	10	7.85
863-2155	22-03-2121	F	12	9.52

Tools

Stock No.	Mfr.'s Type	Description	EACH
863-0500	W-HT-1921	Crimp handtool	15.64
863-0550	W-HTR-2262A	Crimp production tool	183.90
863-0515	W-HT-1884	Extractor tool	3.17

.100" Centers KK® Kit

Included in the plastic case are 36 crimp terminal housings (2, 4, 6, 8, & 10 circuit), 18 straight headers, 18 right angle headers, 10 shunts, 100 crimp terminals (22-30AWG), 1 HT-1921 crimp tool, and 1 HT-1884 extractor tool.

863-0940. KK-100. 1-Up.....EACH 52.14



Mini-Fit, Jr. and Socket Connectors

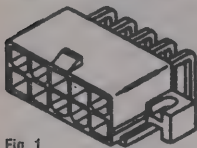


Fig. 1

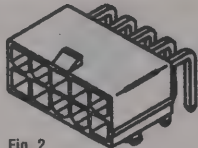


Fig. 2

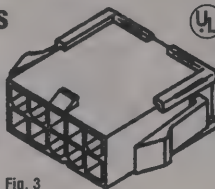


Fig. 3

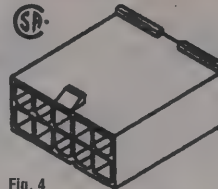


Fig. 4

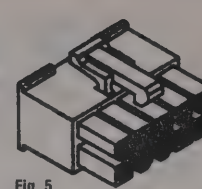


Fig. 5

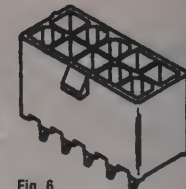


Fig. 6



Fig. 7

Fig. 8

Mini-Fit, Jr. Series can handle standard equipment I/O currents despite its small size. Positive lock. Audible "clicks" confirm correct contact insertion and correct mating of housing. **Voltage Rating:** 250V. UL recognized, CSA certified, TUV licensed. **Width:** 0.378" (9.60).

Right Angle Headers Tin Plated w/PCB Mounting Flanges

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
					1-9
863-1100	39-29-1028	2	94V-2	1	10.58
863-1101	39-29-1048	4	94V-2	1	14.57
863-4002	39-29-1047	4	94V-0	1	17.40
863-1102	39-29-1068	6	94V-2	1	18.41
863-4004	39-29-1067	6	94V-0	1	22.11
863-1103	39-29-1088	8	94V-2	1	22.47
863-4006	39-29-1087	8	94V-0	1	25.70
863-1104	39-29-1108	10	94V-2	1	26.31
863-4008	39-29-1107	10	94V-0	1	31.60
863-1105	39-29-1128	12	94V-2	1	30.22
863-4010	39-29-1127	12	94V-0	1	34.73
863-4012	39-29-1147	14	94V-0	1	39.32
863-1107	39-29-1168	16	94V-2	1	38.05
863-4014	39-29-1167	16	94V-0	1	43.83

Right Angle Headers Tin Plated w/PCB Mounting Pegs

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
863-4016	39-30-1020	2	94V-2	2	10.84
863-4018	39-30-0020	2	94V-0	2	12.85
863-4020	39-30-1040	4	94V-2	2	14.66
863-4022	39-30-0040	4	94V-0	2	17.37
863-4024	39-30-1060	6	94V-2	2	18.34
863-4026	39-30-0060	6	94V-0	2	21.88
863-4028	39-30-1080	8	94V-2	2	22.23
863-4030	39-30-0080	8	94V-0	2	26.40
863-4032	39-30-1100	10	94V-2	2	25.81
863-4034	39-30-0100	10	94V-0	2	30.98
863-4036	39-30-1120	12	94V-2	2	29.66
863-4038	39-30-0120	12	94V-0	2	35.43
863-4040	39-30-1140	14	94V-2	2	33.41
863-4042	39-30-0140	14	94V-0	2	40.01
863-4044	39-30-1160	16	94V-2	2	37.16
863-4046	39-30-0160	16	94V-0	2	44.53

Plug Housing — Panel Mount

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
863-1108	39-01-2021	2	94V-2	3	4.49
863-4048	39-01-2026	2	94V-0	3	7.22
863-1109	39-01-2041	4	94V-2	3	5.00
863-4050	39-01-2046	4	94V-0	3	8.54
863-1110	39-01-2061	6	94V-2	3	5.80
863-4052	39-01-2066	6	94V-0	3	9.86
863-1111	39-01-2081	8	94V-2	3	6.04
863-4054	39-01-2086	8	94V-0	3	10.42
863-1112	39-01-2101	10	94V-2	3	6.96
863-4056	39-01-2106	10	94V-0	3	11.04
863-1113	39-01-2121	12	94V-2	3	7.02
863-4058	39-01-2126	12	94V-0	3	11.53
863-1114	39-01-2141	14	94V-2	3	9.52
863-4060	39-01-2146	14	94V-0	3	13.68
863-1115	39-01-2161	16	94V-2	3	12.90
863-4062	39-01-2166	16	94V-0	3	16.74

Plug Housing — Free Hanging

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
863-4064	39-01-3023	2	94V-2	4	4.49
863-4070	39-01-3049	4	94V-0	4	8.54
863-4072	39-01-3063	6	94V-2	4	5.80
863-4074	39-01-3069	8	94V-0	4	9.86
863-4076	39-01-3089	6	94V-0	4	10.42
863-4080	39-01-3103	10	94V-2	4	6.87
863-4082	39-01-3109	12	94V-0	4	11.04
863-4086	39-01-3129	12	94V-2	4	11.53
863-4087	39-01-3143	14	94V-0	4	9.52
863-4088	39-01-3149	14	94V-2	4	13.68
863-4090	39-01-3163	16	94V-2	4	12.90
863-4092	39-01-3169	16	94V-0	4	16.74

Accessories

Mini-Fit, Jr. Series Terminals

Stock No.	Mfr.'s Type	Type	Wire AWG Range	Insulation Range	Fig.	Contact Plating	PER PK/100
							1-9
863-1116	39-00-0039	Female	24-18	.051"-.122"	7	Brass (Tin Plated)	16.00
863-1117	39-00-0041	Male	24-18	.051"-.122"	8	Brass (Tin Plated)	16.00
863-1118	39-00-0047	Female	28-22	.035"-.071"	7	Brass (Tin Plated)	16.00
863-1119	39-00-0049	Male	28-22	.035"-.071"	8	Brass (Tin Plated)	16.00
863-1120	39-00-0060	Female	24-18	.051"-.122"	7	*	16.00
863-1121	39-00-0062	Male	24-18	.051"-.122"	8	*	23.36

* Phosphor Bronze (Tin Plated)

Receptacle Housing

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
863-1122	39-01-2020	2	94V-2	5	4.35
863-4094	39-01-2025	2	94V-0	5	7.32
863-1123	39-01-2040	4	94V-2	5	4.86
863-4096	39-01-2045	4	94V-0	5	8.48
863-1124	39-01-2060	6	94V-2	5	6.09
863-4098	39-01-2065	6	94V-0	5	10.07
863-1125	39-01-2080	8	94V-2	5	6.96
863-4100	39-01-2085	8	94V-0	5	11.67
863-1126	39-01-2100	10	94V-2	5	7.76
863-4102	39-01-2105	10	94V-0	5	12.18
863-1127	39-01-2120	12	94V-2	5	8.26
863-4104	39-01-2125	12	94V-0	5	12.47
863-1128	39-01-2140	14	94V-2	5	10.65
863-4106	39-01-2145	14	94V-0	5	13.96
863-1129	39-01-2160	16	94V-2	5	12.97
863-4108	39-01-2165	16	94V-0	5	18.05

Vertical Header Assemblies — Tin Plated

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
863-1130	39-28-1023	2	94V-2	6	8.70
863-4110	39-28-8020	2	94V-0	6	10.14
863-1131	39-28-1043	4	94V-2	6	12.03
863-4112	39-28-8040	4	94V-0	6	13.82
863-1132	39-28-1063	6	94V-2	6	15.29
863-4114	39-28-8060	6	94V-0	6	18.27
863-1133	39-28-1083	8	94V-2	6	18.65
863-4116	39-28-8080	8	94V-0	6	22.18
863-1134	39-28-1103	10	94V-2	6	21.74
863-4118	39-28-8100	10	94V-0	6	25.08
863-1135	39-28-1123	12	94V-2	6	24.93
863-4136	39-28-1143	14	94V-2	6	28.27
863-4122	39-28-8140	14	94V-0	6	32.51
863-1137	39-28-1163	16	94V-2	6	31.46
863-4124	39-28-8160	16	94V-0	6	36.19

Vertical Header Assemblies — Tin Plated w/ Drain Holes

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
863-4126	39-29-3026	2	94V-2	6	11.11
863-4128	39-31-0020	2	94V-0	6	10.14
863-4130	39-29-3046	4	94V-2	6	14.31
863-4132	39-31-0040	4	94V-0	6	13.82
863-4134	39-29-3066	6	94V-2	6	17.44
863-4136	39-31-0060	6	94V-0	6	20.28
863-4140	39-31-0080	8	94V-0	6	24.03
863-4142	39-29-3106	10	94V-2	6	23.62
863-4144	39-31-0100	10	94V-0	6	27.86
863-4146	39-29-3126	12	94V-2	6	26.67
863-4148	39-31-0120	12	94V-0	6	31.47
863-4150	39-29-3146	14	94V-2	6	29.87
863-4152	39-31-0140	14	94V-0	6	35.29
863-4154	39-29-3166	16	94V-2	6	32.93
863-4156	39-31-0160	16	94V-0	6	38.97

Vertical Header Assemblies — Tin Plated W/ PCB Mounting Pegs

Stock No.	Mfr.'s Type	No. of Circuits	Rating	Figure	PER PK/10
863-4158	39-29-9023	2	94V-2	6	9.03
863-4160	39-29-9027	2	94V-0	6	11.53
863-4162	39-29-9043	4	94V-2	6	14.31
863-4164	39-29-9047	4	94V-0	6	16.60
863-4166	39-29-9063	6	94V-2	6	17.44
863-4168	39-29-9067	6	94V-0	6	20.28
863-4170	39-29-9083	8	94V-2	6	20.56
863-4172	39-29-9087	8	94V-0	6	24.03
863-4174	39-29-9103	10	94V-2	6	23.62
863-4176	39-29-9107	10	94V-0	6	27.86
863-4178	39-29-9123	12	94V-2	6	25.28
863-4180	39-29-9127	12	94V-0	6	31.47
863-4182	39-29-9143	14	94V-2	6	29.87
863-4184	39-29-9147	14	94V-0	6	35.29
863-4186	39-29-9163	16	94V-2	6	32.93
863-4188	39-29-9167	16	94V-0	6	38.97

Mini-Fit, Jr. Crimp Tools

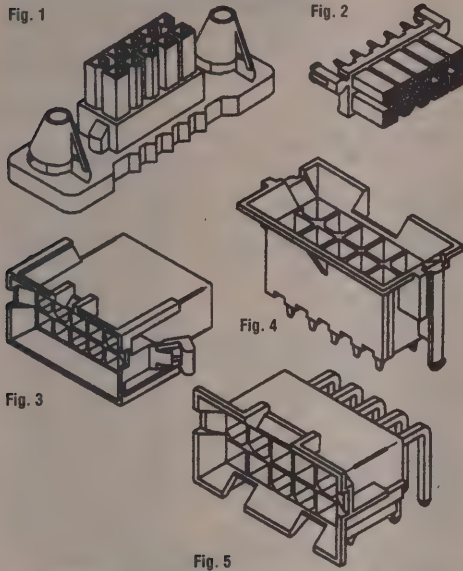
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28-22 AWG
863-1151, 11-01-0198EACH 342.33

Polarization Key
863-4999, 15-04-0211EACH 28

Mini Fit BMI Series, Power Connectors, and Solderless Terminals

Mini Fit BMI Series Blind Mating Interconnect



- ▶ Appropriate For Both Power and Signal Applications
- ▶ Tin Plated
- ▶ UL Recognized, CSA Certified, TUV Licensed
- ▶ 94V-2 Rated
- ▶ Uses Same Terminals and Tools as Standard Mini-fit Jr. on Page 290

Mini Fit BMI Series is designed for high current/high density applications.

Blind Mating Receptacle Housing - Panel Mount — Fig. 1

Stock No.	Mfr.'s Type	No. of Circuits	EACH	
			1-24	25-49
863-4500	15-06-0040	4	.95	.85
863-4502	15-06-0060	6	1.15	1.03
863-4504	15-06-0100	10	1.45	1.35
863-4506	15-06-0140	14	2.08	1.78
863-4508	15-06-0180	18	2.86	2.45
863-4510	15-06-0240	24	3.80	3.26

Blind Mating Vertical Header - Assembly — Fig. 2

Stock No.	Mfr.'s Type	No. of Circuits	1-24	25-49
863-4512	15-24-7040	4	2.19	1.97
863-4514	15-24-7060	6	2.48	2.24
863-4516	15-24-7100	10	3.53	3.19
863-4518	15-24-7140	14	4.36	3.93
863-4520	15-24-7180	18	5.46	4.92
863-4522	15-24-7240	24	7.28	6.55

Blind Mating Plug Housing - Panel Mount — Fig. 3

Stock No.	Mfr.'s Type	No. of Circuits	1-24	25-49
863-4524	15-06-0045	4	.72	.64
863-4526	15-06-0105	10	.99	.90
863-4528	15-06-0145	14	1.40	1.26
863-4530	15-06-0185	18	2.05	1.85
863-4532	15-06-0245	24	2.72	2.45

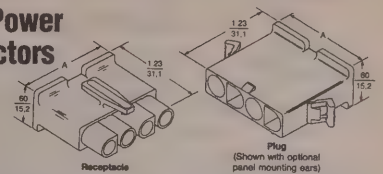
Blind Mating Vertical Header With Drainholes — Fig. 4

Stock No.	Mfr.'s Type	No. of Circuits	1-24	25-49
863-4534	15-24-6046	4	1.90	1.72
863-4536	15-24-6106	10	3.07	2.77
863-4538	15-24-6146	14	3.98	3.58
863-4540	15-24-6186	18	4.75	4.28
863-4542	15-24-6246	24	6.33	5.70

Blind Mating Right Angle Header — Fig. 5

Stock No.	Mfr.'s Type	No. of Circuits	1-24	25-49
863-4544	15-24-6040	4	2.05	1.85
863-4546	15-24-6060	6	2.61	2.35
863-4548	15-24-6100	10	3.90	3.34
863-4550	15-24-6140	14	4.58	4.12
863-4552	15-24-6180	18	5.75	5.18
863-4554	15-24-6240	24	7.66	6.90

.125" Power Connectors



- ▶ HCS-125 Series is a High Current Power Connector
- ▶ Accommodates 10-18 AWG Wire
- ▶ UL File No. E29179, CSA File No. 19980
- ▶ 94V-2 Rated

Plugs

Stock No.	Mfr.'s Type	No. of Circuits	Type	PK/5
863-4700	03-12-2015	1	Panel Mount	3.47
863-4702	03-12-2016	1	Free Hanging	3.47
863-4704	03-12-2025	2	Panel Mount	5.35
863-4706	03-12-2026	2	Free Hanging	5.35
863-4708	03-12-2035	3	Panel Mount	6.12
863-4710	03-12-2036	3	Free Hanging	6.12
863-4712	03-12-2045	4	Panel Mount	6.71
863-4714	03-12-2046	4	Free Hanging	6.71

Receptacles

Stock No.	Mfr.'s Type	No. of Circuits	PK/5
863-4716	03-12-1016	1	3.47
863-4718	03-12-1026	2	5.35
863-4720	03-12-1036	3	6.12
863-4722	03-12-1046	4	6.71

Terminals (Brass)

Stock No.	Mfr.'s Type	Wire AWG	Type	PK/100
863-4724	18-12-2602	10-14	Male	17.40
863-4726	18-12-2222	16-18	Male	17.40
863-4728	18-12-1602	10-14	Female	17.40
863-4730	18-12-1222	16-18	Female	17.40

Tooling

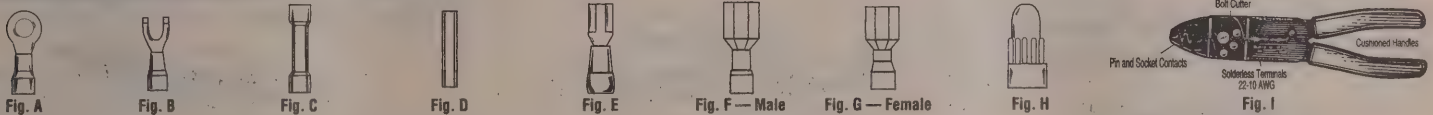
Stock No.	Mfr.'s Type	For AWG Wire	EACH
863-4735	11-01-0040	10-14	274.59
863-0560	W-HTR-1031-E	16-18	161.28

Solderless Terminal Kits

Type K-130. Deluxe Non-Insulated and Insulated Solderless Terminal Kit.	
863-1260.....	EACH 38.95
Type K-140. Deluxe Insulated Solderless Terminal Kit.	
863-1270.....	EACH 46.95

Type K-120. Deluxe Non-Insulated Solderless Terminal Kit.	
863-1280.....	EACH 29.95
Type K-220. Deluxe Non-Insulated Quick-Disconnect Terminal Kit.	
863-1290.....	EACH 34.95

Solderless Terminals



Ring Tongue Terminals (Fig. A)

Stock No.	Mfr.'s Type	Stud Size	Wire Size	PER PK/100
				1-9
863-1200	A-232-06X	6	22-18	5.70
863-1201	A-221-08X	8	22-18	5.70
863-1202	B-237-06X	6	16-14	5.70
863-1203	B-237-08X	8	16-14	5.70
863-1204	B-237-10X	10	16-14	5.70
863-1205	C-228-08X	8	12-10	7.70
863-1206	C-228-10X	10	12-10	7.70
863-1207	C-230-14X	1/4	12-10	8.70

Nylon Insulated

Stock No.	Mfr.'s Type	Stud Size	Wire Size	PER PK/100
863-1208	AA-832-06	6	22-18	9.00
863-1209	AA-821-08	8	22-18	9.00
863-1210	BB-837-06	6	16-14	9.00
863-1211	BB-837-08	8	16-14	9.00
863-1212	BB-837-10	10	16-14	9.00
863-1213	C-828-08	8	12-10	11.80
863-1214	C-828-10	10	12-10	11.80
863-1215	C-830-14	1/4	12-10	12.20

Fork Tongue Terminals (Fig. B)

Stock No.	Mfr.'s Type	Stud Size	Wire Size	PER PK/100
863-1216	A-238-06X	6	22-18	5.70
863-1217	A-234-08X	8	22-18	5.70
863-1218	B-2781-06X	6	16-14	5.70
863-1219	B-2781-08X	8	16-14	5.70
863-1221	C-241-08X	8	12-10	6.60
863-1222	C-241-10X	10	12-10	6.60
863-1223	C-268-14X	1/4	12-10	8.40

Nylon Insulated

Stock No.	Mfr.'s Type	Stud Size	Wire Size	PER PK/100
863-1224	AA-838-06	6	22-18	9.00
863-1225	AA-834-08	8	22-18	9.00
863-1226	BB-884-10	10	16-14	9.10
863-1227	C-841-08	8	12-10	11.60
863-1228	C-841-10	10	12-10	11.60

Butt Splices

Vinyl Insulated

Stock No.	Mfr.'s Type	Wire Size	Fig.	PER PK/100
863-1229	A-245X	22-18	C	5.10
863-1230	B-231X	16-14	C	5.10
863-1231	C-246X	12-10	C	7.50

Nylon Insulated

Stock No.	Mfr.'s Type	Wire Size	Fig.	PER PK/100
863-1232	AS-N-345	22-18	D	5.80
863-1233	BS-N-331	16-14	D	5.80
863-1234	CS-N-346	12-10	D	11.60

Female Quick-Disconnects (Fig. E)

Nylon Insulated

Stock No.	Mfr.'s Type	Wire Size	Tab Size	PER PK/100
863-1235	AA-8140	22-18	.250 x .032	8.60
863-1236	BB-8141	16-14	.250 x .032	8.60

Fully Insulated Male And Female Quick-Disconnects

Nylon Insulated

Stock No.	Mfr.'s Type	Type	Wire Size	Fig.	PER PK/100
863-1237	AA-2260	Male	22-18	F	10.10
863-1238	BB-2262	Male	16-14	F	10.10
863-1239	AA-2201	Female	22-18	G	10.50
863-1240	BB-2206	Female	16-14	G	10.50

Closed-End Connector (FIG. H)

Nylon Insulated

Stock No.	Mfr.'s Type	Wire Size	PER PK/100
863-1241	NC-2212	2 #16 Max. & 2 #22 Min.	4.90
863-1242	NC-1610	2 #12 Max. & 4 #18 Min.	6.70

Multi-Purpose Hand Crimper (Fig. I)

Type ABC-500. For use with 22-AWG through 10-AWG, cuts and strips wire, cuts and rethreads bolts. Constructed of tempered steel alloy.

863-1250.....EACH 21.81



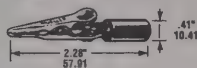
Kelvin Clips

The Kelvin clip is used for 4-wire resistance measurement systems. The two jaws of a Kelvin clip are electrically isolated from each other when open and shorted to each other through the component lead under test when closed. One jaw provides a current path for the source while the other provides a circuit path for the sense.

Specifications: 75-K—Copper/Silver Plated; 78-K—Gold Plated Copper. **Handles:** 75-K—Glass Filled Nylon; 78-K—Glass Filled Nylon. **Maximum Jaw Opening:** 75-K— $1/16$ "- $7/8$ "- $1 1/16$ ". **Maximum Wire Size:** 75-K—#18 AWG; 78-K—#16 AWG. **Fulcrum:** 78-K—Slotted Screws; 78-K—Allen Head Set Screws. **Std. Pk.:** 75-K—10; 78-K—1.

860-4205. Type CX-75K.....EACH 13.23
860-4210. Type CX-78K.....EACH 52.63

Insulated-Barrel Alligator Clips



Made of plated steel, except Types 60CHS are solid copper. Jaws open $5/16$ ". $1 1/2$ lbs. per 100 pieces.

Stock No.	Mfr.'s Type	Amps	Barrel Color	Size	EACH		
					1-9	10-99	100-Up
860-4215	CC-60HS-2	5	Red	27/16"	.70	.53	.42
860-4220	CC-60HS-0	5	Black	27/16"	.70	.53	.42
860-4225	CX-60CHS-2	10	Red	211/32"	.93	.70	.56
860-4230	CX-60CHS-0	10	Black	211/32"	.93	.70	.56

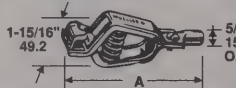
Miniature Clips



Ideal for testing all types of miniature and subminiature equipment. $3/16$ " jaw opening. $1 1/16$ " O.D. tip when used with insulator. Type 30, plated steel; Type 30-C, solid copper, tip #20 or smaller wire. Type 30-BL and 30-TBO are plated steel; 30-TBO has thread 6-32 barrel. **Shpg. weight:** $1/4$ lb. per 100 pieces.

Stock No.	Mfr.'s Type	Amps	Size	EACH		
				1-9	10-99	100-Up
860-4235	CC-30BL	—	1 1/4"	.33	.24	.20
860-4240	CC-30	5	1 3/32"	.33	.24	.20
860-4245	CC-30TBO	—	1 1/4"	.65	.49	.39
860-4250	CC-30C	10	1 3/32"	.43	.32	.26

Heavy-Duty Solid Copper Clips



High-conductivity, solid copper clips. Handle current loads up to 200 amps. **Weight per 100 pieces:** type 25C, 6 1/4 lbs.; type 21C, 18 lbs.; type 11-C, 41 lbs.

Stock No.	Mfr.'s Type	Amps	Marking	Size A	EACH		
					1-9	10-99	100-Up
860-4255	CX-25C	75	unmarked	1"	2.03	1.52	1.22
860-4260	CX-21CPN	100	unmarked	4 1/2"	4.94	3.70	2.96
860-4265	CX-11CPN	200	unmarked	6"	8.85	6.64	5.31

Zinc-Plated Battery Clips

For moderately heavy current loads, incl. battery charging, electro-plating, light welding. Zinc-plated steel (type 11-A, lead-plated) for protection and long life. **Weight per 100 pieces:** type 24A, 6 1/4 lbs.; type 21A, 15 lbs.; type 11-A, 36 lbs.

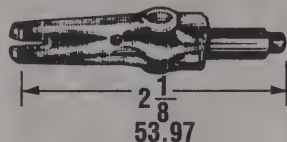
Stock No.	Mfr.'s Type	Amps	Marking	Size A	EACH		
					1-9	10-99	100-Up
860-4270	CX-24APS	25	plus sign	27/16"	1.48	1.11	.89
860-4275	CX-24APN	25	unmarked	27/16"	1.48	1.11	.89
860-4280	CX-21APN	50	unmarked	4"	2.53	1.90	1.52
860-4285	CX-11APN	100	unmarked	6"	6.69	5.02	4.02

"Pee-Wee" Test Clips

Mesh-teeth type for general purpose use. Type 45C, solid copper. Type 45, plated steel.

Stock No.	Mfr.'s Type	Amps	Size A	Wt./100 Pcs. (Lbs.)	EACH		
					1-9	10-99	100-Up
860-4290	CC-45	5	1 1/2"	1	.58	.43	.35
860-4295	CC-450	10	1 1/2"	1 1/4	.80	.60	.48

Insulated Alligator Clips

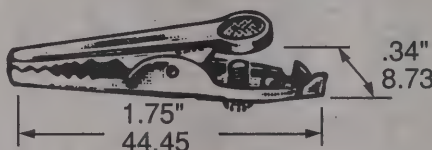


Insulated with vinyl to protect against shocks and shorts. **Weight per 100 pcs.:** $1 3/4$ lbs.

Stock No.	Mfr.'s Type	Amps	Marking	Size	EACH		
					1-9	10-99	100-Up
860-4300	CX-63-2†	5	Red insul	2 1/8"	1.05	.79	.63
860-4305	CX-63-0†	5	Blk. insul	2 1/8"	1.05	.79	.63
860-4310	CX-63C-2†	10	Red insul.	2 1/8"	1.18	.86	.71
860-4315	CX-63C-0†	10	Blk. insul.	2 1/8"	1.18	.86	.71

†Plated steel; * Solid copper

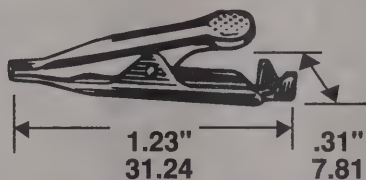
70 Series Alligator Clips



Type 70: plated steel, solder connection; Type 70S: plated steel, screw connections. Type 70CS: solid copper, screw connection. **Weight per 100 pieces:** 1 lb.

Stock No.	Mfr.'s Type	Amps	Size	EACH		
				1-9	10-99	100-Up
860-4320	CC-70C	5	1 11/16"	.55	.41	.33
860-4325	CC-70S	5	1 11/16"	.58	.43	.35
860-4330	CC-70CS	10	1 11/16"	.73	.55	.44

"Micro-Gator" Clips

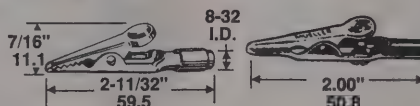


Similar to "Mini-gators" but with tiny tip for clipping to small terminals, and as heat sink.

Stock No.	Mfr.'s Type	Size	EACH		
			1-9	10-99	100-Up
860-4335	CC-34†	13/32"	.60	.45	.36
860-4340	CC-34C†	13/32"	.63	.47	.38

†Plated steel; *copper

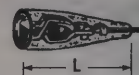
Alligator Clips



Steel, except 60CS, solid copper. 60-TBO has friction fitted threaded 8-32 barrel for male test prod or 8-32 screw. Fit banana plugs. Jaws open $5/16$ ". 2' long. 60 PR2 has barrel crimped for friction fit on standard phone tip, banana plug, test prod. tip. 60 HPR like 60 PR2 except with insulated sleeve (red or black). **Weight per 100 pieces:** 1 lb.

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-99	100-Up
860-4340	CC-60	Solder	.40	.30	.24
860-4345	CC-60S	Screw	.53	.39	.32
860-4350	CC-60CS	Screw	.75	.56	.45
860-4355	CX-60PR2	Crimp	.63	.47	.38
860-4360	CC-60HPR-2	Crimp	.80	.60	.48
860-4365	CC-60HPR-0	Crimp	.80	.60	.48
860-4370	CC-60-TBO	Threaded	.83	.62	.50

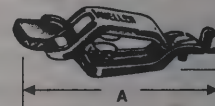
Slip-On Insulators For Clips



Tough, flexible vinyl insulators for clips featured on this page. Offer high dielectric strength; resistant to oils and grease. Cover entire clip except for end of nose. **Av. wt.:** 1 oz.

Stock No.	Mfr.'s Type	Color	With Series	EACH		
				1-9	10-99	100-Up
860-4375	CX-13-2	Red	11A, 11C	3.08	2.31	1.85
860-4380	CX-13-0	Black	11A, 11C	3.08	2.31	1.85
860-4385	CX-23-2	Red	21A, 21C	1.63	1.22	.98
860-4390	CX-23-0	Black	21A, 21C	1.63	1.22	.98
860-4395	CX-26-2	Red	24, 25	1.05	.79	.63
860-4400	CX-26-0	Black	24, 25	1.05	.79	.63
860-4405	CX-29-2	Red	27, 27C	.73	.55	.44
860-4410	CX-29-0	Black	27, 27C	.73	.55	.44
860-4415	CX-32-2	Red	30	.20	.15	.12
860-4420	CX-32-0	Black	30	.20	.15	.12
860-4425	CX-36-2	Red	34, 34C	.20	.15	.12
860-4430	CX-36-0	Black	34, 34C	.20	.15	.12
860-4435	CX-47-2	Red	45, 45C	.30	.23	.18
860-4440	CX-47-0	Black	45, 45C	.30	.23	.18
860-4445	CX-49-2	Red	48, 50, 51	.60	.45	.36
860-4450	CX-49-0	Black	48, 50, 51	.60	.45	.36
860-4455	CX-62-2	Red	60	.20	.15	.12
860-4460	CX-62-0	Black	60	.20	.15	.12
860-4465	CX-72-2	Red	70	.35	.26	.21
860-4470	CX-72-0	Black	70	.35	.26	.21
860-4475	CX-87-2	Red	85	.38	.28	.23
860-4480	CX-87-0	Black	85	.38	.28	.23

3-Sided Mesh-Teeth Clips



Stock No.	Mfr.'s Type	Amps	Size A	Wt./100 Pcs. (Lbs.)	EACH		
					1-9	10-99	100-Up
860-4485	CX-25†	40	3"	6	1.25	.94	.75
860-4490	CX-27†	20	27/16"	3 1/4	.93	.70	.56
860-4495	CX-27C†	40	27/16"	3 1/2	1.25	.94	.75
860-4500	CX-48B†	10	2"	2	.80	.60	.48
860-4505	CX-48C†	20	2"	2 1/4	.90	.68	.54

†Plated steel; *solid copper.

Crocodile Clips



85/85-C

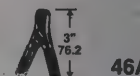
Type 85 is plated steel and Type 85C is solid copper. **Weight:** $1 1/2$ lbs. per 100 pieces.

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-99	100-Up
860-4510	CX-85	2 1/8" Screw Conn.	.63	.47	.39
860-4515	CX-85C	2 1/8" Screw Conn.	.98	.73	.59

"Pigmy Hippo" And "Hippo" Clips



41A



46A

High quality, coated springs are carefully designed for maximum strength and long life. Maximum jaw spread, minimum handle spread. Jaws clamp solidly on terminal, stud or bare battery post. Furnished with tough vinyl insulators in red or black. Steel, bright copper-plated.

Hippo-Clip Type 41-A. For fast chargers, battery booster cables. Cable attaches quickly and securely with built-in solder strap and cable clinching ears. Detachable lug also available. Marked for polarity (+ and -). Length 6". Jaws open $1 1/16$ ". **Shpg. wt.** per 100, 41 lbs.

Pigmy-Hippo Clip Type 46-A. For trickle chargers, battery operated devices, automotive test. Choice of high solder strap on one leg for larger wires, lower strap on other leg. Matched clinching ears grip wire securely at end of leg. Won't "squirt away" when squeezed. Length 3". Jaws open $1 1/16$ ". **Shpg. wt.** per 100, 5 1/4 lbs.

Stock No.	Mfr.'s Type	Amps	Sleeve Color	Marking	EACH	
					1-99	100-Up
860-4520	CX-41A-0	200	Black	- sign	4.29	3.21
860-4525	CX-41A-2	200	Red	+ sign	4.29	3.21
860-4530	CX-46A-0	50	Black	None	1.33	1.00
860-4540	CX-46A-2	50	Red	None	1.33	1.00

BNC Connectors, Test Prods, and Insulated Banana Jacks

NO. PS-30101-0 Insulated BNC Male Connector

Fully insulating polyamide housing ensures maximum protection against electrical shock hazard. 1000V AC/DC insulation. Special crimp system designed for RG-58 (50 OHM) coaxial cable. Available in black only. Length: 51mm (2").

860-4545. PS-30101-0 EACH 8.87



NO. PS-30102-0 Insulated BNC Female Connector

Fully insulating polyamide housing ensures maximum protection against electrical shock hazard. 1000V AC/DC insulation. Special crimp system designed for RG-58 (50 OHM) coaxial cable. Available in black only. Length: 62mm (2 7/16").

860-4550. PS-30102-0 EACH 8.87

NO. PS-30501-0 Insulated BNC Bulkhead Receptacle

Solder connection to center and solder lug for shield with 1/8" coupling-nut thread. Polyamide insulation protects against electrical shock hazard. Available in black only. Length: 25mm (1").

860-4555. PS-30501-0 EACH 7.00



NO. PS-30502-0 Insulated BNC Bulkhead Receptacle
Crimp-on connection to center and outer conductors with 1/8" coupling-nut thread. Polyamide insulation protects against electrical shock hazard. Available in black only. Length: 25mm (1").

860-4560. PS-30502-0 EACH 7.39

NO. PS-30503-0 Insulated BNC Bulkhead Receptacle

Designed for solder connection to printed circuit boards with 30mm solder leads and 1/8" coupling-nut thread. Polyamide insulation. Available in black only. Length: 25mm (1").

860-4565. PS-30503-0 EACH 6.55



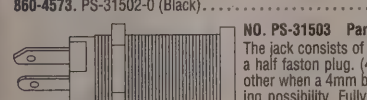
NO. PS-31501-2 (Red) EACH 2.42
NO. PS-31501-0 (Black) EACH 2.42

NO. PS-31502 Panel-mount Insulated Banana Jack

Nickel plated brass jack will accept 4mm banana plugs. Fully insulated flame retardant ABS. Connects to a 4.8mm x 0.8mm (.19" x .03") Faston Plug. Rating: 20 Amp. Available in Red and Black. Length: 37mm (1 1/2").

860-4572. PS-31502-2 (Red) EACH 2.59

860-4573. PS-31502-0 (Black) EACH 2.59



NO. PS-31503 Panel-mount Insulated Banana Jack
The jack consists of two insulated nickel-plated half cradles each connected to a half faston plug. (4.8mm x 0.8mm). The half cradles are connected to each other when a 4mm banana jack is inserted. Their design offers an extra switching possibility. Fully insulated poly-anide shell. Rating: 32 Amp. Available in Red and Black. Length: 37mm (1 1/2").

860-4574. PS-31503-2 (Red) EACH 2.33

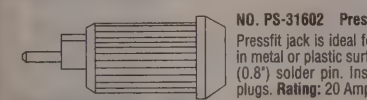
860-4575. PS-31503-0 (Black) EACH 2.33

NO. PS-31601 Universal Insulated Banana Jack

Universal jack is excellent for multiple uses. Useable as a panel jack for 8mm (0.32") holes or as a bulkhead jack for 13mm (0.48") holes. This jack is ideally suited for modifying equipment with terminal parts. Nickel plated brass jack with insulating flame retardant ABS. Uses screw connection M4 (2-M4 mounting, nuts and washer included). Accepts 4mm banana plugs. Rating: 16 Amp. Available in Red and Black. Length: 40mm (1 5/8").

860-4576. PS-31601-2 (Red) EACH 5.15

860-4577. PS-31601-0 (Black) EACH 5.15



NO. PS-31602 Pressfit Insulated Banana Jack
Pressfit jack is ideal for quick mounting. Mounts in holes of 11.7mm (.46") dia. in metal or plastic surfaces. Nickel-plated brass banana jack connected to a 2mm (0.8") solder pin. Insulated with flame retardant ABS. Accepts 4mm banana plugs. Rating: 20 Amp. Available in Red and Black. Length: 32mm (1 1/4").

860-4578. PS-31602-2 (Red) EACH 2.33

860-4579. PS-31602-0 (Black) EACH 2.33

NO. PS-31603 Pressfit Insulated Banana Jack

Pressfit safety jack is ideal for quick mounting in holes of 11.7mm (.46") dia. in metal or plastic surfaces. Nickel-plated brass jack connects to 4.8mm x .8mm (.19" x .03") Faston plug. Insulated with flame retardant ABS. Accepts 4mm banana plug. Rating: 20 Amp. Available in Red and Black. Length: 34mm (1 3/8").

860-4580. PS-31603-2 (Red) EACH 2.33

860-4581. PS-31603-0 (Black) EACH 2.33

Insulated BNC Male—Both Ends

BNC Male: Connectors are fully insulated. Colors: Black Only. Coaxial Cable: Shielded RB 58, 50 OHM impedance. (Version of our 5050-B BNC connectors.)

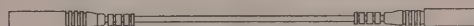
Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-4585	PS-5656-B-12-0	12" (304.8 mm)	21.25	18.21	17.00
860-4590	PS-5656-B-24-0	24" (609.6 mm)	21.25	18.21	17.00
860-4595	PS-5656-B-36-0	36" (914.4 mm)	21.25	18.21	17.00

BNC Male to BNC Female

BNC Male/Female: Connectors are fully insulated. Colors: Black Only. Coaxial Cable: Shielded RG 58, 50 OHM impedance.

860-7500	PS-5659-B-12-0	12" (304.8 mm)	21.25	18.21	17.00
860-7502	PS-5659-B-24-0	24" (609.6 mm)	21.25	18.21	17.00
860-7504	PS-5659-B-36-0	36" (914.4 mm)	21.25	18.21	17.00

Insulated Banana Plugs — Both Ends



Banana Plugs: Insulated Banana Plugs feature exclusive free rotating nine-leaf beryllium copper, nickel-plated cage spring protected by rigid plastic sleeves. Plugs provide a constant positive contact with minimum resistance. Housing: Pressed on PE insulation shells. Hook-Up Wire: #18 AWG silicone insulated. Colors: Red and Black.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-6060	6161-M-39-0	39.37" (1M)	Black	9.47	8.12	7.57
860-6161	6161-M-39-2	39.37" (1M)	Red	9.47	8.12	7.57

Insulated Banana Plug to Right Angle Insulated Banana Plug



Banana Plugs: Axial and right angle banana plugs feature exclusive free rotation, nine-leaf beryllium copper, nickel-plated cage springs protected by rigid plastic sleeves. Plugs provide a constant positive contact with minimum resistance. Housing: Pressed on PE insulation shells. Hook-Up Wire: #18 AWG silicone insulated. Colors: Red and Black.

860-7506	6162-M-39-0	39.37" (1M)	Black	14.39	12.33	11.51
860-7508	6162-M-39-2	39.37" (1M)	Red	14.39	12.33	11.51

NO. PS-20431 Insulated Mini-Plunger Hook Clip

Features stainless steel contact hook that is also suited for use as a probe tip when the plunger is retracted. Hook extends 8mm fully depressed. Right angle lead connection accepts Ultra-Flex leads and other insulated and conventional 4mm banana plugs. Plunger Body: Fully insulated 6.6 polyamide. Rating: 1000V, 3 Amp. Plunger Hook: Stainless steel connects with leads up to 1.5mm (.06") dia. Length: 99mm (3 15/16"). Mech. Connection: 4mm insulated banana jack (right angle). Color: Black and Red.

860-7510. PS-20431-0 (Black) EACH 9.59

860-7512. PS-20431-2 (Red) EACH 9.59

NO. PS-20432 Insulated Mini-Plunger Clamp Clip

Mini-plunger clamp makes difficult to reach test points accessible. Two wire hooks emerge from the plunger tip and spread open as the plunger is depressed. Solder leads, pins and wire up to 5mm (.2") in dia. can be gripped and held between the hooks. Highly flexible Bowden cable tip reaches into narrow passages. Silicone insulation is resistant to heat from soldering procedures. Available in two lengths. Plunger Body: Fully insulated 6.6 polyamide. Rating: 1000V, 1 Amp. Plunger Clamp: Nickel-plated spring steel. Color: Red and Black. Mech. Connection: 4mm insulated banana jack (right angle). Length: 20432 — 127mm (5").

860-7514. PS-20432-0 (Black) EACH 10.59

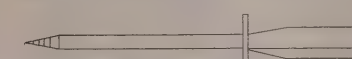
860-7516. PS-20432-2 (Red) EACH 10.59

NO. PS-20434 Insulated Mini-Plunger Jaw Clip

Pair of powerful jaws can securely grab thick wire and cable, ground leads and rails, and even screw heads. When plunger is depressed, the steel jaws extend to a length of 12mm (.48") and open to a width of 20mm (0.8"). The 20435 model has jaws insulated with synthetic resin to prevent short-circuits while the jaws are open. Right angle banana jack accepts Ultra-Flex test leads and other insulated and conventional banana plugs and helps eliminate interference from the cable during testing. Plunger Body: Fully insulated 6.6 polyamide. Rating: 1000V, 16 Amp. Plunger Jaws: Nickel-plated stainless steel. Color: Red and Black. Synthetic-resin varnish on model 20435. Length: 128mm (5 1/16"). Mech. Connection: 4mm insulated banana jack (right angle).

860-7518. PS-20434-0 (Black) EACH 13.58

860-7520. PS-20434-2 (Red) EACH 13.58



NO. CW-26130 "ULTRA-TECH" Test Prods
Accepts ULTRA-FLEX Test Leads and other 4mm banana plug terminated leads. PVC insulation. Polished stainless steel tip provides positive contact during test procedures. Square design and safety shock guard collar provides positive contact accuracy. Prod Handle: Fully insulated thermoplastic PVC. Shock Guard: 16mm x 16mm (0.630" x 0.630"), thickness. Probe: Brass, nickel plated. Insulator: 5mm-8mm (0.197"-0.315"). Probe Tip: Polished stainless steel. Rating: 300 Volt. Mech. Connection: .15" (4mm) brass, nickel plated Banana Jack. Length: 130mm (5.118") overall. Specify Color: Red or Black.

860-7522. CW-26130-0 (Black) EACH 3.64

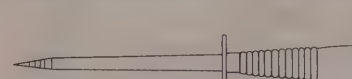
860-7524. CW-26130-2 (Red) EACH 3.64

NO. PS-26101 Insulated Plug-on Test Prod

Accepts 4mm insulated banana plugs. Features 2mm (.08") high quality test point which provides positive contact up to 1000V during test procedures. The PE insulated body has a safety shock guard collar which reduces the risk of contact with voltage carrying parts. The collar is flat on one side to prevent the prod from rolling. Prod Handle: Fully insulated PE. Rating: 1000 Volt. Test Point: Stainless Steel. Length: 81mm (3 15/16"). Mech. Connection: 4mm brass, nickel plated Banana Jack. Specify Color: Red and Black.

860-7526. PS-26101-0 (Black) EACH 3.73

860-7528. PS-26101-2 (Red) EACH 3.73



NO. PS-26102 Insulated Plug-on Test Prod
Accepts 4mm banana plug up to 11mm diameter. Features high quality steel prod tip which can easily pierce oxidized and lacquered contact points and even conductor insulation. Threadfast insulating body with safety shock guard collar reduces the risk of contact with voltage carrying parts. Banana jack is kept 22mm (.87") deep to allow use of the prod with voltages of 1500V AC/DC. Prod Body: Fully insulated thermoplastic. Shock Collar: 22mm (7/8") dia. Prod Tip: Plated steel tip. Rating: max. 1500V AC/DC. Mech. Connection: 4mm brass, nickel plated Banana jack. Length: 148mm (5 13/16"). Specify Color: Red and Black.

860-7530. PS-26102-0 (Black) EACH 6.48

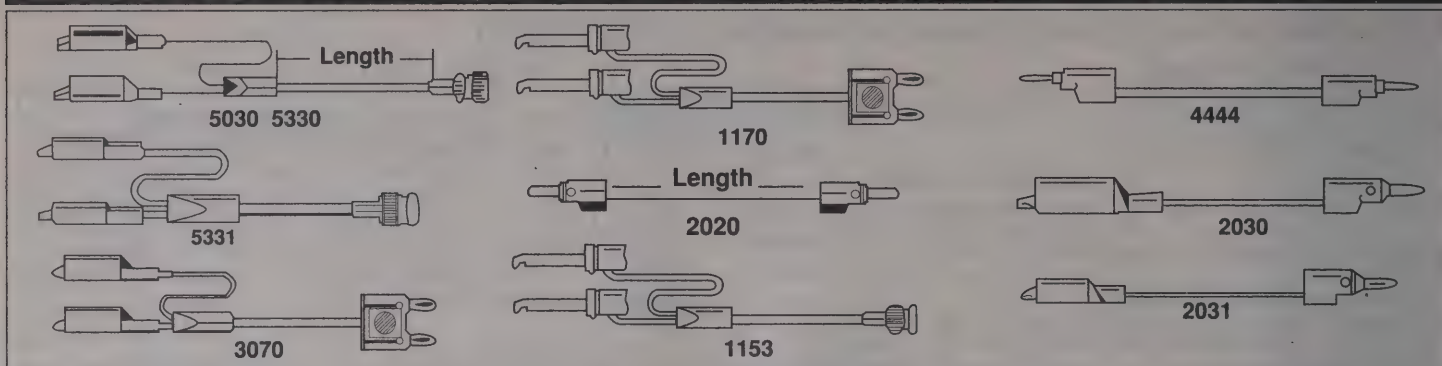
860-7532. PS-26102-2 (Red) EACH 6.48

NO. PS-26103 Insulated Plug-on Test Prod

Features a 5mm long, turned brass tip on a 4mm, nine-leaf cage spring plug which can enter banana jacks with 19mm (3/4") depth. Test prod accepts any 4mm banana plug. The threadfast insulating body has a safety shock guard collar which reduces the risk of contact with voltage carrying parts. Prod Body: Fully insulated 6.6 Polyamide. Shock Guard: 20mm (0.81") dia. Probe: Brass, nickel plated. Rating: max. 1500V DC/AC. Probe Tip: Beryllium 1mm. Length: 115mm (4 9/16"). Mech. Connection: 4mm brass, nickel plated Banana Jack. Specify Color: Red and Black.

860-7534. PS-26103-0 (Black) EACH 5.76

860-7536. PS-26103-2 (Red) EACH 5.76



BNC Male to Insulated Alligator Clips

BNC Male Connector: MIL-C-39012 features a gold-plated center contact and silver-plated body. **60-PR-2 Alligator Clips:** Plated steel with $\frac{5}{16}$ " jaw opening. Positive and negative clips have 2" and 7" lead wires, respectively. **"C" Series. Coaxial Cable:** Shielded RG-58C/U, MIL-C-17D, 50 Ohms. **"F" Series. Coaxial Cable:** Shielded RG174/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-7538	PS-5630-C-12-0	12" (304.8 mm)	Black	14.32	12.37	11.45
860-7540	PS-5630-C-24-0	24" (609.6 mm)	Black	14.32	12.37	11.45
860-7542	PS-5630-C-36-0	36" (914.4 mm)	Black	14.32	12.37	11.45
860-7544	PS-5330-F-12-0	12" (304.8 mm)	Black	13.90	11.91	11.12
860-7546	PS-5330-F-24-0	24" (609.6 mm)	Black	13.90	11.91	11.12
860-7548	PS-5330-F-36-0	36" (914.4 mm)	Black	13.90	11.91	11.12

Insulated Mini-Alligator Clips to BNC Male

Mueller 30BL Insulated Alligator Clips: Plated steel with $\frac{3}{16}$ " jaw opening. Positive and negative clips have 2" and 7" lead wires, respectively. **BNC Male Connector:** MIL-C-39012 features a gold-plated center conductor and silver-plated body. **Coaxial Cable:** Shielded RG174/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-7550	PS-5331-F-12-0	12" (304.8 mm)	14.07	12.06	11.26
860-7552	PS-5331-F-24-0	24" (609.6 mm)	14.07	12.06	11.26
860-7554	PS-5331-F-36-0	36" (914.4 mm)	14.07	12.06	11.26

Insulated Alligator Clips to Stackable Double Banana Plug

60-PR-2 Insulated Alligator Clips: Steel plated with $\frac{5}{16}$ " jaw opening. Positive and negative clips have 2" and 7" lead wires, respectively. Molded "Y" block prevents separation and contact corrosion. **PVC Clip Insulators. Double Banana Plug:** Features nine-leaf beryllium copper, nickel-plated spring. **Coaxial Cable:** Shielded RG174/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-7556	PS-3070-F-12-0	12" (304.8 mm)	13.30	11.40	10.64
860-7558	PS-3070-F-24-0	24" (609.6 mm)	13.30	11.40	10.64
860-7560	PS-3070-F-36-0	36" (914.4 mm)	13.30	11.40	10.64

"Mini-Clipper" Test Clips to Stackable Double Banana Plug

Mini-Clippers: Feature a spring-loaded beryllium copper conductor for maximum heat dissipation. Positive and negative Clippers have 3" and 8" lead wires, respectively. **Double Banana Plug:** Features nine-leaf beryllium copper, nickel-plated spring for positive contact with minimum resistance. **Coaxial Cable:** Shielded RG174/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-7562	PS-1170-F-12-0	12" (304.8 mm)	13.74	11.78	10.99
860-7564	PS-1170-F-24-0	24" (609.6 mm)	13.74	11.78	10.99
860-7566	PS-1170-F-36-0	36" (914.4 mm)	13.74	11.78	10.99

"Mini-Clipper" Test Clip to BNC Male

Mini-Clippers: Feature a spring-loaded beryllium copper conductor for maximum heat dissipation. Positive and negative Clippers have 3" and 8" lead wires, respectively. Molded "Y" block prevents separation and contact corrosion. **BNC Male Connector:** MIL-C-39012 has gold-plated center contact and silver-plated body. **Coaxial Cable:** Shielded RG174/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-7568	PS-1153-F-12-0	12" (304.8 mm)	14.00	12.00	11.20
860-7570	PS-1153-F-24-0	24" (609.6 mm)	14.00	12.00	11.20
860-7572	PS-1153-F-36-0	36" (914.4 mm)	14.00	12.00	11.20

Maintenance Kit

DH-111 Crimp Tool Kit

Size 11 $\frac{5}{8}$ " x 15" x 2 $\frac{1}{2}$ "

Ideal for tool room or tool crib area. This popular kit comes complete with 50 test clips, insulators and a hand held Crimp Tool designed to crimp Mueller clips to wires ranging from 14 AWG to 24 AWG. Laminated road map allows wax crayon price marking. A great "stock bin" for the large clip user. (Shipping weight 12 Lbs.) Contains 1 #900 Crimper; 30 #30 clips; 30 #30-C clips; 20 #32 insulator; 30 #30-BL clips; 30 #30 T80 clips; 20 #31 insulators; 20 #34 clips; 20 #34-C clips; 20 #36 insulators; 20 #45 clips; 20 #45-C clips; 20 #47 insulators; 20 #48-B clips; 20 #48-C clips; 20 #51-C clips; 20 #55 clips; 20 #49 insulators; 30 #60 clips; 20 #62 insulators; 20 #85 clips; and 20 #87 insulators.

860Q1111. DH-111..... EACH 230.00



Stackable Single Plugs—Both Ends

Features exclusive nine-leaf phosphor bronze, nickel-plated spring and plug. Wire #20 AWG. High temperature insulation.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-7574	PS-2020-A-12-0	12" (304.8 mm)	Black	4.92	4.22	3.93
860-7576	PS-2020-A-12-2	12" (304.8 mm)	Red	4.92	4.22	3.93
860-7578	PS-2020-A-24-0	24" (609.6 mm)	Black	4.92	4.22	3.93
860-7580	PS-2020-A-24-2	24" (609.6 mm)	Red	4.92	4.22	3.93
860-7582	PS-2020-A-36-0	36" (914.4 mm)	Black	4.92	4.22	3.93
860-7584	PS-2020-A-36-2	36" (914.4 mm)	Red	4.92	4.22	3.93

Stackable .080 Pin Plug—Both Ends

Pin Tip: .80" (2.03mm) diameter, .500" (12.70mm) long, brass, nickel plated. **Tip Jack:** Beryllium copper, nickel plated, accepts .080" dia. pin. Housing is ABS. **Wire:** 41/36 #20 AWG tinned copper with 105°C. PVC insulation.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-7586	PS-4444-A-12-0	12" (304.8 mm)	4.38	3.75	3.50
860-7588	PS-4444-A-12-2	12" (304.8 mm)	4.38	3.75	3.50
860-7590	PS-4444-A-24-0	24" (609.6 mm)	4.38	3.75	3.50
860-7592	PS-4444-A-24-2	24" (609.6 mm)	4.38	3.75	3.50
860-7594	PS-4444-A-36-0	36" (914.4 mm)	4.38	3.75	3.50
860-7596	PS-4444-A-36-2	36" (914.4 mm)	4.38	3.75	3.50

Insulated Alligator and Mini-Alligator Clip to Stackable Banana Plug

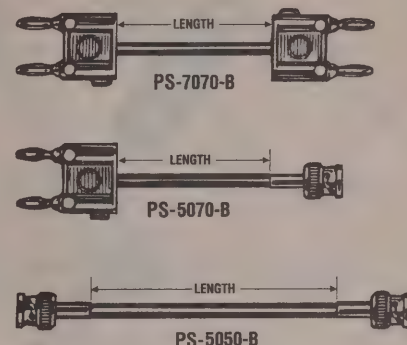
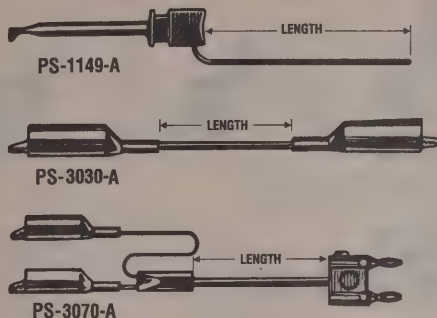
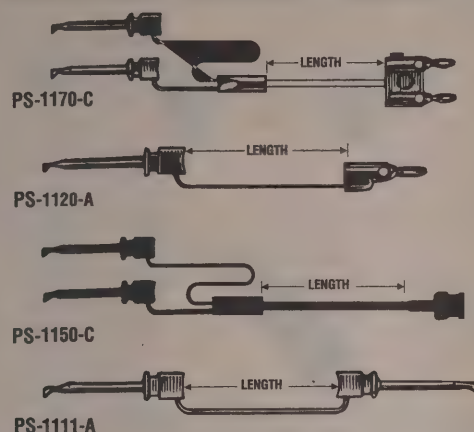
60PR-2 Alligator Clip: Plated steel with $\frac{5}{16}$ " jaw opening. **30BL Insulated Mini-Alligator Clip:** Plated steel with $\frac{3}{16}$ " jaw opening. **Banana Plug:** Features nine-leaf beryllium copper, nickel-plated spring. **Wire:** Stranded 41/36 #20 AWG tinned copper with 105°C. PVC insulation.

60PR-2 Alligator Clip

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-7598	PS-2030-A-12-0	12" (304.8 mm)	4.36	3.74	3.49
860-7600	PS-2030-A-12-2	12" (304.8 mm)	4.36	3.74	3.49
860-7602	PS-2030-A-24-0	24" (609.6 mm)	4.36	3.74	3.49
860-7604	PS-2030-A-24-2	24" (609.6 mm)	4.36	3.74	3.49
860-7606	PS-2030-A-36-0	36" (914.4 mm)	4.36	3.74	3.49
860-7608	PS-2030-A-36-2	36" (914.4 mm)	4.36	3.74	3.49

30BL Insulated Mini-Alligator Clip

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-99	100-Up
860-7610	PS-2031-A-12-0	12" (304.8 mm)	4.03	3.45	3.22
860-7612	PS-2031-A-12-2	12" (304.8 mm)	4.03	3.45	3.22
860-7614	PS-2031-A-24-0	24" (609.6 mm)	4.03	3.45	3.22
860-7616	PS-2031-A-24-2	24" (609.6 mm)	4.03	3.45	3.22
860-7618	PS-2031-A-36-0	36" (914.4 mm)	4.03	3.45	3.22
860-7620	PS-2031-A-36-2	36" (914.4 mm)	4.03	3.45	3.22



Test Clips

"Mini-Clipper" Test Clips to Stackable Double Banana Plug

Features exclusive nine-leaf phosphor bronze, nickel-plated spring. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-4000	PS-1170-C-24-0	24" (609.6mm)	Black	13.74	11.78	10.99
860-4005	PS-1170-C-36-0	36" (914.4mm)	Black	13.74	11.78	10.99

"Mini-Clipper" Test Clips to Stackable Banana Plug

Features exclusive nine-leaf phosphor bronze, nickel-plated spring and plug. Wire #20 AWG High Temperature Insulation.

860-4010	PS-1120-A-24-0	24" (609.6mm)	Black	4.73	4.05	3.78
860-4015	PS-1120-A-24-2	24" (609.6mm)	Red	4.73	4.05	3.78
860-4020	PS-1120-A-36-0	36" (914.4mm)	Black	4.73	4.05	3.78
860-4025	PS-1120-A-36-2	36" (914.4mm)	Red	4.73	4.05	3.78

"Mini-Clipper" Test Clips to BNC Male

Gold-plated center contact and silver-plated body. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

860-4030	PS-1150-C-12-0	12" (304.8mm)	Black	13.74	11.78	10.99
860-4035	PS-1150-C-24-0	24" (609.6mm)	Black	13.74	11.78	10.99
860-4040	PS-1150-C-36-0	36" (914.4mm)	Black	13.74	11.78	10.99

"Mini-Clipper" Test Clips — Both Ends

Spring-loaded beryllium copper conductor. Fast and easy IC connections. Wire #20 AWG High Temperature Insulation.

860-4045	PS-1111-A-12-0	12" (304.8mm)	Black	4.11	3.53	3.29
860-4050	PS-1111-A-12-2	12" (304.8mm)	Red	4.11	3.53	3.29
860-4055	PS-1111-A-24-0	24" (609.6mm)	Black	4.11	3.53	3.29
860-4060	PS-1111-A-24-2	24" (609.6mm)	Red	4.11	3.53	3.29
860-4065	PS-1111-A-36-0	36" (914.4mm)	Black	4.11	3.53	3.29
860-4070	PS-1111-A-36-2	36" (914.4mm)	Red	4.11	3.53	3.29

"Mini-Clipper" Test Clips with Tinned End

Spring-loaded hook to attach to delicate component leads and terminals. Wire #20 AWG High Temperature Insulation.

860-4075	PS-1149-A-24-0	24" (609.6mm)	Black	2.80	2.40	2.24
860-4080	PS-1149-A-24-2	24" (609.6mm)	Red	2.80	2.40	2.24
860-4085	PS-1149-A-36-0	36" (914.4mm)	Black	2.80	2.40	2.24
860-4090	PS-1149-A-36-2	36" (914.4mm)	Red	2.80	2.40	2.24

Stackable Double Banana Plug — Both Ends

Exclusive nine-leaf phosphor bronze, nickel-plated spring and plug. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-4095	PS-7070-B-12-0	12" (304.8mm)	Black	10.71	9.18	8.57
860-4105	PS-7070-B-24-0	24" (609.6mm)	Black	10.71	9.18	8.57
860-4110	PS-7070-B-36-0	36" (914.4mm)	Black	10.71	9.18	8.57

Alligator Clips

Insulated Alligator Clips — Both Ends

Steel plated with $\frac{5}{16}$ " jaw opening. Wire #20 High Temperature Insulation.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-4115	PS-3030-A-12-0	12" (304.8mm)	Black	2.63	2.25	2.10
860-4120	PS-3030-A-12-2	12" (304.8mm)	Red	2.63	2.25	2.10
860-4125	PS-3030-A-24-0	24" (609.6mm)	Black	2.63	2.25	2.10
860-4130	PS-3030-A-24-2	24" (609.6mm)	Red	2.63	2.25	2.10
860-4135	PS-3030-A-36-0	36" (914.4mm)	Black	2.63	2.25	2.10
860-4140	PS-3030-A-36-2	36" (914.4mm)	Red	2.63	2.25	2.10

Insulated Alligator Clips to Stackable Double Banana Plug

Steel plated with $\frac{5}{16}$ " jaw opening. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

860-4145	PS-3070-C-24-0	24" (609.6mm)	Black	13.30	11.40	10.64
860-4150	PS-3070-C-36-0	36" (914.4mm)	Black	13.30	11.40	10.64

BNC Products

BNC Male to Stackable Double Banana Plug

Gold-plated center contact and silver-plated body. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-4155	PS-5070-B-12-0	12" (304.8mm)	Black	11.60	9.95	9.28
860-4160	PS-5070-B-24-0	24" (609.6mm)	Black	11.60	9.95	9.28
860-4170	PS-5070-B-36-0	36" (914.4mm)	Black	11.60	9.95	9.28

BNC Male — Both Ends

Gold-plated center contact and silver-plated body. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

860-4175	PS-5050-B-12-0	12" (304.8mm)	Black	11.85	10.16	9.48
860-4180	PS-5050-B-24-0	24" (609.6mm)	Black	11.85	10.16	9.48
860-4185	PS-5050-B-36-0	36" (914.4mm)	Black	11.85	10.16	9.48
860-4190	PS-5050-B-48-0	48" (1219.2mm)	Black	12.48	10.70	9.98
860-4195	PS-5050-B-60-0	60" (1524.0mm)	Black	12.48	10.70	9.98

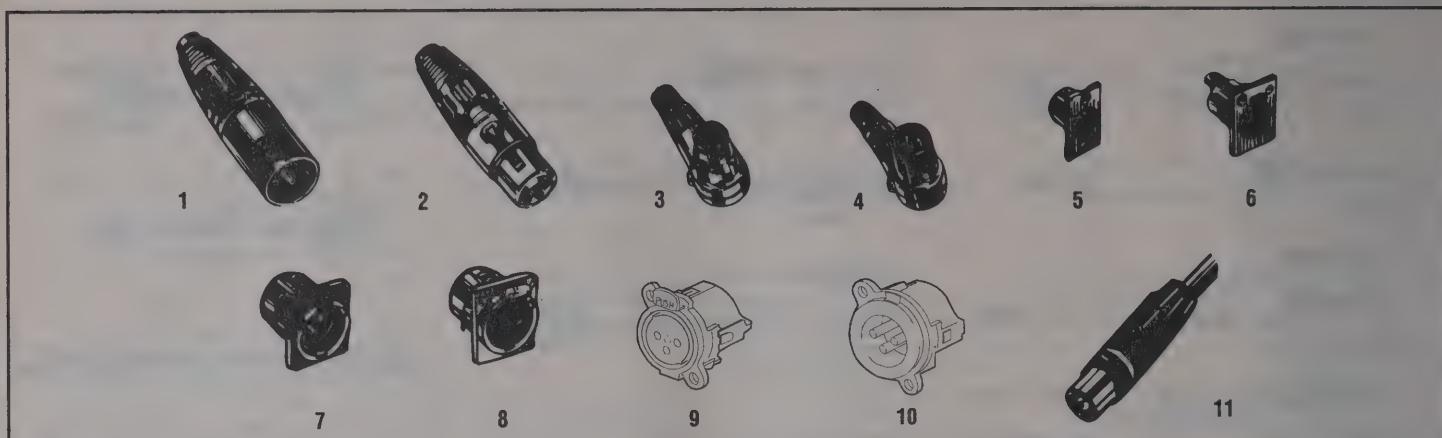
No. 115 "Clip Bar" Merchandiser

- Ideal for Tool Room or Tool Crib
- Size 12 $\frac{1}{2}$ " x 18 $\frac{3}{8}$ " x 3 $\frac{1}{4}$ "

Popular compartmented merchandiser furnished complete with over 500 test clips and insulators. Solid metal-baked gray finish with 16 individual compartments display Mueller's most popular test clips and insulators. Laminated road map allows wax crayon price marking. An excellent sales tickler for the distributor. A great "stock bin" for the large clip user. **Shipping Weight:** 12 lbs. Contains 40 #30 clips; 20 #30C clips; 40 #34 clips; 20 #32 insulators; 20 #36 insulators; 60 #45 clips; 20 #47 insulators; 80 #60S clips; 40 #60HS clips; 30 #60CS clips; 20 #60CHS clips; 40 #62 insulators; 10 #63 insulated clips; 40 #85 clips; 20 #87 insulators and 12 #201 micro-clippers.

860Q4200. DH-115 Kit.....EACH 239.00





XLR "X" Series Cable Connectors

Shells: Die cast zinc. **Insets:** Fiberglass reinforced hard polyester. Satin nickel housing and silver contacts standard — "B" suffix on the type number designates black chrome housing and gold contacts. Wire diameter range is .11" to .315". Also available in 6 and 7 pin.

Satin Nickel Housing with Silver Contacts

Stock No.	Mfr.'s Type	Fig.	No. of Contacts	Gender	EACH		
					1-9	10-24	25-99
514-1016	NC3MX	1	3	Male	3.13	2.42	2.28
514-1017	NC3FX	2	3	Female	3.64	2.79	2.62
514-1080	NC4MX	1	4	Male	4.13	3.61	3.32
514-1081	NC4FX	2	4	Female	5.40	4.51	4.14
514-1082	NC5MX	1	5	Male	5.23	4.28	3.92
514-1083	NC5FX	2	5	Female	6.46	5.16	4.86

Black Chrome Housing with Gold Contacts

514-1018	NC3MX-B	1	3	Male	4.03	3.19	3.00
514-1019	NC3FX-B	2	3	Female	5.00	4.16	3.74
514-1086	NC4MX-B	1	4	Male	4.92	4.45	4.09
514-1087	NC4FX-B	2	4	Female	6.86	5.80	5.33
514-1088	NC5MX-B	1	5	Male	6.18	5.34	4.91
514-1089	NC5FX-B	2	5	Female	7.74	6.67	6.13

XLR "XY" Series Cable Connectors

Non soldering 3 pin XLR. Utilizes IDC technology so **no tools are required**. Uses the same basic components as our "X" series.

Stock No.	Mfr.'s Type	Fig.	Shell/Contact	Gender	EACH		
					1-9	10-24	25-99
514-1202	NC3MXY	1	Nickel/Silver	Male	3.13	2.42	2.28
514-1204	NC3FXY	2	Nickel/Silver	Female	3.64	2.79	2.62
514-1206	NC3MXY-B	1	Black/Gold	Male	4.03	3.19	3.00
514-1208	NC3FXY-B	2	Black/Gold	Female	5.00	4.16	3.74

XLR "RC" Series Right Angle Cable Connectors

Features the same specifications as the "X" Series above. Seven indexing positions for high-density packaging. Self-retentive, release latch hook. Compatible with all XLR connectors. Also available in 6 pin.

Satin Nickel Housing with Silver Contacts

Stock No.	Mfr.'s Type	Fig.	No. of Contacts	Gender	EACH		
					1-9	10-24	25-99
514-1020	NC3MRC	4	3	Male	9.21	7.07	6.66
514-1021	NC3FRC	3	3	Female	9.96	7.61	7.16
514-1022	NC4MRC	4	4	Male	9.28	7.24	6.82
514-1023	NC4FRC	3	4	Female	11.40	9.00	8.78
514-1024	NC5MRC	4	5	Male	13.12	10.15	9.54
514-1025	NC5FRC	3	5	Female	14.48	11.17	10.51

Black Chrome Housing with Gold Contacts

514-1028	NC3MRC-B	4	3	Male	9.58	7.32	6.89
514-1029	NC3FRC-B	3	3	Female	10.42	8.97	7.60
514-1030	NC4MRC-B	4	4	Male	10.65	9.19	8.50
514-1031	NC4FRC-B	3	4	Female	12.52	10.00	9.10
514-1032	NC5MRC-B	4	5	Male	14.00	11.00	10.00
514-1033	NC5FRC-B	3	5	Female	16.32	15.01	13.80

XLR "P" Series Panel Receptacles

Solder contacts. Zinc diecast housing. Compatible with Cannon and Switchcraft equivalents. Also available in 6, 7 pin available in FP-1 only.

Satin Nickel Housing with Silver Contacts

Stock No.	Mfr.'s Type	Fig.	No. of Contacts	Gender	EACH		
					1-9	10-24	25-99
514-1056	NC3MP	5	3	Male	3.60	2.63	2.45
514-1057	NC3FP-1	6	3	Female	4.47	3.39	3.10
514-1058	NC4MP	5	4	Male	4.19	3.13	2.94
514-1059	NC4FP-1	6	4	Female	6.60	5.50	4.97
514-1060	NC5MP	5	5	Male	6.99	5.47	5.15
514-1061	NC5FP-1	6	5	Female	10.52	8.05	7.27

Black Chrome Housing with Gold Contacts

514-1064	NC3MP-B	5	3	Male	4.58	4.16	3.82
514-1065	NC3FP-1-B	6	3	Female	5.38	4.95	4.55
514-1066	NC4MP-B	5	4	Male	5.44	5.00	4.58
514-1067	NC4FP-1-B	6	4	Female	7.98	6.14	5.77
514-1068	NC5MP-B	5	5	Male	7.87	6.29	5.92
514-1069	NC5FP-1-B	6	5	Female	11.00	8.81	8.29

XLR "D" Series Panel Receptacles

Available in three mounting styles, Standard nickel housing with silver contacts. "BAG" suffix designates black chrome housing with silver contacts. "MD-L-1" and "FD-L-1" available in 4, 5, 6 and 7 pin.

Stock No.	Mfr.'s Type	Fig.	Mounting Style	Gender	EACH		
					1-9	10-24	25-99
514-1035	NC3MD-H	7	Hor. PCB	Male	4.06	3.10	2.91
514-1038	NC3FD-H	8	Hor. PCB	Female	4.05	3.10	2.91
514-1040	NC3MD-V	7	Vert. PCB	Male	3.84	3.10	2.91
514-1042	NC3FD-V	8	Vert. PCB	Female	4.13	3.02	2.84
514-1044	NC3MD-L-1	7	Solder	Male	4.06	3.09	2.83
514-1049	NC3FD-L-1	8	Solder	Female	4.31	3.26	2.99
514-1046	NC3MD-H-BAG	7	Hor. PCB	Male	4.05	3.35	3.16
514-1048	NC3FD-H-BAG	8	Hor. PCB	Female	4.16	3.37	3.18
514-1049	NC3MD-V-BAG	7	Vert. PCB	Male	3.90	3.36	3.16
514-1050	NC3FD-V-BAG	8	Vert. PCB	Female	4.04	3.30	3.10
514-1053	NC3MD-L-1-BAG	7	Solder	Male	3.47	2.84	2.67
514-1054	NC3FD-L-1-BAG	8	Solder	Female	3.57	3.02	2.84

XLR "K" Series Panel Receptacles

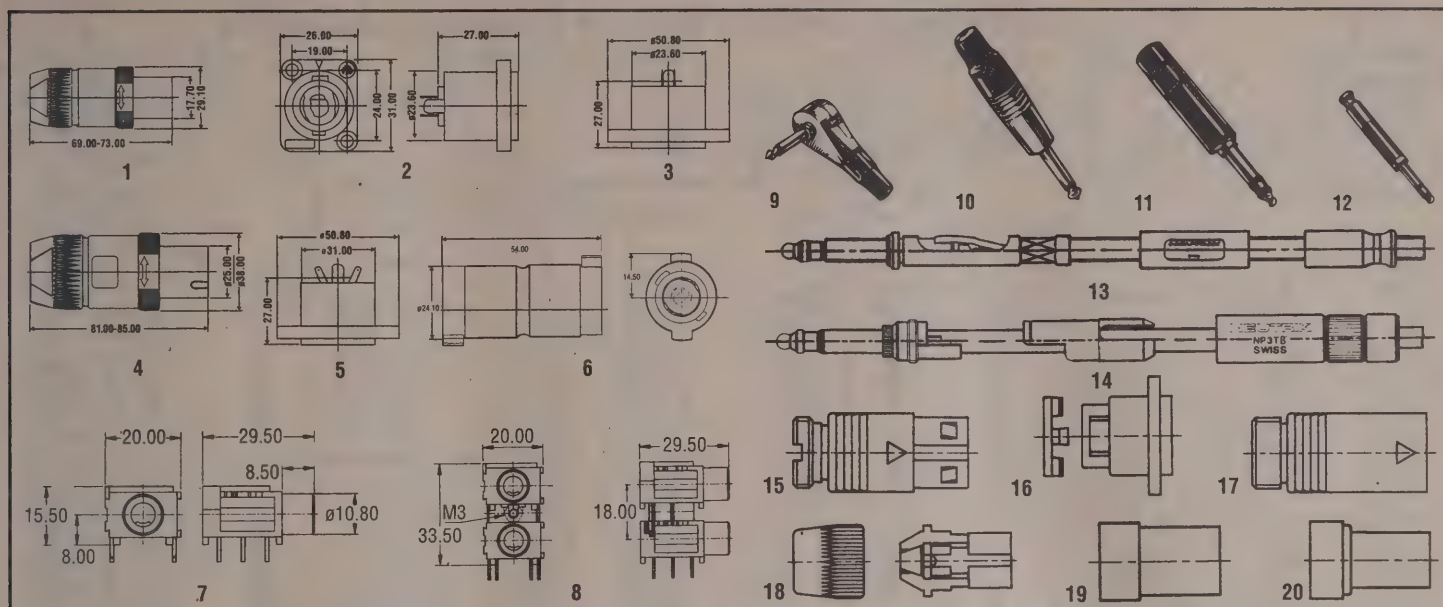
One piece plastic 3 pin XLR. Metal bracket secures the receptacle to the PCB, machine insertable. M3 thread mounting screw holes.

Stock No.	Mfr.'s Type	Fig.	Mounting Style	Gender	EACH		
					1-9	10-24	25-99
514-1210	NC3MK-H	10	Hor. PCB	Male	3.20	2.34	2.20
514-1212	NC3FK-H	9	Hor. PCB	Female	3.44	2.51	2.36
514-1214	NC3MK-V	10	Vert. PCB	Male	3.05	2.35	2.20
514-1216	NC3FK-V	9	Vert. PCB	Female	3.22	2.46	2.32

Phono-Plug Pairs

Spring-loaded ground contact. Retracting element with separate spring contact. Gold plated contacts. High grade plastic insulator. **Cable Diameter:** 3-6.5mm. Sold in pairs — one red, one black.

Stock No.	Mfr.'s Type	Fig.	Description	PER PAIR		
				1-9	10-24	25-99
514-1128	NF2CB/2	11	Pair-Black Housing	24.96	19.89	18.72



Speakon® Loudspeaker Amplifier Connectors

Types NL4 are 4 pole for cable 6-15mm. Types NL8 are 8 pole for cable 8-20mm. **Terminations:** Cable mount — solder or set screw; Panel mount — solder or quick disconnect tab.

Stock No.	Mfr.'s Type	Fig.	Mounting Style	Gender	EACH		
					1-9	10-24	25-99
514-1110	NL4FC	1	Cable Mount	Female	6.30	5.70	5.60
514-1112	NL4MP*	2	Panel Mount	Male	3.59	2.77	2.61
514-1114	NL4MPR*	3	Panel Mount	Female	4.30	3.62	3.41
514-1116	NL8FC	4	Cable Mount	Male	10.70	8.62	8.12
514-1118	NL8MPR*	5	Panel Mount	Female	7.90	6.47	6.09
514-1111	NL4MM	6	Cable Adapter	Female	8.32	7.68	7.50

* Round flange.

1/4" Right Angle PC Mount Phone Jacks

PCB mount jacks come either single or stacked style. Mates with standard .250" mono or stereo plugs. Separation of retention and electrical contact aids retention and product life. All contacts are gold plated, conductors with tip and ring normalised.

Stock No.	Mfr.'s Type	Fig.	Style	Sleeve Type	EACH		
					1-9	10-24	25-99
514-1140	NJ3FDH6	7	Single	Plain	1.54	1.18	1.06
514-1146	NJ3FDH6T	7	Single	Thread & Nut	1.82	1.33	1.19
514-1142	NJ3FDH6S	8	Stacked	Plain	3.17	2.43	2.29
514-1144	NJ3FDH6ST	8	Stacked	Thread & Nut	3.66	2.68	2.52

Right Angle Phone Plugs

Right angle plugs have 1/4" nickel plated brass sleeves and are for 0.1" - 0.28" diameter cable.

Stock No.	Mfr.'s Type	Fig.	No. of Contacts	Shell	EACH		
					1-9	10-24	25-99
514-1074	NP2RC	9	2	Nickel	5.10	4.16	3.92
514-1078	NP2RCS*	9	2	Nickel	3.00	2.73	2.50
514-1101	NP3RC	9	3	Nickel	6.00	5.91	4.71
514-1077	NP2RC-BAG	9	2	Black	5.66	5.02	4.66
514-1102	NP3RC-BAG	9	3	Black	6.60	5.31	5.00

* New slim line right angle plug.

1/4" Vertical PC Mount Phone Jacks

PCB mount jacks mate with standard .250" mono or stereo plugs. Separation of retention and electrical contact aids retention and product life. Gold plated contact area. Cap snaps on for quick assembly, twist to open. Metallized caps available.

Stock No.	Mfr.'s Type	Fig.	Type	Contact Type	EACH		
					1-9	10-24	25-99
514-1150	NJ2FD-V	—	Mono	T/S	.76	.58	.52
514-1152	NJ3FD-V	—	Stereo	T/R/S	.81	.61	.55
514-1154	NJ5FD-V	—	Stereo	T/TN/R/RN/S	.95	.73	.65
514-1156	NJ6FD-V	—	Stereo	T/TN/R/RN/S/SN	1.17	.90	.80

Straight Phone Plugs

Standard plugs have 1/4" nickel plated brass sleeves and are for 0.1" - 0.28" diameter cable.

Stock No.	Mfr.'s Type	Fig.	No. of Contacts	Shell	EACH		
					1-9	10-24	25-99
514-1072	NP2C	10	2	Nickel	3.05	2.39	2.25
514-1073	NP3C	10	3	Nickel	4.30	3.47	3.29
514-1075	NP2C-BAG	10	2	Black	3.14	2.73	2.54
514-1076	NP3C-BAG	10	3	Black	4.41	3.61	3.35
514-1106	NP3TB-R-MIL	11	3	Red	7.68	5.99	5.64
514-1105	NP3TB-B-MIL	11	3	Black	7.68	5.99	5.64
514-1104	NP3TT-1-R**	12	3	Red	6.10	4.85	4.57
514-1103	NP3TT-1-B**	12	3	Black	6.10	4.85	4.57

* 4.4mm diameter bantam plugs for 0.2" cable. †HX-TT tool required for assembly.

TT and 1/4" Long Frame Patch Cords

TT patch cords utilize Neutrik's NP3TT bantam plugs. 1/4" long frame patch cords utilize Neutrik's NP3TB long frame plugs.

Stock No.*	Mfr.'s Type	Fig.	Length	Type	EACH		
					1-9	10-24	25-99
514-124X	NKTT03-X	13	12"	TT	11.27	10.78	10.15
514-125X	NKTT04-X	13	18"	TT	11.51	11.01	10.37
514-126X	NKTT05-X	13	24"	TT	11.75	11.24	10.59
514-127X	NKTT1-X	13	36"	TT	12.24	11.70	11.02
514-128X	NKTB03-X	14	12"	TB	20.93	18.10	17.04
514-129X	NKTB05-X	14	24"	TB	21.74	18.46	17.39
514-130X	NKTB1-X	14	36"	TB	22.52	18.68	17.59

*To order correct color, insert number of color desired where X appears in Stock No. Colors: 0-Blue, 1-Black, 2-Green, 3-Red, 4-Yellow.

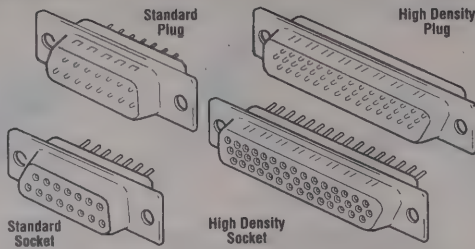
Neutricon "N" Series Connector System

A modular circular connector system with minimal parts for maximum variations. Pin arrangements from 1 to 8 contacts with a select load contact arrangement. Contacts available for wire soldering, crimping or PCB mounting. Push - pull self activating non-thread locking system. Patented NEUTRIK chuck type strain relief for cable diameters from 3-7mm.

Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-9	10-24	25-99
514-1172	SC-8	15	Cable Shell	5.62	4.31	4.06
514-1174	RP-8	16	Receptacle shell	1.89	1.38	1.23
514-1176	MC-8	17	Cable extension shell	2.00	1.46	1.31
514-1178	SR-8	18	Cable strain relief	.76	.58	.52
514-1180	MI-8	19	Male insert for pins	.78	.60	.54
514-1182	FI-8	20	Female insert for bushings	.78	.60	.54
514-1184	BS1	—	Bushing contact-solder	.34	.27	.23
514-1186	BC1	—	Bushing contact-crimp	.34	.27	.23
514-1188	BP1	—	Bushing contact-PCB	.34	.27	.23
514-1190	PS1	—	Pin contact-solder	.34	.27	.23
514-1192	PC1	—	Pin contact-crimp	.34	.27	.23
514-1194	PP1	—	Pin contact-PCB	.34	.27	.23

D-Series Solder Cup Connectors

Shell: Steel with yellow-zinc chromate or tin plating. Insert: PBT Glass-filled (UL94V0). Contacts: Stamped and formed. Pin: Brass. Socket: Phosphor Bronze.



Zinc Plated

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-249
810-6000	D9PS	9 Contact Plug	.50	.45	.41
810-6002	D9SS	9 Contact Socket	.52	.47	.42
810-6004	D15PS	15 Contact Plug	.70	.63	.57
810-6006	D15SS	15 Contact Socket	.72	.65	.59
810-6008	D25PS	25 Contact Plug	.82	.74	.67
810-6010	D25SS	25 Contact Socket	.84	.76	.68
810-6012	D37PS	37 Contact Plug	1.42	1.28	1.15
810-6014	D37SS	37 Contact Socket	1.54	1.39	1.25
810-6016	D50PS	50 Contact Plug	3.36	3.03	2.72
810-6018	D50SS	50 Contact Socket	3.44	3.10	2.79

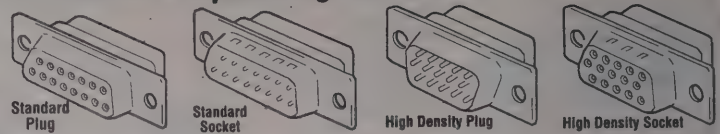
Tin Plated Shells (Plugs with Ground Indents)

810-6020	D9PTES	9 Contact Plug	.50	.45	.41
810-6022	D9STS	9 Contact Socket	.52	.47	.42
810-6024	D15PTES	15 Contact Plug	.70	.63	.57
810-6026	D15STS	15 Contact Socket	.72	.65	.59
810-6028	D25PTES	25 Contact Plug	.82	.74	.67
810-6030	D25STS	25 Contact Socket	.84	.76	.68
810-6032	D37PTES	37 Contact Plug	1.42	1.28	1.15
810-6034	D37STS	37 Contact Socket	1.54	1.39	1.25
810-6036	D50PTES	50 Contact Plug	3.36	3.03	2.72
810-6038	D50STS	50 Contact Socket	3.44	3.10	2.79

High Density

810-6040	D3-15PTES	15 Contact Plug	1.76	1.59	1.43
810-6042	D3-15STS	15 Contact Socket	1.98	1.78	1.61
810-6044	D3-26PTES	26 Contact Plug	2.50	2.25	2.03
810-6046	D3-26STS	26 Contact Socket	2.70	2.43	2.19
810-6048	D3-44PTES	44 Contact Plug	3.90	3.51	3.16
810-6050	D3-44STS	44 Contact Socket	4.30	3.87	3.49
810-6052	D3-62PTES	62 Contact Plug	5.48	4.93	4.44
810-6054	D3-62STS	62 Contact Socket	6.08	5.47	4.93

DC - Series Crimp Housing and Contacts



Shell: Steel with yellow-zinc chromate or tin plating. Insert: Black PBT Glass-filled (UL94V0).

Zinc Plated Shells (Housings)

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-249
810-6056	DC9P	9 Contact Plug	.52	.47	.42
810-6058	DC9S	9 Contact Socket	.54	.49	.44
810-6060	DC15P	15 Contact Plug	.60	.54	.49
810-6062	DC15S	15 Contact Socket	.64	.58	.52
810-6064	DC25P	25 Contact Plug	.60	.54	.49
810-6066	DC25S	25 Contact Socket	.64	.58	.52
810-6068	DC37P	37 Contact Plug	1.18	1.06	.96
810-6070	DC37S	37 Contact Socket	1.38	1.24	1.12

Tin Plated Shells (Housings) (Plugs with Ground Indents)

810-6072	DC9PTE	9 Contact Plug	.52	.47	.42
810-6074	DC9ST	9 Contact Socket	.54	.49	.44
810-6076	DC15PTE	15 Contact Plug	.60	.54	.49
810-6078	DC15ST	15 Contact Socket	.64	.58	.52
810-6080	DC25PTE	25 Contact Plug	.60	.54	.49
810-6082	DC25ST	25 Contact Socket	.64	.58	.52
810-6084	DC37PTE	37 Contact Plug	1.18	1.06	.96
810-6086	DC37ST	37 Contact Socket	1.38	1.24	1.12
810-6088	DC50PTE	50 Contact Plug	2.86	2.58	2.32
810-6090	DC50ST	50 Contact Socket	2.86	2.58	2.32

High Density (Housings)

810-6092	DC3-15PTE	15 Contact Plug	1.58	1.42	1.28
810-6094	DC3-15ST	15 Contact Socket	1.78	1.60	1.44
810-6096	DC3-26PTE	26 Contact Plug	2.12	1.91	1.72
810-6098	DC3-26ST	26 Contact Socket	2.32	2.09	1.88

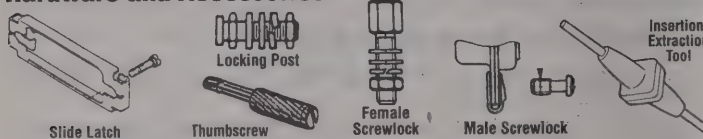
Contacts for Standard Crimp Type (20 - 26 AWG)

810-6100. DCTPX1020AF. Male Contact (Pin)..... PER PK/1000 34.91
810-6102. DCTSX1020AF. Female Contact (Socket)..... PER PK/1000 37.79

Contacts for High Density Crimp Type (22 - 26 AWG)

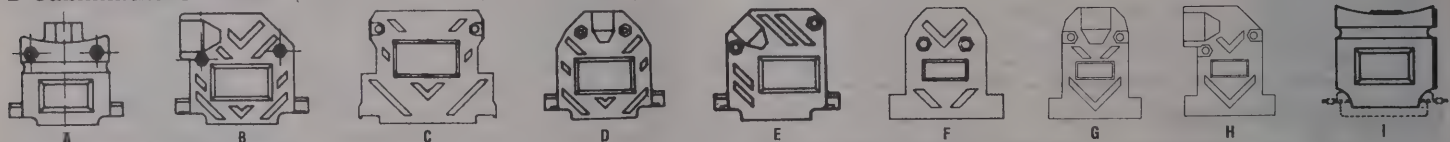
810-6104. DCHPX1022AF. Male Contact (Pin)..... PER PK/1000 38.46
810-6106. DCHSX1022AF. Female Contact (Socket)..... PER PK/1000 41.54

Hardware and Accessories



D-Subminiature Hoods

(All Hood Kits Include: Backshell, Grommets and Hardware)



EMI/RFI Shielded Metal Backshells

Stock No.	Mfr.'s Type	No. of Positions	Fig.	Description	EACH		
					1-24	25-49	50-99
810-8000	C88000218	9	A	Straight	2.54	2.30	2.07
810-8005	C88000207	15	A	Straight	2.65	2.41	2.17
810-8010	C88000203	25	A	Straight	2.71	2.55	2.30
810-8015	C88000206	37	A	Straight	3.69	3.32	2.84
810-8020	C88000208	50	A	Straight	3.74	3.37	2.97
810-8025	C88421000	25	B	Right Angle 90°	3.53	3.18	2.71
810-8030	C88521000	25	C	For Flat-Cable D-Subs	3.00	2.70	2.65

Metallized Plastic Backshells

810-8035	C88301000	9	D	Straight	1.17	1.06	.95
810-8040	C88311000	15	D	Straight	1.24	1.12	1.01
810-8045	C88321000	25	D	Straight	1.35	1.22	1.10
810-8050	C88331000	37	D	Straight	2.00	1.80	1.62
810-8055	C88341000	50	D	Straight	2.48	2.24	2.01
810-8060	C88201000	9	E	45°	1.22	1.10	1.00
810-8065	C88211000	15	E	45°	1.31	1.18	1.07
810-8070	C88221000	25	E	45°	1.42	1.28	1.16
810-8075	C88231000	37	E	45°	2.09	1.88	1.70

Die Cast Metal Ethernet Backshells

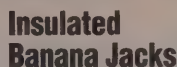
810-8080	C88611000	15	F	Straight/Short	3.24	2.92	2.63
810-8085	C88611001	15	G	Straight/Long	3.24	2.92	2.63
810-8090	C88611002	15	H	Right Angle	3.37	3.04	2.74

Non-Shielded Plastic 2-Piece Backshells

Stock No.	Mfr.'s Type	No. of Positions	Fig.	Description	EACH		
					1-24	25-49	50-99
810-8095	C88301005	9	D	Straight/Gray	.66	.60	.54
810-8100	C88301004	9	D	Straight/Black	.66	.60	.54
810-8105	C88311005	15	D	Straight/Gray	.73	.66	.60
810-8110	C88311004	15	D	Straight/Black	.73	.66	.60
810-8115	C88321005	25	D	Straight/Gray	.82	.74	.67
810-8120	C88321004	25	D	Straight/Black	.82	.74	.67
810-8125	C88331005	37	D	Straight/Gray	.93	.84	.76
810-8130	C88331004	37	D	Straight/Black	.93	.84	.76
810-8135	C88201005	9	E	45°/Gray	.69	.62	.56
810-8140	C88201004	9	E	45°/Black	.69	.62	.56
810-8145	C88211005	15	E	45°/Gray	.77	.70	.63
810-8150	C88211004	15	E	45°/Black	.77	.70	.63
810-8155	C88221005	25	E	45°/Gray	.86	.78	.71
810-8160	C88221004	25	E	45°/Black	.86	.78	.71
810-8165	C88231005	37	E	45°/Gray	.98	.89	.80
810-8170	C88231004	37	E	45°/Black	.98	.89	.80

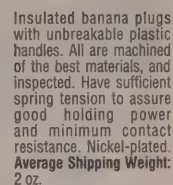
Non-Shielded Plastic 1-Piece Backshells

810-8175	C88001000	9	I	Straight/Black	.46	.42	.38
810-8180	C88000263	15	I	Straight/Black	.51	.45	.42
810-8185	C88000273	25	I	Straight/Black	.55	.50	.45



Type 205 supplied with fiber washer.
Shipping Weight: 2 oz.

Insulated Banana Plugs

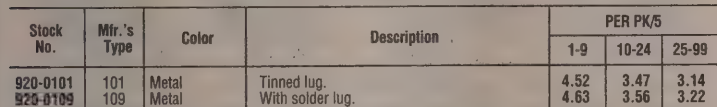


Insulated Banana Plugs



Non-Insulated Banana Jacks

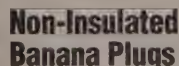
Bare brass, nickel-plated body. Fits 1/4" hole. 3/8" panel. Hex nut. 2 oz.



Non-Insulated Tip Jack

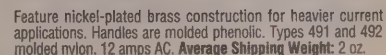
Non-Insulated Tip Jack
All metal. Nickel-plated brass body, phosphor-bronze contact. With nut. Rated 15 amps AC for 10°C temperature rise, continuous duty. **Shipping Weight:** 2 oz.

920-0107	107	Nickel - Plated	Mounts in 1/4" hole; fits panels to 3/8" thick. Sold Each.	8.50	7.09	6.61
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Feature four-leaved, beryllium copper nickel-plated springs. Each is supplied with terminal lug and hex nut. **Shipping Weight:** 2 oz. Type 462 stud length is $\frac{3}{8}$ " Type 463 stud length is $\frac{1}{2}$ ".

 3/8
9.62
 5/32
3.97
 Insulated Phone Tip Plugs

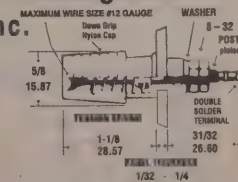


Stock No.	Mfr.'s Type	Color	Description	PER PK/5		
				1-9	10-24	25-96
920-8000 920-8001	200 200	Red Black	Solderless; wire tightens securely under knurled collar	7.57 7.57	5.93 5.93	5.30 5.30
920-0578	491-102	Red	Short, tip plug (7" handle). Inserts flush, no metal exposed; molded nylon handle; solder type.	5.16	4.00	3.60
920-0577	491-103	Black		5.16	4.00	3.60
920-0590	491-107	Yellow		5.16	4.00	3.60
920-0580	491-104	Green		5.16	4.00	3.60
920-0571	492-102	Red	Solderless; Inserts flush; no metal exposed; molded nylon handle	5.11	4.01	3.42
920-0572	492-103	Black		5.11	4.01	3.42
920-0280 920-0281	235-103 235-102	Black Red	Maximum wire insulation, 9/64". Phone Tip. Maximum wire insulation, 9/64". Phone Tip.	10.71 10.71	8.35 8.35	7.49 7.49

* Nickel-plated. Shipping Weight: 2 oz.

Type AL2000 Quick Connect/Disconnect Binding Posts

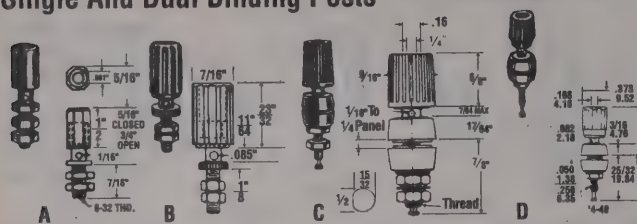
ADMIRAL CONTROLS, Inc.



Accepts variety of wire terminals, test prods, spades or plugs. Ideal for confined areas. Eliminates needle-eye threading and wrap-around spreading common to conventional binding posts. **Capacity:** 30 amps, 1000Vrms.

Stock No.	Mfr.'s Type	Color	PER PK/5			
			1-99	100-299	300-499	500-up
721-0031	AL2000B	Black	7.75	5.10	4.65	4.40
721-0032	AL2000R	Red	7.75	5.10	4.65	4.40

Single And Dual Binding Posts



Type 137. Head: Captive, octagonal, nickel-plated. Body: brass, nickel-plated. Accepts: phone tip, spade lug, banana plug, alligator clip or wire strand. Can be completely insulated from panel. With two hex nuts. **Type 1482.** Head: captive, molded lexan. Body: brass, nickel-plated. Accepts: phone tip plug, spade lug, banana plug, alligator clip or wire strand. Can be completely insulated from panel. With 2 hex nuts. **Type 1517.** Head: captive, molded lexan with brass, gold-plated insert. Body: brass, gold-plated. Washer: molded lexan, with brass, gold-plated inserts. Accepts: phone tip plug, spade lug, banana plug, alligator clip or wire strand. Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require min. panel space. Mounts in 3/8" round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection. **Type 899:** Standard multiple connection Insulated Hex Head Binding Post, mounts in 1/2" round or D hole, includes all mounting hardware. **Type 3015:** Miniature multiple connection insulated binding post, mounts in 1/4" round or D hole, includes all mounting hardware. **Type 110:** All metal binding post, brass nickel-plated, mounts in #8 clearance hole, includes all mounting hardware. **Type 459:** Standard multiple connection all insulated fluted head binding post, mounts in 1/2" round or D hole, includes all mounting hardware. Accepts standard banana plugs, .080 phone tips, wire, alligator clips and spade lug. Accepts miniature banana plugs, .080 phone tips, wire, alligator clips and spade lug. 1 K volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. Capacitance: 5.0 mmfd. (Type 1517, 3.0 mmfd).

Dual Binding Posts Type 1477 and 269: Standard dual insulated binding posts, mounts in two 1/2" holes on 3/4" centers, panels up to 1/4" thick, includes all mounting hardware.

Dual Binding Posts

Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-1477	1477BBS	F	Black/black	7.12	5.68	5.07	4.07
920-1478	1477RB	F	Red/black	7.12	5.68	5.07	4.07
920-0325	269BB†	G	Black/black	6.50	5.19	4.63	3.71
920-0326	269RB†	G	Red/black	6.50	5.19	4.63	3.71

§ Capacitance: 2.0 mmfd. between conductors, 3.0 mmfd. top panel. † Rated at 15 amps AC for 10° temp. rise continuous duty, 2 KV volts cycle AC continuous working voltage.

Dual Banana Plug Adapters

All are molded standard dual banana plugs on 3/4" centers. **Type 210.** Takes up to #12 wire; stackable; molded polystyrene body. **Type 1675:** Set screws to secure leads to conductor. **Type 1676:** Turret terminals for solder connection of component leads. **Type 1686:** To BNC female. **Type 1687:** To BNC male.

Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-0230	210*	K	Black	7.00	5.59	4.99	4.00
920-9070	1675*	L	Black	4.56	4.07	3.73	3.09
920-9071	1675*	L	Red	4.56	4.07	3.73	3.09

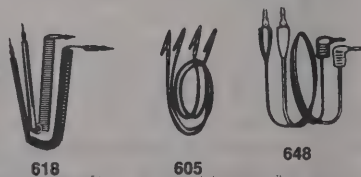
* Rated at 15 amps AC for 10° temp. rise continuous duty, 5KV 60 cycle continuous working voltage.

Test Leads and Test Prods

No. 20 rubber-covered wire 50" long (unless otherwise stated); 5000V test. Handles and plugs are molded butyrate per MIL-L-P349A, Type 3, Class MS; fiber per MIL-F-1148A, Grade CH; molded thermosetting plastic per MIL-P-14CFG.

Type 618 Solderless Retractable Test Leads. 12' to 6' coil. Nickel-plated brass tips. Butyrate handle. 4000 volts. Nominal O.D.: .165".

920-0618. 1-9 PER PAIR 17.65 25-99 PER PAIR 16.14



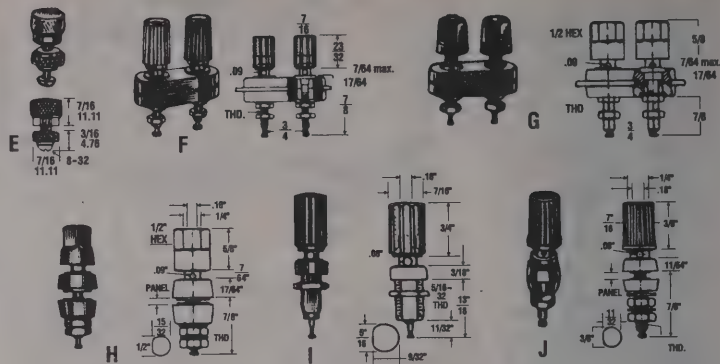
Alligator Clip Test Leads. Cadmium-plated steel clips. Type 717 has midjet clips.

Stock No.	Mfr.'s Type	Length Inches	PER PAIR		
			1-9	10-24	25-99
920-0605	605†	24	3.59	3.27	3.00
920-0657	657*	24	3.68	3.38	3.08
920-0717	717*	18	4.60	4.22	3.85

* Have vinyl plastic boots. † Standard steel clips.

Crocodile Clip Test Leads With Boots. Clips are cadmium-plated steel. Thermosetting elbows. Vinyl boots.

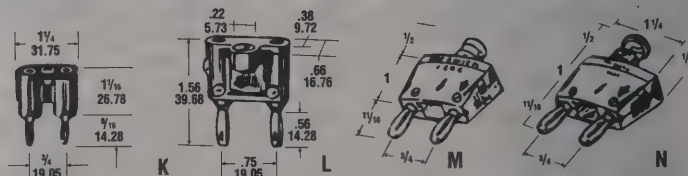
Stock No.	Mfr.'s Type	Meter End	PER PAIR		
			1-9	10-24	25-99
920-0648	648	Banana plugs	7.57	6.93	6.33



Single Binding Posts

Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-0137	137*†	A	Metal	12.94	10.32	9.21	7.39
920-0130	257	H	Red	5.19	4.16	3.70	2.73
920-0131	257	H	Black	5.19	4.16	3.70	2.73
920-0312	899	H	Black	3.36	2.68	2.39	1.92
920-9061	899	H	Green	3.36	2.68	2.39	1.92
920-9062	899	H	White	3.36	2.68	2.39	1.92
920-9063	899	H	Red	3.36	2.68	2.39	1.92
920-1482	1482*	B	Red	2.99	2.38	2.13	1.71
920-1483	1482*	B	Black	2.99	2.38	2.13	1.71
920-1460	1463	I	Red	3.94	3.14	2.80	2.25
920-1461	1463	I	Black	3.94	3.14	2.80	2.25
920-2814	3015**	D	Red	5.21	4.16	3.71	2.97
920-2815	3015**	D	Black	5.21	4.16	3.71	2.97
920-0110	110†	E	Metal	11.58	9.24	8.24	6.61
920-0563	459	C	Red	4.75	3.80	3.39	2.71
920-0561	459	C	Black	4.75	3.80	3.39	2.71
920-1275	1275	J	Red	4.52	3.60	3.22	2.58
920-1276	1275	J	Black	4.52	3.60	3.22	2.58
920-1517	1517*	J	Red	5.08	4.06	3.62	2.90
920-1518	1517*	J	Black	5.08	4.06	3.62	2.90

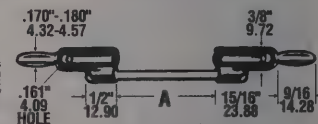
** Rated at 5 amps AC for 10° temp. rise continuous duty, 2KV 60 cycle AC continuous working voltage. * Rated at 15 amps AC for 10° C temp. rise, continuous duty. † Sold in packages of 5.



Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-9078	1676AA	L	Black	4.98	4.55	4.17	3.46
920-9085	1686	M	Black	8.68	7.94	7.25	6.20
920-9086	1687	N	Black	12.21	11.16	10.21	8.72

Stacking Patch Cords

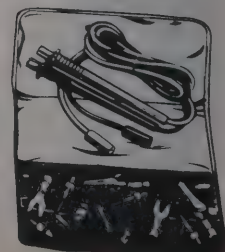
Type 1510: In-line and cross patch stacking banana plug cords. Standard Ber. copper nickel plated banana plugs each end, #18 AWG 10KV PVC 10 KV wire.



Stock No.	Mfr.'s Type	Color	Length In.	PER PK/5		
				1-9	10-24	25-99
920-9042	1510-12	Black	12	19.66	18.03	16.45
920-9043	1510-12	Red	12	19.66	18.03	16.45
920-9044	1510-24	Black	24	19.66	18.03	16.45
920-9045	1510-24	Red	24	19.66	18.03	16.45

Model 699 Universal Test Lead Kit

Universal Test Lead Kit offers 50 leads in one for complete interchangeability. Retrofits to most existing equipment. **Kit includes:** prod (made of KJB-Type ABS plastic 94V-0), 4 phone tips, 2 needle tips, 2 alligator clips, 2 spade lugs, 2 banana plugs, 18 PVC-covered wire (48" nom. overall length), and 1 red and 1 black lead. Prod features ribbed finger grip and non-slip finger guard.

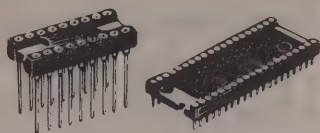


920-0699. 1-9	EACH 21.50
10-24	EACH 19.65
25-99	EACH 17.97
100-Up	EACH 15.35

IC Sockets (DIP and STRIP)

ICA Series Screw Machine Sockets

Feature four finger Beryllium copper contacts with high retention design. Low profile body with mounting holes. "S" in Mfr.'s Type number indicates solder dip sockets. "WB" in Mfr.'s Type number indicates 3-level wire wrap. Body material is glass-filled black polyester. PCB hole .035" ± .002". IC lead and socket leads are coincident. **Plating:** TG30 has 30µ inch minimum gold on contact area. 200µ inch minimum tin in the terminal area. TG30 includes an underplate of 50µ inch minimum nickel. **Temperature Range:** -65°C to +125°C.

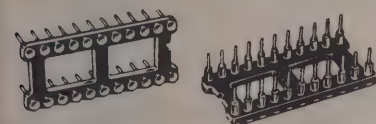


3-Level Wire Wrap

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-5150	ICA-083-WB-TG30	8	0.395	10.03	.395	10.03	.72	.57	.52
906-5155	ICA-143-WB-TG30	14	0.695	17.65	.395	10.03	1.12	.87	.78
906-5160	ICA-163-WB-TG30	16	0.795	20.19	.395	10.03	1.28	1.00	.90
906-5165	ICA-203-WB-TG30	20	0.995	25.27	.395	10.03	1.69	1.52	1.37
906-5170	ICA-246-WB-TG30	24	1.195	30.35	.695	17.65	1.89	1.48	1.32
906-5185	ICA-286-WB-TG30	28	1.395	35.43	.695	17.65	2.31	1.81	1.62
906-5190	ICA-406-WB-TG30	40	1.995	50.67	.695	17.65	3.22	2.66	2.33

Solder DIP

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-5000	ICA-083-S-TG30	8	0.395	10.03	.395	10.03	.66	.51	.45
906-5005	ICA-143-S-TG30	14	0.695	17.65	.395	10.03	.72	.56	.50
906-5010	ICA-163-S-TG30	16	0.795	20.19	.395	10.03	.82	.64	.57
906-5015	ICA-183-S-TG30	18	0.895	22.73	.395	10.03	.92	.72	.64
906-5020	ICA-203-S-TG30	20	0.995	25.27	.395	10.03	1.02	.80	.71
906-5035	ICA-246-S-TG30	24	1.195	30.35	.695	17.65	1.23	.96	.86
906-5040	ICA-286-S-TG30	28	1.395	35.43	.695	17.65	1.43	1.12	1.00
906-5045	ICA-406-S-TG30	40	1.995	50.67	.695	17.65	2.05	1.61	1.43
906-6005	ICA-083-S-TT	8	0.395	10.03	.395	10.03	.51	.39	.35
906-6009	ICA-143-S-TT	14	0.695	17.65	.395	10.03	.55	.43	.38
906-6015	ICA-163-S-TT	16	0.795	20.19	.395	10.03	.63	.49	.44
906-6025	ICA-203-S-TT	20	0.995	25.27	.395	10.03	.79	.62	.55
906-6035	ICA-243-S-TT	24	1.195	30.35	.695	17.65	.95	.74	.66
906-6040	ICA-286-S-TT	28	1.395	35.43	.695	17.65	1.11	.86	.77
906-6050	ICA-406-S-TT	40	1.995	50.67	.695	17.65	1.58	1.24	1.11



ICT Series of Open Frame IC Sockets

Feature four finger Beryllium copper contacts with high retention design. Open frame body for excellent connection cooling. "S" in Mfr.'s Type number indicates solder dip sockets. Body material is glass-filled black nylon. PCB hole .035" ± .002". IC lead and socket leads are coincident. **Plating:** TG30 has 30µ inch minimum gold on contact area. 10µ inch minimum gold on terminal area. Both options include an underplate of 50µ inch minimum nickel. **Temperature Range:** -65°C to +125°C.

Mfr.'s Type number indicates solder dip sockets. Body material is glass-filled black nylon. PCB hole .035" ± .002". IC lead and socket leads are coincident. **Plating:** TG30 has 30µ inch minimum gold on contact area. 10µ inch minimum gold on terminal area. Both options include an underplate of 50µ inch minimum nickel. **Temperature Range:** -65°C to +125°C.

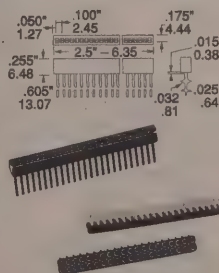
Solder DIP

Note: Tin Plated Contacts available.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-5705	ICT-083-S-TG30	8	0.395	10.03	.395	10.03	.66	.51	.45
906-5710	ICT-143-S-TG30	14	0.695	17.65	.395	10.03	.72	.56	.50
906-5715	ICT-163-S-TG30	16	0.795	20.19	.395	10.03	.82	.74	.67
906-5725	ICT-203-S-TG30	20	0.995	25.27	.395	10.03	1.02	.80	.71
906-5735	ICT-246-S-TG30	24	1.195	30.35	.695	17.65	1.23	.96	.86
906-5740	ICT-286-S-TG30	28	1.395	35.43	.695	17.65	1.43	1.12	1.00
906-5745	ICT-406-S-TG30	40	1.995	50.67	.695	17.65	2.05	1.61	1.43

SBE Series Strip Socket

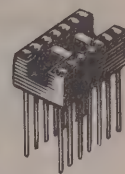
SBE Series. Solder dip strip socket. Accepts .015" dia. pins. Body material is black polyester, glass-filled. Contact material is phosphor bronze and contact finish is gold. **Mounting instructions.** PCB hole: .035" ± .002" (0.89 ± 0.05mm). Socket is offset .026" (.66mm) from IC leads. **Temperature range:** -65°C to +125°C. Accepts .016" - .021" dia. pins. **Solder tail:** .040" ± .022". **WB wire wrap tail:** .055" ± .002". **Flammability:** UL 94V-0 **Temperature Range:** -65°C to +105°C.



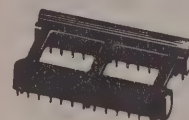
Stock No.	Mfr.'s Type	Number of Contacts	EACH		
			1-99	100-499	500-999
906-6511	SBE-640-WB-TG	64 Single	7.54	6.37	6.30
906-6516	SBE-640-S-TG	64 Single	2.81	2.38	2.30

ICN Series Wire Wrap Sockets

Types with WB in Mfr.'s Type number are wire wrap sockets and include terminal barbs which allow self-lock into PC board, rugged socket body design and RN side wipe contact design. **PCB Hole:** .037 ± .002" (.94 ± .05mm). Socket leads are offset .018" (.46mm) from IC leads. Suffix "-T" denotes tin contact finish. "GG" denotes gold on contacts, tails tin plated. **Temperature Range:** -65°C to +125°C.



Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-5401	ICN-083-WB-T	8	0.395	10.03	.440	11.18	.62	.47	.43
906-5406	ICN-143-WB-T	14	0.695	17.65	.440	11.18	.80	.61	.56
906-5411	ICN-163-WB-T	16	0.795	20.19	.440	11.18	.92	.70	.64
906-5416	ICN-183-WB-T	18	0.895	22.73	.440	11.18	1.04	.79	.72
906-5421	ICN-203-WB-T	20	0.995	25.27	.440	11.18	1.16	.88	.81
906-5431	ICN-246-WB-T	24	1.195	30.35	.740	18.80	1.39	1.05	.97
906-5436	ICN-286-WB-T	28	1.395	35.43	.740	18.80	1.62	1.23	1.13
906-5441	ICN-406-WB-T	40	1.995	50.67	.740	18.80	2.31	1.76	1.62
906-5445	ICN-083-WB-TG	8	0.395	10.03	.440	11.18	.80	.60	.55
906-5450	ICN-143-WB-TG	14	0.695	17.65	.440	11.18	1.03	.78	.72
906-5455	ICN-163-WB-TG	16	0.795	20.19	.440	11.18	1.18	.89	.82
906-5460	ICN-183-WB-TG	18	0.895	22.73	.440	11.18	1.33	1.01	.97
906-5465	ICN-203-WB-TG	20	0.995	25.27	.440	11.18	1.48	1.12	1.03
906-5475	ICN-246-WB-TG	24	1.195	30.35	.740	18.80	1.77	1.35	1.24
906-5480	ICN-286-WB-TG	28	1.395	35.43	.740	18.80	2.07	1.57	1.45
906-5485	ICN-406-WB-TG	40	1.995	50.67	.740	18.80	2.96	2.25	2.07

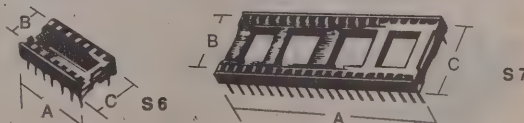


ICN Series Solder DIP Production Sockets

The ICN Series features the RN dual leaf side wipe contact design which increases the contact area by 100% over edge-bearing type contacts. The S4 series configuration offers the E-Z entry feature to help guide leads on large LSI devices into the contact area. The contacts are protected from damage by closed entry mold design. Contacts are designed to accept leads up to .015 inch thick. The S4 series has rib type body structure which improves convection cooling. Are supplied with anti-wicking wafers and standoffs for easy flux removal. **Body Material:** black polyester, glass-filled. **Contact Material:** phosphor bronze. **Contact Finish:** Suffix G, 10µ inch (.254mm) min. gold over 50µ inch (1.27µm) min. nickel. Suffix T, 30µ inch (.762µm) min. hot tin dip and wipe. **Temperature Range:** -65°C to +125°C. **Flammability:** UL 94V-0. **PCB Hole:** .035" ± .002" (0.89 ± 0.05mm). Socket Leads are offset .026" (0.66mm) from IC leads.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-5300	ICN-063-S3-G	6	0.295	7.49	.405	10.28	.66	.49	.45
906-5305	ICN-083-S3-G	8	0.395	10.03	.405	10.28	.61	.46	.42
906-5310	ICN-143-S3-G	14	0.695	17.65	.405	10.28	.84	.63	.58
906-5315	ICN-163-S3-G	16	0.795	20.19	.405	10.28	.94	.71	.65
906-5325	ICN-203-S3-G	20	0.995	25.27	.405	10.28	1.23	.93	.85
906-5335	ICN-246-S4-G	24	1.195	30.35	.775	19.68	1.37	1.04	.95
906-5340	ICN-286-S4-G	28	1.395	35.43	.775	19.68	1.61	1.22	1.12
906-5345	ICN-406-S4-G	40	1.995	50.67	.775	19.68	2.27	1.72	1.59
906-5307	ICN-083-S3-T	8	0.395	10.03	.405	10.28	.34	.26	.24
906-5313	ICN-143-S3-T	14	0.695	17.65	.405	10.28	.38	.28	.26
906-5317	ICN-163-S3-T	16	0.795	20.19	.405	10.28	.42	.31	.29
906-5323	ICN-183-S3-T	18	0.895	22.73	.405	10.28	.47	.36	.33
906-5327	ICN-203-S3-T	20	0.995	25.27	.405	10.28	.53	.40	.37
906-5337	ICN-246-S4-T	24	1.195	30.35	.775	19.68	.65	.49	.45
906-5347	ICN-406-S4-T	40	1.995	50.67	.775	19.68	.98	.74	.68

ICU Series Solder DIP Production Sockets

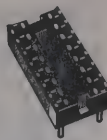


Low-cost variation of ICL series on the next page. For use where less than 25 in/out cycles are required. Black body, phosphor bronze contacts. **Suffix TG:** gold over nickel. **Suffix T:** hot tin dip.

Stock No.	Mfr.'s Type	Number of Contacts	Dimensions-In. (mm)			EACH		
			A	B	C	1-99	100-499	500-999
906-5505	ICU-083-S6-T	8	0.395(10.03)	.300(7.62)	.395(10.03)	.11	.09	.08
906-5515	ICU-143-S6-T	14	0.695(17.65)	.300(7.62)	.395(10.03)	.12	.08	.07
906-5525	ICU-163-S6-T	16	0.795(20.19)	.300(7.62)	.395(10.03)	.14	.10	.09
906-5535	ICU-183-S6-T	18	0.895(22.73)	.300(7.62)	.395(10.03)	.15	.11	.10
906-5545	ICU-203-S6-T	20	0.995(25.27)	.300(7.62)	.395(10.03)	.17	.12	.11
906-5565	ICU-246-S7-T	24	1.195(30.35)	.600(15.24)	.695(17.65)	.19	.14	.13
906-5575	ICU-286-S7-T	28	1.395(35.43)	.600(15.24)	.695(17.65)	.24	.17	.16
906-5585	ICU-406-S7-T	40	1.995(50.67)	.600(15.24)	.695(17.65)	.34	.25	.23

ICB Series Solder DIP Production Sockets

Dual contact, low profile socket allows dense board-to-board spacing. Features closed bottom body design and self-locking tail. Dual wiping contact design offers high compression for gas-tight reliability. Beryllium copper contacts. **Body:** black polyester, glass-filled. **Contact Finishes:** Contact Area 10µ inch min. gold over 50µ inch min. nickel. **Terminal Area:** 100µ inch min. electro tin over 50µ inch min. nickel. **Temperature Range Rating:** -65°C to +125°C. **PCB Hole Mounting:** .040" ± .002" 3 dia.



Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-2000	ICB-063-S8-TG	6	0.295	7.49	.400	10.16	.46	.35	.32
906-2005	ICB-083-S8-TG	8	0.395	10.03	.400	10.16	.46	.35	.32
906-2010	ICB-143-S8-TG	14	0.695	17.65	.400	10.16	.50	.37	.34
906-2015	ICB-163-S8-TG	16	0.795	20.19	.400	10.16	.57	.43	.39
906-2025	ICB-203-S8-TG	20	0.995	25.27	.400	10.16	.71	.54	.49
906-2035	ICB-243-S8-TG	24	1.195	30.35	.400	10.16	.86	.65	.59
906-2040	ICB-246-S8-TG	24	1.195	30.35	.700	17.78	.86	.65	.59
906-2045	ICB-286-S8-TG	28	1.395	35.43	.700	17.78	1.00	.76	.70
906-2050	ICB-406-S8-TG	40	1.995	50.67	.700	17.78	1.43	1.09	1.00
906-2060	ICB-649-S8-TG	64	3.195	81.15	.900	22.86	5.28	4.01	3.69

NOTE: Sockets available with Tin Contacts.



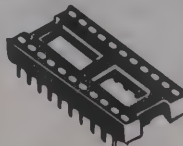
ICE Series Open Body Screw Machine Sockets

Body: Black polyester. **Contacts:** Beryllium copper. **Shell:** Hard brass. **Flammability Rating:** UL94V-0. **Mounting Information:** PCB Hole: .035 ± .002". **Location:** IC lead and socket leads are coincident. **Current Rating:** 1 Ampere. **Plating:** Minimum 10µ" minimum gold contact area. 200µ" minimum tin/lead on terminal area.

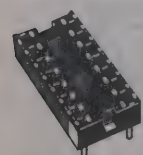
Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In. (mm)	mm	In. (mm)	mm	1-99	100-499	500-999
906-5905	ICE-083-S-TG	8	0.395 (10.03)	10.03	.395 (10.03)	10.03	.57	.44	.39
906-5910	ICE-143-S-TG	14	0.695 (17.65)	17.65	.395 (10.03)	10.03	.62	.48	.43
906-5915	ICE-163-S-TG	16	0.795 (20.19)	20.19	.395 (10.03)	10.03	.71	.55	.49
906-5920	ICE-203-S-TG	20	0.995 (25.27)	25.27	.395 (10.03)	10.03	.89	.70	.62
906-5925	ICE-246-S-TG	24	1.195 (30.35)	30.35	.695 (17.65)	17.65	1.06	.83	.74
906-5930	ICE-286-S-TG	28	1.395 (35.43)	35.43	.695 (17.65)	17.65	1.24	.97	.86
906-5935	ICE-326-S-TG	32	1.595 (40.51)	40.51	.695 (17.65)	17.65	1.40	1.14	1.00
906-5940	ICE-406-S-TG	40	1.995 (50.67)	50.67	.695 (17.65)	17.65	1.77	1.39	1.24
906-5945	ICE-426-S-TG	42	2.095 (53.21)	53.21	.695 (17.65)	17.65	2.04	1.82	1.68
906-5950	ICE-486-S-TG	48	2.395 (60.83)	60.83	.695 (17.65)	17.65	2.34	2.12	1.93

ICL Series Solder DIP Production Sockets

Designed primarily for high volume applications. Low profile (.150") allows very dense board-to-board spacing; the socket is stackable side-to-side and end-to-end to optimize board surface usage. The body material is glass-filled black polyester. **Contacts:** Beryllium Copper. Suffix "T" denotes tin contact finish, "TG" denotes gold over nickel contact finish. **Terminal range:** -65°C to +125°C. **PCB Hole:** .031" ± .002" (.79 ± .05 mm). IC leads and socket leads are coincident. **Temperature range:** -65°C to +125°C.



Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-5200	ICL-083-S6-TG	8	0.395	10.03	.395	10.03	.40	.30	.27
906-5205	ICL-143-S6-TG	14	0.695	17.65	.395	10.03	.44	.33	.30
906-5210	ICL-163-S6-TG	16	0.795	20.19	.395	10.03	.50	.38	.35
906-5215	ICL-183-S6-TG	18	0.895	22.73	.300	7.62	.56	.42	.39
906-5220	ICL-203-S6-TG	20	0.995	25.27	.395	10.03	.63	.47	.43
906-5230	ICL-246-S7-TG	24	1.195	30.35	.695	17.65	.75	.57	.52
906-5235	ICL-286-S7-TG	28	1.395	35.43	.695	17.65	.88	.66	.61
906-5240	ICL-406-S7-TG	40	1.995	50.67	.695	17.65	1.25	.95	.87
906-5245	ICL-083-S6-T	8	0.395	10.03	.395	10.03	.24	.17	.16
906-5250	ICL-143-S6-T	14	0.695	17.65	.395	10.03	.26	.19	.18
906-5255	ICL-163-S6-T	16	0.795	20.19	.395	10.03	.30	.22	.20
906-5260	ICL-183-S6-T	18	0.895	22.73	.300	7.62	.34	.25	.23
906-5265	ICL-203-S6-T	20	0.995	25.27	.395	10.03	.37	.28	.25
906-5275	ICL-246-S7-T	24	1.195	30.35	.695	17.65	.45	.33	.31
906-5280	ICL-286-S7-T	28	1.395	35.43	.695	17.65	.52	.39	.36
906-5285	ICL-406-S7-T	40	1.995	50.67	.695	17.65	.74	.56	.52



ICO Series Solder DIP Production Sockets

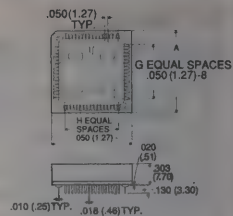
Dual contact, low profile socket allows dense board-to-board spacing. Features closed bottom body design and self-locking tail. Dual wiping contact design offers high compression for gas-tight reliability. Phosphor bronze contacts. **Body:** black polyester, glass-filled. **Contact Finishes:** Contact Area 10µ inch min. nickel electro tin over 50µ inch min. nickel. **Temperature Range Rating:** -65°C to +105°C. **PCB Hole Mounting:** .040" ± .002" dia.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-99	100-499	500-999
906-5652	ICO-063-S8-T	6	0.295	7.49	.400	10.16	0.13	0.12	0.10
906-5654	ICO-083-S8-T	8	0.395	10.03	.400	10.16	0.13	0.12	0.10
906-5656	ICO-143-S8-T	14	0.695	17.65	.400	10.16	0.13	0.12	0.10
906-5658	ICO-163-S8-T	16	0.795	20.19	.400	10.16	0.14	0.13	0.12
906-5660	ICO-183-S8-T	18	0.895	22.73	.300	7.62	0.16	0.15	0.13
906-5662	ICO-203-S8-T	20	0.995	25.27	.400	10.16	0.18	0.16	0.15
906-5664	ICO-243-S8-T	24	1.195	30.35	.400	10.16	0.22	0.19	0.17
906-5666	ICO-246-S8-T	24	1.195	30.35	.700	17.78	0.22	0.19	0.17
906-5668	ICO-286-S8-T	28	1.395	35.43	.700	17.78	0.25	0.23	0.20
906-5670	ICO-406-S8-T	40	1.995	50.67	.700	17.78	0.35	0.32	0.29

NOTE: Sockets available with Tin Gold Contacts.

Plastic Leaded Chip Carrier

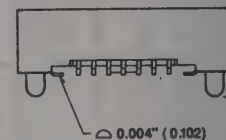
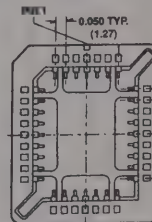
- Accepts chip carriers conforming to latest Jedic specifications
- 20-100 pin versions available
- Molded-in standoffs for easy cleaning and heat dissipation
- Mold polarization and pin one locator ensure positive alignment



Materials and specifications: Body is PPS contacts are phosphor bronze. Contact resistance is 30 milliohms max insulation resistance is 1000 megohms min dielectric withstanding voltage 500 volts AC with a current rating of 1 ampere plating is 80 pinch (2.30 µm) minimum tin on contact area 50 pinch (1.27 µm) minimum nickel underplate.

Stock No.	Mfr.'s Type	No. of Leads	A Max	B Max	EACH		
					1-24	25-99	100-499
906-6520	PLCCB-20-PS-T	20	0.913	.200	1.42	1.24	1.01
906-6521	PLCCB-28-PS-T	28	0.713	.300	1.48	1.30	1.06
906-6522	PLCCB-32-PS-T	32	0.795	.400	1.56	1.37	1.11
906-6530	PLCCB-44-PS-T	44	0.913	.500	1.60	1.40	1.14
906-6540	PLCCB-52-PS-T	52	1.060	.600	1.98	1.73	1.41
906-6545	PLCCB-68-PS-T	68	1.217	.800	2.18	1.91	1.56
906-6550	PLCCB-84-PS-T	84	1.417	1.000	2.48	2.15	1.76
906-6555	PLCCB-100-PS-T	100	1.663	1.200	4.32	3.78	3.09

PLCC-SMT Series Surface Mount Plastic Leaded Chip Carrier Sockets



High-density, low profile 0.200" (5.08) maximum height. Open frame design allows for visual inspection of solder joints. Footprint matches device. Phosphor bronze contacts with tin-over-nickel plating. High-temperature, black polyphenylene sulfide insulator, rated UL94V-0, is compatible with IR reflow and wave soldering. **Insertion force:** 180g/pin maximum. **Withdrawal force:** 28.35g pin minimum. **Contact resistance:** 20mΩ **Current Rating:** 1A. **Temperature range:** -55°C to +105°C. For Automatic assembly. Available with or without location posts.

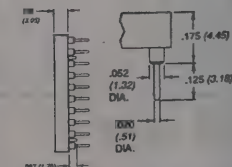
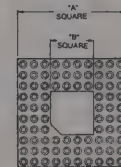
Surface Mount PLCC Sockets with Location Posts

Stock No.	Mfr.'s Type	Contacts	Configuration	EACH		
				1-24	25-99	100-499
906-6600	PLCC-20-SMTL-TT	20	0.600" (15.24) Square	1.87	1.68	1.52
906-6605	PLCC-28-SMTL-TT	28	0.700" (17.78) Square	2.23	2.00	1.80
906-6610	PLCC-32-SMTL-TT	32	0.700" (17.78) x 0.800" (20.32) Rectangular	2.36	2.12	1.91
906-6615	PLCC-44-SMTL-TT	44	0.900" (22.86) Square	2.91	2.62	2.36
906-6620	PLCC-52-SMTL-TT	52	1.000" (25.40) Square	3.10	2.79	2.51
906-6625	PLCC-68-SMTL-TT	68	1.200" (30.48) Square	3.65	3.29	2.96
906-6630	PLCC-84-SMTL-TT	84	1.400" (35.56) Square	4.27	3.84	3.51

Surface Mount PLCC Sockets without Location Posts

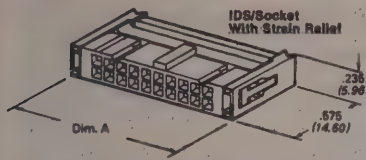
Stock No.	Mfr.'s Type	Contacts	Configuration	EACH		
				1.70	1.49	1.21
906-6560	PLCC-20-SMT-TT	20	0.600" (15.24) Square	2.02	1.77	1.44
906-6565	PLCC-28-SMT-TT	28	0.700" (17.78) Square	2.14	1.87	1.53
906-6570	PLCC-32-SMT-TT	32	0.700" (17.78) x 0.800" (20.32) Rectangular	2.64	2.31	2.00
906-6575	PLCC-44-SMT-TT	44	0.900" (22.86) Square	2.82	2.47	2.01
906-6580	PLCC-52-SMT-TT	52	1.000" (25.40) Square	3.32	2.91	2.67
906-6585	PLCC-68-SMT-TT	68	1.200" (30.48) Square	3.88	3.40	2.43
906-6590	PLCC-84-SMT-TT	84	1.400" (35.56) Square			

Pin Grid Array Sockets



6-point contact provides consistent insertion/withdrawal and contact resistance. Low insertion force (2.5 ounces) for easy installation and removal. Beryllium copper contacts finished with 10 micro-inch gold on contact area and 200µ" tin/lead on terminal area over 50µ" nickel underplate. Precision machined half hard brass shell that protects against flux contamination and solder wicking. Standard 0.125" long solder tail termination. **Current rating:** 1A. **Temperature range:** -65°C to +125°C Black polyester, glass-filled body. Rated UL94V-0.

Stock No.	Mfr.'s Type	Pins	Grid	"A"	"B"	EACH		
						1-24	25-99	100-499
906-7120	PGA-068BH3-S-TG	68	10x10	1.000"	0.400"	3.59	3.23	2.91
906-7122	PGA-068CH3-S-TG	68	11x11	1.100"	0.500"	3.59	3.23	2.91
906-7124	PGA-084BH3-S-TG	84	10x10	1.000"	0.400"	4.45	4.00	3.60
906-7126	PGA-088CH3-S-TG	88	13x13	1.300"	0.500"	4.64	4.18	3.76
906-7128	PGA-101AH3-S-TG	101	13x13	1.300"	0.500"	5.32	4.80	4.31
906-7130	PGA-114MH3-S-TG	114	13x13	1.300"	0.500"	6.03	5.43	4.88
906-7132	PGA-121AH3-S-TG	121	13x13	1.300"	0.500"	6.38	5.74	5.17
906-7134	PGA-128AH3-S-TG	128	13x13	1.300"	0.500"	6.75	6.08	5.48
906-7136	PGA-132AH3-S-TG	132	14x14	1.400"	0.600"	6.97	6.28	5.65
906-7138	PGA-180CH3-S-TG	180	15x15	1.500"	0.500"	9.51	8.55	7.70



IDS-NPK and IDS-PK Series 0.100 x 0.100" (2.54 x 2.54) Grid IDC Socket Connectors

For quick connect/disconnect with all 0.025" post headers, IDS -NPK series sockets offer

total resistance to MIL-C-83503. IDS-PK series sockets incorporate a center polarization tab to meet DIN-41651 and BT-224. Phosphor bronze copper contacts plated with 10µ Robex™ on contact area and 100µ tin on terminal area over 50 micro-inch nickel. Black, glass-filled polyester body and lid, rated UL94V-0. 0.420" wide x 0.235" high. Grid: 0.100 x 0.100". Temperature range: -55°C to +105°C. Order strain reliefs separately below. UL recognized, CSA certified.

IDS-NPK Series

Stock No.	Mfr.'s Type	Contacts	Dim. "A"	EACH	
				1-99	100-499
906-3002	IDS-C10NPK-TR	10	0.680" (17.27)	0.48	0.43
906-3004	IDS-C14NPK-TR	14	0.880" (22.35)	0.51	0.46
906-3006	IDS-C16NPK-TR	16	0.980" (24.89)	0.53	0.48
906-3008	IDS-C20NPK-TR	20	1.180" (29.97)	0.55	0.50
906-3010	IDS-C26NPK-TR	26	1.480" (37.59)	0.58	0.52
906-3012	IDS-C34NPK-TR	34	1.880" (47.75)	0.76	0.68
906-3014	IDS-C40NPK-TR	40	2.180" (55.37)	0.86	0.78
906-3016	IDS-C50NPK-TR	50	2.680" (68.07)	1.01	0.91
906-3018	IDS-C60NPK-TR	60	3.180" (80.77)	1.17	1.05

IDS-PK Series

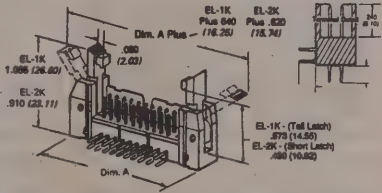
Stock No.	Mfr.'s Type	Contacts	Dim. "A"	EACH	
				1-99	100-499
906-3020	IDS-C10PK-TR	10	0.680" (17.27)	0.48	0.43
906-3022	IDS-C14PK-TR	14	0.880" (22.35)	0.51	0.46
906-3024	IDS-C16PK-TR	16	0.980" (24.89)	0.53	0.48
906-3026	IDS-C20PK-TR	20	1.180" (29.97)	0.55	0.50
906-3028	IDS-C26PK-TR	26	1.480" (37.59)	0.58	0.52
906-3030	IDS-C34PK-TR	34	1.880" (47.75)	0.76	0.68
906-3032	IDS-C40PK-TR	40	2.180" (55.37)	0.86	0.78
906-3034	IDS-C50PK-TR	50	2.680" (68.07)	1.01	0.91
906-3036	IDS-C60PK-TR	60	3.180" (80.77)	1.17	1.05

Black, Glass-Filled Polyester Strain Reliefs

Stock No.	Mfr.'s Type	Fit Connectors With	EACH	
			1-99	100-499
906-3040	SR-10K-IDS	10 Contacts	0.25	0.17
906-3042	SR-14K-IDS	14 Contacts	0.25	0.17
906-3044	SR-16K-IDS	16 Contacts	0.25	0.17
906-3046	SR-20K-IDS	20 Contacts	0.25	0.17
906-3048	SR-26K-IDS	26 Contacts	0.25	0.17
906-3050	SR-34K-IDS	34 Contacts	0.25	0.17
906-3052	SR-40K-IDS	40 Contacts	0.25	0.17
906-3054	SR-50K-IDS	50 Contacts	0.25	0.17
906-3056	SR-60K-IDS	60 Contacts	0.25	0.17

IDH-PK Series 4-Sided 0.025" (0.635) Square Post IDC Headers

Four-sided body design provides foolproof socket polarization and pin protection. Mounting configurations include headers for straight (vertical) or right angle (horizontal) applications. MIL-C83503, DIN 41651 and BT-224 compatible. Allows convenient multiple sourcing. Phosphor bronze contacts plated with 10µ Robex™ on contact area and 100µ tin on terminal area over 50µ nickel. Temperature range: -65°C to +125°C. Housed in black, glass-filled polyester, rated UL94V-0. All solder tails are rounded to 0.028" for easy PCB insertion. UL recognized, CSA certified. Order socket ejector latches separately at right.



Straight Solder Tail

Stock No.	Mfr.'s Type	Contacts	Dim. "A"	EACH	
				1-99	100-499
906-3102	IDH-20PK-S3-TR	20	1.760" (44.70)	0.83	0.75
906-3104	IDH-26PK-S3-TR	26	2.060" (52.32)	0.93	0.84
906-3106	IDH-34PK-S3-TR	34	2.460" (62.48)	1.14	1.03
906-3108	IDH-40PK-S3-TR	40	2.760" (70.10)	1.34	1.21
906-3110	IDH-50PK-S3-TR	50	3.260" (82.80)	1.53	1.38
906-3112	IDH-60PK-S3-TR	60	3.760" (95.50)	2.24	2.02

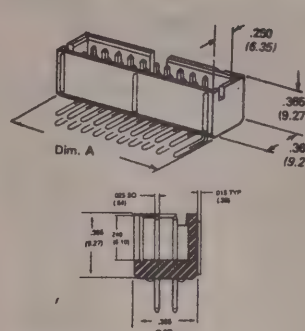
Right Angle Solder Tail

Stock No.	Mfr.'s Type	Contacts	Dim. "A"	EACH	
				1-99	100-499
906-3114	IDH-20PK-SR3-TR	20	1.760" (44.70)	0.83	0.75
906-3116	IDH-26PK-SR3-TR	26	2.060" (52.32)	0.93	0.84
906-3118	IDH-34PK-SR3-TR	34	2.460" (62.48)	1.14	1.03
906-3120	IDH-40PK-SR3-TR	40	2.760" (70.10)	1.34	1.21
906-3122	IDH-50PK-SR3-TR	50	3.260" (82.80)	1.53	1.38
906-3124	IDH-60PK-SR3-TR	60	3.760" (95.50)	2.24	2.02

Socket Ejector Latches for IDH-PK Series Headers

Minimizes PC space required and allows dense packaging design.

Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
906-3132	EL-1K	0.573" Tall Latch	0.08	0.07
906-3134	EL-2K	0.430" Short Latch	0.08	0.07



IDH-LP Series Low-Profile 0.025" (0.635) Square Post Headers

► Robex™ Plating: Provides "better than gold" cycling and environment performance.

Designed for use where space saving is critical, these low profile headers provide mechanical polarization with full shrouding when mated with socket connectors that have center polarization tab. Available for straight or right angle applications. Phosphor bronze contacts plated with 10µ Robex™ on contact area and 100µ tin on terminal area over 50µ nickel. Temperature range: -65°C to +125°C. Housed in black, glass filled polyester, rated UL94V-0. Tall length: 0.102" (2.59). All solder tails are rounded to 0.028" for easy 0.062" thick PCB insertion. UL recognized, CSA certified.

Straight Solder Tail

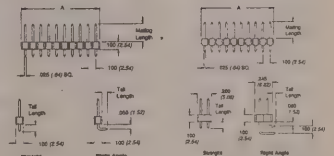
Stock No.	Mfr.'s Type	Contacts	Dim. "A"	EACH	
				1-99	100-499
906-3060	IDH-10LP-S3-TR	10	0.800" (20.32)	0.53	0.48
906-3062	IDH-14LP-S3-TR	14	1.000" (25.40)	0.69	0.62
906-3064	IDH-16LP-S3-TR	16	1.100" (27.94)	0.77	0.69
906-3066	IDH-20LP-S3-TR	20	1.300" (33.02)	0.83	0.75
906-3068	IDH-26LP-S3-TR	26	1.600" (40.64)	0.93	0.84
906-3070	IDH-34LP-S3-TR	34	2.000" (50.80)	1.14	1.03
906-3072	IDH-40LP-S3-TR	40	2.300" (58.42)	1.34	1.21
906-3074	IDH-50LP-S3-TR	50	2.800" (71.12)	1.53	1.38
906-3076	IDH-60LP-S3-TR	60	3.300" (83.82)	2.24	2.02

Right Angle Solder Tail

Stock No.	Mfr.'s Type	Contacts	Dim. "A"	EACH	
				1-99	100-499
906-3080	IDH-10LP-SR3-TR	10	0.800" (20.32)	0.53	0.48
906-3082	IDH-14LP-SR3-TR	14	1.000" (25.40)	0.69	0.62
906-3084	IDH-16LP-SR3-TR	16	1.100" (27.94)	0.77	0.69
906-3086	IDH-20LP-SR3-TR	20	1.300" (33.02)	0.83	0.75
906-3088	IDH-26LP-SR3-TR	26	1.600" (40.64)	0.93	0.84
906-3090	IDH-34LP-SR3-TR	34	2.000" (50.80)	1.14	1.03
906-3092	IDH-40LP-SR3-TR	40	2.300" (58.42)	1.34	1.21
906-3094	IDH-50LP-SR3-TR	50	2.800" (71.12)	1.53	1.38
906-3096	IDH-60LP-SR3-TR	60	3.300" (83.82)	2.24	2.02

NSH Series 0.025" (0.635) Square Post Non-Shrouded Headers

Notched body design allows easy break-to-length capability. 0.100" (2.54) spacing. Phosphor bronze contacts available with Robex™ plating on contact area and tin on terminal area over nickel for types with TR suffix; or tin over nickel for types with a T suffix. Current rating: 1A at maximum temperature range: -65° to -125°C. Available in 36 contact single row or 80 contact dual row design, in straight or right angle termination. UL recognized, E73764.



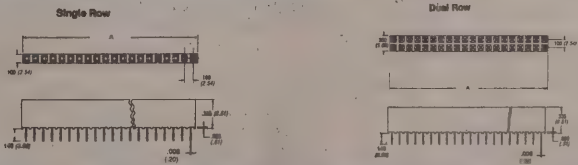
36 Contacts Single Row, 3.60" (91.44) Wide

Stock No.	Mfr.'s Type	Mount	Dim. "A"	EACH	
				1-99	100-499
906-3140	NSH-36SA-S2-T	Straight	0.318" (8.08)	0.76	0.68
906-3142	NSH-36SA-S2-TR	Straight	0.318" (8.08)	1.54	1.38
906-3144	NSH-36SA-SR2-TR	Right Angle	0.318" (8.08)	1.08	0.97
906-3146	NSH-36SB-SR2-TR	Right Angle	0.230" (5.84)	1.02	0.92

80 Contacts Dual Row, 4.00" (101.60) Wide

Stock No.	Mfr.'s Type	Mount	Dim. "A"	EACH	
				1-99	100-499
906-3148	NSH-80DA-S2-T	Straight	0.318" (8.08)	1.68	1.51
906-3150	NSH-80DA-S2-TR	Straight	0.318" (8.08)	2.40	2.16
906-3152	NSH-80DA-SR2-TR	Right Angle	0.318" (8.08)	2.40	2.16
906-3154	NSH-80DB-SR2-TR	Right Angle	0.230" (5.84)	2.14	1.93

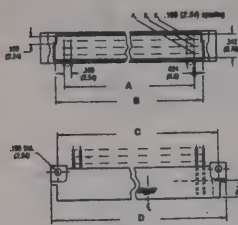
SBQ Series 0.025" (0.635) Square Post Receptacles



Socket mates to square post non-shrouded headers. Available in single or dual rows: 0.100" x 0.100" (2.54 x 2.54) contact spacing. High-temperature back thermoplastic body can be cut to size; rated UL94V-0. Excellent for add-on cards. Phosphor bronze contacts plated with 10µ gold over nickel on contact area and 100µ tin on terminal area. Current rating: 1A. Temperature range: -65°C to +105°C.

IDS-NPK Series

Stock No.	Mfr.'s Type	Rows	Contacts	EACH	
				1-99	100-499
906-3172	SBQ-36P-S-100-TG	Single	36	1.49	1.34
906-3174	SBQ-72P-D-100-TG	Dual	72	3.12	2.80



CP Series Standard DIN Plug Connectors

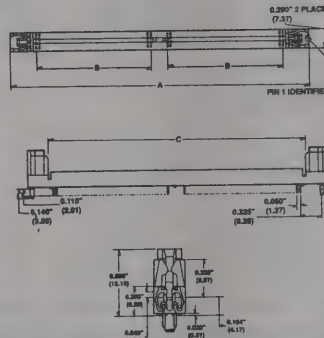
DIN 41612 compatible plug designed for daughter board mounting. Features 3 row, 0.100" (2.54) gnd that permits high density packaging. Retent clip secures connector during wave solder. Grey, thermoplastic glass-filled body. Copper alloy contacts. Termination style/tail length: Solder, right angle/0.114" (2.90mm). Plating is 10µ min. Robex™ on contact area. 100µ tin on terminal area. 50µ Nickel underplate. Current rating: 1A @ 100°C. PC board hole: 0.039 0.002". UL recognized, rated UL 94V-0.

Contacts	A	B	C	D
48	1.500" (38.10)	1.754" (44.55)	1.900" (48.26)	2.100" (53.34)
64/96	3.100" (78.74)	3.354" (85.19)	3.500" (88.90)	3.700" (93.98)

Stock No.	Mfr.'s Type	No. Contacts/ Pin Arrangements	EACH	
			1-99	100-499
906-3176	DIN-64CPB-SR1-TR	64/Rows A,C	1.54	1.39
906-3178	DIN-96CPC-SR1-TR	64/Rows A, B, C	2.00	1.80
906-3180	DIN-48CPC-SR1-TR	48/Rows A, B, C	1.35	1.22

SIMS Series SIMM Sockets

Single row, edge card SIMM sockets provide low insertion force and easy extraction of high density memory devices. Symmetrical copper alloy contact maintains 200 grams normal force and eliminates memory module bow. 100 minimum cycle durability. Gas-tight connection maintained even when module thickness varies. High-temperature, black liquid crystal polymer body ruggedly designed to secure modules without latches. Vertical 90° entry allows for robotic or gang insertion/withdrawal without removal of neighboring socket. 0.050" (1.27) contact pitch. Accept JEDEC standard module per MO-116. Current rating: 1 A maximum per contact @ 250V DC. Contact resistance: 20mΩ maximum. Temperature range: -55°C to +105°C.



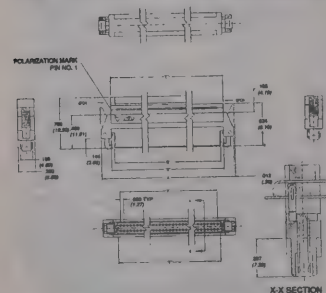
Contacts with Tin-Over-Nickel Plating

Stock No.	Mfr.'s Type	Contacts	A	B	C	EACH
						1-99
906-4000	SIMS-072-A5-R1-T	72	4.550"	1.750"	3.916"	2.88
906-4002	SIMS-080-A5-R1-T	80	4.950"	1.950"	4.316"	3.20

Contacts with Palladium/Nickel and Gold Flash Plating

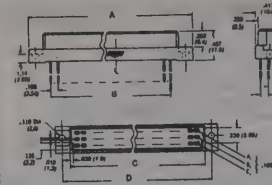
Stock No.	Mfr.'s Type	Contacts	A	B	C	EACH
906-4004	SIMS-072-A5-R1-TR	72	4.550"	1.750"	3.916"	3.32
906-4006	SIMS-080-A5-R1-TR	80	4.950"	1.950"	4.316"	3.68

RN PAK-50® P25E Series 50 MIL IDC Sockets



Accepts 30 AWG, 25 mil center flat cable P25E and P50E sockets are designed to mate with P50E series IDC board mount plugs, ordered separately on this page. Offer 3-dimensional mating: vertical, horizontal and parallel. Latching eject mechanism facilitates mating/unmating. The P25E provides daisy chain capability. The P50E socket accommodates backward and forward capability in that standard .100" and .050" connectors can be used on one cable assembly. Redundant ribbon contact design provides lower insertion/withdrawal forces, lower contact resistance, high normal force and high wear resistance. Contacts are recessed and fully protected on three sides, minimizing pin deformation. Phosphor bronze contacts plated with gold over nickel on contact area, tin over nickel on terminal area. Contact resistance: 30mΩ. Current rating: 0.5A. Black, glass-filled nylon body, rated UL94V-0. Temperature range: -55°C to +105°C.

Stock No.	Mfr.'s Type	Contacts	A	B	C	EACH	
						1-99	100-499
906-3202	P25E-020-S-TG	20	1.096"	0.702"	0.450"	7.18	6.46
906-3204	P25E-026-S-TG	26	1.246"	0.852"	0.600"	7.60	6.84
906-3206	P25E-034-S-TG	34	1.446"	1.052"	0.800"	8.19	7.37
906-3208	P25E-040-S-TG	40	1.596"	1.202"	0.950"	8.51	7.66
906-3210	P25E-050-S-TG	50	1.846"	1.452"	1.200"	9.44	8.50
906-3212	P25E-060-S-TG	60	2.096"	1.702"	1.450"	10.21	9.19
906-3214	P25E-080-S-TG	80	2.596"	2.202"	1.950"	11.48	10.33
906-3216	P25E-100-S-TG	100	3.096"	2.702"	2.450"	12.67	11.40
906-3218	P50E-020-S-TG	20	1.096"	0.702"	0.607"	5.88	5.29
906-3220	P50E-026-S-TG	26	1.246"	0.852"	0.757"	6.37	5.73
906-3222	P50E-034-S-TG	34	1.446"	1.052"	0.957"	7.02	6.32
906-3224	P50E-040-S-TG	40	1.596"	1.202"	1.107"	7.42	6.68
906-3226	P50E-050-S-TG	50	1.846"	1.452"	1.357"	8.25	7.43
906-3228	P50E-060-S-TG	60	2.096"	1.702"	1.607"	8.41	8.02
906-3230	P50E-080-S-TG	80	2.596"	2.222"	2.202"	10.00	9.00
906-3232	P50E-100-S-TG	100	3.096"	2.722"	2.702"	11.45	10.31



CS Series Standard DIN Socket Connectors

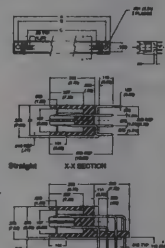
Compatible with VME Bus backplane applications. Mate with C-Form and R-Form plugs. Types with SI suffix have solder termination, 0.157" (3.99mm) tall, and retent clip. Type with PS suffix has FLEXPRESS® contacts that permit solderless mounting; 0.236" (5.99mm) tall. Grey thermoplastic, glass-filled body. Phosphor bronze contacts. Same plating and current rating as C-Form plugs above UL recognized, rated UL 94V-0.

Contacts	A	B	C	D
48	2.140" (54.36)	1.500" (38.10)	1.746" (44.40)	1.943" (49.35)
64/96	3.740" (95.00)	3.100" (78.74)	3.346" (84.98)	3.543" (90.00)

Stock No.	Mfr.'s Type	No. Contacts/ Pin Arrangements	EACH	
			1-99	100-499
906-3182	DIN-48CSB-S1-TR	48/Rows A, B, C	2.17	1.95
906-3184	DIN-64CSB-S1L-TR	64/Rows A, C	2.40	2.16
906-3186	DIN-96CSC-S1L-TR	96/Rows A, B, C	3.12	2.81
906-3188	DIN-96CSC-PSL-TR	96/Rows A, B, C	3.40	3.06

RN PAK-50® P50E Series Board Mount 50 MIL IDC Plugs

Mate with P25E and P50E series IDC sockets, ordered separately on this page. Offer 3-dimensional mating: vertical, horizontal and parallel. Latching eject mechanism facilitates mating/unmating. Available in straight or right-angle termination styles. Redundant ribbon contact design provides lower insertion/withdrawal forces, lower contact resistance, high normal force and high wear resistance. Contacts are recessed and fully protected on three sides, minimizing pin deformation. Phosphor bronze contacts plated gold over nickel on contact area, tin over nickel on terminal area. Contact resistance: 30mΩ. Current rating: 0.5A. Black, glass-filled nylon body, rated UL94V-0. Temperature range: -55°C to +105°C.

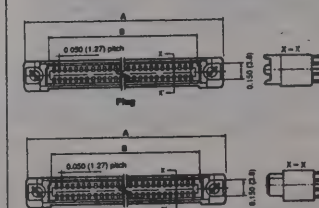


Straight Soldermount 0.118" (3.0) Terminals

Stock No.	Mfr.'s Type	Contacts	A	B	C	EACH	
						1-99	100-499
906-3282	P50E-020-P1-S1-TG	20	1.096"	0.900"	0.450"	2.23	2.01
906-3284	P50E-026-P1-S1-TG	26	1.246"	1.050"	0.600"	2.40	2.16
906-3286	P50E-034-P1-S1-TG	34	1.446"	1.250"	0.800"	2.65	2.39
906-3288	P50E-040-P1-S1-TG	40	1.596"	1.400"	0.950"	2.86	2.52
906-3290	P50E-050-P1-S1-TG	50	1.846"	1.650"	1.200"	3.17	2.85
906-3292	P50E-060-P1-S1-TG	60	2.096"	1.900"	1.450"	3.50	3.15
906-3294	P50E-080-P1-S1-TG	80	2.596"	2.400"	1.950"	4.36	3.92
906-3296	P50E-100-P1-S1-TG	100	3.096"	2.900"	2.450"	4.92	4.43

Right Angle Solder Mount 0.118" (3.0) Terminals

Stock No.	Mfr.'s Type	Contacts	A	B	C	EACH	
						1-99	100-499
906-3298	P50E-020-P1-SR1-TG	20	1.096"	0.900"	0.450"	2.96	2.66
906-3300	P50E-026-P1-SR1-TG	26	1.246"	1.050"	0.600"	3.15	2.84
906-3302	P50E-034-P1-SR1-TG	34	1.446"	1.250"	0.800"	3.40	3.06
906-3304	P50E-040-P1-SR1-TG	40	1.596"	1.400"	0.950"	3.50	3.15
906-3306	P50E-050-P1-SR1-TG	50	1.846"	1.650"	1.200"	3.85	3.47
906-3308	P50E-060-P1-SR1-TG	60	2.096"	1.900"	1.450"	4.22	3.80
906-3310	P50E-080-P1-SR1-TG	80	2.596"	2.400"	1.950"	5.20	4.68
906-3312	P50E-100-P1-SR1-TG	100	3.096"	2.900"	2.450"	5.83	5.25



RN PAK-50® 2-PC. 50-MIL Pitch Connectors

RN PAK-50® interconnect system features a redundant ribbon contact that provides lower insertion/withdrawal forces, lower contact resistance, high normal forces and high wear resistance. 3 dimensional mating versatility-horizontal, vertical and packaging. Both male and female contacts are recessed and fully protected on 3 sides, minimizing pin deformation. Available in 20-100 pin positions. 0.118" (3.00) long straight and right-angle soldered terminals with retention clip to eliminate hardware and secure connector during wave soldering. Phosphor bronze contacts plated with gold on contact area and tin on terminal area over nickel. Contact resistance: 25mΩ maximum. Current rating: 0.5A/contact. Black, glass-filled nylon housing with flange, rated UL94V-0. Insulation resistance: 1000 MΩ minimum @ 500VDC.

Solder Terminal Straight Sockets

Stock No.	Mfr.'s Type	Contacts	A	B	C	EACH	
						1-99	100-499
906-3242	P50-020S-R1-TG	20	25.43	20.32	13.43	2.45	2.21
906-3244	P50-026S-R1-TG	26	29.24	24.13	16.84	2.91	2.62
906-3246	P50-034S-R1-TG	34	34.32	29.21	21.92	3.21	2.89
906-3248	P50-040S-R1-TG	40	38.13	33.02	25.73	3.44	3.20
906-3250	P50-050S-R1-TG	50	44.48	39.37	32.08	3.05	2.75
906-3252	P50-060S-R1-TG	60	50.83	45.72	38.43	3.03	2.73
906-3254	P50-080S-R1-TG	80	63.53	58.42	51.13	3.52	3.17
906-3256	P50-100S-R1-TG	100	76.23	71.12	64.23	4.13	3.72

Solder Terminal Straight Plugs

Stock No.	Mfr.'s Type	Contacts	A	B	C	EACH	
						1-99	100-499
906-3258	P50-020P-R1-TG	20	25.43	20.32	13.43	2.45	2.21
906-3260	P50-026P-R1-TG	26	29.24	24.13	17.24	2.91	2.62
906-3262	P50-034P-R1-TG	34	34.32	29.21	22.32	2.93	2.64
906-3264	P50-040P-R1-TG	40	38.13	33.02	26.13	2.44	2.20
906-3266	P50-050P-R1-TG	50	44.48	39.37	32.48	3.05	2.75
906-3268	P50-060P-R1-TG	60	50.83	45.72	38.83	3.03	2.73
906-3270	P50-080P-R1-TG	80	63.53	58.42	51.53	3.52	3.17
906-3272	P50-100P-R1-TG	100	76.23	71.12	64.23	4.13	3.72

Fig. 1

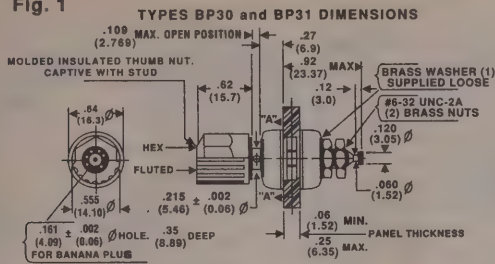


Fig. 2

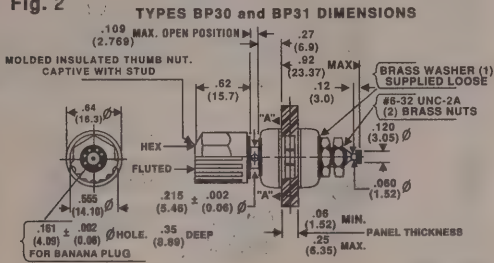


Fig. 3

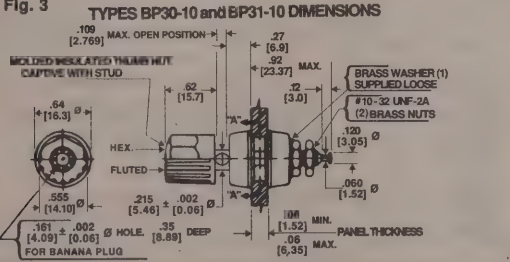


Fig. 4

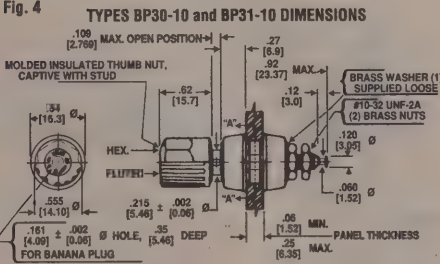


Fig. 5

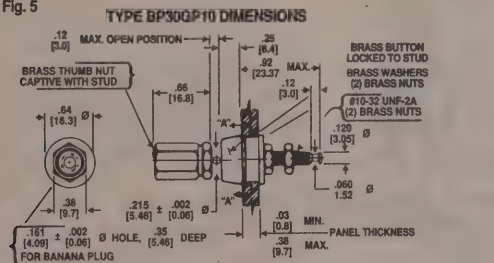
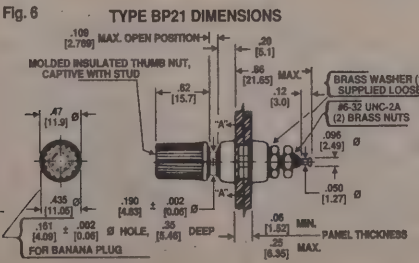


Fig. 6



5-Way® Binding Posts

BP31 Series have LEXAN polycarbonate resin insulating parts. All others have nylon plastic per MIL-P-20693A, Type IV. All metal grounding type designed for rapid ground connections. Made of machined brass, gold plated and polished. Design complements other hex nut 5-way binding post. Hex and fluted nut types are rated for 30 Amps, 1000 Volts working, except BP21 which is 15 Amps. UL recognized standard 1244. IEC 348.p30 ANSI C39.5-1974. Double assembly type are for use where binding posts are mounted on 3/4" (19 mm) centers. Rated for 30 Amps, 1000 Volts working.

Stock No.	Mfr.'s Type	Color	Fig.	Nut Type	EACH	
					1-24	25-99
645-0030	BP30B	Black	1	Hex	3.25	2.95
645-0032	BP30R	Red	1	Hex	3.25	2.95
645-0220	BP30BL	Blue	1	Hex	3.25	2.95
645-0221	BP30Y	Yellow	1	Hex	3.25	2.95
645-0223	BP30WT	White	1	Hex	3.25	2.95
645-0031	BP31R	Red	2	Fluted	3.25	2.95
645-0033	BP31B	Black	2	Fluted	3.25	2.95
645-0060	BP31DG	Green	2	Fluted	3.25	2.95
645-0065	BP31BL	Blue	2	Fluted	3.25	2.95
645-0070	BP31WT	White	2	Fluted	3.25	2.95
645-3010	BP30-10R	Red	3	Hex	3.25	2.95
645-3012	BP30-10B	Black	3	Hex	3.25	2.95
645-9901	BP30-10GN	Green	3	Hex	3.25	2.95
645-9902	BP30-10WT	White	3	Hex	3.25	2.95
645-3110	BP31-10B	Black	4	Fluted	3.25	2.95
645-3111	BP31-10R	Red	4	Fluted	3.25	2.95
645-3011	BP30GP10*	Metal	5	Hex	3.25	2.95
645-0218	BP21B	Black	6	Fluted	3.25	2.95
645-0219	BP21R	Red	6	Fluted	3.25	2.95

* Nickel plated.

NOTE: Also available from factory in White, Blue, Yellow, and Green. Also available as double assembly (1 black and 1 red) and with nickel or tin plated current carrying brass parts.

Supercon® Electrical Connectors



For safe, quick positive panelboard connections. Available in 25,50,100, and 250 Amp capacities. 25, 50, and 100 Amp types are rated 125-250 VAC or DC current interrupting; 600 V unenergized connector disconnect use only. CSA certified, File #LR-17812. 250 Amp types rated 600 V unenergized connect or disconnect use only. Plugs: Wiring connections to the same plugs can be either soldered or solderless. Cable fastening screws are provided for accommodation of a wide range of cable sizes. Grips are two-piece threaded construction. Receptacles: Color-matched nylon caps and bodies. Wiring connection is made to a threaded stud by wire wrap-around, lug, or bus bar connection.

Stock No.	Mfr.'s Type	Color	Amps	Fig.	Overall Length (in.)	Overall Dia. (in.)	EACH
							1-19
645-0029	PP25GR	Red	25	A	2.66	.81	14.50
645-0025	PP25GB	Black	25	A	2.66	.81	14.50
645-0023	RS25GR	Red	25	B	1.50	.81	14.50
645-0028	RS25GB	Black	25	B	1.50	.81	14.50
645-0034	PS25GR	Red	25	C	2.72	.81	14.50
645-0027	PS25GB	Black	25	C	2.72	.81	14.50
645-0024	RP25GR	Red	25	D	1.50	.81	14.50
645-0026	RP25GB	Black	25	D	1.50	.81	14.50
645-9993	RP25GGN	Green	25	D	1.50	.81	14.50
645-9994	RP25GWT	White	25	D	1.50	.81	14.50
645-0054	PP50GR	Red	50	A	3.22	1.00	18.00
645-0050	PP50GB	Black	50	A	3.22	1.00	18.00
645-0048	RS50GR	Red	50	B	2.00	1.25	18.00
645-0053	RS50GB	Black	50	B	2.00	1.25	18.00
645-0055	PS50GR	Red	50	C	3.12	1.00	18.00
645-0052	PS50GB	Black	50	C	3.12	1.00	18.00
645-0049	RP50GR	Red	50	D	2.00	1.25	18.00
645-0051	RP50GB	Black	50	D	2.00	1.25	18.00
645-9995	RP50GWT	White	50	D	2.00	1.25	18.00
645-0104	PP100GR	Red	100	A	3.66	1.25	24.00
645-0100	PP100GB	Black	100	A	3.66	1.25	24.00
645-0098	RS100GR	Red	100	B	2.50	1.50	24.00
645-0103	RS100GB	Black	100	B	2.50	1.50	24.00
645-0105	PS100GR	Red	100	C	3.81	1.25	24.00
645-0102	PS100GB	Black	100	C	3.81	1.25	24.00
645-0099	RP100GR	Red	100	D	2.50	1.50	24.00
645-0101	RP100GB	Black	100	D	2.50	1.50	24.00
645-0254	PP250GR	Red	250	A	4.94	1.50	40.00
645-0250	PP250GB	Black	250	A	4.94	1.50	40.00
645-0248	RS250GR	Red	250	B	3.87	2.00	40.00
645-0253	RS250GB	Black	250	B	3.87	2.00	40.00
645-0255	PS250GR	Red	250	C	5.00	1.50	40.00
645-0252	PS250GB	Black	250	C	5.00	1.50	40.00
645-0249	RP250GR	Red	250	D	3.86	2.00	40.00
645-0251	RP250GB	Black	250	D	3.86	2.00	40.00

NOTE: Also available from factory in White, Blue, Yellow, and Green.

Male and Female Tini Q-G® Miniature Connectors

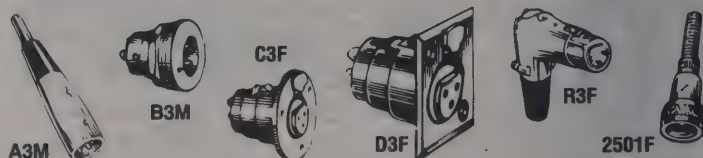


Similar to the standard Q-G® Connectors Plugs and receptacles offer up to 5 contacts. Neoprene cable strain relief. Die cast or precision machined with nickel finish. Receptacles mate with all miniature connectors.

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
932-1200	TA3F	Connector, female plug 3 contacts	6.94	6.31
932-1201	TA3FL	Connector, female plug, locking 3 cont	6.04	5.49
932-1202	TA4F	Connector, female plug 4 contacts	7.57	6.88
932-1203	TA4FL	Connector, female plug, locking 4 cont	7.47	6.79
932-1204	TA5F	Connector, female plug 5 contacts	9.55	8.68
932-1205	TA5FL	Connector, female plug, locking 5 cont	7.08	6.44
932-1206	TA3M	Connector, male plug 3 contacts	5.79	5.27
932-1207	TA3ML	Connector, male plug, locking 3 cont	5.06	4.60
932-1208	TA4M	Connector, male plug 4 contacts	6.30	5.73
932-1209	TA4ML	Connector, male plug, locking 4 cont	6.20	5.64
932-1210	TA5M	Connector, male plug 5 contacts	8.24	7.49
932-1211	TA5ML	Connector, male plug, locking, 5 cont	8.16	7.42
932-1212	TY3F	Connector, female panel receptacle 3 cont	8.81	8.01
932-1213	TY4F	Connector, female panel receptacle 4 cont	9.55	8.68
932-1214	TY5F	Connector, female panel receptacle 5 cont	10.16	9.24
932-1215	TB3M	Connector, male panel receptacle 3 cont	6.39	5.80
932-1216	TB4M	Connector, male panel receptacle 4 cont	7.04	6.40
932-1217	TB5M	Connector, male panel receptacle 5 cont	8.98	8.16
932-1218	TRA3M	Connector, male right angle PC mount receptacle 3 cont	7.87	7.16

Male and Female Q-G® Audio Connectors

Plugs and receptacles offer up to 5-contact versatility by means of up to four circuit contacts plug electrically integrated ground terminal on shell. Neoprene cable strain relief bushing keyed to shell; ribbed for easy access to male plugs. Die-cast zinc alloy with satin-nickel finish. Receptacles will mate with all standard audio connectors. Right angle configuration reduces "cable clutter."



Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
932-1027	A3F	Connector, female plug 3 contacts	4.10	3.73
932-1028	A3FB	Connector, female plug 3 contacts (Black)	4.65	4.23
932-1029	A3M	Connector, male plug 3 pins	3.41	3.10
932-1030	A3MB	Connector, male plug 3 pins (Black)	4.12	3.25
932-0008	B3F	Connector, female panel receptacle with spanner nut 3 pins	11.90	10.98
932-0009	B3M	Connector, male panel receptacle with locknut 3 pins	7.86	6.85
932-0011	C3F	Connector, female panel receptacle, 3 contacts	7.00	6.36
932-0012	C3M	Connector, male panel receptacle with screws 3 pins	5.00	4.54
932-1044	D3F	Connector, female panel receptacle, 3 contacts	5.24	4.77
932-0016	D3M	Connector, male panel receptacle with screws 3 pins	3.88	3.52
932-0160	R3F	Connector, right angle female plug, 3 contacts	14.17	11.99
932-0161	R3M	Connector, right angle male plug, 3 pins	13.09	11.08
932-1040	A4F	Connector, female plug 4 contacts	6.49	5.90
932-1041	A4M	Connector, male plug 4 pins	4.21	3.82

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
932-0044	C4F	Connector, female panel receptacle, 4 contacts	8.85	8.05
932-0045	C4M	Connector, male panel receptacle with screws, 4 pins	5.30	4.82
932-0037	D4F	Connector, female panel receptacle, 4 contacts	8.77	7.97
932-0038	D4M	Connector, male panel receptacle with screws, 4 pins	5.43	4.93
932-0017	A5F	Connector, female plug 5 pins	10.59	9.63
932-0018	A5M	Connector, male plug 5 pins	8.39	7.62
932-0046	C5F	Connector, female panel receptacle, 5 contacts	12.89	10.91
932-0047	C5M	Connector, male panel receptacle with screws, 5 pins	8.51	7.20
932-1045	2501F	Connector, small female MIC with coupling ring	3.06	2.78

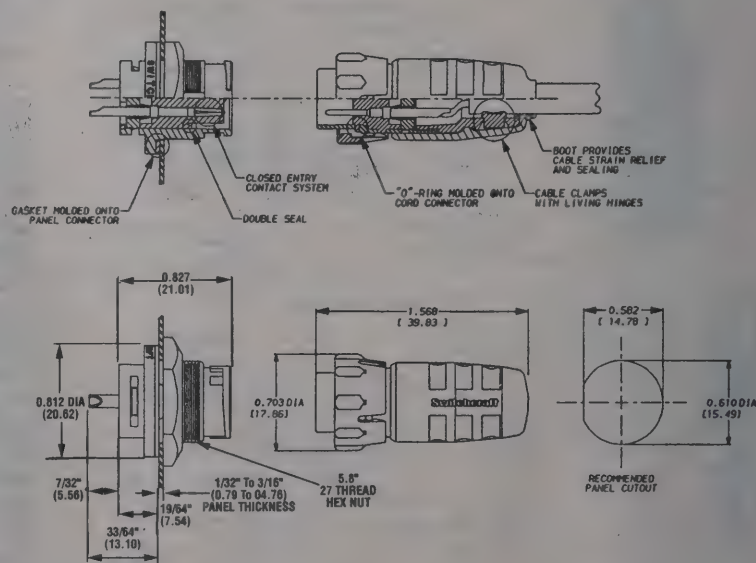
EN3™ Mini Weathertight Connectors

Applications

- ▶ Transportation
- ▶ Process Control
- ▶ Communication
- ▶ Marine Electronics
- ▶ Medical Instrumentation
- ▶ Geothermal Instrumentation
- ▶ General Industrial Electronics

Features and Benefits —

- ▶ Superior Leakage Protection. Contact Area is Double-Sealed for Excellent Moisture and Chemical Resistance
- ▶ Reduced Part Count for Reduced Labor to Assemble
- ▶ Thermoplastic Rubber Body Simulates Closed Entry Contact System to Prevent Probe Damage or Accidental Loss of Spring Retention Due to Misaligned or Bent Pins
- ▶ Exceeds Coast Guard Specifications for Water Tightness (CFR 46 Part 110.20)
- ▶ Integral O-Ring and Gasket. O-Ring Is Molded Onto Cord Housing Assembly and Gasket Is Molded Onto Panel Housing Assembly to Prevent Leakage and Eliminate Need for Additional O-Rings and Gaskets
- ▶ Abrasion-Resistant Thermoplastic Boot Provides Strain Relief and Accepts Cable Diameter .195" to .265"
- ▶ Contact Terminal: Solder Cup Contacts (Factory Assembled into Panel/Cord Connector Housings Ready to be Terminated)
- ▶ No Grommets. Cable Clamp Assembly Features Living Hinges, Which Snap Easily Onto and Holds the Cable
- ▶ Easy Contact Removal
- ▶ Low Insertion Force Required
- ▶ Housing Rated UL 94V-0 Against Flammability



Cable (Cord) Connectors

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-24	25-49	50-99
932-3300	EN3C3F	3	Female	4.00	3.33	3.08
932-3302	EN3C3M	3	Male	2.80	2.40	2.21
932-3304	EN3C4F	4	Female	4.79	4.00	3.69
932-3306	EN3C4M	4	Male	3.33	2.77	2.56
932-3308	EN3C5F	5	Female	5.59	4.66	4.30
932-3310	EN3C5M	5	Male	3.77	3.15	2.90
932-3312	EN3C6F	6	Female	6.39	5.32	4.91
932-3314	EN3C6M	6	Male	4.22	3.52	3.25
932-3316	EN3C8F	8	Female	7.98	6.65	6.14
932-3318	EN3CAP	—	Cap	.72	.65	.55

Panel Connectors

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-24	25-49	50-99
932-3320	EN3P3F	3	Female	3.53	3.21	2.71
932-3322	EN3P3M	3	Male	2.53	2.30	1.95
932-3324	EN3P4F	4	Female	4.30	3.91	3.31
932-3326	EN3P4M	4	Male	2.98	2.71	2.29
932-3328	EN3P5F	5	Female	5.06	4.60	3.89
932-3330	EN3P5M	5	Male	3.43	3.12	2.64
932-3332	EN3P6F	6	Female	5.83	5.30	4.49
932-3334	EN3P6M	6	Male	3.88	3.52	2.98
932-3336	EN3P8M	8	Male	4.79	4.36	3.69
932-3318	EN3CAP	—	Cap	.72	.65	.55

Audio Jacks and Plugs

Switchcraft®

Jacks



Littel Jax® Phone Jacks

Mate with standard .25" (6.35mm) or .21" (5.33mm) phone plugs. Notched insulating washers. Mounts in single .375" (9.52mm) hole, panels up to .156" (3.96mm) thick, except types L-11 & L-12A in panels up to .25" (6.35mm) thick.

Stock No.	Mfr.'s Type	Number of Conductors	Mating Plug	Description	EACH		
					1-9	10-24	25-99
932-1001	11	2	250	open circuit	1.51	1.40	1.18
932-0013	C11	2	440, 445, 470	with locating pin	2.39	2.17	1.84
932-0023	L11	2	250	.375" lg. bushing	1.71	1.55	1.29
932-0033	S11	2	S-250	.210" I.D. bushing	2.04	1.89	1.57
932-1002	12A	2	250	tip shunt	1.73	1.54	1.32
932-0014	C12A	2	440, 445, 470	M641/12-1	3.51	3.19	2.70
932-0024	L12A	2	250	.375" lg. bushing	1.80	1.66	1.40
932-0050	13	2	250	isolated "make" circuit	4.61	4.27	3.55
932-0051	13A	2	250	transfer circuit	4.79	4.27	3.61
932-0055	13E	2	250	isolated "break" circuit	4.94	4.49	3.80
932-0042	12B	3	267	double open circuit	1.81	1.64	1.37
932-0015	C12B	3	480	M641/5-1	3.41	3.10	2.66
932-0025	L12B	3	267	.375" lg. bushing	1.92	1.78	1.48
932-0035	S12B	3	480	.21" I.D. bushing	3.06	2.83	2.39
932-0052	13B	3	267	tip shunt	4.87	4.34	3.73
932-1003	14B	3	267	double closed circuit	4.35	3.88	3.28

Jack Covers

Spring loaded phone jack covers seal jack openings when phone plug is removed. Use with standard 3/32" threaded bushing type phone jacks.

932-1280	512	—	—	bright nickel	7.14	5.95	5.10
932-1283	515	—	—	black	7.45	6.09	5.22

Thick-Panel Jax®

Brass, nickel-plated phone jacks with long bushing. Mounts in .469" (11.91mm) dia. hole in panels up to 1.25" (31.75mm) thick. Solder lug terminals.

932-1009	151	2	240, 245, 250 255, 270, 280	Standard .25"	6.29	5.22	4.46
932-1010	152B	3	260, 267, 269 297, 260, 267	Standard .25"	6.95	5.68	4.87

Cable Extension Jax®

Standard .25" (6.35mm) extension phone jacks. Size: .688" (17.48mm) O.D.; .2156" (54.76mm) lg.; Types 121 and 131: .5" (12.7mm) O.D., 2.5" (63.5mm) lg. Shielded handles are brass, bright nickel plated. Black handles are plastic.

932-1006	80	2	240	screw term., black handle	5.33	4.43	3.78
932-1007	120	2	270	screw term., shielded	6.95	5.68	4.87
932-1008	121	2	280	solder term., shielded	5.91	4.83	4.14
932-0065	125	2	740, 745, 750	solder term., shielded	4.25	3.47	3.02
932-0071	131	3	297	solder term., shielded	7.33	6.09	5.13
932-0083	830	3	260	screw term., black handle	7.41	6.15	5.19
932-0123	1238	3	297	solder term., shielded	6.53	5.44	4.73

Hi-D Jax® Enclosed Phone Jacks

Mate with standard .25" (6.35mm) phone plugs. Molded body protects integral silver-plated springs. Mounts on .625" (15.88mm) center in single .375" (9.52mm) hole in panels up to .156" (3.96mm) thick.

932-9390	111	2	250	open circuit	1.62	1.33	1.14
932-9400	N111	2	250	molded nylon bushing	1.69	1.53	1.29
932-9391	112A	2	250	closed circuit	1.67	1.51	1.26
932-9392	N112A	2	250	molded nylon bushing	1.98	1.80	1.55
932-9393	112B	3	267	double open circuit	1.71	1.55	1.29
932-9394	N112B	3	267	molded nylon bushing	2.02	1.84	1.58
932-9395	113B	3	267	single closed circuit	2.53	2.30	1.95
932-9396	N113B	3	267	molded nylon bushing	2.94	2.67	2.26
932-9397	114B	3	267	double closed circuit	2.27	2.06	1.74
932-9398	N114B	3	267	molded nylon bushing	2.66	2.42	2.01

Tini-Jax® Miniature Phone Jacks

Miniature phone jacks approximately 1/2 the size of Littel-Jax jack, otherwise similar in construction. Mounts in .25" (6.35mm) dia. hole; panels up to .125" (3.18mm) thick.

932-1004	41	2	750	open circuit	1.23	1.02	.87
932-1005	42A	2	750	closed circuit	1.77	1.45	1.27

Micro Jax® Subminiature Phone Jacks

Silver plated, special tempered nickel silver springs. Fits .190" (4.83mm) dia. hole in panels to .094" (2.39mm) thick. Only 1/25th the size of standard phone jacks.

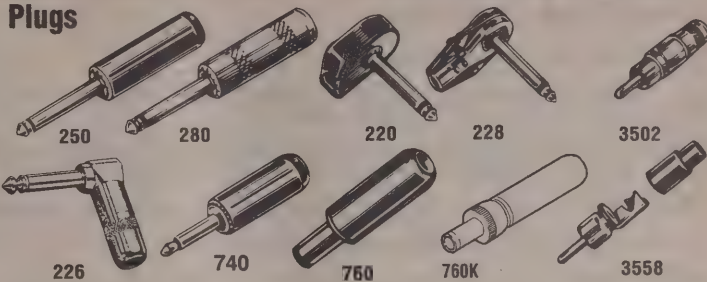
932-9404	TR2A	2	850, 880	closed circuit	2.04	1.71	1.49
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Power Jax®

Power jacks are 2-cond. type with shunted sleeve. Recessed center pin (712A) .100" (2.54mm) dia.; (722A) .08" (2.03mm) dia., split to hold mating plug firmly. *Center pin diameter.

Stock No.	Mfr.'s Type	Description	Pin Dia*	Mating Plug	EACH		
					1-9	10-24	25-99
932-9403	712A	solder lugs	0.10"	760, 765	2.00	1.66	1.40
932-9412	PC712A	straight PC terms.	0.10"	760, 765	2.47	2.06	1.76
932-9415	RAPC712	right angle PC terms.	0.10"	760, 765	0.94	0.80	0.68
932-9405	722A	solder lugs	0.08"	S-760, S-765	2.06	1.71	1.46
932-9420	PC722A	straight PC terms.	0.08"	S-760, S-765	2.47	2.06	1.76
932-9425	RAPC722	right angle PC terms.	0.08"	S-760, S-765	0.84	0.71	0.61

Plugs



Littel-Plug® Phone Plugs

Fit standard .25" (6.35mm) phone jacks. Solder terminal plugs have built-in cable clamp. Shielded metal handles are nickel-plated brass or durable molded plastic; 1.688" (42.88mm) long x .5" (12.7mm) dia. Max. cable diameter: 2.97" (7.54mm).

Stock No.	Mfr.'s Type	Number of Conductors	Handle	Terminals	EACH		
					1-9	10-24	25-99
932-1014	240	2	black	screw	2.55	2.32	1.99
932-0945	245	2	red	screw	3.39	3.08	2.65
932-1015	250	2	black	solder lugs	2.39	2.17	1.84
932-0955	255	2	red	solder lugs	3.25	2.95	2.45
932-1018	270	2	shielded	screw	4.83	4.38	3.70
932-1019	280	2	shielded	solder lugs	3.37	3.06	2.59
932-0950	S250*	2	black	solder lugs	3.39	3.08	2.60
932-0980	S280*	2	shielded	solder lugs	4.57	4.23	3.52
932-1016	260	3	black	screw	4.51	4.10	3.47
932-0960	S260*	3	black	screw	6.94	6.31	5.34
932-1017	267	3	black	solder lugs	3.37	3.06	2.59
932-0969	269	3	red	solder lugs	4.49	4.08	3.51
932-1020	290	3	shielded	screw	5.87	5.23	4.43
932-0997	297	3	shielded	solder lugs	4.02	3.72	3.14

*.206 diameter.

Two Conductor Phone Plugs for Littel Jax® No. 11

932-0040	40	2	black	screw	4.37	3.57	3.06
932-0070	70	2	shielded	screw	5.88	4.90	4.20
932-0170	170	2	shielded	screw	6.99	5.81	4.90

Three Conductor Phone Plugs for Littel Jax® No. 12B

932-0060	60	3	black	solder	4.31	3.52	3.02
932-0191	190A	3	shielded	solder	6.94	5.78	5.09

Flat-Plug® Phone Plugs

.25" (6.35mm) phone plugs have flat, space-savings handles.

932-0220	220*	2	black	screw	3.96	3.30	2.83
932-0227	227*	2	black	solder	2.75	2.28	1.95
932-1013	228*	2	shielded	solder	3.73	3.09	2.61
932-1021	226	2	shielded	clamp	3.61	3.01	2.65
932-0230	230*	3	black	screw	5.87	4.88	4.11
932-0237	237*	3	black	solder	5.25	4.36	3.73
932-0238	238*	3	shielded	solder	5.55	4.70	4.02

* Mates with No. 11. †Mates with No. 12B.

Tini-Plug® Miniature Phone Plugs

For use with Tini-Jax jacks. 1/2 size of standard phone plugs. Overall length, 1.609" (40.87mm). Handles: plastic or nickel-plated brass. Max. cable diameter: .218" (5.54mm).

932-1022	740	2	black	screw	2.49	2.11	1.78
932-0745	745	2	red	screw	2.94	2.45	2.10
932-0750	750	2	black	solder	2.19	1.79	1.53
932-0755	755	2	red	solder	2.86	2.38	2.04
932-1023	770	2	shielded	screw	4.20	3.49	2.99
932-0780	780	2	shielded	solder	3.33	2.82	2.38

Micro-Plug® Subminiature Phone Plug

Only 1.106" (25.81mm) long; .25" (6.35mm) O.D., .097" (2.46mm) diameter sleeve. Screw-on anodized aluminum handles. For cables up to .125" (3.28mm) diameter. Integral cable clamps mates with TR-2A.

932-1024	850	2	black	—	2.23	1.82	1.56
932-0855	855	2	red	—	3.05	2.41	2.07
932-0880	880	2	natural	—	2.73	2.06	1.79

Power-Plug® Battery Charger Plugs

Mates with sockets used on transistorized portable radios, tape recorders, appliances which have AC adapters, and/or battery chargers. .218" (5.54mm) O.D. x .375" (9.53mm) long sleeve. An .062" (1.57mm) wide insulator. Ring at tip of sleeve insulates and recesses a hollow pin conductor with a center hole of .100" (2.54mm) I.D.

932-0760	760	2	black	solder lugs	2.02	1.71	1.46
932-0761	760K*	2	black	solder lugs	4.29	3.56	3.05
932-0765	765	2	red	solder lugs	2.47	2.06	1.79
932-0766	765K*	2	red	solder lugs	6.24	5.19	4.43

*Locking Power Plug.

Phone Jacks and Plugs

Type 3501FR for front panel mount in .25" (6.35mm) holes in panels up to .125" thick. Type 3501FR for rear panel mount in .375" hole in panels up to .203" thick. Type 3502 has unique cable clamp with .406" O.D. shielded removable handle. Type 3503 extension jack has shielded removable handle. .406" O.D. with cable clamp. Series 3558 are phone plugs with cable clamp and "snap-on" color-coded plastic handles in red, black, and white.

Stock No.	Mfr.'s Type	Number of Conductors	Description	EACH		
				1-9	10-24	25-99
932-1011	3501F	2	phono jack	1.27	1.04	0.91
932-3502	3501F	2	front of panel jack	1.17	0.97	0.82
932-3503	3501FR	2	rear mount jack	1.23	1.02	0.86
932-1025	3502	2	shielded plug	1.35	1.14	0.98
932-1012	3503	2	extension plug	2.33	1.94	1.66
932-1098	35581	2	red plug	1.25	1.02	0.89
932-1099	35582	2	black plug	1.25	1.02	0.89
932-1097	35585	2	white plug	1.25	1.02	0.89

Primary Power Receptacles

UL and CSA Approved, International Standard CCE-22

Shell: Black glass reinforced thermoplastic polyester. UL flammability rating 94 V-0, yellow card #E45575. **Pins:** silver-plated brass. **Terminals:** electroplated brass except EAC-333, silver-plated brass.

EAC-333: 3-pin male recp. with rt. angle housing for PC board mount. Rear of panel mounting. PC terminals project .125" to extend through PC board. Ground pin is integral with the ground solder lug on rear of recp. Two additional .136" holes for fastening to panel or chassis.

EAC-309: 3-pin male recp. with standard lug terminals. Mounts from front or rear of panel with two #5 screws or .125" rivets (not supplied).

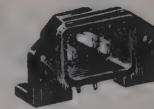
EAC-311: 3-pin male recp. with FASTON terminals. Mounts from front or rear of panel with two #5 screws or .125" diameter rivets (not supplied).

EAC-305 — 3-contact female receptacle front mount with two #4 screws or .094" rivets (not supplied).

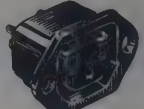
EAC-405 — 3-contact female receptacle with standard solder lug terminals. Snap-in panel mounting.

EAC-409 — 3-pin male receptacle with standard solder lug terminals. Snap-in panel mounting.

EAC-411 — 3-pin male receptacle with FASTON terminals. Snap-in panel mounting.



EAC-333



EAC-305



EAC-309



EAC-311



EAC-405

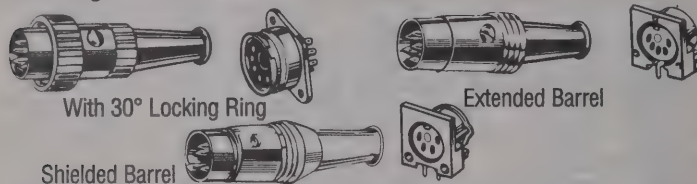


EAC-409, EAC-411

Stock No.	Mfr.'s Type	Rating	Mating Power Cord	EACH	
				1-9	10-24
932-0093	EAC-333	10 A, 250 VAC	523, 535, 545, 537, 538	2.30	1.64
932-0099	EAC-309	10 A, 250 VAC	523, 535, 545, 537, 538	1.86	1.33
932-0101	EAC-311	10 A, 250 VAC	545, 537, 538	1.86	1.33
932-0097	EAC-305	10 A, 250 VAC	551, 552	2.52	1.80
932-0108	EAC-405040*	10 A, 250 VAC	551, 552	2.23	1.59
932-0110	EAC-409040*	10 A, 250 VAC	523, 535, 545, 537, 538	2.18	1.87
932-0112	EAC-411040*	10 A, 250 VAC	545, 537, 538	2.30	1.64

* Panel mounts are for .040 panel thickness. Snap-in for other panel thickness also available.

DIN Plugs and Sockets



DIN is the name given to this high-quality family of versatile miniature audio connectors. Features include solder lug or PC terminations, as well as bright nickel-plated or colorful plastic snap-on shells. Designed for audio circuitry, they are also ideal for test equipment, computers and other types of low level circuits. Precision manufactured. The parts listed are a small representation of a large and growing family. Call the closest sales office for parts not shown.

Right Angle Receptacles for PC Mounting

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
932-0183	57PC5FS	Mates with 3 or 5 pins, 5 contacts at 180°	2.65	1.89
932-0198	62PC8FS	Mates with 8 pins, 8 contacts at 270°	3.23	2.43
Unshielded				
932-0200	57PC5F	Mates with 3 or 5 pins, 5 contacts at 180°	2.92	2.08
932-0201	61PC5F	Mates with 5 pins, 5 contacts at 240°	2.21	1.58
932-0202	62PC8F	Mates with 8 pins, 8 contacts at 270°	2.69	1.92

Straight Cord Plugs

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
932-0153	05CL3M	With 30° locking ring, 3 pins at 180°	5.60	4.20
932-0154	05CL5M	With 30° locking ring, 5 pins at 180°	6.64	5.17
932-0166	12CL5M	With 30° locking ring, 5 pins at 240°	6.28	4.71
932-0156	05GM3M	Shielded barrel, 3 pins at 180°	2.77	2.07
932-0157	05GM5M	Shielded barrel, 5 pins at 180°	3.91	3.10
932-0165	12GM5M	Shielded barrel, 5 pins at 240°	4.20	3.50
932-0167	12GM6M	Shielded barrel, 6 pins at 240°	4.20	3.14
932-0168	15GM7M	Shielded barrel, 7 pins at 270°	4.20	3.30
932-0178	15GM8M	Shielded barrel, 8 pins at 270°	4.44	3.47
932-0162	05BL3M	Extended barrel, 3 pins at 180°	3.15	2.36
932-0155	05BL5M	Extended barrel, 5 pins at 180°	4.20	3.14
932-0164	12BL5M	Extended barrel, 5 pins at 240°	4.20	3.14
932-0163	12BL6M	Extended barrel, 6 pins at 240°	4.20	3.15
932-0169	15BL8M	Extended barrel, 8 pins at 270°	4.60	3.59

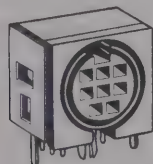
Straight Receptacles

* Flared solder terminals

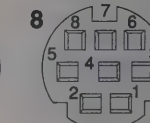
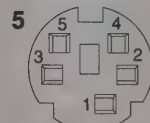
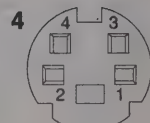
Stock No.	Mfr.'s Type*	Description	EACH	
			1-9	10-24
932-0182	57HA3F	For locking ring plugs, 3 contacts at 180°	2.69	1.92
932-0185	57HA5F	For locking ring plugs, 5 contacts at 180°	2.94	2.19
932-0186	57HB5F	For locking ring plugs, 5 contacts at 180°	2.94	2.19
932-0188	61HA5F	For locking ring plugs, 5 contacts at 240°	3.19	2.40
932-0187	57GB3F	For shielded and extended barrel plugs, 3 contacts at 180°	2.26	1.61
932-0181	57GB5F	For shielded and extended barrel plugs, 5 contacts at 180°	2.52	1.89
932-0195	61GA5F	For shielded and extended barrel plugs, 5 contacts at 240°	2.38	1.71
932-0196	61GB6F	For shielded and extended barrel plugs, 6 contacts at 240°	2.65	1.99
932-0197	62GB7F	For shielded and extended barrel plugs, 7 contacts at 270°	2.69	1.92
932-0199	62GB8F	For shielded and extended barrel plugs, 8 contacts at 270°	3.61	3.10

Right Angle, PC Mount Receptacles

Mini-DIN Receptacles



SMD8FRA111



Miniature DIN connectors are designed for personal computer and enhancements, as well as data communications, medical and instrumentation equipment and systems. Available with 3 thru 8 contacts, receptacles also have a separate ground contact system. Ground terminal is "snap in" type. "Snap-in" terminal is bifurcated to assure tight hold down on PC board...before, during and after

soldering. Also solder wicking around the terminal adds a greater measure of physical strength to the connection. Additionally, PC terminals are staggered to assure more "hold down" capability during soldering. Receptacle/plug retention is "friction" type, with a separate outer shield.

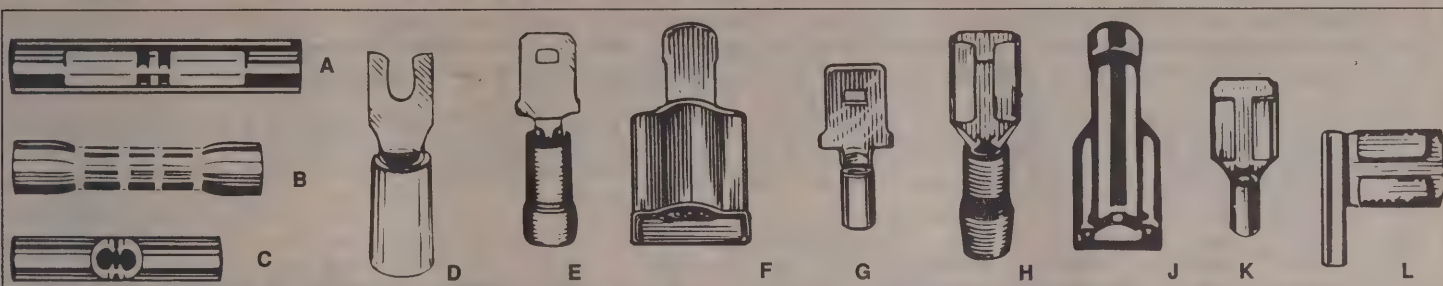
Miniature Right Angle PC Receptacles — Shielded

Stock No.	Mfr.'s Type*	Contacts	External Shield	Snap-In Ground Terminal	EACH	
					1-9	10-24
932-4010	SMD3FRA111	3	Yes	No	1.59	1.26
932-4015	SMD4FRA111	4	Yes	No	1.71	1.36
932-4020	SMD5FRA111	5	Yes	No	1.84	1.46
932-4025	SMD6FRA111	6	Yes	No	1.94	1.56
932-4030	SMD7FRA111	7	Yes	No	2.10	1.67
932-4035	SMD8FRA111	8	Yes	No	2.27	1.80

* Silver contact. Gold contact product also available on special order.

Miniature Right Angle PC Receptacles — Shielded with Snap-In Ground Terminal

Stock No.	Mfr.'s Type*	Contacts	External Shield	Snap-In Ground Terminal	EACH	
					1-9	10-24
932-4040	SMD3FRA121	3	Yes	Yes	1.59	1.26
932-4045	SMD4FRA121	4	Yes	Yes	1.68	1.42
932-4050	SMD5FRA121	5	Yes	Yes	1.84	1.46
932-4055	SMD6FRA121	6	Yes	Yes	1.97	1.56
932-4060	SMD7FRA121	7	Yes	Yes	2.10	1.67
932-4065	SMD8FRA121	8	Yes	Yes	2.27	1.80



These same products are available in larger, bulk packaging at substantial savings. Add 1 to the Allied stock number to get the same part in bulk.

Butt-type Splices

Nylon Insulated—Figure A

Stock No.	Mfr.'s Type	Wire Range	Length	Width	Pkg. Qty.	PER PKG.	
						1-4	5-9
534-0660	2RA18	22-18	1.19	.18	100	35.02	29.85
534-0665	2RB14	16-14	1.19	.21	100	35.02	29.85
534-0670	2RC10	12-10	1.26	.28	50	25.66	21.84
534-0675	2RD8	8	1.69	—	25	27.87	22.75
534-0680	2RE6	6	1.85	—	20	26.06	21.30
534-0685	2RF4	4	1.85	—	15	24.82	19.86

Vinyl Insulated—Figure B

534-0690	2RA18X	22-18	1.13	.25	100	27.73	23.52
534-0695	2RB14X	16-14	1.13	.26	100	26.95	22.94
534-0700	2RC10X	12-10	1.31	.31	50	19.98	17.05

Non-insulated—Figure C

534-0705	2A-18	22-18	.62	.12	100	18.68	15.95
534-0710	2B-14	16-14	.62	.16	100	19.51	16.65
534-0715	2C-10	12-10	.72	.22	50	13.60	11.60
534-0720	2D-8	9-8-7	1.03	.28	25	16.67	14.20
534-0725	2E-6	6-5	1.12	.37	20	18.83	16.05
534-0730	2F-4	4-3	1.25	.44	15	20.96	17.10
534-0735	2G-2	2-1	1.72	.55	5	9.20	7.55

Locking Fork Terminals

Vinyl-insulated—Figure D

These have a specially designed tongue that lets them go on like a fork and stay on like a ring.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	Length	Width	Pkg. Qty.	PER PKG.	
							1-4	5-9
534-0740	18RA-6FL	22-18	6	.97	.25	100	28.15	24.00
534-0745	18RA-8FL	22-18	8	.97	.29	100	28.15	24.00
534-0750	18RA-10FL	22-18	10	.97	.29	100	29.32	25.00
534-0755	14RB-6FL	16-14	6	.97	.25	100	29.32	25.00
534-0760	14RB-8FL	16-14	8	.97	.29	100	29.32	25.00
534-0765	14RB-10FL	16-14	10	.97	.29	100	29.32	25.00
534-0770	10RC-6FL	12-10	6	1.09	.31	50	19.61	16.47
534-0775	10RC-8FL	12-10	8	1.09	.37	50	18.80	16.00
534-0780	10RC-10FL	12-10	10	1.09	.37	50	19.62	16.70
534-0782	10RC-14FL	12-10	1/4"	1.09	.49	50	24.09	19.70

Nylon Insulated—Figure D

534-0785	RA18-6FL	22-18	6	.86	.25	100	40.05	32.70
534-0790	RA18-8FL	22-18	8	.86	.29	100	40.05	32.70
534-0795	RA18-10FL	22-18	10	.86	.29	100	40.05	32.70
534-0800	RB14-6FL	16-14	6	.87	.25	100	38.40	32.70
534-0805	RB14-8FL	16-14	8	.87	.29	100	38.40	32.70
534-0810	RB14-10FL	16-14	10	.87	.29	100	38.40	32.70
534-0815	RC10-6FL	12-10	6	.97	.31	50	23.49	19.20
534-0820	RC10-8FL	12-10	8	1.00	.37	50	25.28	20.65
534-0825	RC10-10FL	12-10	10	1.00	.37	50	24.24	20.65
534-0830	RC10-14FL	12-10	1/4"	1.12	.50	50	25.54	20.85

Insulated Male Tabs

Mate with female disconnects on this page. Material: brass. Finish: tin-plated.

Vinyl Self-insulated Male Tabs

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG.	
						1-4	5-9
534-0575	18RA-250T	E	22-18	.250 x .032	100	35.35	30.10
534-0580	18RAD-187	E	22-18	.187 x .032	100	39.97	32.65
534-0585	18RAD-188	E	22-18	.187 x .020	100	39.97	32.65
534-0590	14RB-250T	E	16-14	.250 x .032	100	36.50	31.10
534-0595	14RBD-187	E	16-14	.187 x .032	100	36.90	30.15
534-0600	14RBD-188	E	16-14	.187 x .020	100	34.31	28.05
534-0605	10RC-250T	E	12-10	.250 x .032	50	20.49	17.45

Nylon Fully Insulated Male Tabs

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG.	
						1-4	5-9
534-0610	18RA-251T	F	22-18	.250 x .032	50	18.29	15.60
534-0615	14RB-251T	F	16-14	.250 x .032	50	18.88	16.07
534-0620	10RC-251T	F	12-10	.250 x .032	25	11.65	9.95

Non-insulated Male Tabs

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG.	
						1-4	5-9
534-0625	A18-251T	G	22-18	.250 x .032	100	24.03	19.25
534-0640	B14-251T	G	16-14	.250 x .032	100	24.65	20.71
534-0655	C10-251T	G	12-10	.250 x .032	50	12.91	10.55

Nylon Insulated Female Disconnects

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG.	
						1-4	5-9
534-0400	RA18-250F	H	22-18	.250 x .032	100	37.41	31.84
534-0405	RAD18-183	H	22-18	.187 x .032	100	40.15	32.77
534-0410	RAD18-182	H	22-18	.187 x .020	100	40.15	32.77
534-0415	RA18-111F	H	22-18	.110 x .020	100	41.33	33.75
534-0420	RA18-110F	H	22-18	.110 x .032	100	39.63	33.74
534-0425	18RA-257F	J	22-18	.250 x .032	100	38.12	32.45
534-0430	18RAD-18377	J	22-18	.187 x .032	100	38.52	31.45
534-0435	18RAD-18277	J	22-18	.187 x .020	100	38.52	31.45
534-0440	RB14-250F	H	16-14	.250 x .032	100	38.96	33.20
534-0445	RBD14-183	H	16-14	.187 x .032	100	43.87	37.35
534-0450	RBD14-182	H	16-14	.187 x .020	100	45.76	37.35
534-0455	RB14-111F	H	16-14	.110 x .020	100	41.33	33.75
534-0460	RB14-110F	H	16-14	.110 x .032	100	39.11	33.74
534-0465	14RB-257F	J	16-14	.250 x .032	100	37.76	32.15
534-0470	14RBD-18377	J	16-14	.187 x .032	100	38.15	31.14
534-0475	14RBD-18277	J	16-14	.187 x .020	100	38.15	32.05
534-0480	RC10-250F	H	12-10	.250 x .032	50	25.50	21.75
534-0485	10RC-257F	J	12-10	.250 x .032	50	23.20	19.75

Vinyl Insulated Female Disconnects

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG.	
						1-4	5-9
534-0490	18RA-250F	H	22-18	.250 x .032	100	36.58	31.14
534-0495	18RAD-183	H	22-18	.187 x .032	100	36.10	29.50
534-0500	18RAD-182	H	22-18	.187 x .020	100	36.10	29.50
534-0505	14RB-250F	H	16-14	.250 x .032	100	36.58	31.15
534-0510	14RBD-183	H	16-14	.187 x .032	100	32.10	27.35
534-0515	14RBD-182	H	16-14	.187 x .020	100	33.47	27.35
534-0520	10RC-250F	H	12-10	.250 x .032	50	22.81	19.45

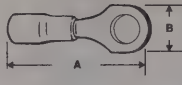
Non-insulated Female Disconnects

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG.	
						1-4	5-9
534-0525	A18-250	K	22-18	.250 x .032	100	22.10	18.05
534-0530	A18-250A	L	22-18	.250 x .032	50	12.51	10.25
534-0535	AD18-183	K	22-18	.187 x .032	100	24.43	20.54
534-0540	AD18-182	K	22-18	.187 x .020	100	26.32	21.06
534-0545	B14-250A	K	16-14	.250 x .032	100	21.18	18.04
534-0550	B14-250A	L	16-14	.250 x .032	50	12.94	11.02
534-0555	BD14-183	K	16-14	.187 x .032	100	24.43	20.54
534-0560	BD14-182	K	16-14	.187 x .020	100	24.43	20.54
534-0565	C10-250F	K	12-10	.250 x .032	50	21.07	17.95
534-0570	C10-250A	L	12-10	.250 x .032	50	22.29	19.00

These same terminals are available in larger, bulk packaging at substantial savings. Add 1 to the Allied stock number to get the same part in bulk.

Vinyl Insulated Ring—Insulation Support

STA-KON terminals and tools exceed test specifications requirements of military, UL and CSA. These ring terminals are insulated with a PVC insulation sleeve of extra length to give protection and relieve bending stress at wire's flex point. Braze seam barrel is serrated to obtain high pull-out value. Terminal is made of high conductivity electrolytic copper, electro-tin plated. Insulation material is color coded.



Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0100	18RA-6	22-18	#6	.94	.25	25.40	21.65
534-0105	18RA-8	22-18	#8	.97	.31	25.40	21.65
534-0110	18RA-10	22-18	#10	.97	.31	26.48	22.55
534-0120	14RB-6	16-14	#6	.97	.31	26.48	22.55
534-0125	14RB-8	16-14	#8	.97	.31	26.48	22.55
534-0130	14RB-10	16-14	#10	.97	.31	26.48	22.55
534-0135	10RC-6	12-10	#6	1.06	.31	17.11*	14.00*
534-0140	10RC-8	12-10	#8	1.06	.31	17.09*	15.20*
534-0145	10RC-10	12-10	#10	1.06	.31	17.12*	14.60*
534-0150	10RC-14	12-10	1/4"	1.16	.50	20.77*	17.70*

* Package of 50

Nylon Insulated Ring—Insulation Grip

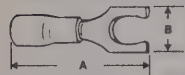
Self-insulated with high dielectric-strength nylon sleeves, these ring terminals are recommended for temperatures up to 105°C. An inner bronze insulation grip sleeve lengthens the flexing radius of the conductor and eliminates conductor creep. The nylon jacket is color-coded.



Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0155	RA18-6	22-18	#6	.83	.26	37.18	31.65
534-0160	RA18-8	22-18	#8	.83	.26	37.18	31.65
534-0165	RA18-10	22-18	#10	.86	.31	38.77	33.05
534-0170	RB14-6	16-14	#6	.87	.31	38.77	33.05
534-0175	RB14-8	16-14	#8	.87	.31	38.77	33.05
534-0180	RB14-10	16-14	#10	.87	.31	38.77	33.05
534-0185	RC10-6	12-10	#6	1.00	.37	23.34*	19.05*
534-0190	RC10-8	12-10	#8	1.00	.37	23.31*	20.73*
534-0195	RC10-10	12-10	#10	1.00	.37	23.31*	20.73*

* Package of 50

Vinyl Insulated Fork—Insulation Support



These fork terminals have extra-long PVC insulation sleeve for protection and stress relief at wire's flex point. Braze seam barrel is serrated for high pull-out value. Terminal is high conductivity electrolytic copper, electro-tin plated. Insulation is color coded.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0200	18RA-6F	22-18	#6	.94	.25	26.48	22.55
534-0205	18RA-8F	22-18	#8	.97	.31	26.48	22.55
534-0210	18RA-10F	22-18	#10	.97	.31	26.48	22.55
534-0220	14RB-6F	16-14	#6	.97	.31	26.48	22.55
534-0225	14RB-8F	16-14	#8	.97	.31	26.48	22.55
534-0230	14RB-10F	16-14	#10	.97	.31	26.48	22.55
534-0240	10RC-6F	12-10	#6	1.09	.38	16.41*	14.00*
534-0245	10RC-8F	12-10	#8	1.09	.38	17.09*	14.55*
534-0250	10RC-10F	12-10	#10	1.09	.38	17.12*	14.58*

* Package of 50

Nylon Insulated Fork—Insulation Grip



Fork terminals with nylon insulation sleeves, recommended for temperatures up to 105°C. Inner bronze insulation grip sleeve lengthens flex radius of conductor and eliminates conductor creep. Nylon jacket is color coded.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0255	RA18-6F	22-18	#6	.83	.25	38.77	33.05
534-0260	RA18-8F	22-18	#8	.83	.25	38.77	33.05
534-0265	RA18-10F	22-18	#10	.86	.31	38.77	33.05
534-0270	RB14-6F	16-14	#6	.87	.31	38.77	33.05
534-0275	RB14-8F	16-14	#8	.87	.31	38.77	33.05
534-0280	RB14-10F	16-14	#10	.87	.31	38.77	33.05
534-0285	RC10-6F	12-10	#6	1.00	.37	22.38*	19.05*
534-0290	RC10-8F	12-10	#8	1.00	.37	23.31*	19.85*
534-0295	RC10-10F	12-10	#10	1.00	.37	23.31*	19.85*

* Package of 50

Non-insulated Ring

These non-insulated ring terminals are made of electrolytic copper for high conductivity and have a braze seam barrel which provides maximum tensile strength. The wire barrel is serrated which increases grip on wire.



Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0300	A18-6	22-18	#6	.72	.25	15.52	13.25
534-0305	A18-8	22-18	#8	.75	.31	15.52	13.25
534-0310	A18-10	22-18	#10	.75	.31	15.52	13.25
534-0315	B14-6	16-14	#6	.75	.31	15.52	13.25
534-0320	B14-8	16-14	#8	.75	.31	16.18	13.80
534-0325	B14-10	16-14	#10	.75	.31	16.18	13.80
534-0330	C10-6	12-10	#6	.82	.31	11.34*	9.30*
534-0335	C10-8	12-10	#8	.82	.31	10.87*	9.30*
534-0340	C10-10	12-10	#10	.85	.38	11.33*	9.65*
534-0345	C10-14	12-10	1/4"	.91	.50	13.46*	11.50*

* Package of 50

Non-insulated Fork

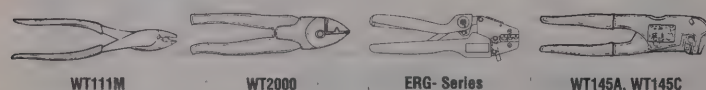
These non-insulated fork terminals are made of electrolytic copper for high conductivity and have a braze seam barrel which provides maximum tensile strength. Serrated barrel increases grip on wire.



Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0355	A18-6F	22-18	#6	.72	.25	15.52	13.25
534-0360	A18-8F	22-18	#8	.75	.31	16.18	13.25
534-0365	A18-10F	22-18	#10	.75	.31	16.18	13.25
534-0370	B14-6F	16-14	#6	.75	.31	15.52	13.25
534-0375	B14-8F	16-14	#8	.75	.31	16.18	13.80
534-0380	B14-10F	16-14	#10	.75	.31	16.18	13.80
534-0385	C10-6F	12-10	#6	.82	.38	10.87*	9.30*
534-0390	C10-8F	12-10	#8	.82	.38	11.33*	9.65*
534-0395	C10-14F	12-10	1/4"	.98	.50	13.03*	10.64*

* Package of 50

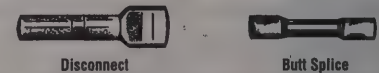
Application Tools



Stock No.	Mfr.'s Type	For Use With STA-KON Series	EACH
534-1000	WT111M	A, B, C, PT non-insulated terminals and splices	30.10
534-1005	WT2000	A, B, C, PT, RA, RB, RC insulated and non-insulated terminals and splices	33.80
534-1101	ERG-2001	RA, RB, RC nylon and vinyl terminals, splices, and disconnects	172.62
534-1102	ERG-2002	A, B, C non-insulated terminals, splices, and disconnects	156.92
534-1103	ERG-2003	RA, RB nylon and vinyl terminals, splices, and disconnects	172.62
534-1120	WT145A	Nylon terminal, splices, disconnects	286.45
534-1130	WT145C	Nylon vinyl terminals, splices, disconnects	328.27
534-1628	WT1255	Installing tool for heatshrinkable terminals	77.79

Heat Shrinkable Disconnects and Butt Splices

— NEW —

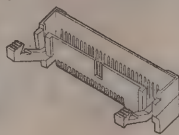


Stock No.	Mfr.'s Type	Wire Range	Max. Ins.	Tab Size	Connector Type	PER PKG./25	
						1-4	5-9
534-1616	RAS18-250AX	22-18	.170	.250 x .032	Female Disconnect	20.95	17.10
534-1618	RBS14-250AX	16-14	.200	.250 x .032	Female Disconnect	20.95	17.10
534-1620	RCS10-250AX	12-10	.250	.250 x .032	Female Disconnect	22.67	18.50
534-1622	18RAS-251TX	22-18	.170	.250 x .032	Male Disconnect	20.95	17.10
534-1624	14RBS-251TX	16-14	.200	.250 x .032	Male Disconnect	20.95	17.10
534-1626	10RCS-251TX	12-10	.250	.250 x .032	Male Disconnect	22.67	18.50
534-9995	2RAS18X	22-18	.170	—	Butt Splice	43.55*	35.00*
534-1630	2RBS14X	16-14	.200	—	Butt Splice	43.55*	35.00*
534-1632	2RCS10X	12-10	.250	—	Butt Splice	23.60	19.25

* Package of 50

System 311 Header, 2-Row, Straight Tail with Optional Space Saving Vertical Ejectors

Physical Properties. Insulation Material: Glass reinforced thermoplastic rated UL 94V-0, infrared and vapor phase process compatible, black. Contacts: Copper alloy, 30 microinches gold over nickel plating in the mating area, tin/lead plating in the termination area. Environmental Properties. Temperature Rating: -55°C to 125°C.

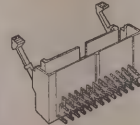


PCB = 1.57 mm (.062"); Tail Length = 2.90 mm (.114")

Stock No.	Mfr.'s Type	No. of Pos.	Overall Length	With Ejectors	EACH	
					1-24	25-49
515-5000	311-026D272	26	0.964"	No	3.70	3.33
515-5005	311-026D272E	26	0.964"	Yes	4.40	3.96
515-5010	311-040D272	40	1.314"	No	4.24	3.82
515-5015	311-040D272E	40	1.314"	Yes	5.04	4.54
515-5020	311-050D272	50	1.564"	No	4.62	4.16
515-5025	311-050D272E	50	1.564"	Yes	5.50	4.95
515-5030	311-068D272	68	2.014"	No	5.32	4.79
515-5035	311-068D272E	68	2.014"	Yes	6.30	5.67
515-5040	311-080D272	80	2.314"	No	5.76	5.19
515-5045	311-080D272E	80	2.314"	Yes	6.94	6.16
515-5050	311-100D272	100	2.814"	No	6.54	5.89
515-5055	311-100D272E	100	2.814"	Yes	7.78	7.00

System 311 Header, 4-Row, Right Angle Tails With Optional Space Saving Vertical Ejectors

Physical Properties. Insulation Material: Glass reinforced thermoplastic rated UL 94V-0, infrared and vapor phase process compatible, black. Contacts: Copper alloy, 30 microinches gold over nickel plating in the mating area, tin/lead plating in the termination area. Environmental Properties. Temperature Rating: -55°C to 125°C.

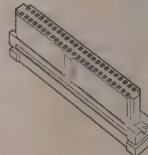


PCB = 1.57 mm (.062"); Tail Length = 2.90 mm (.114")

Stock No.	Mfr.'s Type	No. of Pos.	Overall Length	With Ejectors	EACH	
					1-24	25-49
515-5060	311-026072	26	0.964"	No	5.82	5.24
515-5065	311-026072E	26	0.964"	Yes	6.93	6.24
515-5070	311-040072	40	1.314"	No	6.67	6.01
515-5075	311-040072E	40	1.314"	Yes	7.93	7.14
515-5080	311-050072	50	1.564"	No	7.27	6.55
515-5085	311-050072E	50	1.564"	Yes	8.66	7.80
515-5090	311-068072	68	2.014"	No	8.32	7.49
515-5095	311-068072E	68	2.014"	Yes	9.92	8.93
515-5100	311-080072	80	2.314"	No	9.00	8.10
515-5105	311-080072E	80	2.314"	Yes	10.69	9.62
515-5110	311-100072	100	2.814"	No	10.22	9.20
515-5115	311-100072E	100	2.814"	Yes	12.16	10.95

System 311 Female Socket with .050 Contact Spacing for .025 Pitch Flat Cable

Physical Properties. Insulation Material: Glass reinforced thermoplastic rated UL 94V-0, black. Contacts: Beryllium copper, 30 microinches gold over nickel plating in the mating area, tin/lead plating in the termination area. Environmental Properties. Temperature Rating: -55°C to 125°C. Cable Requirements. PVC Insulation: 30 AWG solid .025 pitch; 30 AWG stranded .025 pitch. Teflon: 30 AWG solid .025 pitch; 32 AWG stranded .025 pitch.



Stock No.	Mfr.'s Type	No. of Pos.	Overall Length	EACH	
				1-24	25-49
515-5180	311-026302	26	0.958"	7.15	6.44
515-5185	311-040302	40	1.308"	9.13	8.22
515-5190	311-050302	50	1.558"	10.55	9.50
515-5195	311-068302	68	2.008"	13.10	11.79
515-5200	311-080302	80	2.308"	14.69	13.22
515-5205	311-100302	100	2.808"	17.50	15.75

Tooling for 311 System and .025" Pitch Cable

Stock No.	Mfr.'s Type	Description	EACH
515-4100	779-2100	Tool frame less die	240.13
515-5500	779-3112151	Die for 311 female sockets	54.95
515-5505	779-3112179	Die for 311 IDC D-sub	100.77
515-4160	779-5030M	Flat cable cutter	89.90

System 311 Unshrouded Header, 2-Row, Straight Tail, Vertical Mount and 2-Row, Right Angle

Physical Properties. Insulation Material: Glass reinforced thermoplastic rated UL 94V-0, black. Contacts: Copper alloy, 30 microinches gold over nickel plating in the mating area, tin/lead plating in the termination area. Environmental Properties. Temperature Rating: -55°C to 125°C.

Vertical (Straight Tail)

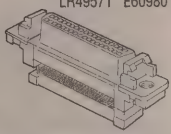
Stock No.	Mfr.'s Type	No. of Pos.	Overall Length	EACH	
				1-24	25-49
515-5120	311-D026ST2911	26	0.650"	2.34	2.11
515-5125	311-D040ST2911	40	1.000"	2.88	2.59
515-5130	311-D050ST2911	50	1.250"	3.28	2.95
515-5135	311-D068ST2911	68	1.700"	3.96	3.57
515-5140	311-D080ST2911	80	2.000"	4.42	3.98
515-5145	311-D100ST2911	100	2.500"	5.20	4.68

Right Angle

Stock No.	Mfr.'s Type	No. of Pos.	Overall Length	EACH
515-5150	311-D026RA2911	26	0.650"	2.34
515-5155	311-D040RA2911	40	1.000"	2.88
515-5160	311-D050RA2911	50	1.250"	3.28
515-5165	311-D068RA2911	68	1.700"	3.96
515-5170	311-D080RA2911	80	2.000"	4.42
515-5175	311-D100RA2911	100	2.500"	5.20

System 311 IDC Metal Shell "D-Sub" Receptacle

Terminates to .025" Cable
Physical Properties. Insulation Material: Glass reinforced thermoplastic rated UL 94V-0, black. Contacts: Beryllium copper, 30 microinches gold over nickel plating in the mating area, tin/lead plating in the termination area. Environmental Properties. Temperature Rating: -55°C to 125°C.

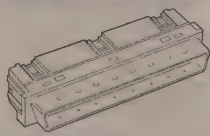


Stock No.	Mfr.'s Type	No. of Pos.	Bulkhead Mounting Style	EACH	
				1-24	25-49
515-5210	311-026SM29C	26	4-40 Flush threads	7.20	6.48
515-5215	311-026SM29J	26	2-56 Latch w/ rails	7.20	6.48
515-5220	311-040SM29J	40	2-56 Latch w/ rails	9.20	8.28
515-5225	311-040SM29N	40	2-56 Latch w/o rails	9.20	8.28
515-5230	311-050SM29C	50	4-40 Flush threads	9.76	8.79
515-5235	311-050SM29J	50	2-56 Latch w/ rails	9.76	8.79
515-5240	311-050SM29N	50	2-56 Latch w/o rails	9.76	8.79
515-5245	311-068SM29C	68	4-40 Flush threads	12.10	10.89
515-5250	311-080SM29C	80	4-40 Flush threads	13.28	11.95
515-5255	311-100SM29C	100	4-40 Flush threads	15.80	14.22

Mounting Hardware (for Mounting Style C). 2 required per connector.
515-5260. 8700040001.....EACH .30

Plug Connector, Fine Pitch D-Sub Discrete Wire Cable

The Thomas & Betts Discrete Wire Cable Connector System utilizes the time proven crimp on contact termination process. Physical Properties. Insulation Material: Glass reinforced thermoplastic rated UL 94V-0, black. Metal Shell: Steel with bright tin plate 100 microinches min. over 50 microinches nickel min. Environmental Properties. Temperature Rating: -55°C to 125°C.



Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-24	25-49
515-5330	HFM026A	26	1.80	1.62
515-5335	HFM040A	40	1.88	1.69
515-5340	HFM050A	50	1.88	1.69
515-5345	HFM068A	68	1.92	1.73
515-5350	HFM080A	80	2.00	1.80
515-5355	HFM100A	100	2.10	1.89

Contacts
515-5360. 1016029L-01. 28-32 AWG, duplex 30 µ goldPK/100 16.00
515-5365. 1016049L-01. 28-32 AWG, flash and 30 µ goldPK/100 16.50
Tooling
515-5370. 600112. Crimp ToolEACH 305.39
515-5375. 600113. Contact Removal Tool.....EACH 44.62

Backshell Kit, Fine Pitch "D" Sub Discrete Wire Cable Connector Squeeze To Release

Stock No.	Mfr.'s Type	No. of Pos.	Max Cable Dia.	EACH	
				1-24	25-49
515-5380	300102-026A53	26	.270"	4.40	3.96
515-5385	300102-040A55	40	.320"	5.76	5.19
515-5390	300102-050A55	50	.400"	5.18	4.66
515-5395	300102-050A56	50	.435"	5.18	4.66

Fine Pitch "D-Sub" Connector Right Angle Receptacle

Physical Properties. Insulation Material: Thermoplastic rated UL 94V-0, black. Contacts: High strength copper alloy, nickel underplate overall, selectively plated gold in contact area, tin/lead solder plate on tails. Latch Block Material: Nickel plated zinc alloy. Metal Shell Material: Nickel plated steel. Ground Strap Material: High strength copper alloy. Insert Material: Nickel plated brass. Environmental Properties. Temperature Rating: -55°C to 125°C.

With Grounded Snaplatch; Tail Length = .130

Stock No.	Mfr.'s Type	No. of Pos.	Bulkhead Mounting Style	EACH	
				1-24	25-49
515-5265	HFR026RA29BS1	26	2-56 Stand off	8.59	7.73
515-5270	HFR026RA29CS1	26	4-40 Flush	7.96	7.17
515-5275	HFR026RA29JS1	26	2-56 Latch w/ rails	7.96	7.17
515-5280	HFR026RA29NS1	26	2-56 Latch w/o rails	7.96	7.17
515-5285	HFR040RA29JS1	40	2-56 Latch w/ rails	9.54	8.59
515-5290	HFR040RA29NS1	50	2-56 Latch w/o rails	10.67	9.61
515-5295	HFR050RA29JS1	50	2-56 Latch w/ rails	10.67	9.61
515-5300	HFR050RA29NS1	68	2-56 Stand off	13.98	12.58
515-5305	HFR068RA29CS1	68	4-40 Flush	13.35	12.01
515-5310	HFR080RA29BS1	80	2-56 Stand off	15.78	14.20
515-5315	HFR080RA29CS1	80	4-40 Flush	15.27	13.75
515-5320	HFR100RA29BS1	100	2-56 Stand off	19.22	17.30
515-5325	HFR100RA29CS1	100	4-40 Flush	18.74	16.87

Mounting Hardware (for Mounting Style C). 2 required per connector.
515-5260. 8700040001.....EACH .30

.025" Pitch Flat Cable 136 Series — 30 AWG Solid PVC

137 Series — 30 AWG Stranded PVC

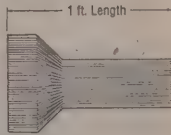
136 Series
Physical Properties. Insulation Material: Flexible PVC, blue/gray. Conductors: 30 AWG, solid bare copper. Environmental Properties. Temperature Rating: -20°C to 105°C. Electrical Properties. Voltage Rating: 150 Vrms. Insulation Resistance: >10¹⁰ ohms. Impedance: 80 ohms. Capacitance @ 1 MHz: 62.3 pF/m (.190 pF/ft.). Inductance @ 1 MHz: .49 µH/m (.15 µH/ft.). Propagation Delay: -5.25 nSec/m (1.60 nSec/ft.).

137 Series
Physical Properties. Insulation Material: Flexible PVC, blue/gray conductors — 30 AWG, 7/38 tinned, stranded copper. Electrical Properties. Voltage Rating: 150 Vrms. Insulation Resistance: >10¹⁰ ohms. Impedance: 70 ohms. Capacitance @ 1 MHz: 82.0 pF/m (25.0 pF/ft.). Inductance @ 1 MHz: .46 µH/m (.14 µH/ft.). Propagation Delay: -5.08 nSec/m (1.55 nSec/ft.). Environmental Properties. Temperature Rating: -20°C to 105°C.

136 Series		137 Series		No. of Cond.	Width	PER COIL/100'
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			
515-5420	136-026	515-5450	137-026	26	0.650	56.68
515-5425	136-040	515-5455	137-040	40	1.000	87.20
515-5430	136-050	515-5460	137-050	50	1.250	109.00
515-5435	136-068	515-5465	137-068	68	1.700	148.24
515-5440	136-080	515-5470	137-080	80	2.000	174.40
515-5445	136-100	515-5475	137-100	100	2.500	218.00

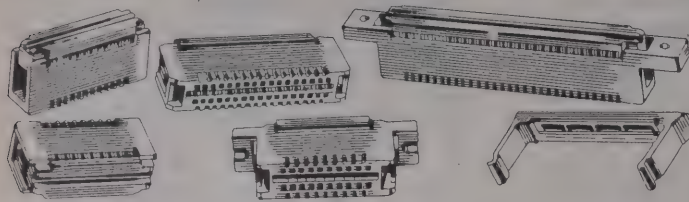
Transition Cable One Spread End .025" To .050" (30 AWG Solid PVC)

Physical Properties. Insulation Material: Flexible PVC, blue/gray. Conductors: 30 AWG, solid bare copper. Environmental Properties. Temperature Rating: -20°C to 105°C. Electrical Properties. Voltage Rating: 150 Vrms. Insulation Resistance: >10¹⁰ ohms. Impedance: 80 ohms. Capacitance @ 1 MHz: 62.3 pF/m (19.0 pF/ft.). Inductance @ 1 MHz: .49 µH/m (.15 µH/ft.). Propagation Delay: -5.25 nSec/m (1.60 nSec/ft.).



Stock No.	Mfr.'s Type	No. of Cond.	EACH	
			1-24	25-49
515-5480	136-026-0100	26	6.12	5.51
515-5485	136-040-0100	40	6.62	5.96
515-5490	136-050-0100	50	8.16	7.35

Card Edge Connectors



Ansley® Card Edge Connectors are designed to provide a high-performance flat cable interface to double-sided printed circuit boards. A variety of mounting options provide for application versatility. **SPECIFICATIONS.** **Insulation Material:** Glass reinforced thermo-plastic, rated 94 V-O. **Contact Material:** Beryllium copper. **Contact Plating:** Gold over nickel. **Current Rating:** 1 Amp. **Insulation Resistance:** $>1 \times 10^9$ Ohms @ 500 VDC. **DWV:** >500 V rms (Sea level). **Temperature Rating:** -55° to $+125^\circ\text{C}$. **Color:** Blue.

With Mounting Ears

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-1000	622-1005	10	2.57	2.34	2.16
515-1005	622-2005	20	5.12	4.65	4.30
515-1010	622-2605	26	5.45	4.94	4.57
515-1015	622-3405	34	7.12	6.46	5.98
515-1020	622-4005	40	8.40	7.62	7.05
515-1025	622-5005	50	9.00	8.16	7.56
515-1030	622-6005	60	10.80	9.79	9.07

With Half Mounting Ears

Stock No.	Mfr.'s Type	Number of Positions	1-24	25-99	100-499
515-1100	622-1025	10	2.57	2.34	2.16
515-1105	622-2025	20	5.12	4.65	4.30
515-1110	622-2625	26	5.45	4.94	4.57
515-1115	622-3425	34	7.12	6.46	5.98
515-1120	622-4025	40	8.40	7.62	7.05
515-1125	622-5025	50	9.00	8.16	7.56
515-1130	622-6025	60	10.80	9.79	9.07

Without Mounting Ears

Stock No.	Mfr.'s Type	Number of Positions	1-24	25-99	100-499
515-1200	622-1015	10	2.57	2.34	2.16
515-1205	622-2015	20	5.12	4.65	4.30
515-1210	622-2615	26	5.45	4.94	4.57
515-1215	622-3415	34	7.12	6.46	5.98
515-1220	622-4015	40	8.40	7.62	7.05
515-1225	622-5015	50	9.00	8.16	7.56
515-1230	622-6015	60	10.80	9.79	9.07

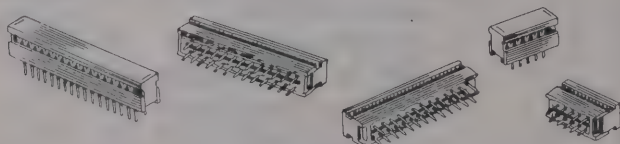
Strain Reliefs

Stock No.	Mfr.'s Type	Number of Positions	1-24	25-99	100-499
515-1300	622-1035	10	.47	.40	.35
515-1305	622-2035	20	.47	.40	.35
515-1310	622-2635	26	.47	.40	.35
515-1315	622-3435	34	.63	.51	.47
515-1320	622-4035	40	.63	.51	.47
515-1325	622-5035	50	.63	.51	.47
515-1328	622-6035	60	.63	.51	.47

Polarizing Key

For 622-1005, 1015 and 1025. Series Card Edge Connectors
515-1330. Type 622-0005..... EACH .15

Slimline PCB Solder Transition Connectors



- PCB Solder Transition Connectors provide fast, permanent termination of flat cable to printed circuit boards.
- Available in solder tail lengths for 1.57mm (0.62") or 3.18mm (.125") board thickness.
- Narrow design maximizes packaging density—designed to fit into a standard 2.54mm $\times$ 2.54mm (.100" $\times$.100") male header grid pattern.
- Contact Material: Beryllium Copper, 100 μ inches tin over 50 μ inches nickel in contact zone; tin-lead over nickel in termination area.

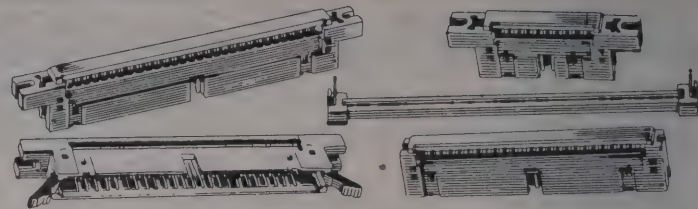
For .062" (1.57mm) PC Boards

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0005	622-1053	10	1.41	1.15	1.05
515-0010	622-2053	20	2.83	2.30	2.11
515-0015	622-2653	26	3.62	2.93	2.70
515-0020	622-3453	34	4.75	3.85	3.54
515-0025	622-4053	40	5.54	4.49	4.13
515-0030	622-5053	50	6.83	5.53	5.09

For .125" (3.17mm) PC Boards

Stock No.	Mfr.'s Type	Number of Positions	1-24	25-99	100-499
515-0100	622-1063	10	1.41	1.15	1.05
515-0105	622-2063	20	2.83	2.30	2.11
515-0110	622-2663	26	3.62	2.93	2.70
515-0115	622-3463	34	4.75	3.85	3.54
515-0120	622-4063	40	5.54	4.49	4.13
515-0125	622-5063	50	6.83	5.53	5.09

Male Connectors



Ansley® Male Connectors are designed to mate with female socket transition connectors. Used primarily for in-line cable splice and "T" tap applications, they are available with optional mounting ears for I/O applications, as well as optional retainer/ejector latches for ease of disconnect. **SPECIFICATIONS.** **Insulation Material:** Glass reinforced thermo-plastic, rated 94 V-O. **Contact Material:** Beryllium copper. **Contact Plating:** Gold over nickel. **Current Rating:** 1 A. **Insulation Resistance:** $>1 \times 10^9$ Ohms @ 500 VDC. **DWV:** >500 V rms (Sea level). **Temperature Rating:** -55° to $+125^\circ\text{C}$. **Color:** Blue.

NOTE: Part numbers shown indicate connector without ejector/retainer latches
Following options are available as special order items

- Add suffix "E" for latches to accommodate female socket connectors without strain relief
- Add suffix "ES" for latches to accommodate female socket connectors with strain relief

Without Mounting Ears

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0600	622-1006	10	7.08	5.74	5.28
515-0605	622-2006	20	8.06	6.53	6.01
515-0610	622-2606	26	8.85	7.17	6.60
515-0615	622-3406	34	10.11	8.19	7.54
515-0620	622-4006	40	11.15	9.03	8.31
515-0625	622-5006	50	12.88	10.43	9.61

With Half Mounting Ears

Stock No.	Mfr.'s Type	Number of Positions	1-24	25-99	100-499
515-0650	622-1016	10	7.08	5.74	5.28
515-0655	622-2016	20	8.06	6.53	6.01
515-0660	622-2616	26	8.85	7.17	6.60
515-0665	622-3416	34	10.11	8.19	7.54
515-0670	622-4016	40	11.15	9.03	8.31
515-0675	622-5016	50	12.88	10.43	9.61

Strain Reliefs and Misc. Accessories

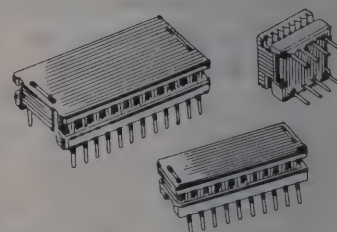
Stock No.	Mfr.'s Type	Number of Positions	1-24	25-99	100-499
515-0692	622-1066	10	.63	.51	.47
515-0693	622-2066	20	.63	.51	.47
515-0694	622-2666	26	.63	.51	.47
515-0695	622-3466	34	.78	.64	.58
515-0696	622-4066	40	.78	.64	.58
515-0697	622-5066	50	.78	.64	.58

Polarizing Key

515-0603. Type 622-0056p..... EACH .15

Low Profile DIP Plugs With Heavy Duty Pins

Ansley® Low Profile DIP Plug Connectors are primarily used as a disconnectable interface to DIP Sockets. DIP plugs with heavy duty contacts are used in disconnect applications with DIP sockets. DIP Plugs with tin plated contacts provide a permanent flatcable transition to printed circuit boards. **Insulation Material:** Glass filled thermoplastic, rated 94 V-O, blue. **Contact Material:** Beryllium copper; 30 μ inches minimum gold over 50 μ inches nickel in contact zone; tin-lead over nickel in termination area. **Current Rating:** 1 Amp. **Insulation Resistance:** $>1 \times 10^9$ Ohms @ 500 VDC. **Dielectric Strength:** >1000 VRMS @ sea level. **Temperature Rating:** -55° to $+125^\circ\text{C}$.



With Gold Plated Pins

Stock No.	Mfr.'s Type	Number of Leads	EACH		
			1-24	25-99	100-499
515-7500	609-M085H	8	2.01	1.63	1.50
515-7503	609-M145H	14	2.17	1.76	1.62
515-7505	609-M165H	16	2.45	1.99	1.83
515-7510	609-M185H	18	2.99	2.42	2.23
515-7515	609-M205H	20	3.46	2.81	2.58
515-7520	609-M225H	22	3.90	3.16	2.91
515-7525	609-M245H	24	4.00	3.24	2.98
515-7530	609-M407H	40	6.52	5.28	4.86
515-7535	609-M485H	48	7.27	5.89	5.42

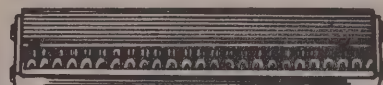
Tin-Plated Pins

Stock No.	Mfr.'s Type	Number of Leads	1-24	25-99	100-499
515-7540	609-M085TH	8	1.85	1.51	1.38
515-7542	609-M145TH	14	1.92	1.56	1.43
515-7544	609-M165TH	16	2.11	1.71	1.57
515-7548	609-M205TH	20	2.83	2.30	2.11
515-7552	609-M245TH	24	3.43	2.79	2.56
515-7554	609-M407TH	40	5.35	4.34	3.99
515-7556	609-M485TH	48	6.11	4.95	4.55

Flat Cable and PCB Connectors

Female Socket Transition Connectors

- Positive Cable Stop Version
- Polarization Keyways Standard
- 30µ" (Minimum Gold Plating on the Contact Mating Area)



Standard Socket With Positive Cable Stop

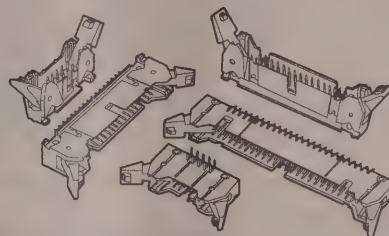
Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0800	609-1000CE	10	2.99	2.42	2.23
515-0805	609-1600CE	16	3.93	3.19	2.93
515-0810	609-2000CE	20	4.37	3.55	3.26
515-0815	609-2600CE	26	5.63	4.57	4.20
515-0820	609-3400CE	34	7.33	5.95	5.47
515-0825	609-4000CE	40	8.56	6.94	6.39
515-0830	609-5000CE	50	10.77	8.72	8.03
515-0835	609-6000CE	60	13.26	10.74	9.89

Polarized Socket With Positive Cable Stop

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0850	609-1030CE	10	2.99	2.42	2.23
515-0855	609-1630CE	16	3.93	3.19	2.93
515-0860	609-2030CE	20	4.37	3.55	3.26
515-0865	609-2630CE	26	5.63	4.57	4.20
515-0870	609-3430CE	34	7.33	5.95	5.47
515-0875	609-4030CE	40	8.56	6.94	6.39
515-0880	609-5030CE	50	10.77	8.73	8.03
515-0885	609-6030CE	60	13.26	10.74	9.89

Ansley® Standard PCB Male Headers

These headers mate with socket connectors with center polarization tab. Parts with an "E" suffix have short ejectors for female sockets without strain relief. Parts with an "ES" have long ejectors for female sockets with strain relief.



Right Angle Contacts

Stock No.	Mfr.'s Type	Number of Positions	Fits PCB		EACH		
			MM	IN.	1-24	25-99	100-499
515-1500	609-1004	10	1.57	.062"	2.36	1.92	1.76
515-1502	609-1004E	10	1.57	.062"	2.92	2.37	2.18
515-1504	609-1004ES	10	1.57	.062"	2.92	2.37	2.18
515-1506	609-1404	14	1.57	.062"	2.58	2.09	1.92
515-1508	609-1404E	14	1.57	.062"	3.21	2.60	2.39
515-1510	609-1404ES	14	1.57	.062"	3.21	2.60	2.39
515-1512	609-1604	16	1.57	.062"	2.70	2.19	2.02
515-1514	609-1604E	16	1.57	.062"	3.24	2.63	2.42
515-1516	609-1604ES	16	1.57	.062"	3.24	2.63	2.42
515-1518	609-2004	20	1.57	.062"	2.89	2.35	2.16
515-1520	609-2004E	20	1.57	.062"	3.49	2.83	2.60
515-1522	609-2004ES	20	1.57	.062"	3.49	2.83	2.60
515-1524	609-2604	26	1.57	.062"	3.59	2.91	2.67
515-1526	609-2604E	26	1.57	.062"	4.25	3.44	3.17
515-1528	609-2604ES	26	1.57	.062"	4.25	3.44	3.17
515-1530	609-3404	34	1.57	.062"	4.66	3.77	3.47
515-1532	609-3404E	34	1.57	.062"	5.22	4.23	3.90
515-1534	609-3404ES	34	1.57	.062"	5.22	4.23	3.90
515-1536	609-4004	40	1.57	.062"	5.32	4.31	3.97
515-1538	609-4004E	40	1.57	.062"	5.92	4.79	4.41
515-1540	609-4004ES	40	1.57	.062"	5.92	4.79	4.41
515-1542	609-5004	50	1.57	.062"	6.39	5.18	4.77
515-1544	609-5004E	50	1.57	.062"	7.05	5.71	5.26
515-1546	609-5004ES	50	1.57	.062"	7.05	5.71	5.26
515-1548	609-1014	10	3.18	.125"	2.55	2.07	1.90
515-1550	609-1014E	10	3.18	.125"	3.11	2.52	2.32
515-1552	609-1014ES	10	3.18	.125"	3.11	2.52	2.32
515-1554	609-1414	14	3.18	.125"	2.74	2.22	2.04
515-1556	609-1414E	14	3.18	.125"	3.37	2.73	2.51
515-1558	609-1414ES	14	3.18	.125"	3.37	2.73	2.51
515-1560	609-1614	16	3.18	.125"	2.86	2.32	2.13
515-1562	609-1614E	16	3.18	.125"	3.43	2.78	2.56
515-1564	609-1614ES	16	3.18	.125"	3.43	2.78	2.56
515-1566	609-2014	20	3.18	.125"	3.15	2.55	2.35
515-1568	609-2014E	20	3.18	.125"	3.81	3.09	2.84
515-1570	609-2014ES	20	3.18	.125"	3.81	3.09	2.84
515-1572	609-2614	26	3.18	.125"	3.90	3.16	2.91
515-1574	609-2614E	26	3.18	.125"	4.53	3.67	3.38
515-1576	609-2614ES	26	3.18	.125"	4.53	3.67	3.38
515-1578	609-3414	34	3.18	.125"	5.00	4.05	3.73
515-1580	609-3414E	34	3.18	.125"	5.63	4.56	4.20
515-1582	609-3414ES	34	3.18	.125"	5.63	4.56	4.20
515-1584	609-4014	40	3.18	.125"	5.67	4.59	4.23
515-1586	609-4014E	40	3.18	.125"	6.36	5.15	4.74
515-1588	609-4014ES	40	3.18	.125"	6.36	5.15	4.74
515-1590	609-5014	50	3.18	.125"	6.86	5.56	5.12
515-1592	609-5014E	50	3.18	.125"	7.81	6.32	5.82
515-1594	609-5014ES	50	3.18	.125"	7.81	6.32	5.82

Straight Contacts

Stock No.	Mfr.'s Type	Number of Positions	Fits PCB		EACH		
			MM	IN.	1-24	25-99	100-499
515-1600	609-1024	10	1.57	.062"	2.36	1.92	1.76
515-1602	609-1024E	10	1.57	.062"	2.92	2.37	2.18
515-1604	609-1024ES	10	1.57	.062"	2.92	2.37	2.18
515-1606	609-1424	14	1.57	.062"	2.58	2.09	1.92
515-1608	609-1424E	14	1.57	.062"	3.21	2.60	2.39
515-1610	609-1424ES	14	1.57	.062"	3.21	2.60	2.39
515-1612	609-1624	16	1.57	.062"	2.70	2.19	2.02
515-1614	609-1624E	16	1.57	.062"	3.24	2.63	2.42
515-1616	609-1624ES	16	1.57	.062"	3.24	2.63	2.42
515-1618	609-2024	20	1.57	.062"	2.89	2.35	2.16
515-1620	609-2024E	20	1.57	.062"	3.49	2.83	2.60
515-1622	609-2024ES	20	1.57	.062"	3.49	2.83	2.60
515-1624	609-2624	26	1.57	.062"	3.59	2.91	2.67
515-1626	609-2624E	26	1.57	.062"	4.25	3.44	3.17
515-1628	609-2624ES	26	1.57	.062"	4.25	3.44	3.17
515-1630	609-3424	34	1.57	.062"	4.66	3.77	3.47
515-1632	609-3424E	34	1.57	.062"	5.22	4.23	3.90
515-1634	609-3424ES	34	1.57	.062"	5.22	4.23	3.90
515-1636	609-4024	40	1.57	.062"	5.32	4.31	3.97
515-1638	609-4024E	40	1.57	.062"	5.92	4.79	4.41
515-1640	609-4024ES	40	1.57	.062"	5.92	4.79	4.41
515-1642	609-5024	50	1.57	.062"	6.39	5.18	4.77
515-1644	609-5024E	50	1.57	.062"	7.05	5.71	5.26
515-1646	609-5024ES	50	1.57	.062"	7.05	5.71	5.26
515-1648	609-1034	10	3.18	.125"	2.55	2.07	1.90
515-1650	609-1034E	10	3.18	.125"	3.11	2.52	2.32
515-1652	609-1034ES	10	3.18	.125"	3.11	2.52	2.32
515-1654	609-1434	14	3.18	.125"	2.74	2.22	2.04
515-1656	609-1434E	14	3.18	.125"	3.37	2.73	2.51
515-1658	609-1434ES	14	3.18	.125"	3.37	2.73	2.51
515-1660	609-1634	16	3.18	.125"	2.86	2.32	2.13
515-1662	609-1634E	16	3.18	.125"	3.43	2.78	2.56
515-1664	609-1634ES	16	3.18	.125"	3.43	2.78	2.56
515-1666	609-2034	20	3.18	.125"	3.15	2.55	2.35
515-1668	609-2034E	20	3.18	.125"	3.81	3.09	2.84
515-1670	609-2034ES	20	3.18	.125"	3.81	3.09	2.84
515-1672	609-2634	26	3.18	.125"	3.90	3.16	2.91
515-1674	609-2634E	26	3.18	.125"	4.53	3.67	3.38
515-1676	609-2634ES	26	3.18	.125"	4.53	3.67	3.38
515-1678	609-3434	34	3.18	.125"	5.00	4.05	3.73
515-1680	609-3434E	34	3.18	.125"	5.63	4.56	4.20
515-1682	609-3434ES	34	3.18	.125"	5.63	4.56	4.20
515-1684	609-4034	40	3.18	.125"	5.67	4.59	4.23
515-1686	609-4034E	40	3.18	.125"	6.36	5.15	4.74
515-1688	609-4034ES	40	3.18	.125"	6.36	5.15	4.74
515-1690	609-5034	50	3.18	.125"	6.86	5.56	5.12
515-1692	609-5034E	50	3.18	.125"	7.81	6.32	5.82
515-1694	609-5034ES	50	3.18	.125"	7.81	6.32	5.82

Female Socket Connectors

- Polarization Keyways Standard, Polarization Tabs Optional
- Snap-On Strain Reliefs (Optional)
- One-Piece Connector Design with Mechanical Side Latches

- Positive Cable Stop Design
- Ridges in Connector Top Align with Ansel® Flat Cable
- 30 Microinches (Minimum) Gold Plating in Contact Mating Area

With Center Polarization Bump



Standard W/O Center Polarization Bump



Strain Relief Clips

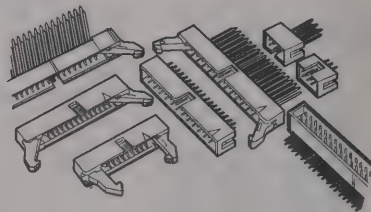


Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0700	609-1030	10	2.99	2.42	2.23
515-0705	609-1430	14	3.65	2.96	2.72
515-0710	609-1630	16	3.93	3.19	2.93
515-0715	609-2030	20	4.37	3.54	3.26
515-0720	609-2630	26	5.63	4.56	4.20
515-0725	609-3430	34	7.33	5.95	5.47
515-0730	609-4030	40	8.56	6.94	6.39
515-0735	609-5030	50	10.77	8.72	8.03
515-0740	609-6030	60	13.26	10.74	9.89
515-0745	609-6430	64	14.11	11.43	10.52

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0401	609-1000M	10	2.99	2.42	2.23
515-0402	609-1400M	14	3.65	2.95	2.72
515-0404	609-1600M	16	3.93	3.19	2.93
515-0406	609-2000M	20	4.37	3.54	3.26
515-0411	609-2600M	26	5.63	4.56	4.20
515-0416	609-3400M	34	7.33	5.94	5.47
515-0421	609-4000M	40	8.56	6.93	6.39
515-0426	609-5000M	50	10.77	8.72	8.03
515-0431	609-6000M	60	13.26	10.74	9.89
515-0433	609-6400M	64	14.11	11.42	10.52

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0435	609-1031HD	10	.37	.31	.28
515-0440	609-1431HD	14	.37	.31	.28
515-0445	609-1631HD	16	.37	.31	.28
515-0450	609-2031HD	20	.37	.31	.28
515-0455	609-2631HD	26	.37	.31	.28
515-0460	609-3431HD	34	.44	.36	.32
515-0465	609-4031HD	40	.44	.36	.32
515-0470	609-5031HD	50	.44	.36	.32
515-0475	609-6031HD	60	.44	.36	.32
515-0480	609-6431HD	64	.44	.36	.32

PCB Male Headers, Low Profile with Lock and Eject Option



- Ansel® Low Profile Headers also available in Ejector/Retainer versions, add Suffix "E" for headers with short ejectors to accommodate female socket without strain relief; add suffix "ES" for header with long ejectors to accommodate female socket with strain relief.

The Low Profile PCB Male Header is designed to provide stability, reliability, convenience, and positive polarization when mated with a Female Socket Transition Connector in PC board applications which require repeated connection and disconnection. **Insulation Material:** Glass filled thermoplastic, rated 94V-0, blue. **Contact Material:** Phosphor bronze; 30µ inches minimum gold over 50µ inches nickel in contact zone; tin-lead over nickel in termination area. **Current Rating:** 1 Amp. **Insulation Resistance:** >1 x 10⁹ Ohms @ 500 VDC. **Dielectric Strength:** >1000 VRMS @ sea level. **Temperature Rating:** -55°C to 125°C.

Right Angle Contacts

Stock No.	Mfr.'s Type*	Number of Positions	Fits PCB		EACH		
			mm	In.	1-24	25-99	100-499
515-0200	609-1007	10	1.57	.062	2.36	1.91	1.76
515-0201	609-1007ES	10	1.57	.062	3.08	2.50	2.30
515-0202	609-1407	14	1.57	.062	3.08	2.50	2.30
515-0203	609-1407ES	14	1.57	.062	2.58	2.09	1.92
515-0204	609-1607	16	1.57	.062	3.43	2.78	2.56
515-0205	609-1607ES	16	1.57	.062	3.43	2.78	2.56
515-0206	609-1607	16	1.57	.062	2.70	2.19	2.02
515-0207	609-1607ES	16	1.57	.062	3.55	2.88	2.65
515-0208	609-1607ES	16	1.57	.062	3.55	2.88	2.65
515-0209	609-2007	20	1.57	.062	2.89	2.35	2.16
515-0210	609-2007ES	20	1.57	.062	3.90	3.16	2.91
515-0211	609-2607	26	1.57	.062	3.90	3.16	2.91
515-0212	609-2607ES	26	1.57	.062	3.59	2.91	2.67
515-0213	609-2607ES	26	1.57	.062	4.69	3.80	3.50
515-0214	609-3407	34	1.57	.062	4.69	3.80	3.50
515-0215	609-3407ES	34	1.57	.062	4.66	3.78	3.47
515-0216	609-3407ES	34	1.57	.062	5.95	4.82	4.44
515-0217	609-3407ES	34	1.57	.062	5.95	4.82	4.44
515-0218	609-4007	40	1.57	.062	5.32	4.31	3.97
515-0219	609-4007ES	40	1.57	.062	6.70	5.43	5.00
515-0220	609-4007ES	40	1.57	.062	6.70	5.43	5.00
515-0221	609-5007	50	1.57	.062	6.39	5.18	4.77
515-0222	609-5007ES	50	1.57	.062	8.00	6.48	5.96
515-0223	609-5007ES	50	1.57	.062	8.00	6.48	5.96
515-0224	609-6007	60	1.57	.062	7.78	6.31	5.80
515-0225	609-6007ES	60	1.57	.062	9.67	7.83	7.21
515-0226	609-6007ES	60	1.57	.062	9.67	7.83	7.21
515-0227	609-6007ES	60	1.57	.062	9.67	7.83	7.21
515-0228	609-6007ES	60	1.57	.062	9.67	7.83	7.21
515-0229	609-1017	10	3.18	.125	2.55	2.08	1.90
515-0230	609-1017ES	10	3.18	.125	3.27	2.65	2.44
515-0231	609-1017ES	10	3.18	.125	3.27	2.65	2.44
515-0232	609-1417	14	3.18	.125	2.74	2.25	2.04
515-0233	609-1417ES	14	3.18	.125	3.52	2.86	2.63
515-0234	609-1417ES	14	3.18	.125	3.52	2.86	2.63
515-0235	609-1617	16	3.18	.125	2.86	2.31	2.13
515-0236	609-1617ES	16	3.18	.125	3.78	3.06	2.82
515-0237	609-1617ES	16	3.18	.125	3.78	3.06	2.82
515-0238	609-2017	20	3.18	.125	3.15	2.55	2.35
515-0239	609-2017ES	20	3.18	.125	4.22	3.42	3.14
515-0240	609-2017ES	20	3.18	.125	4.22	3.42	3.14
515-0241	609-2617	26	3.18	.125	3.90	3.16	2.91
515-0242	609-2617ES	26	3.18	.125	5.04	4.08	3.76
515-0243	609-3417	34	3.18	.125	5.04	4.08	3.76
515-0244	609-3417ES	34	3.18	.125	6.26	5.08	4.67
515-0245	609-3417ES	34	3.18	.125	6.26	5.08	4.67
515-0246	609-4017	40	3.18	.125	5.67	4.59	4.23
515-0247	609-4017ES	40	3.18	.125	7.08	5.74	5.28
515-0248	609-4017ES	40	3.18	.125	7.08	5.74	5.28
515-0249	609-5017	50	3.18	.125	6.86	5.56	5.12
515-0250	609-5017ES	50	3.18	.125	8.69	7.04	6.48
515-0251	609-5017ES	50	3.18	.125	8.69	7.04	6.48
515-0252	609-6017	60	3.18	.125	8.34	6.76	6.22
515-0253	609-6017ES	60	3.18	.125	10.11	8.19	7.54
515-0254	609-6017ES	60	3.18	.125	10.11	8.19	7.54

Straight Contacts

Stock No.	Mfr.'s Type*	Number of Positions	Fits PCB		EACH		
			mm	* In.	1-24	25-99	100-499
515-0300	609-1027	10	1.57	.062	2.36	1.91	1.76
515-0301	609-1027E	10	1.57	.062	3.15	2.55	2.35
515-0306	609-1027ES	10	1.57	.062	3.15	2.55	2.35
515-0302	609-1427	14	1.57	.062	2.58	2.10	1.92
515-0303	609-1427E	14	1.57	.062	3.46	2.81	2.58
515-0361	609-1427ES	14	1.57	.062	3.46	2.81	2.58
515-0304	609-1627	16	1.57	.062	2.70	2.19	2.02
515-0362	609-1627E	16	1.57	.062	3.65	2.96	2.72
515-0363	609-1627ES	16	1.57	.062	3.65	2.96	2.72
515-0305	609-2027	20	1.57	.062	2.89	2.35	2.16
515-0306	609-2027E	20	1.57	.062	3.96	3.21	2.96
515-0307	609-2027ES	20	1.57	.062	3.96	3.21	2.96
515-0310	609-2627	26	1.57	.062	3.59	2.91	2.67
515-0311	609-2627E	26	1.57	.062	4.72	3.82	3.52
515-0312	609-2627ES	26	1.57	.062	4.72	3.82	3.52
515-0315	609-3427	34	1.57	.062	4.66	3.78	3.47
515-0316	609-3427E	34	1.57	.062	5.98	4.85	4.46
515-0317	609-3247ES	34	1.57	.062	5.98	4.85	4.46
515-0320	609-4027	40	1.57	.062	5.32	4.31	3.97
515-0321	609-4027E	40	1.57	.062	6.80	5.51	5.07
515-0322	609-4027ES	40	1.57	.062	6.80	5.51	5.07
515-0325	609-5027	50	1.57	.062	6.39	5.18	4.77
515-0364	609-5027E	50	1.57	.062	8.22	6.66	6.13
515-0365	609-5027ES	50	1.57	.062	8.22	6.66	6.13
515-0326	609-6027	60	1.57	.062	7.78	6.31	5.80
515-0327	609-6027E	60	1.57	.062	9.73	7.88	7.26
515-0328	609-6027ES	60	1.57	.062	9.73	7.88	7.26
515-0330	609-1037	10	3.18	.125	2.55	2.08	1.90
515-0331	609-1037E	10	3.18	.125	3.30	2.68	2.46
515-0366	609-1037ES	10	3.18	.125	3.30	2.68	2.46
515-0332	609-1437	14	3.18	.125	2.74	2.22	2.04
515-0333	609-1437E	14	3.18	.125	3.65	2.96	2.72
515-0367	609-1437ES	14	3.18	.125	3.65	2.96	2.72
515-0334	609-1637	16	3.18	.125	2.86	2.32	2.13
515-0368	609-1637E	16	3.18	.125	3.84	3.11	2.86
515-0369	609-1637ES	16	3.18	.125	3.84	3.11	2.86
515-0335	609-2037	20	3.18	.125	3.15	2.55	2.35
515-0336	609-2037E	20	3.18	.125	4.28	3.47	3.19
515-0337	609-2037ES	20	3.18	.125	4.28	3.47	3.19
515-0340	609-2637	26	3.18	.125	3.90	3.16	2.91
515-0341	609-2637E	26	3.18	.125	5.19	4.21	3.87
515-0342	609-2637ES	26	3.18	.125	5.19	4.21	3.87
515-0345	609-3437	34	3.18	.125	5.00	4.05	3.73
515-0346	609-3437E	34	3.18	.125	6.58	5.33	4.91
515-0347	609-3437ES	34	3.18	.125	6.58	5.33	4.91
515-0350	609-4037	40	3.18	.125	5.67	4.59	4.23
515-0351	609-4037E	40	3.18	.125	7.43	6.02	5.54
515-0352	609-4037ES	40	3.18	.125	7.43	6.02	5.54
515-0355	609-5037	50	3.18	.125	6.86	5.56	5.12
515-0370	609-5037E	50	3.18	.125	8.97	7.27	6.69
515-0371	609-5037ES	50	3.18	.125	8.97	7.27	6.69
515-0356	609-6037	60	3.18	.125	8.34	6.76	6.22
515-0372	609-6037E	60	3.18	.125	10.45	8.47	7.80
515-0373	609-6037ES	60	3.18	.125	10.45	8.47	7.80

Female Sockets, Headers, and D-Sub Hardware

Female Socket Transition Connectors (622-Series)

The Thomas & Betts 622 Female Socket Transition Connector is designed to mate with a wide variety of Male Headers in PC board applications which require repeated connection and disconnection. **Insulation Material:** Glass filled thermoplastic, rated 94V-0, blue. **Contact Material:** Beryllium copper: 30 µ inches minimum gold over 50 µ inches nickel in contact zone; tin-lead over nickel in termination area. **Current Rating:** 1 Amp. **Insulation Resistance:** >1 x 10⁹ Ohms @ 500 VDC. **Dielectric Strength:** >1000 VRMS @ sea level. **Temperature Rating:** -55°C to 125°C.

Socket Connector

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0900	622-1000	10	.99	.82	.74
515-0905	622-1400	14	1.33	1.10	1.00
515-0910	622-1600	16	1.48	1.22	1.11
515-0915	622-2000	20	1.76	1.45	1.32
515-0920	622-2400	24	2.07	1.71	1.55
515-0925	622-2600	26	2.19	1.81	1.65
515-0930	622-3400	34	2.81	2.32	2.11
515-0935	622-4000	40	3.28	2.70	2.46
515-0940	622-5000	50	4.05	3.34	3.04
515-0945	622-6000	60	4.82	3.98	3.62

Polarized Socket Connector

515-1400	622-1030	10	.99	.82	.74
515-1405	622-1430	14	1.33	1.10	1.00
515-1410	622-1630	16	1.48	1.22	1.11
515-1415	622-2030	20	1.76	1.45	1.32
515-1420	622-2430	24	2.07	1.71	1.55
515-1425	622-2630	26	2.19	1.81	1.65
515-1430	622-3430	34	2.81	2.32	2.11
515-1435	622-4030	40	3.28	2.70	2.46
515-1440	622-5030	50	4.05	3.34	3.04
515-1445	622-6030	60	4.82	3.98	3.62



Socket Connector with Strain Relief

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0950	622-1001	10	1.42	1.17	1.07
515-0955	622-1401	14	1.76	1.45	1.32
515-0960	622-1601	16	1.92	1.58	1.44
515-0965	622-2001	20	2.19	1.81	1.65
515-0970	622-2401	24	2.50	2.07	1.88
515-0975	622-2601	26	2.63	2.17	1.97
515-0980	622-3401	34	3.31	2.73	2.48
515-0985	622-4001	40	3.77	3.11	2.83
515-0990	622-5001	50	4.54	3.75	3.41
515-0995	622-6001	60	5.32	4.39	3.99

Polarized Socket Connector with Strain Relief

515-1450	622-1041	10	1.42	1.17	1.07
515-1455	622-1441	14	1.76	1.45	1.32
515-1460	622-1641	16	1.92	1.58	1.44
515-1465	622-2041	20	2.19	1.81	1.65
515-1470	622-2441	24	2.50	2.07	1.88
515-1475	622-2641	26	2.63	2.17	1.97
515-1480	622-3441	34	3.31	2.73	2.48
515-1485	622-4041	40	3.77	3.11	2.83
515-1490	622-5041	50	4.54	3.75	3.41
515-1495	622-6041	60	5.32	4.39	3.99

Vertical Ejector Headers



Description/Application

Unlike conventional designs where the ejector latches swing left and right, the "vertical" ejector latches swing front and back, permitting headers to be soldered end-to-end with no wasted board space. **Insulation Material:** Glass filled thermoplastic, rated 94V-0, blue. **Contact Material:** Phosphor bronze: 30 µ inches minimum gold over 50 µ inches nickel in contact zone; tin-lead over nickel in termination area. **Current Rating:** 1 Amp. **Insulation Resistance:** >1 x 10⁹ Ohms @ 500 VDC. **Dielectric Strength:** >1000 VRMS @ sea level. **Temperature Rating:** -55°C to 125°C.

Right Angle Contacts

Stock No.	Mfr.'s Type*	Number of Positions	Fits PCB		EACH		
			mm	In.	1-24	25-99	100-499
515-0500	501-1007E	10	1.57	.062	3.11	2.53	2.32
515-0502	501-2007E	20	1.57	.062	3.74	3.04	2.79
515-0504	501-2607E	26	1.57	.062	4.53	3.67	3.38
515-0506	501-3407E	34	1.57	.062	5.57	4.51	4.15
515-0508	501-4007E	40	1.57	.062	6.30	5.10	4.70
515-0510	501-5007E	50	1.57	.062	7.52	6.09	5.61
515-0512	501-1017E	10	3.18	.125	3.33	2.71	2.49
515-0514	501-2017E	20	3.18	.125	3.74	3.03	2.79
515-0516	501-2617E	26	3.18	.125	4.53	3.67	3.38
515-0518	501-3417E	34	3.18	.125	5.57	4.51	4.15
515-0520	501-4017E	40	3.18	.125	6.30	5.10	4.70
515-0522	501-5017E	50	3.18	.125	7.52	6.10	5.61
515-0524	501-1007ES	10	1.57	.062	3.11	2.53	2.32
515-0526	501-2007ES	20	1.57	.062	3.74	3.04	2.79
515-0528	501-2607ES	26	1.57	.062	4.53	3.67	3.38
515-0530	501-3407ES	34	1.57	.062	5.57	4.51	4.15
515-0532	501-4007ES	40	1.57	.062	6.30	5.10	4.70
515-0534	501-5007ES	50	1.57	.062	7.52	6.09	5.61
515-0536	501-1017ES	10	3.18	.125	3.33	2.70	2.49
515-0538	501-2017ES	20	3.18	.125	3.74	3.03	2.79
515-0540	501-2617ES	26	3.18	.125	4.53	3.67	3.38
515-0542	501-3417ES	34	3.18	.125	5.57	4.52	4.15
515-0544	501-4017ES	40	3.18	.125	6.30	5.10	4.70
515-0546	501-5017ES	50	3.18	.125	7.52	6.10	5.61

Straight Contacts

Stock No.	Mfr.'s Type*	Number of Positions	Fits PCB		EACH		
			mm	In.	1-24	25-99	100-499
515-0550	501-1027E	10	1.57	.062	3.11	2.53	2.32
515-0552	501-2027E	20	1.57	.062	3.74	3.04	2.79
515-0554	501-2627E	26	1.57	.062	4.53	3.67	3.38
515-0556	501-3427E	34	1.57	.062	5.57	4.51	4.15
515-0558	501-4027E	40	1.57	.062	6.30	5.10	4.70
515-0560	501-5027E	50	1.57	.062	7.52	6.10	5.61
515-0562	501-1037E	10	3.18	.125	3.33	2.70	2.49
515-0564	501-2037E	20	3.18	.125	3.74	3.04	2.79
515-0566	501-2637E	26	3.18	.125	4.53	3.67	3.38
515-0568	501-3437E	34	3.18	.125	5.57	4.51	4.15
515-0570	501-4037E	40	3.18	.125	6.30	5.10	4.70
515-0572	501-5037E	50	3.18	.125	7.52	6.09	5.61
515-0574	501-1027ES	10	1.57	.062	3.11	2.53	2.32
515-0576	501-2027ES	20	1.57	.062	3.74	3.04	2.79
515-0578	501-2627ES	26	1.57	.062	4.53	3.67	3.38
515-0580	501-3427ES	34	1.57	.062	5.57	4.51	4.15
515-0582	501-4027ES	40	1.57	.062	6.30	5.10	4.70
515-0584	501-5027ES	50	1.57	.062	7.52	6.10	5.61
515-0586	501-1037ES	10	3.18	.125	3.33	2.70	2.49
515-0588	501-2037ES	20	3.18	.125	3.74	3.03	2.79
515-0590	501-2637ES	26	3.18	.125	4.53	3.67	3.38
515-0592	501-3437ES	34	3.18	.125	5.57	4.51	4.16
515-0594	501-4037ES	40	3.18	.125	6.30	5.10	4.70
515-0596	501-5037ES	50	3.18	.125	7.52	6.09	5.61

*Suffix "E" indicates headers with ears for Female sockets WITHOUT Strain Relief. Suffix "ES" for sockets WITH Strain Relief.



"D" Connector Hardware

Backshell Screwlock Assembly. Used with backshell strain relief to retain two "D" connectors to each other through a Panel or PC Board. Stainless steel.

515-4020. Type 609-005. PER SET 10.52

Jackscrew Assembly. Used with 609-002 for Front Panel Mounting or 609-004. Stainless steel.

515-4010. Type 609-003. PER SET 4.75

Jackscrew Assembly. Used with 609-003 to retain two "D" connectors (Plastic only) to each other as a mated pair cable splice. Stainless steel.

515-4005. Type 609-002. PER SET 5.35

Screwlock Assembly. To retain two "D" connectors (Plastic only) to each other through a Panel or PC Board. Stainless steel.

515-4000. Type 609-001. PER SET 6.33

Slide Lock Post. Used with slide lock retainer assembly 609-50-SL. Discard flat washer for 3/32" panel; retain for 1/16" panel. Discard lock washer when No. 609-008-50 is used with No. 609-50S-M(1) or 609-50P-M(2).

515-4040. Type 609-008-50. PER SET 2.20

Backshell Jackscrew Assembly. Used with Backshell Strain Relief and 609-003 to retain two "D" connectors to each other as a mated pair cable splice. Stainless steel.

515-4015. Type 609-004. PER SET 5.82

Rear Panel Mount Jackscrew Assembly. 609-006 for .090 In. panels, 609-007 for .125 In. panels.

515-4025. Type 609-006-1. PER SET 4.75

515-4030. Type 609-007-1. PER SET 4.75

Slide Lock Retainer. Used to lock a mated pair of 50-position "D" connectors. Must be used with slide lock post 609-008-50. Discard lock washers when 609-50SL is used with 609-50S-M(1) or 609-50P-M(2).

515-4035. Type 609-50SL. PER SET 4.09

Jackscrew. Used to lock a 50-position "D" connector to a metal shell "D" connector with jackscrew. Mounting holes in panel are 3.99" ±.05" (.157" +.002") diameter.

515-4045. Type 609-009-50. PER SET 2.20

Bale Lock Assembly. To lock a mated pair of 50-position "D" connectors with a backshell. **Bracket Material:** Stainless steel, spring temper. **Screw:** Zinc-plated.

515-4050. Type 609-50BL. PER SET 2.58

.318 All Plastic D-Subs Right Angle PCB Connectors



Plugs

Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4200	H3M09RA29C	9	3.21	2.89	2.60
515-4202	H3M15RA29C	15	3.74	3.37	3.03
515-4204	H3M25RA29C	25	4.59	4.13	3.72
515-4206	H3M37RA29C	37	5.98	5.38	4.85

Threaded Standoff Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4208	H3M09RA29B	9	3.30	2.97	2.68
515-4210	H3M15RA29B	15	3.84	3.46	3.11
515-4212	H3M25RA29B	25	4.72	4.25	3.83
515-4214	H3M37RA29B	37	5.76	5.19	4.67

Receptacles

Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4201	H3R09RA29C	9	3.21	2.89	2.60
515-4203	H3R15RA29C	15	3.74	3.37	3.03
515-4205	H3R25RA29C	25	4.59	4.13	3.72
515-4207	H3R37RA29C	37	5.98	5.38	4.85

Threaded Standoff Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4209	H3R09RA29B	9	3.30	2.97	2.68
515-4211	H3R15RA29B	15	3.84	3.46	3.11
515-4213	H3R25RA29B	25	4.72	4.25	3.83
515-4215	H3R37RA29B	37	5.76	5.19	4.67

.318 Metal Shell D-Subs Right Angle PCB Connectors

Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4216	H5M09RA29C	9	3.55	3.20	2.88
515-4218	H5M15RA29C	15	4.09	3.68	3.32
515-4220	H5M25RA29C	25	4.94	4.45	4.00
515-4222	H5M37RA29C	37	5.98	5.38	4.85

Threaded Standoff Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4224	H5M09RA29B	9	3.68	3.31	2.98
515-4226	H5M15RA29B	15	4.18	3.76	3.39
515-4228	H5M25RA29B	25	5.07	4.57	4.11
515-4230	H5M37RA29B	37	6.07	5.47	4.92

Flush Threaded Insert (4-40 THD) With Metal Snap Latch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4232	H5M09RA29CS	9	3.87	3.49	3.14
515-4234	H5M15RA29CS	15	4.41	3.97	3.57
515-4236	H5M25RA29CS	25	5.26	4.74	4.26
515-4238	H5M37RA29CS	37	6.30	5.67	5.11

Threaded Standoff Insert (4-40 THD) With Metal Snap Latch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4240	H5M09RA29BS	9	4.00	3.60	3.24
515-4242	H5M15RA29BS	15	4.50	4.05	3.65
515-4244	H5M25RA29BS	25	5.38	4.84	4.36
515-4246	H5M37RA29BS	37	6.39	5.75	5.18

Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4217	H5R09RA29C	9	3.55	3.20	2.88
515-4219	H5R15RA29C	15	4.09	3.68	3.32
515-4221	H5R25RA29C	25	4.94	4.45	4.00
515-4223	H5R37RA29C	37	5.98	5.38	4.85

Threaded Standoff Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4225	H5R09RA29B	9	3.68	3.31	2.98
515-4227	H5R15RA29B	15	4.18	3.76	3.39
515-4229	H5R25RA29B	25	5.07	4.57	4.11
515-4231	H5R37RA29B	37	6.07	5.47	4.92

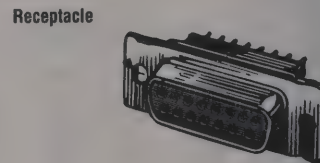
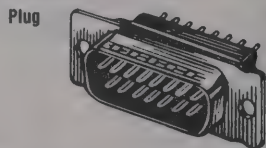
Flush Threaded Insert (4-40 THD) With Metal Snap Latch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4233	H5R09RA29CS	9	3.87	3.49	3.14
515-4235	H5R15RA29CS	15	4.41	3.97	3.57
515-4237	H5R25RA29CS	25	5.26	4.74	4.26
515-4239	H5R37RA29CS	37	6.30	5.67	5.11

Threaded Standoff Insert (4-40 THD) With Metal Snap Latch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4241	H5R09RA29BS	9	4.00	3.60	3.24
515-4243	H5R15RA29BS	15	4.50	4.05	3.65
515-4245	H5R25RA29BS	25	5.38	4.84	4.36
515-4247	H5R37RA29BS	37	6.39	5.75	5.18

.240 Straight All Plastic D-Sub Connectors



Plugs

Basic Connector With Thru Holes

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4248	H2M09ST29A	9	2.55	2.30	2.07
515-4250	H2M15ST29A	15	3.02	2.72	2.45
515-4252	H2M25ST29A	25	3.81	3.43	3.09
515-4254	H2M37ST29A	37	4.69	4.22	3.80

Round Standoff (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4256	H2M09ST29B	9	2.99	2.69	2.42
515-4258	H2M15ST29B	15	3.46	3.12	2.81
515-4260	H2M25ST29B	25	5.25	3.83	3.44
515-4262	H2M37ST29B	37	5.19	4.67	4.21

Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4264	H2M09ST29C	9	2.89	2.60	2.34
515-4266	H2M15ST29C	15	3.37	3.04	2.73
515-4268	H2M25ST29C	25	4.15	3.74	3.36
515-4270	H2M37ST29C	37	5.10	4.69	4.13

Plastic Standoff (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4272	H2M09ST29D	9	2.58	2.32	2.09
515-4274	H2M15ST29D	15	3.05	2.75	2.47
515-4276	H2M25ST29D	25	3.84	3.46	3.11
515-4278	H2M37ST29D	37	4.78	4.30	3.87

Receptacles

Basic Connector With Thru Holes

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4249	H2R09ST29A	9	2.55	2.30	2.07
515-4251	H2R15ST29A	15	3.02	2.72	2.45
515-4253	H2R25ST29A	25	3.81	3.43	3.09
515-4255	H2R37ST29A	37	4.69	4.22	3.80

Round Standoff (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4257	H2R09ST29B	9	2.99	2.69	2.42
515-4259	H2R15ST29B	15	3.46	3.12	2.81
515-4261	H2R25ST29B	25	4.25	3.83	3.44
515-4263	H2R37ST29B	37	5.19	4.67	4.21

Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4265	H2R09ST29C	9	2.89	2.60	2.34
515-4267	H2R15ST29C	15	3.37	3.04	2.73
515-4269	H2R25ST29C	25	4.15	3.74	3.36
515-4271	H2R37ST29C	37	5.10	4.69	4.13

Plastic Standoff (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4273	H2R09ST29D	9	2.58	2.32	2.09
515-4275	H2R15ST29D	15	3.05	2.75	2.47
515-4277	H2R25ST29D	25	3.84	3.46	3.11
515-4279	H2R37ST29D	37	4.78	4.30	3.87

.240 Straight Metal Shell D-Sub Connectors

Basic Connector With Thru Holes

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4280	H4M09ST29A	9	2.92	2.63	2.37
515-4282	H4M15ST29A	15	3.40	3.06	2.76
515-4284	H4M25ST29A	25	4.15	3.74	3.36
515-4286	H4M37ST29A	37	5.07	4.57	4.11

Round Standoff (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4288	H4M09ST29B	9	3.33	3.00	2.70
515-4290	H4M15ST29B	15	3.81	3.43	3.09
515-4292	H4M25ST29B	25	4.56	4.11	3.70
515-4294	H4M37ST29B	37	5.51	4.96	4.47

Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4296	H4M09ST29C	9	3.24	2.92	2.63
515-4298	H4M15ST29C	15	3.71	3.34	3.01
515-4300	H4M25ST29C	25	4.47	4.03	3.62
515-4302	H4M37ST29C	37	5.38	4.84	4.36

Holmberg® D-Sub and Card Edge Connectors

.590 All Plastic D-Subs Right Angle PCB Connectors



Plugs
Flush Threaded Insert (4-40 THD)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4304	H2M09RA29C	9	3.21	2.89	2.60
515-4306	H2M15RA29C	15	3.74	3.37	3.03
515-4308	H2M25RA29C	25	4.59	4.13	3.72
515-4310	H2M37RA29C	37	5.67	5.11	4.59

Round Standoff (4-40 THD)

515-4312	H2M09RA29B	9	3.30	2.97	2.68
515-4314	H2M15RA29B	15	3.84	3.46	3.11
515-4316	H2M25RA29B	25	4.72	4.25	3.83
515-4318	H2M37RA29B	37	5.76	5.19	4.67

.590 Metal Shell D-Subs Right Angle PCB Connectors

Flush Threaded Insert (4-40 THD) With Metal Snap Latch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4320	H4M09RA29CS	9	3.87	3.49	3.14
515-4322	H4M15RA29CS	15	4.41	3.97	3.57
515-4324	H4M25RA29CS	25	5.26	4.74	4.26
515-4326	H4M37RA29CS	37	6.30	5.67	5.11

Flush Threaded Insert (4-40 THD) With Inside Ground Strap

515-4328	H4M09RA29CM43	9	5.15	3.84	3.16
515-4330	H4M15RA29CM43	15	5.83	4.35	3.58
515-4332	H4M25RA29CM43	25	6.91	5.16	4.25
515-4334	H4M37RA29CM43	37	8.24	6.15	5.06

Flush Threaded Insert (4-40 THD) With Outside/Inside Ground Strap

515-4336	H4M09RA29CM45	9	4.18	3.76	3.39
515-4338	H4M15RA29CM45	15	4.72	4.25	3.83
515-4340	H4M25RA29CM45	25	5.57	5.02	4.51
515-4342	H4M37RA29CM45	37	6.93	6.24	5.62

Round Standoff (4-40 THD) With Metal Snap Latch

515-4344	H4M09RA29BS	9	4.00	3.60	3.24
515-4346	H4M15RA29BS	15	4.50	4.05	3.65
515-4348	H4M25RA29BS	25	5.38	4.84	4.36
515-4350	H4M37RA29BS	37	6.39	5.75	5.18

Round Standoff (4-40 THD) With Outside/Inside Ground Strap

515-4352	H4M09RA29BM45	9	4.31	3.88	3.49
515-4354	H4M15RA29BM45	15	4.81	4.33	3.90
515-4356	H4M25RA29BM45	25	5.70	5.13	4.62
515-4358	H4M37RA29BM45	37	6.70	6.03	5.43

PC Card Edge Connectors

.156, .125, and .100 Centered Card Edge

.156 Dip Solder Double Readout Without Mounting Ears

Stock No.	Mfr.'s Type	No. of Contacts Pairs	EACH		
			1-24	25-99	100-249
515-4360	A6D10DS29C2	10	3.05	2.75	2.47
515-4361	A6D22DS29C2	22	5.04	4.54	4.08
515-4362	A6D28DS29C2	28	6.01	5.41	4.87
515-4363	A6D43DS29C2	43	8.47	7.63	6.86

.156 Wire Wrap, .125" Mounting Holes, Double Readout

515-4364	A6D15WW29A3	15	5.29	4.76	4.29
515-4365	A6D22WW29A3	22	6.86	6.18	5.56
515-4366	A6D28WW29A3	28	8.25	7.43	6.69

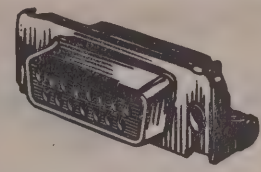
.125 Dip Solder Double Readout, Flush Mount (.125" Holes)

515-4367	A7D28DS29D2	28	5.82	5.24	4.72
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.125 Dip Solder Double Readout Without Mounting Ears

515-4368	A7D10DS29C2	10	2.80	2.52	2.26
515-4369	A7D15DS29C2	15	3.55	3.20	2.88
515-4370	A7D28DS29C2	28	5.48	4.93	4.44
515-4371	A7D36DS29C2	36	6.67	6.01	5.40
515-4372	A7D50DS29C2	50	8.72	7.85	7.07

Receptacles
Flush Threaded Insert (4-40 THD)



Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4305	H2R09RA29C	9	3.21	2.89	2.60
515-4307	H2R15RA29C	15	3.74	3.37	3.03
515-4309	H2R25RA29C	25	4.59	4.13	3.72
515-4311	H2R37RA29C	37	5.67	5.11	4.59

Round Standoff (4-40 THD)

515-4313	H2R09RA29B	9	3.30	2.97	2.68
515-4315	H2R15RA29B	15	3.84	3.46	3.11
515-4317	H2R25RA29B	25	4.72	4.25	3.83
515-4319	H2R37RA29B	37	5.76	5.19	4.67

Flush Threaded Insert (4-40 THD) With Metal Snap Latch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-249
515-4321	H4R09RA29CS	9	3.87	3.49	3.14
515-4323	H4R15RA29CS	15	4.41	3.97	3.57
515-4325	H4R25RA29CS	25	5.26	4.74	4.26
515-4327	H4R37RA29CS	37	6.30	5.67	5.11

Flush Threaded Insert (4-40 THD) With Inside Ground Strap

515-4329	H4R09RA29CM43	9	5.15	3.84	3.16
515-4331	H4R15RA29CM43	15	5.83	4.35	3.58
515-4333	H4R25RA29CM43	25	6.91	5.16	4.25
515-4335	H4R37RA29CM43	37	8.24	6.15	5.06

Flush Threaded Insert (4-40 THD) With Outside/Inside Ground Strap

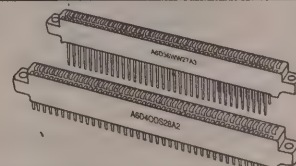
515-4337	H4R09RA29CM45	9	4.18	3.76	3.39
515-4339	H4R15RA29CM45	15	4.72	4.25	3.83
515-4341	H4R25RA29CM45	25	5.57	5.02	4.51
515-4343	H4R37RA29CM45	37	6.93	6.24	5.62

Round Standoff (4-40 THD) With Metal Snap Latch

515-4345	H4R09RA29BS	9	4.00	3.60	3.24
515-4347	H4R15RA29BS	15	4.50	4.05	3.65
515-4349	H4R25RA29BS	25	5.38	4.84	4.36
515-4351	H4R37RA29BS	37	6.39	5.75	5.18

Round Standoff (4-40 THD) With Outside/Inside Ground Strap

515-4353	H4R09RA29BM45	9	4.31	3.88	3.49
515-4355	H4R15RA29BM45	15	4.81	4.33	3.90
515-4357	H4R25RA29BM45	25	5.70	5.13	4.62
515-4359	H4R37RA29BM45	37	6.70	6.03	5.43



.125 Dip Solder Double Readout, .125" Mounting Holes

Stock No.	Mfr.'s Type	No. of Contacts Pairs	EACH		
			1-24	25-99	100-249
515-4373	A7D28DS29A2	28	5.48	4.93	4.44

.125 Dip Solder Double Readout, .125" Mounting Holes

515-4374	A7D10WW29A3	10	3.81	3.43	3.09
515-4375	A7D28WW29A3	28	7.46	6.72	6.04

.100 Dip Solder Double Readout Without Mounting Ears

515-4376	A8D20DS29C2	20	3.90	3.59	3.16
515-4377	A8D22DS29C2	22	4.15	3.74	3.36
515-4378	A8D25DS29C2	25	4.53	4.08	3.67
515-4379	A8D30DS29C2	30	5.16	4.65	4.18

.100 Wire Wrap Double Readout, .125" Mounting Holes

515-4380	A8D15WW29A3	15	4.47	4.03	3.62
515-4381	A8D22WW29A3	22	5.70	5.13	4.62

"D" Connectors, Plastic for Flat Cables



► For Mounting Hardware, See Page 315

Plastic "D" Connectors are used in panel-mounted I/O applications, providing mass termination, convenience and IDC integrity while maintaining compatibility with all industry-standard "D" connectors. **Insulation Material:** Glass filled thermoplastic, rated 94V-0, blue. **Contact Material:** Beryllium copper: 30 μ inches minimum gold over 50 μ inches nickel in contact zone; tin-lead over nickel in termination area. **Metal Shell:** Steel with tin plating. **Current Rating:** 1 Amp. **Insulation Resistance:** $>1 \times 10^9$ Ohms @ 500 VDC. **Dielectric Strength:** >1000 VRMS @ sea level. **Temperature Rating:** -55°C to 125°C .

Plugs with Pin Contacts

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
515-3300	609-9P	9	5.73	4.64	4.27
515-3305	609-15P	15	7.62	6.17	5.68
515-3310	609-25P	25	9.73	7.88	7.26
515-3315	609-37P	37	14.33	11.61	10.69
515-3321	622-50P	50	19.75	15.99	14.73

Ansley® Metal Shell Low Profile "D" Connectors

► For Mounting Hardware, See Page 315

Low Profile Metal Shell "D" Connectors are designed for reliable EMI/RFI protected "D" connector interfaces in modern, high-density applications. The low-profile "D" can be integrated into even the most dense applications.

Insulation Material: Glass filled thermoplastic, rated 94V-0, blue. **Contact Material:** Beryllium copper: 30 μ inches minimum gold over 50 μ inches nickel in contact zone; tin-lead over nickel in termination area. **Metal Shell:** Steel with tin plating. **Current Rating:** 1 Amp. **Insulation Resistance:** $>1 \times 10^9$ Ohms @ 500 VDC. **Dielectric Strength:** >1000 VRMS @ sea level. **Temperature Rating:** -55°C to 125°C .

Plugs with Pin Contacts

Stock No.	Mfr.'s Type	No. of Contacts	Mounting Hole Inserts	EACH		
				1-24	25-99	100-499
515-2998	622-09PM	9	None	4.53	3.67	3.38
515-2999	622-09PM1	9	Unified 4-40 thread	4.88	3.95	3.64
515-3000	622-09PM2	9	3mm metric thread	4.88	3.95	3.64
515-3002	622-15PM	15	None	6.01	4.87	4.48
515-3003	622-15PM1	15	Unified 4-40 thread	6.36	5.15	4.74
515-3005	622-15PM2	15	3mm metric thread	6.36	5.15	4.74
515-3007	622-25PM	25	None	7.93	6.43	5.92
515-3008	622-25PM1	25	Unified 4-40 thread	8.28	6.71	6.18
515-3010	622-25PM2	25	3mm metric thread	8.28	6.71	6.18
515-3012	622-37PM	37	None	11.27	9.13	8.41
515-3013	622-37PM1	37	Unified 4-40 thread	11.62	9.41	8.67
515-3015	622-37PM2	37	3mm metric thread	11.62	9.41	8.67
515-3018	622-50PM1	50	Unified 4-40 thread	18.39	14.89	13.72
515-3020	622-50PM2	50	3mm metric thread	18.39	14.89	13.72

Strain Reliefs

Stock No.	Mfr.'s Type	No. of Contacts in Housing	EACH		
			1-24	25-99	100-499
515-3525	622-09SR	9	.63	.52	.47
515-3530	622-15SR	15	.63	.52	.47
515-3535	622-25SR	25	.63	.52	.47
515-3540	622-37SR	37	.63	.52	.47

Backshells for Flat Cable D-Connectors

Unplated Glass Reinforced Thermoplastic UL94-V0

Stock No.	Mfr.'s Type	No. of Contacts in Housing	EACH		
			1-24	25-99	100-499
515-3201	622-009D	9	1.89	1.53	1.41
515-3206	622-015D	15	2.96	2.40	2.20
515-3211	622-025D	25	3.21	2.60	2.39
515-3216	622-037D	37	3.52	2.86	2.63
515-3221	622-050D	50	3.90	3.16	2.91

Receptacles with Socket Contacts

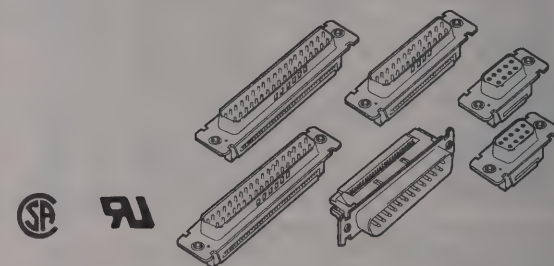
Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
515-3400	609-9S	9	6.67	5.41	4.98
515-3405	609-15S	15	9.13	7.40	6.81
515-3410	609-25S	25	11.18	9.05	8.34
515-3415	609-37S	37	16.63	13.46	12.40
515-3421	622-50S	50	22.01	17.82	16.42

Standard Backshells (Plastic) for Flat Cable

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
515-3500	609-09	9	1.66	1.35	1.24
515-3505	609-015	15	1.89	1.53	1.41
515-3510	609-025	25	2.14	1.74	1.59
515-3515	609-037	37	2.36	1.91	1.76
515-3520	609-050D	50	3.52	2.86	2.63

Right Angle

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-99	100-499
515-3501	609-09R	9	1.10	.89	.82
515-3506	609-015R	15	1.32	1.07	.98
515-3511	609-025R	25	1.44	1.18	1.08
515-3516	609-037R	37	1.60	1.30	1.19

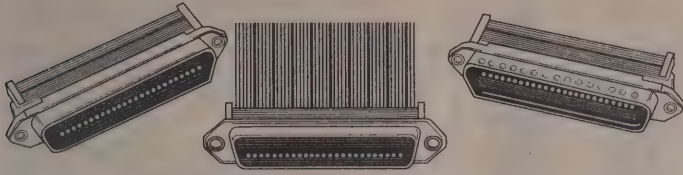


Receptacles with Socket Contacts

Stock No.	Mfr.'s Type	No. of Contacts	Mounting Hole Inserts	EACH		
				1-24	25-99	100-499
515-3098	622-09SM	9	None	5.60	4.54	4.18
515-3099	622-09SM1	9	Unified 4-40 thread	5.95	4.82	4.44
515-3100	622-09SM2	9	3mm metric thread	5.95	4.82	4.44
515-3102	622-15SM	15	None	7.68	6.23	5.73
515-3103	622-15SM1	15	Unified 4-40 thread	8.03	6.50	5.99
515-3105	622-15SM2	15	3mm metric thread	8.03	6.50	5.99
515-3107	622-25SM	25	None	9.41	7.62	7.02
515-3108	622-25SM1	25	Unified 4-40 thread	9.76	7.91	7.28
515-3110	622-25SM2	25	3mm metric thread	9.76	7.91	7.28
515-3112	622-37SM	37	None	13.48	10.91	10.05
515-3113	622-37SM1	37	Unified 4-40 thread	13.82	11.19	10.31
515-3115	622-37SM2	37	3mm metric thread	13.82	11.19	10.31
515-3118	622-50SM1	50	Unified 4-40 thread	19.40	15.71	14.47
515-3120	622-50SM2	50	3mm metric thread	19.40	15.71	14.47

Ribbon Connectors and DIP Sockets

Metal Shell Ribbon Connectors



► For Tooling and Flat C able, See Page 320

Metal Shell Ribbon Connectors are designed primarily for I/O applications where EMI/RFI suppression is required. **Insulation Material:** Glass filled thermoplastic, rated 94V-0, blue. **Contact Material:** Beryllium copper; 30 µ inches minimum gold over 50 µ inches nickel in contact zone; tin-lead over nickel in termination area. **Current Rating:** 1 Amp. **Insulation Resistance:** >1 x 10¹⁰ Ohms @ 500 VDC. **Dielectric Strength:** >1000 VRMS @ sea level. **Temperature Rating:** -55°C to 125°C.

Male

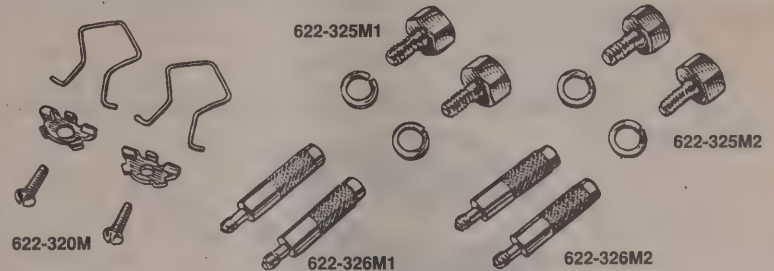
Thru-Hole Mount		Ball Mount		No. of Contacts	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-24	25-99	100-499
515-2005	622-24MM	515-2025	622-24MAM	24	7.05	5.71	5.26
515-2010	622-36MM	515-2030	622-36MAM	36	8.69	7.04	6.48
515-2015	622-50MM	515-2035	622-50MAM	50	10.23	8.29	7.63

Female

515-2105	622-24FM	515-2125	622-24FAM	24	6.86	5.56	5.20
515-2110	622-36FM	515-2130	622-36FAM	36	8.56	6.94	6.39
515-2115	622-50FM	515-2135	622-50FAM	50	9.57	7.75	7.14

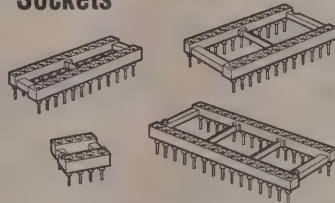
Ribbon Connector Hardware

Type 622-320M. Ball Mounting Clip with 4-40 mounting screw. (Use w/622-XXX on 2 scales).	515-2200	PER SET 1.73
Type 622-325M1. Jacksocket Assembly (METRIC).	515-2205	PER SET 2.86
Type 622-325M2. Jacksocket Assembly (4-40).	515-2210	PER SET 2.86
Type 622-326M1. Jackscrew Assembly (METRIC).	515-2215	PER SET 2.86
Type 622-326M2. Jackscrew Assembly (4-40). UNC2A.	515-2220	PER SET 2.86



Low Profile Open Frame DIP Sockets

- Open Frame Construction, With Reinforcing "X" Supports In .100 x .600 x .900" Sockets
- End-to-End, and Side-to-Side Stackable On .100" Spacing Without Pin Position Loss
- Polarity Notch for Identification and Auto-Insertion Applications
- Precision Machined Sleeves



.125" (3.18 mm) Solder Tail—Tin Plated

Stock No.	Mfr.'s Type	Number of Leads	EACH		
			1-99	100-499	500-999
515-7000	SMO-06-S6T	6	.47	.40	.35
515-7005	SMO-08-S6T	8	.63	.51	.47
515-7010	SMO-14-S6T	14	1.13	.92	.84
515-7015	SMO-16-S6T	16	1.26	1.02	.94
515-7020	SMO-18-S6T	18	1.41	1.15	1.05
515-7025	SMO-20-S6T	20	1.57	1.27	1.17
515-7030	SMO-22-S6T	22	1.76	1.43	1.31
515-7035	SMO-24-S6T	24	1.89	1.53	1.41
515-7040	SMO-243-S6T	24	1.92	1.56	1.43
515-7045	SMO-28-S6T	28	2.20	1.78	1.64
515-7050	SMO-32-S6T	32	2.55	2.07	1.90
515-7055	SMO-36-S6T	36	2.83	2.29	2.11
515-7060	SMO-40-S6T	40	3.18	2.58	2.37
515-7065	SMO-48-S6T	48	3.81	3.09	2.84
515-7070	SMO-64-S6T	64	5.10	4.13	3.80

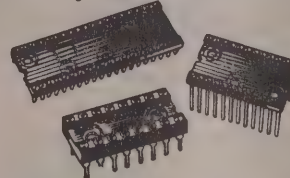
.125" (3.18 mm) Solder Tail—Gold Plated

515-7001	SMO-06-S6G	6	.66	.54	.49
515-7006	SMO-08-S6G	8	.85	.69	.63
515-7011	SMO-14-S6G	14	1.51	1.22	1.12
515-7016	SMO-16-S6G	16	1.76	1.43	1.31
515-7021	SMO-18-S6G	18	1.95	1.58	1.45
515-7026	SMO-20-S6G	20	2.17	1.76	1.62
515-7031	SMO-22-S6G	22	2.42	1.96	1.80
515-7036	SMO-24-S6G	24	2.61	2.12	1.95
515-7041	SMO-243-S6G	24	2.61	2.12	1.95
515-7046	SMO-28-S6G	28	3.05	2.47	2.27
515-7051	SMO-32-S6G	32	3.49	2.83	2.60
515-7056	SMO-36-S6G	36	3.93	3.19	2.93
515-7061	SMO-40-S6G	40	4.37	3.54	3.26
515-7066	SMO-48-S6G	48	5.22	4.23	3.90
515-7071	SMO-64-S6G	64	6.99	5.66	5.21

.546" (13.87 mm) Wire Wrap Tails—Gold Plated

515-7100	SMO-06-W3G	6	1.26	1.02	.94
515-7105	SMO-08-W3G	8	1.79	1.45	1.33
515-7110	SMO-14-W3G	14	2.70	2.19	2.02
515-7115	SMO-16-W3G	16	3.11	2.52	2.32
515-7120	SMO-18-W3G	18	3.81	3.09	2.84
515-7125	SMO-20-W3G	20	4.37	3.54	3.26
515-7130	SMO-22-W3G	22	4.56	3.70	3.40
515-7135	SMO-24-W3G	24	5.16	4.18	3.85
515-7140	SMO-243-W3G	24	5.26	4.26	3.92
515-7145	SMO-28-W3G	28	5.79	4.69	4.32
515-7150	SMO-32-W3G	32	6.66	5.37	5.00
515-7155	SMO-36-W3G	36	7.21	5.83	5.38
515-7160	SMO-40-W3G	40	8.03	6.50	5.99
515-7165	SMO-48-W3G	48	9.67	7.83	7.21
515-7170	SMO-64-W3G	64	12.85	10.40	9.58

Ansley® Low Profile Closed Frame DIP Sockets



- Extremely Low Profile Frame .115" (2.92 mm) Thick
- Accepts .011" x .018" (.28 mm x .46 mm) Rectangular and .016" to .021" (.40 mm x .53 mm) Diameter Round IC Leads in Lengths From .100" (2.54 mm) to .155" (3.94 mm)
- End-to-End and Side-to-Side Stacking for Maximum IC Packaging Density
- Precision Machined Sleeves Recommended PCB Hole Diameter .035" (.88 mm) for Solder Tail Pin and .045" (1.14 mm) for Wrap Post Pin

.125" (3.18 mm) Solder Tail—Tin Plated

Stock No.	Mfr.'s Type	Number of Leads	EACH		
			1-99	100-499	500-999
515-7200	CMO-06-S6T	6	.44	.36	.32
515-7205	CMO-08-S6T	8	.66	.54	.49
515-7210	CMO-14-S6T	14	1.16	.94	.86
515-7215	CMO-16-S6T	16	1.29	1.05	.96
515-7220	CMO-18-S6T	18	1.44	1.17	1.08
515-7225	CMO-20-S6T	20	1.63	1.33	1.22
515-7230	CMO-22-S6T	22	1.79	1.45	1.33
515-7235	CMO-24-S6T	24	1.98	1.61	1.48
515-7240	CMO-28-S6T	28	2.26	1.84	1.69
515-7245	CMO-40-S6T	40	3.27	2.65	2.44

.125" (3.18 mm) Solder Tail—Gold Plating Over Nickel

515-7201	CMO-06-S6G	6	.66	.54	.49
515-7206	CMO-08-S6G	8	.85	.69	.63
515-7211	CMO-14-S6G	14	1.51	1.22	1.12
515-7216	CMO-16-S6G	16	1.76	1.43	1.31
515-7221	CMO-18-S6G	18	1.95	1.58	1.45
515-7226	CMO-20-S6G	20	2.17	1.76	1.62
515-7231	CMO-22-S6G	22	2.42	1.96	1.80
515-7236	CMO-24-S6G	24	2.61	2.12	1.95
515-7241	CMO-28-S6G	28	3.05	2.47	2.27
515-7246	CMO-40-S6G	40	4.37	3.54	3.26

.546" (13.87 mm) Wire Wrap Tail Gold Plating Over Nickel

515-7251	CMO-06-W3G	6	1.29	1.05	.96
515-7256	CMO-08-W3G	8	1.82	1.48	1.36
515-7261	CMO-14-W3G	14	2.80	2.27	2.09
515-7266	CMO-16-W3G	16	3.21	2.60	2.39
515-7271	CMO-18-W3G	18	3.90	3.16	2.91
515-7276	CMO-20-W3G	20	4.50	3.65	3.36
515-7281	CMO-22-W3G	22	4.69	3.80	3.50
515-7286	CMO-24-W3G	24	5.41	4.39	4.04
515-7291	CMO-28-W3G	28	5.95	4.82	4.44
515-7296	CMO-40-W3G	40	8.25	6.68	6.15

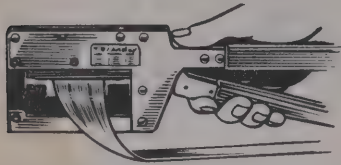
SIP Socket (Single In-Line Package)

- 64 Position Strip—Easily Separated Into Smaller Sizes
- .100" (2.54 mm) Contact Spacing
- Housing Flammability Rating UL94V-0

.126" Straight Pins

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-Up
515-7310	SIP-64-S6T1	Tin Plated	3.71	3.06	2.78
515-7315	SIP-64-S6T2	15µ Gold on clip	4.18	3.44	3.13
515-7320	SIP-64-S6T3	30µ Gold on Clip	5.10	4.21	3.83

Model 779-2100 Hand Crimp Tool Frame and Dies



Features and Benefits
 ► Allows mass termination of up to 64-conductor flat cable with Ansley® IDC connector, for wide application flexibility
 ► Hand tool terminate in seconds without wire stripping or soldering, for low installed cost.
 ► Shure Stake™ mechanism eliminates operator guesswork, assures a reliable crimp cycle every time.

Type 779-2100. Tool frame accommodates snap-in interchangeable dies to install the entire range of Ansley® IDC connectors.
 515-4100EACH 260.99

Dies for Hand Tool

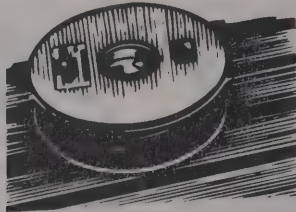
Stock No.	Mfr.'s Type	Description For Use With	EACH
515-4105	779-2150	609-Series female socket transition connectors	56.02
515-4106	779-2151	622-Series female socket transition connectors	56.02
515-4111	779-2175	622-Series slimline PCB connectors	56.02
515-4113	779-2155	All low profile DIP plugs	56.02
515-4114	779 2156	All standard profile DIP plugs	56.02
515-4135	779-2164	All card edge connectors	56.02
515-4140	779-2166	All plastic shell D-Subs except 50 position	56.02
515-4142	779-2179	All metal shell D-Subs except 50 position	56.02
515-4145	779-2167	Metal and plastic 50 position D-Subs	56.02
515-4146	779-2168A	609-XX06 and 609-XX16 "male" connectors	56.02
515-4147	779-2172	Plastic or metal ribbon connectors	56.02

Flat Cable Cutter

Type 779-5030M. Cable Cutter for up to 64 conductor flat cable.
 515-4160EACH 98.85



Flat Cables



Ansley® flat cable is designed to mass terminate all types of Ansley® connectors without wire stripping or soldering. The flexible, symmetrical cable is extruded, not laminated. In order to maintain exacting .050" (1.27 mm) pitch tolerance from conductor to conductor. Connectors can be terminated to flat cable in up or down configurations or 180° from each other.

Series-171—Standard Gray Flat Cable

Dark blue stripe on number 1 conductor for positive polarization. Alternating red and blue stripes every fifth conductor. 28 AWG stranded conductors .050" (1.27mm) conductor spacing. 105°C/PVC insulated, 300 VRMS. UL style 2651. Primarily designed for intra-cabinet wiring applications.

Stock No.	Mfr.'s Type	Number of Conductors	PER 100' ROLL		
			1-4	5-9	10-49
515-6000	171-9	9	12.42	10.37	9.05
515-6001	171-10	10	13.80	11.52	10.06
515-6004	171-14	14	19.32	16.13	14.08
515-6005	171-15	15	20.70	17.28	15.08
515-6006	171-16	16	22.08	18.43	16.09
515-6008	171-20	20	27.60	23.04	20.11
515-6010	171-25	25	34.50	28.00	25.14
515-6011	171-26	26	35.88	29.95	26.14
515-6013	171-34	34	46.92	39.17	34.17
515-6015	171-37	37	51.06	42.63	37.20
515-6018	171-40	40	55.20	46.05	40.22
515-6020	171-50	50	69.00	57.61	50.27
515-6025	171-60	60	82.50	69.13	60.33
515-6030	171-64	64	88.32	73.74	64.35

Series 201—Color Coded Flat Cable

28 AWG stranded conductors. 1.27 mm (.050") conductor spacing. Industry standard color coded color coding. PVC insulation. 105°C, 300 VRMS, UL 20067.

Stock No.	Mfr.'s Type	Number of Conductors	PER 100' ROLL		
			1-4	5-9	10-49
515-6201	201-10	10	30.56	25.51	22.27
515-6204	201-14	14	42.62	35.58	31.06
515-6206	201-16	16	49.78	41.56	36.27
515-6208	201-20	20	60.78	50.75	44.29
515-6210	201-25	25	76.58	63.94	55.80
515-6211	201-26	26	79.12	66.06	57.65
515-6213	201-34	34	101.10	84.41	73.66
515-6217	201-40	40	118.76	99.16	86.53
515-6220	201-50	50	145.72	121.67	106.17

Flat Cable Test Data

Catalog Series	Insulation	Rating (°C)	Voltage Rating (RMS)	Impedance Ohms	Capacitance pF/FT	Velocity of Propagation nS/FT	Typical Crosstalk Characteristics, 10ft. Sample, 1 line driven					
							Rise Time nSec		Near End %		Far End %	
171	PVC	105	300	100	14.0	1.38	3.00	7.00	5.00	3.20	6.70	2.70
196	PVC	105	300	65	28.0	1.68	3.00	7.00	4.10	2.00	7.00	3.75
200	PVC	105	300	95	15.7	1.60	3.00	7.00	4.20	4.00	8.50	5.40
201	PVC	105	300	100	14.0	1.38	3.00	7.00	5.00	3.20	6.70	2.70

Series-200—Twisted Pair Flat Cable

Ansley® Twisted Pair Flat Cable is designed for applications where crosstalk reduction is required. It combines the time and cost savings of mass termination with the electrical performance of twisted pairs, making it ideally suited for differential driver or signal-ground circuit applications.

The cable consists of stranded round conductors insulated with color-coded PVC, twisted into pairs and laminated to a polyester film. reverse twisting of adjacent pairs assures optimal signal performance. 18" twisted pair and 2" flat section or termination with IDC connectors. 28AWG stranded conductors. 1.27mm (.050") flat zone conductor spacing. Rated 105°, 300 volts UL20184.

Stock No.	Mfr.'s Type	Number of Conductors	PER 100' ROLL		
			1-4	5-9	10-49
515-6150	200-10A	10	41.94	35.01	30.56
515-6155	200-20A	20	83.88	70.03	61.11
515-6160	200-26A	26	109.06	91.06	79.46
515-6165	200-34A	34	142.60	119.07	103.89
515-6170	200-40A	40	167.78	140.09	122.24
515-6175	200-50A	50	209.72	175.11	152.80
515-6180	200-60A	60	251.66	210.13	183.35

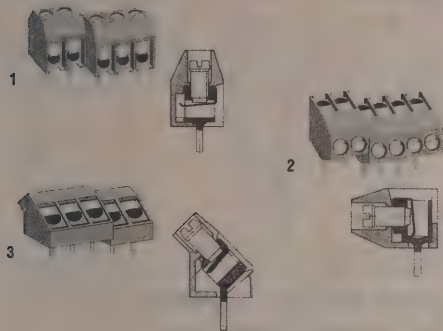
Series 196—Ground Plane Flat Cable

Ansley® Soft-Tear Ground Plane Flat Cable is designed for intra- and inter-cabinet high speed data transmission applications. It provides high density, consistent, and repeatable electrical characteristics, with particularly low crosstalk, for high-speed data transmission.

The unique economical Soft-Tear design combined with Ansley® notching and trimming tools greatly simplifies the removal of insulation and ground plane, reducing preparation time by as much as 70% over conventional ground plane cable. The extruded insulation maintains exacting pitch tolerances from conductor to conductor over the life of the cable 28 AWG stranded conductor 1.27mm (.050") conductor spacing. .127(.005") thick ground plane. Number 1 conductor acts as a drainwire (dark blue polarity stripe).

Stock No.	Mfr.'s Type	Number of Conductors	PER 100' ROLL		
			1-4	5-9	10-49
515-6300	196-20	20	135.34	113.00	98.61
515-6305	196-26	26	175.94	146.90	128.19
515-6310	196-34	34	230.06	192.10	167.62
515-6315	196-40	40	270.66	226.00	197.20
515-6320	196-50	50	338.64	282.76	246.72

Screw Connectors For Printed Circuit Boards — Series 93 To 97



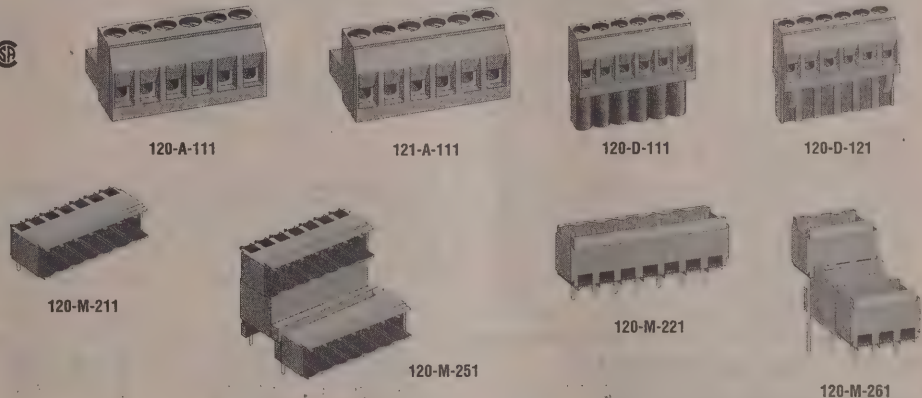
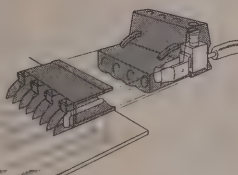
All products feature dovetail interlocking which allows for assembly to the required number of poles while maintaining center to center spacing.
Specifications. Insulating Material: Polyamide, self extinguishing to UL 94, V-0, color grey. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — 40°C/104°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 32%. UL File E69841. CSA File LR24322.

Stock No.	Mfr.'s Type	Fig.	Poles	Center-Center Spacing		Height		Width		UL Rating			CSA Rating			EACH
				mm	In.	mm	In.	mm	In.	Volts	Amps	AWG	Volts	Amps	AWG	
924-0201	930-T-DS/02	1	2	3.50	.138	8.7	.34	8.0	.31	300	7	16-26	150	7	18-26	.33
924-0202	930-T-DS/03	1	3	3.50	.138	8.7	.34	8.0	.31	300	7	16-26	150	7	18-26	.49
924-0330	931-T-DS/02	3	2	3.50	.138	8.0	.31	8.7	.34	300	7	16-26	150	7	18-26	.33
924-0335	931-T-DS/03	3	3	3.50	.138	8.0	.31	8.7	.34	300	7	16-26	150	7	18-26	.49
924-0220	950-T-DS/02	1	2	5.00	.197	10.0	.39	8.0	.31	300	15	14-26	300	15	14-26	.33
924-0225	950-T-DS/03	1	3	5.00	.197	10.0	.39	8.0	.31	300	15	14-26	300	15	14-26	.49
924-4012	970-T-DS/02	1	2	5.00	.197	13.0	.51	9.0	.35	300	20	12-26	300	15	10-26	.33
924-4014	970-T-DS/03	1	3	5.00	.197	13.0	.51	9.0	.35	300	20	12-26	300	15	10-26	.49
924-4000	974-T-DS/02	2	2	5.00	.197	12.0	.47	12.5	.49	300	20	12-26	300	15	10-26	.33
924-4002	974-T-DS/03	2	3	5.00	.197	12.0	.47	12.5	.49	300	20	12-26	300	15	10-26	.49
924-0300	951-T-DS/02	3	2	5.00	.197	8.0	.31	10.0	.39	300	15	14-26	300	15	14-26	.33
924-0305	951-T-DS/03	3	3	5.00	.197	8.0	.31	10.0	.39	300	15	14-26	300	15	14-26	.49
924-0320	971-T-DS/02	3	2	5.00	.197	9.0	.35	13.0	.51	300	20	12-26	300	15	10-26	.33
924-0325	971-T-DS/03	3	3	5.00	.197	9.0	.35	13.0	.51	300	20	12-26	300	15	10-26	.49
924-0210	940-T-DS/02	1	2	5.08	.200	11.5	.45	8.0	.31	300	15	14-26	300	15	14-26	.33
924-0215	940-T-DS/03	1	3	5.08	.200	11.5	.45	8.0	.31	300	15	14-26	300	15	14-26	.49
924-0230	960-T-DS/02	1	2	5.08	.200	13.5	.53	9.0	.35	300	20	12-26	300	15	10-26	.33
924-0235	960-T-DS/03	1	3	5.08	.200	13.5	.53	9.0	.35	300	20	12-26	300	15	10-26	.49
924-0256	964-T-DS/02	2	2	5.08	.200	12.0	.47	12.5	.49	300	20	12-26	300	15	10-26	.33
924-0257	964-T-DS/03	2	3	5.08	.200	12.0	.47	12.5	.49	300	20	12-26	300	15	10-26	.49
924-0290	941-T-DS/02	3	2	5.08	.200	8.0	.31	11.5	.45	300	15	14-26	300	15	14-26	.33
924-0295	941-T-DS/03	3	3	5.08	.200	8.0	.31	11.5	.45	300	15	14-26	300	15	14-26	.49
924-0310	961-T-DS/02	3	2	5.08	.200	9.0	.35	13.5	.53	300	20	12-26	300	15	10-26	.33
924-0315	961-T-DS/03	3	3	5.08	.200	9.0	.35	13.5	.53	300	20	12-26	300	15	10-26	.49
924-0251	977-T-DS/02	1	2	7.50	.295	13.0	.51	9.5	.37	300	15	12-26	300	15	10-26	.33
924-0252	977-T-DS/03	1	3	7.50	.295	13.0	.51	9.5	.37	300	15	12-26	300	15	10-26	.49
924-4004	976-T-DS/02	2	2	7.50	.295	12.0	.47	12.5	.49	300	15	12-26	300	15	10-26	.33
924-4006	976-T-DS/03	2	3	7.50	.295	12.0	.47	12.5	.49	300	15	12-26	300	15	10-26	.49
924-0326	977-TM-DS/02	3	2	7.50	.295	9.5	.37	13.0	.51	300	15	12-26	300	15	10-26	.33
924-0327	977-TM-DS/03	3	3	7.50	.295	9.5	.37	13.0	.51	300	15	12-26	300	15	10-26	.49

Plug-In Screw Connector System For Printed Circuit Boards — Series 120 and 121



Conecta® Series plug and header connectors provide reliable contact for applications which require frequent disconnections. Headers are shrouded to ensure proper mating. **Specifications. Center to Center Spacing:** Series 120 — 5 mm/.197"; Series 121 — 5.08 mm/.200". **Insulating Material:** Polyamide, self extinguishing to UL 94, V-0, color grey. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — 40°C/104°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 33%. **Screw:** M3. UL File E69841 — 10 A, 300 V, 12-26 AWG. CSA File LR24322 — 10 A, 300 V, 12-26 AWG. Functionally equivalent to Phoenix Contact Series MSTB, Weidmüller Series BL/SL and Wieland Series 8113. Larger pole configurations are available on request.



Horizontal Plug

Stock No.	Mfr.'s Type	Center-Center Spacing		Stock No.	Mfr.'s Type	Center-Center Spacing		Poles	EACH
		mm	In.			mm	In.		
924-0400	120-A-111/02	5.00	.197	924-0401	121-A-111/02	5.08	.200	2	.77
924-0405	120-A-111/03	5.00	.197	924-0406	121-A-111/03	5.08	.200	3	1.16
924-0410	120-A-111/04	5.00	.197	924-0411	121-A-111/04	5.08	.200	4	1.54
924-0415	120-A-111/05	5.00	.197	924-0416	121-A-111/05	5.08	.200	5	1.92
924-0420	120-A-111/06	5.00	.197	924-0421	121-A-111/06	5.08	.200	6	2.31
924-0425	120-A-111/07	5.00	.197	924-0426	121-A-111/07	5.08	.200	7	2.69
924-0430	120-A-111/08	5.00	.197	924-0431	121-A-111/08	5.08	.200	8	3.07
924-0435	120-A-111/09	5.00	.197	924-0436	121-A-111/09	5.08	.200	9	3.46
924-0440	120-A-111/10	5.00	.197	924-0441	121-A-111/10	5.08	.200	10	3.84
924-0445	120-A-111/11	5.00	.197	924-0446	121-A-111/11	5.08	.200	11	4.23
924-0450	120-A-111/12	5.00	.197	924-0451	121-A-111/12	5.08	.200	12	4.61

Vertical Plug

Stock No.	Mfr.'s Type	Center-Center Spacing		Stock No.	Mfr.'s Type	Center-Center Spacing		Poles	EACH
		mm	In.			mm	In.		
924-5000	120-D-111/02	5.00	.197	924-5022	120-D-121/02*	5.00	.197	2	.90
924-5002	120-D-111/03	5.00	.197	924-5024	120-D-121/03*	5.00	.197	3	1.26
924-5004	120-D-111/04	5.00	.197	924-5026	120-D-121/04*	5.00	.197	4	1.63
924-5006	120-D-111/05	5.00	.197	924-5028	120-D-121/05*	5.00	.197	5	2.00
924-5008	120-D-111/06	5.00	.197	924-5030	120-D-121/06*	5.00	.197	6	2.47
924-5010	120-D-111/07	5.00	.197	924-5032	120-D-121/07*	5.00	.197	7	2.79
924-5012	120-D-111/08	5.00	.197	924-5034	120-D-121/08*	5.00	.197	8	3.24
924-5014	120-D-111/09	5.00	.197	924-5036	120-D-121/09*	5.00	.197	9	3.53
924-5016	120-D-111/10	5.00	.197	924-5038	120-D-121/10*	5.00	.197	10	3.88
924-5018	120-D-111/11	5.00	.197	924-5040	120-D-121/11*	5.00	.197	11	4.21
924-5020	120-D-111/12	5.00	.197	924-5044	120-D-121/12*	5.00	.197	12	4.53

Single Level Horizontal Header

Stock No.	Mfr.'s Type	Center-Center Spacing		Stock No.	Mfr.'s Type	Center-Center Spacing		Poles	EACH
		mm	In.			mm	In.		
924-0452	120-M-211/02	5.00	.197	924-0453	121-M-211/02	5.08	.200	2	.28
924-0454	120-M-211/03	5.00	.197	924-0455	121-M-211/03	5.08	.200	3	.42
924-0456	120-M-211/04	5.00	.197	924-0457	121-M-211/04	5.08	.200	4	.56
924-0458	120-M-211/05	5.00	.197	924-0459	121-M-211/05	5.08	.200	5	.70
924-0460	120-M-211/06	5.00	.197	924-0461	121-M-211/06	5.08	.200	6	.84
924-0462	120-M-211/07	5.00	.197	924-0463	121-M-211/07	5.08	.200	7	.99
924-0464	120-M-211/08	5.00	.197	924-0465	121-M-211/08	5.08	.200	8	1.13
924-0466	120-M-211/09	5.00	.197	924-0467	121-M-211/09	5.08	.200	9	1.27
924-0468	120-M-211/10	5.00	.197	924-0469	121-M-211/10	5.08	.200	10	1.41
924-0470	120-M-211/11	5.00	.197	924-0471	121-M-211/11	5.08	.200	11	1.55
924-0472	120-M-211/12	5.00	.197	924-0473	121-M-211/12	5.08	.200	12	1.69

*With sidewalls.

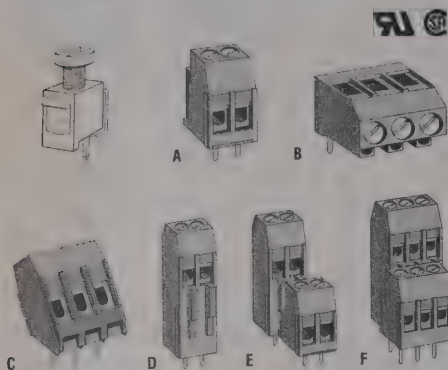
Double Level Horizontal Header

Stock No.	Mfr.'s Type	Center-Center Spacing		Stock No.	Mfr.'s Type	Center-Center Spacing		Poles	EACH
		mm	In.			mm	In.		
924-5046	120-M-251/04	5.00	.197	924-5068	121-M-251/04	5.08	.200	4	.82
924-5048	120-M-251/06	5.00	.197	924-5070	121-M-251/06	5.08	.200	6	1.22
924-5050	120-M-251/08	5.00	.197	924-5072	121-M-251/08	5.08	.200	8	1.63
924-5052	120-M-251/10	5.00	.197	924-5074	121-M-251/10	5.08	.200	10	2.04
924-5054	120-M-251/12	5.00	.197	924-5076	121-M-251/12	5.08	.200	12	2.45
924-5056	120-M-251/14	5.00	.197	924-5078	121-M-251/14	5.08	.200	14	2.86
924-5058	120-M-251/16	5.00	.197	924-5080	121-M-251/16	5.08	.200	16	3.26
924-5060	120-M-251/18	5.00	.197	924-5082	121-M-251/18	5.08	.200	18	3.67
924-5062	120-M-251/20	5.00	.197	924-5084	121-M-251/20	5.08	.200	20	4.08
924-5064	120-M-251/22	5.00	.197	924-5086	121-M-251/22	5.08	.200	22	4.49
924-5066	120-M-251/24	5.00	.197	924-5088	121-M-251/24	5.08	.200	24	4.90

Single Level Vertical Header

Stock No.	Mfr.'s Type	Center-Center Spacing		Stock No.	Mfr.'s Type	Center-Center Spacing		Poles	EACH
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Screw Connectors For Printed Circuit Boards With Elevator Style Clamping Mechanism — Series 150

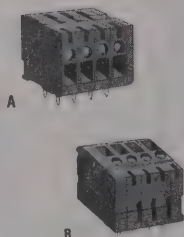


Series 150 Multilift connectors feature elevator style clamping, captive screws, test holes and dovetail interlocking which allows for assembly to the required number of poles while maintaining center to center spacing. **Specifications. Center To Center Spacing:** 5 mm/.197". **Insulating Material:** Polyamide, self extinguishing to UL 94, V-0, color grey. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 33%. **Screw:** M3. UL File E69841 — 20 A, 300 V, 10-26 AWG. CSA File LR24322 — 20 A, 300 V, 10-26 AWG.

Stock No.	Mfr.'s Type	Poles	Fig.	EACH
				1-99
924-2561	150-A-111/02	2	A	.77
924-2562	150-A-111/03	3	A	1.08
924-2563	150-A-121/02	2	B	1.42
924-2564	150-A-121/03	3	B	1.30
924-2565	150-C-111/02	2	C	.75
924-2566	150-C-111/03	3	C	1.05
924-5134	150-B-111/02	2	D	.83
924-5136	150-B-111/03	3	D	1.15
924-5138	150-B-151/04	4	E	1.52
924-5140	150-B-151/06	6	F	2.14
924-5142	150-B-153/04	4	F	1.52
924-5144	150-B-153/06	6	F	2.14

Parallel Screw and Wire Entry Terminal Blocks For Printed Circuit Boards — Series 180

Series 180 features dual PCB pins which provide a more stable platform and higher torque absorption during the screw tightening process. **Specifications. Center To Center Spacing:** 5 mm/.197". **Insulating Material:** Polyamide, self extinguishing to UL 94, V-0, color grey. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 33%. **Screw:** M2.5. UL File E69841 — 15 A, 300 V, 12-26 AWG. CSA File LR24322 — 20 A, 300 V, 12-26 AWG.



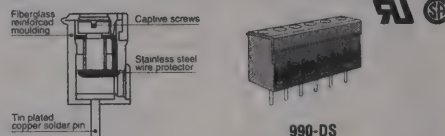
Front Entry — Fig. A

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-0650	180-A-111/02	2	1.84
924-0652	180-A-111/03	3	2.68
924-0654	180-A-111/04	4	3.53
924-0656	180-A-111/05	5	4.37
924-0658	180-A-111/06	6	5.21
924-0660	180-A-111/07	7	5.93
924-0662	180-A-111/08	8	6.90
924-0664	180-A-111/09	9	7.59
924-0666	180-A-111/10	10	8.41
924-0668	180-A-111/11	11	9.42
924-0670	180-A-111/12	12	10.27

Top Entry — Fig. B

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-0672	180-A-121/02	2	1.87
924-0674	180-A-121/03	3	2.72
924-0676	180-A-121/04	4	3.58
924-0678	180-A-121/05	5	4.44
924-0680	180-A-121/06	6	5.29
924-0682	180-A-121/07	7	6.03
924-0684	180-A-121/08	8	7.01
924-0686	180-A-121/09	9	7.71
924-0688	180-A-121/10	10	8.72
924-0690	180-A-121/11	11	9.93
924-0692	180-A-121/12	12	10.43

Screw Connectors For Printed Circuit Boards With Elevator Style Clamping Mechanism — Series 99



Series 99 low profile connectors feature elevator style clamping and captive screws. Versions are available from 2 to 28 poles. **Specifications. Center To Center Spacing:** 5 mm/.197". **Insulating Material:** Polyamide, self extinguishing to UL 94, V-0, color black. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 25%. **Screw:** M3. UL File E69841 — 15 A, 250 V, 14-22 AWG. CSA File LR24322 — 15 A, 300 V, 14-22 AWG.

Plug-In Screw Connector Systems For Printed Circuit Boards — Series 93-FL and 95-FL

These two-part plug and pinstrip combinations provide a small footprint, low profile design. Versions are available with 3.5 mm (.138") or 5 mm (.197") center to center spacing.

Series 93-FL



Specifications. Center To Center Spacing: 3.5 mm/.138". **Insulating Material:** Polyamide, self extinguishing to UL 94, V-0, color grey. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 32%. **Screw:** M2. UL File E69841 — 6 A, 300 V, 18-30 AWG. CSA File LR24322 — 6 A, 300 V, 20-28 AWG.

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-2050	930-FL-DS/02	2	.58
924-2052	930-FL-DS/03	3	.82
924-2054	930-FL-DS/04	4	1.06
924-2056	930-FL-DS/05	5	1.30
924-2058	930-FL-DS/06	6	1.55
924-2060	930-FL-DS/07	7	1.79
924-2062	930-FL-DS/08	8	2.04
924-2064	930-FL-DS/09	9	2.26
924-2066	930-FL-DS/10	10	2.52
924-2068	930-FL-DS/11	11	2.75
924-2070	930-FL-DS/12	12	2.99

Pinstrip

924-2096	931-SLS/16	16	1.24
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Series 95-FL



Specifications. Center To Center Spacing: 5 mm/.197". **Insulating Material:** Polyamide, self extinguishing to UL 94, V-0, color grey. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 32%. **Screw:** M2.6. UL File E69841 — 10 A, 300 V, 14-26 AWG. CSA File LR24322 — 10 A, 300 V, 14-26 AWG.

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-2462	950-FL-DS/02	2	.77
924-2463	950-FL-DS/03	3	1.16
924-2464	950-FL-DS/04	4	1.55
924-2465	950-FL-DS/05	5	1.95
924-2466	950-FL-DS/06	6	2.33
924-2467	950-FL-DS/07	7	2.72
924-2468	950-FL-DS/08	8	3.11
924-2469	950-FL-DS/09	9	3.51
924-2470	950-FL-DS/10	10	3.89
924-2471	950-FL-DS/11	11	4.28
924-2472	950-FL-DS/12	12	4.67

Pinstrip

924-0540	971-SLW/64	64	7.96
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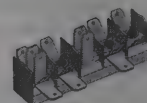
Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-2570	990-DS/02	2	.71
924-2571	990-DS/03	3	.99
924-2572	990-DS/04	4	1.27
924-2573	990-DS/05	5	1.55
924-2574	990-DS/06	6	1.84
924-2575	990-DS/07	7	2.12
924-2576	990-DS/08	8	2.41
924-2577	990-DS/09	9	2.69
924-2578	990-DS/10	10	2.97
924-2579	990-DS/11	11	3.25
924-2580	990-DS/12	12	3.54

Screw and Tab Connectors For Printed Circuit Boards — Series 98

— NEW —

8.011	8.033	8.066	8.190
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Tab Arrangements



Series 98 barrier style connectors offer a choice of screws or 4.8 mm (.187") tabs to suit various connection requirements. Depending on the product chosen, up to 6 connections can be made per pole. **Specifications. Center To Center Spacing:** 10 mm/.394". **Insulating Material:** Polyamide, self extinguishing to UL 94, V-2, color grey. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 25%. **Screw:** M2.5. UL File E69841 — 15 A, 300 V, 12-26 AWG. CSA File LR24322 — 20 A, 300 V, 12-26 AWG.

With 2 Horizontal Tabs Per Pole

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-5146	983-FS/02-8.011	2	1.81
924-5148	983-FS/03-8.011	3	2.65
924-5150	983-FS/04-8.011	4	3.50
924-5152	983-FS/05-8.011	5	4.33
924-5154	983-FS/06-8.011	6	5.30
924-5156	983-FS/07-8.011	7	6.12
924-5158	983-FS/08-8.011	8	6.95
924-5160	983-FS/09-8.011	9	7.78
924-5162	983-FS/10-8.011	10	8.60
924-5164	983-FS/11-8.011	11	9.44
924-5166	983-FS/12-8.011	12	10.26

With 2 Vertical Tabs Per Pole

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-5168	983-FS/02-8.066	2	1.81
924-5170	983-FS/03-8.066	3	2.65
924-5172	983-FS/04-8.066	4	3.50
924-5174	983-FS/05-8.066	5	4.33
924-5176	983-FS/06-8.066	6	5.30
924-5178	983-FS/07-8.066	7	6.12
924-5180	983-FS/08-8.066	8	6.95
924-5182	983-FS/09-8.066	9	7.78
924-5184	983-FS/10-8.066	10	8.60
924-5186	983-FS/11-8.066	11	9.44
924-5188	983-FS/12-8.066	12	10.26

With 6 Tabs Per Pole

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-5190	983-FS/02-8.033	2	2.10
924-5192	983-FS/03-8.033	3	3.07
924-5194	983-FS/04-8.033	4	4.07
924-5196	983-FS/05-8.033	5	5.04
924-5198	983-FS/06-8.033	6	6.16
924-5200	983-FS/07-8.033	7	6.16
924-5202	983-FS/08-8.033	8	8.09
924-5204	983-FS/09-8.033	9	9.06
924-5206	983-FS/10-8.033	10	10.01
924-5208	983-FS/11-8.033	11	11.00
924-5210	983-FS/12-8.033	12	11.98

With 1 Screw Per Pole

Stock No.	Mfr.'s Type	Poles	EACH
			1-99
924-5212	983-FS/02-8.190	2	.75
924-5214	983-FS/03-8.190	3	1.09
924-5216	983-FS/04-8.190	4	1.41
924-5218	983-FS/05-8.190	5	1.75
924-5220	983-FS/06-8.190	6	2.08
924-5222	983-FS/07-8.190	7	2.41
924-5224	983-FS/08-8.190	8	2.74
924-5226	983-FS/09-8.190	9	3.07
924-5228	983-FS/10-8.190	10	3.41
924-5230	983-FS/11-8.190	11	3.71
924-5232	983-FS/12-8.190	12	4.00

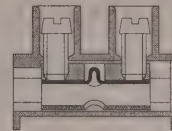
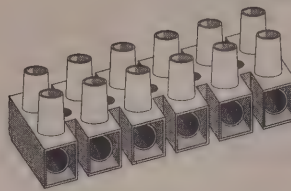
Terminal Strips, Ceramic Blocks, and Interface Modules



Screw Terminal Strips For Panel/Chassis Mounting — Series 300

Series 300 terminal strips are used for connecting stripped, unterminated, solid or stranded copper wires, ranging from 6 to 26 AWG depending on the product selected. Each strip has 12 circuits and can be easily cut to the required number of poles. Mounting holes are provided between each circuit. Captive screws are backed out and ready for wiring.

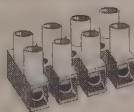
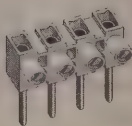
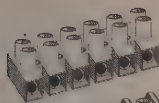
Each circuit has a wire protector to prevent damage to the wire from the turning screw. All metal parts are completely recessed in the flexible polyamide moulding. This dead front design ensures safety and prevents short circuiting.
Specifications. Insulating Material: Polyamide, self extinguishing to UL 94, V-0 or V-2, natural. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 25% (33% for types 326 and 327). UL File E69841. CSA File LR24322.



Stock No.	Mfr.'s Type	No. Of Circuits	Length		Height		Width		Center-Center Spacing		Screw Size	Mounting Hole Diameter		Spacing Between Current Carrying Parts				Screw Tightening Torque (Lb./In.)	Wire Stripping Length		Volt*	Amp*	Wire Range (AWG)	Volt†	Amp†	Wire Range† (AWG)	EACH	
			mm	In.	mm	In.	mm	In.	mm	In.		mm	In.	Through Air		Over Surface			mm	In.							1-99	100-Up
924-0100	302-N-HDS/12	12	94	3.70	12.0	.47	16	.63	11.0	.315	M2.6	2.8	.11	4.3	.17	3.2	.13	3.5	5.0	.20	300	20	12-20	300	20	14-26	2.03	1.69
924-0110	302-HDS/12	12	94	3.70	15.0	.59	16	.63	8.0	.315	M2.6	2.8	.11	5.8	.23	5.8	.23	3.5	5.0	.20	300	20	20-12	300	20	14-26	1.84	1.53
924-0120	323-HDS/12	12	117	4.59	16.0	.65	21	.83	10.0	.394	M3	3.5	.14	6.1	.24	6.1	.24	4.5	6.5	.25	600	30	10-22	300	25	10-26	1.99	1.60
924-0130	323-FU-16.5-HDS/12‡	12	117	4.59	16.5	.65	21	.83	10.0	.394	M3	3.5	.14	6.3	.25	11.1	.44	4.5	6.5	.25	600	30	10-22	600	25	10-26	1.99	1.60
924-0140	323-FU-18.5-HDS/12‡	12	117	4.59	18.5	.73	21	.83	10.0	.394	M3	3.5	.14	8.5	.33	11.9	.47	4.5	6.5	.25	600	30	10-22	600	25	10-26	2.07	1.72
924-0150	324-HDS/12	12	135	5.30	18.5	.73	22	.87	11.5	.453	M3.5	3.5	.14	6.1	.24	6.1	.24	7.0	7.0	.28	600	35	8-26	600	40	10-26	2.74	2.28
924-0160	324-FU-HDS/12	12	135	5.30	21.3	.84	22	.87	11.5	.453	M3.5	3.5	.14	9.2	.36	11.2	.44	7.0	7.0	.28	600	35	8-26	600	40	10-26	2.87	2.39
924-0170	326-HDS/12	12	171	6.73	22.5	.87	30	1.18	14.5	.571	M4	4.3	.17	7.9	.31	7.9	.31	10.0	9.0	.35	600	50	8-14	600	55	8-14	7.02	5.85
924-0180	327-HDS/12	12	171	6.73	25.0	.98	30	1.18	14.5	.571	M5	4.3	.17	7.5	.30	9.6	.38	16.0	9.0	.35	600	65	6-14	600	80	6-14	8.02	6.69
924-0190	327-FU-HDS/12	12	171	6.73	28.5	1.12	30	1.18	14.5	.571	M5	4.3	.17	11.0	.42	13.1	.52	16.0	9.0	.35	600	65	6-14	600	80	6-14	8.43	7.02

*UL recognized for UL File No. E69841. †CSA approved for CSA File No. LR24322. ‡FU16,5 has a 3 mm (.12") raised base. FU18,5 has a 5 mm (.197") raised base.

Plug and Socket Terminal Strips For Panel/Chassis Mounting — Series 300-S

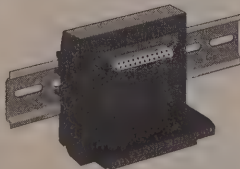


Specifications. Insulating Material: Polyamide, self extinguishing to UL 94, V-2, natural. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 25%. UL File E69841. CSA File LR24322.

Stock No.	Mfr.'s Type	Poles	Center-Center Spacing		Plug-In Direction	UL Rating			CSA Rating			EACH
			mm	In.		Volts	Amps	AWG	Volts	Amps	AWG	
924-2480	20.499.113	12	8.0	.315	Horizontal	300	6	14-26	300	6	14-26	4.80
924-2482	20.499.115	12	10.0	.394	Horizontal	300	15	12-26	300	15	12-26	4.74
924-2484	20.499.117	12	11.5	.452	Horizontal	600	25	10-26	300	20	10-26	7.69
924-2486	20.499.119	12	8.0	.315	Vertical	300	6	14-26	300	6	14-26	5.78
924-2488	20.499.121	12	10.0	.394	Vertical	300	20	12-26	300	15	12-26	9.96

D-Subminiature Interface Modules — Series MTD

MTD D-Subminiature interface modules are intended for application in electronic industrial control circuits, such as microprocessor interfaces with conventional process control components. **Nominal Rated Voltage:** 125 VAC. **Nominal Rated Current:** 1.5 A.



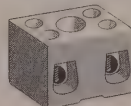
Male

Stock No.	Mfr.'s Type	Poles	EACH
			1-9
924-1000	MTD009-1PZ	9	31.71
924-1005	MTD015-1PZ	15	34.68
924-1015	MTD037-1PZ	37	58.42
924-1020	MTD050-1PZ	50	75.67

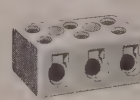
Female

924-1030	MTD009-2PZ	9	32.27
924-1035	MTD015-2PZ	15	39.50
924-1040	MTD025-2PZ	25	47.29
924-1045	MTD037-2PZ	37	58.97
924-1050	MTD050-2PZ	50	79.56

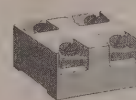
Ceramic Terminal Blocks



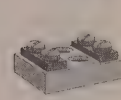
2-DIN-46284



4011-B



560-K4DF-V2A



382-K

Ceramic terminal blocks are designed for high temperature applications. Type 560-K4DF-V2A is equipped with stainless steel components and will withstand operating temperatures up to 500°C/940°F. **Specifications. Insulating Material:** Glazed porcelain KER 111, DIN 40685, color white. **Upper Temperature Limit:** 240°C/464°F. UL File E69841. CSA File LR24322.

CSA: 20 A, 300 V, 12-18 AWG

Stock No.	Mfr.'s Type	Poles	L x W x H (mm)	Mount Holes No./Spacing/s	EACH
					1-99
924-0540	2-DIN-46284-ST	2	20 x 21 x 18	1/-/4	1.11
924-0542	3-DIN-46284-ST	3	34 x 21 x 18	2/12/4	1.62

UL: 50 A, 600 V, 8-14 AWG

924-2492	4010-B	2	34 x 30 x 22	1/-/4.5	2.54
924-2494	4011-B	3	50 x 30 x 22	2/18/4.5	3.12

Specifications. Insulating Material: Glazed steatite KER 220, DIN 40685, color white. **Upper Temperature Limit:** 240°C/464°F (382-K, 384-K); 500°C/940°F (560-K4DF-V2A). UL File E69841. CSA File LR24322.

UL: 20 A, 300 V, 12-20 AWG; CSA: 25 A, 600 V, 12-20 AWG

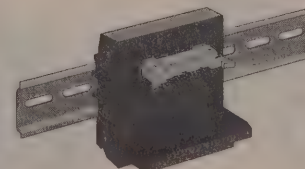
924-0546	560-K4DF-V2A	2	40 x 31 x 20	1/-/4.5	8.83
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CSA: 26 A, 240 V, 10-20 AWG

924-2496	382-K	2	33 x 23 x 14	2/12/4.8	4.90
924-2498	384-K	4	56 x 23 x 14	2/12/4.8	7.96

Ribbon Cable Interface Modules — Series MTB

MTB interface modules are designed to facilitate the connection of flat ribbon cables to discrete wires. Standard modules are equipped with 10 to 64 pole IDC connectors with ejectors according to DIN 41651. They are designed to mate with DIN 41651 female plugs equipped with strain relief clamps. When plugged, the ejectors lock the plug in place. **Nominal Rated Voltage:** 60 VAC. **Nominal Rated Current:** 1 A.



Stock No.	Mfr.'s Type	Poles	EACH
			1-9
924-1055	MTB010-PZ	10	25.59
924-1060	MTB014-PZ	14	28.37
924-1065	MTB016-PZ	16	31.71
924-1070	MTB020-PZ	20	36.72
924-1075	MTB026-PZ	26	79.56
924-1080	MTB034-PZ	34	55.08
924-1085	MTB040-PZ	40	62.87
924-1090	MTB050-PZ	50	75.11
924-1095	MTB060-PZ	60	92.36
924-1097	MTB064-PZ	64	97.92

DIN EN 50022 Rail Mounted Terminal Blocks — Series EURO

DIN rail mounted terminal blocks provide a flexible connection system with a wide capacity range, an efficient use of space, and a built-in capacity to monitor and maintain electrical systems.

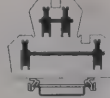
The EURO Series also offers logical organization and a flexible and clear marking system that allows efficient and safe monitoring and maintenance of the system. **Specifications. Insulating Material:** Polyamide, self extinguishing to UL 94, V-2, color grey or yellow/green. **Temperature Limits:** Short time — 140°C/284°F; Continuous — 80°C/176°F; Low limit — -40°C/-40°F. **Comparative Tracking Index:** CTI >600. **Oxygen Index Rating:** 28%. UL File E155961. CSA File LR24322.



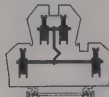
Mounted Terminal Blocks



Feed Through



Two Stage



Two Stage Cross Connect



Ground



Fuse

Feed Through

Stock No.	Mfr.'s Type	L x W x H (mm)	AWG	EACH
924-2009	EURO-2.5-GR-35	44 x 5 x 36	12-18	1.22
924-2010	EURO-4-GR-35	44 x 6 x 36	12-18	1.22
924-2012	EURO-6-GR-35	50 x 7 x 44	8-18	1.84
924-2014	EURO-10-GR-35	50 x 9 x 44	6-18	2.45
924-2017	EURO-25-GR-35	56 x 12 x 49	4-14	3.60
924-2018	EURO-50-GR-35	62 x 16 x 61	1/0-14	5.51
924-2020	EURO-75-GR-35	74 x 26 x 75	3/0-4	16.52

Two Stage

924-2222	EURO-D4-GR-35	72 x 6 x 55	12-18	2.45
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Two Stage Cross Connect

924-2223	EURO-D4-1-GR-35	72 x 6 x 55	12-18	3.60
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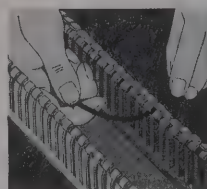
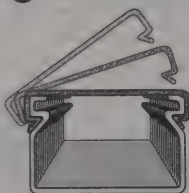
Ground

924-2030	EURO-E4-35	44 x 7 x 36	12-18	3.57
924-2032	EURO-E6-35	58 x 8 x 44	8-18	3.77
924-2034	EURO-E10-35	58 x 10 x 44	6-18	6.12
924-2036	EURO-E25-35	58 x 12 x 49	4-14	7.34
924-2038	EURO-E50-35	62 x 16 x 60	1/0-14	9.18

Fuse

Stock No.	Mfr.'s Type	L x W x H (mm)	AWG	Recommended Fuse	EACH
924-2026	EURO-S10-35	82 x 10 x 50	6-18	1/4"	5.51
924-2028	EURO-S10-5-35	82 x 10 x 50	6-18	5 x 20 mm	5.51
924-2029	EURO-S4-35	68 x 8 x 44	12-18	5 x 25 mm	4.80
				5 x 25 mm	

Wiring Duct — Series LKV



Series LKV wiring duct provides an organized routing of electrical wiring for control panel applications. The design also protects and enables easy location of the wires. Slots on either side of the duct allow wiring to exit in order to connect equipment or components. All ducts are suitable for horizontal or vertical mounting.

Ducts and covers are shipped assembled in 2 meter lengths (6.5') which can easily be cut as required. Series LKV ducts may also be mounted to DIN EN 50022 mounting rails with the use of type LK-RA DIN rail adapter. **Specifications. Insulating Material:** Rigid PVC, grey — RAL 7030. **Temperature Limits:** Short time — 80°C/176°F; Continuous — 60°C/140°F; Low limit — -20°C/-4°F. **Comparative Tracking Index:** CTI >400. CSA File LR25478-2.

Wiring Duct Accessories

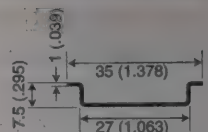
Stock No.	Mfr.'s Type	Accessory	EACH
924-5248	LK-WR	Wire Retainer	1.20
924-5250	LK-ER	Expanding Rivet	.60
924-5252	LK-RT	Rivet Installation Tool	84.60
924-5254	LK-RA	DIN Rail Adapter	.60

DIN EN 50022 Mounting Rails

Materials: Steel, zinc plated and chromated.

Unperforated
924-2040, H-35-ST-UP-200.0CM, 2 meters.....EACH 6.73

Perforated
924-2042, H-35-ST-P1-200.0CM, 2 meters.....EACH 6.12



Mounting Rail Dimensions mm (in.)

Rail Mounted Terminal Block Accessories



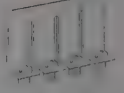
End Section and Separator



Cover



End Bracket



Jumper Comb

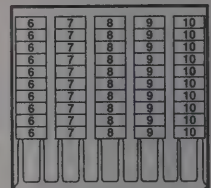
Accessory	EURO-4			EURO-6			EURO-10		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
End Section Cover	924-2112	EURO-4-ES	.61	924-2114	EURO-6-ES	.61	924-2116	EURO-10-ES	.61
End Bracket	924-2104	EURO-4-CO	.61	924-2106	EURO-6-CO	.61	924-2108	EURO-10-CO	.61
Jumper 2 Pos.	924-2101	EURO-4-EBH	1.20	924-2103	EURO-6-EBH	1.20	924-2105	EURO-10-EBH	1.20
Jumper 3 Pos.	924-2120	EURO-4-J2	.61	924-2122	EURO-6-J2	.61	924-2124	EURO-10-J2	.61
Jumper 4 Pos.	924-2130	EURO-4-J3	1.20	924-2132	EURO-6-J3	1.20	924-2134	EURO-10-J3	1.20
	924-2140	EURO-4-J4	1.20	924-2142	EURO-6-J4	1.80	924-2144	EURO-10-J4	1.80

Accessory	EURO-25			EURO-50			EURO-75		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
End Section Cover	924-5240	EURO-25-ES	.61	924-5218	EURO-50-ES	.61	—	—	—
End Bracket	924-5208	EURO-25-CO	.61	924-5210	EURO-50-CO	.61	—	—	—
Jumper 2 Pos.	924-5242	EURO-25-EBH	1.20	924-5244	EURO-50-EBH	1.20	924-5246	EURO-75-EBH	1.20
Jumper 3 Pos.	924-5216	EURO-25-J2	.61	924-5218	EURO-50-J2	1.60	—	—	—
Jumper 4 Pos.	924-5236	EURO-25-J3	1.20	924-5238	EURO-50-J3	2.40	—	—	—
	924-5246	EURO-25-J4	1.80	924-5248	EURO-50-J4	1.20	—	—	—

Marking Tag Cards

Each card contains 5 rows of ten tags, or 50 symbols. The tags are made of white thermoplastic material with black marking.

Stock No.	Mfr.'s Type	Marking	EACH
924-2440	Card-A1	1-10	1.20
924-2441	Card-A2	11-20	1.20
924-2442	Card-A3	21-30	1.20
924-2443	Card-A4	31-40	1.20
924-2444	Card-A5	41-50	1.20
924-2445	Card-A6	51-60	1.20
924-2446	Card-A7	61-70	1.20
924-2447	Card-A8	71-80	1.20
924-2448	Card-A9	81-90	1.20
924-2449	Card-B1	91-100	1.20
924-2450	Card-BK	Blank	1.20



Stock No.	Mfr.'s Type	L x H x W (mm)	No. of Wires (14 AWG)	EACH
924-5256	LKV-1-1	2000 x 25 x 25	25	15.00
924-5258	LKV-1.5-1	2000 x 37.5 x 25	40	18.00
924-5260	LKV-1.5-1.5	2000 x 37.5 x 37.5	60	21.00
924-5262	LKV-2-1	2000 x 50 x 25	50	24.00
924-5264	LKV-2-1.5	2000 x 50 x 37.5	75	24.00
924-5266	LKV-2-2	2000 x 50 x 50	100	27.00
924-5268	LKV-2-3	2000 x 50 x 75	150	33.00
924-5270	LKV-3-1	2000 x 75 x 25	75	30.00
924-5272	LKV-3-1.5	2000 x 75 x 37.5	115	30.00
924-5274	LKV-3-2	2000 x 75 x 50	150	39.00
924-5276	LKV-3-3	2000 x 75 x 75	225	48.00
924-5278	LKV-3-4	2000 x 75 x 100	300	54.00
924-5280	LKV-3-5	2000 x 75 x 125	375	60.00
924-5282	LKV-4-1.5	2000 x 100 x 37.5	150	36.00
924-5284	LKV-4-2	2000 x 100 x 50	300	48.00
924-5286	LKV-4-3	2000 x 100 x 75	300	54.00
924-5288	LKV-4-4	2000 x 100 x 100	400	63.00



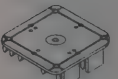
Wire Retainer



Expanding Rivet

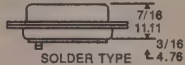
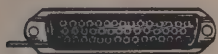


Rivet Installation Tool



DIN Rail Adapter

Original Poke-Home® D-Sub 17 Series





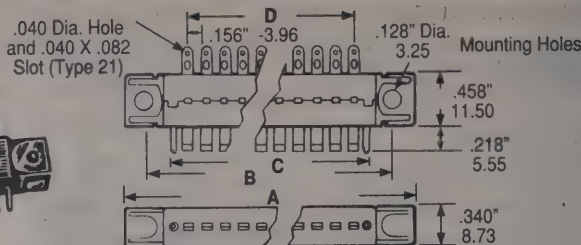
WIRE PRO, INC.

PC Board, Mini Hex, and Blue Ribbon Connectors

Series 133 .156" Center PC Plugs

Mate with 143 Series. Brass, cadmium plated guide pins; cadmium plated end caps; gold over albaloy plated brass contacts. Two .128" holes for bolting to wiring board. Last two digits in type number indicate tail style. **Type 21:** eyelet tail, 600 V rms. 5 amps. 3250 VDC breakdown. **Shipping weight:** 2 oz.

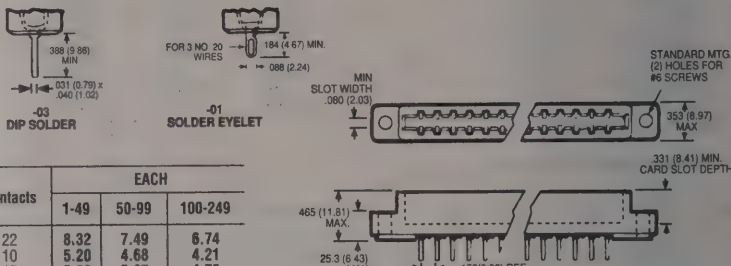
Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-4712	133-010-21	10	20.78	18.70	16.83
719-4729	133-015-21	15	28.10	25.29	22.76
719-4743	133-022-21	22	37.16	33.44	30.10



Series 143 .156" Contact Center PC Connectors

Mate with .054" to .070" PC boards or 133 Series plugs. Last two digits indicate tail type. **Type 01:** solder eyelet. **Type 03:** dip solder. Mineral-filled diallyl phthalate dielectric per MIL-M-14 type MDG, blue. 5,000 megohms minimum resistance. **Contacts:** phosphor bronze and copper alloy. .000020" gold over nickel plating. Rated 5 amps, 600 VAC (RMS) at sea level. **Temperature Range:** -65°C to 125°C.

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-4800	143-006-01	6	4.74	4.27	3.84
719-4809	143-010-01	10	4.62	4.16	3.74
719-4816	143-012-01	12	5.02	4.52	4.07
719-4825	143-015-01	15	5.02	4.52	4.07
719-4833	143-018-01	18	6.92	6.23	5.61



Series 225 PC Connectors

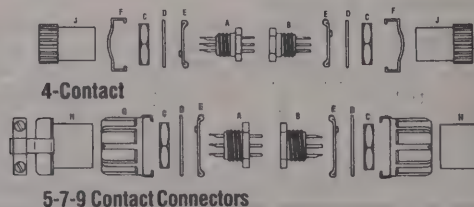
.156" Contact Center
Mate with .054" to .071" PC boards. Last two digits indicate tail type. **Type 01:** solder eyelet. **Type 04:** dip solder. **Dielectric:** black glass-filled phenolic. 5,000 megohms minimum resistance. **Contacts:** copper alloy. .000020" minimum gold over copper plating. Rated 5 amps, 600 VAC (RMS) at sea level. 150 VAC at 70,000 feet. **Temperature Range:** -65°C to +125°C. Solder eyelets accept up to three #20 AWG wires. Dip solder terminals are designed for .043" diameter holes. .140" row-to-row spacing.

Type 225-594. Polarization Key.
719-6101. 1-99 EACH 0.10 100-499 EACH 0.09 500-999 EACH .08

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-6132	225-20621-401(117)	6 x 2	8.82	7.94	7.15
719-6134	225-21021-401(117)	10 x 2	7.10	6.39	5.75
719-6136	225-21521-401(117)	15 x 2	9.90	8.91	8.02
719-6138	225-21821-401(117)	18 x 2	11.75	9.79	8.39
719-6140	225-22221-401(117)	22 x 2	9.18	8.26	7.44
719-6142	225-22821-401(117)	28 x 2	24.62	22.16	19.94
719-6144	225-23621-401(117)	36 x 2	22.05	18.38	15.75

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-6146	225-24321-401(117)	43 x 2	18.18	16.36	14.73
719-6170	225-21021-404(117)	10 x 2	8.28	7.45	6.71
719-6174	225-21521-404(117)	15 x 2	10.92	9.83	8.85
719-6178	225-22221-404(117)	22 x 2	11.46	9.55	8.19
719-6184	225-23621-404(117)	36 x 2	23.00	20.70	18.63
719-6186	225-24321-404(117)	43 x 2	19.72	17.75	15.97

Miniature Hexagonal Connectors



Dielectric of black thermoplastic. **Contacts:** #20 AWG for 20 gauge or smaller wire. Gold over copper plate. **Hardware:** nickel plated solid brass. Rated 7.5 amps, 500 VAC (RMS) at sea level. **Temperature Range:** -60°C to +125°C.

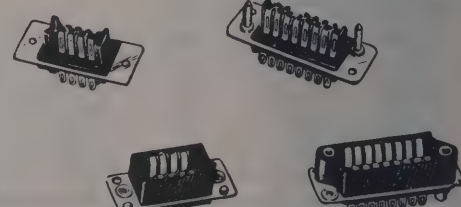
Rating Information: To obtain the part required, select the desired parts from the possibilities shown above. Each part is identified with a letter. The tables below indicate the parts included with each stock number. **Example:** Stock number 719-4517 includes parts A, G, and H.

Stock No.	Mfr.'s Type	Type	Includes Parts	EACH		
				1-49	50-99	100-249
719-4500	126-010	Male Recep.	A,C*	4.70	4.23	3.81
719-4515	126-191	Male Recep.	A,C†	5.22	4.70	4.23
719-4502	126-012	Male Recep.	A,C‡	8.76	7.88	7.10
719-4522	126-214-1000	Male Plug	A,F,J**	5.62	5.06	4.55
719-4526	126-217	Male Plug	A,G,H*	6.78	6.10	5.49
719-4517	126-195	Male Plug	A,G,H†	7.91	5.69	4.75
719-4529	126-220	Male Plug	A,G,H‡	8.86	7.98	7.18
719-4523	126-214	Male Recep.	A,C,E*	5.38	4.84	4.35
719-4525	126-216	Male Recep.	A,C,E†	4.14	3.73	3.35
719-4519	126-197	Male Recep.	A,C,E‡	5.58	5.02	4.52
719-4528	126-219	Male Recep.	A,C,E‡	6.00	5.94	5.35
719-4501	126-011	Fern. Recep.	B,C*	6.00	5.40	4.86
719-4516	126-192	Fern. Recep.	B,C†	6.28	5.65	5.09
719-4503	126-013	Fern. Recep.	B,C‡	9.46	8.51	7.66
719-4524	126-215	Fern. Plug	B,F,J**	8.40	7.56	6.80
719-4532	126-223	Fern. Plug	B,G,H*	7.80	7.02	6.32
719-4518	126-196	Fern. Plug	B,G,H†	12.10	10.89	9.80
719-4531	126-222	Fern. Plug	B,G,H‡	14.00	12.60	11.34
719-4533	126-233	Fern. Recep.	B,C,E*	6.26	5.63	5.07
719-4527	126-218	Fern. Recep.	B,C,E†	4.72	4.25	3.82
719-4520	126-198	Fern. Recep.	B,C,E‡	7.98	7.18	6.47
719-4530	126-221	Fern. Recep.	B,C,E‡	9.86	8.88	7.99

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-49	50-99	100-249
719-4550	126-1427	Male body	A	3.53	3.02	2.72
719-4552	126-1429	Female body	B	5.32	4.79	4.31
719-4554	126-1428	Clip #1	E	0.95	0.85	0.73
719-4556	43-737	Lockwasher	D	0.36	0.33	0.28
719-4558	41-153	Hex nut	C	0.30	0.27	0.23
719-4560	126-1430	Clip #2	F	2.08	1.78	1.60
719-4562	126-1425	Rear hood	J	1.80	1.54	1.31

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-49	50-99	100-249
719-4564	126-1083	5-con. male body	A	3.19	2.74	2.46
719-4566	126-1059	7-con. male body	A	4.03	3.46	3.11
719-4568	126-1080	9-con. male body	A	4.64	4.18	3.76
719-4570	126-1085	5-con. fem. body	B	4.20	3.60	3.24
719-4572	126-1057	7-con. fem. body	B	5.78	5.20	4.68
719-4574	126-1082	9-con. fem. body	B	8.04	7.96	7.16
719-4576	41-108	hex nut	C	0.26	0.23	0.19
719-4578	43-469	lockwasher	D	0.45	0.40	0.34
719-4580	126-1089-02	clip	E	0.31	0.22	0.18
719-4582	126-1064-02	lock sleeve	G	1.33	1.00	0.88
719-4584	126-1063	hood and cable clamp	H	2.64	1.81	1.50

Series 26 Blue Ribbon Connectors



► Self-Cleaning Contacts
► Matching Positive Polarization
► For Heavy-Duty Applications

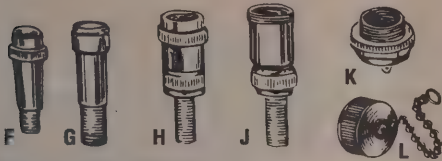
Rugged, heavy duty interconnections for when larger gauge wires must be used and size is not a limiting factor. High-impact diallyl phthalate dielectric with molded-in mounting plates of corrosion-resistant passivated stainless steel. Float mount bushings provide .028" radial movement. Contacts .000030" gold over copper base. Self cleaning wiping action. Solder eyelet tails. **Maximum wire size:** 16 gauge. Rated 5 amps per contact, 750 VDC at sea level. 300 VDC at 60,000 feet. Estimated service life of 25 years in mated condition. UL recognized.

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-9	10-49	50-99
719-0610	26-4100-8P	8	7.52	6.36	5.20
719-0611	26-4100-16P	16	10.01	8.47	6.91
719-0612	26-4100-24P	24	12.30	11.07	9.96
719-0600	26-159-16	16	12.46	10.53	8.60
719-0601	26-159-24	24	15.10	13.59	12.23

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-9	10-49	50-99
719-0618	26-4200-8S	8	8.47	7.14	5.83
719-0619	26-4200-16S	16	13.06	11.04	9.02
719-0620	26-4200-24S	24	14.34	12.91	11.62
719-0605	26-190-16	16	15.44	13.90	12.51
719-0606	26-190-24	24	19.94	17.95	16.15

Contacts: * = 5; † = 7; ‡ = 9; ** = 4

Microphone Connectors



Series 80—2-Contact Types

Chrome plated machined brass shells with threaded coupling and black phenolic dielectric. Panel receptacle mounting hole $\frac{9}{16}$ " diameter, maximum chassis thickness $\frac{1}{16}$ ". Cable diameter up to $\frac{3}{16}$ " for cable plugs and jacks. Both male and female contacts are rated for 3 amps, 600 volts.

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-49	50-99
719-3106	80-MC2F	G	Fem. cable jack	9.92	8.93
719-3107	80-MC2F1	F	Fem. cable plug	9.50	8.55
719-3105	80-MC2M	F	Male cable jack	6.92	6.23
719-3109	80-MC2M1	G	Male cable jack	9.32	8.39
719-3110	80-PC2F	K	Female recept.	5.16	4.09
719-3111	80-PC2M	K	Male receptacle	5.94	4.95

Series 91

Chrome plated machined brass shells with threaded coupling and black phenolic dielectric. Panel receptacle mounting hole $\frac{27}{32}$ " diameter. Maximum chassis thickness $\frac{1}{16}$ ". Cable diameters — 3 contact .281 max. 4-6 contact .385" max. Rated for 600 volts. Male contacts rated for 5 Amps, female contacts for 3 Amps.

3-Contact Types

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-49	50-99
719-4011	91-MC3F	J	Fem. cable jack	13.86	12.47
719-4012	91-MC3F1	H	Fem. cable plug	13.38	12.04
719-4013	91-MC3M	H	Male cable jack	10.88	9.79
719-4033	91-PC3F	K	Female recept.	7.42	5.91
719-4035	91-PC3M	K	Male receptacle	7.24	6.52

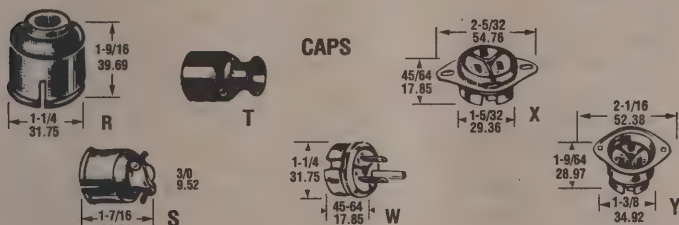
4-Contact Types

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-49	50-99
719-4017	91-MC4F	J	Fem. cable jack	14.44	13.00
719-4018	91-MC4F1	H	Fem. cable plug	13.38	12.04
719-4027	91-MC4M	H	Male cable plug	8.18	7.36
719-4034	91-PC4F	K	Female recept.	7.22	6.02
719-4037	91-PC4M	K	Male receptacle	8.78	7.90

6-Contact Types

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-49	50-99
719-4025	91-MC6F	J	Fem. cable jack	15.42	13.88
719-4026	91-MC6F1	H	Fem. cable plug	15.24	13.72
719-4027	91-MC6M	H	Male cable plug	10.68	9.62
719-4043	91-PC6F	K	Female recept.	11.14	10.03
719-4045	91-PC6M	K	Male panel recept.	8.78	7.90
719-4046	91-CCC3	L	Cap and chain	8.64	7.78

Plug and Socket Connectors



Make inexpensive cable connectors of standard sockets, plugs, and receptacles. Type 86-3-13 is steel end outlet $\frac{7}{16}$ " I.D., has a wire insulator and a black epoxy finish. 86-3-24 is steel, has a cable clamp, $\frac{3}{8}$ " wire insulator and a black epoxy finish. Type 86-3-858 is black thermoplastic and has a $\frac{5}{16}$ " end outlet with strain relief. Use with the connectors in this section that don't have mounting plates.

Stock No.	Mfr.'s Type	Fig.	EACH		
			1-49	50-99	100-249
719-0018	86-3-13	R	2.14	1.81	1.47
719-0019	86-3-24	S	3.97	3.40	3.06
719-0020	86-3-858	T	3.76	3.06	2.47

Plugs and Receptacles

Two Pole with Ground

Molded thermoplastic bodies. Rated 125V at 15A. UL approved. 160-2N and 3N have steel mounting plates. 160-4N and 5N consist of inserts 160-10N and 11N in a cadmium steel shell for below surface mounting.

Stock No.	Mfr.'s Type	Fig.	Description	EACH		
				1-49	50-99	100-249
719-0055	160-10N	—	Receptacle insert	16.10	14.49	13.04
719-0056	160-11N	W	Plug insert	16.46	14.81	13.33
719-0051	160-2N	X	Receptacle w/plate	12.30	11.14	10.03
719-0052	160-3N	—	Plug with plate	19.76	17.78	16.01
719-0053	160-4N	Y	Receptacle w/shell	26.34	23.71	21.34
719-0054	160-5N	—	Plug with shell	22.71	18.92	16.22

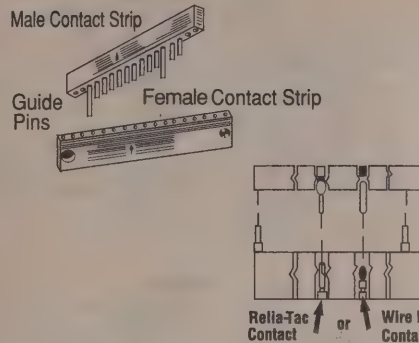
Barrier-Type Octal Relay Socket

Phenolic body withstands 300°F. continuous. Longer termination screws with captive pressure plates. Rated 5 amps at 125V rms. UL file No. E56473.

Stock No.	1-49	50-99	100-249
719-0050. Model 146-103	11.18	10.06	9.06

*Contact the closest sales office for quantity pricing.

221-Series STRIP Connectors



Use full length as is, or cut to specific length. Two or more strips can be stacked or epoxied together for multirow connector. When stacked, contact centers are .100" for both connectors. Use guide pins at least every 3" for mating alignment and keying. Guide pins replace both pin and socket contact. Supplied less contacts and guide pins; listed below. Spacing .100" except $\frac{1}{16}$ ". Av. wt. 1 oz. Use "Relia-Tac" contacts.

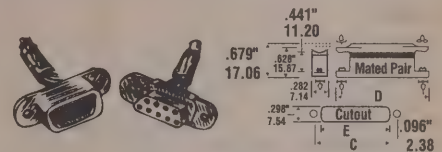
Stock No.	Mfr.'s Type	Contacts	Description	EACH		
				1-49	50-99	100-249
719-5860	221-1560	60	6" Plug	2.79	2.39	2.16
719-5861	221-1660	60	6" Recept	2.79	2.39	2.16
719-5862	221-2553	53*	4" Plug	2.23	1.91	1.72
719-5864	221-2653	53*	4" Recept	2.23	1.91	1.72

"Relia-Tac" Contact Tools

Hand crimping tools. Adjustable 4-indent miniature to MIL-T-22520. Requires contact locator busing for specific contact used. Tool handle requires insertion bit or correct removal bit to accommodate desired contact. See Table below. Av. shpg. wt. 12 oz.

Stock No.	Mfr.'s Type	Description	For Contact	EACH	
				1-4	5-Up
719-8021	357-100	Hand Crimp Tool	—	433.40	315.76
719-8013	357-300-1	Contact Locator	220-S01/ S02/P01	92.66	83.40
719-8005	356-200	Tool Hdl. Only	—	38.50	34.65
719-8017	356-400-11	Insertion bit	ALL	116.62	84.97
719-8020	356-400-14	Removal bit	220-S02	47.32	42.59

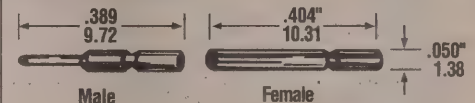
223-Series "Tiny Tim"® Connectors



For circuit modules, potted-in or surface mtg.; Micro-miniature cable-to-cable use. Contact spacing, .100" ctrs. Screw mtg. Less contacts: Use "Relia-Tac" contacts.

Stock No.	Mfr.'s Type	Contacts	Desc.	Mfg. Ctrs. In.	EACH		
					1-49	50-99	100-249
719-5950	223-1505	5	Plug	.593	2.10	1.80	1.62
719-5955	223-1605	5	Recept.	.593	2.10	1.80	1.62
719-5951	223-1509	9	Plug	.793	2.12	1.82	1.64
719-5956	223-1609	9	Recept.	.793	2.12	1.82	1.64
719-5952	223-1517	17	Plug	1.193	2.31	1.98	1.78
719-5957	223-1617	17	Recept.	1.193	2.31	1.98	1.78

"Relia-Tac" Contacts



Rated 3 amps and types take 22, 24, 26 solid wire; 24, 26 stranded wire. Relia-Tac also takes 28 solid wire. Relia-Tac gold-over-nickel on copper alloy body; male .389 x .050"; female, .404 x .050". Guide pins will fit either type. Av. shpg. wt. per pkg. 1 oz.

Stock No.	Mfr.'s Type	Description	PER PKG./100		
			1-9	10-49	50-99
719-5802	220-P02-100	Relia-Tac Male	25.46	22.91	20.64
719-5805	220-S02-100	Relia-Tac Fem.	45.58	41.02	36.92
719-5806	220-834-102	Male pin tail for PC mount	26.34	21.95	18.81
719-5807	220-883-202-100	Fem. pin tail for PC mount	75.74	68.17	61.35
719-5808	220-830-02	Male solder cup	35.10	31.59	28.43
719-5809	220-831-02-100	Fem. solder cup	79.28	71.35	64.22

Type 221-535 Universal Guide Pins

719-5853. 1-49EACH 1.60 50-UP.....EACH 1.37

Miniature Plugs and Sockets

Black phenolic body. Rated 3A for sockets, 5A for plugs, at 500 V rms. Sockets have retainer ring mounting in a $\frac{5}{16}$ " diameter hole. Plugs have nickel plated brass contacts.

Stock No.	Mfr.'s Type	Contacts	Type	EACH		
				1-49	50-99	100-249
719-0009	78-S3S	3	Socket	2.31	1.98	1.78
719-0012	78-S6S	6	Socket	3.42	2.93	2.64
719-0021	86-71-3S	3	Plug	1.60	1.37	1.17
719-0022	86-71-6S	6	Plug	2.10	1.80	1.54

MIP Sockets

Black phenolic with a sturdy nickel plated steel mounting plate and retainer ring. Dimensions are the same as the "S" type.

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-0002	77MIP-8	8-octal	3.55	2.88	2.33
719-0005	78-88-8	8-octal	4.01	3.44	3.10
719-0003	77MIP-11	11	4.80	4.32	3.89

CP Plugs

For use as chassis connectors with plug-in units, 4 contact without a center post, but has two larger diameter pins for polarization.

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-0023	86-CP-4	4	2.48	2.12	1.91
719-0024	86-CP-8	8	2.50	2.14	1.93
719-0025	86-CP-11	11	2.50	2.14	1.93

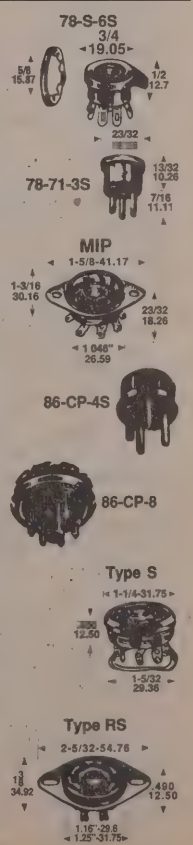
Standard Sockets

Type S. Black phenolic body, brass contacts on 4 contact, luballoy on 8 and 11 contact. Retainer ring mounted, 1.172" mounting hole. Sockets notched around circumference for rotation to convenient wiring position.

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-0010	78S4	4	3.11	2.66	2.40
719-0014	78S8	8	3.01	2.47	2.08
719-0016	78S11	11	4.88	4.39	3.95

Replacement Type with Mounting Plate

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-0006	78RS4	4	6.38	5.74	5.17
719-0007	78RS8	8	5.20	4.68	4.21



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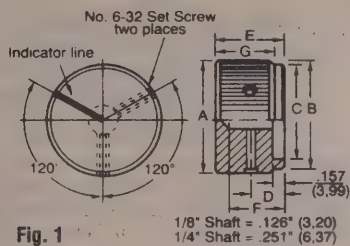
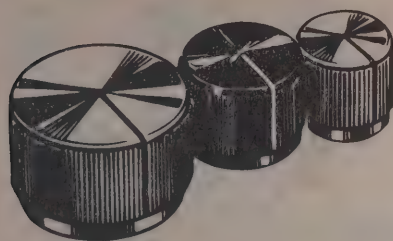
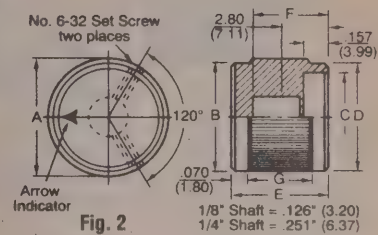
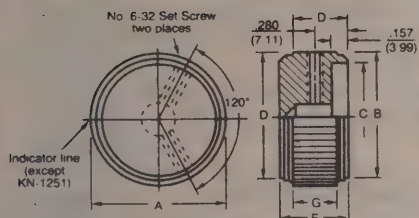
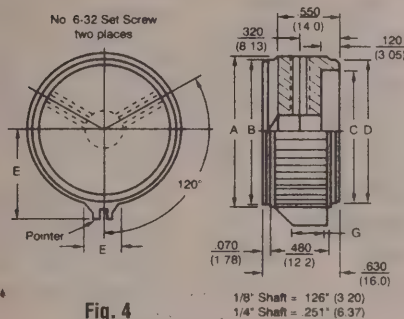
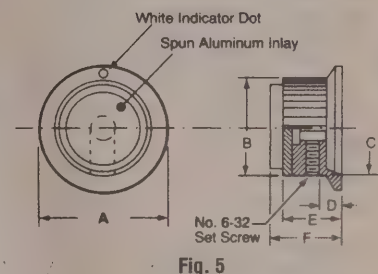
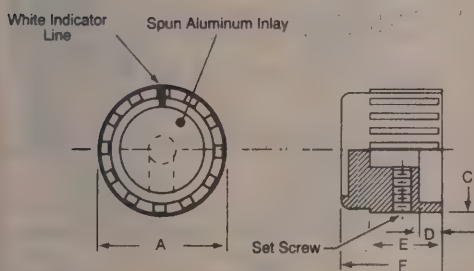
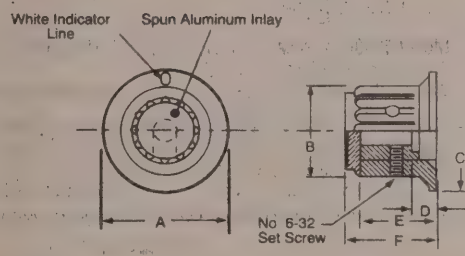
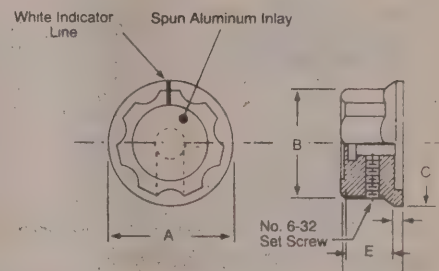
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Machined and Molded Knobs K/PK Series

K/PK Series


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions mm (In.)							EACH	
				A	B	C	D	E	F	G	1-99	100-249
759-1500	KLN500B1/8	Straight Knurl w/Top and Side Indicator Line — Aluminum — Black	1	12.7 (.500)	11.4 (.450)	9.65 (.380)	7.11 (.280)	16.0 (.630)	13.0 (.510)	13.5 (.530)	3.75	3.20
759-1175	KLN700A1/4	Straight Knurl w/Top and Side Indicator Line — Aluminum — Natural	1	19.0 (.750)	17.8 (.700)	14.9 (.590)	7.11 (.280)	16.0 (.630)	13.0 (.510)	13.5 (.530)	3.25	2.90
759-1180	KLN700B1/4	Straight Knurl w/Top and Side Indicator Line — Aluminum — Black	1	19.0 (.750)	17.8 (.700)	14.9 (.590)	7.11 (.280)	16.0 (.630)	13.0 (.510)	13.5 (.530)	3.15	2.85
759-1190	KLN900B1/4	Straight Knurl w/Top and Side Indicator Line — Aluminum — Black	1	23.9 (.940)	22.3 (.880)	18.0 (.710)	7.11 (.280)	16.0 (.630)	13.0 (.510)	13.5 (.530)	3.70	3.50
759-1505	KN501BA1/8	Straight Knurl w/Arrowhead Ind. — Aluminum — Black Body/Natural Top	2	12.7 (.500)	11.4 (.450)	9.65 (.380)	11.4 (.450)	16.0 (.630)	13.0 (.510)	11.7 (.460)	4.15	3.55
759-1515	KN500B1/4	Straight Knurl with Indicator Line — Aluminum — Black	3	12.7 (.500)	11.4 (.450)	9.65 (.380)	11.4 (.450)	16.0 (.630)	13.0 (.510)	11.7 (.460)	2.70	2.35
759-1220	KN700B1/4	Straight Knurl with Indicator Line — Aluminum — Black	3	19.0 (.750)	17.8 (.700)	14.9 (.590)	17.8 (.700)	16.0 (.630)	13.0 (.510)	11.7 (.460)	3.45	2.95
759-1295	KPN700B1/4	Straight Knurl w/Pointer and Indicator Line — Aluminum — Black	4	19.0 (.750)	17.8 (.700)	15.0 (.590)	7.8 (.700)	13.2 (.520)	6.09 (.240)	9.90 (.390)	7.50	6.95
759-1305	KPN900B1/4	Straight Knurl w/Pointer and Indicator Line — Aluminum — Black	4	23.9 (.940)	22.3 (.880)	18.0 (.710)	22.3 (.880)	16.0 (.630)	7.11 (.280)	8.89 (.350)	8.60	7.80
759-1070	PK50B1/4	Straight Knurl w/Dot Indicator on Skirt — Phenolic	5	19.0 (.750)	14.5 (.571)	14.7 (.580)	1.4 (.055)	11.7 (.461)	14.0 (.550)	—	.75	.65
759-1520	PKG90B1/4	Ribbed w/Indicator Line — Phenolic (2 Setscrews #6-32)	6	21.8 (.860)	20.6 (.810)	18.3 (.720)	2.03 (.080)	10.4 (.410)	14.0 (.550)	—	1.60	1.40
759-1100	PKA50B1/4	Ribbed w/Skirt and Pointer w/Indicator Line — Phenolic	7	20.0 (.790)	14.7 (.580)	13.7 (.540)	2.03 (.080)	11.0 (.430)	15.0 (.590)	—	1.25	1.05
759-1125	PKES90B1/4	Fluted w/Skirt and Indicator Line — Phenolic	8	25.4 (1.00)	22.6 (.890)	22.1 (.870)	2.03 (.080)	11.9 (.470)	14.4 (.570)	—	1.50	1.35

6

BALLDRIVER® L-Wrench Sets



BALLDRIVER® L-wrench sets feature the patented Bondhex case. Each wrench slips easily into its own marked slot and locks securely into place. The compact BALLDRIVER L-wrench sets are ideal where multiple sizes are needed.

Stock No.	Mfr.'s Type	Description	PER SET
951-0936	10936	BLX 12.050-5/16	14.66
951-0937	10937	BLX 13.050-3/8	18.74
951-0938	10938	BLX 10 1/16-1/4	11.73
951-0932	10932	BLX 8.050-5/32	8.50
951-0999	10999	BLX 9mm 1.5-10mm	15.30
951-0946	10946	BLX 6mm 1.5-5mm	6.53

BALLDRIVER® Hex Tools



BALLDRIVER® tools make standard hex tools obsolete. Made of AISI-SAE 8650 heat-treated alloy steel, handles and blade length are proportioned to ball size allowing you to tighten manually without fear of breakage. Tighten or loosen at angle up to 25°.

Stock No.	Mfr.'s Type	Description	PER SET
951-0632	10632	BSX 8S .050-5/32	17.35
951-0637	10637	BSX 13.050-3/8	41.13
951-0687	10687	BSX 7mm 1.27-5mm	16.80
951-0699	10699	BSX 9mm 1.5-10mm	33.05

Magnetizer/Demagnetizer



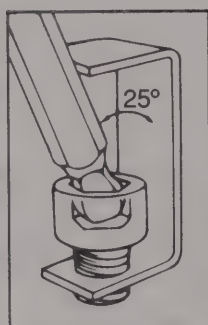
- ▶ Magnetize Your Own Tools and Parts on the Job
- ▶ Powerful Permanent Magnet for Extended Life
- ▶ Magnetize or Demagnetize Tools and Small Parts Instantly
- ▶ Shatterproof Box is Made From Durable ABS Plastics

Powerful permanent magnet ideal for magnetizing tools and small steel parts. (+) To Magnetize (-) To Demagnetize. Dimensions: 2.1" x 2" x 1.1 (52 mm x 50 mm x 29 mm).

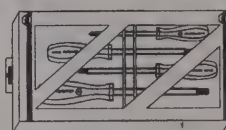
951-4001. 40010 EACH 8.50

BONDHUS Balldriver Hex Tools

- ▶ Screws Can Be Tightened or Loosened at Angles Up to 25°
- ▶ Works in Hard to Reach Areas When Ordinary Hex Wrenches Simply Can't
- ▶ Faster Insertion and Removal. Full 360° Turning
- ▶ Available in Inch and Metric Dimensions



Electricians Insulated Sets



Model 32090. 4 piece set. 1 each insulated. Slotted: 3/4" x 4", 3/16" x 5". Phillips: #1 x 3, #2 x 4". 951-3209. 32090 PER SET 21.30

Model 38006. Multi bit set. 1/4" insulated magnetic driver. Slotted: 4.5 x 25 mm, 6.0 x 25 mm, 8.0 x 25 mm. Phillips: #1 x 25 mm, #2 x 25 mm, #3 x 25 mm. 951-3800. 38006 PER SET 16.95

WIHA® Bits-Selector



- ▶ 10 Assorted Bits, Magnetic Adapter, Durable Storage Box
- ▶ Light Weight, Compact Durable High Impact Plastic Holder
- ▶ Molded Hex Cavity Turns Box Into Handle for Quick Fastening Jobs
- ▶ Quick Bit Access With Slide Out Drawer
- ▶ Includes Magnetic Adapter/Extender for Power Tool Use



951-7924. 79243 SET 17.95

Compact Precision Tool Sets

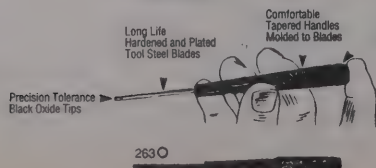
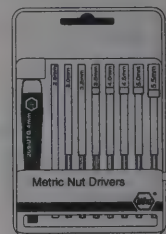
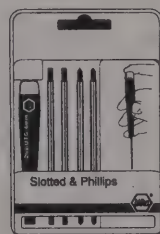
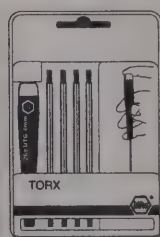
- ▶ Hardened Reversible Tool Steel Blades
- ▶ Compact Indexed Storage Box — (3.75" x 6.25" x .68")
- ▶ Adjustable Blade Lengths
- ▶ Exact Fit Precision Tips
- ▶ Rotating Finger Tip Control Cap

26995 TORX Set. Set contains 4 Blades; 7 Tips: T6, T7, T8, T9, T10, T15, T20. Weight: .25 lbs. 951-2695 PER SET 26.50

26996 Slotted and Phillips Set. Set contains 4 Blades; 4 Slotted Tips: 1.5, 2.0, 3.0, 3.5mm; 4 Phillips Tips: #000, #00, #0, #1. Weight: .25 lbs. 951-2696 PER SET 30.50

26997 Slotted, Phillips and TORX Set. Set contains 8 Blades; 4 Slotted Tips: 1.5, 2.0, 3.0, 3.5; 4 Phillips Tips: #000, #00, #0, #1; 6 TORX Tips: T6, T7, T8, T9, T10, T15. Weight: .34 lbs. 951-2697 PER SET 50.90

26998 Metric Nutdriver Set. Set contains 8 Blades; 9 Sizes: 2.0, 2.5, 3.0, 3.2, 3.5, 4.0, 4.5, 5.0, 5.5mm. Weight: .43 lbs. 951-2698 PER SET 59.10



WIHA® Precision Electronic Tools

26090 6 Piece-Set. Set contains 1 each Precision Slotted: 1.5 (1/16) x 40 mm; 2.0 (5/64) x 40 mm; 2.5 (3/32) x 50 mm; 3.0 (1/8) x 50 mm; 3.5 (9/64) x 60 mm; 4.0 (5/32) x 60 mm. 951-6090 SET 24.20

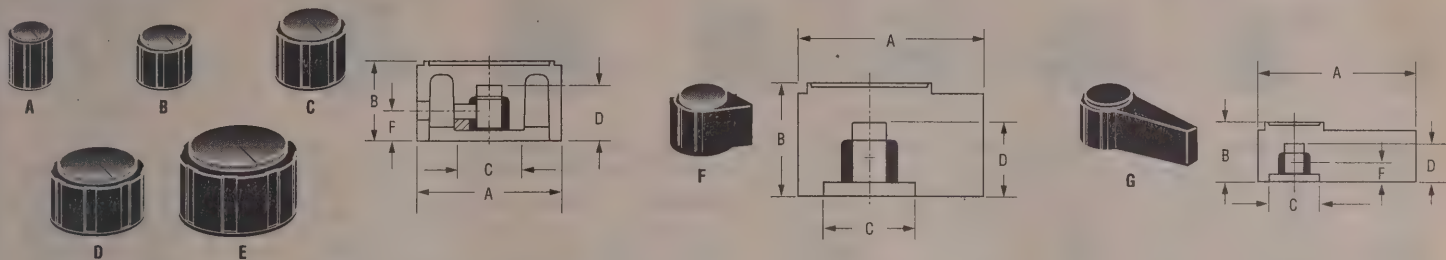
26190 7 Piece-Set. Set contains 1 each Precision Slotted/Phillips: 1.5 (1/16) x 40 mm; 2.0 (5/64) x 50 mm; 2.5 (3/32) x 50 mm; 3.0 (1/8) x 60 mm; #00 x 40 mm; #0 x 50 mm; #1 x 60 mm. 951-6190 SET 29.50

26790 6 Piece-Set TORX®. MM. Set contains 1 each Precision Torx®: T6 x 40; T7 x 40; T8 x 40; T9 x 50; T10 x 50; T15 x 60. 951-6790 SET 37.50

26391 8 Piece-Set. Inch. Set contains 1 each Precision Hex Driver: .028 x 1.6; 5/64 x 2.0; .035 x 1.6; 3/32 x 2.4; .050 x 1.6; 7/64 x 2.4; 1/16 x 2.0; 1/8 x 2.4. 951-6391 SET 31.90

26591 Precision Nut Drivers. 8 Piece-Set. Inch. Set contains 1 each Precision Nut Driver: 3/32 x 2.4; 5/32 x 2.4; 7/64 x 2.4; 1/16 x 2.4; 1/8 x 2.4; 9/64 x 2.4; 1/4 x 2.4. 951-6591 SET 55.80

Control Knobs

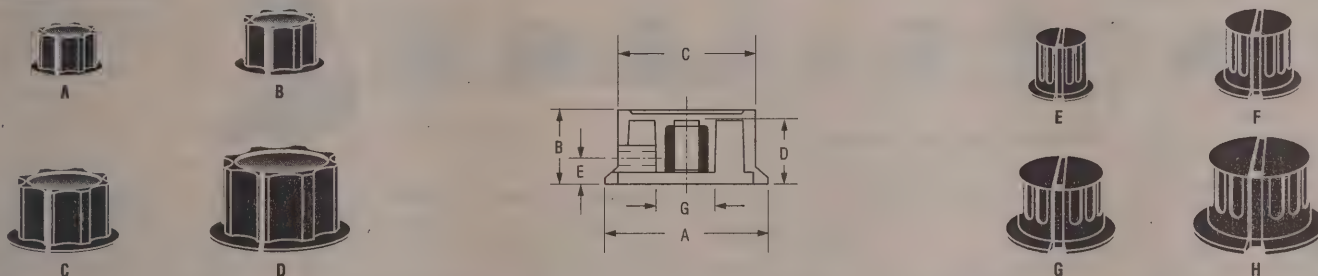


Knobs manufactured from the highest quality heat and impact resistant phenolic resin.

Stock No.	Mfr.'s Type	Fig.	Dimensions					Plain Hole*	Set Screw	EACH			
			A Length	B Height	C Bore Dia.	D Hole Height	F Set Screw Height			1-99	100-499	500-999	1000-Up
543-1200	1200W	A	1/2	5/8	—	7/16	7/32	1/4 × 7/16 (SCL)	6-32	1.02	.92	.83	.74
543-1202	1202BA	B	3/4	5/8	21/32	17/32	9/32	1/4 × 17/32 (SCL)	8-32	1.14	1.03	.92	.83
543-1204	1204AZ	C	1	11/16	11/16	17/32	9/32	1/4 × 17/32 (SCL)	8-32	1.28	1.15	1.04	.93
543-1206	1206AW	D	1 3/8	3/4	1 11/64	17/32	9/32	1/4 × 17/32 (SCL)	8-32	1.46	1.31	1.18	1.07
543-1208	1208AY	E	1 25/32	13/16	1 35/64	17/32	9/32	1/4 × 17/32 (SCL)	8-32	1.68	1.51	1.36	1.23
543-1210	1210AX	F	1 1/32	5/8	21/32	17/32	9/32	1/4 × 17/32 (SL)	8-32	1.18	1.06	.96	.86
543-1212	1214A	G	1 5/8	5/8	21/32	17/32	9/32	1/4 × 5/16 Fl†	8-32	1.42	1.28	1.15	1.04

*SL — Silver Cap; SCL — Silver Cap Lined. †Brass Bushing.

Instrument Knobs



Distinctive knobs for special applications. Glossy or satin finish phenolic for durability and good appearance. Line or slot for indicating a setting.

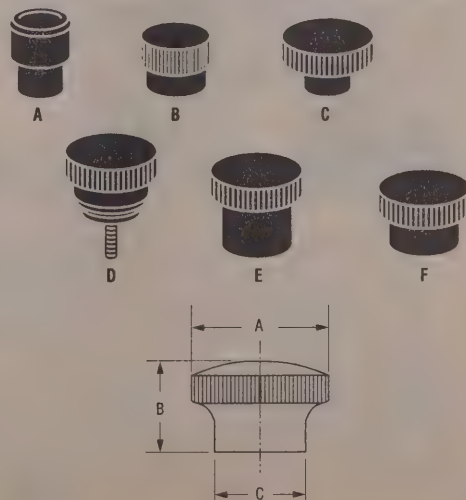
Stock No.	Mfr.'s Type	Fig.	Dimensions						Brass Bushing Set Screw	EACH			
			A Total Dia.	B Height	C Top Dia.	D Hole Height	F Set Screw Height	G Cen. Bore Dia.		1-99	100-499	500-999	1000-Up
543-1100	1100	A	25/32	15/32	41/64	13/32	7/32	15/32	1/4" with 8-32 SS	.82	.74	.66	.60
543-1105	1105	B	11/16	39/64	15/16	5/16	1/4	27/32	1/4" with 8-32 SS	1.08	.97	.88	.80
543-1110	1110	C	19/32	21/32	1 11/64	1/2	5/16	1 1/32	1/4" with 8-32 SS	1.24	1.12	1.00	.90
543-1120	1120	D	1 3/4	13/16	1 1/2	43/64	5/16	1 15/32	1/4" with 8-32 SS	1.56	1.40	1.26	1.14
543-1140	1140	E	19/32	9/16	31/64	21/64	1/4	23/64	1/4" with 8-32 SS	.82	.74	.66	.60
543-1145	1145	F	25/32	39/64	5/8	7/16	7/32	7/16	1/4" with 8-32 SS	.94	.85	.76	.69
543-1150	1150	G	15/16	25/32	51/64	11/16	3/8	9/16	1/4" with 8-32 SS	1.10	.99	.89	.80
543-1155	1155	H	1 3/8	23/32	1 9/64	9/16	9/32	57/64	1/4" with 8-32 SS	1.22	1.10	.99	.89

Miniature Clamp Knobs

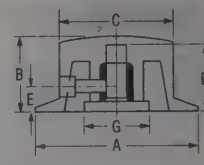
Available with a wide flange female insert for positive contact, as in battery posts. Good electrical properties in small clamp knobs. A wide range of other uses — pulls, feet, clamping, fine adjustments, etc.

Stock No.	Mfr.'s Type	Fig.	Dimensions			Insert	Shaft*	EACH			
			A	B	C			1-99	100-499	500-999	1000-Up
543-1700	1770	A	31/64	1/2	3/8	8-32 × 1/4	FI	.26	.23	.21	.19
543-1702	1770F	A	31/64	1/2	3/8	6/32 × 1/4	FI	.26	.23	.21	.19
543-1703	2700H	B	9/16	1/2	3/8	8-32 × 3/4	PS	.34	.30	.28	.25
543-1704	2700E	B	9/16	1/2	1/2	10-32 × 5/16	FI	.44	.40	.38	.35
543-1708	2710B	C	3/4	1/2	1/2	8-32 × 5/16	FI	.36	.32	.29	.26
543-1710	2710H	C	3/4	1/2	1/2	10-24 × 5/16	TH	.24	.21	.19	.18
543-1706	2710	C	3/4	1/2	1/2	10-32 × 5/16	FI	.34	.30	.28	.25
543-1712	2715A	D	3/4	9/16	7/16	8-32 × 9/16	PS	.42	.38	.34	.31
543-1714	2715G	D	3/4	9/16	7/16	10-32 × 1/2	PS	.52	.47	.42	.38
543-1722	2720Q	E	5/8	9/16	7/16	8-32 × 1/4	FI	.56	.50	.45	.41
543-1720	2720L	E	5/8	9/16	7/16	8-32 × 3/8	PS	.58	.52	.47	.42
543-1718	2720	E	5/8	9/16	7/16	10-32 × 5/16	FI	.60	.54	.49	.44
543-1726	2730G	F	13/16	33/64	7/16	10-24 × 5/8	PS	.72	.65	.58	.53
543-1724	2730B	F	13/16	33/64	7/16	10-32 × 3/4	PS	.72	.65	.58	.53

*FI — Female Insert; PS — Projecting Stud; TH — Thru-Hole.



Fluted Instrument Knobs

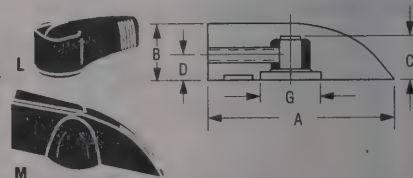


Terrific range of sizes, including a family of skirted knobs. Fluted for precise controls. All include indicator line unless otherwise noted. High gloss phenolic.

Stock No.	Mfr.'s Type	Fig.	Dimensions						Set Screw	Insert*	Shaft*	EACH			
			A	B	C	D	E	G				1-99	100-499	500-999	1000-Up
543-0400	1900H	A	1/2	5/8	15/32	1/2	3/16	—	6-32	1/4 x 1/2	PH	.80	.72	.65	.60
543-1910	1910CQ	B	3/4	1/2	17/32	13/32	7/32	9/16	8-32	1/4 x 13/32 (SD)	PH	1.08	.97	.88	.80
543-0402	1910CS	B	3/4	1/2	17/32	13/32	7/32	9/16	8-32	1/4 x 13/32	PH	.78	.70	.63	.57
543-0403	1910CV	B	3/4	1/2	17/32	13/32	7/32	9/16	8-32	1/4 x 13/32 (SDL)	PH	1.08	.97	.88	.80
543-0404	1910EL	B	3/4	1/2	17/32	13/32	7/32	9/16	8-32†	1/8 x 5/16	FI	1.18	1.06	.96	.86
543-1914	1913BC	C	1 1/8	5/8	13/16	1/2	9/32	1 1/16	8-32	1/4 x 1/2 (SD)	PH	1.18	1.06	.96	.86
543-1915	1913BE	C	1 1/8	5/8	13/16	1/2	9/32	1 1/16	8-32	1/4 x 1/2 (SDL)	PH	1.18	1.06	.96	.86
543-1916	1913BW	C	1 1/8	5/8	13/16	1/2	9/32	1 1/16	8-32	1/4 x 1/2	PH	.86	.77	.70	.63
543-1917	1919AE	D	1 1/4	5/8	—	1/2	9/32	1 1/16	8-32	1/4 x 3/8	FI	1.40	1.26	1.13	1.02
543-1918	1919Z	D	1 1/4	5/8	—	1/2	3/8	1 1/16	8-32 (2)	1/4 x 3/8	FI	1.70	1.53	1.37	1.24
543-1925	1925AW	E	1 1/4	23/32	31/32	Thru	9/32	1 1/16	8-32	1/4 (SD)	PH	1.20	1.08	.97	.88
543-1930	1930BQ	F	1 1/2	7/8	11/64	3/4	9/32	13/16	8-32	1/4 x 3/4	PH	1.42	1.28	1.15	1.04
543-1940	1940AL	G	2	15/16	13/8	13/16	5/16	13/16	8-32	1/4 x 13/16 (SD)	PH	1.82	1.64	1.47	1.35
543-1941	1940BE	G	2	27/32	13/8	13/16	5/16	13/16	8-32 (2)	1/4 x 13/16 (SDL)	PH	2.30	2.07	1.86	1.68
543-1942	1940BG	G	2	27/32	13/8	13/16	5/16	13/16	8-32*	1/4 x 13/16 (SDL)	PH	2.06	1.85	1.67	1.50
543-1943	1940BJ	G	2	27/32	13/8	13/16	5/16	13/16	8-32	1/4 x 13/16† (SDL)	PH	2.02	1.82	1.64	1.47

*PH — Plain Hole; FI — Female Insert/Brass Bushing. *SD — Silver Disc; SDL — Silver Disc Lined. †8-32 — Allen Type Set Screw. ‡Flatted to 0.188".

Pointer Control Knobs

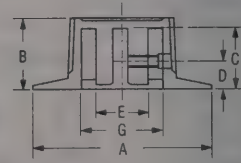
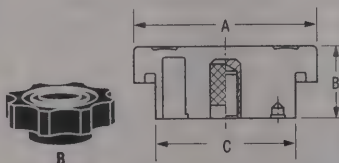


Terrific range of sizes, including a family of skirted knobs. High gloss phenolic.

Stock No.	Mfr.'s Type	Fig.	Dimensions					Set Screw	Insert	Shaft*	EACH			
			A	B	C	D	G				1-99	100-499	500-999	1000-Up
543-1401	1400W	A	1 1/16	13/32	11/32	3/16	—	8-32	1/4 × 5/16	FI	.78	.70	.63	.57
543-1400	1400	A	1 1/16	13/32	11/32	3/16	—	8-32	1/4 × 11/32	PH	.54	.49	.44	.39
543-1450	1450	B	1 1/16	13/32	11/32	3/16	—	8-32	1/4 × 11/32	PH	.52	.47	.42	.38
543-1510	1510AH	C	3/4	9/16	13/32	7/32	9/16	8-32	1/4 × 13/32	PH	.76	.68	.62	.55
543-1470	1470AQ	D	1	1/2	7/16	9/32	1 1/16	8-32	1/4 × 7/16	PH	.70	.63	.57	.51
543-1475	1475	E	1	1/2	—	7/16	1 1/16	8-32	1/4 × 7/16	PH	.65	.58	.50	.49
543-1550	1550AG	F	1 1/8	5/8	7/16	9/32	1 1/16	8-32	1/4 × 7/16	PH	.64	.58	.52	.47
543-1500	1500AU	G	1 1/8	9/16	1/2	9/32	1 1/16	8-32	1/4 × 1/2	PH	.62	.56	.50	.45
543-2310	2310	H	1 3/16	1/2	7/16	1/4	—	8-32	1/4 × 7/16	PH	.44	.40	.36	.32
573-2302	2300BM	I	1 1/4	5/8	1/2	9/32	21/32	8-32	1/4 × 13/32	PH	.48	.43	.39	.35
543-2301	2300BT	I	1 1/4	5/8	13/32	9/32	21/32	8-32	1/4 × 13/32	FI	.84	.76	.68	.61
543-2300	2300	I	1 1/4	5/8	1/2	9/32	21/32	8-32	1/4 × 1/2	PH	.48	.43	.39	.35
543-2150	2150V	J	1 1/4	9/16	1/2	9/32	5/8	8-32	1/4 × 1/2	PH	.76	.68	.62	.55
543-1520	1520S	K	1 1/2	3/4	5/8	5/16	13/16	8-32	1/4 × 5/8	PH	1.30	1.17	1.05	.95
543-1521	1520X	K	1 1/2	3/4	7/16	5/16	13/16	8-32	1/4 × 5/16	FI	1.62	1.46	1.31	1.18
543-2120	2110	L	1 5/8	19/32	7/16	1/4	5/8	8-32	1/4 × 11/32	FI	1.22	1.10	.99	.89
543-2311	2350AE	M	2	5/8	15/32	—	21/32	—	Spring†	PH	.56	.50	.45	.41
543-2351	2350AH	M	2	5/8	13/32	1/4	21/32	8-32	1/4 × 13/32	FI	1.14	1.03	.92	.83
543-2312	2350AF	M	2	5/8	15/32	1/4	21/32	8-32	1/4 × 15/32	PH	.62	.56	.50	.45

*PH — Plain Hole; FI — Female Insert/Brass Bushing. †Flatted to 0.156".

Specialty Series Knobs



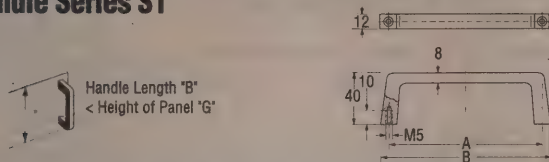
These parts were designed for the customer who has a unique requirement in mind, whether it be size, shape, or mounting. High gloss phenolic.

Stock No.	Mfr.'s Type	Fig.	Dimensions						Set Screw	Insert	Shaft*	EACH			
			A	B	C	D	E	G				1-99	100-499	500-999	1000-Up
543-1600	1600BM	D	1 1/2	11/16	9/16	9/32	15/16	5/8	8-32	1/4 x 9/16	PH	.60	.54	.49	.44
543-1610	1610AA	C	29/32	19/32	7/16	9/32	19/32	1/4	8-32	1/4 x 7/16	PH	.68	.61	.55	.50
543-4100	4100	B	1 1/8	5/8	13/16	—	—	—	8-32	1/4 x 5/16	FI	1.20	1.08	.97	.88
543-4108	4108BJ	A	1 5/8	21/16	29/32	—	—	—	10-32	1/4 x 13/32	FI	3.08	2.77	2.50	2.25

*PH — Plain Hole; FI — Female Insert/Brass Bushing.

543-2190. 5149-A. Fig. E. Length 1/2, height 51/64 self locating friction fit for use on flat wire shaft. .050 x .187. 1-99 EACH .40
100-499 EACH .36 500-999 EACH .32 1000-Up EACH .29

Handle Series S1

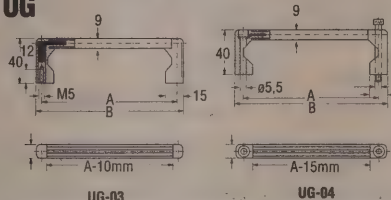


Versatile and attractive series for 19" drawers and instruments. Made from cut profile extruded aluminum AlMgSi 0.5. Surface finish is anodized with a matte finish.

Stock No.	Mfr.'s Type	Dim. A"	Dim. B"	Height of Rack G	HE†	Color	EACH		
							1-9	10-100	101-500
543-3000	S 1-12.025 01	25.0	40.0	44.0	1	Natural	5.22	4.70	4.23
543-3004	S 1-12.055 01	55.0	69.0	88.1	2	Natural	5.22	4.70	4.23
543-3008	S 1-12.088 01	88.0	102.0	132.5	3	Natural	5.76	5.18	4.67
543-3012	S 1-12.120 01	120.0	134.0	177.0	4	Natural	6.66	5.99	5.39
543-3016	S 1-12.133 01	133.4	146.5	177.0	4	Natural	7.10	6.39	5.75
543-3020	S 1-12.177 01	177.8	191.0	221.5/266.0	5/6	Natural	8.40	7.56	6.80
543-3024	S 1-12.180 01	180.0	194.0	221.5/266.0	5/6	Natural	8.46	7.61	6.85
543-3028	S 1-12.235 01	235.0	249.0	266.0/310.5	6/7	Natural	10.08	9.07	8.17
543-3002	S 1-12.025 04	25.0	40.0	44.0	1	Black	5.76	5.18	4.67
543-3006	S 1-12.055 04	55.0	69.0	88.1	2	Black	5.76	5.18	4.67
543-3010	S 1-12.088 04	88.0	102.0	132.5	3	Black	6.32	5.69	5.12
543-3014	S 1-12.120 04	120.0	134.0	177.0	4	Black	7.36	6.67	5.96
543-3018	S 1-12.133 04	133.4	146.5	177.0	4	Black	7.84	7.06	6.35
543-3022	S 1-12.177 04	177.8	191.0	221.5/266.0	5/6	Black	9.26	8.33	7.50
543-3026	S 1-12.180 04	180.0	194.0	221.5/266.0	5/6	Black	9.32	8.39	7.55
543-3030	S 1-12.235 04	235.0	249.0	266.0/310.5	6/7	Black	11.10	9.99	8.99

*Dimensions are mm. †HE=Units of Height

Handle Series UG



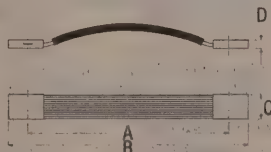
Universal usability and are assembled by fitting the grip ledge to the two elbow side sections. Aluminum tubing for grip ledge with elbow section of highly durable plastic and matte black finish. Type UG-03 features full steel core, stress resistance 50 Kp per handle. Type UG-04 screw-attachment from in front, steel plate reinforcement, stress resistance 50 Kp per handle. Nickel-plated cheese head screws with hexagon socket M 5 x 45 DIN 912 and galvanized, self-locking ratchet nuts included.

Stock No.	Mfr.'s Type	Dim. A"	Dim. B"	Color	EACH		
					1-9	10-100	101-500
543-3102	UG-03.055.01	55	65	Natural	7.20	6.48	5.83
543-3106	UG-03.088.01	88	98	Natural	7.64	6.88	6.19
543-3110	UG-03.100.01	100	110	Natural	7.76	6.98	6.29
543-3114	UG-03.120.01	120	130	Natural	8.02	7.22	6.50
543-3118	UG-03.180.01	180	190	Natural	8.76	7.88	7.10
543-3122	UG-03.235.01	235	245	Natural	9.48	8.53	7.68
543-3104	UG-03.055.04	55	65	Black	7.64	6.88	6.19
543-3108	UG-03.088.04	88	98	Black	8.22	7.40	6.66
543-3112	UG-03.100.04	100	110	Black	8.44	7.60	6.85
543-3116	UG-03.120.04	120	130	Black	8.76	7.88	7.10
543-3120	UG-03.180.04	180	190	Black	9.84	8.86	7.97
543-3124	UG-03.235.04	235	245	Black	10.80	9.72	8.75
543-3126	UG-04.055.01	55	70	Natural	7.20	6.48	5.83
543-3130	UG-04.088.01	88	103	Natural	7.64	6.88	6.19
543-3134	UG-04.100.01	100	115	Natural	7.76	6.98	6.29
543-3138	UG-04.120.01	120	135	Natural	8.02	7.22	6.50
543-3142	UG-04.180.01	180	195	Natural	8.76	7.88	7.10
543-3146	UG-04.235.01	235	250	Natural	9.48	8.53	7.68
543-3128	UG-04.055.04	55	70	Black	7.64	6.88	6.19
543-3132	UG-04.088.04	88	103	Black	8.22	7.40	6.66
543-3136	UG-04.100.04	100	115	Black	8.44	7.60	6.85
543-3140	UG-04.120.04	120	135	Black	8.76	7.88	7.10
543-3144	UG-04.180.04	180	195	Black	9.84	8.86	7.97
543-3148	UG-04.235.04	235	250	Black	10.80	9.72	8.75

*Dimensions are mm.

Pull-Out Carrying Handles MA

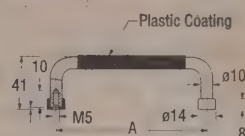
For instruments, cases, and similar applications. Black handles of soft plastic. Types MA-23 with steel spring inside. Nickel-plated steel cover cap. *Dimensions in table are mm.



Stock No.	Mfr.'s Type	A° Ctr-Ctr Mounting	B° Total Length	C° Width	D° Height	EACH		
						1-9	10-100	101-500
543-3096	MA-23.187.84	187	223	23.0	7.5	9.02	8.12	7.31
543-3098	MA-23.205.84	205	241	23.3	8.6	9.02	8.12	7.31
543-3100	MA-20.228.84	228	238	20.5	12.0	12.20	10.98	9.88

Handle Series SS

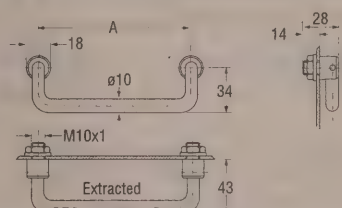
High quality handles for front panels and similar applications. Precision ground and matte gloss chromium plated steel. Handle arms with smooth plastic covering. Includes matte gloss chromium plated brass end caps. *Dimensions are mm.



Stock No.	Mfr.'s Type	Dim. A*	EACH		
			1-9	10-100	101-500
543-3032	SS-10.055.28	55	10.70	9.63	8.67
543-3034	SS-10.088.28	88	12.02	10.82	9.74
543-3036	SS-10.100.28	100	12.50	11.25	10.13
543-3038	SS-10.102.28	102	12.58	11.32	10.19
543-3040	SS-10.115.28	115	13.10	11.79	10.61
543-3042	SS-10.120.28	120	13.34	12.00	10.81
543-3044	SS-10.136.28	136	13.98	12.58	11.32
543-3046	SS-10.180.28	180	15.74	14.17	12.75
543-3048	SS-10.200.28	200	16.56	14.90	13.41
543-3050	SS-10.235.28	235	17.96	16.16	14.55
543-3052	SS-10.250.28	250	18.56	16.70	15.03

Collapsible Instrument Handles MK

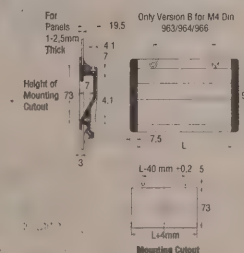
Available in two versions. **Version A:** Precision ground and chromium-plated mirror finish. **Version B:** As version A but grip ledge with smooth plastic coating. Stress capacity to 100 per pair due to one-piece shank. Galvanized washers and nuts. *Dimensions are mm.



Stock No.	Mfr.'s Type	Version	Dim. A"	EACH		
				1-9	10-100	101-500
543-3054	MK-10.100.22	A	100	21.48	19.33	17.40
543-3056	MK-10.120.22	A	120	21.78	19.60	17.64
543-3058	MK-10.180.22	A	180	22.76	20.48	18.44
543-3060	MK-10.100.23	B	100	25.34	22.81	20.53
543-3062	MK-10.120.23	B	120	26.30	23.67	21.30
543-3064	MK-10.180.23	B	180	29.20	26.28	23.65

Tray Handle SG

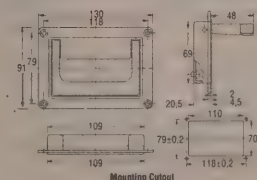
Profile extruded aluminum tray handle available in three lengths featuring ease of installation. Anodized with a matte finish in natural or black. Does not require screws for metal thicknesses of 1-2.5 mm. Two rubber inserts guarantee tight and secure installation. Two cross-slotted grooves for M4 screws offset by 90° provides firm connection or may be used as mounting aids. **Version A:** Installation by means of an upper rubber insert that pushes in from the back. **Version B:** Installation by means of two countersunk screws from outside. *Dimensions are mm.



Stock No.	Mir.'s Type	Version	Dim. L*	Mounting Cutout	Color	EACH		
						1-9	10-100	101-500
543-3066	SG-73.100.A1	A	100	—	Natural	12.82	11.59	10.43
543-3070	SG-73.118.A1	A	118	—	Natural	13.78	12.40	11.16
543-3074	SG-73.167.A1	A	167	—	Natural	16.30	14.67	13.20
543-3068	SG-73.100.A4	A	100	—	Black	13.96	12.56	11.31
543-3072	SG-73.118.A4	A	118	—	Black	15.08	13.57	12.22
543-3076	SG-73.167.A4	A	167	—	Black	18.22	16.40	14.76
543-3078	SG-73.100.B1	B	100	104 × 73	Natural	13.90	12.51	11.26
543-3082	SG-73.118.B1	B	118	122 × 73	Natural	14.88	13.39	12.05
543-3086	SG-73.167.B1	B	167	171 × 73	Natural	17.38	15.64	14.08
543-3080	SG-73.100.B4	B	100	104 × 73	Black	15.04	13.54	12.18
543-3084	SG-73.118.B4	B	118	122 × 73	Black	16.09	14.48	13.03
543-3088	SG-73.167.B4	B	167	171 × 73	Black	19.34	17.41	15.67

Collapsible Tray Handles SK

Handles feature contemporary design and are used wherever both durability and attractive styling are required. Mounts either to the front or inside of the casing panel. Stress capacity is up to 100 Kp per pair. Made of pressure-molded aluminum GD AISI 8 Cu 3. Tray and handle in black or light grey enamel, half-matte finish. Dimensions are mm.



Stock No.	Mfr.'s Type	Version	EACH		
			1-9	10-100	101-500
543-3090	SK-79.118.44	Black	29.46	26.51	23.86
543-3092	SK-79.118.52	Light Grey	34.18	30.76	27.69
543-3094	SK-79.118.00	Without Enamel, Unassembled	34.18	30.76	27.69

Hand Tools

Oval Head Cutters — Semi-Flush

- ▶ Diagonal Cutting Plier/Semi-Flush
- ▶ General Purpose Cutting
- ▶ Oval Head For Long Life
- ▶ MS54 Features Green Cushion Grips
- ▶ MS54C Features Blue Puffy Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9000	MS54	4	100	13/32	10	7/16	11	9/32	7	—	—	1/32	0.8	9.68
984-9019	MS54C	4	100	13/32	10	7/16	11	9/32	7	—	—	1/32	0.8	10.35

Oval Head Cutters — Flush

- ▶ Oval Head Diagonal Cutter
- ▶ General Use
- ▶ MS54CJ Features Blue Puffy Grips
- ▶ MS54J Features Green Cushion Grips
- ▶ Flush Cutting

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9020	MS54CJ	4	100	13/32	10	7/16	11	9/32	7	—	—	1/32	0.8	10.97
984-9021	MS54J	4	100	13/32	10	7/16	11	9/32	7	—	—	1/32	0.8	10.92

Slim Line Tapered Head

- ▶ Diagonal Cutting Pliers
- ▶ Slim Line Tapered Head
- ▶ Semi-Flush Cutting
- ▶ MS54-5 Features Green Cushion Grip
- ▶ MS54-5C Features Blue Puffy Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9023	MS54-5	4	100	13/32	10	7/16	11	9/32	7	—	—	1/16 × 1/32	1.5 × 0.9	10.36
984-9024	MS54-5C	4	100	13/32	10	7/16	11	9/32	7	—	—	1/16 × 1/32	1.5 × 0.9	11.03

Slim Line Tapered Head

- ▶ Diagonal Cutting Pliers
- ▶ Slim Line Tapered Head
- ▶ MS54-5CJ Features Blue Puffy Grips
- ▶ MS54-5J Features Green Cushion Grips
- ▶ Flush Cutting

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9025	MS54-5CJ	4	100	13/32	10	7/16	11	9/32	7	—	—	1/16 × 1/32	1.5 × 0.9	10.97
984-9007	MS54-5J	4	100	13/32	10	7/16	11	9/32	7	—	—	1/16 × 1/32	1.5 × 0.9	10.32

Tapered Head Diagonal Cutter

- ▶ Tapered Head Diagonal Cutter
- ▶ Flush Cutting Of Leads In Restricted Spaces
- ▶ Narrow Tips Give Increased Clearance
- ▶ MS54-9CJ Features Blue Puffy Grips
- ▶ MS54-9J Features Green Cushion Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9022	MS54-9CJ	4	100	13/32	12	7/16	11	9/32	7	—	—	3/64	1.0	11.36
984-9001	MS54-9J	4	100	13/32	12	7/16	11	9/32	7	—	—	3/64	1.0	10.69

Tapered Head Diagonal Cutter

- ▶ Tapered Head Diagonal Cutter
- ▶ Flush Cutting
- ▶ Used For Cutting Component Leads
- ▶ S47-5CJS Features Blue Puffy Grips
- ▶ S47-5JS Features Green Cushion Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9003	S47-5CJS	5	125	3/4	19	19/32	15	3/8	10	—	—	3/32 × 1/16	2.0 × 1.5	10.44
984-9025	S47-5JS	5	125	3/4	19	19/32	15	3/8	10	—	—	3/32 × 1/16	2.0 × 1.5	10.44

Tapered Relieved Head Diagonal Cutter

- ▶ Tapered Relieved Head Diagonal Cutter
- ▶ Flush Cutting
- ▶ For Use In Limited Access Areas
- ▶ S141-5CJS Features Blue Puffy Grips
- ▶ S141-5JS Features Green Cushion Grip

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9026	S141-5CJS	5	125	49/64	19	19/32	15	3/8	10	—	—	3/32 × 3/64	2.0 × 1.0	13.54
984-9027	S141-5JS	5	125	49/64	19	19/32	15	3/8	10	—	—	3/32 × 3/64	2.0 × 1.0	12.87

Oval Head Diagonal Cutter

- ▶ Oval Head Diagonal Cutter
- ▶ Regular Beveled Edge
- ▶ S55 Features Green Cushion Grips
- ▶ S55-S Features Green Cushion Grips Plus Handle Coil Spring
- ▶ S55-CS Features Blue Puffy Grips Plus Handle Coil Spring

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9002	S55	5	125	49/64	19	19/32	15	3/8	9	—	—	—	—	15.76
984-9004	S55-S	5	125	49/64	19	19/32	15	3/8	9	—	—	—	—	17.24
984-9005	S55-CS	5	125	49/64	19	19/32	15	3/8	9	—	—	—	—	18.24

Diamond®/Xcelite® Diagonal End Cutter Pliers

Angled Diagonal End Cutter At 29°

- ▶ Angled Diagonal End Cutter At 29°
- ▶ Flush Cutting, For Cutting Directly Above The Work Area
- ▶ To Use On Closely Spaced Adjacent Components
- ▶ GA54-CJ Features Green Cushion Grips
- ▶ GA 54J Features Blue Puffy Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9029	GA54-CJ	4	100	7/16	11	7/16	11	9/32	7	7/16	11	1/32	0.8	17.97
984-9015	GA54-J	4	100	7/16	11	7/16	11	9/32	7	7/16	11	1/32	0.8	17.30

Diamond®/Xcelite® Diagonal Chain Nose Pliers

Short Chain Nose Pliers

- ▶ Short Chain Nose Pliers
- ▶ Serrated Jaws
- ▶ LN22-5 Features Green Cushion Grips
- ▶ LN22-5C Features Blue Puffy Grips
- ▶ Heavy Duty

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9030	LN22-5	5	125	19/64	29	17/32	14	9/32	7	—	—	1/16 × 1/16	1.5 × 1.5	10.57
984-9031	LN22-5C	5	125	19/64	29	17/32	14	9/32	7	—	—	1/16 × 1/16	1.5 × 1.5	11.25

Curved Nose Pliers

- ▶ Curved Nose Pliers, Thin Tip
- ▶ CN25-5C, CN25-5CG Feature Blue Puffy Grips
- ▶ CN25-5, CN25-5G Feature Green Cushion Grips
- ▶ CN25-5CG, CN25-5G Feature Smooth Jaws

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9032	CN25-5	5	125	115/64	31	27/64	11	9/32	7	—	—	3/64	1.0	13.10
984-2550	CN25-5C	5	125	115/64	31	27/64	11	9/32	7	—	—	3/64	1.0	13.77
984-9033	CN25-5CG	5	125	115/64	31	27/64	11	9/32	7	—	—	3/64	1.0	14.36
984-9034	CN25-5G	5	125	115/64	31	27/64	11	9/32	7	—	—	3/64	1.0	13.70

Diamond®/Xcelite® Diagonal Long Needle Nose Pliers

Thin Long Nose Pliers

- ▶ Thin Long Nose Pliers
- ▶ Serrated Jaws
- ▶ For Pick-Up and Wire Forming, General Purpose Use
- ▶ LN54 Features Green Cushion Grips
- ▶ LN54-C Features Blue Puffy Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9009	LN54	5	125	13/16	30	7/16	11	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	10.55
984-9035	LN54-C	5	125	13/16	30	7/16	11	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	11.31

Thin Long Nose Pliers — Very Fine Point

- ▶ Thin Long Nose Pliers
- ▶ Very Fine Point For Precision Work
- ▶ For Pick-Up and Wire Forming
- ▶ Serrated Jaws
- ▶ LN54-2 Features Green Cushion Grips
- ▶ LN54-2C Features Blue Puffy Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9012	LN54-2	5	125	13/16	30	7/16	11	9/32	7	—	—	3/64 × 1/32	1.2 × 0.8	10.31
984-9036	LN54-2C	5	125	13/16	30	7/16	11	9/32	7	—	—	3/64 × 1/32	1.2 × 0.8	10.99

Thin Long Nose Pliers — Smooth Jaws

- ▶ Thin Long Nose Pliers With Smooth Jaws
- ▶ General Purpose Use
- ▶ For Pick-Up and Wire Forming
- ▶ LN54-CG Features Blue Puffy Grips
- ▶ LN54-G Features Green Cushion Grips

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9037	LN54-CG	5	125	13/16	30	7/16	11	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	11.41
984-9011	LN54-G	5	125	13/16	30	7/16	11	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	10.75

Thin Long Nose Pliers

- ▶ Thin Long Nose Pliers
- ▶ Fine Serrated Jaws
- ▶ LN55 Features Green Cushion Grips
- ▶ LN55-C Features Blue Puffy Grips
- ▶ General Purpose

Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9038	LN55	5 1/2	138	11 1/16	43	17/32	14	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	10.95
984-9013	LN55-C	5 1/2	138	11 1/16	43	17/32	14	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	11.62

Long Nose Side Cutting Pliers

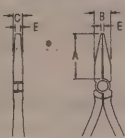
- ▶ Long Nose Side Cutting Pliers
- ▶ For General Wire Applications, Serrated Jaws
- ▶ For Reaching Into Confined Working Spaces
- ▶ SN54, SN55 Feature Green Cushion Grips
- ▶ SN55-C Features Blue Puffy Grips

Hand Tools

Diamond®/Xcelite®

Flat Nose Pliers

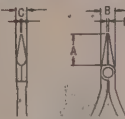
- Flat Nose Pliers, Smooth Jaws
- For Holding and Forming Wire and Small Parts
- DN54-CG Features Blue Puffy Grips
- DN54-G Features Green Cushion Grips



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9046	DN54-CG	5	125	19/16	30	7/16	11	9/32	7	—	—	5/64 × 9/64	2.0 × 3.6	15.76
984-9017	DN54-G	5	125	19/16	30	7/16	11	9/32	7	—	—	5/64 × 9/64	2.0 × 3.6	14.64

Subminiature Needle Nose Pliers

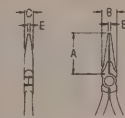
- Subminiature Needle Nose Pliers, Fine Point Allows Use In Confined Areas
- Positive Gripping Of Fine Wire Or Subminiature Components
- L4 Features Green Cushion Grips and Serrated Jaws
- L4-C Features Blue Puffy Grips and Serrated Jaws
- L4G Features Green Cushion Grips and Smooth Jaws



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9010	L4	4	100	13/16	21	3/8	10	9/32	7	—	—	3/64 × 1/32	1.2 × 0.8	14.58
984-9047	L4-C	4	100	13/16	21	3/8	10	9/32	7	—	—	3/64 × 1/32	1.2 × 0.8	15.58
984-9016	L4G	4	100	13/16	21	3/8	10	9/32	7	—	—	3/64 × 1/32	1.2 × 0.8	16.28

Diamond®/Xcelite® Needle Nose Pliers — Slim Line Needle Nose Pliers

- Slim Line Needle Nose Pliers, For Use Between Tightly Spaced Components
- NN54, NN54-C, NN55-C Feature Serrated Jaws
- NN54-G, NN55-CG, Feature Smooth Jaws
- NN54, NN54-G, NN55-G Feature Green Cushion Grips
- NN54-C, NN55-C, NN55-CG Feature Blue Puffy Grips



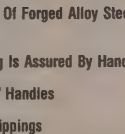
Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-9018	NN54	5	125	13/16	30	7/16	11	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	18.88
984-9048	NN54-C	5	125	13/16	30	7/16	11	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	19.90
984-9049	NN54-G	5	125	13/16	30	7/16	11	9/32	7	—	—	5/64 × 1/16	2.0 × 1.6	18.96
984-9050	NN55-C	5 1/2	138	1 11/16	43	15/32	12	1/4	6	—	—	5/64 × 1/16	2.0 × 1.6	19.76
984-9051	NN55-CG	5 1/2	138	1 11/16	43	15/32	12	1/4	6	—	—	5/64 × 1/16	2.0 × 1.6	19.98

Hand Tools

Xcelite®

Pliers and Cutters With Red Cushion Grip Handles

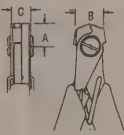
- The Exceptional Strength and Performance Of Xcelite® Pliers and Cutters Are The Result Of Forged Alloy Steel Construction, Precision Machining, and Scientific Proportioning
- Handles Designed To Fit The Hand Comfortably and To Provide Maximum Leverage
- Cleanly Machined and Perfectly Aligned Jaws Grip Tightly and Surely While Easy Cutting Is Assured By Hand-Honed, Mated Cutting Edges
- For Extra Working Comfort All Models Have Permanent, Red Plastic-Coated "Cushion-Grip" Handles
- These High Quality Pliers and Cutters are Featured In Xcelite® Attaché Tool Cases
- Note: When Using Cutting Pliers Always Wear Safety Glasses To Protect Eyes From Wire Clippings



Hard Wire (Piano and Music) Cutter — 134CG

- Captures Material On Both Sides Of Jaw, Eliminates Flying Segments
- Patented Spring Loaded Hold-Down Keeps Material At 90° To Tool Blade

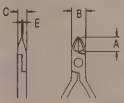
- Shear Cutting Action
- Ensures Square Cut Ends
- Prevents Material From Forcing Jaws Apart
- Wire Capacity: .062
- Stranded Cable Capacity: 1/16 in.



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-2373	134CG	5.45	140	0.55	14	0.72	18.5	0.32	8.2	—	—	—	—	38.82

Diagonal Pliers — 54CG

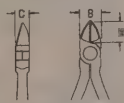
- For Work In Close Quarters
- Standard Beveled Edges
- Forged Alloy Steel Construction, Precision Machining and Scientific Proportioning
- Red Plastic-Coated Cushion Grip Provides Maximum Leverage



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0225	54CG	4	100	13/32	10	7/16	11	9/32	7	—	—	1/32	0.8	19.00

Diagonal Pliers — 55CG

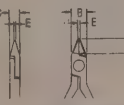
- All-Purpose Pliers, Standard Beveled Edges
- Forged Alloy Steel Construction, Precision Machining and Scientific Proportioning
- Exceptional Strength and Performance
- Red Plastic-Coated Cushion Grip Provides Maximum Leverage



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0226	55CG	5	125	3/4	19	19/32	15	3/8	10	—	—	—	—	19.40

Diagonal Pliers — 64CG

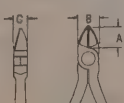
- For Use In Close Quarters and Semi-Flush Tip Cutting Of Fine Wires
- Forged Alloy Steel Construction, Precision Machining and Scientific Proportioning
- Exceptional Strength and Performance
- Red Plastic-Coated Cushion Grip Provides Maximum Leverage



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0064	64CG	4	100	13/32	10	7/16	11	9/32	7	—	—	1/32	0.8	24.10

Diagonal Pliers — 66CG

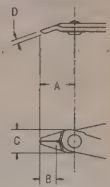
- All-Purpose Pliers
- Standard Beveled Edges
- Forged Alloy Steel Construction, Precision Machining and Scientific Proportioning
- Exceptional Strength and Performance
- Red Plastic-Coated Cushion Grip Provides Maximum Leverage



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0066	66CG	6	152	27/32	21	11/16	17	7/16	11	—	—	—	—	20.34

Micro Series Shearcutter — Heavy Duty

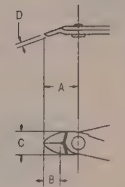
- Heavy Duty For IC Pins, Cables and Harnesses
- Maximum Durability
- Safety Clip (On Some Models) Prevent Flying Leads
- Maximum Operator Safety
- 1178M, 2178M Feature Light Blue Grips
- 1178D, 2178D Feature Static-Dissipative Black Grips
- 2178M, 2178D Feature Safety Clips
- 1178D, 2178D Especially Hardened and Plated



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-1178	1178M	5 9/8	143	29/32	23	13/32	10	17/32	14	1/8	3	—	—	10.68
984-3178	1178D	5 9/8	143	29/32	23	13/32	10	17/32	14	1/8	3	—	—	17.16
984-2178	2178M	5 9/8	143	29/32	23	13/32	10	17/32	14	1/8	3	—	—	12.76
984-4178	2178D	5 9/8	143	29/32	23	13/32	10	17/32	14	1/8	3	—	—	17.64

Micro Series Shearcutter — General Purpose

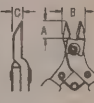
- Low Profile, General Purpose Cutter
- Superior Blade By-Pass Shear Cutting Action
- Better Cuts With Half The Effort
- Greatly Reduced Mechanical Shock Delivered To The Work
- 170M, 175M Feature Light Blue Grips
- 170D, 175D Feature Static-Dissipative Black Grips
- 175M, 175D Feature Safety Clips
- 170D, 175D Especially Hardened and Plated



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0170	170M	5	127	3/4	19	11/32	9	1/2	13	5/64	2	—	—	6.14
984-1170	170D	5	127	3/4	19	11/32	9	1/2	13	5/64	2	—	—	13.14
984-0175	175M	5	127	3/4	19	11/32	9	1/2	13	5/64	2	—	—	6.14
984-1175	175D	5	127	3/4	19	11/32	9	1/2	13	5/64	2	—	—	14.54

Stainless Diagonal Cutting — Slim Nose

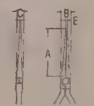
- For Cutting Soft Non-Ferrous Wire, Max. As Specified, No. 25 Gauge (.016") and Smaller Soft Steel Wire
- Ideal For Tip Cutting In Delicate Electronic Circuitry Work and Where Small Lightweight Pliers are Required For Use By Women Engaged In Electronic Component Assembly
- Precision-Machined, Ground Flush Cutting Edges, Back Clearance, Patented Handle Spring
- Offers Up To Four Times The Life Of Regular Miniature Diagonal Pliers



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0330	113CG	4 1/2	114	3/8	9	13/32	12	7/32	6	—	—	—	—	57.86
984-0335	115CG	5	127	1/2	13	1/2	13	7/32	6	—	—	—	—	58.16
984-0336	117CG	4	100	5/16	8	15/32	12	7/32	6	—	—	—	—	57.60

Standard Pliers — 57CG

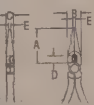
- Standard Pliers
- For Firm Gripping and Looping Of Wire, Fine Serrated Jaw and Coil Spring
- Forged Alloy Steel Construction, Precision Machining and Scientific Proportioning
- Red Plastic-Coated Cushion Grip Provides Maximum Leverage



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0256	57CG	5 11/16	144	—	—	15/32	12	1/4	6	—	—	1/16	1.5	21.08

Standard Pliers — 51CG

- For Firm Gripping and Looping Of Wire, Serrated Jaw
- Forged Alloy Steel Construction, Precision Machining and Scientific Proportioning
- Side Cutter Feature
- Red Plastic-Coated Cushion Grip Provides Maximum Leverage



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0237	51CG	6	152	17/8	48	11/16	17	3/8	10	1/2	13	3/32	2.4	20.16

Electricians Chain Nose Pliers — 59CG

- Electrician's Chain Nose Pliers
- Serrated Jaw For Gripping and High Leverage, Offers Long Reach
- Forged Alloy Steel Construction, Precision Machining and Scientific Proportioning
- Red Plastic-Coated Cushion Grip Provides Maximum Leverage



Stock No.	Mfr.'s Type	Length		A		B		C		D		E		EACH
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
984-0337	59CG	8	200	1 1/2	32	9/16	14	15/32	12	—	—	3/32	2.4	24.98

Utility Pliers — 50CG Ignition Pliers



MS91528 Style, Black, Knobs

Explanation of Type Numbers

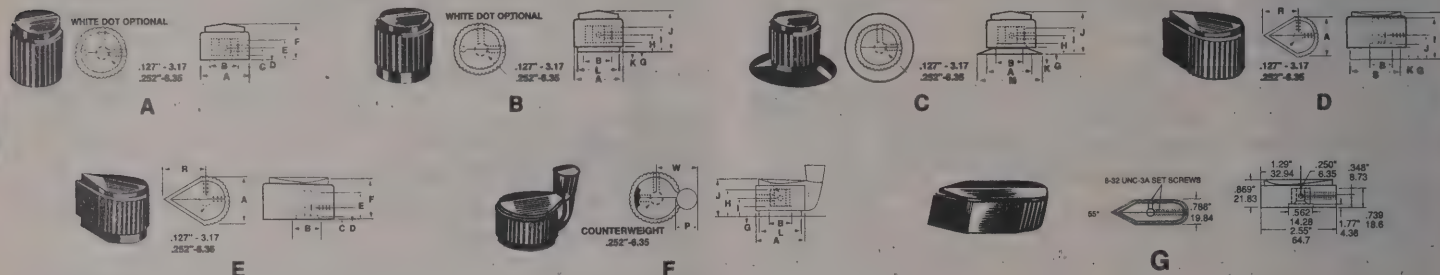
70-3-BL-2G

- (70) Diameter: 50 - 1/2", 70 - 3/4", 90 - 1", 125 - 1 1/4".
 (-3) Type: 1-Plain Round, 2-Round/Ring Skirt, 3-Round-Dial Skirt, 4-Plain Pointer Bar, 5-Pointer/Ring Skirt Bar, 6-Crank.
 (BL) Style: WD-White Dot, BL-Backlighted Skirt.
 (-2) Shaft Hole Size: 1-.127", 2-.252".
 (G) Finish: Mirror Finish, G-Matte Finish (both black).

All are molded from high-impact polycarbonate with corrosion-resistant aluminum inserts for maximum strength. Two setscrews: 4-40 UNC-3A on 50, 70 series and 1/8" shaft models; 8-32 UNC-3A on others. Meets or exceeds requirements of MIL-K-3926.

Knob Dimensions for Standard Series Knobs (Figs. A, B, C, D, E, F)

Series	A ±.030 -.010	B min.	C min.	D max.	E min.	F ±.303	G min.	H max.	I min.	J ±.030	K max.	L max.	M max.	N ±.050	P ±.025	Q max.	R ±.025 -.005	S max.
50	500	.435	.026	.158	.405	.510	.177	.325	.560	.655	.175	.460	.900	—	—	—	.490	.690
70	700	.485	.026	.187	.405	.610	.188	.369	.568	.782	.187	.680	1.150	—	—	—	.680	1.000
90	900	.640	.114	.260	.520	.790	.320	.484	.730	1.010	.235	.845	1.525	—	—	—	.885	1.345
125	1,250	.750	.114	.260	.455	.700	.250	.427	.605	.850	.175	1.185	1.837	1.350	.580	1.133	—	—



Stock No.	Mfr.'s Type	Shaft Dia.		Fig.	EACH		
		In.	mm		1-99	100-499	500-999
904-3010	50-1WD-1G	.125	3.17	A	3.62	2.75	2.02
904-3011	50-2-1	.125	3.17	B	2.99	2.27	1.67
904-3013	50-2WD-1G	.125	3.17	B	3.71	2.82	2.07
904-5010	70-1-2	.250	6.35	A	2.93	2.22	1.64
904-5011	70-1-2G	.250	6.35	A	3.18	2.41	1.78
904-5012	70-1WD-2G	.250	6.35	A	3.71	2.82	2.07
905-5013	70-2-2	.250	6.35	B	2.99	2.27	1.67
904-5015	70-2-2G	.250	6.35	B	3.24	2.46	1.81
904-5016	70-2WD-2	.250	6.35	B	3.56	2.70	1.99

†Gray.

Stock No.	Mfr.'s Type	Shaft Dia.		Fig.	EACH		
		In.	mm		1-99	100-499	500-999
904-5243	70-3-2	.250	6.35	C	4.03	3.06	2.25
904-5244	70-3-2G	.250	6.35	C	4.28	3.25	2.39
904-5270	90-3-2G	.250	6.35	C	5.29	4.01	2.95
904-5155	90-4-2G	.250	6.35	D	4.82	3.65	2.69
904-5156	G90-4-2G†	.250	6.35	D	5.04	3.82	2.81
904-5161	90-5-2G	.250	6.35	E	3.81	2.89	2.13
904-5330	125-3-2G	.250	6.35	C	6.86	5.21	3.83
904-5136	125-6-2G	.250	6.35	F	16.06	12.18	8.97
904-5358	125-7-2G	.252	—	G	10.15	8.45	6.50

Black ABS Knobs, Brass Bushing, 2 Set Screws, Spun Alum Inlay, High Quality "Instrument" Knobs



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12

EH 71 - "0" Series .500 Dia. for .125 Shaft

Stock No.	Mfr.'s Type	Description	Fig.	EACH	
				1-99	100-499
904-7100	EH71-0N1S	Round	1	1.70	1.45
904-7101	EH71-0C1S	Round w/Line	2	2.08	1.76
904-7102	EH71-0D1S	Ring Skirted	3	1.88	1.60
904-7103	EH71-0E1S	Ring Skirted w/Line	4	2.10	1.79
904-7104	EH71-0F1S	Dial w/Arrow	5	2.66	2.25
904-7105	EH71-0P1S	Pointer	6	1.80	1.55
904-7106	EH71-0K1S	Ring Skirted Pointer	7	2.10	1.80
904-7107	EH71-0NP1S	Round w/Pointer	12	1.18	1.00

EH 71 - "1" Series .700 Dia. for .250 Shaft

Stock No.	Mfr.'s Type	Description	Fig.	EACH	
				1-99	100-499
904-7108	EH71-1N2S	Round	1	1.76	1.50
904-7109	EH71-1C2S	Round w/Line	2	2.20	1.87
904-7110	EH71-1D2S	Ring Skirted	3	1.94	1.65
904-7111	EH71-1E2S	Ring Skirted w/Line	4	2.22	1.89
904-7112	EH71-1F2S	Dial w/Arrow	5	2.76	2.35
904-7113	EH71-1P2S	Pointer	6	2.00	1.70
904-7114	EH71-1K2S	Ring Skirted Pointer	7	2.20	1.87
904-7115	EH71-1SB2S	Single Bar	8	2.28	1.94
904-7116	EH71-1DSB2S	Ring Skirted Single Bar	9	2.34	1.99
904-7117	EH71-1GB2S	Double Bar	10	2.40	2.04
904-7118	EH71-1HH2S	Ring Skirted Double Bar	11	2.46	2.09
904-7119	EH71-1NP2S	Round w/Pointer	12	2.22	1.89

EH 71 - "2" Series .900 Dia. for .250 Shaft

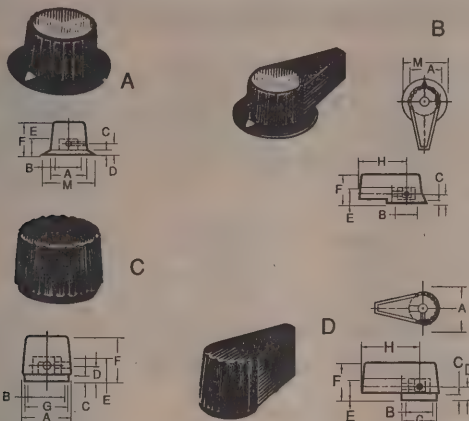
Stock No.	Type	Description	Fig.	EACH	
				1-99	100-499
904-7120	EH71-2N2S	Round	1	1.84	1.56
904-7121	EH71-2C2S	Round w/Line	2	2.28	1.94
904-7122	EH71-2D2S	Ring Skirted	3	2.00	1.70
904-7123	EH71-2E2S	Ring Skirted w/Line	4	2.30	1.95
904-7124	EH71-2F2S	Dial w/Arrow	5	3.15	2.68
904-7125	EH71-2P2S	Pointer	6	2.06	1.75
904-7126	EH71-2K2S	Ring Skirted Pointer	7	2.26	1.92
904-7128	EH71-2SB2S	Single Bar	8	2.42	2.05
904-7129	EH71-2DSB2S	Ring Skirted Single Bar	9	2.48	2.10
904-7130	EH71-2GG2S	Double Bar	10	2.44	2.07
904-7131	EH71-2HH2S	Ring Skirted Double Bar	11	2.50	2.15
904-7132	EH71-2NP2S	Round w/Pointer	12	2.28	1.95

EH 71 - "3" Series 1.250 Dia. for .250 Shaft

Stock No.	Type	Description	Fig.	EACH	
				1-99	100-499
904-7133	EH71-3N2S	Round	1	2.14	1.82
904-7134	EH71-3C2S	Round w/Line	2	2.28	1.94
904-7135	EH71-3D2S	Ring Skirted	3	2.14	1.82
904-7136	EH71-3E2S	Ring Skirted w/Line	4	2.28	1.94
904-7137	EH71-3F2S	Dial w/Arrow	5	3.20	2.72

EH 71 - "4" Series 1.750 Dia. for .250 Shaft

Stock No.	Type	Description	Fig.	EACH	
				1-99	100-499
904-7140	EH71-4N2S	Round	1	2.28	1.94
904-7141	EH71-4C2S	Round w/Line	2	2.42	2.05
904-7142	EH71-4D2S	Ring Skirted	3	2.34	1.99
904-7143	EH71-4E2S	Ring Skirted w/Line	4	2.41	2.05
904-7144	EH71-4F2S	Dial w/Arrow	5	3.34	2.85



400 Series And Industrial Heavy Duty Series

The 400 Series is made of durable, high-impact ABS plastic. The 400 Series has a lusterless finish and contains a cast aluminum bushing and set screws (4-40 UNC 3A).

Stock No.	Mfr.'s Type	Fig.	EACH			
			1-49	50-99	100-249	250-499
904-5383	407R2K1	C	3.90	3.35	2.95	2.65
904-5392	407D2K1	A	4.28	3.85	3.50	3.15
904-5397	412D2K1	A	4.75	4.25	3.85	3.45
904-5401	409P2K1	D	3.80	3.40	3.06	2.75
904-5290	407D1K1	A	4.45	3.99	3.60	3.25
904-5215	407PD2K1	B	2.84	2.55	2.30	2.00
904-5217	407P2K1	D	2.64	2.24	2.01	1.80

*Prefix indicates diameter: 407 = 3/4", 409 = 7/8", 412 = 1 1/4". Suffix colors: K1-black.

Dimensions for 400 Series and Panelmarr Series Knobs

Series	A +.025 -.005	B min.	C min.	D max.	E min.	F ±.030	G max.	H max.	J max.	K max.	M max.
407	.720	.520	.120	.290	.625	.813	.640	1.120	—	—	1.050
409	.875	.660	.120	.290	.625	.813	.800	1.375	1.540	.500	1.270
412	1.250	1.041	.120	.290	.625	.813	1.170	2.000	1.540	.500	1.710

Clamp-type Knobs CORONADA SERIES— ABS Molded black, brass insert studs



EI "20" Series Female Insert Type

Dim. A=1.38 B=.75 C=.80 D=.39

Stock No.	Mfr.'s Type	Fig.	F Dim.	Thread	EACH		
					1-99	100-249	250-UP
904-2083	EI20-832	1		8-32	.82	.75	.68
904-2010	EI20-1032	1		10-32	.84	.77	.70

ES "20" Series Threaded Stud Type

Dim. A=1.38 B=.75 C=.80 D=.39

Stock No.	Mfr.'s Type	Fig.	F Dim.	Thread	D	EACH		
						1-99	100-249	250-UP
904-2050	ES20-252050	2	1/2	1/4-20	1.72	1.55	1.40	
904-2062	ES20-252062	2	5/8	1/4-20	1.86	1.67	1.50	
904-2075	ES20-252075	2	3/4	1/4-20	1.90	1.72	1.55	
904-2011	ES20-252010	2	1	1/4-20	1.98	1.78	1.60	
904-2014	ES20-252014	2	1-1/4	1/4-20	2.16	1.95	1.65	
904-1862	ES20-311862	2	5/8	5/16-18	2.16	1.95	1.65	

EI "30" Series Female Insert

Dim. A=1.75 B=.88 C=1.25 D=.44

Stock No.	Mfr.'s Type	Fig.	F Dim.	Thread	EACH		
					1-99	100-249	250-UP
904-1032	EI30-1032	1		10-32	1.02	.92	.80
904-2520	EI30-2520	1		1/4-20	1.24	1.12	1.00

ES "30" Series Threaded Type

Dim. A=1.75 B=.88 C=1.25 D=.44

Stock No.	Mfr.'s Type	Fig.	F Dim.	Thread	D	EACH		
						1-99	100-249	250-UP
904-3050	ES30-252050	2	1/2	1/4-20	1.87	1.68	1.57	
904-3062	ES30-252062	2	5/8	1/4-20	2.02	1.80	1.70	
904-3075	ES30-252075	2	3/4	1/4-20	2.06	1.85	1.55	
904-3010	ES30-252010	2	1	1/4-20	2.14	1.97	1.67	
904-3014	ES30-252014	2	1-1/4	1/4-20	2.32	2.15	1.05	
904-3060	ES30-311862	2	5/8	5/16-18	1.32	1.15	1.05	

EI "40" Series Female Insert Type

Dim. A=2.38 B=1 C=1.38 D=.50

Stock No.	Mfr.'s Type	Fig.	F Dim.	Thread	EACH		
					1-99	100-249	250-UP
904-2521	EI40-2520	1		1/4-20	1.33	1.16	1.06
904-3119	EI40-3118	1		5/16-18	1.54	1.14	1.20

ES "40" Series Threaded Stud Series

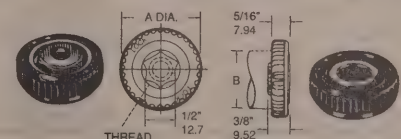
Dim. A=2.38 B=1 C=1.38 D=.50

Stock No.	Mfr.'s Type	Fig.	F Dim.	Thread	D	EACH		
						1-99	100-249	250-UP
904-4050	ES40-252050	2	1/2	1/4-20	2.00	1.78	1.68	
904-4062	ES40-252062	2	5/8	1/4-20	2.14	1.97	1.67	
904-4075	ES40-252075	2	3/4	1/4-20	2.17	1.96	1.66	
904-4010	ES40-252010	2	1	1/4-20	2.26	2.03	1.85	
904-4014	ES40-252014	2	1-1/4	1/4-20	2.44	2.18	1.98	
904-4063	ES40-311862	2	5/8	5/16-18	2.44	2.18	1.98	
904-4011	ES40-311810	2	1	5/16-18	2.53	2.28	2.05	

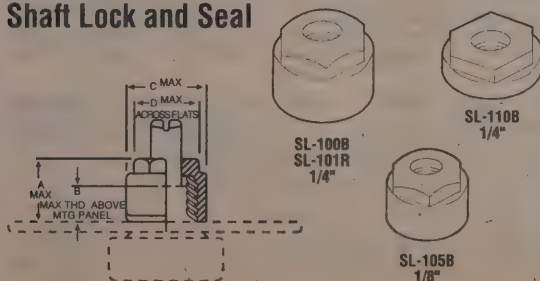
Knob Locks

Knob locks are positive friction locking devices for holding knobs in a specific position under conditions of shock and vibration. Knob locks used only with standard round and pointer knobs. **Knob Diameter:** 3/4". **Thread:** 9/32-32. **Dimensions:** A=1" (25.4 mm); B=.721" (18.3 mm).

Stock No.	Mfr.'s Type	EACH			
		1-99	100-249	250-499	500-999
904-5185	KL701	15.02	9.60	7.30	6.05
904-5186	KL701G	15.58	9.95	7.55	6.30
904-5700	KL702	15.02	9.60	7.30	6.05



Shaft Lock and Seal



Shaft locks prevent control shafts from rotating under conditions of shock, vibration, or accidental contact. They form a dust and waterproof seal at the shaft and also at the panel surface.

Specifications: Nylon - MIL-M-20693. **Insert** - Brass per QQ-B-626. Nickel plated per QQ-N-290, Class I, Type V. **Shock** - 50 g's. **Vibration** - 5 hours at 10 to 55 cps with amplitude of 0.06". **Water Immersion** - 50 hours under 3 ft. head of water. Control shaft rotated every 10 hours. **Temperature Shock** - Five cycles of 30 minutes at each extreme, -55°C and +85°C. **Humidity** - 150 hours at 95% relative humidity 40°C. **Life Wear** - 10,000 complete cycles.

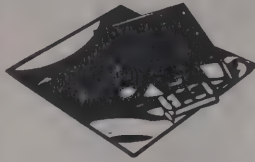
Stock No.	Mfr.'s Type	A	B	C	D	For Shaft Size	Control Bushing Thread Size	Color	EACH	
									1-99	100-499
904-4000	SL-100B	.480	.348	.630	.505	1/4"	3/8-32 NEF-2	Black	5.15	4.40
904-4001	SL-101R	.480	.348	.630	.505	1/4"	3/8-32 NEF-2	Red	9.88	8.35
904-4002	SL-105B	.317	.223	.223	.380	1/8"	3/8-32 NEF-2	Black	5.14	3.90
904-4004	SL-110B*	.286	.187	.630	.505	1/4"	1/4-32 NEF-2	Black	4.74	4.05

*Use with any 90 Series, or larger, ring or dial skirted round, skirted pointer, or crank knob.



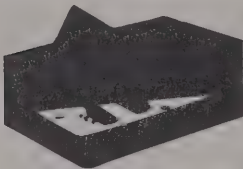
Transparent Static Shielding Bags

Static sensitive electronic components must be protected from electrostatic discharge while in storage, shipping and transport, as well as during assembly and handling operations. Static shielding bags ensure that static electricity will have a controlled, nondestructive path to ground, independent of environmental factors. By using static shielding bags, premature product failure, due to static related damage, can be eliminated. **Specifications. Thickness:** 3.1 mil (79 microns), ASTM D374. **Tensile Strength:** 9700 lbs/in.² (67 N/mm²), ASTM D882. **Seal Strength:** 5 lbs/in.² (870 N/m²), ASTM D882.



Stock No.	Mir.'s Type	Size W x L	PER PKG./100		
			1-4	5-9	10-Up
725-0080	ASB-35	3 x 5'	12.50	11.00	10.00
725-0085	ASB-44	4 x 4'	12.50	11.00	10.00
725-0090	ASB-46	4 x 6'	16.00	14.50	13.50
725-0095	ASB-58	5 x 8'	22.00	20.00	18.50
725-0096	ASB-424	4 x 24'	51.65	46.96	43.04
725-0100	ASB-510	5 x 10'	26.00	23.50	21.50
725-0105	ASB-610	6 x 10'	30.00	26.25	24.00
725-0106	ASB-616	6 x 16'	46.53	42.30	38.78
725-0107	ASB-626	6 x 26'	73.72	66.65	61.10
725-0110	ASB-88	8 x 8'	31.00	27.50	25.00
725-0115	ASB-810	8 x 10'	38.00	33.00	30.00
725-0120	ASB-812	8 x 12'	43.00	39.00	35.00
725-0121	ASB-818	8 x 18'	64.50	58.64	53.75
725-0125	ASB-1012	10 x 12'	51.00	45.50	42.00
725-0130	ASB-1014	10 x 14'	59.00	52.00	48.00
725-0135	ASB-1115	11 x 15'	68.00	61.00	56.00
725-0140	ASB-1216	12 x 16'	78.00	70.75	65.00
725-0145	ASB-1218	12 x 18'	87.00	78.00	72.00
725-0150	ASB-1418	14 x 18'	99.00	89.00	82.00
725-0155	ASB-1518	15 x 18'	109.00	95.00	87.00
725-0157	ASB-1818	18 x 18'	193.15	154.60	135.30
725-0158	ASB-1824	18 x 24'	169.01	153.65	140.85

Conductive Foam



Non-Corrosive Conductive Foam

Low density cushioning material: 24 x 36" sheet.

Conductive foam protects static-sensitive electronic devices in-plant and during shipment. Two types, cushioning and semi-rigid are both non-corrosive. **Cushioning (CFC):** Low density spongy material for delicate parts subjected to rough handling. **Semi-Rigid (CFSR):** High density design protects IC leads from static damage and deformation. **Specifications. Cushioning (CFC). Polyurethane Density:** 2-2.5 lbs/ft³ (32-40 kg/m³). **Semi-Rigid (CFSR). Polyurethane Density:** 2-2.5 lbs/ft³ (40-48 kg/m³). Both Products. **Surface Resistivity:** 10⁹ - 10¹¹ Ohms per unit square. **Volume Resistivity:** 10⁹ - 10¹¹ Ohms-cm. Test Standard-ASTM D257.

Stock No.	Mir.'s Type	Thickness	EACH SHEET	
			1-14	15-Up
725-0010	CFC-125	1/8"	13.10	12.30
725-0015	CFC-250	1/4"	16.25	14.80
725-0020	CFC-375	3/8"	18.95	17.25
725-0025	CFC-500	1/2"	21.70	19.70
725-0030	CFC-750	3/4"	26.20	23.80
725-0035	CFC-1000	1"	28.05	25.45

Semi-rigid, high density foam for insertion of I.C. leads: 24 x 36" sheet.

Stock No.	Mir.'s Type	Thickness	EACH SHEET	
			1-14	15-Up
725-0050	CFSR-125	1/8"	16.25	14.80
725-0055	CFSR-250	1/4"	19.50	17.65
725-0060	CFSR-375	3/8"	22.75	20.70
725-0065	CFSR-500	1/2"	25.95	23.60
725-0070	CFSR-750	3/4"	36.02	32.66
725-0075	CFSR-1000	1"	44.85	40.66

Low density cushioning material: 24" x 50 ft. roll.

Stock No.	Mir.'s Type	Thickness	EACH ROLL	
			1	2-5
725-0040	CFC-125-50	1/8"	196.00	157.00
725-0045	CFC-250-50	1/4"	236.00	188.00

Warning Labels

A must to ensure that personnel are aware of static-sensitive components. Labels are designed for use with bags, boxes, and other carriers in which the contents are static sensitive. They are available for single use or reusable forms, using the accepted industry static symbols.



Stock No.	Mir.'s Type	Description	Size W x L	PER ROLL/500		
				1-9	10-19	20-Up
725-0210†	ASL-10B	Reusable, Orange	2 1/2 x 1 3/4"	15.45	13.07	11.33
725-0215*	ASL-2YB	Destructible, Yellow	2 1/2 x 1 3/4"	13.00	11.00	9.50
725-0220†	ASL-3YB	Reusable, Yellow	2 1/2 x 1 3/4"	15.45	13.07	11.33
725-0225*	ASL-4YB	Destructible, Yellow	2 1/2 x 1 3/4"	15.00	12.50	11.00

† JEDEC-14 (Joint Electron Device Engineering Council). ‡ Military Standard 129H. * Labels also provide space where contents may be identified. Supplied in rolls of 500 labels on a 3-inch I.D. core.

Portable Field Service Grounding Kit

Now you can remove and prevent static build-up during field service of electronic systems with this portable kit. **Components include:** one portable grounding work surface made of static dissipative vinyl 24 x 18" with reinforced edges and corners. This surface provides two integral pockets 11 x 6" as well as two male ground snaps and an interconnect snap (AIS-1). One (AWCC) wrist strap with coiled ground cord (max. extension 5 ft) and one (AGC-18-15) straight ground cord.

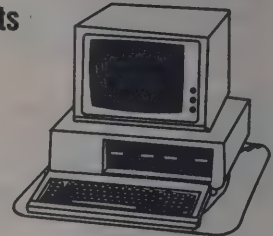


Stock No.	Mir.'s Type	EACH		
		1-49	50-249	250-Up
725-0320	ASGK-1	50.07	46.75	43.81

Electronic Equipment Terminal Mats

Protects you from:

- Loss of Critical Data
- Garbled Printouts
- System Shut Down
- Personnel Discomfort



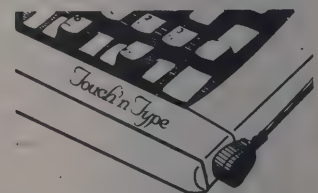
Electrostatic discharge can cause costly breakdowns and malfunctions of your electronic systems. Terminal mats overcome static problems while providing the protection electronic systems require. The terminal mat is a flexible mat apparatus to serve as a safe, non-destructive ground path for static. **Specifications. Thickness:** 3/32". **Weight:** 1 lb/ft². **Surface Resistivity:** 10⁹ Ohms per unit square. **Volume Resistivity:** 10⁹ Ohms-cm. **Static Decay Time:** Less than 0.05 seconds.

Stock No.	Mir.'s Type	Size W x L	EACH		
			1-9	10-49	50-Up
725-0195	APM-1024	10 x 24"	28.25	24.21	21.60
725-0200	APM-1824	18 x 24"	31.89	29.61	27.64
725-0205	APM-22	24 x 24"	39.90	35.70	33.10

Touch'n Type

Ideal for:

- Word Processors
- Computers
- Electronic Cash Registers, Scales, and Typewriters
- Teletype Machines
- Photo Copiers



The Touch'n Type™ strip is the best method available to quickly route dangerous static electricity away from electronic equipment. Electronic memories can be modified or erased completely and entire computer system failures can be caused by static electricity discharges. Easily mounted on electronic equipment. As soon as the operator makes contact with the Touch'n Type™ strip, the static is safely drained away. **Specifications. Thickness:** 3/64" (1.2mm). **Surface Resistivity:** 10⁹ - 10¹¹ Ohms per unit square. **Volume Resistivity:** 10¹⁰ - 10¹² Ohms-cm. **Static Decay Time:** Less than .05 sec. **Dimensions:** 3/4 x 30 x 3/64". Includes 15 ft. ground cord, alligator clip and extra ring terminal.

725-0190. Model TNT-1. 1-24	EACH 23.80
25-99	EACH 21.73
100-Up	EACH 20.00

Work-Guard™ and Work-Guard B™ Air Ionizers



Work-Guard™



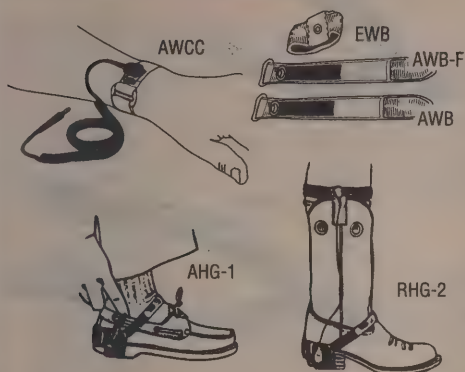
Work-Guard B™

Work-Guard™. Ends static problems in work areas. The standard is a non-blown ionizer that generates ions through corona discharge at two needle points. Propagation to the work area is done by coulomb repulsion. **Specifications. Power Input:** 110VAC (also available with 220VAC adapter). **Ion Output:** Positive and negative. **Induced Voltage:** <100V on 10 pf object 12" from unit. Below computer/microprocessor interference. **Dimensions:** 4 x 4 1/2 x 1 1/2" (101.6 x 114.2 x 38.1mm). **Weight:** 1.5 lbs. (680.5g).

Work-Guard B™. Ionizer with blower, operates on the same principle of ionization as the standard Work-Guard. Low velocity air stream increases the effective area of operation. **Specifications. Power Input:** 110VAC or 220VAC. **Ion Output:** Positive and negative. **Induced Voltage:** 100V on 10 pf object 12" from unit. EMI-RFI; below computer/microprocessor interference. **Dimensions:** 6 x 6 1/4 x 3 1/4" (152 x 158.8 x 82.6mm). **Weight:** 3.1 lbs. (1420g). Available with or without heater.

Stock No.	Mir.'s Type	Description	EACH
725-0175	ION-1	Non-fan-blown air ionizer	292.00
725-0180	ION-B	Fan blown air ionizer	442.00

Wrist Straps and Heel Grounders



Wrist Wraps/Heel Grounders

Stock No.	Mfr.'s Type	Description	EACH
725-0350	AWB	One-size-fits-all Velcro wrist strap c/w conductive strip	4.45
725-0355	AWB-F	Same as above but with extra comfort conductive foam liner	5.40
725-0360	EWB-S(Sm.)	Self adjusting elastic wrist band c/w conductive strands contacting full circumference of users wrist.	6.85
725-0365	EWB-M(Med.)	Self adjusting elastic wrist band c/w conductive strands contacting full circumference of users wrist.	6.85
725-0370	EWB-L(Lg.)	Self adjusting elastic wrist band c/w conductive strands contacting full circumference of users wrist.	6.85
725-0470	AHG-1	Heel grounder with conductive rubber ribbon to slip into users shoe.	12.99
725-0475	GT-1	Replacement conductive ribbon for AHG-1 (Pack of 10)	24.99
725-0480	RHG-2	Heel grounder with shin band and 15' interconnect cord with built-in one megohm resistor	39.00
725-0485	AEB	Adjustable elastic wrist band c/w conductive strands contacting full circumference of users wrist. One-size-fits-all.	6.00
725-0490	IMB	Adjustable insulated metal wrist band watch style	14.93

Wrist Wraps with Coiled Ground Cord

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-Up
725-0375	AWCC	Wrist strap (AWB) with 5 ft. extendable coil cord (CC-5)	14.58	13.46	12.50
725-0380	AWCC-F	Wrist strap (AWB-F) with 5 ft. extendable coil cord (CC-5)	16.25	13.65	12.65
725-0385	EWCC-S(Sm.)	Wrist strap (EWB) with 5 ft. extendable coil cord (CC-5)	17.10	15.40	14.25
725-0390	EWCC-M(Med.)	Wrist strap (EWB) with 5 ft. extendable coil cord (CC-5)	17.10	15.40	14.25
725-0395	EWCC-L(Lg.)	Wrist strap (EWB) with 5 ft. extendable coil cord (CC-5)	17.10	15.40	14.25
725-0396	AEC	Wrist strap (AEB) with 5 ft. extendable coil cord (CC-5)	18.66	16.59	14.90
725-0397	IMCC	Wrist band (IMB) with 5 ft. extendable coil cord (CC-5)	28.04	24.92	22.43

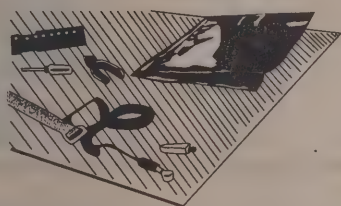
Note: All above wrist strap-cord combinations also include an alligator clip for grounding flexibility. All ESS ground cords have one megohm resistor built into the cord for user safety.

Wrist Straps with Straight Ground Cord

725-0400	AWSC	Wrist strap (AWB) with 5 ft. straight ground cord (SC-5)	12.50	11.85	10.50
725-0405	AWSC-F	Wrist strap (AWB-F) w/5 ft. straight ground cord (SC-5)	13.45	12.40	11.45
725-0410	EWSC-S(Sm.)	Wrist strap (EWB-S) w/5 ft. straight ground cord (SC-5)	14.60	13.25	12.25
725-0415	EWSC-M(Med.)	Wrist strap (EWB-M) w/5 ft. straight ground cord (SC-5)	14.60	13.25	12.25
725-0420	EWSC-L(Lg.)	Wrist strap (EWB-L) w/5 ft. straight ground cord (SC-5)	14.60	13.25	12.25
725-0421	AESC	Wrist strap (AEB) with 5 ft. straight ground cord (SC-5)	15.37	13.66	12.30
725-0422	IMSC	Wrist band (IMB) with 5 ft. straight ground cord (SC-5)	26.54	23.59	21.23

Note: All above wrist strap-cord combinations also include an alligator clip for grounding flexibility. All ESS ground cords have one megohm resistor built into the cord for user safety.

ESS straps safely remove static electricity from personnel who handle static-sensitive devices. The strap is worn on the wrist of the user, and a ground cord is attached to the strap, thereby serving as a drain path for static electricity. The wrist strap is available in light blue velcro material and is adjustable to fit most wrist sizes. It features excellent skin contact, washability and operator comfort. Ground cords are available in both straight and coiled cord models and in a variety of lengths and termination configurations. All ESS ground cords have a one megohm resistor built into the cord for user safety.



Flexible Table Mats

- Permanently Static Dissipative
- Will Not Curl on Work Surface
- Durable and Flexible
- Eliminates Capacitance Surge (Common in Laminated Material)
- Heat- and Flame-Resistant
- Humidity Independent
- Acid- and Alkali-Resistant
- Durable and Flexible

ESS work surface table mats provide a static dissipative surface to protect sensitive electronic components from damaging electrostatic discharge (ESD) during manufacturing. Static charges from personnel and conductive objects placed in contact with the mats are quickly and safely drained to ground. Because the mats are static dissipative, sparking electrostatic discharge is eliminated, reducing the electrostatic damage and discomfort to personnel. **Specifications:** Thickness: 3/32 In. (2.4mm). **Unit Weight:** 1 lb/ft² (4.9 kg/m²). **Surface Resistivity:** 10⁹ Ohms per unit square. **Color:** Beige (light blue on request). **Rigid mats also available.**

Stock No.	Mfr.'s Type	Size W x L	Description	EACH	
				1-24	25-Up
725-0228	ATM-23	24" x 36"	Each table mat includes one 15 ft. ground cord AGC-18-15 and two male snap fasteners.	46.66	40.80
725-0230	ATM-24	24" x 48"	Each table mat includes one 15 ft. ground cord AGC-18-15 and two male snap fasteners.	49.00	45.00
725-0235	ATM-304	30" x 48"	Each table mat includes one 15 ft. ground cord AGC-18-15 and two male snap fasteners.	72.00	65.50
725-0240	ATM-364	36" x 48"	Each table mat includes one 15 ft. ground cord AGC-18-15 and two male snap fasteners.	89.35	82.00

Stock No.	Mfr.'s Type	Size W x L	Description	EACH	
				1-5	6-10
72500245	ATM-245	24" x 45"	Snap, ground cords not incl. Use of ESS AMS snaps, AGC-18-15 ground cord is recommended	476.00	441.17
72500252	ATM-3045	30" x 45"	Snap, ground cords not incl. Use of ESS AMS snaps, AGC-18-15 ground cord is recommended	632.09	588.19
72500255	ATM-3645	36" x 45"	Snap, ground cords not incl. Use of ESS AMS snaps, AGC-18-15 ground cord is recommended	690.00	640.00

Anti-Fatigue Floor Mats

Reduces foot, leg and back discomfort while draining away annoying and dangerous electrostatic charges. Protects electronic systems from damage and disruption. Spring vinyl mats are .375" thick and weigh .72 lbs/ft². **Surface Resistivity:** 10¹⁰ Ohms per unit square. **Color:** Ash grey. Rigid floor mats also available.

Model AFM-36. Includes one 15' ground cord AGC-18-15 and four male snap fasteners installed. **Size:** 3' x 6'. **EACH 119.00**

725-0260. 1-24 **EACH 129.00**

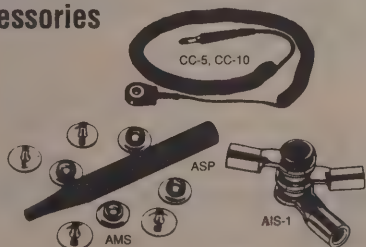
Model AFM-360. Snaps and ground cords not included. Use of ESS AMS snaps and AGC-18-15 ground cord is recommended. **Size:** 3' x 60". **EACH 749.00**

72500265. 1-5 **EACH 610.00**

6-UP **EACH 749.00**



Accessories



Stock No.	Mfr.'s Type	Description	EACH
725-0425	SC-5	5 ft. Straight cord c/w one megohm resistor and alligator clip	10.50
725-0430	CC-5	6 ft. Extendable coil c/w one megohm resistor and alligator clip	12.75
725-0435	CC-10	12 ft. Extendable coil cord c/w one megohm resistor and alligator clip	15.50
725-0440	AGC-18-15	15 ft. Ground cord for grounding table and/or floor mat c/w one megohm resistor and alligator clip	10.10
725-0445	AIC-18-5	5 ft. Interconnected cord to connect table to floor mat c/w one megohm resistor	7.60
725-0450	AIS-1	Interconnected snaps can be snapped one on top of the other, to form a multi-cord ground point	1.42
725-0455	AMS	Male snap fastener. Can be installed anywhere on table or floor mats for customized ground cord attachments. Packages ten (10) per bag. Use punch (ASP) and a hammer to install.	4.16
725-0460	ASP	Snap punch. Specially designed to be used to install snap fasteners (AMS)	27.39
725-0465	AC	Alligator clip	2.33

All ESS ground cords have a one megohm resistor built into the cord for user safety.

Workstation Kit

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-Up
725-0322	AWSC-1	Kit Contains: One ATM 24 Table mat; One 15 ft. Ground cord AGC-18-15; One AFM 36 Floor mat; One AWCC Wrist strap and coil cord; One 5 ft. Interconnected cord AIC-18-5; One Interconnected snap AIS-1	170.67	146.29	136.53

NOTE: Complete kit required to set up a static-free workstation in a manufacturing facility.

Ergonomic Hand Tools

- ▶ Meet The Optimum Criteria For Ergonomic Hand Tools
- ▶ Provides More Gripping Accuracy. Long Finger Bearing Surface Reduces Pressure on Sides of Fingers Decreasing The Risk of Skin, Nerve and Blood Vessel Damage
- ▶ Lightweight Construction Helps Reduce Operator Fatigue
- ▶ Disperses Gripping Force More Uniformly Over All Four Fingers and The Entire Palm Area To Reduce Pressure On The Median Nerve
- ▶ Extended Handle Length Allows Even Application of Force From All Four Fingers To Reduce Both Fingers and Hand Fatigue
- ▶ Exclusive, Smooth, Soft Foam Cushion Grips Are Free of Abrupt Edges and Finger Indentations Reducing Pinching or Finger Nerves and Blood Vessels
- ▶ Grip Material Is Non-Slip and Compressible To Allow Positive Gripping and To Absorb Mechanical Shock
- ▶ Handle Contours Adaptable For Either Right or Left Hand Use To Protect Against Discomfort and Injury Resulting From Careless Holding of Dedicated Right or Left-Hand Tools In The Wrong Hand
- ▶ E Designates "Accu-Lite" Ergonomic Design With Anti-Static Foam Grips. Available Only On MS54 Series, GA54 Series, LN54 Series, NN54 Series, LNT15 Series and all Erem Tools; Additional Charge Per Pair



2140E



E2141E

Erem "2100" Series

Small Oval-Head Diagonal Cutters

General purpose long life tool. Small with an oval head. High grade tool steel. Precision Double screw joint system. Anti-glare finish.

984-5535.	2140E.	Semi-flush cutting edges 4 1/4"	EACH	49.72
984-5536.	2141E.	Full-flush cutting edges 4 1/4"	EACH	50.74
984-5538.	E2140E.	Same as 2140E, but E prefix code designates "Accu-lite" ergonomic design with antistatic foam grips.	EACH	61.72
984-5539.	E2141E.	Same as 2141E, but E prefix code designates "Accu-lite" ergonomic design with antistatic foam grips.	EACH	62.74
984-5540.	E2140E-01.	Same as 2140E, but has "Accu-lite" ergonomic design with antistatic foam grips with a reverse twist of "Accu-lite" handles for right hand	EACH	61.72
984-5560.	E2140E-02.	Same as 2140E, but with foam grips with a reverse twist of "Acculite" handles for left hand	EACH	62.74
984-5541.	E2141E-01.	Same as 2141E, but has "Accu-lite" ergonomic design with antistatic foam grips with a reverse twist of "Accu-lite" handle for right hand	EACH	61.72
984-5561.	E2141E-02.	Same as 214E, but with foam grips with a reverse twist of "Acculite" handles for left hand	EACH	62.74

Diamond/Xcelite Ergonomic Hand Tools

984-5545.	EMS54.	4" Diagonal cutting plier/semi-flush with Accu-lite ergonomic handle, oval head cutters	EACH	24.56
984-5546.	EMS54J.	4" Oval head diagonal cutter, flush cutting, with Accu-lite ergonomic handle	EACH	26.42
984-5547.	EMS543J.	4" Diagonal cutting pliers, relieved tapered head-flush cutter, with Accu-lite ergonomic handle	EACH	26.58
984-5548.	EMS545J.	4" Diagonal cutting pliers, slim line tapered head, with Accu-lite ergonomic handle	EACH	25.52
984-5549.	EMS549J.	4" Tapered head diagonal cutter, flush cutting of leads in restricted areas with Accu-lite ergonomic handle	EACH	26.08
984-5550.	EGA54J.	4" Angled diagonal end cutter at 29°, flush cutting, with Accu-lite ergonomic handle	EACH	36.02
984-5551.	ELN54.	5" Thin long nose pliers, general purpose use, serrated jaws, with Accu-lite ergonomic handle	EACH	26.02

Tweezers



3SA



AASA



5SA

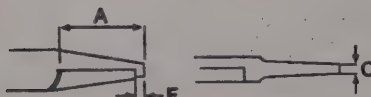


2ASA

Stock No.	Mfr.'s Type	Description	EACH
984-5505	AASA	4 3/4" Strong but fine pints, swiss quality	14.16
984-5506	EROPAAASA	4 3/4" more economical version of AASA	6.50
984-5507	2SA	4 1/2" Medium points, swiss quality	22.08
984-5508	2SASL	4 1/2" More economical version of 2SA	10.80
984-5509	2ASA	4 1/2" Flat and round points, swiss quality	20.58
984-5510	2ASASL	4 1/2" flat and round points, more economical version of 2ASA	12.64
984-5511	EROP2ASA	4 1/2" flat and round points, more economical version of 2ASASL	6.50
984-5512	3SA	4 1/2" Most popular for microelectronics, swiss quality	25.50
984-5513	3SASL	4 1/2" Most popular for microelectronics, more economical version of 3SA	10.28
984-5514	EROP3SA	4 1/2" Most popular for microelectronics, more economical version of 3SASL	6.50
984-5515	3CSA	4 1/4" Same as 3SA, but shorter version, swiss quality	17.56
984-5516	3CSASL	4 1/4" Same as 3SA, but shorter version, more economical version of 3CSA	11.96
984-5517	EROP3CSA	4 1/4" Same as 3SA, but shorter version, more economical version of 3CSASL	6.50
984-5518	5SA	4 1/2" Superfine points, special shaping, for handling very fine wires, miniature (components such as speed diodes, SMD, Melf) etc., swiss quality	30.24
984-5519	5SASL	4 1/2" Superfine points, special shaping, for handling very fine wires, miniature (components such as speed diodes, SMD, Melf) etc., more economical version of 5SA	13.92

Stock No.	Mfr.'s Type	Description	EACH
984-5520	EROP5SA	4 1/2" Superfine points, special shaping, for handling very fine wires, miniature components such as speed diodes, SMD, Melf, etc., more economical version of 5SASL	6.50
984-5521	7SA	4 1/2" Curved for easy manipulation in confined areas, swiss quality	27.58
984-5522	7SASL	4 1/2" Curved for easy manipulation in confined areas, more economical version of 7SA	13.70
984-5523	EROP7SA	4 1/2" Curved for easy manipulation in confined areas, more economical version of 7SASL	6.50
984-5524	00SA	4 3/4" Flat inside edges. Very resistant. General purpose electronic assembly tweezers, swiss quality	17.90
984-5525	00SASL	4 3/4" Flat inside edges. Very resistant. General purpose electronic assembly tweezers, more economical version of 00SA	13.40
984-5526	EROP00SA	4 3/4" Flat inside edges. Very resistant. General purpose electronic assembly tweezers, more economical version of 00SASL	6.50
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PCB Cutters

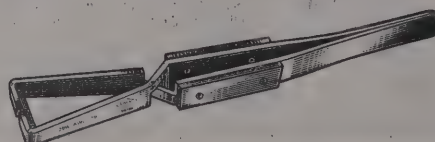


Transverse anti-shock shear cutter. Cuts the lead to a predetermined length. Reduces mechanical shock on components. (Standard cut off at .040)

Stock No.	Mfr.'s Type	A	C	D	F on Request *	EACH
984-5564	530E	20 mm .787"	3 mm .118"	2 mm .079"	1.5 mm standard .059" standard	110.92

*Max. Cu ø1.2 mm, .047"

Stripping Tweezers



Very Sensitive, self closing strippers, one diameter each. For standard or Teflon insulations, AWG 30, 28, and 26.

984-5566.	29W26.	EACH	74.76
984-5567.	29W28.	EACH	74.76
984-5562.	29W30.	EACH	52.08

IC Tools

Insertion - Extraction Pliers for DILs

- ▶ 14-16 Pins
- ▶ .300 Wide



505C

14-16

.300

984-5563.	505C	EACH	138.42
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Alignment Tools, Kits and Magnifiers

Tool Kits

Alignment and Specialty Tool Kit — Fig. A

This kit contains a selection of popular alignment and service tools in a handsome carrying case, ideal for the technician and engineer. Each tool's application is described on inside of case. The kit, containing 44 tools, includes: five hex tools, three hex wrenches, four screwdrivers, eight aligners, three Tel-A-Turn tools, wirestripper, wrench kit, inspection mirror, K-Tran tool, Neo-Lite tester, Lo Volt tester, fuse puller, tweezers, TV channel tuning tool, capacitor tool, two 2-IN-1 tools, oiler, reamer tool, heat sink, solder probe, brush/scrapper tool, ruler, burnishing tool, transistor tool, and double end tool.

796-5060. Type 5050EACH 103.86

GC Type 9200 Alignment Tool Kit — Fig. B

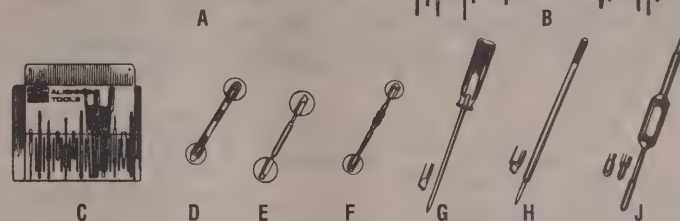
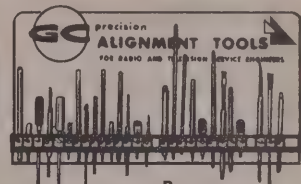
Wall mounting kit includes 27 most needed radio-TV alignment tools. Housed in sturdy, 3-color steel panel with 2-hole mounting. Precision made of the finest materials including low-loss plastics and extra-hard bone fiber; tips are hardened spring steel. Includes: various length alignment screwdrivers, special short tools; alignment wrenches; channel tuners; core aligners; oscillator adjust tools; trimmer, IF aligners; solder probe; nylon replacement tip for long reach aligner; hex tools; etc. panel is 9³/₄" high and 18³/₄" wide.

796-9200. Shpg. Wt. 8 oz.EACH 58.82

Type 8280 TV Tool Kit — Fig. C

Contains 15 TV alignment tools in a handy roll-up plastic case. Includes: "Shorty" duplex aligner; 1/8" sq. socket wrench; K-Tran tool; 0.100 hex wrench; recessed screwdriver; others. Tip of Delrin, extra-hard bone fiber, or hardened spring steel.

796-8280. Shpg. Wt. 8 oz.EACH 32.49



Stock No.	Mfr.'s Type	Fig.	Description	Oz.	EACH
796-8276	8276	D	Short duplex aligner	3	2.04
796-8605	8605	E	Capacitor/tuner hex and screwdriver	3	2.59
796-8606	8606	F	Zenith-Admiral Delrin 5" hex wrench	3	1.52
796-8987	8987	G	7" blade plastic screwdriver	3	2.68
796-9089	9089	H	5 ³ / ₄ " thin-end metal-tipped aligner	3	2.18
796-9300	9300	J	.075" hex coil slug and alignment	3	2.49



Speed-O-Matic Wire Stripper

Features "Fully Automatic Delayed Action" to prevent crushing fine wires. Speed-O-Matic has narrow, easy-grip, handles and interchangeable blades. Patent No. 2,755,691.

Stock No.	Mfr.'s Type	Description	EACH
796-2900	766	For sizes 12 to 20 wire	24.29
796-2905	766-A	For sizes 14 to 30 wire	24.29
796-2910	766-B	For sizes 10 to 18 wire	24.29
796-2925	766-IP	For sizes 8 to 22 wire	24.29
796-2935	766-TEF	Teflon Stripper	34.77

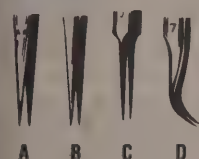
Anti-Static Alignment Tool Kit

Kit contains all nine anti-static alignment tools. The wide range of tip styles and sizes assures that the user will have a tool for adjusting or aligning any conventional component. Supplied with pocket storage case.

796-0145. Type AS-5007EACH 27.59

Replacement Tools for Above Kit

Stock No.	Mfr.'s Type	Description	EACH
796-0100	AS-5004	Adjustment screwdriver (7" long; tips 1/32" each)	2.01
796-0105	AS-8275	Combination aligner (4 ¹ / ₁₆ " long; tips 1/32" and 1/8" steel)	2.33
796-0110	AS-8276	Steel tip duplex aligner (6 ¹ / ₁₆ " long; tips 1/8", 1 end recessed)	2.32
796-0115	AS-8605	Small hex and screwdriver (5 ³ / ₃₂ " long; tips 0.095" screwdriver, 0.10" hex)	2.54
796-0120	AS-8606	Hex and tip tool (5 ³ / ₃₂ " long; tips 0.095" screwdriver, 0.10" hex)	2.59
796-0125	AS-8608	Mini potentiometer and trimmer tool (4 ¹ / ₁₆ " long; tips 0.085", one side recessed)	3.79
796-0130	AS-9300	Double ended hex tool (5" long, tips 1/4" and 3/8" hex)	1.99
796-0135	AS-9302	3-in-1 hex core tool (5 ³ / ₈ " long; tips 0.078" and 0.10" hex)	1.99
796-0140	AS-9440	Square and hex tool (5 ¹ / ₁₆ " long, tips 0.10" hex, 1/16" square)	1.99



Precision Assembly Tweezers

For electronics assembly of miniature and micro-fine scale. Finest quality steel; workmanship assures freedom from misalignment. Points are ground flat on the inside. Precision sharp and shaped points, tension spring action.

Stock No.	Mfr.'s Type	Fig.	Length Inches	EACH
796-7948	7948*	A	4 ¹ / ₂	3.53
796-7993	7993	A	4 ¹ / ₈	6.23
796-7992	7992	B	5 ¹ / ₂	16.01
796-7994	7994	C	4 ¹ / ₄	6.23
796-7995	7995	D	4 ¹ / ₂	6.23

*Nickel plated forged steel. All others are stainless steel.

Multi-Purpose Seizer



► Holds Wires, Acts as a Heat Sink, Retrieves Parts

Versatile tool clamps firmly to hold wires for soldering; acts as a heat sink — retrieves small parts from hard-to-reach places. Has two-position snap lock, serrated jaws, box-joint construction. Precision machined from stainless steel.

Type 7977. 6" Straight Nose. 3 oz.

796-7977EACH 11.77

Type 7979. 6" Curved Nose. 3 oz.

796-7979EACH 11.77



Deluxe PC Mini-Drill

Particularly designed with PC board work in mind but capable of handling metal and plastic chassis boxes too. Operates as a portable on 4 "AA" batteries (not included) at 2500 RPM. Includes power cord, connector, collets, 3 bits, grinding wheel, collet wrenches and plastic storage box.

796-1210. Model 12-107EACH 41.76

Nibbling Tool

Type GC-805. This precision, hand operated tool is easy to use. Cuts sheet metal like a chassis punch. Start with a 3/8" hole and nibble to desired shape and size. Cuts up to 18 ga. steel 1/16" copper, aluminum or plastic.

796-3660. Model 805EACH 17.48

796-3665. Model 806 (Deluxe)EACH 20.59

— NEW —



Extra Hands with Magnifier

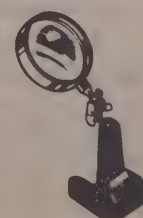
Two alligator spring clamps and double ball joints hold work at any angle. Third clamp holds 2" magnifying lens for doubling size of hard to read part numbers and verifying repair accuracy. Spring clip holds objects at any angle leaving both hands free to glue, solder, repair or assemble with ease. Heavy cast-iron metal base provides stable error-free assistance.

796-9802. Model 12-053. 1-5EACH 16.59

6-11EACH 10.95

Micro Inspection Magnifier

2¹/₂" dia. precision ground and polished glass. Non-tip base. Chrome plated arms and rims. Head swings a full 350°. Adjustable magnifier. Positive-lock swivel adjustments. Base 2¹/₄" deep, 2" wide.



796-2386. Type 22-386EACH 20.19

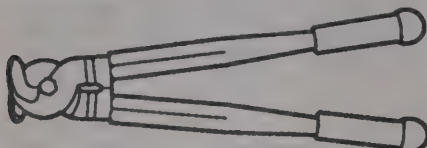
Cable Cutters

727 Cable Cutter



Model 727 cable cutter has forged steel blades for cutting up to 2/0 aluminum or copper cable. Cutter has heat-treated, precision ground shear action blades for clean cuts. High leverage handles are plastic coated for extra comfort and grip. 799-0727. Model 727.....EACH 23.84

718 Cable Cutter



Model 718 cable cutter is lightweight and compact. The 18" overall length cutter has shearing action heat-treated and precision ground blades for dependable service. Steel handles have rubber grips. For 350 MCM copper and aluminum, not for cutting steel, ACSR or live circuits. 799-0718. Model 718.....EACH 55.20

Screwdrivers

TRI-GRIP™ Insulated Screwdrivers



- Carries The Industry's Highest Insulation Rating For Maximum Protection
- User-Friendly TRI-GRIP™ Handle Design Delivers Excellent Driving Power With Reduced Manual Effort
- Meets IEC/VDE Standards

799-4741. 47430. Slotted, 3/32" x 3" (2.4 x 76.2 mm).....	EACH	7.50
799-4742. 47431. Slotted, 5/32" x 4" (4.0 x 101.6 mm).....	EACH	8.45
799-4743. 47432. Slotted, 7/32" x 4" (5.6 x 101.6 mm).....	EACH	8.84
799-4744. 47433. Slotted, 1/4" x 5" (6.4 x 127.0 mm).....	EACH	9.76
799-4745. 47434. Slotted, 5/16" x 6" (7.9 x 152.4 mm).....	EACH	11.70
799-4746. 47435. Slotted, 3/8" x 7" (9.5 x 177.8 mm).....	EACH	14.78
799-4747. 47436. Phillips, #1 x 7" (6.4 x 177.8 mm).....	EACH	6.58
799-4748. 47437. Phillips, #2 x 4" (101.6 mm).....	EACH	7.80
799-4749. 47438. Phillips, #3 x 6" (152.4 mm).....	EACH	10.18

Super TRI-GRIP™ Insulated Screw Holding Screwdriver



- Insulation Properties Reduce The Potential For Shock While Working Around Live Currents
- Large, Super TRI-GRIP™ Handle Gives User The Ultimate In Turning Force And Comfort
- Meets IEC/VDE Standards

799-4750. 47608. Slotted, 3/32" x 3" (2.4 x 76.2 mm).....	EACH	11.52
799-4751. 47609. Slotted, 1/8" x 4" (3.2 x 101.6 mm).....	EACH	13.61
799-4752. 47610. Slotted, 5/32" x 5" (4.0 x 127.0 mm).....	EACH	16.63
799-4753. 47611. Slotted, 3/16" x 6" (4.8 x 152.4 mm).....	EACH	18.90
799-4754. 47612. Slotted, 1/4" x 7" (6.4 x 177.8 mm).....	EACH	21.80
799-4755. 47613. Phillips, #0 x 4" (101.6 mm).....	EACH	16.12
799-4756. 47614. Phillips, #1 x 6" (152.4 mm).....	EACH	19.66
799-4757. 47615. Phillips, #2 x 7" (177.8 mm).....	EACH	22.42

Variable Pitch Bi-Metal Hole Saw Kit



799-1934. 19134. 3/4" (19.0 mm). 1/2" I.D. Copper Pipe Size.....	EACH	7.51
799-1936. 19136. 7/8" (22.2 mm). 5/8" I.D. Copper Pipe Size.....	EACH	7.51
799-1941. 19141. 1 1/8" (28.6 mm). 3/4" I.D. Copper Pipe Size.....	EACH	7.93
799-1946. 19146. 1 3/8" (35.0 mm). 7/8" I.D. Copper Pipe Size.....	EACH	8.40
799-1952. 19152. 1 7/8" (44.4 mm). 1 1/2" I.D. Copper Pipe Size.....	EACH	10.47
799-1955. 19155. 2" (50.8 mm).....	EACH	10.47
799-1962. 19162. 2 1/2" (63.5 mm). 2" I.D. Copper Pipe Size.....	EACH	13.96

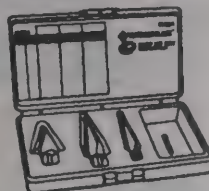
Arbors With Replacement High Speed Pilot Drills



Model 37157. 1/4" (64 mm) Round Shank with 3 Flats for 9/16"-1 1/8" (14.3-30.2 mm) diameter hole saws.	EACH	8.32
799-3757. Model 37157.....	EACH	8.32
Model 37155. 7/16" (11.1 mm) Hex Shank for 9/16"-1 1/8" (14.3-30.2 mm) diameter hole saws and all HoleBuster™ sizes.	EACH	9.86
799-3755. Model 37155.....	EACH	9.86
Model 37156. 1/2" (12.7 mm) Hex Shank for 1 1/8"-1 3/8" (15.9 mm) Hex Shoulder for 1 1/4"-5" (31.8-152.4 mm) diameter hole saws and all Greenlee Recessed Light Hole Saws.	EACH	19.45
799-3756. Model 37156.....	EACH	19.45

Kwik Stepper™ Step Bits

Kwik Stepper™ Step Bits Set



Two fluted design for fast, cooler cutting of 10 gauge mild steel plus copper, brass, wood, plastics and laminates. Self-starting tip resists walking or skidding. Multi-hole bit. Three bit set (1/2", 7/8" and 1 1/8") in case. 799-5884. 35884.....EACH 105.92

Kwik Stepper™ Step Bits

- Cuts Through 10 Gauge (3.5 mm) Mild Steel Plus Copper, Brass, Wood, Plastics and Laminates with Just One Drill Bit
- Two Flute Design Operates Cooler
- Self-Starting Tip Resists Walking or Skidding

799-3401. 34401. 1/2" (12.7 mm) Multi-Hole.....	EACH	24.35
799-3403. 34403. 7/8" (22.2 mm) Multi-Hole.....	EACH	34.17
799-3410. 34410. 1 1/2" (38.1 mm) Multi-Hole.....	EACH	20.83
799-3411. 34411. 7/8" (22.2 mm) Single-Hole.....	EACH	35.35
799-3418. 36018. 9.7 mm Single-Hole.....	EACH	21.15
799-3420. 36020. 30.5 mm Multi-Hole.....	EACH	56.22
799-3422. 36022. 32.5 mm Multi-Hole.....	EACH	56.22
799-3402. 36402. 1/2" (12.7 mm) Multi-Hole.....	EACH	23.71
799-3413. 36413. 1 1/8" (28.6 mm) Multi-Hole.....	EACH	47.48
799-3414. 36414. 1 3/8" (34.9 mm) Multi-Hole.....	EACH	56.93

Kwik-Bits™ Bit Box Screwdriver Set

- Pocket-Sized Bit Holder Stores Six Screwdriver Bits and a Magnetic Chuck
- Unique Case Design Can Be Used as a Hand Held Screwdriver as Well as a Large Storage Compartment
- Kwik Bits™ Bit Box Screwdriver Set Includes: 5/32" slotted, 7/32" slotted, 1/4" slotted, #1 Phillips, #2 Phillips, #3 Phillips, Magnetic Chuck, Magnetic Bit Holder



799-4781. 47819.....	EACH	15.26
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Volt Tick™ Contactless Voltage Indicators



Hand held voltage testers for easy use. Sense the presence of AC voltage without making contact. 2010 has adjustable sensitivity. Comes in both pocket and belt sizes. Small size allows checking

fuses in a cabinet and individual line voltage presence is indicated. Audio and visual indicators assure operation. 2010 has light at the base for use with hot stick. Model 2010H comes with holster.

799-1010. Model 1010 (50-600 VAC).....	EACH	20.39
799-2010. Model 2010H (24-1500 VAC).....	EACH	88.05

Gas Lamp Tester

- Test All Gas-Filled Lamps Including: Fluorescent, High And Low, Pressure Sodium, Neon, Mercury Vapor And Metal Halide
- Indicates AC/DC Voltage Up To 500 V; Continuity Up To 300 Ohms
- Detachable Antenna Extends To 27" (686 mm)
- Visual And Audible Indicators
- Checks Ballasts, Igniters, Starters, Capacitors, Resistors And Photo Electric Cells
- Batteries, Lead Probes, Clamps, Antenna And Holster Included



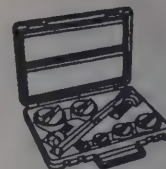
799-5715. Model 5715.....	EACH	209.13
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Voltage Testers

Model 6706. Voltage and Continuity Tester 600 Volt.	EACH	84.77
799-6706. Model 6706.....	EACH	84.77
Model 6708. Voltage and Continuity Tester 400 Volt.	EACH	84.77
799-6708. Model 6708.....	EACH	84.77
Model 6709. Voltage Tester 600 Volt.	EACH	60.70
799-6709. Model 6709.....	EACH	60.70

Punches

Slug-Buster® Punch Set



Slug-Buster knock out punch design splits slug in half so slug falls freely without effort. Works to 10 gauge mild steel. Punches clean, uniform holes in plastic and fiberglass as well. Use with manual, ratchet or hydraulic drivers. Model 7238SB includes ratchet.

799-7235. 7235BB. 1/2"-1 1/4" Conduit Size.....	EACH	131.56
799-7237. 7237BB. 1 1/2"-2" Conduit Size.....	EACH	130.03
799-7238. 7238SB. 1/2"-2" Conduit Size.....	EACH	261.58

Slug Buster® Punches



- Each Unit Includes Punch, Die And Draw Stud
- Splits Slugs For Easy Removal
- Use Manually With Greenlee Ball Bearing Draw Studs Or With Greenlee Ratchet Or Hydraulic Drivers

799-2030. 7211BB-1/2. 1/2" Punch Unit.....	EACH	29.37
799-2035. 7211BB-3/4. 3/4" Punch Unit.....	EACH	42.52
799-2040. 7211BB-1. 1" Punch Unit.....	EACH	48.64
799-2045. 7211BB-1 1/4. 1 1/4" Punch Unit.....	EACH	52.78
799-2038. 7211BB-1 1/2. 1 1/2" Punch Unit.....	EACH	67.16

Round Punches

Model 730. Round hole punches for use in 16 gauge mild steel. With manual drive draw studs.



799-3212. 1/2".....	EACH	22.45
799-3216. 9/16".....	EACH	26.15
799-3214. 5/8".....	EACH	26.15
799-3218. 1 1/16".....	EACH	27.27
799-3220. 3/4".....	EACH	27.27
799-3222. 13/16".....	EACH	27.27
799-3224. 7/8".....	EACH	23.86
799-3226. 15/16".....	EACH	29.54
799-3228. 1".....	EACH	30.60
799-3230. 1 1/16".....	EACH	30.60
799-3238. 1 1/4".....	EACH	31.52
799-3239. 1 5/16".....	EACH	30.60
799-3240. 1 3/8".....	EACH	41.05
799-3242. 1 1/2".....	EACH	48.03
799-3243. 1 5/8".....	EACH	52.33
799-3246. 1 3/4".....	EACH	57.27
799-3248. 2".....	EACH	72.47
799-3249. 2 1/8".....	EACH	76.43
799-3250. 2 1/4".....	EACH	83.47
799-3251. 2 1/2".....	EACH	120.73
799-3252. 2 3/4".....	EACH	174.22
799-3253. 3".....	EACH	232.73
Model 730M. Meter punch. Hole Size: 2 29/32".....	EACH	174.16
799-3254.....	EACH	174.16
Model 60246. 1 7/32" punch for oil tight control units.	EACH	52.50
799-3255.....	EACH	52.50
Model 730-T. 3 3/8" punch for instrument panels.	EACH	244.45
799-7300.....	EACH	244.45

Electronic Connector Connector Panel Punches

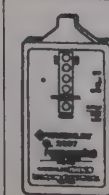


Drill one 7/16" hole and punch hole for front or rear mount D-subminiature connectors. (Cinch, ITT Canon DB-25P and DB-25S or equivalent). Manual or hydraulic operation. For 22-18 gauge mild steel and 1/8" aluminum.		
799-0229. 229. 9 Pins.....	EACH	360.15
799-0231. 231. 15 Pins.....	EACH	360.19
799-0275. RS-232. 25 Pins.....	EACH	343.57
799-0234. 234. 37 Pins.....	EACH	388.23
799-0238. 238. 50 Pins.....	EACH	376.92

Special Shape Punches



For custom size punches and dies, contact your local Allied sales office.



Power Finder™ Closed Circuit Tracer

- Identify Breakers and Fuses
- Trace Wiring in Walls, Under Floors, and Underground
- Trace Conduit
- Finds Shorts to Ground

799Q2007. Model 2007.....	EACH	359.06
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Heat Guns, Wire Markers, Cutting, Stripping and Crimping Tools



IDEAL Crimpmaster™ Crimp Tools

Full cycle, compound leverage and triple ratcheted to give exact precision to every crimp connection. All the dies in the Crimpmaster™ Series are interchangeable.

954-0506. 30-506. IDEAL Crimpmaster™ Crimp Tool Frame.....EACH 35.99

Replacement Die Sets

30-576. RG174 Mini 59 BNC/TNC Connectors (Hex, 0.178, 0.128, 0.068).....EACH 20.95
 988-5030. 30-576.....EACH 20.95
 30-577. N-Series and RG8/11 Connectors (Hex, 0.429, 0.100, 0.080).....EACH 20.95
 988-5035. 30-577.....EACH 20.95
 30-578. RG59, RG6, and 8281 50 and 75 Ω cables (Hex, 0.324, 0.255, 0.068, 0.042).....EACH 20.95
 988-5040. 30-578.....EACH 20.95
 30-579. 22-10 AWG insulated terminals/color coded nests.....EACH 20.95
 988-5045. 30-579.....EACH 20.95
 30-581. RG58, RG59/62 BNC/TNC coax connectors (Hex, 0.255, 0.213, 0.068).....EACH 20.95
 988-5050. 30-581.....EACH 20.95
 30-582. RG59, RG6 F-type CATV connectors (Hex, 0.350, 0.320, 0.255).....EACH 20.95
 988-5055. 30-582.....EACH 20.95
 30-586. 22-12 AWG non-insulated open barrel connectors, commercial type.....EACH 20.95
 988-5060. 30-586.....EACH 20.95
 30-591. Plenum and teflon cables RG58 and 59 (Hex, 0.213, 0.190, 0.68, 0.042).....EACH 20.95
 988-5065. 30-591.....EACH 20.95

IDEAL Crimpmaster™ Universal Modular Crimp Tools

IDEAL INDUSTRIES, INC. now offers a complete line of modular crimping tools and die sets which are compatible with the standard Crimpmaster™ series of tools for coax applications. Now you can have one style crimp frame and can include coax dies or modular dies in the same crimp tool frame.

30-520. Universal RJ11 2, 4 and 6 position crimp tool for AMP RJ-11 modular plugs.....EACH 66.99
 988-5070. 30-520.....EACH 66.99
 30-521. Universal RJ45 8 position crimp tool for AMP RJ45 modular plugs.....EACH 66.99
 988-5075. 30-521.....EACH 66.99
 30-522. Universal RJ45 8 position crimp tool for keyed or non-keyed modular plugs.....EACH 66.99
 988-5080. 30-522.....EACH 66.99
 30-523. Universal RJ45 10 position crimp tool.....EACH 66.99
 988-5085. 30-523.....EACH 66.99
 30-524. Universal RJ11 crimp tool for 2, 4 or 6 position modular plugs.....EACH 66.99
 988-5090. 30-524.....EACH 66.99
 30-525. Universal RJ11 crimp tool for DEC MMJ 6 position modular plugs with an off-set release tab.....EACH 66.99
 988-5095. 30-525.....EACH 66.99

IDEAL PremierMaster™ Crimp Tools

The IDEAL PremierMaster™ crimp tool is designed to give maximum comfort and reduce operator fatigue. The ergonomic design and the smaller size of the full cycle compound leverage frame allows operators with small hands to make crimps to meet MS39012 and UL standards.

954-3622. 28-500. IDEAL PremierMaster™ Crimp Tool Frame.....EACH 57.07
 28-504. RG58, RG59/62 AU BNC/TNC Hex Coax Connectors.....EACH 86.12
 954-5004. 28-504.....EACH 86.12

Replacement Die Sets

28-804. RG58, RG59/62 AU BNC/TNC 3 piece coax connectors (Hex, 0.213, 0.255, 0.068).....EACH 36.67
 954-6004. 28-804.....EACH 36.67
 28-805. Belden-Type RG8281 and RG6 BNC/TNC 3 piece coax connectors (Hex, 0.324, 0.068).....EACH 35.95
 954-6005. 28-805.....EACH 35.95
 28-810. 24-14 AWG open barrel contact commercial-type pins and sockets.....EACH 47.97
 954-6010. 28-810.....EACH 47.97
 28-812. 30-18 AWG open barrel D-sub RS232 pins and sockets.....EACH 48.95
 954-6112. 28-812.....EACH 48.95
 28-813. 22-14 AWG insulated ring spade terminals and butt splices (color coded nests).....EACH 35.95
 954-6009. 28-813.....EACH 35.95

Combo Tool

One tool performs four functions: wire stripping, bolt cutting, crimping and wire cutting. Strips 8-20 AWG solid and 10-22 AWG stranded wire. Cuts unhardened 4-40, 6-32, 8-32, 10-24 and 10-32 bolts. Accurate crimping of both bare and insulated terminals as well as IDEAL's 30-410 crimp sleeves. Anvil-type wire cutting 10 AWG solid to 22 AWG stranded wire.

954-3028. 30-428.....EACH 25.40

IDEAL Telemaster™ Telephone Tool

Multi-function telephone tool crimps, cuts and strips for easy on-the-job one tool application.



30-496. Tool for RJ11 (1, 2, 3 pair) and RJ-45 (4 pair) plugs (black handles).....EACH 50.78
 988-5016. 30-496.....EACH 50.78
 30-497. Tool for RJ-45 (4 pair) and DEconnect MMJ (RJ-11, 3 pair) (blue handles).....EACH 50.78
 954-3018. 30-497.....EACH 50.78
 30-498. Tool for RJ-11 (1, 2, 3 pair) and DEconnect MMJ (RJ-11, 3 pair) (red handles).....EACH 50.78
 954-3020. 30-498.....EACH 50.78
 30-499. Tool for RJ-22 (handset) and RJ-11 (1, 2, 3 pair) (yellow handles).....EACH 50.78
 954-3019. 30-499.....EACH 50.78
 LB 1747. Replacement cut and strip blade set for 30-496, 30-497, 39-499 and/or 30-498.....EACH 8.30
 988-5600. LB 1747.....EACH 8.30



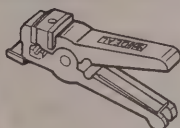
Telephone Line Cord Stripper

Multi-function tool cuts and strips flat telephone cable. Built-in stripping guide provides correct strip lengths.

988-5605. 45-519. For RJ-11 and RJ-45 flat telephone cable.....EACH 9.95

ProAx Coax Strippers

Adjustable coax wire strippers allow blade adjustment for 2 or 3-step stripping of RG-58, RG-59/62, RG-8281, Twinax, RG-6 or RG-8/11 coaxial cable. Specific adjustments needed for each cable size.



954-3678. 45-520. For BNC and TNC connectors.....EACH 33.61
 954-3682. 45-526. For F-type connectors.....EACH 33.61
 954-3641. 45-528. For N-Series Ethernet connectors.....EACH 33.61
 954-3677. 45-522. Repl. cassette for BNC and TNC connectors.....EACH 33.61
 954-3679. 45-523. Repl. cassette for Thimble BNC connectors.....EACH 9.13
 954-3681. 45-524. Replacement cassette for F-type connectors.....EACH 9.13
 954-3683. 45-525. Replacement cassette for Twin-Ax connectors.....EACH 9.13



Coax Cable Stripper

These lightweight, compact strippers are inexpensive and simple to operate. The adjustable blades can be set for any depth to help assure nick-free strips on a variety of coaxial cable up to 9/16" in diameter. Also used for shielded twisted-pair wire, tightly wrapped stranded cables, CATV cable, CB antenna cable, SO, SJ, SJT, and other types of flexible power cords.

988-4562. 45-162. Up to 1/2" O.D. (Gray) (RJ174, RG187).....EACH 19.45
 45-163. 1/2" to 7/32" O.D. (Blue) (RG58, CB Antenna Cable).....EACH 19.45
 988-4563. 45-163.....EACH 19.45
 988-4564. 45-164. 1/4" to 9/16" O.D. (Blue) (RG8).....EACH 38.06
 45-165. 3/16" to 5/16" O.D. (Black) (RG59, CATV Cable).....EACH 19.45
 988-4565. 45-165.....EACH 19.45
 L-9225. Replacement Blade Set (consisting of 3 straight blades and one round blade) for 45-162, 45-163 and 45-165.....EACH 5.00
 988-9225. L-9225.....EACH 5.00
 L-9226. Replacement Blade Set for 45-164.....EACH 6.28
 988-9226. L-9226.....EACH 6.28

IDEAL Cyclops® Data Cable Stripper

Fast, easy removal of outer sheath insulations (PVC and Plenum types) from all UTP, STP and multicore cables up to 11 mm in diameter.



954-1006. 45-514. IDEAL Cyclops® Data Cable Stripper.....EACH 38.00



IDEAL Toggle® Coax Stripper

Select from a variety of IDEAL Toggle® Tools for stripping Ethernet, Thimble, RG62 or RG59 coax cable and other cable sizes. Each tool does 2 or 3 step strips with no adjustment.

954-1000. 45-508. Coax Stripper for RG58.....EACH 36.83
 954-1003. 45-509. Coax Stripper for RG8281.....EACH 36.83
 954-1005. 45-510. Coax Stripper for RG8/11U.....EACH 36.83
 954-1008. 45-512. Coax Stripper for RG174.....EACH 36.83
 954-1004. 45-513. Coax Stripper for RG6.....EACH 36.83
 954-1007. 45-515. Coax Stripper for Thimble.....EACH 36.83
 954-1006. 45-516. Coax Stripper for Ethernet (Thicknet).....EACH 36.83
 954-1001. 45-517. Coax Stripper for RG59.....EACH 36.83
 954-1002. 45-518. Coax Stripper for RG62.....EACH 36.83

Round Cable Cutter

Round cable and wire cutter cuts coaxial cable up to RG9U, multi conductor cable up to .500" and solid or stranded wire up to #8 AWG.

954-3685. 35-051. Round Cable Cutter.....EACH 21.37

Center Conductor Cutter

Cuts coax center conductor to 3/16" length for proper installation into a dual crimp coax connector.



954-3676. 35-060. Center Conductor Cutter.....EACH 11.64



Cable Cutter

The hardened, high-grade carbon-steel cutting edges of this tool are precision ground to give clean cuts with minimum cable distortion. Cuts 2/0 aluminum and copper. Not recommended for steel or ACSR.

988-3552. 35-052. 9/16" Cable Cutter.....EACH 32.96



Maxim Wire Stripper

Self-adjusts to different wire sizes and insulation densities. Strips 10-26 AWG solid or stranded wires. Strip lengths adjustable from 1/8" to 3/4".

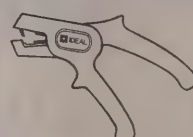
954-4532. 45-327. Maxim Wire Stripper.....EACH 59.95
 988-5610. LA-2524. Replacement Blade Set Cartridge.....EACH 24.95

V-Notch Stripper

This handy tool strips and cuts solid and stranded copper and aluminum wire from 10-28 AWG. It features a convenient dial-type adjustment.



954-4502. 45-100. 10-28 AWG Solid or Stranded without spring.....EACH 6.26
 954-4501. 45-101. 10-28 AWG Solid or Stranded with spring.....EACH 6.61



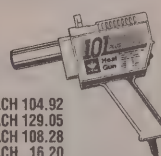
IDEAL Grip-N-Strip™ End Stripper

This handy tool features self-adjusting stripping blades. Strips 12 AWG solid through 20 AWG stranded PVC insulated wire, including U.S. type THHN and THWN wire.

954-3656. 45-227. IDEAL Grip-N-Strip™ End Stripper.....EACH 31.49

101 PLUS Heat Gun

Designed for smaller target areas. Perfectly suited to the unique requirements of electronic assembly.



954-4601. 46-013. 120 V, 60 Hz, 4.5 A.....EACH 104.92
 954-4602. 46-113. With ESD Case, 120 V.....EACH 129.05
 954-4603. 46-014. 250 V, 50/60 Hz, 2.0 A.....EACH 108.28
 954-4604. 46-105. Heat Gun Stand.....EACH 16.20

Nozzles

988-0921. 46-921. Green, 325 Watts, 1110 BTU, 600°-800°F.....EACH 18.61
 988-4622. 46-922. Gold, 475 Watts, 1620 BTU, 800°-1000°F.....EACH 18.61
 988-4623. 46-923. Green, 525 Watts, 1790 BTU, 1000°-1250°F.....EACH 18.61



Wire-Marker Dispenser

Carry all the wire-marker legends needed for the job in one convenient, easy-to-use package. Measures 3" x 6".

988-4201. 42-301. Dispenser with 0-9 Legend Rolls.....EACH 30.00
 988-4203. 42-303. Dispenser Only.....EACH 11.54

Wire-Marker Dispenser Rolls

A range of handy refill rolls for the IDEAL Wire-Marker Dispenser. Temperature Range: -40°F-266°F.



988-4239. 42-399. Refill pack with 1 each of 0-9 legend rolls.....PER PK./10 18.80
 988-4240. 42-400. 0.....PER PK./10 18.80
 988-4241. 42-401. 1.....PER PK./10 18.80
 988-4242. 42-402. 2.....PER PK./10 18.80
 988-4243. 42-403. 3.....PER PK./10 18.80
 988-4244. 42-404. 4.....PER PK./10 18.80
 988-4245. 42-405. 5.....PER PK./10 18.80
 988-4246. 42-406. 6.....PER PK./10 18.80
 988-4247. 42-407. 7.....PER PK./10 18.80
 988-4248. 42-408. 8.....PER PK./10 18.80
 988-4249. 42-409. 9.....PER PK./10 18.80



Wire-Marker Booklets

Include plastic-impregnated cloth markers which resist abrasion, moisture, dirt and oil. 1-12" markers are perforated and can be separated into half-length sizes. Temperature Range: -40°F-150°F.

988-4401. 44-101. 45 Each: 0-9.....EACH 11.75
 988-4402. 44-102. 10 Each: A-Z, 0-15, +, -, /.....EACH 11.75
 988-4403. 44-103. 10 Each: 1-45.....EACH 11.75
 988-4404. 44-104. 10 Each: 46-90.....EACH 11.75
 988-4405. 44-105. 150 Each: 1, 2, 3.....EACH 11.75
 988-4406. 44-106. 150 Each: A, B, C.....EACH 11.75
 988-4407. 44-107. 150 Each: T1, T2, T3.....EACH 11.75
 988-4408. 44-108. 150 Each: L1, L2, L3.....EACH 11.75
 44-109. 6 Each: 1-15; 4 Each: 16-90; 2 Each: A-Z, +, -, /.....EACH 11.75
 988-4409. 44-109.....EACH 11.75
 44-110. 45 Each: 1, 2, 3, A, B, C; 30 Each: T1, T2, T3, L1, L2, L3.....EACH 11.75
 988-4410. 44-110.....EACH 11.75
 44-111. 45 Each: +, -, AC, DC. 35 Each: POS, NEG, GND; 27 Each: NEUT; 21 Each: SPARE, BLANK.....EACH 11.75
 988-4411. 44-111.....EACH 11.75



IDEAL

Voltage Testers, Strippers, Fuse Pullers, Nut Connectors

IDEAL Coax Stripmaster® Wire Stripper

Speeds wire stripping of RG-6, RG-58, RG-59 or RG-62 coaxial cable. Designed with spring action stripping grips. Strips in one motion. Knife type blades feature multiple hole diameters sized for removal of outer and inner insulations.

954-3659. 45-262. RG6 with Blade LB-740.	EACH	28.12
954-3660. 45-264. RG58 with Blade LB-742.	EACH	28.12
954-3661. 45-265. RG59 with Blade LB-743.	EACH	28.12
954-3662. 45-266. RG62 with Blade LB-744.	EACH	28.12



IDEAL Stripmaster® and Stripmaster® Lite Wire Strippers

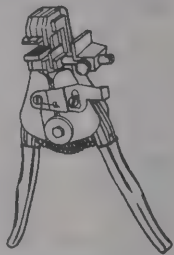
The IDEAL Stripmaster® and Stripmaster® Lite wire strippers have knife-type blades. One step stripping action reduces stripping time for increased productivity and reduced operator fatigue.

IDEAL Stripmaster®		
988-4592. 45-092. 10-22 AWG with Blade L-4421.	EACH	29.16
988-4593. 45-093. 14-22 AWG with Blade L-4422.	EACH	29.16
988-4597. 45-097. 16-26 AWG with Blade L-4934.	EACH	29.16

IDEAL Stripmaster® Lite		
988-4509. 45-671. 16-22 AWG with Blade LB-1001.	EACH	33.10

IDEAL Custom Stripmaster® and Custom Stripmaster® Lite Wire Strippers

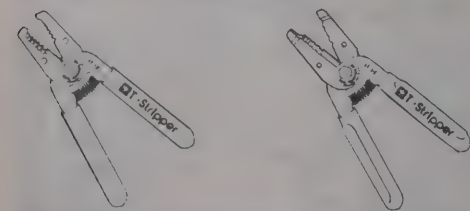
Precision, counter-bored, die-type blades meet Military Stripping Specifications. Strip solid and stranded wire and assure nick-free wire stripping. These strippers have a short stop latch and wire stop. The Custom Stripmaster® Lite more comfortably fits the human hand.



IDEAL Custom Stripmaster®		
988-4586. 45-186. 10-14 AWG with Blade L-5559.	EACH	163.13
988-4587. 45-187. 16-26 AWG with Blade L-5560.	EACH	163.13
988-4588. 45-188. 26-30 AWG with Blade L-5561.	EACH	163.13

IDEAL Custom Stripmaster® Lite		
988-5005. 45-638. 16-22 AWG with Blade LB-918.	EACH	151.65
988-5010. 45-639. 20-26 AWG with Blade LB-919.	EACH	151.65
988-5015. 45-640. 24-30 AWG with Blade LB-920.	EACH	151.65

IDEAL T®-Strippers and Premium T®-Strippers



These strippers feature looping holes, cushioned plastic grips and precision, form-ground, knife-type blades. The IDEAL Premium T®-Strippers are designed for greater operator comfort and feature a versatile plier-type nose.

954-4520. 45-120. Standard T®-5 (10-18 AWG Solid)	EACH	11.02
954-4521. 45-121. Standard T®-6 (16-26 AWG Stranded)	EACH	11.02
954-4522. 45-125. Standard T®-7 (22-30 AWG Solid)	EACH	11.02
954-4525. 45-124. Standard T®-8 (8-16 AWG Stranded)	EACH	11.02
954-4526. 45-215. Premium T®-5 (10-18 AWG Solid)	EACH	14.50
954-4527. 45-216. Premium T®-6 (16-26 AWG Stranded)	EACH	14.50
954-4528. 45-217. Premium T®-7 (22-30 AWG Solid)	EACH	14.50
954-4529. 45-218. Premium T®-8 (8-16 AWG Stranded)	EACH	14.50

IDEAL T®-Cutter and Premium T®-Cutter

Both feature shear-type blades. Premium model has contoured comfort grips and versatile plier-type nose. Cuts up to 1/2" O.D. fine-stranded cable and #10 AWG wire.

988-4523. 45-123. T®-Cutter Standard	EACH	10.87
988-5020. 45-223. T®-Cutter Premium	EACH	14.52

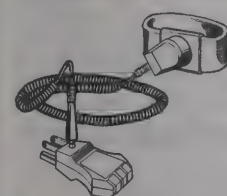


IDEAL Super T®-Stripper, Static Dissipative Model

Designed specifically for the ESD/Electronics Market. ESD comfort grips disperse static charge build-up in the tool through the operator to ground. Operator must be grounded via wrist strap or other grounding device.



45-316. Super T®-6 with Static Dissipative Grips (16-26 AWG Stranded)	EACH	23.28
954-3670. 45-316	EACH	23.28
45-317. Super T®-7 with Static Dissipative Grips (22-30 AWG Solid)	EACH	23.28
954-3671. 45-317	EACH	23.28
45-323. Super T®-Cutter with Static Dissipative Grips (up to 10 AWG solid and fine stranded wire to 1/2" O.D.)	EACH	23.28
954-3672. 45-323	EACH	23.28



IDEAL Stat-Gard™ ESD Grounding System

This unique static prevention system consists of a grounding plug, wrist strap and lead set. It continuously drains static charges from a person's body. The individual is able to handle static-sensitive components without fear of expensive electro-static discharge (ESD) damage.

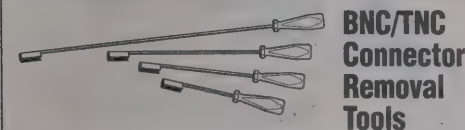
988-6146. 61-046. Includes 61-038, 61-044, 61-039	EACH	52.45
988-6138. 61-038. Grounding Plug	EACH	26.78
988-6142. 61-042. Small Wrist Strap	EACH	10.11
988-6143. 61-043. Medium Wrist Strap	EACH	10.89
988-6144. 61-044. Large Wrist Strap	EACH	10.11
988-6025. 61-045. Adjustable Elastic Wrist Strap	EACH	23.08
988-6139. 61-039. 10' Lead Set	EACH	20.25
988-6141. 61-041. 15' Lead Set	EACH	21.55

IDEAL Safe-T-Grip® Fuse Pullers

This tool provides maximum efficiency and convenience when removing or replacing cartridge-type fuses. Constructed of fully-insulated, reinforced, high-dielectric glass filled polypropylene.



988-3401. 34-001. MIDGET for small fuses, 1/2" to 1 1/2" dia, 5" long	EACH	4.69
988-3402. 34-002. POCKET for 0-100A, 250 V, 600 V, 7 1/2" long	EACH	8.88
34-003. GIANT for 31-600 A, 250 V, 31-400 A, 600 V, 11 1/4" long		
988-3403. 34-003	EACH	21.00



BNC/TNC Connector Removal Tools

For easy access to high density locations of connectors.

954-0009. 35-041. 8" Overall Length, 4 1/2" Blade Length	EACH	20.35
954-0007. 35-042. 12" Overall Length, 8" Blade Length	EACH	20.35
954-0008. 35-043. 16" Overall Length, 12" Blade Length	EACH	20.35
954-0012. 35-044. 24" Overall Length, 21 1/2" Blade Length	EACH	20.35

IDEAL Wire-Nut® Wire Connectors

The Original IDEAL Wire-Nut® wire connectors continue to set industry standards. Twist-on quickly and easily. Fixed, square-wire spring creates its own threads as it draws the conductors all the way into the connector.



988-3071. 30-071. Gray, Bag of 100	EACH	5.39
988-3072. 30-072. Blue, Bag of 100	EACH	6.01
988-3073. 30-073. Orange, Bag of 100	EACH	6.89
988-3074. 30-074. Yellow, Bag of 100	EACH	7.92
988-3076. 30-076. Red, Bag of 100	EACH	11.51

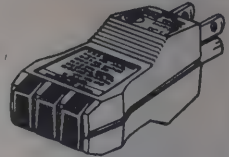
7-In-1 Stripper

This 7-function tool strips 6-16 AWG solid and 8-18 AWG stranded wire, cuts stranded, solid, Romex and U.F. wire up to 6 gauge, crimps bare and insulated terminals for 10-22 AWG wires sizes, cuts unhardened, commonly sized bolts and screws, gauges solid and stranded wire, loops wire, and reams and de-burrs conduit.

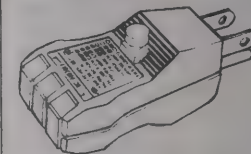
954-3029. 45-777. 7-In-1 Stripper	EACH	23.86
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E-Z Check® Receptacle Circuit Tester

Used for fast, simple testing and fault identification in 3-wire, 125 V circuits, without probes or meters. Tests for open ground, reverse polarity, open hot, open neutral, hot and ground reversed, hot on neutral, and hot open.



954-6135. 61-035. E-Z Check® Receptacle Circuit Tester	EACH	15.00
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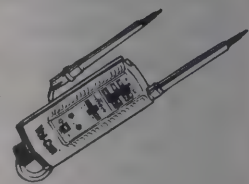
E-Z Check® Plus GFI Circuit Tester

Checks for correct wiring, open ground, reverse polarity, open hot, open neutral, hot on neutral, hot and ground reversed with open hot and ground fault interruption.

988-6151. 61-051. E-Z Check® Plus GFI Circuit Tester	EACH	34.25
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IDEAL Vol-Con® Voltage/Continuity Tester

Three testers in one. Heavy duty voltage tester, up to 600 V, low voltage indicator, as low as 5 V AC or DC, non-switching continuity tester.



954-4681. 61-076. IDEAL Vol-Con® Tester with Standard Prods	EACH	54.20
954-4682. 61-079. IDEAL Vol-Con® Tester with Slim Line Prods	EACH	68.83
954-4683. 61-080. IDEAL Vol-Con® Tester with Resistor-Fused Prods	EACH	71.43
954-4677. 61-070. Replacement Standard Leads	EACH	16.11

Voltage Tester

Tests for 100-600 V AC or DC, 25-60 Hz frequency, AC or DC identification, blown fuses, grounding and leakage.

954-4670. 61-065. Voltage Tester, 2 Standard Prods	EACH	28.12
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IDEAL Test-Glo™ Circuit Tester

This industrial-quality tester is designed to check electrical circuits, spark-plugs, motors, fuses, etc. For use with 80-660 V AC or DC.

954-3644. 61-040. IDEAL Test-Glo™ Circuit Tester	EACH	17.63
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IDEAL Vol-Test™ Pocket Tester

This compact pocket tester performs continuity, polarity and voltage testing to verify electrical connections. Also features a handy screwdriver tip.

954-3686. 61-050. IDEAL Vol-Test™ Pocket Tester	EACH	10.78
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IDEAL Powr-Glo™ Pocket Tester

Checks voltage from 12-440 V AC or DC without contact on electrical lines.

954-3688. 61-060. Powr-Glo™ Electronic Voltage Detector	EACH	16.20
954-3689. 61-061. Powr-Glo™ Audible	EACH	21.62

Contact Insertion and Removal Tool Kits



Includes
A4600
A4599
A4598



Includes
R9461
R4602
R4601

KA-260 Contact Insertion Kit

KR-260 Contact Removal Kit

These kits provide invaluable assistance to the technician. They include the specialized tools required for the insertion and removal of the most popular connectors, all contained in a small handy case. Designed for use with subminiature connectors conforming to MIL-C-26482, MIL-C-26500, MIL-C-26518, and MIL-C-81703 standards, these kits include the most common and popular tools in the industry. They are completely compatible with "original manufacturer" tooling from all major suppliers such as AMP, Amphenol, Bendix, Burndy, Cannon and Deutsch and will work with virtually any connector of this type. The KA260 Insertion Kit includes the three most popular sized insertion tools for contact sizes 12 (yellow), 16 (blue) and 20 (red). The KR-260 Extraction Kit includes the three most popular sized extraction tools for contact sizes 12 (yellow), 16 (blue) and 20 (red). Both kits are packaged in an attractive and durable padded zipper case and have been carefully designed to save both time and effort, plus ensure efficient, on-the-job operation.

Stock No.	Mfr.'s Type	Contact Size	EACH	
			1-3	4-Up
830-5000	KA-260	12, 16, 20	235.92	218.31
830-5001	KR-260	12, 16, 20	259.11	239.78

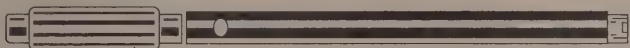
KA-260 Insertion Tool Kit Tools

Stock No.	Mfr.'s Type	MIL STD	Color Code	Contact Size	EACH
830-4600	A-4600	M81969/17-05	Yellow	12	75.65
830-4599	A-4599	M81969/17-04	Blue	16	75.65
830-4598	A-4598	M81969/17-03	Red	20	75.65

KR-260 Removal Tool Kit Tools

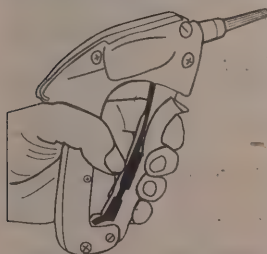
830-9461	R-9461	M81969/19-02	Yellow	12	87.50
830-4602	R-4602	M81969/19-01	Blue	16	87.50
830-4601	R-4601	M81969/19-06	Red	20	87.50

Hand Wrapping Tools



This wire wrap tool has a handle and shell, each covered with a sleeve of insulating material. It has a .073" diameter hole and .750" deep to accommodate a terminal, and a hole near the handle to facilitate removal of broken wires. It is used on terminals of wire spring relays, number 5 crossbar wire spring number group, and other components having similar terminals.

Stock No.	Mfr.'s Type	Western Electric P/N	Wire Gauge	EACH
830-2426	WDI-2426	#635B	24-26	85.00
830-2224	WDI-2224	#635A	22-24	85.00



Manual Quick-Wrap Gun, Bit and Sleeve

Hand operated wrapping gun uses interchangeable bits and sleeves. Bits conform to terminal height, width and wire size combinations. Sleeves selected to fit over the bit. Insulated to prevent shorting of adjacent connections. **Terminal Diameter x Depth:** .075" x .750" for wire gauge 24-26; .075" x .807" for wire gauge 22-24.

Lexan Wire Wrapping Gun
830-3501. Model WG-350L.....EACH 79.00

Quick-Wrap Bit

Stock No.	Mfr.'s Type	Wire Gauge	Wrap	EACH
830-2427	BW-2426	24-26	Regular	27.33
830-2428	BW-2224	22-24	Regular	27.33

Quick-Wrap Sleeve

830-2429	SW-2426	24-26	Regular	14.00
830-2430	SW-2224	22-24	Regular	14.00

20-Piece Precision Tool Kit

K-600. Designed for electronic assembly service and repair. These high quality tools were specially produced for: servicing, adjusting, trouble-shooting, of complex equipment. Special assortment makes it easy and economical for use in assembly work. The Durable leather zipper case contains the following: pliers, screwdrivers, magnifier, soldering equipment, tweezers, alignment tools, needle files, burnisher with blades, pin vise and drivers.



830-0350. Model K-600. 1-3...EACH 196.26 4-Up.....EACH 182.08



52-Piece Instrumentation and Computer Tool Kit

TK-300. Kit contains virtually all basic tools used for adjusting, maintaining and servicing all types of computers, electronic instruments, radar and other electro-mechanical devices. Tools may be used to service complex data processing and electronic equipment. Tools are precision made and individually mounted on 2 removable boards for ease of service. Extra-large space for more tools and papers. Tools can be modified or exchanged to suit your requirements. All tools are mounted on 2 removable boards in rough-duty, leather-finish case. Kit weighs 13 lbs. and measures 14 x 18 x 4 3/4" deep. Includes pliers, screwdrivers, wrenches, and tweezers of various sizes, solder (rosin core), solder aid, inspection mirror, adjuster spring, crimper and cutting tool, circuit tester, tension gauge, vinyl electrical tape, and contact cleaner spray.

830Q0570. Model TK-300. 1-3 EACH 805.07 4-Up.....EACH 751.40

78-Piece Universal Tool Kit

TK-500. Now with just one kit you can install, adjust, service and maintain central office systems (inside and outside plant), telecommunications systems, switchboards, R & D production, general repair (work of precise nature in labs and service shops for all industries). Designed especially for on-the-spot service, adjustment and maintenance in any location. No loss of time for lack of certain tools. Contains removable boards for instant selection of all tools. Extra pockets for your favorite tools and separate compartments for your notes and papers provided. All 76 tools are securely mounted in individual pockets in a highly durable, scratch-resistant Barco case. Complete kit weighs only 16 lbs. and is 5 1/2 H x 18 1/4 W x 16 1/4 D. Kit includes spring adjusters, wrenches, screwdrivers and blades, nutdrivers, pliers and tweezers of various sizes. Also included are soldering equipment, test probe, circuit tester, crimping and cutting tool, hand magnifier, penlight and wire stripper.



830Q0550. Model TK-500. 1-3 EACH 986.81 4-Up.....EACH 916.32

42-Piece Business Office Machine Tool Kit

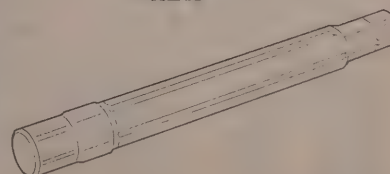
TK-200. A wide spectrum of tools and devices that enable you to repair or service electronic typewriters, word processors, facsimiles, printers, copy machines, duplicators, and other business office equipment. Tool kit is totally self-contained, additional space for more parts, tools, papers, etc. Designed for use in hard-to-reach areas. Reduces tear-down of machine in order to make "on-the-spot" repairs. Tools in kit can be modified or exchanged to suit your requirements. All 42 tools are securely mounted in a solidly constructed case. Complete kit weighs only 11 lbs., and measures 13" x 17" x 3 3/4" deep.

830Q0560. Model TK-200. 1-3...EACH 771.09 4-Up.....EACH 713.54

M-216C Socket Wrench

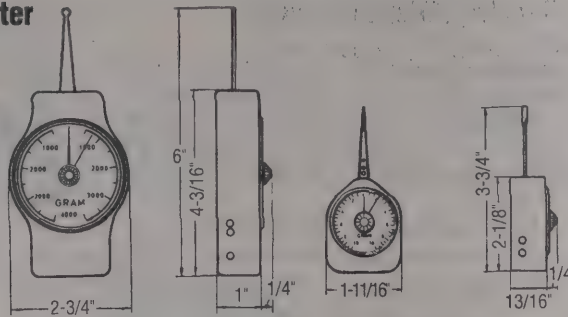
— NEW —

Socket wrench, double end, 3/8" and 7/16" hex, plastic handle, 7" long. Used in placing fuses in cable terminals and connecting wires to fuses and binding posts. The walls on both sockets are thin enough so they can be used to work locking devices on most terminals and cabinets.



830-0366. Model M-216C.....EACH 13.50

**Dynamometer
Tension
Gauges**



Large Gauge (Round Tip)

Small Gauge (Flat Tip)

These precision dial type gauges deliver accurate measurement of forces required to actuate relays and other sensitive mechanisms. Reading can be taken in both directions: clockwise and counter-clockwise. Maximum reading indicator moves with indicator when testing and remains at maximum force measured until reset. No need to look at dial hand while measuring, thus avoiding reading errors. Measuring springs are of hard tempered annealed beryllium copper. Dial is protected by breakproof glass. Each unit packaged in rigid, fitted case for protection. 0.1% accuracy. Dynamometer gauges are available in 2 sizes and 13 different ranges. Easy to use. Easy to read.

Small Gauges

Stock No.	Mfr.'s Type	Range In Grams	Graduation In Grams	EACH
830-0437	GD-1	0-10	0.25	136.25
830-0438	GD-2	2-20	0.50	136.25
830-0439	GD-3	4-35	1.00	136.25
830-0440	GD-5	6-50	1.00	136.25
830-0450	GD-10	10-100	2.50	136.25
830-0455	GD-15	15-150	5.00	136.25
830-0460	GD-20	20-200	5.00	136.25
830-0465	GD-25	30-250	10.00	136.25
830-0470	GD-30	40-350	10.00	136.25

Large Gauges

Stock No.	Mfr.'s Type	Range In Grams	Graduation In Grams	EACH
830-0490	GD-50	60-500	20.00	265.00
830-0500	GD-100	100-1000	25.00	265.00
830-0510	GD-200	200-2000	50.00	282.91
830-0520	GD-400	400-4000	100.00	290.58

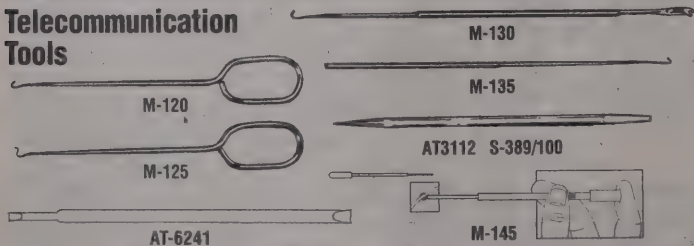
**Economy Push-Pull
Tension Gauges**



- These High Impact Polystyrene Cased Instruments Are Low Priced; Simplified in Construction Yet with Accuracies to 1 Graduation
- Ideal for Field Service Use, Tape Recorder Adjustments, for Schools and Many Other Applications Requiring Maintenance-Free Gauges
- Excellent Dial Readability with Bold Numbers Against Glare-Free Background; Gauges Are Graduated in Both Metric and Avoirdupois
- Size: 1 1/2" Wide x 1" deep x 1 1/2" Long Overall

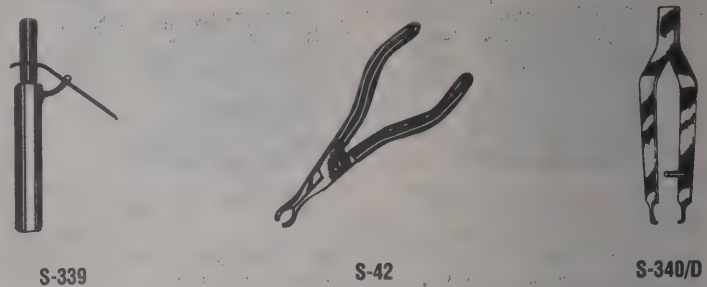
Stock No.	Mfr.'s Type	Avoirdupois Capacity	Metric Capacity	EACH
830-0433	GPP-8	8 oz. x .25 oz.	220 g x 5 g	93.00
830-0434	GPP-36	36 oz. x .5 oz.	1020 g x 20 g	93.00
830-0435	GPP-72	72 oz. x 1 oz.	2025 g x 25 g	93.00
830-0436	GPP-15	15 lbs. x 4 oz.	6084 g x 100 g	93.00

**Telecommunication
Tools**



Stock No.	Mfr.'s Type	Size	EACH	
			1-9	10-Up
830-0620	M-120	Hook, spring; pull, 6"L	9.78	6.85
830-0625	M-125	Hook, spring; push, 6"L	9.78	6.85
830-0630	M-130	Hook, spring; pull and lifter, 8"L	12.85	9.61
830-0635	M-135	Hook, pull; for very fine springs, 7"L	11.13	9.72
830-0640	AT3112	SPUDGER 5/16" Dia. x 5 1/2"L	5.75	5.25
830-0706	S-389/100	Orange Stick — 3/16" Dia. x 7"L PK./100	15.95	14.35
830-0805	AT-6241	2 in — 7" plastic alignment tool	1.50	1.30
830-1145	M-145	Captive Spring Hook	15.83	14.61

Extraction Tools



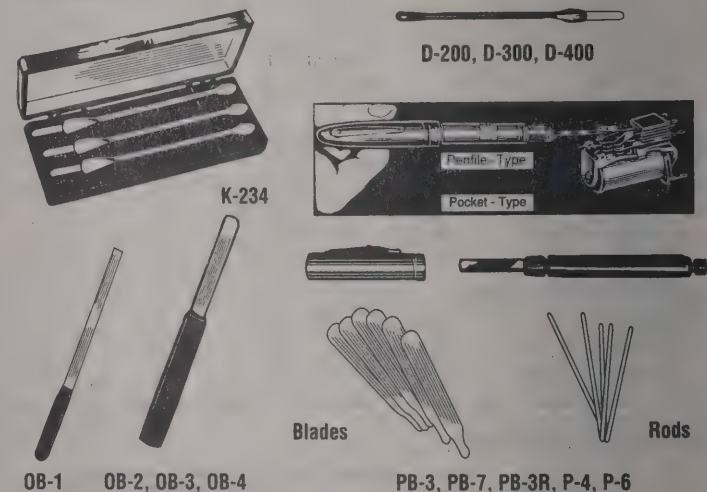
S-339

S-42

S-340/D

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-Up
830-0710	S-339	Switchboard lamp extractor, inside dia. 3/8", handle dia. 1/2", length 4"	23.00	21.23
830-0715	S-42	Plier lamp cap, overall length 5"	45.66	39.93
830-0716	S-340/D	Extractor, tweezer type, overall length 3 1/2"	15.40	12.83

Burnishers



OB-1

OB-2, OB-3, OB-4

PB-3, PB-7, PB-3R, P-4, P-6

Diamfile, Diamond Cleaner-Burnishers for Contacts and Relays

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-Up
830-0240	D-200	Coarse, two diamond faces, .019" thick, 6" long	41.83	36.57
830-0244	D-300	Medium, two diamond faces, .017" thick, 6" long	41.83	36.57
830-0248	D-400	Fine, single diamond face, .011" thick, 6" long	41.83	36.57

Diamfile, Diamond Cleaner-Burnisher Kit. Contains one each of the above burnishers.

830-2340	K-234	Diamfile Kit	128.01	118.16
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Economy Burnishers

830-0418	OB-1/12	For fine contacts. Abrasive. .007" thick. 3 1/2"L x 3/16"W. Pkg./12	23.33	21.53
830-0419	OB-2/12	For extra sensitive points. Abrasive. .007" thick. 3 1/2"L x 1/4"W. Pkg./12	29.00	25.79
830-0420	OB-3/12	For general purpose use. Abrasive. .010" thick. 3 1/2"L x 1/4"W. Pkg./12	51.74	45.83
830-0421	OB-4/12	For industrial use. Abrasive. .020" thick. 3 1/2"L x 1/4"W. Pkg./12	64.41	59.60

Pocket-Type Burnishers

830-0356	PB-3	Pen with 6 blades, .0035" thick	25.25	23.30
830-0357	PB-7	Pen with 6 blades, .0070" thick	25.25	23.30
830-0422	PB-3R	Pen with 6 blades, .0035" thick plus 6 abrasive rods	29.08	26.85
830-0211	B-3/25	Replacement blades for PB-3, .0035" thick. Pkg./25	29.08	26.85
830-0212	B-7/25	Replacement blades for PB-7, .0070" thick. Pkg./25	29.08	26.85

Penfile-Type Burnishers

830-0366	P-4	Penfile with 12 blades, 1/4" wide, 1 1/4" long, .007" thick	29.08	26.85
830-0370	P-6	Penfile with 12 blades, 3/16" wide, 1 3/4" long, .007" thick	29.08	26.85
830-0375	RB-4/25	Replacement blades for P-4, .007" thick, Pkg./25	29.08	26.85
830-0377	RB-6/25	Replacement blades for P-6, .007" thick, Pkg./25	29.08	26.85

Handles and Ferrules

Round Instrumentation Handles



- Precision manufactured
- Choice of materials
- Diameters: .156, .250, .312, .375

- Quality assurance
- Choice of finishes

Material Brass: QQ-B-626, alloy 360, 1/2 Hard. **Aluminum:** QQ-A-325, alloy 6061-T6. **Plating Brass Handles:** Nickel plate per QQ-N-290, type VI. **Aluminum Handles:** Black anodize per MIL-A-8625.

Stock No.	A	B	Dia. C	B	Th'd. E	R	EACH	
							Brass	Aluminum
839-7140	1.250	1.000	.156	.375	4-40	.156	2.22	1.84
839-7141	2.000	1.000	.156	.375	4-40	.156	2.36	2.03
839-7142	3.000	1.000	.156	.375	4-40	.156	2.41	2.06
839-7143	3.000	1.500	.250	.562	8-32	.250	2.75	2.36
839-0480	3.500	1.500	.250	.562	8-32	.250	2.81	2.43
839-7144	4.000	1.500	.250	.562	8-32	.250	2.86	2.56
839-0481	4.500	1.500	.250	.562	8-32	.250	2.93	2.63
839-0482	5.000	1.500	.250	.562	8-32	.250	3.01	2.70
839-0483	5.500	1.500	.250	.562	8-32	.250	3.07	2.79
839-0484	6.000	1.500	.250	.562	8-32	.250	3.14	2.86
839-0485	3.000	1.750	.250	.562	8-32	.250	2.75	2.36
839-0486	4.000	1.750	.250	.562	8-32	.250	2.86	2.56
839-0487	4.500	1.750	.250	.562	8-32	.250	2.93	2.63
839-0488	5.000	1.750	.250	.562	8-32	.250	3.01	2.70
839-0489	6.000	1.750	.250	.562	8-32	.250	3.14	2.86
839-7145	3.000	1.500	.312	.500	10-32	.312	3.06	2.83
839-7146	4.000	1.500	.312	.625	10-32	.312	3.23	2.96
839-0490	4.500	1.500	.312	.625	10-32	.312	3.32	3.04
839-7147	4.562	1.500	.312	.625	10-32	.312	3.31	3.00
839-0491	5.000	1.500	.312	.625	10-32	.312	3.39	3.11
839-0492	5.500	1.500	.312	.625	10-32	.312	3.46	3.18
839-7148	6.000	1.500	.312	.625	10-32	.312	3.67	3.10
839-0493	4.000	1.750	.312	.625	10-32	.312	3.23	2.96
839-0494	4.500	1.750	.312	.625	10-32	.312	3.32	3.04
839-0495	5.000	1.750	.312	.625	10-32	.312	3.39	3.11
839-0496	6.000	1.750	.312	.625	10-32	.312	3.67	3.15
839-7149	6.437	1.750	.312	.625	10-32	.312	3.79	3.17
839-7150	4.000	1.375	.375	.375	10-32	.375	3.56	2.84
839-7151	6.000	1.375	.375	.375	10-32	.375	3.67	3.15

Note: Other sizes, materials and plating available. Quotations upon request.

Carrying Handles



Model 8350. Spring glide handle, manufactured of black genuine leather with chrome plated steel hardware. Handle lies flat on case when not in use. Will not rattle under vibration. Maximum extended height at center line, 1 1/4". **Model 8351, 8352, 8353.** The retracto link handle manufactured of black genuine leather with nickel plated steel hardware, is internally constructed of rubber impregnated cellulose over a spring steel core. Handle folds flat on case when not in use. **Model 8354, 8355.** Molded of high impact styrene with steel nickel plated hardware. Folds flat on case when not in use. Mounts with #10-32 screws (not supplied). **Model 8356, 8357.** Molded of polypropylene with a leather grain look. Folds flat on case when not in use. Mounts with rivets or #6 screws (not supplied).

Stock No.	Mfr.'s Type	Mounting Centers	Fig.	Color	EACH
839-8350	8350	6.625	1	Black	11.99
839-8351	8351	5.750	2	Black	9.40
839-8352	8352	6.625	2	Black	9.40
839-8353	8353	7.875	2	Black	9.98
839-8354	8354	4.250	3	Black	9.37
839-8355	8355	4.250	3	Gray	9.37
839-8357	8357	2.937	4	Gray	2.40

Contemporary Handles

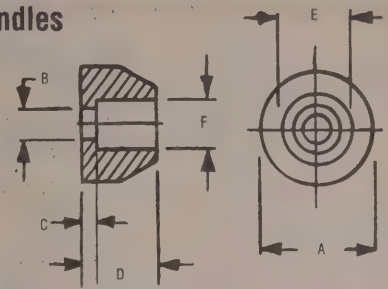


Material: zinc. **Finish:** satin brushed, chrome plated.

Stock No.	Mfr.'s Type	Mounting Centers	Fig.	EACH
839-7196	7196	4 7/8	5	10.27
839-7197	7197	4 7/8	6	8.15
839-7198	7198	4 5/16	7	7.46
839-7199	7199	4 3/64	8	8.15

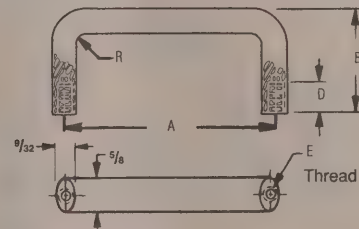
Ferrules for Round Handles

- Supports and strengthens mounting
- Enhances appearance



Stock No.		For Dia.	A	B	C	D	E	F	EACH	
Brass	Aluminum								Brass	Aluminum
839-7162	839-7192	.156	.250	.116	.047	.125	.200	.161	.46	.65
839-7163	839-7193	.250	.375	.204	.062	.187	.320	.260	.52	.75
839-7164	839-7194	.312	.562	.218	.062	.250	.406	.320	.75	.77

Oval Instrumentation Handles (.625 x .281)

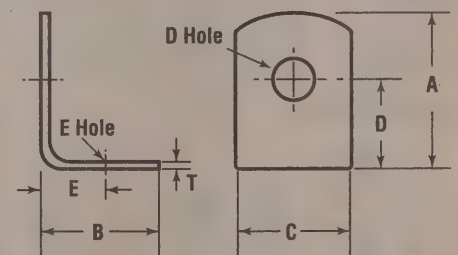


Choice of brass or aluminum.

Stock No.		A	B	B	Th'd. E	R	EACH	
Brass	Aluminum						Brass	Aluminum
839-7156	839-7186	4.000	1.750	.500	10-32	.500	14.88	4.40
839-0530	839-0540	4.500	1.750	.500	10-32	.500	15.45	4.63
839-0531	839-0541	5.000	1.750	.500	10-32	.500	16.02	5.36
839-0532	839-0542	5.500	1.750	.500	10-32	.500	16.59	5.52
839-0533	839-0543	6.000	1.750	.500	10-32	.500	17.15	5.72
839-7158	839-7188	6.437	1.750	.500	10-32	.500	17.70	5.94
839-0534	839-0544	4.000	2.000	.500	10-32	.500	15.02	5.06
839-0535	839-0545	4.500	2.000	.500	10-32	.500	15.58	5.26
839-0536	839-0546	5.000	2.000	.500	10-32	.500	16.16	5.46
839-0537	839-0547	5.500	2.000	.500	10-32	.500	16.72	5.65
839-0538	839-0548	6.000	2.000	.500	10-32	.500	17.28	5.84
839-7157	839-7187	6.000	1.375	.375	10-32	.500	16.54	5.63

Standard Brackets

- Selection of Brackets with Tapped and/or Clear Holes.



Stock No.	Mfr.'s Type	A	B	C	D	D Hole Dia.	E	E Hole Dia.	T	Per PK/100
839-0610	610*	.171	.171	.125	.109	.067	.109	.067	.018	19.70
839-0611	611*	.375	.422	.312	.234	.135	.250	8-32 TAP.	.037	27.05
839-0612	612†	.343	.375	.250	.203	.128	.250	4-40 TAP.	.062	10.30
839-0621	621†	.343	.375	.250	.203	4-40 TAP.	.250	4-40 TAP.	.062	13.25
839-0633	633‡	.375	.375	.281	.218	.140	.218	.140	.032	5.05
839-0634	634‡	.375	.375	.281	.218	.140	.218	6-32 TAP.	.032	13.85
839-0613	613‡	.390	.453	.375	.234	.147	.299	.128	.032	17.60
839-0614	614*	.406	.343	.312	.250	.144	.187	6-32 TAP.	.032	13.25
839-0616	616*	.453	.312	.250	.265	.136	.187	4-40 TAP.	.046	24.50
839-0617	617*	.578	.500	.500	.328	.165	.299	6-32 TAP.	.062	24.20
839-0618	618‡	.628	.628	.375	.378	.169	.378	.169	.050	24.00
839-0620	620§	1.156	.656	.375	.906	.169	.406	.169	.032	20.90

Material: *Brass/Tin • †Steel/Zinc • ‡Brass/Nickel • §Steel/Tin

Hinged Standoffs For Terminal Boards



Unlimited Applications
Wiring Exposed For
Easy Test
Interconnect Circuits
or Services Without
Danger of Shorting

Material: Brass per MIL Spec. QQ-B-626A Comp. 22 1/2 Hard. Finish:
Cadmium Plate per QQ-P-416 Class 2, Type 2 and gold Iridite.

Female/Female Hinge

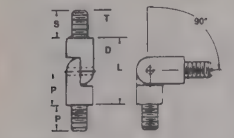
Stock No.	Mfr.'s Type	T Thread	D Diam	L Length	U	P	EACH	
							1-99	100-Up
839-3315*	351	4-40	.187"	.750"	.172"	.375"	0.52	0.50
839-3316†	352	4-40	.187"	1.000"	.250"	.625"	0.58	0.54
839-2260†	330	4-40	.187"	1.250"	.250"	.625"	0.61	0.57
839-3317*	353	6-32	.250"	.750"	.172"	.375"	0.75	0.72
839-3318†	354	6-32	.250"	1.000"	.250"	.625"	0.79	0.73
839-2261†	331	6-32	.250"	1.250"	.250"	.625"	0.80	0.75
839-2262*	355	8-32	.250"	.750"	.172"	.375"	0.70	0.65
839-2263†	356	8-32	.250"	1.000"	.250"	.625"	0.73	0.68
839-2264†	332	8-32	.250"	1.250"	.250"	.625"	0.74	0.70

*M = .375". †M = .625".

Standoff Only

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100	
			1-9	10-Up
839-3421	1657A	.750	25.50	21.65
839-3422	1657B	1.000	32.45	27.55
839-2201	1881	1.250	56.65	48.15
839-2198	1548E	.750	31.35	26.60
839-2200	1548F	1.000	31.90	27.15
839-2211	1692D	.750	43.85	37.30
839-2213	1692E	1.000	42.25	38.50

Male/Male Hinge



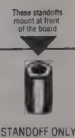
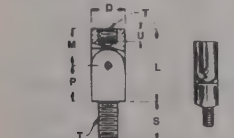
P = .250".

Stock No.	Mfr.'s Type	T Thread	L Length	D Diam.	S	EACH	
						1-99	100-Up
839-3321	357	4-40	1/2"	.187	1/4"	0.72	0.68
839-3322	358	6-32	1/2"	.250	5/16"	0.74	0.70
839-2271	359	8-32	1/2"	.250	5/16"	0.83	0.79

Standoff Only

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100	
			1-9	10-Up
839-2182	1657	.500	20.05	17.05
839-2155	1548C	.500	19.45	16.55

Male/Female Hinge



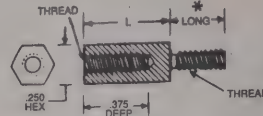
P = .250".

Stock No.	Mfr.'s Type	T Thread	L Length	D Diam	S	U	M	EACH	
								1-99	100-Up
839-2265	333	4-40	.625"	.187"	.250"	.172"	.375"	0.66	0.59
839-2266	334	4-40	.875"	.187"	.250"	.250"	.625"	0.68	0.62
839-2267	335	6-32	.625"	.250"	.312"	.172"	.375"	0.74	0.71
839-2268	336	6-32	.875"	.250"	.312"	.250"	.625"	0.79	0.73
839-2269	337	8-32	.625"	.250"	.312"	.172"	.375"	0.73	0.69
839-2270	338	8-32	.875"	.250"	.312"	.250"	.625"	0.80	0.74

Standoff Only

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100	
			1-9	10-Up
839-2183	1865	.625	23.65	20.10
839-2184	1866	.875	32.65	27.80
839-2197	1548D	.625	26.15	22.15
839-2199	1879	.875	32.55	27.70
839-2210	1887	.625	37.00	31.45
839-2212	1888	.875	42.10	35.80

Male/Female .250 Hex Threaded Spacers



Choice of: Brass—nickel plate (QQ-N 290, Type VIII), Aluminum—iridite (MIL-C-5541), Stainless Steel—Passivated (QQ-S-764 CL 303)

4-40 Thread *3/16" External Thread

Length Inches L*	Stainless Steel			Brass			Aluminum			Nylon		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	PK/100	Stock No.	Mfr.'s Type	PK/100	Stock No.	Mfr.'s Type	PK/100
1/4 (250)†	839-8712	8712	1.15	839-8713	8713	21.65	839-8714	8714	18.60	839-4800	4800	22.00
3/8 (.375)	839-7001	2087	1.20	839-2332	7200	23.90	839-8001	8400	21.05	839-4801	4801	22.45
1/2 (.500)	839-7002	2088	1.26	839-2333	1944	31.20	839-8002	8401	29.45	839-4802	4802	23.30
5/8 (.625)	839-7003	2089	1.31	839-2334	1945	31.65	839-8003	8402	31.65	839-4803	4803	23.80
3/4 (.750)	839-7004	2090	1.36	839-2335	1946	37.70	839-8004	8403	32.15	839-4804	4804	24.25
7/8 (.875)	839-7005	2091	1.42	839-2336	7201	38.15	839-8005	8404	34.95	839-4805	4805	24.70
1 (1.000)	839-7006	2092	1.47	839-2337	1947	42.30	839-8006	8405	36.95	839-4806	4806	25.15
1 1/8 (1.125)	839-7007	2093	3.09	839-2338	7202	45.75	839-8007	8406	45.25	839-4807	4807	25.45
1 1/4 (1.250)	839-7008	2094	3.21	839-2339	1948	65.80	839-8008	8407	45.75	839-4808	4808	25.60
1 3/8 (1.375)	839-7009	2095	3.32	839-2340	1949	67.35	839-8009	8408	54.35	839-4809	4809	26.10
1 1/2 (1.500)	839-7010	2096	3.38	839-2341	1950	70.55	839-8010	8409	55.60	839-4810	4810	26.45
1 5/8 (1.625)	839-7011	2097	3.43	839-2342	7203	71.20	839-8011	8410	57.20	839-4811	4811	26.95
1 3/4 (1.750)	839-7012	2098	3.48	839-2343	7205	79.45	839-8012	8411	58.45	839-4812	4812	27.45
2 (2.000)	839-7013	2099	3.62	839-2344	1951	80.05	839-8013	8412	60.35	839-4813	4813	27.90

6-32 Thread *1/4" External Thread

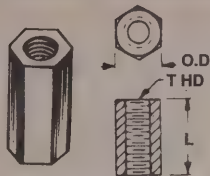
Length Inches L*	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	PK/100	Stock No.	Mfr.'s Type	PK/100	Stock No.	Mfr.'s Type	PK/100
1/4 (250)†	839-8715	8715	0.92	839-8716	8716	21.05	839-8717	8717	30.65	839-4814	4814†	22.00
3/8 (.375)	839-6001	2119	0.94	839-2345	7210	24.65	839-8413	8413	21.90	839-4815	4815	22.45
1/2 (.500)	839-6002	2120	1.01	839-2346	1952	26.90	839-8414	8414	22.10	839-4816	4816	23.30
5/8 (.625)	839-6003	2121	1.06	839-2347	1953	34.15	839-8415	8415	27.90	839-4817	4817	23.80
3/4 (.750)	839-6004	2122	1.22	839-2348	1954	35.95	839-8416	8416	28.20	839-4818	4818	24.25
7/8 (.875)	839-6005	2123	1.26	839-2349	7211	41.25	839-8417	8417	30.65	839-4819	4819	24.70
1 (1.000)	839-6006	2124	1.27	839-2350	1644	42.50	839-8418	8418	32.15	839-4820	4820	25.15
1 1/8 (1.125)	839-6007	2125	1.55	839-2351	7212	45.25	839-8419	8419	33.20	839-4821	4821	25.45
1 1/4 (1.250)	839-6008	2126	1.67	839-2352	1955	53.55	839-8420	8420	35.40	839-4822	4822	25.60
1 3/8 (1.375)	839-6009	2127	3.35	839-2353	1956	58.10	839-8421	8421	40.20	839-4823	4823	26.10
1 1/2 (1.500)	839-6010	2128	3.41	839-2354	1645	58.80	839-8422	8422	46.00	839-4824	4824	26.45
1 5/8 (1.625)	839-6011	2129	3.42	839-2355	7214	71.20	839-8423	8423	46.75	839-4825	4825	26.95
1 3/4 (1.750)	839-6012	2130	3.51	839-2356	7215	79.45	839-8424	8424	49.05	839-4826	4826	27.45
2 (2.000)	839-6013	2131	3.65	839-2357	1646	80.05	839-8425	8425	50.10	839-4827	4827	27.90

8-32 Thread *3/8" External Thread

3/8 (.375)*	839-0149	2149	1.68	839-2358	7220	29.65	839-8426	8426	28.85	839-4829	4829*	22.45
1/2 (.500)	839-0150	2150	1.72	839-2359	1957	28.85	839-8427	8427	29.45	839-4830	4830	23.30
5/8 (.625)	839-0151	2151	1.75	839-2360	1958	40.20	839-8428	8428	31.65	839-4831	4831	23.80
3/4 (.750)	839-0152	2152	1.86	839-2361	1959	42.30	839-8429	8429	33.70	839-4832	4832	24.25
7/8 (.875)	839-0153	2153	1.99	839-2362	7221	46.25	839-8430	8430	37.45	839-4833	4833	24.70
1 (1.000)	839-0154	2154	2.02	839-2363	1960	48.50	839-8431	8431	39.70	839-4834	4834	25.15
1 1/8 (1.125)	839-0155	2155	3.46	839-2364	7222	52.70	839-8432	8432	54.10	839-4835	4835	25.45
1 1/4 (1.250)	839-0156	2156	3.59	839-2365	1961	65.80	839-8433	8433	55.95	839-4836	4836	25.60
1 3/8 (1.375)	839-0157	2157	3.68	839-2366	1962	67.35	839-8434	8434	60.35	839-4837	4837	26.10
1 1/2 (1.500)	839-0158	2158	3.73	839-2367	1963	70.55	839-8435	8435	61.05	839-4838	4838	26.45
1 5/8 (1.625)	839-0159	2159	3.78	839-2368	7224	71.20	839-8436	8436	61.55	839-4839	4839	26.95
1 3/4 (1.750)	839-0160	2160	3.84	839-2369	7225	79.45	839-8437	8437	62.30	839-4840	4840	27.45
2 (2.000)	839-0161	2161	3.97	839-2370	1964	80.05	839-8438	8438	62.95	839-4841	4841	27.90

Hex Threaded Spacers

Specifications. Brass: QQ-B-626, Alloy 360, 1/2 hard. Zinc: QQ-2-325B. Aluminum: QQ-A-225/3, Alloy 2911-T3. Iridite Finish: Mil-C-5541.



2-56 Thread x .156 O.D. (5/32")

Length Inches	Aluminum Iridite Finish				Brass Zinc Plate			
	Stock No.	Mfr.'s Type	PER PK./100		Stock No.	Mfr.'s Type	PER PK./100	
			1-9	10-Up			1-9	10-Up
3/16 (.187)	839-2035	1797A	31.70	26.95	839-2082	1798A	37.20	31.60
1/4 (.250)	839-2036	1797B	34.00	28.90	839-2083	1798B	31.25	26.45
5/16 (.312)	839-2037	1797C	35.40	30.10	839-2084	1798C	48.20	41.00
3/8 (.375)	839-2038	1797D	26.90	22.85	839-2085	1798D	44.80	38.10

4-40 Thread x .187 O.D. (3/16")

1/4 (.250)	839-2039	1891	14.25	12.10	839-2086	1450	15.05	12.75
3/8 (.375)	839-2040	1892	16.60	14.15	839-2087	1803	17.25	14.65
1/2 (.500)	839-2041	1893	19.35	16.40	839-2088	1656	20.50	17.50
5/8 (.625)	839-2042	1894	21.00	18.00	839-2089	1804	27.55	23.50
3/4 (.750)	839-2043	1895	23.60	20.05	839-2090	1656A	26.15	22.15
7/8 (.875)	839-2044	1896	26.05	22.05	839-2091	1805	33.80	28.70
1 (1.000)	839-2045	1897	34.15	29.00	839-2092	1656B	33.80	28.70

4-40 Thread x .250 O.D. (1/4")

1/4 (.250)	839-2046	2201	13.95	11.85	839-2093	1450A	13.95	11.85
3/8 (.375)	839-2047	2202	15.40	13.05	839-2094	1450B	16.20	13.75
1/2 (.500)	839-2048	2203	17.00	14.45	839-2095	1450C	20.35	17.25
5/8 (.625)	839-2049	1808	18.70	15.85	839-2096	1829	27.50	23.40
3/4 (.750)	839-2050	2204	20.35	17.25	839-2097	1450D	32.05	27.25
7/8 (.875)	839-2051	1809	28.10	23.80	839-2098	1830	33.40	28.35
1 (1.000)	839-2052	2205	31.30	26.55	839-2099	1450E	32.45	27.55
1 1/2 (1.500)	839-2053	2206	53.00	45.10	839-2100	1831	83.95	71.30
2 (2.000)	839-2054	2207	61.30	52.00	839-2101	1832	86.05	73.15

6-32 Thread x .250 O.D. (1/4")

1/4 (.250)	839-2055	2208	13.95	11.85	839-2102	1451A	13.95	11.85
3/8 (.375)	839-2056	2209	15.40	13.05	839-2103	1451B	16.20	13.75
1/2 (.500)	839-2057	2210	17.00	14.45	839-2104	1451C	20.35	17.25
5/8 (.625)	839-2058	1813	19.05	16.10	839-2105	1451D	27.50	23.40
3/4 (.750)	839-2059	2211	20.35	17.25	839-2106	1451E	32.05	27.25
7/8 (.875)	839-2060	1816	21.55	18.20	839-2107	1833	33.40	28.35
1 (1.000)	839-2061	2212	31.30	26.55	839-2108	1635	32.45	27.55
1 1/4 (1.250)	839-2062	1818	46.95	39.95	839-2109	1636	57.75	49.05
1 1/2 (1.500)	839-2063	2213	53.00	45.10	839-2110	1637	66.65	56.65
1 3/4 (1.750)	839-2064	1819	55.45	47.05	839-2111	1638	85.00	72.20
2 (2.000)	839-2065	2214	61.30	52.00	839-2112	1639	86.05	73.15
2 1/4 (2.250)	839-2066	1820	68.00	57.70	839-2113	1642	87.80	74.60
2 1/2 (2.500)	839-2067	1825	74.40	63.15	839-2114	1643	90.20	76.70

8-32 Thread x .250 O.D. (1/4")

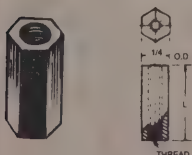
1/4 (.250)	839-2068	2215	13.95	11.85	839-2115	1474A	15.60	13.20
3/8 (.375)	839-2069	2216	15.40	13.05	839-2116	1474B	16.20	13.75
1/2 (.500)	839-2070	2217	17.00	14.45	839-2117	1474C	20.35	17.25
5/8 (.625)	839-2071	1827	22.20	18.90	839-2118	1834	27.50	23.40
3/4 (.750)	839-2072	2218	23.90	20.35	839-2119	1474D	32.05	27.25
7/8 (.875)	839-2073	1828	29.70	25.25	839-2120	1836	33.40	28.35
1 (1.000)	839-2074	2219	31.30	26.55	839-2121	1474E	32.45	27.55
1 1/2 (1.500)	839-2075	2220	53.00	45.10	839-2122	1837	83.95	71.30
2 (2.000)	839-2076	2221	61.30	52.00	839-2123	1838	86.05	73.15

8-32 Thread x .375 O.D. (3/8")

3/8 (.375)	839-2077	1926A	27.45	23.35	839-2124	1452A	35.30	30.05
1/2 (.500)	839-2078	1926B	28.70	24.40	839-2125	1452B	45.45	38.65
5/8 (.625)	839-2079	1926C	37.55	31.95	839-2126	1452C	58.70	49.85
3/4 (.750)	839-2080	1926D	43.65	37.15	839-2127	1452D	63.35	53.85
1 (1.000)	839-2081	1926E	52.90	45.00	839-2128	1452E	81.65	69.40

Nylon Hex Threaded Spacers

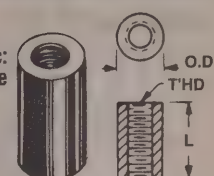
Made of Nylon 6/6. For terminal or printed circuit board supports. (A) 4-40 thread. (B) 6-32 thread. (C) 8-32 thread.



Stock No.	Mfr.'s Type (A)	Stock No.	Mfr.'s Type (B)	Stock No.	Mfr.'s Type (C)	Length Inches	PER PK./100	
							1-9	10-Up
839-2245	1902A	839-2250	1903A	839-2255	1904A	1/4 (.250)	22.70	19.25
839-2246	1902B	839-2251	1903B	839-2256	1904B	3/8 (.375)	23.15	19.70
839-2247	1902C	839-2252	1903C	839-2257	1904C	1/2 (.500)	24.25	20.60
839-2248	1902D	839-2253	1903D	839-2258	1904D	3/4 (.750)	31.05	26.40
839-2249	1902E	839-2254	1903E	839-2259	1904E	1 (1.000)	31.15	26.45

Round Threaded Spacers

Specifications. Brass: QQ-B-626, Alloy 360, 1/2 hard. Zinc: QQ-2-325B. Aluminum: QQ-A-225/3, Alloy 2911-T3. Iridite Finish: Mil-C-5541.



2-56 Thread x .156 O.D. (5/32")

Length Inches	Aluminum Iridite Finish				Brass Zinc Plate			
	Stock No.	Mfr.'s Type	PER PK./100		Stock No.	Mfr.'s Type	PER PK./100	
			1-9	10-Up			1-9	10-Up
3/16 (.187)	839-2129	1801A	29.75	25.30	839-2176	1802A	29.55	25.05
1/4 (.250)	839-2130	1801B	29.55	25.05	839-2177	1802B	31.70	26.95
5/16 (.312)	839-2131	1801C	31.95	27.15	839-2178	1802C	32.90	27.85
3/8 (.375)	839-2132	1801D	36.90	31.35	839-2179	1802D	32.90	27.85

4-40 Thread x .187 O.D. (3/16")

1/4 (.250)	839-2133	2025	13.85	11.75	839-2180	1547	13.85	11.75
3/8 (.375)	839-2134	2026	16.40	13.95	839-2181	1864	21.00	18.00
1/2 (.500)	839-2135	2027	17.90	15.30	839-2182	1657	20.05	17.05
5/8 (.625)	839-2136	2028	19.45	16.55	839-2183	1865	23.65	20.10
3/4 (.750)	839-2137	2029	22.70	19.25	839-2184	1657A	25.50	21.65
7/8 (.875)	839-2138	2030	24.40	20.70	839-2185	1866	32.65	27.80
1 (1.000)	839-2139	2031	34.15	29.00	839-2186	1657B	32.45	27.55

4-40 Thread x .250 O.D. (1/4")

1/4 (.250)	839-2140	3478	12.00	10.20	839-2185	1547A	20.30	17.20
3/8 (.375)	839-2141	3479	13.95	11.85	839-2186	1547B	23.70	20.20
1/2 (.500)	839-2142	3480	15.05	12.75	839-2187	1547C	28.85	24.55
5/8 (.625)	839-2143	1839	22.15	18.80	839-2188	1867	32.60	27.75
3/4 (.750)	839-2144	3481	18.70	15.85	839-2189	1547D	36.65	31.10
7/8 (.875)	839-2145	1846	27.50	23.40	839-2190	1876	41.25	35.00
1 (1.000)	839-2146	3482	30.40	25.75	839-2191	1547E	45.95	39.00
1 1/2 (1.500)	839-2147	3483	51.30	43.50	839-2192	1877	81.40	69.15
2 (2.000)	839-2148	3484	59.45	50.45	839-2193	1878	83.15	70.65

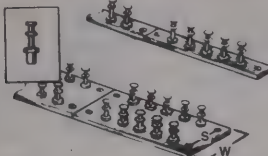
6-32 Thread x .250 O.D. (1/4")

1/4 (.250)	839-2149	3485	12.00	10.20	839-2194	1548A	12.85	10.90
3/8 (.375)	839-2150	3486	13.95	11.85	839-2195	1548B	15.05	12.75
1/2 (.500)	839-2151	3487	15.05	12.75	839-2196	1548C	19.45	16.55
5/8 (.625)	839-2152	1847	21.85	18.45	839-2197	1548D	26.15	22.15
3/4 (.750)	839-2153	3488	18.70	15.85	839-2198	1548E	31.35	26.60
7/8 (.875)	839-2154	1848	20.45	17.35	839-2199	1879	32.55	27.70
1 (1.000)	839-2155	3489	30.40	25.75	839-2200	1548F	31.90	27.15
1 1/4 (1.250)	839-2156	1853	46.05	39.05	839-2201	1881	56.65	48.15
1 1/2 (1.500)	839-2157	3490	51.30	43.50	839-2202	1882	81.40	69.15
1 3/4 (1.750)	839-2158	1855	54.50	46.30	839-2203	1883	82.45	70.05
2 (2.000)	839-2159	3491	59.45	50.45	839-2204	1884	83.15	70.65
2 1/4 (2.250)	839-2160	1856	66.15	56.25	839-2205	1885	85.25	72.50
2 1/2 (2.500)	839-2161	1857	72.55	61.70	839-2206	1886	87.80	74.60

8-32 Thread x .250 O.D. (1/4")

1/4 (.250)	839-2162	3492	12.00	10.20	839-2207	1692A	24.25	20.60
3/8 (.375)	839-2163	3493	13.95	11.85	839-2208	1692B	25.50	21.65
1/2 (.500)	839-2164	3494	15.05	12.75	839-2209	1692C	32.40	27.50
5/8 (.625)	839-2165	1858	17.20	14.60	839-2210	1887	37.00	31.45
3/4 (.750)	839-2166	3495	18.70	15.85	839-2211	1692D	43.85	37.30
7/8 (.875)	839-2167	1859	20.45	17.35	839-2212	1888	42.10	35.80
1 (1.000)	839-2168	3496	30.40	25.75	839-2213	1692E	45.25	38.50
1 1/2 (1.500)	839-2169	3497	51.30	43.50	839-2214	1889	81.40	69.15
2 (2.000)	839-2170	3498	59.45	50.45	839-2215	1899	87.55	74.35

Scored Turret Terminal Boards

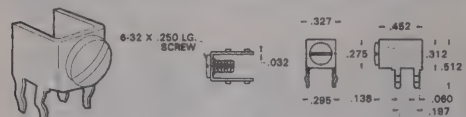


Terminals: Brass, ASTM-B16. **Plating:** Hot Tin Dipped, MIL-T-10727. Recommended for longer shelf life and better solderability. Other platings can be furnished. **Material:** Your choice of either PBE or GEE phenolic. PBE: Paper base electrical, MIL-P-3115C, Type XXXP natural, Temp. 250°F max. GEE: Glass epoxy, MIL-P-18177, Type G-10, 300°F max.

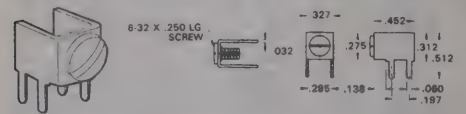
Stock No.	Mir.'s Type	Material	W	S	No. of Terms	EACH		
						1-99	100-499	500-Up
839-2371	15031	PBE	1/2	Single	25	4.80	4.30	3.84
839-2372	15231	GEE	1/2	Row	25	5.44	4.86	4.35
839-2373	15032	PBE	1 1/2	1	50	9.58	8.58	7.62
839-2374	15232	GEE	1 1/2	1	50	11.62	10.41	9.27
839-3455	15036	PBE	1 1/2	1 3/16	50	9.58	8.58	7.62
839-2375	15236	GEE	1 1/2	1 3/16	50	11.62	10.41	9.27
839-3452	15033	PBE	2	1 1/2	50	10.10	9.04	8.07
839-3465	15233	GEE	2	1 1/2	50	11.94	10.68	9.48
839-2376	15034	PBE	2 1/2	2	50	10.70	9.56	8.53
839-2377	15234	GEE	2 1/2	2	50	12.25	10.95	9.76
839-2378	15035	PBE	3	2 1/2	50	11.43	10.24	9.12
839-2379	15235	GEE	3	2 1/2	50	12.56	11.23	10.00

PC Mount Screw Terminal Connectors

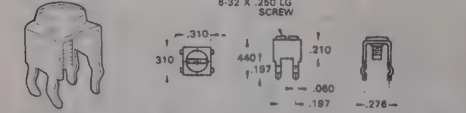
These easy-to-mount, multipurpose screw type terminals are a practical, low-cost alternative to PC screw type edge connectors, barrier blocks, terminal boards and terminal strips. Stable and easy to install, they accommodate solid or stranded wire, crimp-type terminals or lugs. Multi-placement of these low-profile terminals make them ideally suited for high-density packaging. Supplied unassembled or with screw installed and



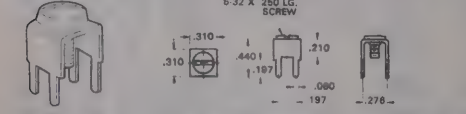
839-7690. Model 7690 (Screw Supplied Un-Assembled)PK/100 18.95
839-7692. Model 7692 (Screw Installed & Captivated).....PK/100 19.80



839-8190. Model 8190 (Screw Supplied Un-Assembled)PK/100 17.70
839-7700. Model 7700 (Screw Installed & Captivated).....PK/100 19.50



839-7691. Model 7691 (Screw Supplied Un-Assembled)PK/100 18.55
839-7693. Model 7693 (Screw Installed & Captivated).....PK/100 18.80



839-8191. Model 8191 (Screw Supplied Un-Assembled)PK/100 17.40
839-7701. Model 7701 (Screw Installed & Captivated).....PK/100 18.55

Fuse Holders



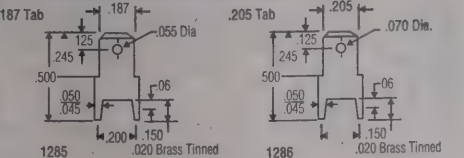
PC Fuse Holder Model 4245. For 1/4" dia. fuse 3AG. Material—062 GPO-3 94V-0. Clips—Brass tin plate.

839-2424. Model 4245. 1-9 EACH .44
10-Up EACH .38

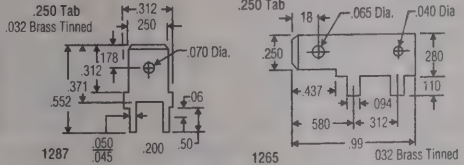
Molded Fuse Holder 3523. For 3AG fuses. Withstand test of 1080 VRMS at 60Hz/1 min.; 3000 VDC/1 min. Clips—Brass alloy type CDA 260; bright dip plated. Molded Plastic—mineral filled flame-retardant alkyd. UL rated 94V-0. Conforms to 180 sec. arc tracking test spec per ASTM 495-D. Low contact resistance.

839-2425. Model 3523. 1-9 EACH .68
10-Up EACH .63

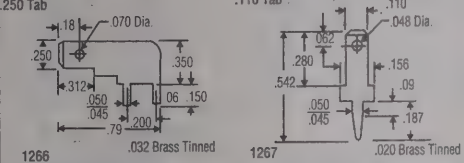
PC Quick-Fit Terminals



1285 .020 Brass Tinned 1286 .020 Brass Tinned



1287 .032 Brass Tinned 1265 .032 Brass Tinned



1266 .032 Brass Tinned 1267 .020 Brass Tinned

Brass tinned. Mating tab meets NEMA standards, mates with std. Female connectors. Direct mount.

Stock No.	Mir.'s Type	Tab Size	PER PK./100	
			1-4	5-9
839-2402	1285	.187	4.40	3.75
839-2403	1286	.205	4.65	3.90
839-2404	1287	.250	5.45	4.70
839-1265	1265	.250	8.25	7.30
839-1266	1266	.250	6.45	5.70
839-1267	1267	.110	5.75	4.95

Stock No.	Mir.'s Type	Tab Size	PER PK./100	
			1-4	5-9
839-1211	1211	.110	6.30	
839-1212	1212	.187	5.40	
839-1213	1213	.205	5.45	
839-1281	1281	.250	8.70	
839-1282	1282	Dual .110/.250	5.45	
839-1289	1289	.250	5.55	

Hand Insertion Tool.
839-2405. Type 1288 EACH 13.38

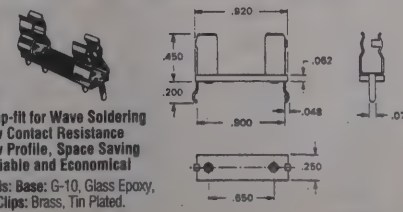
Standard Binding Post Strips



PBE, Fed. LP-513. Type XP natural. 250 F max. Material is 1/16" thick, 5/16" wide. 0.140" dia. holes. Terminals spaced 7/16" apart.

Stock No.	Mir.'s Type	Length	"A" Mtg. Centers	No. of Term	EACH		
					1	100	500
839-2406	4187	1 1/4	7/8	1	.30	.27	.25
839-2407	4188	1 1/16	1 5/16	2	.45	.38	.34
839-2408	4189	2 1/8	1 3/4	3	.62	.53	.48
839-2409	4190	2 9/16	2 3/16	4	.81	.73	.66
839-2410	4191	3	2 5/8	5	1.00	.85	.77
839-2411	4192	3 7/8	3 1/16	6	1.16	1.05	.90
839-2412	4193	3 1/2	3 1/2	7	1.45	1.30	1.15
839-2413	4194	4 5/16	3 15/16	8	1.61	1.47	1.29
839-2414	4195	4 3/4	4 13/16	9	1.84	1.62	1.46
839-2415	4196	5 1/16	4 13/16	10	2.03	1.81	1.62

Printed Circuit 5mm Fuse Holder

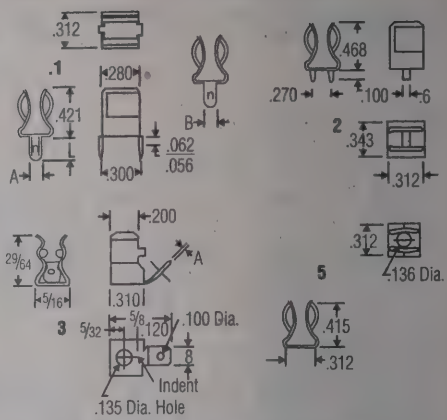


- Snap-fit for Wave Soldering
- Low Contact Resistance
- Low Profile, Space Saving
- Reliable and Economical

Materials: Base: G-10, Glass Epoxy, 94V-0; Clips: Brass, Tin Plated.

839-3527. Model 3527. 1-99 EACH .46
100-Up EACH .38

Fuse Clips PC/Conventional



Assures correct installation. Available with or without orientation. PC solder tabs. Snap-in design holds position for wave soldering.

Stock No.	Mir.'s Type	Fig.	Tab Length	Clip Size	A	B	PER PK./100	
							1-4	5-9
839-2416	3529	1	.140	1/4" Dia.	—	.060	5.55	5.10
839-2417	3514	1	.250	1/4" Dia.	—	.060	8.55	7.55
839-2418	3515	1	.140	1/4" Dia.	.060	.060	16.20	13.85
839-2419	3516P	1	.140	1/4" Dia.	.060	.120	19.75	16.80
839-2420	3517	1	.140	5mm	.060	.060	6.45	5.70
839-2421	3518P	1	.140	5mm	.060	.093	6.45	5.70
839-2422	3530	2	.100	1/4" Dia.	—	.062	11.00	9.35
839-2424	4244	3	—	1/4" Dia.	.032	.250	31.50	26.80
839-2426	4246	3	—	1/4" Dia.	.020	.187	27.55	23.45
839-2427	4247	3	—	1/4" Dia.	.020	.205	27.55	23.45
839-2423	3532	5	—	1/4" Dia.	—	—	7.75	6.65

Stock No.	Mir.'s Type	Description	PER PK./100	
			1-4	5-9
839-3522	3522	PC Auto Fuse Clip	8.25	6.85
839-3521	3521	2AG/5mm PC Clip	6.35	5.65
839-3513	3513	3AG Snap-in PC Clip	8.55	7.55

Lockwasher Terminal Lugs

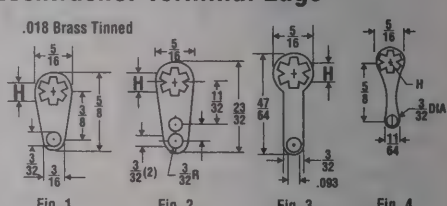


Fig. 1 Fig. 2 Fig. 3 Fig. 4

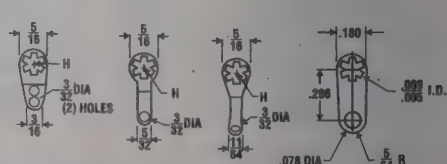


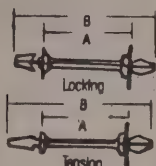
Fig. 5 Fig. 6 Fig. 7 Fig. 8

Stock No.	Mir.'s Type	Fig.	H	PER PK./100	
				1-4	5-9
839-2380	908	1	#4	5.80	5.00
839-2381	914	1	#6	5.80	5.00
839-2382	915	1	#8	5.80	5.00
839-2383	910	2	#4	5.80	5.00
839-2384	918	2	#6	5.80	5.00
839-2385	906	2	#8	5.80	5.00
839-2386	909	3	#4	5.80	5.00
839-2387	916	3	#6	5.80	5.00
839-2388	917	3	#8	5.80	5.00
839-2389	903	4	#4	5.80	5.00
839-2390	904	4	#6	5.80	5.00
839-2391	905	4	#8	5.80	5.00
839-2392	7311	5	#4	5.80	5.00
839-2393	7312	5	#6	5.80	5.00
839-2394	7313	5	#8	5.80	5.00
839-2395	7314	6	#4	5.80	5.00
839-2396	7315	6	#6	5.80	5.00
839-2397	7316	6	#8	5.80	5.00
839-2398	7317	7	#4	5.80	5.00
839-2399	7318	7	#6	5.80	5.00
839-2400	7319	7	#8	5.80	5.00
839-2401	907	8	—	11.50	10.50

Nylon Spacer Supports

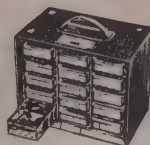
- Easy to install
- Low cost
- Secure and stable
- Releasable
- Flame retardant nylon per 94V-0

Two Styles Available: locking and tension



Spacer Organizer

Avail yourself of all practical sizes and types of spacers and standoffs. Maintain a neat complete inventory of the most frequently used parts in day-to-day operations. An assortment of various sizes and styles in brass, aluminum and nylon with tapped or thru-hole. Metal cabinet designed to be stacked on one another or wall mounted. Clear plastic drawers labeled for easy identification. The following organizer kits are available from stock!



1/4" Hex Threaded
Brass Zinc Plated: Assortment of 1500 pieces 1/4", 3/8", 1/2", 3/4", and 1" lengths. With threaded sizes of 4-40, 6-32 and 8-32. 100 pieces of each size complete with cabinet. **839-0014. STH-14**.....EACH 354.46

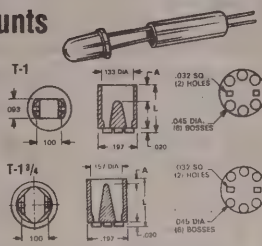
Aluminum Iridite Finish:
Assortment of 1500 pieces in 1/4", 3/8", 1/2", 3/4", and 1" lengths. With threaded sizes of 4-40, 6-32 and 8-32. 100 pieces of each size complete with cabinet. **839-0022. STH-22**.....EACH 244.89

1/4" Round Clear Nylon 6/6:
Assortment of 1500 pieces in 1/4", 3/8", 1/2", 3/4", and 1" lengths. With clearance holes for #4, #6, and #8. 100 pieces of each size complete with cabinet. **839-0008. SPR-8**.....EACH 174.01

1/4" Hex Male/Female
Brass Nickel Plated: Assortment of 750 pieces in 1/2", 3/4", 1", 1 1/4" and 1 1/2" lengths. With threaded sizes of 4-40, 6-32 and 8-32. 50 pieces of each size complete with cabinet. **839-0019. STH-19**.....EACH 322.22

LED Spacer Mounts

- Internal design eliminates crimping or shorting of leads
- Positive self-alignment of leads on .100 centers
- Cost and labor saving
- No special tools required



"Future-Tech" designed for T-1 and T-1 1/4 LEDs. These unique, new self-aligning LED mounting spacers simplify preassembly to the printed circuitboard. The spacer features an internally tapered barrier which guides the leads. The bosses serve the dual purpose of heat dissipation and easy post soldering cleanup. Natural nylon, UL rated 94V-2.

Len. L	"A"	T-1 1/4					T-1				
		Stock No.	Mfr.'s Type	PER PK./100	1-4	5-9	Stock No.	Mfr.'s Type	PER PK./100	1-4	5-9
.120	.040	839-8311	8311	7.85	6.75	6.75	839-7351	7351	7.65	6.55	6.55
.140	.060	839-8312	8312	7.85	6.75	6.75	839-7352	7352	7.65	6.55	6.55
.160	.080	839-8313	8313	7.85	6.75	6.75	839-7353	7353	7.65	6.55	6.55
.180	.100	839-8314	8314	7.85	6.75	6.75	839-7354	7354	7.65	6.55	6.55
.200	.120	839-8315	8315	7.85	6.75	6.75	839-7355	7355	7.65	6.55	6.55

Jack Screws

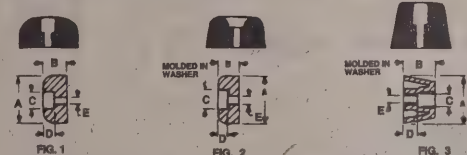
"D" subminiature connector mounting screw. Per MIL-C-24308/26. Equivalent to AMP, CANNON and TRW Jack screws. Other sizes upon request.
Material: Steel, Zinc Plate and Gold Iridite.

Stock No.	Mfr.'s Type	"L"	PER PK./100	
			1-9	10-Up
839-7228	7228*	.250	16.45	14.40
839-7229	7229†	.250	21.40	18.75
839-2429	7230*	.312	12.40	10.90
839-2430	7232*	.625	33.40	29.15
839-2431	7231†	.312	17.40	15.30
839-2432	7233†	.625	38.30	33.60

*Jack only. †Jack with hardware (2 flat washers, lock washer, and nut) supplied unassembled bulk.

NOTE: Also available with Zinc & Clear Chromate finish. Add -5 to basic part number.

Recessed Bumpers



Excellent traction and shock absorption. Available with our without molded-in washer. Made of rubber and BUNA S (Fig. 1,2) or rubber vinyl (Fig. 3).

Stock No.	Mfr.'s Type	Fig.	A	B	C	D	E	Screw Size	EACH	
									1-499	500
839-2433	720	1	.500	.250	.250	.125	.125	4	.11	.09
839-2434	721	1	.625	.312	.250	.187	.125	4	.17	.15
839-2435	722	1	.718	.437	.250	.218	.125	4	.35	.30
839-2436	723	2	.937	.375	.375	.187	.187	8	.34	.29
839-2437	724*	3	.687	.250	.343	.125	.155	6	.26	.22
839-2438	725*	3	.875	.312	.406	.187	.187	8	.48	.41
839-2439	726*	3	1.062	.437	.468	.234	.200	10	.59	.51
839-2440	727	3	.562	.375	.218	.187	.115	4	.31	.27
839-2441	728	3	.750	.437	.265	.250	.148	6	.35	.30
839-2442	729	3	.937	.625	.359	.328	.174	8	.52	.44

*Grey—all others black.

Brass or Aluminum Round Clear Spacers

Choice of brass-nickel plate QQ-N-290, Type VII or aluminum-iridite finish MIL-C-5541 O.D. 1/4"

Length (In.)	Hole (In.) I.D.	Brass				Aluminum			
		Stock No.	Mfr.'s Type	PER PK./100		Stock No.	Mfr.'s Type	PER PK./100	
				1-4	5-9			1-4	5-9
.125	.120	839-2272	1909	14.60	12.50	839-2302	2036	9.20	7.80
.250	.120	839-2273	1454A	16.70	14.25	839-2303	3457	9.35	7.95
.375	.120	839-2274	1454B	17.75	15.15	839-2304	3458	11.10	9.40
.500	.120	839-2275	1454C	21.10	18.10	839-2305	3459	12.60	10.65
.625	.120	839-2276	1919	23.75	20.25	839-2306	2314	13.90	11.80
.750	.120	839-2277	1454D	24.15	20.50	839-2307	3460	15.00	12.70
.875	.120	839-2278	1920	37.35	31.65	839-2308	3402	18.75	15.90
1.000	.120	839-2279	1454E	38.40	32.65	839-2309	3461	19.45	16.55
1.500	.120	839-2280	1924	60.50	51.50	839-2310	3462	39.95	33.90
2.000	.120	839-2281	1925	80.15	68.15	839-2311	3463	52.80	44.90
.125	.140	839-2282	1934	14.60	12.50	839-2312	3403	9.20	7.80
.250	.140	839-2283	1457A	16.70	14.25	839-2313	3464	9.35	7.95
.375	.140	839-2284	1457B	17.75	15.15	839-2314	3465	11.10	9.40

Length (In.)	Hole (In.) I.D.	Brass				Aluminum			
		Stock No.	Mfr.'s Type	PER PK./100		Stock No.	Mfr.'s Type	PER PK./100	
				1-4	5-9			1-4	5-9
.500	.140	839-2285	1457C	21.10	18.10	839-2315	3466	12.60	10.65
.625	.140	839-2286	1935	23.75	20.25	839-2316	3429	13.90	11.80
.750	.140	839-2287	1457D	24.15	20.50	839-2317	3467	15.00	12.70
.875	.140	839-2288	1936	37.35	31.65	839-2318	3438	18.75	15.90
1.000	.140	839-2289	1457E	38.40	32.65	839-2319	3468	19.45	16.55
1.500	.140	839-2290	1937	60.50	51.50	839-2320	3469	39.95	33.90
2.000	.140	839-2291	1938	80.05	67.95	839-2321	3470	52.80	44.90
.125	.171	839-2292	1942	14.60	12.50	839-2322	4258	9.20	7.80
.250	.171	839-2293	1480	16.70	14.25	839-2323	3471	9.35	7.95
.375	.171	839-2294	1481	17.75	15.15	839-2324	3472	11.10	9.40
.500	.171	839-2295	1482	21.10	18.10	839-2325	3473	12.60	10.65
.625	.171	839-2296	2032	23.75	20.25	839-2326	4259	13.90	11.80
.750	.171	839-2297	1483	24.15	20.50	839-2327	3474	15.00	12.70
.875	.171	839-2298	2033	37.35	31.65	839-2328	4260	18.75	15.90
1.000	.171	839-2299	1484	38.30	32.60	839-2329	3475	19.45	16.55
1.500	.171	839-2300	2034	60.50	51.50	839-2330	3476	39.95	33.90
2.000	.171	839-2301	2035	80.05	67.95	839-2331	3477	52.80	44.90

Rubber Grommets

For electrical insulation and mechanical damping. Made of BUNA S.

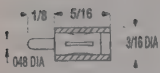
Stock No.	Mfr.'s Type	I.D. "A"	Hole Size "B"	Panel Sz. "C"	O.D. "D"	Height "E"	PK./100	
							1-4	5-9
839-2443	730	.125	0.187	.062	0.312	.187	6.35	5.35
839-2444	733	.125	0.250	.062	0.343	.156	5.70	4.95
839-2445	734	.125	0.437	.062	0.625	.187	58.65	50.00
839-2446	735	.125	0.375	.093	0.500	.312	21.35	18.20
839-2447	736	.187	0.312	.062	0.437	.187	6.85	5.90
839-2448	731	.187	0.312	.062	0.437	.218	6.85	5.90
839-2449	737	.187	0.281	.093	0.437	.218	16.50	14.00
839-2450	738	.250	1.437	.062	1.625	.187	17.10	14.55
839-2451	739	.250	0.375	.062	0.500	.218	8.80	7.40
839-2452	740	.250	0.376	.093	1.500	.250	14.65	12.60
839-2453	741	.312	0.562	.062	1.625	.281	30.75	26.10

Stock No.	Mfr.'s Type	I.D. "A"	Hole Size "B"	Panel Sz. "C"	O.D. "D"	Height "E"	PK./100	
							1-4	5-9
839-2454	742	.312	0.437	.062	0.625	.281	11.90	10.15
839-2455	743	.312	0.437	.093	0.625	.312	18.35	15.60
839-2456	744	.357	0.625	.062	0.875	.312	33.00	28.10
839-2457	745	.375	0.500	.062	0.625	.250	9.45	8.05
839-2458	746	.437	0.562	.062	0.750	.250	11.70	10.20
839-2459	747	.437	0.687	.062	0.937	.312	36.65	31.05
839-2460	748	.500	0.812	.062	1.062	.312	36.90	31.40
839-2461	749	.500	1.250	.062	1.500	.250	46.35	39.40
839-2462	750	.562	0.812	.062	1.062	.312	22.65	19.25
839-2463	751	.625	0.875	.062	1.125	.312	44.80	38.10
839-2464	752	.625	0.875	.062	1.125	.312	23.75	20.10
839-2465	753	.625	1.250	.062	1.500	.250	67.35	57.25
839-2466	754	.750	1.062	.062	1.375	.375	68.80	58.45
839-2467	755	.750	1.437	.062	1.812	.375	151.10	128.50
839-2468	757	.875	1.250	.062	1.625	.437	105.19	89.40

Vertical P.C. Test Jack

Accepts .80" Tip. This low profile vertical jack allows dense packing where space is limited. Mounts into a .052" diameter hole. Provides easy access and positive electrical contact. The contact is recessed to prevent accidental shorting. Capacitance between two adjacent jacks less than 1.0 pF at 1 MHz. Operating voltage is 1500 volts RMS. Current rating 5 amps max. **Material Specifications.** Body: nylon per ASTM D4066. Contact: Beryllium copper silver plated.

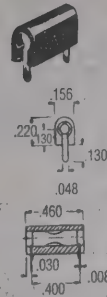
Stock No.	Mfr.'s Type	Color	EACH	
			1-99	100-499
839-6036	6036	White	.58	.47
839-6037	6037	Red	.58	.47
839-6038	6038	Black	.58	.47
839-6039	6039	Yellow	.58	.47
839-6040	6040	Green	.58	.47
839-6041	6041	Blue	.58	.47



Low Profile Horizontal PC Test Jack

Allows dense packing on .160" centers. Side by side mounting. Closed entry design for tips less than .084" — will accept probes of .074" minimum diameter. Mounts on .400" centers on .52" holes. **Current Rating:** 5A. **WVAC:** 1500V max. **Contact Resistance:** 0.01 ohms max. **Material:** Body — nylon per ASTM D4066; Contact — Beryllium copper, gold plated. Choice of colors.

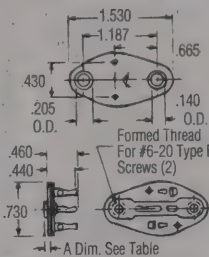
Stock No.	Mfr.'s Type	Color	EACH	
			1-99	100-499
839-2469	6060	White	.69	.68
839-2470	6061	Red	.69	.68
839-2471	6062	Black	.69	.68
839-2472	6063	Yellow	.69	.68
839-2473	6064	Green	.69	.68
839-2474	6065	Blue	.69	.68



Sockets For TO-3

Various Molded Boss Heights. Held underneath chassis — semiconductor is inserted into the contacts of the socket holding the assembly in position. 6-20 screws engage the formed holes in collector pins to complete the mounting. **Top Plate:** Molded nylon. **Base:** Phenolic.

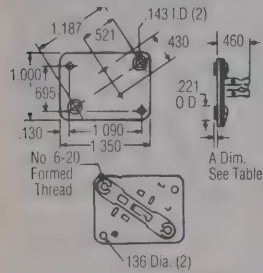
Stock No.	Mfr.'s Type	Dim. "A"	EACH	
			1-99	100-499
839-2475	4603	.030	.95	.86
839-2476	4602	.045	.92	.87
839-2477	4601	.090	.90	.84



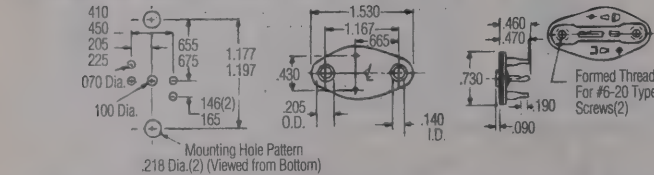
Socket For TO-3 Case

Various molded boss heights. Pre-assembling the socket to the chassis by eyelets or rivets permits the installation of the semiconductor at a later stage in the assembly. **Top Plate:** molded nylon. **Base:** Phenolic.

Stock No.	Mfr.'s Type	Dim. "A"	EACH	
			1-99	100-499
839-4607	4607	.030	1.15	.98
839-4608	4608	.045	1.24	1.15
839-4609	4609	.060	1.24	1.15
839-4610	4610	.090	1.24	1.15
839-4618	4618	.125	1.24	1.15

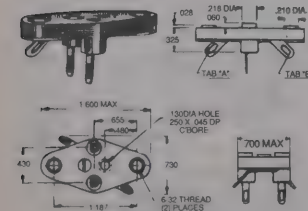


Printed Circuit Socket For TO-3



Easily assembles onto printed circuit board. Eliminates wiring. Stops on P.C. terminals provide sufficient spacing between socket and P.C. board to permit proper assembly of transistor to socket. Can be screwed down tightly to heat sink. **Top Plate:** Molded nylon. **Base:** Phenolic.
839-2478. 4600. 1-99EACH 1.04 100-UpEACH .96

One-Piece All Molded Transistor Sockets For TO-3 Case



All-in-one mounting plate and solder tabs for complete electrical isolation of solder tab connection. **Material:** Insulating base filled with reinforced polyester — 94V-0 rating. **Contacts:** Phosphor bronze tin plate. **Mounting Bracket:** Brass tin plate. **Rating:** 5 amps DC continuous; 15 amps DC intermittent. Model 4513 features transistor lead-in insulating shoulders.

Stock No.	Mfr.'s Type	EACH		
		1-99	100-499	500-Up
839-2479	4513	1.93	1.66	1.42
839-2480	4515	2.06	1.78	1.51

Flat Washers

Fibre (Material — Commercial per MIL-F-1148A, Grade C.H.)

Screw Size	"C" I.D.	"A" O.D.	.032		.047		.062	
			Stock No.	PER PK./100	Stock No.	PER PK./100	Stock No.	PER PK./100
				1-4 5-9		1-4 5-9		1-4 5-9
2	.098	.187	839-3111	2.45	839-3148	3.85	839-3366	2.95
2	.098	.250	839-3112	2.45	839-3149	2.45	839-3367	2.45
2	.098	.312	839-3113	2.45	839-3150	2.45	839-3194	2.45
4	.120	.250	839-3116	2.45	839-3154	2.45	839-3368	2.45
4	.120	.312	839-3117	2.45	839-3155	2.45	839-3196	2.45
4	.120	.375	839-3118	2.50	839-3156	2.65	839-3197	2.50
6	.140	.250	839-3119	2.45	839-3159	2.45	839-3369	2.45
6	.140	.312	839-3120	2.45	839-3160	2.45	839-3370	2.45
6	.140	.375	839-3121	2.50	839-3161	2.65	839-3201	2.50
8	.171	.312	839-3124	2.45	839-3164	2.45	839-3203	2.45
8	.171	.375	839-3125	2.50	839-3165	2.50	839-3372	2.50
8	.171	.437	839-3126	2.50	839-3166	2.50	839-3204	2.50
10	.196	.312	839-3129	2.45	839-3170	2.45	839-3207	2.45
10	.196	.375	839-3130	2.50	839-3171	2.50	839-3208	2.50
10	.196	.437	839-3131	2.50	839-3172	2.50	839-3209	2.50
10	.196	.500	839-3132	2.65	839-3173	3.45	839-3210	2.95

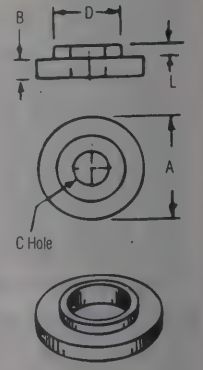
Nylon (Material — Grade 6/6 per ASTM D4066)

Screw Size	"C" I.D.	"A" O.D.	Stock No.	.032		Stock No.	.047		Stock No.	.062	
				1-4	5-9		1-4	5-9		1-4	5-9
2	.098	.187	839-3114	4.25	3.60	839-3151	4.25	3.60	839-3358	2.65	2.30
2	.098	.250	839-3115	2.35	2.00	839-3152	2.35	2.00	839-3359	2.40	2.05
2	.098	.312	839-3116	2.80	2.40	839-3153	2.80	2.40	839-3360	2.35	2.00
4	.120	.250	839-3117	2.35	2.00	839-3154	2.75	2.35	839-3361	2.40	2.05
4	.120	.312	839-3118	2.80	2.40	839-3155	2.40	2.05	839-3362	2.80	2.40
4	.120	.375	839-3119	3.00	2.55	839-3156	2.40	2.05	839-3363	2.75	2.35
6	.140	.250	839-3120	2.35	2.00	839-3157	2.35	2.00	839-3364	2.35	2.00
6	.140	.312	839-3121	2.35	2.00	839-3158	2.95	2.50	839-3365	2.80	2.40
6	.140	.375	839-3122	3.00	2.55	839-3159	2.40	2.05	839-3366	2.75	2.35
6	.140	.437	839-3123	2.75	2.35	839-3160	2.95	2.50	839-3367	2.35	2.00
6	.140	.500	839-3124	3.50	2.95	839-3161	2.95	2.50	839-3368	2.80	2.40
8	.171	.312	839-3125	2.35	2.00	839-3162	2.35	2.00	839-3202	2.75	2.35
8	.171	.375	839-3126	2.55	2.15	839-3163	2.35	2.00	839-3203	2.80	2.40
8	.171	.437	839-3127	3.00	2.55	839-3164	2.40	2.05	839-3369	2.75	2.35
10	.196	.312	839-3128	2.75	2.35	839-3165	2.95	2.50	839-3204	3.20	2.75
10	.196	.375	839-3129	2.80	2.40	839-3166	2.90	2.45	839-3211	2.80	2.40
10	.196	.437	839-3130	3.00	2.55	839-3167	2.40	2.05	839-3212	2.75	2.35
10	.196	.500	839-3131	2.75	2.35	839-3168	2.95	2.50	839-3213	3.20	2.75
10	.196	.500	839-3132	3.50	2.95	839-3169	3.50	2.95	839-3214	3.75	3.30

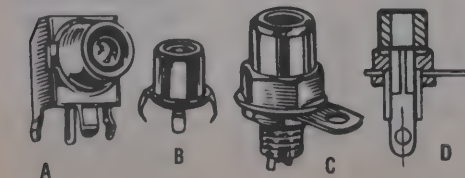
Shoulder Washers

Material: Fibre, Commercial per MIL-F-1148A, Grade CH

Stock No.	Mfr.'s Type	Screw Size	L	A	B	C	D	PK./100	
								1-4	5-9
839-3229	3229	#2	.025	.250	.047	.093	.123	5.10	4.20
839-3061	3061	#2	.025	.250	.047	.093	.156	7.35	6.20
839-0344	344	#4	.015	.312	.062	.125	.203	4.70	4.00
839-0343	343	#4	.025	.312	.062	.125	.203	4.70	4.00
839-3062	3062	#4	.031	.250	.031	.115	.187	6.15	5.25
839-3220	3230	#4	.031	.281	.062	.115	.175	5.45	4.60
839-3231	3231	#4	.031	.312	.062	.120	.180	4.10	3.45
839-4690	4698	#6	.031	.250	.062	.140	.187	3.20	2.75
839-3064	3064	#6	.031	.312	.062	.140	.187	4.70	4.00
839-3232	3232	#6	.031	.375	.062	.140	.210	4.40	3.75
839-3233	3233	#6	.031	.375	.062	.140	.240	6.05	5.10
839-3234	3234	#6	.031	.500	.062	.140	.240	6.40	5.40
839-3065	3065	#8	.031	.375	.062	.170	.245	4.85	4.10
839-3066	3066	#8	.031	.417	.062	.170	.210	7.90	6.70
839-3235	3235	#8	.031	.312	.062	.170	.218	4.70	4.00
839-3236	3236	#8	.031	.375	.062	.170	.215	4.70	4.00
839-3237	3237	#8	.031	.500	.062	.170	.240	6.40	5.40
839-4702	4702	#10	.031	.375	.062	.194	.308	3.85	3.35
839-3238	3238	#10	.031	.375	.062	.194	.240	4.70	4.00
839-3239	3239	#10	.031	.500	.062	.196	.240	5.20	4.30



Phono Jacks



PC Phono Jacks

Shells: Steel, Tin Plate. Pins: Brass, N.P. Contacts: Brass, Tin. Type 901 — 1 piece jack, no wiring needed. Steel, tin-plated. Type 572 — 3-hole mounted, no staking required. Snap-in.

Stock No.	Mfr.'s Type	Fig.	EACH	
			1-99	100-499
839-2426	901	A	.77	.65
839-2427	572	B	.58	.49
839-2428	900	A	.93	.79

Panel Mount Phono Jacks

Available with round or hex base. Mounts on top of panel in .296 diameter hole. Complete with nut and solder lug.

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-99	100-499
839-0574	574	C	Black Insulator	1.00	.89
839-0575	580	C	Red Insulator	1.00	.89
839-0576	576	D	Hex Base	1.20	1.04



Hand Tools (Lifetime Guarantee)

Standard Diagonal Cutting Pliers



Basic diagonal cutting pliers with tapered nose and standard bevel cutting knives. Model D245-5C has coil spring to hold jaws open. Red plastic-dipped handles. Dimensions. Overall Length: 5" (127 mm). Jaw Length: 1 1/8" (17 mm). Jaw Width: 9/16" (14 mm). Jaw Thickness: 3/8" (10 mm).

- 726-1000. D245-5. Standard Diagonal CutterEACH 17.06
726-1005. D245-5C. Standard Diagonal Cutter with Coil SpringEACH 17.78



Standard Nose, Semi-Flush Cutting Pliers

General-purpose cutter with short, strong, tapered nose. Knives are semi-flush cutting. With coil spring.

Overall Length: 4 3/8" (106 mm). Jaw Length: 1/2" (13 mm). Jaw Width: 7/16" (11 mm). Jaw Thickness: 1/4" (6 mm).

- 726-1030. D257-4CEACH 18.10

Slim Pointed Nose Pliers



Semi-flushed cutting pliers are relieved in the back to permit entry into confined areas. Specifically designed for tip cutting. With coil spring. Plastic-dipped handles. Overall Length: 5" (106 mm). Jaw Length: 1/2" (11 mm). Jaw Thickness: 1/4" (6 mm).

- 726-1035. D219-4C. Semi-Flush CuttingEACH 18.98
726-1040. D219-5C. Semi-Flush CuttingEACH 20.94

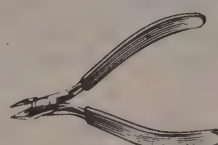


Standard Nose, High-Leverage Cutter

High-leverage design provides a 36% greater mechanical cutting and gripping advantage than regular 7" and 8" heavy-duty diagonal cutters. Standard bevel cutting knives. Red plastic-dipped handles.

- 726-2288. D228-8EACH 18.64
726-2287. D228-7EACH 18.24

Tapered Nose, Midget Jaw, Full-Flush Cutting Pliers



These small, diagonal cutting, clean room electronics pliers are designed to permit working in very close quarters with maximum visibility. Fully polished head and neck. With coil spring. Plastic-dipped handles. Overall Length: 4 3/8" (106 mm). Jaw Length: 1/2" (13 mm). Jaw Width: 3/8" (10 mm). Jaw Thickness: 1/4" (6 mm).

- 726-1050. D295-4CEACH 21.86

Special Long-Reach Designer Pliers



Longer handles for more convenient use and greater jaw gripping power. Knurled jaws. Yellow plastic-dipped handles. Overall Length: 8" (203 mm). Jaw Length: 1 1/8" (49 mm). Jaw Width: 1 1/8" (17 mm). Jaw Thickness: 3/8" (10 mm). Point Thickness: 3/32" (2 mm).

- 726-1125. D314-8EACH 16.00

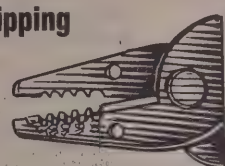
Midget Slim Nose



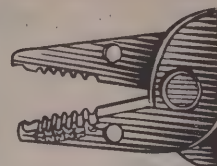
This small, light, slim nose plier is designed for precision sub-miniature assembly work. Knurled jaws. With coil spring. Plastic-dipped handles. Overall Length: 4 3/4" (121 mm). Jaw Length: 1 1/8" (27 mm). Jaw Width: 7/16" (11 mm). Jaw Thickness: 1/4" (6 mm). Point Thickness: 1/32 x 1/16" (.8 x 1.6 mm).

- 726-1130. D321-41/2CEACH 15.42

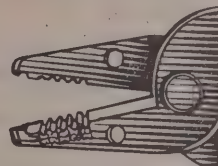
Wire-Stripping



11045



11046



11047

Compact, lightweight strippers gauge, cut, strip and loop wire. Spring-loaded, self-opening action. Flat design makes them easy to store and carry. Narrow nose fits into tight places. Strip wire quickly, cleanly, evenly. Strong, hardened-steel with precision-ground stripping holes. Clear gauge markings on both sides. Black oxide finish. Comfortable plastic-dipped handles. Overall Length: 6" (152 mm). Do not use on live electrical circuits.

- 726-1215. 11045. Yellow Handle. Solid Wire. Strips AWG Gauges No. 10, 12, 14, 16, 18 (2.6, 2.1, 1.6, 1.3, 1.0 mm)EACH 11.98
726-1220. 11046. Red Handle. Stranded Wire. Strips AWG Gauges No. 16, 18, 20, 22, 24, 26 (1.2, 1.0, .81, .64, .51, .40 mm)EACH 11.98
726-1225. 11047. Yellow Handle. Solid Wire. Strips AWG Gauges No. 22, 24, 26, 28, 30 (.64, .51, .40, .32, .25 mm)EACH 11.98



Slim Long Nose Pliers

Longer nose and handles for deeper reach into work. Knurled jaws. With or without coil spring. Yellow plastic-dipped handles. Overall Length: 5 9/16" (141 mm). Jaw Length: 1 9/4" (44 mm). Jaw Width: 1 7/32" (13 mm). Jaw Thickness: 9/16" (8 mm). Point Thickness: 1/16" (1.6 mm).

726-1145. D307-5 1/2C. With Coil SpringEACH 17.20

Long Needle Nose Pliers



Designed for accurate assembly work in hard to reach areas. Provides maximum visibility. Features knurled jaws, coil spring, and yellow plastic-dipped handles. Overall Length: 5 13/32" (137 mm). Jaw Length: 1 3/4" (44 mm). Jaw Width: 1 1/2" (13 mm). Jaw Thickness: 9/16" (8 mm). Point Thickness: 1/16" (1.6 mm).

- 726-1155. D318-5 1/2CEACH 17.88



Cable Cutters

This handy, economical tool handles most

cable-cutting jobs with ease. Special high-leverage design gives it amazing cutting capability for its size. Cable-gripping, shear-type jaws cut up to 4/0 aluminum (Not ACSR)...up to 2/0 soft copper...up to 100-pair, 24-gauge communication cable. Makes clean, efficient cuts. Compact...only 9 1/4" (241 mm) long, can be carried in tool pouch or Klein No. 5112 or No. 5112T tool holders. Ideal for working in confined spaces. Tough comfortable, red plastic-dipped handles. Not designed for cutting steel or ACSR.

- 726-6305. 63050EACH 25.12

Multi-Purpose 6-In-1 Tool



Designed for a variety of applications — shears bolts clean; cuts, strips, and gauges wire; measures stud sizes; crimps insulated terminals. With red plastic-covered handles. Length: 7 1/2" (191 mm).

- 726-1230. 1000EACH 18.21



All-Purpose Tool

Will crimp insulated and non-insulated terminals, lugs, and splices; cut and strip wire; cut bolts; crimp 7 mm ignition and distributor terminals. For sizes 10 to 22 AWG. Features wire cutter in nose and full-sized red-plastic-covered handles. Length: 8 1/2" (216 mm).

- 726-1235. 1002EACH 21.36

Long-Nose All-Purpose Tool



Combination cutter/crimper features crimping dies for insulated and non-insulated connectors from 10-22 gauge, and cutters for 4-40, 5-40, 6-32, 8-32, 10-32, and 10-24 screws. Designed to cut screws and cut, strip, and crimp wire. Cutters and strippers located in front of the pivot. With narrow serrated plier jaws to pull, loop, and bend wire, and blue plastic-covered handles. Length: 8 1/4" (210 mm).

- 726-1245. 1010EACH 18.66



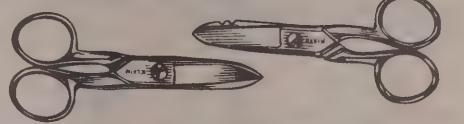
Adjustable Wire Stripper/Cutter

Strips six standard wire sizes without nicking wire: No. 10 through 20 AWG and 5.3 through

5 metric. Scissors action of 1/2" wide cutter makes clean cuts with little effort. Serrated nose jaws to bend, shape, or pull wire; holes for looping wire ends. Compact; only 6" long. Coil spring reduces fatigue. Comfortable, blue plastic-covered handles.

- 726-1011. 1011EACH 12.81

Electrician's Scissors



Designed for heavy-duty use. Strong, tough, tempered steel. Nickel-plated finish. Scraper and file on outside of both blades. Sharp points. Scrow hinge permits adjustment. Overall Length: 5" (12.7 cm).

- 726-2100. 2100-5EACH 12.86

Stripping Notches

Similar to No. 2100-5 above, but with lower blade serrated to minimize slippage of wire when cutting. Upper blade has notches for stripping 19- and 23-gauge wire. Rounded points. Overall Length: 5" (12.7 cm).

- 726-2107. 2100-7EACH 14.94



Crimping Tools

Type 1006. For crimping non-insulated solderless terminals and connectors (10 to 22 AWG.) Features tapered nose containing specially hardened wire cutter and plastic-dipped handles (one black, one red). Length: 9 3/4" (248 mm).

- 726-1240. 1006EACH 23.68

Type 1005. For insulated and non-insulated terminals and connectors; will handle wire from 10 to 22 AWG. Features thin nose for work in tight areas, wire cutter in nose, and red plastic-dipped handles. Length: 9 3/4" (248 mm).

- 726-1250. 1005EACH 22.94

Wire Stripping Tools

Strips AWG Gauges: 10, 12, 14, 16, 18, 20, 22 (2.6, 2.1, 1.6, 1.3, 1.0, .81, .64 mm).



- 726-1226. 11062. EACH 32.19

Continuity Tester



- Extra Long 36" Lead Wire
Deluxe Comfortome® Amberyl Handle

Checks for defective controls and switches, broken leads or lines, motors, appliances, etc. Tests for continuity of circuit with power off. Bulb in handle glows when circuit is complete. Pointed 3 3/4" probe. Large 4" handle with removable nylon cap holds replaceable bulb and battery. Long 36" test lead with alligator clip. Shipping Weight: 1 lb.

- 979-7000. 69133EACH 10.70

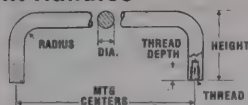
Wire Stripper-Cutter

A handy, light, compact tool for stripping insulation from wire. Convenient hole for looping or bending wire. With or without hold-open spring. Yellow plastic-dipped handles.



- 726-1237. 1004. With Spring. 5" (127 mm)EACH 6.67
726-1236. 1003. Without Spring. 5" (127 mm)EACH 5.36

Instrument Handles

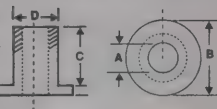


Internal thread; 1/4" dia., 1 1/2" ht., 1/4" rad.; 1620, 1624 (chrome plated); 1618 (round aluminum, satin finish); 1619, 1627 (round aluminum, black anodized). Internal thread; 3/16" dia., 1 1/2" ht., 3/16" rad.; 2057 (chrome plated). 5/8" dia., 1 3/4" ht., 1/2" rad.; 1654 (oval aluminum, black anodized).

Stock No.	Mir.'s Type	Mtg. Ctr.	Thread and Depth	EACH		
				1-9	10-24	25-99
920-6153	1620	3"	8-32 x 3/16"	4.88	4.37	3.49
920-6154	1624	4"	8-32 x 3/16"	5.39	4.82	3.86

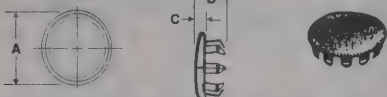
Insulated Nylon Flange Bushings

Molded of corrosion-resistant nylon. Non-conductive; ideal where insulation of electronic components is essential. Meets MIL-P-20683A specifications.



Stock No.	Mir.'s Type	I.D. (A)	B In.	C In.	D In.	E In.	PER PK./100		
							1-4	5-9	10-49
920-2534	2534	#4 (125)	.235	3/64	1/4	.140	14.60	12.70	10.30
920-2537	2537	#10 (203)	.399	1/16	3/8	.265	14.60	12.70	10.30

Snap Button Hole Plugs



Metal plugs for covering punched or drilled holes. Spring action prongs are nickel plated steel; give a firm grip. Average Shipping Weight: 8 oz.

Stock No.	Mir.'s Type	Hole In.	A In.	B In.	C In.	PER PK./100		
						1-4	5-9	10-49
920-0650	650	1/4	13/32	15/64	1/16	30.70	27.10	22.60
920-0651	651	5/16	7/16	1/4	1/16	24.70	19.00	15.80
920-0652	652	3/8	1/2	1/4	1/16	33.20	29.30	24.40
920-0653	653	1/2	21/32	9/32	5/64	24.90	21.30	17.80
920-0654	654	5/8	19/16	19/64	5/64	39.60	35.00	29.10
920-0655	655	3/4	59/64	19/64	5/64	32.80	29.00	24.10
920-0656	656	7/8	1 1/16	19/64	1/16	67.80	59.90	49.90

Wire and Cable Clamps



Stock No.	Mir.'s Type	Material	Fig.	Dimensions (in)			PER PK./100	
				E	T	W	1-4	5-9
920-1471	1471	S	B	.625		3/8	26.30	22.50
920-1472	1472	N	A	.378	.050	3/8	8.70	8.10
920-1473	1473	S	B	.750		3/8	18.40	17.30
920-8942	8942	N	A	.457	.050	1/2	9.20	8.40
920-8943	8943	N	A	.495	.050	1/2	9.20	8.40
920-8944	8944	N	A	.529	.050	1/2	9.70	8.90

Note: N= Nylon; Black S=Steel; Cad. finish.

Thread Depth Chart #2

Thread specs for male/female hex threaded spacers.

Thread Size	Body Length Range	Thread Depth	Thread Length
4-40	1/4 to 3/8"	3/16"	3/16"
	1/2 to 3"	1/4"	
6-32	1/4 to 3/8"	3/16"	1/4"
	1/2 to 3"	3/8"	
8-32	1/4 to 3/8"	3/16"	3/8"
	1/2 to 3"	7/16"	

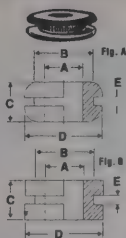
Aluminum Round Spacers



Stock No.	Mir.'s Type	Length (in.)	PER PK./100		
			1-4	5-9	10-49
920-6044	8500	1/8	15.00	13.00	10.50
920-8401	8501	1/4	15.80	13.70	11.10
920-6045	8502	3/8	16.90	14.70	11.80
920-8403	8503	1/2	17.60	15.30	12.40

Grommets

Materials: Rubber (Black Buna-S synthetic rubber (SBR), approx. 60 durometer); Vinyl (Polyvinyl chloride (PVC), black).



Stock No.	Mir.'s Type	Fig.	Inside Dia. "A"	Mtg. Hole "B"	Chassis Thkns. "E"	Outside Dia. "D"	Thickness "C"	PER PK./100		
								1-4	5-9	10-49
920-5148	91114	A	1/8	1/4	1/16	11/32	3/16	14.60	13.00	10.80
920-2172	2172	A	3/16	1/4	1/16	7/16	3/16	10.60	9.40	7.80
920-2170	2170	A	1/4	3/8	1/16	5/8	1/4	12.60	11.20	9.30
920-9014	91116	B	5/16	1/2	1/8	3/4	3/8	26.20	23.30	19.40
920-2174	2174	A	5/16	7/16	1/16	5/8	1/4	16.70	14.70	12.30
920-2175	2175	A	3/8	1/2	1/16	21/32	1/4	19.60	17.40	14.50
920-2177	2177	A	7/16	9/16	1/16	3/4	1/4	19.60	17.40	14.50

Extruded "Caterpillar" Grommets

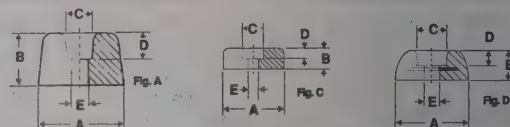
Grommets to fit any size or shape opening. Made of non-conductive Black Nylon, Type 6/6, fungus resistant to conform to MIL-M-20693A, Type 1.

No.	A	B	C	D	E	Stock No.	Mir.'s Type	PER CL/25'		
								1-9	10-24	25-99
2692	.052	.150	.040	.190	.125	920-2692	2692	21.83	19.40	16.98
2693	.085	.155	.045	.200	.162	920-2693	2693	25.27	22.46	19.65
2694	.125	.175	.045	.220	.206	920-2694	2694	27.04	24.03	21.03



Recessed Bumpers With Clearance Hole

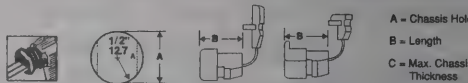
Materials: Rubber (Black Buna-S synthetic rubber (SBR), approximately 60 durometer); Vinyl (Polyvinyl chloride (PVC), black). Accessories: Molded-in metal washers are steel. Vinyl chassis feet have brass eyelets in hole.



Stock No.	Mir.'s Type	Fig.	Material and Accessories	O.D. "A"	Height "B"	Recess Dia. "C"	Recess Depth "D"	Screw Cir. I.D. "E"	PER PK./100		
									1-4	5-9	10-49
920-2192	2192	A	Rubber	1/2	1/4	1/4	1/8	1/8	11.90	10.40	8.90
920-2193	2193	C	Rubber	5/8	5/16	1/4	3/16	1/8	23.00	20.10	17.20
920-2194	2194	C	Rubber	3/4	3/8	9/32	3/16	1/8	29.00	25.40	21.80
920-2135	2135	D	Rubber-Washer	15/16	3/8	3/8	3/16	3/16	36.30	31.80	27.20

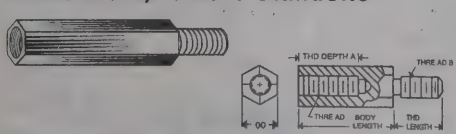
Nylon Strain Reliefs

Straight thru style nylon strain reliefs. Rugged one-piece construction absorbs pull and twist. Wire full anchored and insulated at chassis entrance.



Stock No.	Mir.'s Type	Wire Type	Approx Wire Size	A	B	C	PER PK./100		
							1-4	5-9	10-49
920-0938	938	SPT-1	.12 x .22	.437"	.410"	.062"	12.10	10.70	8.90
920-0939	939	SV, SVT, HPD	.250 - .290	.500"	.438"	.100"	12.10	10.70	8.90
920-0823	823	SJ, SJT, SJO	.330 - .360	.625"	.580"	.062"	24.90	21.30	17.80

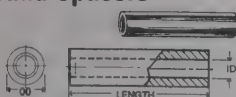
Brass Male/Female Standoffs



Stock No.	Mir.'s Type	Length (in.)	PER PK./100	
			1-4	5-9
920-6026	8216*	1/4	33.40	29.10
920-6027	8217*	3/8	35.50	30.90
920-6028	8218*	1/2	37.10	32.20
920-6029	8220*	3/4	41.30	36.00
920-6030	8222*	1	59.00	51.40
920-6031	8248*	1/4	35.50	30.90
920-6032	8250*	1/2	37.10	32.20
920-6033	8251*	3/8	39.30	34.20
920-6034	8252*	3/4	41.30	36.00
920-6036	8254*	1	59.00	51.40
920-6041	8284†	3/4	41.30	36.00
920-6042	8286†	1	59.00	51.40

*#4, #6, #8.

Nylon Round Spacers



Stock No.	Mir.'s Type	Length (in.)	PER PK./100		
			1-4	5-9	10-49
920-6103	4000#	1/8	17.60	15.30	12.30
920-6104	4006#	1/4	19.30	16.80	13.50
920-6106	4001*	1/8	17.60	15.30	12.30
920-6107	4007*	1/4	19.30	16.80	13.50
920-6108	4019*	1/2	22.80	19.80	16.00

*#6 ID, #4ID.

Aluminum Hex Male/Female Standoffs

1/4" OD, Thread 8001 Series: 6-32, 8002 Series: 8-32. See Thread Depth Chart #2.

Stock No.	Mir.'s Type	Length (in.)	STANDARD PACK/100		
			1-4	5-9	10-49
920-6095	8001C	1/4	35.80	31.20	25.10
920-6096	8001G	1/2	38.10	33.10	26.70
920-6097	8001I	3/4	40.30	35.10	28.30
920-6098	8001Q	1	44.80	39.00	31.40
920-6102	8002Q	1	44.80	39.00	31.40

Aluminum Hex Standoffs

1/4" (920-6092, 920-6093, 920-6094; 1/8" OD. See Thread Depth Chart #2.

Stock No.	Mir.'s Type	Length (in.)	Per Standard Pack		
			1-4	5-9	10-49
920-6070	8403#	1/2	20.00	17.40	14.00
920-6072	8405#	3/4	29.00	25.20	20.30
920-6074	8407#	1	33.50	29.10	23.50
920-6077	8422*	3/8	18.60	16.11	13.00
920-6078	8423*	1/2	20.00	17.40	14.00
920-6082	8427*	1	33.50	29.10	23.50
920-6085	8433*†	3	41.15	39.15	34.05
920-6092	8463*	1/2	27.10	23.60	19.00
920-6094	8467*	1	58.20	50.60	40.80

#4-40, #6-32, #10-32 Thread, *PK/100, †PK/50.

Aluminum Round Threaded Standoffs

1/4" OD. Thread: See Thread Depth Chart #2. #6-32 Thread.

Stock No.	Mir.'s Type	Length (in.)	Per Standard Pack	
			1-4	5-9
920-8343	8343*	1/2	19.30	16.80
920-8347	8347*	1	37.10	32.30
920-8349	8349**	1 1/2	29.55	28.15
920-8351	8351**	2	37.45	35.65

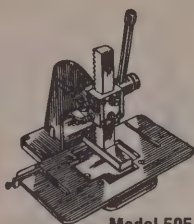
*PK/100, **PK/50.

Work Centers, Presses, Visers, and Bases

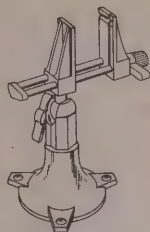
PanaPress®



Model 502



Model 505



Model 201



Model 203



Model 324



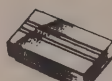
Model 396



Model 510



Model 511



Model 512



Model 513

Model 502 Panapress. This small, less than 7" high, arbor press has a rated capacity of 500 psi. The ram is fully reversible with 4 nylon adjusting gibs for accurate direction control. The arbor and table plate are of pressure die cast Zimac and the operating mechanism and operating lever are hardened and ground steel. The leverage ratio is 13.25:1. The throat depth is 2 1/2" and vertical capacity is 3 1/2".

890-5050. Model 502.....EACH 99.99

Model 505 IDC Bench Assembly Press. 1/4-ton manual press with assembly base and standard platen. Mass termination of up to 64-conductor cable in seconds without wire stripping or soldering. Full series of base plates available. For IDC connectors on flat (ribbon) cable.

890-5055. Model 505.....EACH 166.99

Model 510. Base plate for installing female socket transition connectors.

890-5060. Model 510.....EACH 26.99

Model 511. Base plate for installing card edge connectors.

890-5065. Model 511.....EACH 26.99

Model 512. Base plate for installing all standard DIP plugs.

890-5070. Model 512.....EACH 26.99

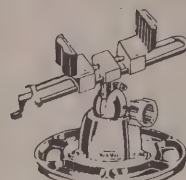
Model 513. Base plate for installing D-Sub connectors.

890-5075. Model 513.....EACH 26.99

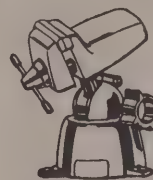
* Other plates are available from the factory.

Model 324 Electronic Work Center. This handy work center is convenient yet economical. Angle of solder iron holder maintains iron at proper heat and solder holder self centers wire. Sturdy, stable, yet easily mobile, the 324 keeps everything right at hand. (Combination of Models 315, 300, 312, and 371).

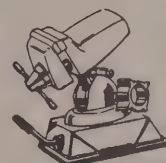
890-4400. Model 324.....EACH 70.99



Model 350



Model 301



Model 381

Model 396 Wide Opening Head. Designed to hold projects in any position for assembly or repairs, the PanaVise 396 is a combination of the 366 Wide Opening Head and the 300 Standard Base. Each full turn of the insulated handle permits micro-adjustments to the exact pressure required.

890-4500. Model 396.....EACH 44.49

Model 350 Multi-Purpose Work Center. This Multi-Purpose Work Center can be used to work on objects up to 9 inches in size as well as those tiny hard-to-hold objects. The Standard base tilts, turns and rotates to any work position and the tray base mount keeps small parts and tools right at hand. (Combination of Models 376, 300, and 312).

890-4410. Model 350.....EACH 72.99

Model 301 Standard PanaVise. This all-purpose Standard PanaVise tilts, turns and rotates. Consisting of a Standard Base Model 300 and a 303 head, the 301 has nylon jaws with a satin finish for a firm grip. Just one convenient control knob locks work firmly in any position.

890-4451. Model 301.....EACH 39.99

Model 381 Vacuum Base PanaVise. The 380 Vacuum Base is combined with the Model 303 Standard Head to create the same versatility of the Standard PanaVise with portability. Half turn of the mount lever attaches and releases powerful suction pad to allow setups in a variety of locations with a smooth non-porous surface.

890-4464. Model 381.....EACH 51.99

Model 201 PanaVise® Jr. PanaVise® Jr. uses the famous Panavise® design that tilts, turns, twists and rotates. One quick turn of the control knob and you securely position your work exactly where you want it. **Overall Height:** 6 3/4" (17 cm). **Total Weight:** 1 lb. 4 oz. (567 g).

Base Specifications. Bolt Circle: 4 5/16" b.c. **Material:** Die cast zinc. **Jaw Specifications.**

Min. Opening: 0" (0 cm). **Max. Opening:** 2 7/8" (7.3 cm).

890-0201. Model 201.....EACH 19.95

Model 203 PanaVise® Jr. Vise Head. 5/8" diameter machines aluminum shaft fits all 300 Series bases.

890-0203. Model 203.....EACH 28.95

Circuit Board Holders, Base and Base Mounts

Model 333 Rapid Assembly Circuit Board Holder

This holder features 8 position rotating adjustment and 6 lock positions in the vertical plane. Cross bars are available up to 30 inches in length to hold larger boards. Spring loaded, the 333 features tilt angle and height adjustment and quickboard rotations for easy component insertion and soldering. Includes 12" cross bar.

890-4420 Model 333.....EACH 60.99

Model 300. Standard PanaVise® Base.

890-4457 Model 300.....EACH 18.99

Model 311. Bench clamp base mount.

890-4450. Model 311.....EACH 34.99

Model 303. Standard head.

890-4460. Model 303.....EACH 21.99

Model 371. Solder and iron holder.

890-4411. Model 371.....EACH 7.99

Model 312. Tray base mount.

890-4458. Model 312.....EACH 19.99

Model 315. Circuit board holder. Holds PC boards up to 12" W.

890-4498. Model 315.....EACH 25.99

Model 380. Vacuum base

890-4461. Model 380.....EACH 30.99

Model 305. Low-profile base.

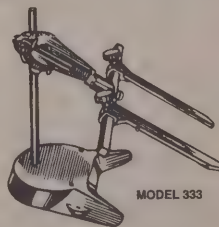
890-4515. Model 305.....EACH 18.99

Model 366. Wide opening head. Opens a full 6" with a jaw width of 1 3/4".

890-4505. Model 366.....EACH 26.49

Model 376. Self-centering extra-wide opening head. Jaws open to 9".

890-4510. Model 376.....EACH 35.99



MODEL 333



300



311



303



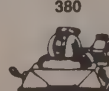
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312



315



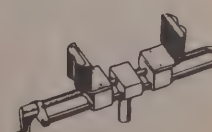
380



305



366

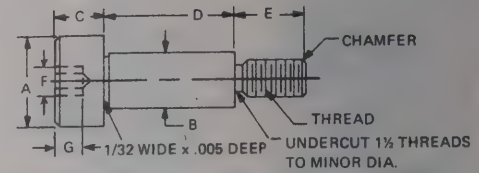


376

Screws

Precision Shoulder Screws — Socket Head. Stainless Steel: ASTM-A-581, A-582.

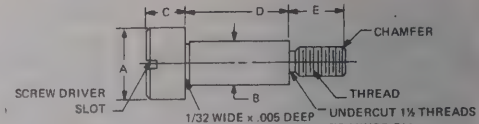
Stock No.	Mfr.'s Type	Thread	Material	Dimensions							EACH		
				A ±.004	B +.000 - .001	C ±.010	D +.002 - .000	E ±.005	F	G Min.	1-49	50-99	100-Up
219-6901	6901-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.1250	5/32"	5/64"	1/16"	1.10	.94	.80
219-6903	6903-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.2500	5/32"	5/64"	1/16"	1.23	1.05	.89
219-6905	6905-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.3750	5/32"	5/64"	1/16"	1.37	1.16	.99
219-6907	6907-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.5000	5/32"	5/64"	1/16"	1.74	1.48	1.26
219-6908	6908-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.1250	3/16"	3/32"	5/64"	1.54	1.31	1.11
219-6910	6910-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.2500	3/16"	3/32"	5/64"	1.67	1.43	1.21
219-6912	6912-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.3750	3/16"	3/32"	5/64"	1.72	1.46	1.24
219-6914	6914-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.5000	3/16"	3/32"	5/64"	1.81	1.53	1.30
219-6916	6916-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.6250	3/16"	3/32"	5/64"	1.67	1.43	1.21
219-6918	6918-SS	6-32	Stainless Steel	5/32"	.1560	5/32"	.7500	3/16"	3/32"	5/64"	2.34	1.98	1.69
219-6919	6919-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.1250	3/16"	3/32"	5/64"	1.32	1.12	.95
219-6921	6921-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.2500	3/16"	3/32"	5/64"	1.54	1.31	1.11
219-6923	6923-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.3750	3/16"	3/32"	5/64"	1.76	1.50	1.27
219-6925	6925-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.5000	3/16"	3/32"	5/64"	2.03	1.72	1.46
219-6927	6927-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.6250	3/16"	3/32"	5/64"	2.07	1.76	1.49
219-6929	6929-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.7500	3/16"	3/32"	5/64"	2.45	2.08	1.77
219-6931	6931-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	1.000	3/16"	3/32"	5/64"	2.71	2.30	1.96



Precision Shoulder Screws — Socket Head

Precision Shoulder Screws — Slotted Head. Stainless Steel: ASTM-A-581, A-582.

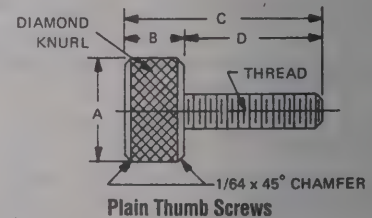
Stock No.	Mfr.'s Type	Thread	Material	Dimensions							EACH		
				A ±.020 - .000	B ±.015	C ±.015	D ±.010				1-49	50-99	100-Up
219-7001	7001-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.1250	5/32"	—	—	.96	.82	.70
219-7003	7003-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.2500	5/32"	—	—	1.05	.90	.76
219-7005	7005-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.3750	5/32"	—	—	1.19	1.01	.86
219-7007	7007-SS	4-40	Stainless Steel	1/4"	.1245	1/8"	.5000	5/32"	—	—	1.31	1.12	.95
219-7008	7008-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.1250	3/16"	—	—	1.13	.96	.82
219-7010	7010-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.2500	3/16"	—	—	1.21	1.03	.87
219-7012	7012-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.3750	3/16"	—	—	1.29	1.09	.93
219-7014	7014-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.5000	3/16"	—	—	1.37	1.17	.99
219-7016	7016-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.6250	3/16"	—	—	1.46	1.24	1.05
219-7018	7018-SS	6-32	Stainless Steel	5/32"	.1560	1/8"	.7500	3/16"	—	—	1.55	1.31	1.12
219-7019	7019-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.1250	3/16"	—	—	1.06	.90	.76
219-7021	7021-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.2500	3/16"	—	—	1.23	1.05	.89
219-7023	7023-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.3750	3/16"	—	—	1.37	1.16	.99
219-7025	7025-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.5000	3/16"	—	—	1.41	1.20	1.02
219-7027	7027-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.6250	3/16"	—	—	1.58	1.35	1.14
219-7029	7029-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	.7500	3/16"	—	—	1.71	1.46	1.24
219-7031	7031-SS	8-32	Stainless Steel	5/16"	.1870	5/32"	1.000	3/16"	—	—	1.98	1.68	1.43



Precision Shoulder Screws — Slotted Head

Plain Thumb Screws. Stainless Steel: ASTM-A-581, A-582.

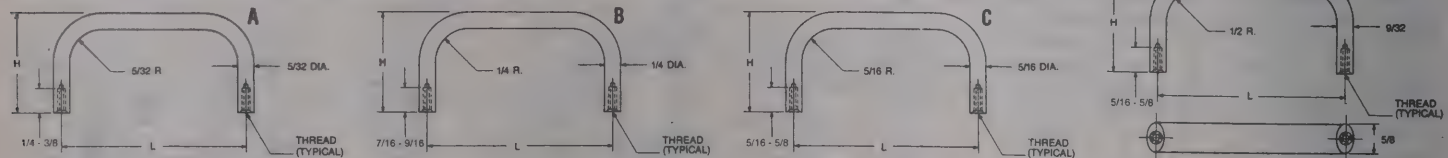
Stock No.	Mfr.'s Type	Thread	Material	Dimensions							EACH		
				A +.020 - .000	B ±.015	C ±.015	D ±.010				1-49	50-99	100-Up
219-7120	7120-SS	4-40	Stainless Steel	5/16"	3/16"	1/2"	5/16"	—	—	—	1.32	1.12	.95
219-7121	7121-SS	4-40	Stainless Steel	5/16"	3/16"	9/16"	3/8"	—	—	—	1.32	1.12	.95
219-7122	7122-SS	4-40	Stainless Steel	5/16"	3/16"	5/8"	7/16"	—	—	—	1.44	1.22	1.04
219-7123	7123-SS	4-40	Stainless Steel	5/16"	3/16"	1 1/16"	1 1/2"	—	—	—	1.47	1.25	1.06
219-7124	7124-SS	6-32	Stainless Steel	5/16"	3/16"	1/2"	5/16"	—	—	—	1.32	1.12	.95
219-7125	7125-SS	6-32	Stainless Steel	5/16"	3/16"	3/4"	3/8"	—	—	—	1.32	1.12	.95
219-7126	7126-SS	6-32	Stainless Steel	5/16"	3/16"	5/8"	7/16"	—	—	—	1.54	1.31	1.11
219-7127	7127-SS	6-32	Stainless Steel	5/16"	3/16"	1 1/16"	1 1/2"	—	—	—	1.58	1.35	1.14
219-7128	7128-SS	8-32	Stainless Steel	3/8"	3/16"	5/8"	3/8"	—	—	—	1.85	1.57	1.34
219-7129	7129-SS	8-32	Stainless Steel	3/8"	3/16"	5/8"	7/16"	—	—	—	2.29	1.95	1.65
219-7130	7130-SS	8-32	Stainless Steel	3/8"	3/16"	1 1/16"	1 1/2"	—	—	—	2.29	1.95	1.65
219-7131	7131-SS	8-32	Stainless Steel	3/8"	3/16"	3/4"	9/16"	—	—	—	2.42	2.06	1.75
219-7132	7132-SS	8-32	Stainless Steel	3/8"	3/16"	1 3/16"	5/8"	—	—	—	2.42	2.06	1.75



Plain Thumb Screws

Handles

Aluminum: QQA-225/3, QQA-225/8, QQA-200/9. Plating: Black Anodize. Brass: ASTM-B-16. Plating: Nickel.



5/32 Round Internal Thread Handles — Fig. A

Stock No.	Mfr.'s Type*	Thread	Length ±1/2	Height ±1/2	EACH		
					1-24	25-49	50-Up
219-8001	8042-440-A-24	4-40	1 1/4"	1"	2.18	1.85	1.60
219-8002	8042-440-B-5	4-40	3 1/4"	1"	2.68	2.30	1.95
219-8003	8045-440-A-24	4-40	2"	1"	2.40	2.05	1.75
219-8004	8045-440-B-5	4-40	2"	1"	2.82	2.40	2.05
219-8005	8047-440-A-24	4-40	3"	1"	2.80	2.38	2.02
219-8006	8047-440-B-5	4-40	3"	1"	2.86	2.45	2.10

1/4 Round Internal Thread Handles — Fig. B

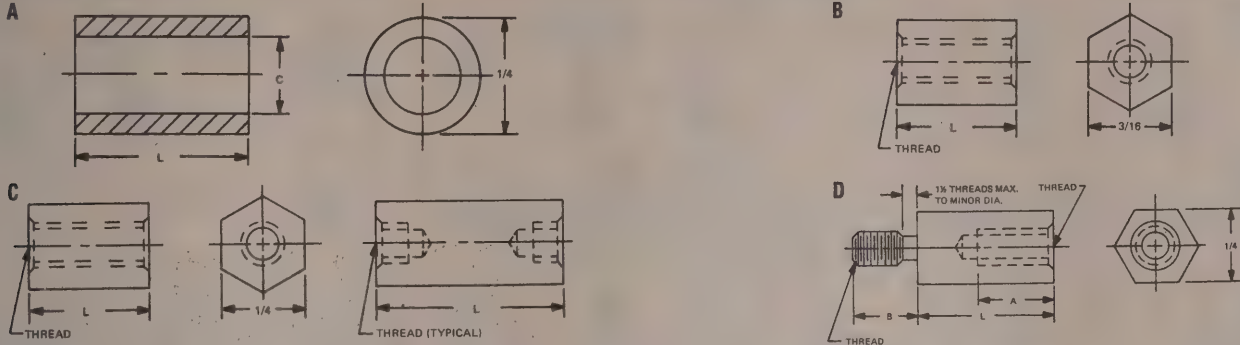
Stock No.	Mfr.'s Type*	Thread	Length ±1/2	Height ±1/2	EACH		
					1-24	25-49	50-Up
219-8007	8128-832-A-24	8-32	3"	1 1/2"	2.80	2.38	2.00
219-8008	8128-832-B-5	8-32	3"	1 1/2"	3.22	2.75	2.30
219-8009	8129-832-A-24	8-32	3 1/2"	1 1/2"	2.86	2.45	2.10
219-8010	8129-832-B-5	8-32	3 1/2"	1 1/2"	3.28	2.80	2.40
219-8011	8130-832-A-24	8-32	4"	1 1/2"	3.05	2.60	2.20
219-8012	8130-832-B-5	8-32	4"	1 1/2"	3.40	2.90	2.45
219-8013	8132-832-A-24	8-32	4 1/2"	1 1/2"	3.10	2.65	2.25
219-8014	8132-832-B-5	8-32	4 1/2"	1 1/2"	3.40	2.90	2.45
219-8015	8133-832-A-24	8-32	5"	1 1/2"	3.22	2.75	2.30
219-8016	8133-832-B-5	8-32	5"	1 1/2"	3.50	3.00	2.55
219-8017	8134-832-A-24	8-32	6"	1 1/2"	3.39	2.89	2.44
219-8018	8134-832-B-5	8-32	6"	1 1/2"	3.66	3.12	2.65

5/16 Round Internal Thread Handles — Fig. C

Stock No.	Mfr.'s Type*	Thread	Length ±1/2	Height ±1/2	EACH		
					1-24	25-49	50-Up
219-8019	8178-1032-A-24	10-32	3"	1 1/2"	3.38	2.88	2.43
219-8020	8178-1032-B-5	10-32	3"	1 1/2"	3.64	3.15	2.70
219-8021	8182-1032-A-24	10-32	4"	1 1/2"	3.46	2.97	2.52
219-8022	8182-1032-B-5	10-32	4"	1 1/2"	3.84	3.27	2.77
219-8023	8184-1032-A-24	10-32	4 1/2"	1 1/2"	3.58	3.08	2.66
219-8024	8184-1032-B-5	10-32	4 1/2"	1 1/2"	3.89	3.32	2.82
219-8025	8185-1032-A-24	10-32	4 9/16"	1 1/2"	3.56	3.06	2.64
219-8026	8185-1032-B-5	10-32	4 9/16"	1 1/2"	3.88	3.31	2.81
219-8027	8187-1032-A-24	10-32	5"	1 1/2"	3.65	3.16	2.71
219-8028	8187-1032-B-5	10-32	5"	1 1/2"	3.91	3.34	2.84
219-8029	8189-1032-A-24	10-32	5 1/2"	1 1/2"	3.68	3.19	2.74
219-8030	8189-1032-B-5	10-32	5 1/2"	1 1/2"	4.04	3.45	2.92
219-8031	8191-1032-A-24	10-32	6"	1 1/2"	3.66	3.17	2.72
219-8032	8191-1032-B-5	10-32	6"	1 1/2"	3.94	3.38	2.91
219-8033	8197-1032-A-24	10-32	4"	1 1/4"	3.46	2.97	2.52
219-8034	8197-1032-B-5	10-32	4"	1 1/4"	3.84	3.27	2.77
219-8035	8199-1032-A-24	10-32	4 1/2"	1 1/4"	3.18	2.65	2.20
219-8036	8199-1032-B-5	10-32	4 1/2"	1 1/4"	3.89	3.32	2.82
219-8037	8203-1032-A-24	10-32	5"	1 1/4"	3.65	3.16	2.71
219-8038	8203-1032-B-5	10-32	5"	1 1/4"	3.91	3.34	2.84
219-8039	8208-1032-A-24	10-32	6"	1 3/4"	3.69	3.20	2.75

Spacers and Standoffs

Spacers and Standoffs



1/4 Round Spacers — Fig. A. Aluminum: QQA-225/3, QQA-225/8, QQA-200-9. Plating: Iridite. Brass: ASTM-B-16. Plating: Zinc.

Stock No.	Mir.'s Type*	Hole Clearance	Length	PER PK./100		
				1-9	10-24	25-Up
219-2001	1122-4-A-7	.115	1/4"	7.10	6.03	5.13
219-2002	1122-4-B-12	.115	1/4"	9.79	8.33	7.08
219-2003	1122-6-A-7	.140	1/4"	7.10	6.03	5.13
219-2004	1122-6-B-12	.140	1/4"	9.79	8.33	7.08
219-2005	1122-8-A-7	.166	1/4"	7.10	6.03	5.13
219-2006	1122-8-B-12	.166	1/4"	9.79	8.33	7.08
219-2007	1124-4-A-7	.115	1/4"	8.28	7.04	5.99
219-2008	1124-4-B-12	.115	1/4"	11.13	9.46	8.04
219-2009	1124-6-A-7	.140	1/4"	8.28	7.04	5.99
219-2010	1124-6-B-12	.140	1/4"	11.13	9.46	8.04
219-2011	1124-8-A-7	.166	1/4"	8.28	7.04	5.99
219-2012	1124-8-B-12	.166	1/4"	11.13	9.46	8.04
219-2013	1126-4-A-7	.115	3/8"	9.85	8.38	7.12
219-2014	1126-4-B-12	.115	3/8"	11.85	10.07	8.56
219-2015	1126-6-A-7	.140	3/8"	9.85	8.38	7.12
219-2016	1126-6-B-12	.140	3/8"	11.85	10.07	8.56
219-2017	1126-8-A-7	.166	3/8"	9.85	8.38	7.12
219-2018	1126-8-B-12	.166	3/8"	11.85	10.07	8.56
219-2019	1128-4-A-7	.115	1/2"	10.76	9.15	7.77
219-2020	1128-4-B-12	.115	1/2"	14.13	12.05	10.25
219-2021	1128-6-A-7	.140	1/2"	10.76	9.15	7.77
219-2022	1128-6-B-12	.140	1/2"	14.13	12.05	10.25
219-2023	1128-8-A-7	.166	1/2"	10.76	9.15	7.77
219-2024	1128-8-B-12	.166	1/2"	14.13	12.05	10.25

1/4 Hex Female Standoffs — Fig. B. Aluminum: QQA-225/3, QQA-225/8, QQA-200-9. Plating: Iridite. Brass: ASTM-B-16. Plating: Zinc.

Stock No.	Mir.'s Type*	Thread	Length	Thread Length	PER PK./100		
					1-9	10-24	25-Up
219-2025	2053-440-A-7	4-40	1/4"	Thru	11.19	9.59	8.09
219-2026	2053-440-B-12	4-40	1/4"	Thru	12.54	10.66	9.06
219-2027	2055-440-A-7	4-40	3/8"	Thru	13.15	11.17	9.50
219-2028	2055-440-B-12	4-40	3/8"	Thru	14.69	12.49	10.62
219-2029	2057-440-A-7	4-40	1/2"	Thru	14.48	12.30	10.46
219-2030	2057-440-B-12	4-40	1/2"	Thru	17.25	14.66	12.46
219-2031	2059-440-A-7	4-40	5/8"	Thru	17.01	14.46	12.29
219-2032	2059-440-B-12	4-40	5/8"	Thru	20.96	17.80	15.15
219-2033	2061-440-A-7	4-40	3/4"	Thru	18.83	16.01	13.61
219-2034	2061-440-B-12	4-40	3/4"	Thru	23.70	20.14	17.12
219-2035	2063-440-A-7	4-40	7/8"	Thru	20.74	17.63	14.98
219-2036	2063-440-B-12	4-40	7/8"	Thru	29.08	24.71	21.01
219-2037	2065-440-A-7	4-40	1"	Thru	22.74	19.33	16.43
219-2038	2065-440-B-12	4-40	1"	Thru	30.55	25.97	22.07

1/4 Hex Female Standoffs — Fig. C. Aluminum: QQA-225/3, QQA-225/8, QQA-200-9. Plating: Iridite. Brass: ASTM-B-16. Plating: Zinc.

Stock No.	Mir.'s Type*	Thread	Length	Thread Length	PER PK./100		
					1-9	10-24	25-Up
219-2039	2100-440-A-7	4-40	1/4"	Thru	10.82	9.20	7.82
219-2040	2100-440-B-12	4-40	1/4"	Thru	11.72	9.96	8.47
219-2041	2100-632-A-7	6-32	1/4"	Thru	10.82	9.20	7.82
219-2042	2100-632-B-12	6-32	1/4"	Thru	11.72	9.96	8.47
219-2043	2102-440-A-7	4-40	3/8"	Thru	12.12	10.30	8.76
219-2044	2102-440-B-12	4-40	3/8"	Thru	14.67	12.47	10.60
219-2045	2102-632-A-7	6-32	3/8"	Thru	12.12	10.30	8.76
219-2046	2102-632-B-12	6-32	3/8"	Thru	14.67	12.47	10.60
219-2047	2104-440-A-7	4-40	1/2"	Thru	13.41	11.40	9.69
219-2048	2104-440-B-12	4-40	1/2"	Thru	16.98	14.43	12.27
219-2049	2104-632-A-7	6-32	1/2"	Thru	13.41	11.40	9.69
219-2050	2104-632-B-12	6-32	1/2"	Thru	17.58	14.94	12.70
219-2051	2106-440-A-7	4-40	5/8"	Thru	14.45	12.29	10.44
219-2052	2106-440-B-12	4-40	5/8"	Thru	22.91	19.47	16.55
219-2053	2106-632-A-7	6-32	5/8"	Thru	14.45	12.29	10.44
219-2054	2106-632-B-12	6-32	5/8"	Thru	22.91	19.47	16.55
219-2055	2108-440-A-7	4-40	3/4"	Thru	16.32	13.88	11.79
219-2056	2108-440-B-12	4-40	3/4"	Thru	26.22	22.29	18.95
219-2057	2108-632-A-7	6-32	3/4"	Thru	16.32	13.88	11.79
219-2058	2108-632-B-12	6-32	3/4"	Thru	26.22	22.29	18.95
219-2059	2110-440-A-7	4-40	7/8"	Thru	18.58	15.80	13.43
219-2060	2110-440-B-12	4-40	7/8"	Thru	27.86	23.69	20.13
219-2061	2110-632-A-7	6-32	7/8"	Thru	18.59	15.82	13.45
219-2062	2110-632-B-12	6-32	7/8"	Thru	27.86	23.69	20.13
219-2063	2112-440-A-7	4-40	1"	Thru	20.74	17.63	14.99
219-2064	2112-440-B-12	4-40	1"	Thru	29.51	25.09	21.32
219-2065	2112-632-A-7	6-32	1"	Thru	20.74	17.63	14.99
219-2066	2112-632-B-12	6-32	1"	Thru	29.51	25.09	21.32

*A-7 = Aluminum, Clear Iridite; B-12 = Brass, Zinc Plate; SS = Stainless Steel.

1/4 Hex Male-Female Standoffs — Fig. D. Aluminum: QQA-225/3. Plating: Iridite. Brass: ASTM-B-16. Plating: Nickel. Stainless Steel: ASTM-A-581, A-582.

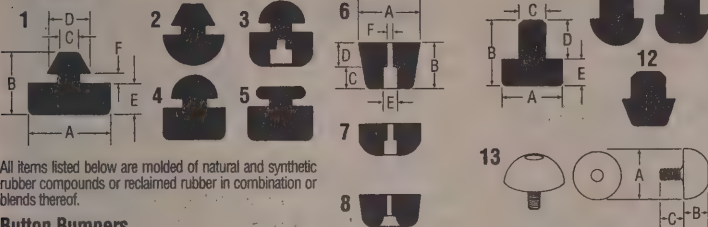
Stock No.	Mir.'s Type*	Thread	Length	Thread Depth	PER PK./100		
					1-9	10-24	25-Up
219-2067	2116-632-A-7	6-32	1 1/4"	3/8"	31.31	26.61	22.62
219-2068	2116-632-B-12	6-32	1 1/4"	3/8"	38.41	32.65	27.75
219-2069	2120-440-A-7	4-40	1 1/4"	1/4"	35.34	30.04	25.53
219-2070	2120-440-B-12	4-40	1 1/4"	1/4"	55.86	47.48	40.36
219-2071	2120-632-A-7	6-32	1 1/2"	3/8"	35.34	30.04	25.53
219-2072	2120-632-B-12	6-32	1 1/2"	3/8"	55.85	47.48	40.36

1/4 Hex Male-Female Standoffs — Fig. D. Aluminum: QQA-225/3. Plating: Iridite. Brass: ASTM-B-16. Plating: Nickel. Stainless Steel: ASTM-A-581, A-582.

Stock No.	Mfr.'s Type*	Thread	Length	Thread Length		PER PK./100		
				A	B	1-9	10-24	25-Up
219-2073	4530-440-A-7	4-40	1/4"	1/4"	3/16"	26.92	22.88	19.45
219-2074	4530-440-B-12	4-40	1/4"	1/4"	3/16"	22.89	21.56	20.88
219-2075	4530-440-SS	4-40	1/4"	1/4"	3/16"	72.15	61.33	52.13
219-2076	4530-632-A-7	6-32	1/4"	3/8"	1/4"	26.92	22.88	19.45
219-2077	4530-632-B-12	6-32	1/4"	3/8"	1/4"	22.89	21.56	20.88
219-2078	4530-632-SS	6-32	1/4"	3/8"	1/4"	75.15	61.33	52.13
219-2079	4532-440-A-7	4-40	3/8"	1/4"	3/16"	27.17	23.09	19.63
219-2080	4532-440-B-12	4-40	3/8"	1/4"	3/16"	29.77	24.88	21.15
219-2081	4532-440-SS	4-40	3/8"	1/4"	3/16"	75.46	64.14	54.52
219-2082	4532-632-A-7	6-32	3/8"	3/8"	1/4"	27.17	23.09	19.63
219-2083	4532-632-B-12	6-32	3/8"	3/8"	1/4"	29.77	24.88	21.15
219-2084	4532-632-SS	6-32	3/8"	3/8"	1/4"	75.46	64.14	54.52
219-2085	4534-440-A-7	4-40	1/2"	1/4"	3/16"	27.40	23.29	19.80
219-2086	4534-440-B-12	4-40	1/2"	1/4"	3/16"	30.04	25.53	21.70
219-2087	4534-440-SS	4-40	1/2"	1/4"	3/16"	78.78	66.97	56.92
219-2088	4534-632-A-7	6-32	1/2"	3/8"	1/4"	27.40	23.29	19.80
219-2089	4534-632-B-12	6-32	1/2"	3/8"	1/4"	30.04	25.53	21.70
219-2090	4534-632-SS	6-32	1/2"	3/8"	1/4"	78.78	66.97	56.92
219-2091	4536-440-A-7	4-40	3/8"	1/4"	3/16"	27.66	23.52	19.99
219-2092	4536-440-B-12	4-40	3/8"	1/4"	3/16"	30.68	26.08	22.17
219-2093	4536-440-SS	4-40	3/8"	1/4"	3/16"	82.11	69.79	59.32
219-2094	4536-632-A-7	6-32	3/8"	3/8"	1/4"	27.66	23.52	19.99
219-2095	4536-632-B-12	6-32	3/8"	3/8"	1/4"	30.68	26.08	22.17
219-2096	4536-632-SS	6-32	3/8"	3/8"	1/4"	82.11	69.79	59.32
219-2097	4538-440-A-7	4-40	3/4"	1/4"	3/16"	28.62	24.33	20.68
219-2098	4538-440-B-12	4-40	3/4"	1/4"	3/16"	31.32	26.62	22.63
219-2099	4538-440-SS	4-40	3/4"	1/4"	3/16"	85.44	72.62	61.73
219-2100	4538-632-A-7	6-32	3/4"	3/8"	1/4"	28.22	24.33	20.68
219-2101	4538-632-B-12	6-32	3/4"	3/8"	1/4"	31.32	26.62	22.63
219-2102	4538-632-SS	6-32	3/4"	3/8"	1/4"	85.44	72.62	61.73
219-2103	4540-440-A-7	4-40	7/8"	1/4"	3/16"	29.10	24.74	21.03
219-2104	4540-440-B-12	4-40	7/8"	1/4"	3/16"	32.16	27.33	23.23
219-2105	4540-440-SS	4-40	7/8"	1/4"	3/16"	88.75	75.44	64.12
219-2106	4540-632-A-7	6-32	7/8"	3/8"	1/4"	29.10	24.74	21.03
219-2107	4540-632-B-12	6-32	7/8"	3/8"	1/4"	32.16	27.33	23.23
219-2108	4540-632-SS	6-32	7/8"	3/8"	1/4"	88.75	75.44	64.12
219-2109	4542-440-A-7	4-40	1"	1/4"	3/16"	29.57	25.14	21.37
219-2110	4542-440-B-12	4-40	1"	1/4"	3/16"	33.20	28.22	23.99
219-2111	4542-440-SS	4-40	1"	1/4"	3/16"	92.07	78.25	66.50
219-2112	4542-632-A-7	6-32	1"	3/8"	1/4"	29.57	25.14	21.37
219-2113	4542-632-B-12	6-32	1"	3/8"	1/4"	33.21	28.23	24.00
219-2114	4542-632-SS	6-32	1"	3/8"	1/4"	92.07	78.25	66.50
219-2115	4544-440-A-7	4-40	1 1/8"	1/4"	3/16"	32.16	27.33	23.23
219-2116	4544-440-B-12	4-40	1 1/8"	1/4"	3/16"	35.12	29.85	25.37
219-2117	4544-440-SS	4-40	1 1/8"	1/4"	3/16"	117.52	99.90	84.90
219-2118	4544-632-A-7	6-32	1 1/8"	3/8"	1/4"	32.16	27.33	23.23
219-2119	4544-632-B-12	6-32	1 1/8"	3/8"	1/4"	35.12	29.85	25.37
219-2120	4544-632-SS	6-32	1 1/8"	3/8"	1/4"	97.07	82.51	70.13
219-2121	4546-440-A-7	4-40	1 1/4"	1/4"	3/16"	33.43	28.42	24.16
219-2122	4546-440-B-12	4-40	1 1/4"	1/4"	3/16"	43.79	37.23	31.64
219-2123	4546-440-SS	4-40	1 1/4"	1/4"	3/16"	121.05	102.90	87.46
219-2124	4546-632-A-7	6-32	1 1/4"	3/8"	1/4"	33.43	28.42	24.16
219-2125	4546-632-B-12	6-32	1 1/4"	3/8"	1/4"	43.79	37.23	31.64
219-2126	4546-632-SS	6-32	1 1/4"	3/8"	1/4"	104.56	88.88	75.55
219-2127	4548-440-A-7	4-40	1 3/8"	1/4"	3/16"	36.18	30.75	26.14
219-2128	4548-440-B-12	4-40	1 3/8"	1/4"	3/16"	44.85	38.12	32.41
219-2129	4548-440-SS	4-40	1 3/8"	1/4"	3/16"	124.25	105.62	89.77
219-2130	4548-632-A-7	6-32	1 3/8"	3/8"	1/4"	36.18	30.75	26.14
219-2131	4548-632-B-12	6-32	1 3/8"	3/8"	1/4"	44.85	38.13	32.41
219-2132	4548-632-SS	6-32	1 3/8"	3/8"	1/4"	125.68	106.83	90.81
219-2133	4550-440-A-7	4-40	1 1/2"	1/4"	3/16"	37.03	31.47	26.75
219-2134	4550-440-B-12	4-40	1 1/2"	1/4"	3/16"	46.97	39.92	33.93
219-2135	4550-440-SS	4-40	1 1/2"	1/4"	3/16"	127.74	108.58	92.29
219-2136	4550-632-A-7	6-32	1 1/2"	3/8"	1/4"	37.03	31.47	26.75
219-2137	4550-632-B-12	6-32	1 1/2"	3/8"	1/4"	46.97	39.92	33.93
219-2138	4550-632-SS	6-32	1 1/2"	3/8"	1/4"	129.21	109.83	93.36

Rubber Bumper Feet, Grommets and Self Sticking Bumpers

Bumpers



All items listed below are molded of natural and synthetic rubber compounds or reclaimed rubber in combination or blends thereof.

Button Bumpers

Stock No.	Mfr.'s Type	A	B	C	D	E	F	Nominal Durometer	Fig.	PER PK./100		
		Max. Dia.	Height	Insert Head	Insert Head Base	Base Height	Chnl. Width			1-9	10-24	25-Up
217-3062	BUT-3062	3/8	1/4	1/4	5/16	3/32	3/64	60	1	10.00	8.50	7.50
217-3061	BUT-3061	3/8	9/32	3/16	1/4	1/8	3/64	65	1	10.10	8.60	7.60
217-4061	BUT-4061	3/8	5/16	3/16	1/4	1/8	1/16	60	1	9.90	8.40	7.40
217-4161	BUT-4161	3/8	11/32	3/16	1/4	1/8	3/32	60	1	17.00	14.55	12.40
217-4162	BUT-4162	3/8	11/32	1/4	5/16	5/32	1/16	60	1	10.50	9.00	8.00
217-3063	BUT-3063	3/8	7/16	5/32	7/32	1/4	1/32	55	1	10.00	8.50	7.50
217-3072	BUT-3072	1/2	21/64	9/32	3/8	1/8	3/64	60	1	16.60	14.15	12.00
217-4071	BUT-4071	1/2	3/8	3/16	1/4	1/8	1/16	50	1	16.60	14.15	12.00
217-4167	BUT-4167	1/2	27/64	9/32	13/32	1/4	3/64	60	1	17.00	14.55	12.40
217-4171	BUT-4171	1/2	7/16	3/16	1/4	3/16	1/16	55	1	13.80	11.75	9.95
217-4165	BUT-4165	1/2	7/16	1/4	5/16	19/64	1/16	55	1	15.00	12.75	10.85
217-4075	BUT-4075	1/2	9/16	13/64	1/4	5/16	1/16	55	1	12.20	10.40	8.90
217-4081	BUT-4081	9/16	1/4	9/32	3/8	1/16	1/16	55	1	22.00	18.70	15.95
217-1611	BUT-611	7/8	1/2	5/16	13/32	1/4	5/64	65	1	38.60	32.85	27.90
217-4076	BUT-4076	1/2	7/16	1/4	5/16	3/16	1/16	60	2	13.20	11.25	9.75
217-3065	BUT-3065	7/16	11/32	1/4	5/16	1/8	1/16	60	2	12.20	10.40	8.90
217-1306	BUT-306	3/8	3/8	3/16	17/64	3/16	.040	55	3	10.00	8.50	7.50
217-1307	BUT-307	1/2	7/16	1/4	11/32	1/4	.040	55	3	14.40	12.25	10.50
217-1407	BUT-407	1/2	7/16	1/4	11/32	1/4	1/16	55	3	15.60	13.30	11.30
217-1317	BUT-317	1/2	1/2	1/4	11/32	1/4	1/8	55	3	15.40	13.10	11.15
217-1308	BUT-308	5/8	9/16	3/8	19/32	9/16	.040	65	3	22.60	19.25	16.30
217-4068	BUT-4068	7/16	17/64	9/16	1/4	3/32	5/64	60	4	12.20	10.40	8.90
217-3263	BUT-3263	7/16	7/16	1/4	5/16	3/16	1/8	55	4	10.00	8.50	7.50
217-4083	BUT-4083	5/8	9/32	13/32	17/32	3/8	9/32	60	5	18.20	15.50	13.15

Recessed Bumpers

Stock No.	Mfr.'s Type	A		B		C		D		E		F		Nom. Durometer	Fig.	PER PK./100		
		Max. Dia.	Height	Screw Head Depth	Screw Shaft Depth	Screw Base Opening	Screw Shaft Width									1-9	10-24	25-Up
217-2062	REC-2062	3/8	1/4	3/16	1/16	1/4	5/32	75	6	11.60	9.85	8.40						
217-2082	REC-2082	3/8	1/2	1/4	1/4	5/16	5/32	75	6	25.80	21.95	18.65						
217-2083	REC-2082S	3/8	1/2	1/4	1/4	5/16	5/32	75	6	30.00	25.50	21.70						
217-2090	REC-2090	5/8	5/8	7/16	3/16	5/16	.147	75	6	22.00	18.70	15.90						
217-2091	REC-2090S	5/8	5/8	7/16	3/16	5/16	.147	75	6	26.40	22.10	18.80						
217-2184	REC-2184S	3/4	1/4	3/16	1/16	13/32	1/16	75	6	35.00	30.10	25.60						
217-2084	REC-2084	3/4	3/8	3/16	3/16	7/16	3/16	75	6	41.60	35.40	30.10						
217-2085	REC-2084S	3/4	3/8	3/16	3/16	7/16	3/16	75	6	44.00	37.40	31.80						
217-2097	REC-2096S	13/16	5/8	7/16	3/16	7/16	7/32	75	6	68.00	57.80	49.15						
217-1206	REC-206	3/8	3/16	3/32	3/32	3/16	5/64	75	7	11.60	9.90	8.40						
217-2061	REC-2061	7/16	5/32	3/32	1/16	1/4	5/32	75	7	14.40	12.25	10.45						
217-1207	REC-207	1/2	1/4	1/8	1/8	1/4	5/16	75	7	15.00	12.75	10.85						
217-1208	REC-207S	1/2	1/4	1/8	1/8	1/4	5/16	75	7	19.40	16.50	14.00						
217-2081	REC-2081S	5/8	5/16	3/16	1/8	1/4	3/16	75	7	23.00	19.55	16.70						
217-2088	REC-2088	5/8	5/16	3/16	1/8	1/4	5/16	75	7	21.60	18.40	15.65						
217-2085	REC-2085	3/4	3/8	3/16	3/16	5/16	5/32	75	7	44.00	37.40	31.80						
217-2086	REC-2085S	3/4	3/8	3/16	3/16	5/16	5/32	75	7	38.60	32.85	27.85						
217-1209	REC-209	13/16	1/2	1/4	1/4	5/16	5/32	75	7	39.00	33.15	28.20						
217-1210	REC-209S	13/16	1/2	1/4	1/4	5/16	5/32	75	7	40.60	34.50	29.35						
217-2197	REC-2097	1	1	5/8	3/8	5/16	5/32	75	7	79.20	67.30	57.25						
217-2098	REC-2097S	1	1	5/8	3/8	5/16	5/32	75	7	82.80	70.38	59.85						
217-2099	REC-2098S	1	1 1/2	5/8	7/8	5/16	5/32	75	7	125.20	106.45	90.50						
217-2095	REC-2095	15/16	3/8	3/16	3/16	3/8	5/32	75	8	44.60	37.90	32.25						
217-2096	REC-2096S	15/16	3/8	3/16	3/16	3/8	5/32	75	8	50.00	42.50	36.15						
217-2297	REC-2197S	1	1 1/2	5/8	7/8	5/16	5/32	75	8	50.00	42.50	36.15						

Stem Bumpers

Stock No.	Mfr.'s Type*	A	B	C	D	E	Nominal Durometer	Fig.	PER PK./100		
		Max. Dia.	Height	Stem Width	Stem Height	Base Height			1-9	10-24	25-Up
217-1602	STE-602	3/16	.134	1/8	3/32	.040	75	9	12.00	10.20	8.65
217-1607	STE-607	1/2	7/16	9/16	5/16	1/8	75	9	12.00	10.20	8.65
217-6071	STE-6071	1/2	1/2	1/4	11/32	1/8	75	9	12.00	10.20	8.65
217-1601	STE-601	1/4	9/32	1/8	3/32	1/8	75	10	12.00	10.20	8.65
217-1621	STE-601W	1/4	9/32	1/8	3/32	1/8	65	10	12.00	10.20	8.65
217-1612	STE-6011W	1/4	5/16	1/8	3/16	1/8	65	10	12.00	10.20	8.65
217-1604	STE-604	3/8	5/16	.196	3/16	1/8	75	11	12.00	10.20	8.65
217-6091	STE-6091	5/8	1/2	.507	3/8	1/8	75	12	12.00	10.20	8.65

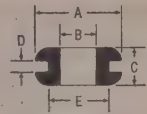
Machine Bumpers

Stock No.	Mfr.'s Type	A	B	C	Screw Size	Nominal Durometer	Fig.	PER PK./100		
		O.D.	Height	Screw Length				1-9	10-24	25-Up
217-0051	MAC-51	½	¼	¼	8-32	75	13	58.80	49.95	42.50
217-0062	MAC-62	¾	⅝	¼	8-32	75	13	77.20	65.60	55.80
217-0075	MAC-75	¾	¾	¼	8-32	75	13	110.40	93.85	79.80
217-0087	MAC-87	7/8	½	½	10-32	75	13	154.60	131.45	111.65
217-0100	MAC-100	1	½	½	10-32	75	13	236.00	200.60	170.50
217-0112	MAC-112	1 ½	½	½	10-32	75	13	350.00	297.50	250.85

*Suffix: S = Steel Washer Insert, W = White.

Grommets*

All items are molded of natural and synthetic rubber compounds or reclaimed rubber in combination or blends thereof. Items are listed in ascending order of diameter and height.

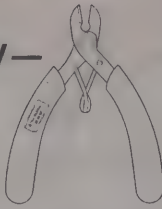


Stock No.	Mfr.'s Type	A	B	C	D	E	Nominal Durometer	PER PK./100		
		O.D.	I.D.	Height	Groove W	Groove Dia.		1-9	10-24	25-Up
217-2101	GOB-2101	1/4	1/8	3/32	1/32	3/16	65	11.80	10.05	8.50
217-2104	GOB-2104	11/32	7/64	3/16	1/16	13/64	65	10.00	8.50	7.50
217-2105	GOB-2105	11/32	1/8	3/16	1/16	3/16	50	11.00	9.35	7.95
217-2110	GOB-2110	11/32	1/8	3/16	1/16	1/4	65	10.40	8.85	7.55
217-2115	GOB-2115	7/16	3/16	7/32	1/16	5/16	65	13.00	11.05	9.40
217-2415	GOB-415	7/16	3/16	1/4	3/32	3/16	65	13.80	11.75	9.95
217-2171	GOB-2171	1/2	3/16	3/16	3/16	3/8	65	13.80	11.75	9.95
217-2173	GOB-2173	1/2	3/16	7/32	1/16	3/16	65	17.20	14.75	12.60
217-2217	GOB-217	1/2	3/16	7/32	1/16	3/8	65	17.20	14.75	12.60
217-2172	GOB-2172	1/2	1/4	3/32	1/32	5/16	65	13.80	11.75	9.95
217-1219	GOB-219	17/32	17/32	19/32	3/32	19/32	60	20.20	17.20	14.60
217-2201	GOB-2201	9/16	9/16	3/8	1/8	7/16	60	17.20	14.65	12.50
217-2200	GOB-220	9/16	1/4	3/8	1/8	3/8	65	19.80	16.85	14.40
217-2210	GOB-221	9/16	9/32	1/4	1/16	3/8	65	26.20	22.30	18.95
217-2211	GOB-2211	9/16	9/32	1/4	1/16	19/32	65	17.20	14.65	12.50
217-1321	GOB-321	9/16	9/32	3/16	1/8	3/8	65	18.20	15.50	13.15
217-1324	GOB-324	19/32	9/16	3/8	1/8	7/16	65	19.40	16.80	14.00
217-2260	GOB-2260	3/8	1/4	3/32	1/16	3/8	55	22.00	18.70	15.95
217-3251	GOB-325	3/8	1/4	3/8	1/8	3/8	50	19.00	16.15	13.75
217-2252	GOB-2252	3/8	3/16	1/4	1/16	7/16	65	16.10	14.15	12.00
217-2225	GOB-225	3/8	3/8	1/4	1/16	1/2	65	17.00	14.45	12.30
217-2258	GOB-2258	5/8	3/8	19/32	1/16	19/32	65	19.40	16.50	14.00
217-2261	GOB-2261	3/4	3/4	19/64	1/16	9/16	65	28.60	24.35	20.65
217-1101	GOB-1101-1	3/4	3/8	1/2	1/8	19/32	60	32.80	27.90	23.70
217-1111	GOB-1101	3/4	7/16	1/4	1/16	9/16	65	22.00	22.95	19.50
217-2300	GOB-230	13/16	1/2	3/2	1/16	5/8	65	36.80	31.30	26.60
217-2271	GOB-2271	7/8	3/2	3/2	1/16	5/8	65	41.80	35.50	30.20
217-1102	GOB-1102	11/16	1/2	3/16	1/16	13/16	65	61.20	52.00	44.25
217-1122	GOB-1102-2	11/16	1/2	19/32	1/16	13/16	65	47.60	40.45	34.40
217-2301	GOB-2301	11/16	19/16	19/16	1/16	13/16	65	21.20	18.00	15.30
217-1103	GOB-1103	11/16	5/8	5/16	1/16	7/8	65	55.20	46.95	39.85
217-1105	GOB-1105	11/16	13/16	1/4	3/64	19/16	65	55.20	46.95	39.85
217-1104	GOB-1104	29/8	19/16	7/16	1/16	13/4	65	183.00	155.55	132.25

Stainless Steel Pliers
5-Piece Precision Stainless Steel Pliers Set — NEW —

Fills diverse needs for technicians, designers, hobbyists and quality assurance professionals. Micro-Flat Nose is perfect for cutting and trimming work where blade size thickness must be minimal. Snub-Nose Micro-Cutting Nippers are ideal for trimming components and soft, copper wire. Micro-Round Nose Pliers snip tiny wires and trim solder connections. Long Nose Pliers with razor-sharp blades are perfect for trimming film, insulation and plastic chassis boxes. Micro-Bent Nose style covers multiple applications for design, repair and micro-assembly. Spring-loaded handles are extra-cushioned for added comfort. Overall length is only 4".

796-9804. Model 12-7070. 1-5PER SET 34.19
 6-11PER SET 25.47



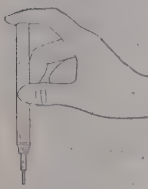
Micro Flat Nose Pliers
 796-9805. Model 12-7071. 1-5EACH 7.49
 6-11EACH 4.98

Micro Snub Nose Cutting Nippers
 796-9806. Model 12-7072. 1-5EACH 7.49
 6-11EACH 4.98

Micro Round Nose Pliers
 796-9807. Model 12-7073. 1-5EACH 7.49
 6-11EACH 4.98

Micro Long Nose Pliers
 796-9808. Model 12-7074. 1-5EACH 7.49
 6-11EACH 4.98

Micro Bent Nose Pliers
 796-9809. Model 12-7075. 1-5EACH 7.49
 6-11EACH 4.98

— NEW — 2 In 1 Ceramic Adjuster


Includes 1.4 mm flat blade and 3.0 mm Phillips. Non-slip handle securely holds ceramic adjusting tip. Removable protective cap fits directly on tip, or can be used with handle as an extension. Completely insulated, nonmagnetic and anti-static. Resists heat up to 1000°C. Resists acids (except Hydrofluoric) and solder.

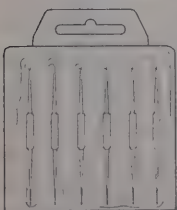
796-9810. Model 41-575. 1-5EACH 19.79
 6-11EACH 14.00

4 In 1 Ceramic Adjuster — NEW —

Includes .9, 1.8, 2.6 mm flat blade and 1.7 mm Phillips. Non-slip handle securely holds ceramic adjusting tip. Removable protective cap fits directly on tip, or can be used with handle as an extension. Completely insulated, nonmagnetic and anti-static. Resists heat up to 1000°C. Resists acids (except Hydrofluoric) and solder.



796-9811. Model 41-576. 1-5EACH 32.49
 6-11EACH 21.50

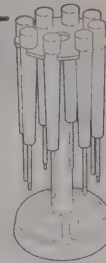
— NEW — Ceramic Adjuster Set


Six sizes include flat blade .9, 1.4, 1.8, 2.6 mm and Phillips 1.8 and 3.0 mm. These adjusters are anti-static and nonmagnetic. Protective caps are included to keep tips clean and contamination-free. Solder does not adhere to tip surface. Resists acids (except Hydrofluoric) and solder. Comfortable, smooth handles and tips are 100% rustproof. Packaged in form-fitted storage tray.

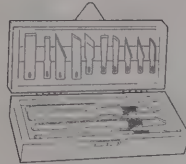
796-9813. Model 41-577. 1-5EACH 43.89
 6-11EACH 31.00

8-Piece Precision — NEW — Electronic Screwdriver Set

Easily located the right tool every time with color-coded end caps and handy professional rack to keep screwdrivers organized. **Precision Flat Blade Sizes:** 1.0 mm, 1.4 mm, 2.0 mm, 2.4 mm, 3.0 mm. **Phillips Sizes:** 1.6 mm, 2.0 mm, 2.4 mm. Short length 80 mm handles. Includes convenient benchtop rack with tray for holding loose screws.

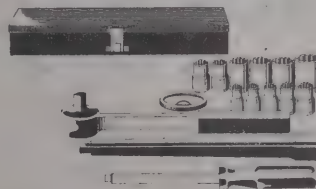


796-9803. Model 12-6931. 1-5PER SET 21.89
 6-11PER SET 16.12

— NEW — Precision Knife Set


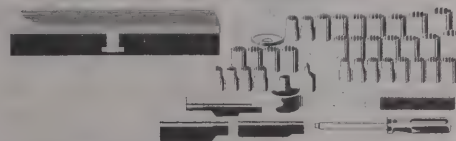
A kit of three knife handles with commonly used blades plus an assortment of ten extra blades. This kit is useful in PC artwork, lab use for cutting cambric, etc. Supplied in wooden case with magnetic spare-blade holder in lid. 16 pieces total.

796-9814. Model 12-007. 1-5PER SET 26.09
 6-11PER SET 18.62

16 Piece 1/4" Drive Socket Wrench Set


Set Contains: Reversible Ratchet, Spinner Handle, 6" Extension, 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 6 Pt. Regular Sockets, 1/4", 5/16", 3/8", 8 Pt. Regular Sockets, 1/4" Spin Disc and metal box.

796-6003. Model 30016EACH 25.61

42 Piece 1/4" — 3/8" Drive Sae and Metric Socket Wrench Set


Set Contains: Spinner Handle, 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2" 6 Pt. Regular Sockets, 4.5 mm, 5 mm, 6 mm, 7 mm, 8 mm, 9 mm, 10 mm, 12 mm 6 Pt. Metric Sockets, Reversible Hatchet, 3" Extension, 3/8F-1/4" M Adapter, 3/16", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 12 Pt. Regular Sockets, 9 mm, 10 mm, 11 mm, 12 mm, 13 mm, 14 mm, 15 mm, 17 mm, 19 mm 12 Pt. Metric Sockets, 13/16", 5/8" Sparkplug Sockets, Ratchet Spin Disc and Organizer Tool Box.

796-6004. Model 33742EACH 47.98

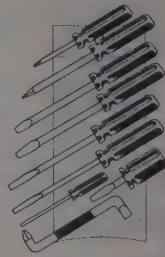
10 Piece 3/8" Drive Hex Bit Socket Set


Set Contains: Plain Screwdriver Bit Socket, #2 Phillips Bit Socket, 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8" Hex Bit Sockets and metal box.

796-6005. Model 31010EACH 26.05

9 Piece Chrome Vanadium Screwdriver Set

Set Contains: 1/8", 3" Pocket Screwdriver, 3/16" x 4" Cabinet Screwdriver, 3/16" x 6" Cabinet Screwdriver, 1/4" x 1 1/2" Stubby Screwdriver, 1/4" x 4" Square Shank Screwdriver, 1/4" x 6" Square Shank Screwdriver, 3/16" x 3" #1 Phillips Screwdriver, 1/4" x 4" #2 Phillips Screwdriver, and 1/4" x #2 Phillips Comb. Offset Screwdriver.



796-6012. Model 156259EACH 17.95

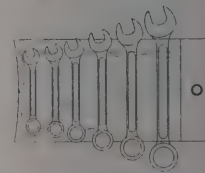
12 Piece Nutdriver/ Screwdriver Set

Set Contains: 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2" Nutdrivers, T10, T15 Reversible Torx Driver, 1/8" x 3" Screwdriver, 3/16" x 3" Screwdriver, 3/16" x 3" #1 Phillips Screwdriver with vinyl zipper case.

796-6025. Model 23-012EACH 29.73

6 Piece Combination Wrench Set

Set Contains: 3/8", 7/16", 1/2", 9/16", 5/8", 3/4" Combination Wrenches with vinyl pouch.



796-6007. Model 34056EACH 15.37

8 Piece Ignition Wrench Set

Set Contains: Eight drop forged ignition wrenches. Each wrench has both 15 and 60 open ends. Sizes range from 13/64" to 3/8". Vinyl roll included.

796-6008. Model 158579EACH 12.50

Adjustable Wrenches


4" Adjustable Wrench
 796-6009. Model 56704EACH 8.16

6" Adjustable Wrench
 796-6010. Model 56706EACH 8.16

8" Adjustable Wrench
 796-6011. Model 56708EACH 11.25

Locking Plier

6" Long Nose Locking Plier.



796-6013. Model 58106EACH 10.14

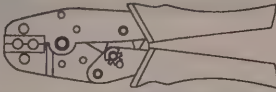
101 Piece Crimping Tool Set

Set Contains: Crimping tool and 100 frequently used terminals and connectors.

796-6006. Model 157806EACH 13.07

1300 Series Crimping Tool with Interchangeable Dies for Telecom Coax and Terminal Crimps

- ▶ Coaxial Connectors
- ▶ Fiber-Optic Connectors
- ▶ Open Barrel Contacts
- ▶ Solderless Terminals
- ▶ Wire Ferrules
- ▶ Modular Telephone Plugs
- ▶ Fully Ratcheting Cycle
- ▶ Manual Ratchet Release
- ▶ EZ1-Change™ Die Set Screws
- ▶ Adjustable Crimp Tension
- ▶ Hardened Dies for Long Life
- ▶ Dies Fully Interchangeable



Order complete tool, or frame or dies separately.

Complete Tool

Stock No.	Specifications	EACH
889-1305	Insulated Term. AWG 22-12	45.45
889-1306	Non-insulated Term. AWG 22-12	45.45
889-1307	RJ45 Modular Telephone Plugs (WE)	45.45
889-1308	Fully Insulated AWG 22-12	45.45
889-1317	RG58/59/62AU BNC/TNC	45.45
889-1318	Cambridge CP88/89	45.45
889-1319	N Type for RG8/11/213/216	45.45
889-1322	Non-insulated Term. and Splice AWG 22-12	45.45
889-1328	Captive Ring F Connectors RG59/6	45.45
889-1330	SFR/SMA Fiber Optics Connector	45.45
889-1331	AMP SRF/SMA Fiber Optics Connector	45.45
889-1332	RG58, BNC, TNC AMP	45.45
889-1333	RG59, 62AU BNC, TNC AMP	45.45
889-1336	RG59/Belden 8281	45.45
889-1337	RG8 BNC/TNC	45.45
889-1338	RG174 BNC/TNC	45.45
889-1340	RJ11 Modular Plugs	45.45
889-1341	Modular Handset Plugs	45.45
889-1342	RJ45 AMP Plugs	45.45
889-1343	RJ11 AMP Plugs	45.45
889-1344	RJ11 DEC/MMJ Plugs	45.45
889-1345	RJ45-10 Position	45.45
889-1347	RG58/59AU, RG59/62 Teflon BNC/TNC	45.45
889-1348	RG6/58 BNC/TNC	45.45

Frame Only

889-1302	Frame	29.12
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Die Only

889-2035	Insulated Term. AWG 22-12	17.78
889-2033	Open Barrel AWG 22-12	17.78
889-2051	RJ45 Modular Telephone Plugs	17.78
889-2040	Insulated SL/DN AWG 22-12	17.78
889-2034	RG58/59/62AU BNC/TNC	17.78
889-2041	Cambridge RG58/59/62AU	17.78
889-2039	N-Series Plug RG8/11/213/216	17.78
889-2042	CATV "F" Connector RG59/6	17.78
889-2027	AMP RG58	17.78
889-2028	AMP RG59, 62AU, GNC, TNC	17.78
889-2047	RG59/Belden 8281 50/75 Ohm	17.78
889-2050	RG8 BNC/TNC	17.78
889-2051	RG174 BNC/TNC	17.78
889-2062	RJ11 Modular Telephone Plugs	17.78
889-2063	Modular Handset Plugs	17.78
889-2064	AMP RJ45 Modular Telephone Plugs	17.78
889-2065	AMP RJ11 Modular Telephone Plugs	17.78
889-2067	AMP RJ11 DEC/MMJ Modular Telephone Plugs	17.78
889-2068	RJ45 10 Position Modular Telephone Plugs	17.78
889-2075	RG58/58AU, RG59/62 Teflon BNC/TNC	17.78
889-2076	RG6/58 BNC/TNC	17.78



AM1 Stripping and Slitting Tool for Up to 1" Dia.

889-1820. AM1 Tool	EACH	33.28
889-2109. AM1 Tool Replacement Blade	EACH	9.45

Patch-Check

Telephone/Data Wiring Tester™

Patch-Check™ is a hand held instrument designed to test telephone (RJ11) and computer data-link (RJ45) wiring. Patch-Check™ identifies open, shorted and cross connected wires with a clear LED display. Depress the pushbutton to review a sequential comparison of the wire position and continuity of the plugs at each end of the cable. The instrument is powered by a 9 volt battery supplied with each unit.



889-1529. Patch-Check	EACH	61.95
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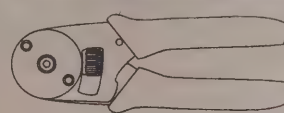
1600 Series Crimping Tool for Open Barrel and "D" Sub RS232 Connectors

- Uninsulated Terminals
- ▶ Amp Ultra-Fast™ and Faston™ Connectors
- ▶ Open Barrel Contacts
- ▶ Wire Ferrules
- ▶ Fully Ratcheting Cycle
- ▶ Manual Ratchet Release
- ▶ Adjustable Crimp Tension



889-1631. Open barrel contacts AWG 14-24	EACH	125.78
889-1635. Slide on connectors AWG 14-22	EACH	172.62
889-1645. Open barrel contacts AWG 18-30	EACH	101.95
D-Sub-RS232 open barrel contacts AWG 20-28.		
889-1646	EACH	157.12

1400 Series Crimping Tool for Producing a Four-Way Indent Crimp in D-Sub RS232 Machine Contacts



- ▶ Full Ratchet Cycle
- ▶ Four-Way Indent Crimp to MIL-C-22520 Requirements
- ▶ Built-In Contact Locator

- ▶ Crimps D-Subminiature, Contacts for RS232 Interface Connectors

889-1440. AWG 20-26	EACH	29.94
889-1441. AWG 12-20	EACH	29.94

Punch Down Tool for 66, 110 and 630 Punch Down Blocks

- ▶ Terminates and Cuts Wire On 66 and 110 Type Terminals
- ▶ Reversible Clip-In Blade
- ▶ Adjustable Spring-Loaded Impact Mechanism
- ▶ Spare Blade Storage in Handle



889-3527. Punch Down Tool-66	EACH	44.62
889-3528. Punch Down Tool-110	EACH	44.62
889-4527. Spare Blade-66	EACH	11.62
889-4528. Spare Blade-110	EACH	11.62
889-4529. Spare Blade-630	EACH	11.62

All-In-One Telephone Tool — Crimps RJ45, 11 and Handset Plugs (Stewart) and Strips and Cuts the Wire



- ▶ RJ45, RJ11 and Handset Plugs
- ▶ Full Cable Preparation with Built-In Cutting and Stripping

All-In-One Telephone Tool. Also available for "AMP" connectors.
889-1532. PA1530R.....EACH 116.62
889-1540. All-In-One Telephone Tool. AMP.....EACH 125.78

Patch-Check Plus

Tester for Installed Telephone/Data Wiring

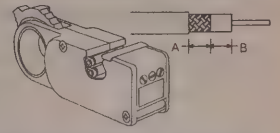
Patch-Check Plus Verifies continuity of each wire of RJ11 or RJ45 cable installations up to 1200 feet in length from one end. Patch-Check Plus identifies open shorted and cross connected wire with a clear LED display and audible signal. Each touch of the test button connects the relationship of one pin on the transmit side with the corresponding pin at the far end receiver. Transmitter and receiver are shipped with 9 volt batteries installed and system interconnects for RJ11, RJ45 and MMJ (DEC).



889-1531. Patch-Check Plus	EACH	361.12
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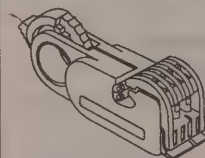
CST-Vario Coax-Stripper

Interchangeable blade cassettes for 2 and 3 level strips.



Strip A	Dim. B	Frame with Cassette			Blade Cassettes	
		Stock No.	Description	EACH	Stock No.	EACH
279	.201	889-1240	with 2240 cassette ¹	55.78	889-2240	21.28
256	—	889-1241	with 2241 cassette ²	55.78	889-2241	21.28
472	—	889-1242	with 2242 cassette ³	55.78	889-2242	21.28
295	.137	889-1243	with 2243 cassette ⁴	55.78	889-2243	21.28
236	—	889-1244	with 2244 cassette ⁵	55.78	889-2244	21.28
153	—	889-1246	with 2246 cassette ⁶	55.78	889-2246	21.28
.327	.146	889-1247	with 2247 cassette ⁷	55.78	889-2247	21.28

*Colors: 1=Green; 2=Blue; 3=Yellow; 4=Brown; 5=Red; 6=Grey; 7=Orange.



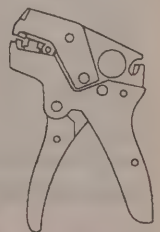
CST-Vario Coax-Stripper

- ▶ For .100 to .315 Dia. Coax Cables with 3 Variable Position Blades
- ▶ 2 or 3 Level Strips Can Be Set in 1 mm Increments

889-3240. CST-Vario	EACH	55.78
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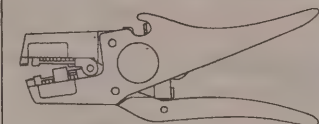
Mini-Stripax Plus Wire Stripper

Curved ergonomic handles make this an ideal production tool.



Mini-Stripax Plus Wire Stripper includes blade for 18-28 AWG.

889-1115. 1115-P	EACH	66.95
889-2108. Replacement Blade AWG 18-28 PVC	EACH	19.12
889-2144. Replacement Blade AWG 30-32 Teflon	EACH	33.12
889-2143. Replacement Blade AWG 26-28 Teflon	EACH	33.12
889-2142. Replacement Blade AWG 22-24 Teflon	EACH	33.12
889-2141. Replacement Blade AWG 20 Teflon	EACH	33.12
889-2140. Replacement Blade AWG 18 Teflon	EACH	33.12



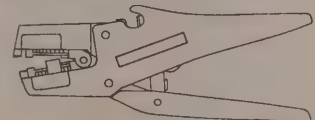
Stripax Wire Stripper AWG 12-20

For use with 12-20 PVC.

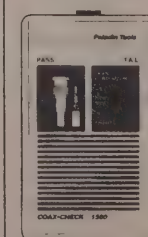
889-1100. Stripax Wire Stripper	EACH	66.95
889-2101. Stripax Replacement Blade	EACH	26.12

Professional Stripax Wire Stripper AWG 10-28

Wide range of wire stripping for the professional.



889-1101. Professional Stripax Wire Stripper	EACH	66.95
889-2131. Professional Stripax Replacement Blade	EACH	26.62



Coax-Check Tester

Coax-Cable Tester

Coax-Check tests the continuity of coaxial cables and indicates a simple PASS or FAIL analysis. A FAIL analysis is clarified by a diagnosis indicating an open conductor/shield or short. The instrument is for use with RG58/59/62 BNC cables and is supplied complete with 9v battery.

889-1560. Coax-Check	EACH	41.62
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Allen Hex Socket Type Screwdrivers

- Screwdrivers for Recessed Socket Head Screws
- Inch Sizes
- Amber Handles

Stock No.	Mfr.'s Type	Tip Size	Blade Length	Full Length	EACH
984-9765	LN-20	.050"	4" (102 mm)	65/8" (168 mm)	4.94
984-9766	LN-21	1/16"	4" (102 mm)	65/8" (168 mm)	4.94
984-5050	LN-22	5/32"	4" (102 mm)	65/8" (168 mm)	4.94
984-9767	LN-23	3/32"	4" (102 mm)	71/8" (190 mm)	4.94
984-9768	LN-24	7/64"	4" (102 mm)	71/8" (190 mm)	4.94
984-9769	LN-24	1/8"	4" (102 mm)	71/8" (190 mm)	5.30
984-9770	LN-964	9/64"	4" (102 mm)	71/8" (190 mm)	5.30
984-9771	LN-25	5/32"	6" (152 mm)	91/8" (232 mm)	5.30
984-9772	LN-26	3/16"	6" (152 mm)	101/8" (257 mm)	5.30
984-9773	LN-27	7/32"	6" (152 mm)	101/8" (257 mm)	5.92
984-9794	LN-28	1/4"	6" (152 mm)	101/8" (257 mm)	5.92



Torx® Screwdrivers



Stock No.	Mfr.'s Type	Tip Size	Blade Length	EACH
984-9782	XTD-10	T-10	3"	4.96
984-9783	XTD-15	T-15	3"	4.96
984-9784	XTD-20	T-20	3"	4.96
984-9785	XTD-25	T-25	3"	4.96
984-9786	XTD-27	T-27	4 1/2"	5.50
984-9787	XTD-30	T-30	4 1/2"	5.50

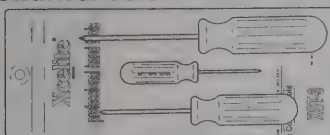
Phillips Screwdrivers



All have plastic handles. SX-101 and SX 102 are stubby type. P12-S has pocket clip. Super Tru-Tips have black oxide tips for longer wear.

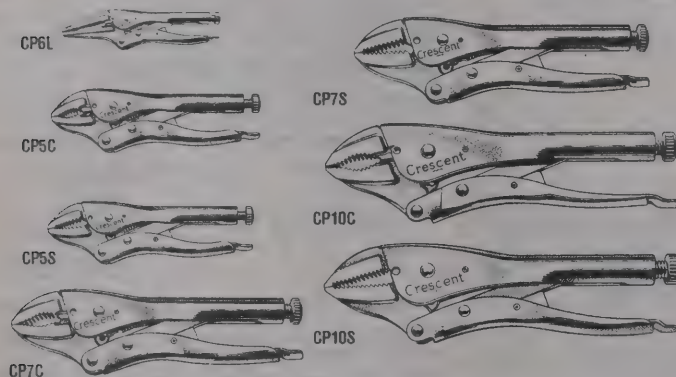
Stock No.	Mfr.'s Type	Point Size	Blade Length	EACH
984-8826	X-101	1	3"	4.36
984-8827	X-102	2	4"	5.84
984-9775	X-103	3	6"	8.14
984-8825	X-104	4	8"	10.60
984-9776	X-108	1	6"	5.74
984-9777	X-1010	1	10"	7.42
984-9778	X-1020	2	10"	8.40
984-9779	SX-101	1	1 1/16"	4.82
984-9780	SX-102	2	1 1/16"	5.42
984-9781	P12-S	0	2"	2.94

Screwdriver Sets



Stock No.	Mfr.'s Type	Contents	EACH
984-9760	SDX-22	Contains 5 pieces — all Phillips Catalog numbers X100, X101, X102, X103 and SX102	27.16
984-9761	XST-3	Contains 3 pieces — all Super-tru tip Phillips type Catalog numbers XST-100, XST-101 and XST-102	17.38
984-9762	XST-5	Contains 5 pieces — all Super-tru tip Phillips type Catalog numbers XST-100, XST-101, XST-102, XST-1010 and XST-1020	35.98
984-9763	SRX-33	Contains 6 pieces — 4 round blades for slotted screws and 2 Phillips types Catalog numbers R184, R3166, R144, R5166, X101 and X102	33.82

Crescent® Locking Pliers

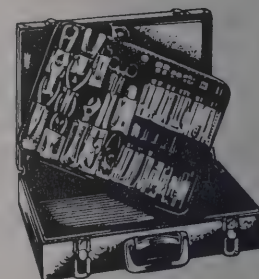


- Unique Jaw Tooth Design Improves Gripping/Turning Ability
- Straight Jaw, Long Nose and Curve Jaw with Wire Cutter Models. Available in 5" to 10" Sizes
- Compound Action for Powerful Non-Slip Locking Grip
- Convenient, Quick, One Hand Release Lever
- Accurate Adjustments with Screw Machined Ferrule
- Made in the U.S.A.

984-9790. CP6L.....	EACH 13.80
984-9791. CP5C.....	EACH 11.86
984-9792. CP5S.....	EACH 11.86
984-9793. CP7C.....	EACH 12.96
984-9794. CP7S.....	EACH 12.16
984-9795. CP10C.....	EACH 13.88
984-9796. CP10S.....	EACH 13.10

Attache Case Tool Kit

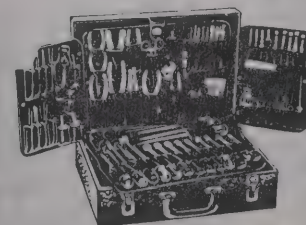
Model TC-200/ST. Quality craftsmanship inside and out. Handsome, attache-styled tool case has dovetailed, solid wood-frame construction, covered with rugged black Durahyde. Removable pallet in lid outfitted with see-thru tool pockets and spacious lower section for additional tools, prints or manuals. Attractive brass-finished hardware and hinges. Inside are 10 top-quality professionally styled hand tools and 27 interchangeable Series 99 screwdriver and nutdriver blades for use with straight or Tee handles. The Attache Case is supplied with a broad selection of tools for field service work. Case is 18 1/2" x 13 1/2" x 4 1/4" with convenient carrying handle. **Kit Contents:** 1 Straight and 1 Tee handle; 9 Hex Socket Screw Blades; Reamer; Extension; 3 Phillips Screw Blades; 4 Slotted Screw Blades; 7 Hex Nutdriver Blades; Curved Nose Seizer; Adjustable Wrench (6"); Long Nose Plier (6 1/2"); Utility Plier (7"); Diagonal Pliers (4" and 5"); Needle Nose Plier (5 1/2"); Electronic Snips; Wire Stripper/Cutter; Electrician's Knife. **Weight:** 11 lbs.



984-5001. Model TC-200/ST.....EACH 463.06

Field Engineer's Tool Set

- Supplied With A Variety of Professional Tools
- See-thru Pockets for Easy Identification



Model TC-100/ST. Contains a variety of drivers plus necessary electronic specialty tools for field service work. The unique design of this sturdy, spacious tool case contains 53 individual screwdrivers, nut-drivers, pliers and wrenches, 31 Series 99 interchangeable screwdriver-nutdriver blades and handles, and two screwdriver-nutdriver sets; plus pockets for service manuals and ample room in the case bottom for additional tools, parts and test equipment. Case is of tough, chestnut-brown, leathergrain-vinyl. Top-quality, professional hand tools are mounted on removable, vinyl pallets. **Size:** 9 1/2" x 13 1/2" x 6 1/4" (435 x 343 x 171 mm). **Weight:** 23 lbs.

984-5000. Model TC-100/ST.....EACH 908.54

Precision Knives

Light and medium-duty knives for the professional and hobbyist alike. Precision made for durable life. Interchangeable blades held firm in sure-locking four-jaw chuck. Stay sharp blades are made from surgical steel and honed for closest cutting and long-lasting edge.



Light and Medium Duty Knife Set: Comes complete with 10 assorted blades for a wide range of cutting operations.

984-1290. XNS-100.....	EACH 10.88
984-1275. XN-100. Light Duty.....	EACH 2.52
984-1278. XN-200. Medium Duty**.....	EACH 3.88

*For light-duty cutting on paper, soft and lightweight materials or wood.
**For heavy paper and medium density materials.

Blades



Blades for XN-100

Stock No.	Mfr.'s Type	Fig.	Description	PER PKG./5		
				1-11	12-47	48-Up
984-1212	XNB-103	1	Fine Pointed	2.30	1.73	1.53
984-1215	XNB-101	2	Standard	3.28	2.46	2.18
984-1221	XNB-105	3	Stencil	2.30	1.73	1.53

Blades for XN-200

984-1230	XNB-203	4	General Purpose	3.62	2.72	2.41
984-1239	XNB-205	5	Pointed	2.30	1.73	1.53

Adjustable Wrenches

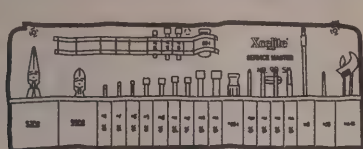


Thin-pattern design permits access where regular adjustable will not fit. Rugged construction, chrome-plated, polished heads, with quick one-hand adjustment and Cushion-Grip.

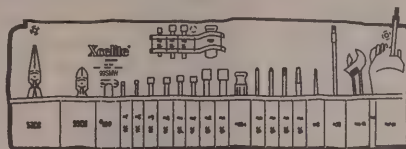
Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-0044	44CG	4" length, 1/2" opening	18.40	13.80	12.24
984-0046	46CG	6" length, 3/4" opening	19.08	14.31	12.69
984-0048	48CG	8" length, 1 1/16" opening	20.04	15.03	13.33

Series 99® Service Kits

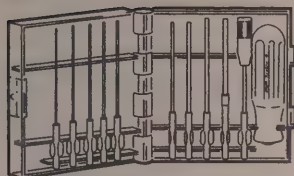
Series 99 service kits and sets are made up primarily of various screwdriver, nutdriver, and other blades which can be used interchangeably in Series 99 handles. All blades are high quality steel, hardened and tempered for optimum performance. Plastic handles have a patented spring device that holds blades firmly, yet permits quick, easy insertion and removal. Regular handles accommodate all blades, single and reversible. Stubby, Tee, and Ratchet handles can only be used with single-end blades.



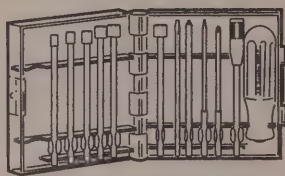
99SM



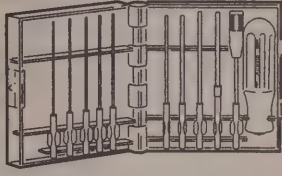
99SMW



99PS-40



99PS-50



99PS-60

99SM Roll Kit

Versatile 23-piece set of quality tools in a durable, roll-up plastic-coated canvas case for easy selection and storage. Provides a variety of quick change tools and tool combinations to speed up assembly and service work. **Kit Contains:** One long nose plier, one diagonal grip plier, one wrench, one regular handle, one stubby handle, nine regular nutdrivers, one stubby nutdriver, one reamer, and one extension.

984-0404. 99SM.....EACH 167.66

99SMW Service Kit

Plastic-coated canvas case holds 26-piece set of handles and interchangeable screwdriver, nutdriver, and other blades plus wire stripper and cutter and Weller soldering iron. **Kit Contains:** One soldering iron, one tip, one wire stripper and cutter, one long nose cushion grip plier, one diagonal grip plier, one adjustable wrench, one regular handle, one stubby handle, two Phillips screwdrivers, three stubby nutdrivers, two slotted screwdrivers, one reamer, and one extension.

984-0406. 99SMW.....EACH 219.62

99PS-40 Allen Hex Socket Type Screwdriver Set — Inch Sizes

11-piece set in compact see-through plastic case. **Set Contains:** One regular handle, one extension, and nine assorted hex-type blades.

984-9969. 99PS-40.....EACH 45.16

99PS-50 Screwdriver and Nutdriver Set — Inch Sizes

13-piece set in convenient see-through stand-up plastic case. **Set Contains:** Seven assorted nutdrivers, two slotted screwdrivers, two Phillips screwdrivers, one extension, and one regular handle.

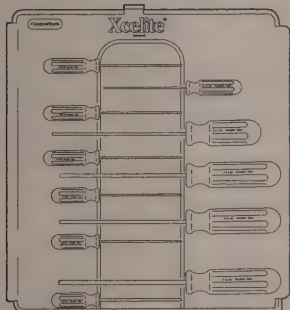
984-6041. 99PS-50.....EACH 56.98

99PS-60 Bristol Multiple-Spline Socket Type Screwdriver Set — Inch Sizes

11-piece set in convenient see-through stand-up plastic case. **Set Contains:** Nine flute Bristol spline blades, one regular handle, and one extension.

984-0412. 99PS-60.....EACH 45.16

Roll-Up Kits



For Allen Hex Socket Type — Inch Sizes

Kit Contains: A complete set of the LN series Allen hex type screwdrivers. Comes with a roll-up canvas case, plastic-coated for wear and protection.

984-0425. LN-11.....EACH 56.72

For Ballpoint Style, Allen Hex Socket Type — Inch Sizes

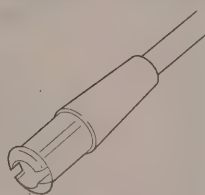
Kit Contains: Nine ballpoint, Allen hex socket type screwdrivers (LN-20BP through LN-26BP). Comes in roll-up canvas case.

984-0427. LN-9BP.....EACH 69.04

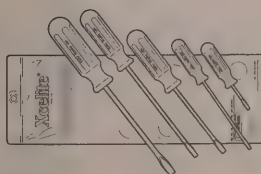
Power Bit Adapter

For use with Xcelite Series 99 blades. Fits all power tools with 1/4" hex chuck.

984-0420. 99PA.....EACH 5.62



Round Blade Screwdriver Set

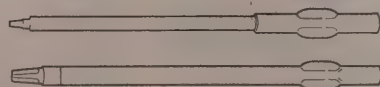


SDR-11 Set Contains: Five round blade screwdrivers for slotted screws. Catalog numbers R182, R5324, R3166, R144, and R5166.

984-3500. SDR-11.....EACH 24.94

Torx® Screwdrivers

Torx® is the trademark of Camcar Division of Textron Incorporated.



Stock No.	Mfr.'s Type	Tip Size	Dimensions		EACH
			In.	mm	
984-0415	99-8XTD	T-8	4	102	4.60
984-0416	99-10XTD	T-10	4	102	4.60
984-0417	99-15XTD	T-15	4	102	4.60

Handles

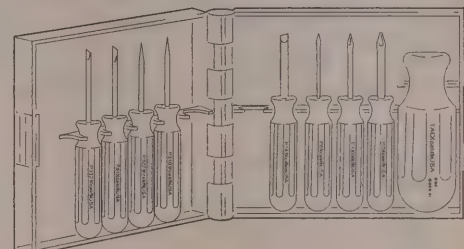


Stock No.	Mfr.'s Type	Description	Color	Dimensions		EACH
				In.	mm	
984-0991	99-1	Regular	Amber	1 3/16 × 4 1/8	30 × 105	4.36
984-0992	99-4	Tee	Black	3 1/2 × 1 5/8	89 × 41	5.70

Compact Convertible Tool Sets

Compact convertible tool sets do more jobs with fewer tools, save bench space, and lighten the service kit. Each set is equipped with a remarkable black "Piggyback" torque amplifier handle that slips over the top of color-coded Midget drivers to provide larger gripping surface, extended reach, and increased driving power. Sets housed in attractive, easy to open, clear plastic cases. All individual screwdrivers and nutdrivers are available separately.

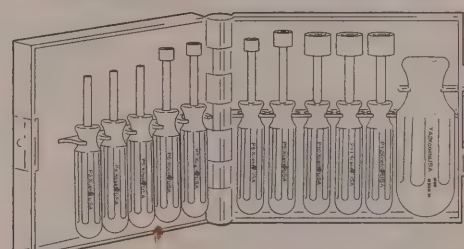
PS-88 Screwdriver Set — Inch Sizes (Color-Coded Handles)



984-9901. PS88.....EACH 29.00

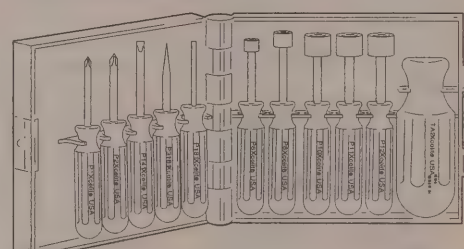
984-0060. M-60.....EACH 14.00

PS-120 Nutdriver Set — Inch Sizes (Color-Coded Handles)



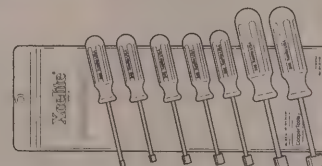
984-3501. PS-120.....EACH 36.62

PS-130 Screwdriver and Nutdriver Set — Inch Sizes (Color-Coded Handles)



984-9910. PS-130.....EACH 37.84

Nutdriver Set



Set Contains: Seven pieces, all hollow shaft, numbers HS6, HS8, HS10, HS11, HS12, HS14, and HS16 in plastic pouch.

984-0177. 177.....EACH 43.34

Lamps, Lamp Products, Displays, Fiber-Optics, Optocouplers, Optoelectronics, Optoswitches, Photocells, Tubes, Vactrols, Vacuum Fluorescent Display Modules

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EG&G Vactec	402		
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Receiving, Readout, Industrial, and Special-Purpose Tubes

ALLIED

NOTE: Most of the tubes in this listing were purchased by their generic number from the manufacturer with the best price at the time of purchase. Should you desire a specific

manufacturer or quantity pricing, please contact the Allied Facility nearest you at 1-800-433-5700.

Receiving, Industrial, and Special Purpose Tubes



With increasing demands on replacement tubes and the need to satisfy those demands becoming increasingly more difficult, we ask that you contact Allied for any

requirements you may have. The list below is only a sampling of the many tube types we can supply.

Mfr.'s Type	Tube Type	EACH
0A2	Volt Regulator	7.31
0B2	Volt Regulator	7.05
0D3	Volt Regulator	17.51
C1K/6014	Thyratron	162.86
1P39	Photo Tube	68.85
1V2	High Voltage Rectifier	6.50
2D21	Thyratron	8.41
2X2A	Rectifier	19.04
C3J/5632	Thyratron	128.22
C3JA/5684/7306A	Thyratron	126.25
3C23	Thyratron	86.00
3CY3/3D83	Hi-Volt Rectifier	10.54
3GS8/3BU8	Sync. Separator	6.70
3HA5/3HM5	VHF Amp.	10.80
4CX250B/7203	Beam Powered Tetrode	170.00
4CX300A/8167	Ceramic Powered Tetrode	630.00
5CX350A/8321	Ceramic Powered Tetrode	287.00
4CX1500B/8660	Ceramic Radon Tetrode	1050.00
5AS4A/5U4GB	Full Wave Power Rectifier	19.53
5GH8A	VHF Oscillator	10.00
5GJ7	VHF Oscillator and Mixer	11.30
5U4GB/5AS4A	Full Wave Power Rectifier	19.53
5V4GA	Full Wave Power Rectifier	26.32
C6J/KF	Thyratron	317.00
6AK5/EF95	RF Amp.	4.42
6AK6	Power Pentode	11.90
6AL5	Mini Beam Petrode	8.72
6AQ5/6HG5/6669	Receiving Tube	14.85
6AU5GT	Beam Pentode	11.22
6AU6B	RF Amp.	11.00
6AV6	Detector	6.63
6AX4GTB	Damper	9.20
6AX5GT	Full Wave Power Rectifier	21.00
6BA6/EF93	RF/IF Amp.	6.25
6BH6	Mini Pentode	14.00
6BK4C/6EL4A	Shunt Volt Regulator	48.72
6BL6/ECF80	VHF Oscillator	3.52
6BQ5/EL84	Audio Power Amp.	11.17
6BQ7A/6BZ7/6BS8	VHF Cascode Amp.	10.70
6C4WA	RF Oscillator	17.17
6CA7/EL34	Audio Power Amp.	17.93
6CB6A/6CF6/6676	Mini Pentode	6.80
6CG7/6CF07	Hor-Ver Deflection OSC	18.87
6CL6/6677	Mini Pentode	13.09
6CW5/EL86	Audio Power Amp.	9.60
6DJ8/ECC88	P.Q. Twin Triode	8.67
6DQ6B/6GW6	Horizontal Deflection Amp.	16.72
6DW4B/6CJ3	Damper	14.00
6EA8	VHF Oscillator	7.40
6EJ7/EF184	IF Amp.	9.35
6EL4A/6BK4C	Shunt Volt Regulator	48.72
6EU7	Oscillator	26.18
6EW6	IF Amp.	8.40
6FQ7/6CG7	Hor-Ver Deflection OSC	15.54
6GH8A	VHF Oscillator	7.73
6GW6/6DQ6B	Horizontal Deflection Amp.	10.71
6HF5	Horizontal Deflection Amp.	32.81
6H35A/6AQ5A/6669	Mini Pentode	14.85
6HM5/6HA5	VHF Amp.	11.00
6HV5A	Beam Triode	11.00
6H6	Duodiode	17.54
6J5	Triode	9.80
6J7	Pentode	14.50

Mfr.'s Type	Tube Type	EACH
6JC6A	IF Amp.	10.00
6KD6	Horizontal Deflection Amp.	70.00
6KD8/668A/6678	Mini Triode/Pentode	6.80
6KE8	VHF Oscillator	12.20
6KT8	Sync. Separator	11.50
6KY8A	Vertical Defl. Oscillator	14.62
6L6GC	Audio Power Amp.	16.43
6LF6	Receiving Tube	106.00
6SJ7	RF or AF Amp.	14.41
6SL7GT	AF Volt Amp	13.42
6SN7GTB	Twin Triode	10.96
6V4/EZ80	Duodiode	7.70
6V6GTA	Audio Power Amp.	10.26
6X4	Full Wave Power Rectifier	8.84
6X5GT	Full Wave Power Rectifier	10.54
8AW8A	Sync. Separator	9.35
8CG7/8FQ7	Hor-Ver Deflection OSC	9.35
8FQ7/8CG7	Hor-Ver Deflection OSC	9.86
12AT7/ECC81/6679	Mini Twin Triode	9.86
12AU7/ECC82/6680	Mini Twin Triode	6.80
12AV7	Grounded Grid Amp.	5.86
12AX7A/ECC83/7025	AF Amp.	7.40
12B4A	Triode	16.38
12BH7A	Hor-Ver Deflection OSC	31.50
12BY7A/12BY7	Video Amp.	10.78
12BY7A	Video Amp.	10.78
12C5/12CU5	Audio Power Amp.	7.50
12GN7A/12HG7	Video Amp.	8.00
12HG7/12GN7A	Video Amp.	9.35
12SN7GT	Horizontal Multivibrator	9.35
13GF7A	Vertical Deflection OSC	13.00
C16J/5665	Thyratron	705.00
FG17/715/5557	Thyratron	97.02
20PE14/4848	Vidicon	91.99
KY21A	Thyratron	392.00
24JE6A/24LQ6	Horizontal Deflection Amp.	20.86
24LQ6/24JE6A	Horizontal Deflection Amp.	20.86
EL34/6CA7	Audio Power Amp.	12.25
35W4	Half Wave Rectifier	11.62
36KD6/40KD6	Horizontal Deflection Amp.	42.00
50C5	Audio Power Amp.	15.40
EZ80/6V4	Duodiode	7.70
ECC81/12AT7/6679	Mini Twin Triode	7.25
ECC82/12AU7/6680	Mini Twin Triode	7.25
ECC83/12AX7A/6681/7025	AF Amp.	6.97
83	Rectifier	36.40
EL84/6BQ5	Audio Power Amp.	9.00
ECL86/6GW8	Audio Power Amp.	9.00
ECC88/6DJ8	P.Q. Twin Triode	5.78
E88CC/6922	Duodiode	6.50
EF93/6BA6	RF/IF Amp.	6.25
FG95/5560	Thyratron	415.00
T160L/572B	Triode	166.00
EF184/6EJ7	IF Amp.	6.50
FG235A/5552A	Ignitron	785.40
FG258A/B/5553B	Ignitron	1577.00
FG271/5551A	Ignitron	508.20
DX332/5001	Microwave Magnetron	280.00
5550	Ignitron	396.00
572B/T160L	Triode	166.00
575A	Rectifier	257.00
NL615/7018	Rectifier	99.00
NL616	Rectifier	169.00
NL635L/7020	Rectifier	270.00

Mfr.'s Type	Tube Type	EACH
NL714/7021	Thyratron	139.30
715/FG17/5557	Thyratron	97.02
5544/734	Thyratron	287.0
ECF801/6GJ7	VHF Oscillator	7.99
807	Power Amplifier	16.94
811A	Triode	27.50
866A	Rectifier	56.56
872A	Rectifier	117.60
922	Phototube	67.20
931A	Photo Multiplier	62.48
931B	Photo Multiplier	62.50
2050A/2050	Thyratron	17.88
L5001A/DX332	Microwave Magnetron	351.40
957/FG17	Thyratron	96.00
9581	Photo Tube	72.00
9583	Photo Tube	92.00
5632/CJ3	Thyratron	108.20
5651A	Duodiode	11.00
5651WA	Duodiode	13.00
5665/C16J	Thyratron	705.00
5684/7306A/C3JA	Thyratron	135.00
5691	Duodiode	21.50
5692	Twin Triode	25.00
5727/2D21W	Thyratron	9.50
5751	Twin Triode	11.34
5763	Beam Pentode	45.50
5814A	Twin Triode	8.00
5823	Cold Cathode Triode	68.20
5881	Beam Pentode	14.00
5963	Twin Triode	5.75
6011/7307A/NL710	Thyratron	137.00
6012	Thyratron	266.00
C1K/6014	Thyratron	134.00
6072A	Mini Twin Triode	13.20
6146A	Beam Pentode	33.39
6146B/8298A	Beam Pentode	32.91
6201/12AT7WB	P.Q. Twin Triode	7.00
6211	Twin Triode	7.90
6360A	Twin Triode	21.70
6550/6550A	Beam Pentode	49.00
6669/6AQ5A/6HG5A	Mini Pentode	13.00
6677/6CL6	Mini Pentode	12.90
6U8/6KD8	Mini Triode/Pentode	6.10
6679/12AT7/ECC81	Mini Twin Triode	9.60
6680/12AU7/A/ECC82	Mini Twin Triode	8.22
6681/12AX7A/ECC83/7025	Mini Twin Triode	8.26
6688	P.Q. Pentode	23.00
6922/E88CC	Duodiode	6.50
6930/NL635P	Rectifier	245.00
6989/C6JL	Thyratron	315.00
7018/NL615	Rectifier	100.00
7020/NL635L	Rectifier	289.00
7021/NL714	Thyratron	139.00
710L/7509A	Thyratron	167.00
7167	Tetrode	11.90
7203/4CX250B	Beam Powered Tetrode	170.80
7306A/C3JA/5684	Thyratron	110.00
7307A/710/6011	Thyratron	93.50
8170/4CX5000A	Tetrode	2253.00
8298A/6146B	Beam Pentode	32.91
8660/4CX1500B	Ceramic Radial Tetrode	1120.50
8737/5894B	RF Twin Tetrode	173.80
8929	Vidicon	81.00

Replacement Data Display Tubes for Computer Monitors Also Available.

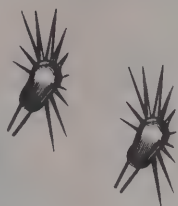
For Fast, Dependable Service, Make Just One Call — 1-800-433-5700

ALLIED ► 365

Outdoor LEDs

Featuring...

- ▶ New LED material — InGaAlP — for the highest intensity Yellow and Amber/Orange colors
- ▶ High-intensity outdoor LED lamps — usable from 0.5 mA to 50 mA
- ▶ Red LEDs up to 13,000 mcd typ.
- ▶ Yellow LEDs up to 13,000 mcd typ.
- ▶ Amber/Orange LEDs up to 18,000 mcd typ.
- ▶ Dual chip and Dual color in Outdoor LEDs
- ▶ Applications are: illumination, indicators, signboards, signals



Kilo Bright LEDs — Red

Stock No.	Mfr.'s Type	Pkg. Size (mm)	Color LEDs/Lens	Wave Length (nm)	Lum. Int. (mcd) Typical	Total Viewing Angle	EACH 1-49
505-0190	AND190CRP	10.0	Red/Water clear	660	13000	4	4.10
505-9500	AND191CRP	10.0	Red/White diffused	660	720	20	4.10
505-1800	AND180HRP	5.0	Red/Water clear	644	6000	8	1.43
505-0180	AND180CRP	5.0	Red/Water clear	660	4100	8	.73
505-5260	AND130CR	5.0	Red/Water clear	660	2300	16	.73
505-5270	AND155CRP	5.0	Red/Water clear	660	1280	30	.73
505-5280	AND120CR	5.0	Red/Water clear	660	1280	45	.73
505-5290	AND134CR	5.0	Red/Red diffused	660	680	50	.73
505-5295	AND116CR	5.0	Red/Milky diffused	660	208	70	.73
505-9530	AND256CR	5.0	Red/Water clear, DUAL DIE (3.5V)	660	350	90	1.55
505-9545	AND125CR	3.0	Red/Water clear	660	400	60	.64
505-9540	AND126CR	3.0	Red/Milky diffused	660	150	65	.64

High Bright LEDs — Green

505-9555	AND190GCP	10.0	Green/Water clear	567	1300	4	3.45
505-9560	AND191GCP	10.0	Green/Milky diffused	567	200	16	2.60
505-1830	AND183HPGP	5.0	Green/Water Clear	556	350	8	1.80
505-9645	AND240GCP	5.0	Green/Water clear	567	780	20	.60
505-9650	AND135PGP	5.0	Green/Water clear	567	400	30	.60
505-9530	AND256GC	5.0	Green/Water clear, DUAL DIE (4V)	567	90	90	1.29
505-5245	AND160NG	3.0	Green/Water clear	567	230	10	.53

Dual/Three Color LED Lamps—High Brightness

505-9660	AND178RAG	5.0	Red/Green, Water clear	660/567	500/150	30	1.50
505-9665	AND188RAG	7.5	Red/Green, Water clear	660/567	500/150	36	1.65

Outdoor LEDs—Orange (InGaAlP)

505-9670	AND190AOP	10.0	Orange-Amber/Water clear	620	12000	4	4.85
505-1900	AND190WOP	10.0	Orange/Water clear	620	18000	4	7.64
505-0108	AND180TOP	5.0	Orange/Water clear	620	4100	8	2.00
505-9675	AND180AOP	5.0	Orange-Amber/Water clear	620	3000	8	1.65
505-9680	AND156AOP	5.0	Orange-Amber/Water clear	620	800	32	1.65

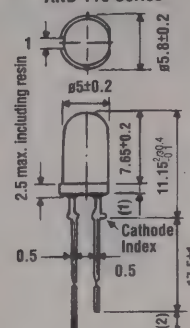
Outdoor LEDs—Yellow (InGaAlP)

505-9685	AND190AYP	10.0	Yellow/Water clear	590	6000	4	4.90
505-9693	AND190VYP	10.0	Yellow/Water clear	590	13000	4	7.44
505-9696	AND180HYP	5.0	Yellow/Water clear	590	8000	8	1.54
505-9698	AND157HYP	5.0	Yellow/Water clear	590	2300	22	1.54
505-9690	AND180AYP	5.0	Yellow/Water clear	590	2000	8	1.65
505-9692	AND157AYP	5.0	Yellow/Water clear	590	350	32	1.63

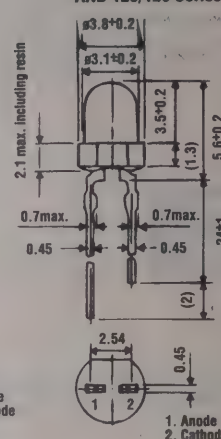
Surface Mount Outdoor LEDs (2L x 1.25W x 1.1H mm)

505-9850	AND4RA	SMT	Red/tint	660	40	150	1.25
505-9852	AND4OA	SMT	Orange/tint	620	50	150	2.50
505-9854	AND4YA	SMT	Yellow/tint	590	25	150	2.50
505-9855	AND4GA	SMT	Green/tint	567	15	150	.91

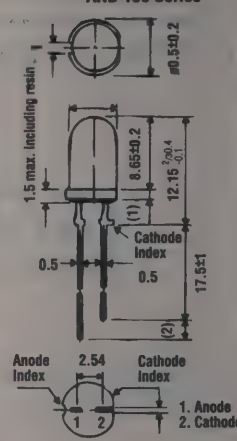
AND 120 Series/ AND 116 Series



AND 125/126 Series

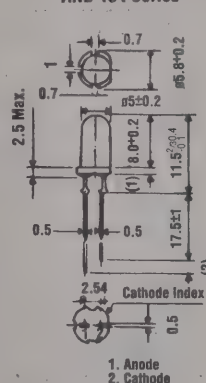


AND 130 Series

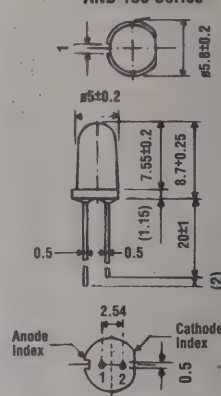


Outline Dimensions (in millimeters)

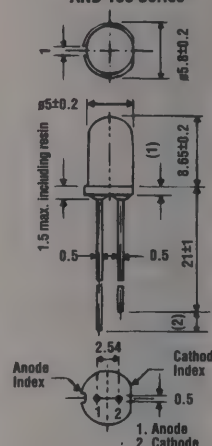
AND 134 Series



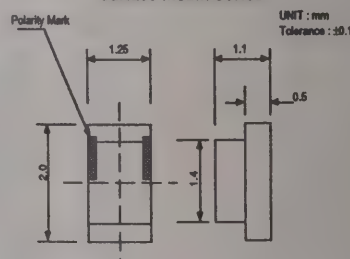
AND 155 Series



AND 180 Series



Surface Mount Series



LED Discrete Lamps

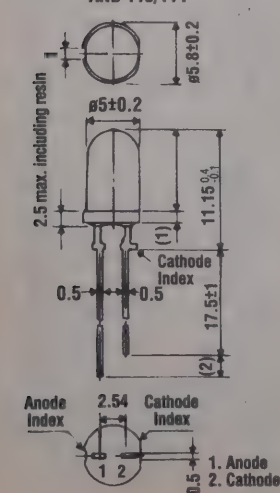
Standard Bright T1

Stock No.	Mfr.'s Type	Color/Lens/Comments	Wave Length	(MCD) Typ.	Viewing Angle	EACH 1-49 50-Up
505-2110	AND123R	Red/Red Clear	700	2.5	60	.13 .11
505-2114	AND124R	Red/Red Diffused	700	1.5	70	.13 .11
505-2112	AND123G	Green/Green Clear	565	6.0	60	.15 .12
505-2115	AND124G	Green/Green Diffused	565	4.0	70	.15 .13
505-2111	AND123Y	Yellow/Yellow Clear	585	4.0	60	.19 .17
505-5120	AND124Y	Yellow/Yellow Diffused	585	2.5	70	.19 .17

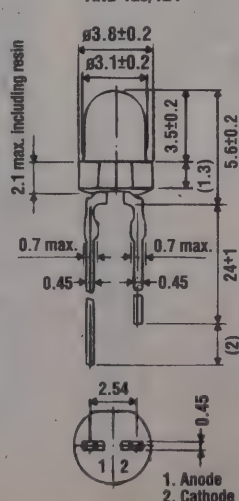
Standard Bright T1 3/4

Stock No.	Mfr.'s Type	Color/Lens/Comments	Wave Length	(MCD) Typ.	Viewing Angle	EACH 1-49 50-Up
505-2102	AND113R	Red/Red Clear	700	3.5	50	.13 .12
505-2104	AND114R	Red/Red Diffused	700	1.5	80	.13 .12
505-2117	AND114S	Red/Red Diffused	635	7.0	80	.19 .17
505-2101	AND113G	Green/Green Clear	565	17.0	50	.16 .14
505-2103	AND114G	Green/Green Diffused	565	5.0	80	.16 .14
505-5100	AND113Y	Yellow/Yellow Clear	585	9.0	50	.20 .18
505-5110	AND114Y	Yellow/Yellow Diffused	585	5.0	80	.20 .18

AND 113/114



AND 123/124

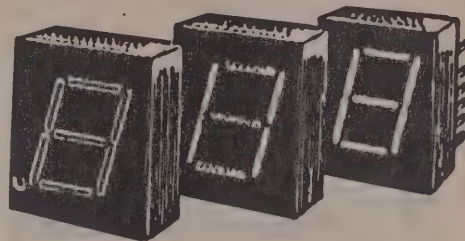


LED Displays, Liquid Crystal Displays

AND

LED Displays — 7 Segment

- Available in Red or Green
- Industry pin for pin compatibility
- Application: Numerical Readout for Instr products
- Both common cathode or common anode

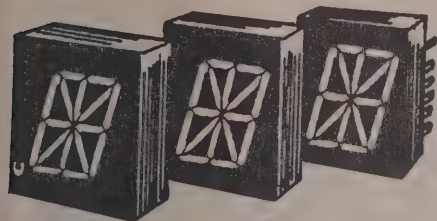


Stock No.	Mfr.'s Type	Color/Lens/Comments	Wave Length	IV/Seg (MCD)	EACH	
					1-49	50-99
505-9803	AND1510SAL*	Red/1.5"/CA	635	3.60	9.03	8.24
505-9810	AND2307SCL	Red/2.3"/CC	635	1.10	9.83	8.24
505-9815	AND2307SAL	Red/2.3"/CA	635	1.10	9.83	8.47
505-9840	AND5610SAL	Red/0.56"/CA	635	2.00	2.23	2.13
505-9845	AND5610SCL	Red/0.56"/CC	635	2.00	2.23	2.13

*Alternate color or cathode available on special order.

LED Displays — 14 and 16 Segment

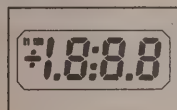
- Available in Red or Green
- Application: Computer Peripherals and Terminal Displays for viewing at a distance
- Both common cathode or common anode are available



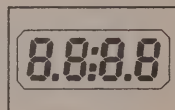
Stock No.	Mfr.'s Type	Color/Lens/Comments	Wave Length	IV/Seg (MCD)	EACH	
					1-49	50-99
505-5460	AND8010SCLB	Red/16 Segment/0.8"/CC*	635	1.80	4.50	3.90
505-5461	AND54200CLB	Orange/Dual 14 Segment/0.54"/CA*	635	1.80	6.10	5.75

*Alternate color, cathode or anode available on special order.

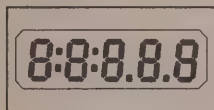
Liquid Crystal Displays



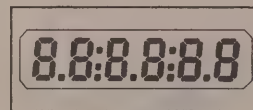
FE0201



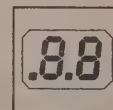
FE0202
FE0502



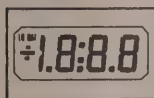
FE0208



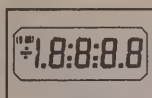
FE0401
FE0601
FE0603



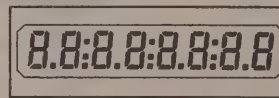
FE1901



FE0203



FE0206



FE1001

- Ultra-low Power Requirements
- High Contrast Ratio
- Long Life
- Easy Application
- Wide Viewing Angle

- Fast Response Time (40ms @ 25°C)
- Wide Temperature Range (-30°C to +85°C)
- CMOS Compatible
- High Stability Polarizers

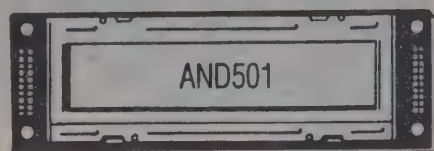
Parameter	Wide Temperature
Applied Voltage	5 V RMS
DC Drive Component	50 mV
Operating Temperature	-30°C to +85°C
Storage Temperature	-40°C to +85°C
Operating Frequency	30 to 100 Hz

Field Effect LCDs. Feature state-of-the-art construction and performance characteristics. Connector pins are phosphor bronze, permanently affixed on both sides of display with conductive epoxy. This ensures contact and provides an excellent resistance to bending, warping, and lifting. High resistance to moisture penetration.

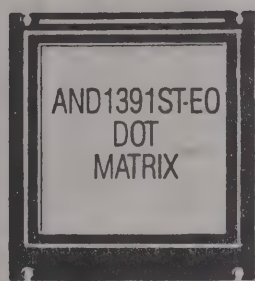
Reflective aluminum foil pinned configuration, wide temperature liquid crystal material (-30°C to +85°C). High temperature/high humidity polarizer. Other models available. Contact the Allied facility nearest you at 1-800-433-5700.

Stock No.	Mfr.'s Type	Digit Height	Number of Digits	Glass Size	EACH	
					1-49	50-99
769-1201	FE0201W-DU	0.5"	3.5	2.00 × 1.20"	9.49	8.13
769-1202	FE0202W-DU	0.5"	4.0	2.00 × 1.20"	9.49	8.13
769-1203	FE0203W-DU	0.5"	3.5	2.00 × 1.20"	9.49	8.13
769-1206	FE0206W-DU	0.4"	4.5	2.00 × 1.20"	11.31	9.69
769-1208	FE0208W-DU	0.4"	5.0	2.00 × 1.20"	14.98	12.84
769-1401	FE0401W-DU	0.5"	6.0	2.75 × 1.20"	18.46	15.82
769-1502	FE0502W-DU	0.7"	4.0	2.75 × 1.50"	20.00	17.30
769-1601	FE0601W-DU	0.7"	6.0	3.70 × 1.50"	16.00	13.84
769-1001	FE1001W-DU	0.5"	8.0	3.70 × 1.20"	16.15	14.00
769-1901	FE1901W-DU	0.5"	2.0	1.20 × 11.0"	9.18	8.47
769-1003	FE1901W-EU	0.5"	2.0	1.20 × 11.0"	9.18	8.47

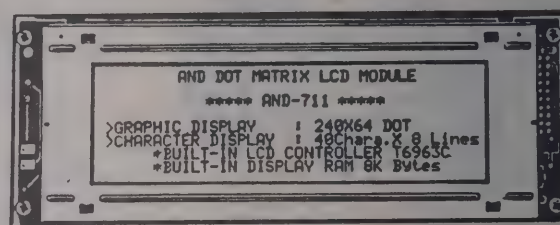
Alphanumeric and Graphic LCD Modules



AND501



AND1391ST-EO



AND711AST-EO

Character Display with Controller/RAM (HD44780)

All character displays have ST (Super Twist), ST-LED (backlighting) options except AND241.

Stock No.	Mfr.'s Type	Number of Characters/Dots	Character/Dot Size (mm); Comments	Viewing Area (mm)	Outline Dimensions (mm)	EACH
769-2145	AND241	16 × 1	3.15 × 7.90; +5 V; 5 × 10 font plus cursor	64.5 × 13.8	80 × 36.0 × 12.0	41.82
769-2150	AND671	16 × 1	3.15 × 5.76; +5 V; 5 × 7 font plus cursor	64.5 × 13.8	80 × 36.0 × 12.0	25.33
769-9860	AND671ST-LED	16 × 1	AND671 with LED backlighting and ST; +5 V	64.5 × 13.8	80 × 36.0 × 16.0	50.66
769-2146	AND491	16 × 2	2.95 × 4.29; +5 V; 5 × 7 font plus cursor	64.5 × 15.0	80 × 36.0 × 12.0	33.15
769-9865	AND491ST-LED	16 × 2	AND491 with LED backlighting and ST; +5 V	64.5 × 15.0	80 × 36.0 × 16.0	56.27
769-2147	AND501	20 × 2	3.20 × 5.55; +5 V; 5 × 7 font plus cursor	83.0 × 18.6	116 × 37.0 × 12.5	41.00
769-2154	AND771	24 × 2	3.21 × 5.07; +5 V; 5 × 7 font plus cursor	93.5 × 16.5	118 × 36.0 × 12.0	51.00
769-2148	AND591	40 × 2	3.20 × 5.55; +5 V; 5 × 7 font plus cursor	154.8 × 17.5	182 × 33.5 × 13.0	70.00
769-2152	AND721	20 × 4	2.96 × 4.51; +5 V; 5 × 7 font plus cursor	76.0 × 27.0	98 × 60.0 × 12.0	66.98

Super Twist Graphic Displays with Controller/RAM (T6963C)

Stock No.	Mfr.'s Type	Number of Pixels	Dot Size (mm); Comments	Viewing Area W × H (mm)	Outline Dimensions (mm)	EACH
769-3021	AND1021ST-EO	120 × 64	0.44 × 0.56; EL Backlight; 5 V/-8 V	62.5 × 43.5	85 × 70.0 × 20	252.54
769-3391	AND1391ST-EO	128 × 128	0.40 × 0.40; EL Backlight; 5 V/-14.5 V	62.5 × 62.0	85 × 100.0 × 14	282.74
769-3013	AND1013ST-EO	160 × 128	0.56 × 0.56; EL Backlight; 5 V/-8 V	101.0 × 82.0	129 × 104.5 × 14	319.19
769-3301	AND1301VST-EO	240 × 128	0.66 × 0.66; EL Backlight; 5 V/-14.5 V	179.9 × 101.5	240 × 125.3 × 12	532.71
769-4301	AND1301VST-30	240 × 128	0.66 × 0.66; Transflective; 5 V/-14.5 V	179.9 × 101.5	240 × 125.3 × 12	466.74
769-6060	AND1741MST	240 × 128	0.47 × 0.47; CCFL Backlight; 12:1 contrast	126.0 × 70.0	170 × 106.0 × 14	457.64
769-9802	AND1741BST	240 × 128	0.47 × 0.47; CCFL Backlight; Blue mode ST	126.0 × 70.0	170 × 106.0 × 14	409.62
769-3711	AND711AST-EO	240 × 64	0.49 × 0.49; EL Backlight; 5 V/-8 V	132.0 × 39.0	180 × 65.0 × 12	248.18
769-9804	AND1781BST	240 × 64	0.50 × 0.50; CCFL Backlight; Blue mode ST	131.0 × 38.0	180 × 70.0 × 14	390.83
769-9981	AND1781MST	240 × 64	0.50 × 0.50; FL Backlight; Film Str; Contrast 12:1	131.0 × 38.0	180 × 70.0 × 14	424.56

Electrical Industry Lamps



Fig. 1



Fig. 2

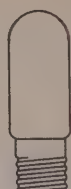


Fig. 3



Fig. 4

Stock No.	Mfr.'s Type	Design		Average Life Hours	Fig.	PRICE	
		Volts	Watts			PK./10	EACH
749-8703	3S6/120V	120	3.0	3,000	1	26.50	—
749-8720	6S6/120V	120	6.0	1,500	1	10.60	—
749-8719	6S6/130V	130	6.0	1,500	1	14.80	—
749-8721	6S6/145V	145	6.0	1,500	1	26.00	—
749-8734	6S6/155V	155	6.0	1,500	1	—	2.95
749-8715	6S6/30V	30	6.0	1,500	1	21.90	—
749-8716	10S6DC/230	230	10.0	1,500	2	—	1.76
749-8722	6S6DC/120V	120	6.0	1,500	2	18.30	—
749-8724	6S6DC/130V	130	6.0	1,500	2	24.80	—
749-9735	6T4-1/2/120V	120	6.0	1,500	3	—	1.76
749-9736	10C7/120V	120	10.0	1,500	4	15.50	—
749-9737	7C7/120V	120	7.0	3,000	4	15.50	—

CM20 Series Subminiature Lens End Lites



Fig. 1



Fig. 2



Fig. 3

Stock No.	Mfr.'s Type	Lamp	Design		Average Life Hours	Fig.	EACH
			V	A			
749-9738	CM20-1	TL-1 ³ / ₄	2.5	.35	10,000	1	17.36
749-9790	CM20-3	TL-1 ³ / ₄	2.5	.35	10,000	2	28.36
749-9740	CM20-4	TL-1 ³ / ₄	2.5	.35	10,000	3	21.88
749-9741	CM20-6	TL-1 ¹ / ₂	6.0	.20	1,000	3	14.96
749-9742	CM20-17	TL-1 ³ / ₄	5.0	.18	10,000	1	26.79
749-9743	CM20-20	TL-1 ³ / ₄	5.0	.22	10,000	3	32.64

Chicago Miniature Lamp

Chicago Miniature Lamp, Inc., an American owned American manufacturer, is proud to offer one of the broadest, most comprehensive lines of miniature lighted components in the industry. Chicago Miniature Lamp supports you with over 80 years of concept design and manufacturing leadership. Chicago Miniature Lamp's vast and intimate knowledge of incandescent lamps, neon lamps, halogen lamps, indicator lights and light emitting diodes (LEDs) can prove to be a valuable technical asset in your product's design and manufacture.

Non-Relampable Indicator Lights

CML Series Cartridge Indicators
Indicators with T-1³/₄ incandescent lamps for instrumentation, telemetry and EDP equipment. Mount holes 0.375" D (9.53) to 0.219" (5.56) panel thickness. Meet MIL-L-3661. To complete unit, order cartridge holders, mounting clips and connectors separately on page 372.



Flush Lens



Cylindrical Lens

CML Series Indicators with Flush Transparent Lens

Stock No.	Mfr.'s Type	Volts	Amps	Color	EACH
					1-99
749-9757	CML53-029-1	28.0	.04	Red	4.28
749-9758	CML53-029-3	28.0	.04	Amber	4.28
749-9759	CML53-029-2	28.0	.04	Green	4.28
749-9560	CML53-029-7	28.0	.04	Clear	4.28

CML Series Indicators with Cylindrical Transparent Lens

749-9929	CML63-029-1	28.0	.04	Red	4.28
749-9930	CML63-029-3	28.0	.04	Amber	4.28
749-9931	CML63-029-2	28.0	.04	Green	4.28
749-9756	CML63-029-7	28.0	.04	Clear	4.28

CML Series Indicators with Cylindrical Translucent Lens

749-9932	CML64-029-1	28.0	.04	Red	4.28
749-9761	CML64-029-6	28.0	.04	Yellow	4.28
749-9762	CML64-029-2	28.0	.04	Green	4.28
749-9763	CML64-029-5	28.0	.04	White	4.28

Neon Glo-Lite Indicators



Fig. 1



Fig. 2

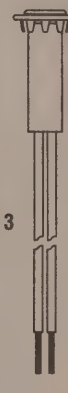


Fig. 3

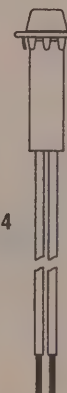


Fig. 4

Feature built-in C2A neon, high brightness, 25,000-hour lamp with current limiting series resistor for UL recognized, CSA certified 125 VAC operation. Wired units have 10" #22 AWG leads. Figures 1 and 2 mount 0.375" Dia. (9.53) hole, to 1.25" (31.75) panel thickness; figures 3 and 4 snap mount into 0.500" Dia. (12.70) hole, to 0.078" (1.98) panel thickness.

CML Series Indicators with Flush Transparent Lens

Stock No.	Mfr.'s Type	Fig.	Color	Description	EACH
					1-9
749-0631	6063-001-534R	1	Red	Flat Face	3.11
749-0635	6063-001-634R	2	Red	Conical Face	3.11
749-9764	6073-001-534R	3	Red	Flat Face	4.30
749-9765	6073-001-634R	4	Red	Conical Face	4.30
749-9766	6073-001-634W	4	White	Conical Face	4.30

Subminiature Solid-State Indicator Lights

Submidjet style with built-in bright LED; 70 viewing angle. Resistant to shock and vibration. Can be powered with low electrical energy supply or driven directly with solid-state circuitry. Operates on 1.8 to 2.8VDC. Maximum DC current: 50ma. Mounts in 0.193" (4.90) dia. "D" hole in 0.188" (4.78) thick (max.) panel, on 0.344" (8.74) centers min. 6" wire leads, 105 C PVC insulation.



Stock No.	Mfr.'s Type	Color	MCD	EACH
				1-9
749-0695	6039-004-304G	H.E. Green	3.2	5.65
749-0700	6039-004-304R	H.E. Red	2.0	5.65
749-0705	6039-004-304Y	Yellow	3.2	5.65



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8

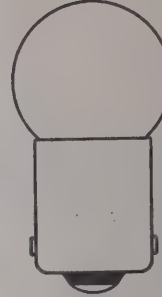


Fig. 9

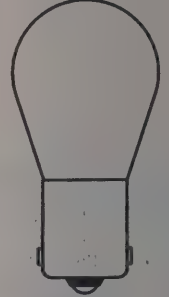


Fig. 10



Fig. 11

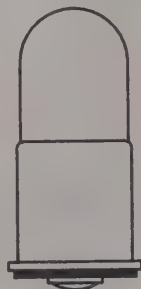


Fig. 12

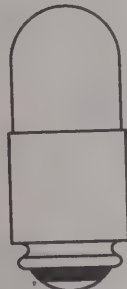


Fig. 13



Fig. 14



Fig. 15



Fig. 16



Fig. 17



Fig. 18



Fig. 19

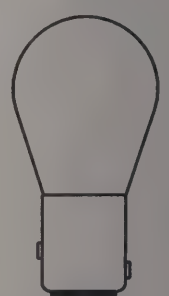


Fig. 20



Fig. 21

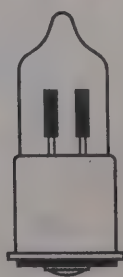


Fig. 22



Fig. 23



Fig. 24



Fig. 25



Fig. 26

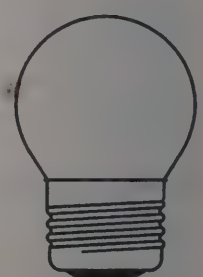


Fig. 27

Incandescent Lamps

Stock No.	Lamp Type	Design		Average Life Hours	Fig.	Lamp Size	PRICE	
		V	Amps				EACH	PK./10
749-8402	PR2	2.38	0.500	15	1	B-3 1/2	6.40	—
749-8403	PR3	3.57	0.500	15	1	B-3 1/2	6.60	—
749-8404	PR4	2.33	0.270	10	1	B-3 1/2	6.60	—
749-8406	PR6	2.47	0.300	30	1	B-3 1/2	6.60	—
749-8407	PR7	3.70	0.300	30	1	B-3 1/2	7.90	—
749-9673	1893	14.00	0.330	7500	2	T-3 1/4	6.00	—
749-9043	43	2.50	0.500	3000	2	T-3 1/4	9.30	—
749-1892	1892	14.40	0.120	1000	2	T-3 1/4	8.70	—
749-9671	1891	14.00	0.240	500	2	T-3 1/4	6.00	—
749-9180	313	28.00	0.170	500	2	T-3 1/4	8.70	—
749-9440	755	6.30	0.150	20000	2	T-3 1/4	8.80	—
749-9044	44	6.30	0.250	3000	2	T-3 1/4	4.10	—
749-9045	45	3.20	0.350	3000	2	T-3 1/4	12.20	—
749-9047	47	6.30	0.150	3000	2	T-3 1/4	3.80	—
749-9442	756	14.00	0.080	15000	2	T-3 1/4	10.40	—
749-9444	757	28.00	0.080	7500	2	T-3 1/4	8.00	—
749-9739	8-3995	130.00	0.020	2000	2	T-3 1/4	5.10	—
749-9645	1866	6.30	0.250	5000	2	T-3 1/4	7.60	—
749-9643	1864	28.00	0.170	1500	2	T-3 1/4	8.70	—
749-9605	1819	28.00	0.040	2500	2	T-3 1/4	7.90	—
749-1816	1816	13.00	0.330	1000	2	T-3 1/4	7.20	—
749-1813	1813	14.40	0.100	1000	2	T-3 1/4	6.60	—
749-9595	1815	14.00	0.200	3000	2	T-3 1/4	9.80	—
749-9635	1847	6.30	0.150	5000	2	T-3 1/4	5.30	—
749-1818	1818	24.00	0.170	250	2	T-3 1/4	21.70	—
749-1850	1850	5.00	0.090	1500	2	T-3 1/4	18.80	—
749-9615	1822	36.00	0.100	1000	2	T-3 1/4	10.10	—
749-9610	1820	28.00	0.100	1000	2	T-3 1/4	7.90	—
749-9620	1828	37.50	0.050	3000	2	T-3 1/4	20.90	—
749-9625	1829	28.00	0.070	1000	2	T-3 1/4	7.40	—
749-9630	1835	55.00	0.050	5000	2	T-3 1/4	23.80	—
749-9700	1495	28.00	0.300	500	2	T-4 1/2	17.00	—
749-9702	1434	3.70	2.750	100	3	T-5	10.20	—
749-9012	12	6.30	0.150	5000	3	G-3 1/2	9.00	—
749-9019	19	14.40	0.100	1000	3	G-3 1/2	13.00	—
749-9013	13	3.70	0.300	15	4	G-3 1/2	15.60	—
749-9050	50	7.50	0.220	1000	4	G-3 1/2	10.60	—
749-9703	509K	24.00	0.180	1000	4	G-6	3.41	—
749-2068	8-967	120.00	0.025	5000	5	T-2	5.54	—
749-5070	120MB	120.00	0.025	5000	5	T-2	11.40	—
749-9140	28MB	28.00	0.040	5000	5	T-2	14.10	—
749-9160	60MB	60.00	0.050	7500	5	T-2	15.10	—
749-9135	24MB	24.00	0.073	10000	5	T-2	14.10	—
749-8362	8362	14.00	0.080	15000	6	T-1 1/4	10.90	—
749-9235	335	28.00	0.040	4000	6	T-1 1/4	9.80	—
749-9332	399	28.00	0.040	7000	6	T-1 1/4	10.60	—
749-1821	1821	28.00	0.170	500	6	T-1 1/4	22.20	—
749-1769	1769	2.50	0.200	500	6	T-1 1/4	10.90	—
749-9040	40	6.30	0.150	3000	6	T-1 1/4	7.10	—
749-9616	1823	48.00	0.100	1000	6	T-1 1/4	19.80	—
749-9086	86	6.30	0.200	20000	7	T-1 1/4	7.40	—
749-9085	85	28.00	0.040	7000	7	T-1 1/4	5.80	—
749-9073	73	14.00	0.080	15000	7	T-1 1/4	6.10	—
749-9161	161	14.00	0.190	1500	8	T-3 1/4	7.10	—
749-9656	656	28.00	0.060	2500	8	T-3 1/4	6.60	—
749-9704	259	6.30	0.250	5000	8	T-3 1/4	5.10	—
749-9902	194	14.00	0.270	1500	8	T-3 1/4	5.00	—
749-9054	53	14.40	0.120	1000	9	G-3 1/2	8.00	—
749-9052	51	7.50	0.220	1000	9	G-3 1/2	7.70	—
749-9356	356	28.00	0.170	500	9	G-3 1/2	17.40	—
749-9450	1450	24.00	0.035	3000	9	G-3 1/2	13.00	—
749-9219	219	6.30	0.250	5000	9	G-3 1/2	20.60	—
749-9655	55	7.00	0.410	500	9	G-4 1/2	16.90	—
749-8895	1895	14.00	0.270	1500	9	G-4 1/2	5.00	—
749-9082	82	6.50	1.020	500	9	G-6	19.00	—
749-9705	1251	28.00	0.230	2000	9	G-6	3.29	—
749-9307	307	28.00	0.660	300	10	S-8	17.40	—
749-9093	93	12.80	1.040	500	10	S-8	15.30	—
749-9706	2233	28.00	0.770	2000	10	S-8	5.03	—
749-9707	2232	28.00	0.643	2000	10	S-8	6.01	—
749-9156	1156	12.80	2.100	600	10	S-8	9.30	—
749-9708	3011	28.00	1.290	1000	10	S-11	5.24	—
749-9710	222	2.25	0.250	5	11	GTL-3	7.60	—
749-9320	385	28.00	0.040	10000	12	T-1 1/4	9.00	—
749-9322	387	28.00	0.040	7000	12	T-1 1/4	4.70	—
749-9394	394	12.00	0.040	10000	12	T-1 1/4	10.10	—
749-9310	381	6.30	0.200	20000	12	T-1 1/4	12.70	—

Stock No.	Lamp Type	Design		Average Life Hours	Fig.	Lamp Size	PRICE	
		V	Amps				EACH	PK./10
749-7333	7333	5.00	0.060	25000	12	T-1 1/4	—	9.30
749-7335	7335	5.00	0.115	40000	12	T-1 1/4	—	9.30
749-7341	7341	28.00	0.065	5000	12	T-1 1/4	—	9.50
749-8918	8918	14.00	0.100	10000	12	T-1 1/4	—	10.60
749-9315	382	14.00	0.080	15000	12	T-1 1/4	—	9.10
749-9210	328	6.00	0.200	1000	12	T-1 1/4	—	9.30
749-9301	370	18.00	0.040	10000	12	T-1 1/4	—	11.90
749-9338	338	2.70	0.060	6000	12	T-1 1/4	—	10.10
749-9280	367	10.00	0.040	5000	12	T-1 1/4	—	11.30
749-9349	349	6.30	0.200	5000	12	T-1 1/4	—	9.00
749-9265	345	6.00	0.040	10000	12	T-1 1/4	—	9.80
749-9205	376	28.00	0.060	25000	12	T-1 1/4	—	7.90
749-9215	330	14.00	0.080	1500	12	T-1 1/4	—	6.60
749-9195	327	28.00	0.040	4000	12	T-1 1/4	—	5.00
749-3150	3150	5.00	0.060	5000	12	T-1 1/4	—	13.70
749-9323	388	28.00	0.040	7000	13	T-1 1/4	—	11.40
749-9398	398	6.30	0.200	5000	13	T-1 1/4	—	10.60
749-9225	334	28.00	0.040	4000	13	T-1 1/4	—	9.50
749-9321	386	14.00	0.080	15000	13	T-1 1/4	—	11.10
749-9240	336	14.00	0.080	1500	13	T-1 1/4	—	11.10
749-9712	8-374	2.50	0.350	3000	14	TL-1 3/4	6.43	—
749-7153	7153	5.00	0.115	40000	15	T-3/4	—	15.10
749-9713	6833AS15	5.00	0.060	25000	15	T-3/4	—	15.40
749-6833	6833	5.00	0.060	25000	15	T-3/4	—	14.60
749-9714	7153AS15	5.00	0.115	40000	15	T-3/4	—	15.80
749-7219	7219	12.00	0.060	10000	15	T-1	—	18.20
749-9716	715AS15	5.00	0.115	40000	15	T-1	—	12.70
749-9717	7152AS15	5.00	0.115	40000	15	T-1	—	15.10
749-9718	7152	5.00	0.115	40000	15	T-1	—	12.20
749-9715	715	5.00	0.115	40000	15	T-1	—	11.90
749-9407	683	5.00	0.060	25000	15	T-1	—	10.80
749-9719	683AS15	5.00	0.060	25000	15	T-1	—	11.60
749-9680	680	5.00	0.060	60000	15	T-1	—	11.10
749-6838	6838	28.00	0.024	4000	15	T-1	—	17.00
749-8921	718	5.00	0.115	40000	15	T-1	—	20.30
749-9406	682	5.00	0.060	60000	16	T-1	2.18	—
749-9720	685	5.00	0.060	25000	16	T-1	2.51	—
749-9746	6839	28.00	0.024	4000	16	T-1	—	21.00
749-7839	7839	28.00	0.024	4000	17	T-1	—	21.70
749-7680	7680	5.00	0.060	60000	17	T-1	—	19.00
749-7683	7683	5.00	0.060	25000	17	T-1	—	15.30
749-9721	8-2402	28.00	0.024	4000	17	T-1	7.12	—
749-9722	7265	5.00	0.060	5000	17	T-1	2.26	—
749-7715	7715	5.00	0.115	40000	17	T-1	—	18.30
749-7826	7632	28.00	0.040	1000	17	T-1 1/4	—	24.90
749-7646	7646	14.00	0.080	1000	17	T-1 1/4	—	24.90
749-7876	7876	28.00	0.060	25000	17	T-1 1/4	—	11.10
749-2791	7328	6.00	0.200	1000	17	T-1 1/4	—	12.10
749-2818	7387	28.00	0.040	7000	17	T-1 1/4	—	9.60
749-7361	7361	5.00	0.060	25000	17	T-1 1/4	—	15.40
749-2814	7377	6.30	0.075	1000	17	T-1 1/4	—	12.10
749-7374	7374	28.00	0.040	10000	17	T-1 1/4	—	12.20
749-9751	7373	14.00	0.100	10000	17	T-1 1/4	—	10.80
749-7371	7371	12.00	0.040	10000	17	T-1 1/4	—	11.40
749-2817	7382	14.00	0.080	15000	17	T-1 1/4	—	10.90
749-2790	7327	28.00	0.040	4000	17	T-1 1/4	—	9.50
749-2816	7381	6.30	0.200	20000	17	T-1 1/4	—	10.80
749-9723	10ESB	10.00	0.035	1000	18	T-2	—	10.00
749-9724	12ESB	12.00	0.040	7500	18	T-2	—	12.50
749-9726	16ESB	16.00	0.040	7500	18	T-2	—	12.20
749-9727	18ESB	18.00	0.040	5000	18	T-2	—	13.00
749-9728	24ESB	24.00	0.040	8000	18	T-2	—	13.00
749-9729	28ESB	28.00	0.040	6000	18	T-2	—	12.40
749-9730	48ESB	48.00	0.040	5000	18	T-2	—	13.50
749-4105	6PSB	6.00	0.140	20000	18	T-2	—	13.20
749-4110	12PSB	12.00	0.170	12000	18	T-2	—	11.90
749-4115	24PSB	24.00	0.073	10000	18	T-2	—	9.20
749-3995	28PSB	28.00	0.040	5000	18	T-2	—	9.20
749-4120	48PSB	48.00	0.053	10000	18	T-2	—	12.70
749-4125	60PSB	60.00	0.050	7500	18	T-2	—	12.70
749-5080	120PSB	120.00	0.025	5000	18	T-2	—	10.10
749-9527	1493	6.50	2.750	100	19	S-8	4.73	—
749-9731	88	6.80	1.910	300	19	S-8	—	13.20
749-9094	94	12.80	1.040	500	19	S-8	—	12.90
749-9732	895	40.00	0.530	3800	19	S-8	7.67	—
749-9733	1157	12.80	2.100	600	20	S-8	—	6.10

Relampable Indicator Lights and Sockets

CML Series Cartridge Holders

CML series cartridge holders fit CML series cartridge indicators types CML53, CML63 and CML64, ordered separately. Three terminal configurations available. Hardware included. UL listed CSA certified.



Stock No.	Mfr.'s Type	Terminals	EACH
			1-49
749-1400	CML10-203-1	Solder Cup	8.76
749-1402	CML10-202-1	Turret	9.49
749-1404	CML10-204-1	Flat Solder Lug	8.46

CML Series Indicator Connector

Cartridge indicator terminal pins plug into indicator connector, providing simple installations, changes, replacements. Fits CML series cartridge indicators types CML53, CML 63 and CML64, ordered separately. Sold in multiples of 10.



749-9905. CM21-3 PER PK./10 11.20

CML Series Mounting Clip

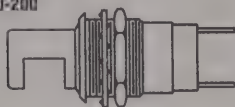
Clips mount cartridge indicators directly to panels. Fits CML series cartridge indicators types CML53, CML63 and CML64 ordered separately. Sold in multiples of 10.



749-1406. CML-10380. 10-99 EACH .40

900 Series Instrument Lights

900-200

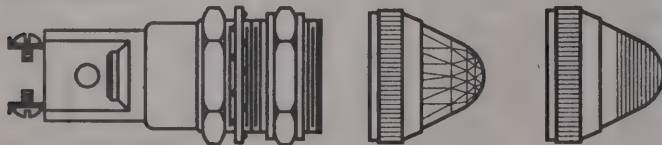


900-006

Ideal for panel, switch, meter and legend plate applications where localized light is required. Type 900-200 has fixed hood, solder lug terminals, and mounts hole 0.688" diameter to 0.406" panel thickness. Rated 120 volts, 3 watts. Accepts T-3/4 miniature bayonet lamp. Type 900-006 has rotatable hood, screw terminals and mounts hole 1" diameter to 0.500" panel thickness. Rated 250 volts, 1 amp, 75 watts. Accepts S-6 or C-7 candelabra screw base lamp. Order lamps separately.

Stock No.	Mfr.'s Type	Description	EACH
			1-9
749-0645	900-200	Fixed Hood, Solder Lug Terminals	17.44
749-0640	900-006	Rotatable Hood, Screw Terminals	27.05

Title Lite Indicators



For distant and off angle visibility. Mount in 1" diameter hole to 0.375" panel thickness, with two supplied neoprene gaskets to seal out oil and water. Indicators accept S6 screw base or double contact bayonet lamp. Order lamps separately. Indicators UL recognized and CSA certified up to 75W, 125V operation. Brass terminals with brass screws.

Body Only

Stock No.	Mfr.'s Type	Description	EACH
			1-9
749-0495	5796-523	Screw Base Lamp Body	23.05
749-0497	5796-393	Double Contact Lamp Body	19.32

Lens Only

Specify color choice: (*) Red, Green, Amber, (+) Red only.
X in stock number = color. 1=Amber, 4=Green, 5=Red.

Stock No.	Mfr.'s Type	Description	EACH
			1-9
749-0325	78A-416+	Faceted Transparent RED	8.58
749-033X	78A-435*	Beehive Diffusing Back	8.58

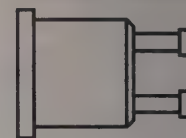
Bi Pin Sockets



CM 21-1

Bi Pin Socket for use with T-3/4 and T-1 Bi Pin Lamps

749-9903. CM21-1 EACH 5.51

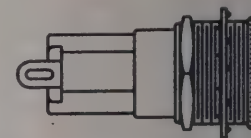
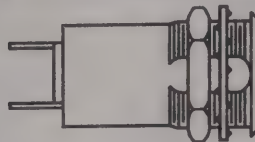


CM 21-2

Bi Pin Socket for use with T-1 1/4 Bi Pin Lamps

749-9904. CM21-2 EACH 6.16

5100, 5200 Series Relampable Indicators



Select from 5100 series standard and 5200 series deluxe indicators from table below. Standard indicators must be assembled. Order lamps and lenses separately below. UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Max Volts	Max Amps	Terminals	EACH
					1-9
749-0599	5100-822	120	0.170	Solder Lugs	3.61
749-9910	5100-832*	125	1.800	Solder Lugs	8.17
749-0595	5100-842*	250	1.800	Solder Lugs	8.07
749-9909	5100-823	120	0.170	Screw Lugs	6.06
749-0598	5100-824	120	0.170	Quick Connect 0.250" Lugs	5.77
749-0590	5100-834*	125	1.800	Quick Connect 0.250" Lugs	8.22
749-9911	5100-844*	250	1.800	Quick Connect 0.250" Lugs	8.13

5200 Series Standard T-3/4 Indicators

Stock No.	Mfr.'s Type	Max Volts	Max Amps	Terminals	EACH
					1-9
749-0565	5200-222	120	0.170	Solder Lugs	6.66
749-0575	5200-232*	125	1.800	Solder Lugs	15.18
749-0585	5200-242*	250	1.800	Solder Lugs	15.48

*Supplied with built-in integral resistor for use with based Neon lamp.

5100, 5200 Series Polycarbonate Lenses



Fig. 1

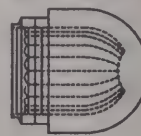


Fig. 2



Fig. 3

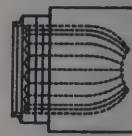
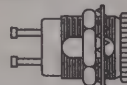


Fig. 4

Use only transparent or fluted lens with neon lamps, ordered separately above. Specify color choice when ordering. Replace X in stock number with following color code: 1=Amber, 3=Clear, 4=Green, 5=Red, 6=White.

Stock No.	Mfr.'s Type	Colors Available	Fig.	EACH
				1-9
749-020X	25P-306	R, A, G, C	1	1.15
749-004X	25P-307	R, Y, G, W	1	1.15
749-006X	25P-326	R, A, G, C	2	1.15
749-007X	25P-606	R, A, G, C	3	1.15
749-008X	25P-607	R, Y, G, W	3	1.15
749-065X	25P-626	R, A, G, C	4	1.15

Gemlite Indicator



Reliable indicators used in military and commercial applications where size and lamp replacement are prime considerations. 0.218" panel thickness. Accept T-1 sub-midget flange lamp. Order lamp separately. Mount in 0.3125" diameter hole.

Base Only

749-1408. 5160-458. 1-49 EACH 13.20
50-99 EACH 10.68

Translucent Cylindrical Lens

For Gemlite base ordered separately above. Replace X in stock number with color desired: 1=yellow, 4=green, 5=red, 6=white.

749-019X. 160A-604. 1-99 EACH 1.68

LED Lamps

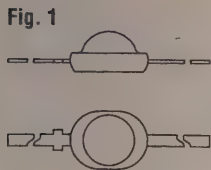


Fig. 1

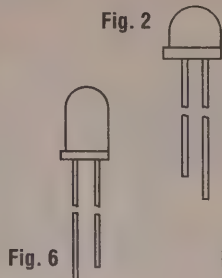


Fig. 2

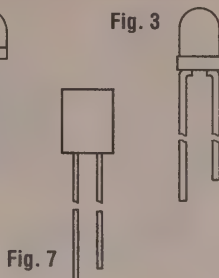


Fig. 3



Fig. 4



Fig. 5

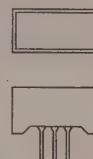


Fig. 6



Fig. 7



Fig. 8

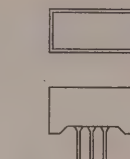


Fig. 9

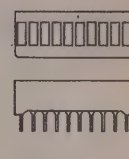


Fig. 10

Lamps use low power for IC compatibility, cool operation and long life expectancy. Shock-proof, solid lens, epoxy construction. Intense light sources available — up to 3000 mcd guaranteed luminosity. Leads are silver plated, eliminating soldering problems. Viewing

angles (the angle between points where the light intensity falls to 50% of peak value) are available to 180. Order Panelmount grommets separately at bottom of page. Sold in multiples of 10.

T-3/4 Lamps

Stock No.	Mfr.'s Type	Emitted Color	Lens Type/Color*	View Angle	Typical mcd/mA	Fig.	PER PK./10
749-9919	CMD508	Red	N.D. Clear	80	3.0/20	1	3.20
749-1302	CMD538	Yellow	N.D. Yel	80	6.0/20	1	3.90
749-1304	CMD548	Red	N.D. Red	80	3.5/20	1	3.00
749-0795	CMD648	H.E. Grn	N.D. Grn	80	8.0/20	1	3.80

T-1 Lamps

749-9838	CMD5074C	Red	N.D. Red	70	2.5/20	5	2.70
749-9839	CMD5075C	Red	Diff. Red	90	1.5/20	5	3.00
749-1306	CMD5077C	Red	Diff. Red	110	1.7/20	2	3.40
749-9840	CMD5374C	Yellow	Diff. Yel	90	9.0/20	5	4.00
749-9841	CMD5474C	H.E. Grn	Diff. Grn	90	9.0/20	5	3.80
749-9842	CMD5774C	H.E. Red	Diff. Red	90	9.0/20	5	3.80
749-9836	CMD5777C	H.E. Red	Diff. Red	180	7.0/20	2	4.00

T-1 Super Brite Lamps

749-4038	CMD31101UG	Green	Diff. Grn	60	50/20	3	2.90
749-4040	CMD31101UR/B	Red	Diff. Red	60	90/20	3	5.70
749-4042	CMD31101UR/C	Red	Diff. Red	60	100/20	3	7.80
749-4044	CMD31101UR/D	Red	Diff. Red	60	150/20	3	15.60
749-4046	CMD31101UR/E	Red	Diff. Red	60	250/20	3	31.20
749-4048	CMD31104UG	Green	N.D. Clr	30	200/20	3	6.20
749-4050	CMD31104UR/B	Red	N.D. Clr	30	360/20	3	5.70
749-4052	CMD31104UR/C	Red	N.D. Clr	30	500/20	3	7.80
749-4054	CMD31104UR/D	Red	N.D. Clr	30	700/20	3	15.60
749-4056	CMD31104UR/E	Red	N.D. Clr	30	1000/20	3	31.20

T-1 Restored Lamps

749-1328	CMD31121HR	H.E. Red	Diff. Red	60	25.0/5.0	3	4.00
749-4060	CMD31121G	H.E. Grn	Diff. Grn	60	16.0/5.0	3	6.20
749-4062	CMD31121Y	Yellow	Diff. Yel	60	16.0/5.0	3	6.20
749-1334	CMD31131HR	H.E. Red	Diff. Red	60	25.0/12.0	3	6.20
749-4066	CMD31131G	H.E. Grn	Diff. Grn	60	16.0/12.0	3	6.20
749-4068	CMD31131Y	Yellow	Diff. Yel	60	16.0/12.0	3	6.20

T-100 Lamps

749-1340	CMD54643	H.E. Grn	Diff. Grn	90	5.0/20	3	3.00
749-9862	CMD57640	H.E. Red	Diff. Red	90	2.0/10	3	2.70
749-9863	HLMP1300	H.E. Red	Diff. Red	90	2.0/10	3	3.70
749-9849	HLMP1340	H.E. Red	N.D.P.T.	45	60.0/20	3	4.30

Rectangular Lamps

749-9956	CMD54123	H.E. Grn	Diff. Grn	100	4.0/20	7	2.90
749-9957	CMD57123	H.E. Red	Diff. Red	100	4.0/20	7	2.60
749-9962	HLMP0300	H.E. Red	Diff. Red	100	2.5/20	7	4.60
749-9963	HLMP0301	H.E. Red	Diff. Red	100	5.0/20	7	7.80
749-9959	HLMP0401	Yellow	Diff. Yel	100	5.0/20	7	7.80
749-0765	HLMP0503	H.E. Grn	Diff. Grn	100	3.0/20	7	5.30
749-9964	CMD53124A	Yellow	Diff. Yel	100	6.0/20	8	4.30
749-9965	CMD54124A	H.E. Grn	Diff. Grn	100	6.0/20	8	4.30
749-9966	CMD57124A	H.E. Red	Diff. Red	100	6.0/20	8	4.50

* Diff. = Diffused; N.D. = Non-Diffused; P.T. = Pale Tint.

T-1 3/4 Lamps

Stock No.	Mfr.'s Type	Emitted Color	Lens Type/Color*	View Angle	Typical mcd/mA	Fig.	EACH 1-9
749-9819	CMD5752	H.E. Red	N.D. Red	28	100.0/20	6	.65
749-9889	CMD5053	Red	Diff. Red	80	0.5/20	5	.27
749-9891	CMD5055	Red	Diff. Red	150	0.1/20	5	.71
749-9899	CMD5153	H.E. Red	Diff. Amb	65	15.0/20	5	.49
749-9892	CMD5353	Yellow	Diff. Yel	65	15.0/20	5	.31
749-9880	CMD5354A	Yellow	Diff. Yel	24	25.0/20	5	.33
749-9894	CMD5453	H.E. Grn	Diff. Grn	75	20.0/20	5	.31
749-9941	CMD5753	H.E. Red	Diff. Red	65	10.0/20	5	.29
749-9887	CMD5754A	H.E. Red	Diff. Red	24	25.0/20	5	.31
749-9897	CMD64531	H.E. Grn	Diff. Grn	75	20.0/20	6	.53
749-9805	FLV110	Red	Diff. Red	70	3.0/20	6	.36
749-9943	HLMP3300	H.E. Red	Diff. Red	65	3.5/10	6	.44
749-9944	HLMP3301	H.E. Red	Diff. Red	65	7.0/10	6	.63
749-9821	HLMP3315	H.E. Red	N.D. Red	35	18.0/10	6	.44
749-9822	HLMP3316	H.E. Red	N.D. Red	35	35.0/10	6	.71
749-9808	HLMP3750	H.E. Red	N.D.P.T.	24	150.0/20	6	.51
749-9806	HLMP3850	Yellow	N.D.P.T.	24	150.0/20	6	.53
749-9807	HLMP3950	H.E. Grn	N.D.P.T.	24	150.0/20	6	.53
749-9886	HLMP4700	H.E. Red	Diff. Red	35	2.0/2	6	.42
749-9879	HLMP4719	Yellow	Diff. Yel	35	2.0/2	6	.42
749-9818	CMD3750	H.E. Red	N.D.P.T.	24	150.0/20	6	.53
749-9876	CMD5054A-1	Red	Diff. Red	24	1.0/10	6	.31
749-9817	CMD5152	H.E. Red	N.D. Amb	28	100.0/20	6	.54
749-9811	CMD5352	Yellow	N.D. Yel	28	90.0/20	6	.42
749-9814	CMD5452	H.E. Grn	N.D. Grn	35	25.0/20	6	.42
749-9801	CMD50154	Red	Diff. Red	50	1.5/10	4	.60
749-9803	CMD54154	H.E. Grn	Diff. Grn	50	12.0/10	4	.65

T-1 3/4 Restored Lamps

749-4000	CMD41121HR	H.E. Red	Diff. Red	60	40.0/5.0	6	.65
749-4002	CMD41121G	H.E. Grn	Diff. Grn	60	16.0/5.0	6	.65
749-4004	CMD41121Y	Yellow	Diff. Yel	60	16.0/5.0	6	.65
749-4006	CMD41131HR	H.E. Red	Diff. Red	60	40.0/12.0	6	.65
749-4008	CMD41131G	H.E. Grn	Diff. Grn	60	16.0/12.0	6	.65
749-4010	CMD41131Y	Yellow	Diff. Yel	60	16.0/12.0	6	.65

T-1 3/4 Super Brite Lamps

749-4012	CMD41101UG	Green	Diff. Grn	60	60/20	6	.32
749-4014	CMD41101UR/B	Red	Diff. Red	60	100/20	6	.65
749-4016	CMD41101UR/C	Red	Diff. Red	60	200/20	6	.88
749-4018	CMD41101UR/D	Red	Diff. Red	60	300/20	6	1.47
749-4020	CMD41101UR/E	Red	Diff. Red	60	500/20	6	2.36
749-4022	CMD41101UR/F	Red	Diff. Red	60	700/20	6	3.54
749-4024	CMD41101UR/G	Red	Diff. Red	60	1000/20	6	5.30
749-4026	CMD41104UG	Green	N.D. Clr	30	300/20	6	.35
749-4028	CMD41104UR/A	Red	N.D. Clr	30	400/20	6	.65
749-4030	CMD41104UR/B	Red	N.D. Clr	30	500/20	6	.74
749-4032	CMD41104UR/C	Red	N.D. Clr	30	1000/20	6	.88
749-4034	CMD41104UR/D	Red	N.D. Clr	30	2000/20	6	1.18
749-4036	CMD41104UR/E	Red	N.D. Clr	30	3000/20	6	2.36

Light Bars/Bar Graphs

749-0617	CMD57173	H.E. Red	Diff. Red	120	10.0/20	9	2.47
749-1380	HLMP2685	H.E. Red	Diff. Wht	120	80.0/20	9	4.76
749-1382	CMD57164	H.E. Red	Diff. Red	120	1.8/10	10	4.63
749-1384	CMD54164	H.E. Grn	Diff. Wht	120	1.8/10	10	5.09

Mounting Accessories

CMP Series Panel-Mounting Grommets

Two-piece grommets easily mount CMD Series lamps on any panel up to 0.125" (3.18) thickness, CMP22 and CMP52 require drilling to mount.

Stock No.	Mfr.'s Type	Fig.	LED Size	EACH 1-9
749-0426	CMP22	1	T-1 3/4	.14
749-0427	CMP52	1	T-1 3/4	.14
749-9975	CMP52	2	Rectangular	.27
749-9970	CMP100	3	T-100	.14
749-9968	4999-002 (Silver)	4	T-1 3/4	1.30
749-9969	4999-003 (Black)	4	T-1 3/4	1.03

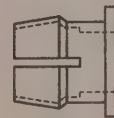


Fig. 1

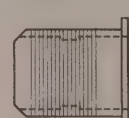


Fig. 2



Fig. 3

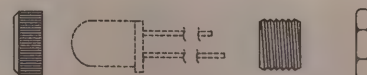


Fig. 4

Circuit Board Indicators

Printed Circuit Board assembly has been made faster and easier than ever before with the StatusPak™ Circuit Board indicators. These unique, gangable, right angle and vertical indicators allow you to mount from one to twelve positions in one easy step.

T-1 StatusPak™ Circuit Board Indicators

Stock No.	Mfr.'s Type	Emitted Color	Lens Type /Color	View Angle	Typical med/mA	Fig.	EACH 1-9
749-1238	CMC01R	H.E.Red	Clear	30°	60/20	1	.74
749-1240	CMC01Y	Yellow	Clear	30°	60/20	1	.74
749-1242	CMC01G	H.E.Grn	Clear	30°	60/20	1	.74
749-1244	CMC01S	H.E.Red	N.D.Red	30°	25/20	1	.74
749-1246	CMC01Z	Yellow	N.D.Yel	30°	25/20	1	.80
749-1248	CMC01H	H.E.Grn	N.D.Grn	30°	25/20	1	.74
749-1250	CMW01R	H.E.Red	Diff.Red	130°	20/20	1	.74
749-1252	CMW01Y	Yellow	Diff.Yel	120°	12.5/20	1	.74
749-1254	CMW01G	H.E.Grn	Diff.Grn	120°	12.5/20	1	.74
749-1256	CMW01O	H.E.Red	Diff.Org	120°	20/20	1	.74
749-1258	CMW01S	H.E.Red	Diff.Red	120°	2.0/2	1	.74
749-1260	CMW01Z	Yellow	Diff.Yel	120°	2.0/2	1	.74
749-1262	CMW01H	H.E.Grn	Diff.Grn	120°	2.0/2	1	.74

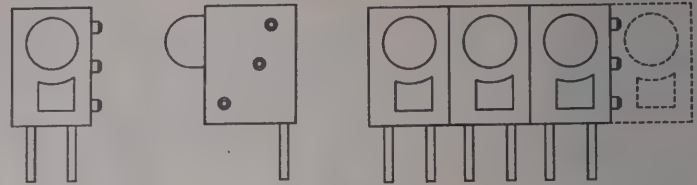


Fig. 1

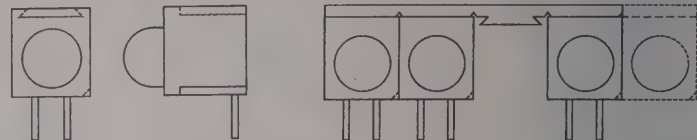


Fig. 2

T-1 3/4 StatusPak™ Circuit Board Indicators

749-1264	CM101R	H.E.Red	Diff.Red	105°	8.0/20	2	.76
749-1266	CM101S	Red	Diff.Red	120°	3.2/20	2	.76
749-1268	CM101G	H.E.Grn	Diff.Grn	105°	8.0/20	2	.76
749-1270	CM101Y	Yellow	Diff.Yel	105°	8.0/20	2	.76
749-1272	CM101R	H.E.Red	Diff.Red	105°	2.0/2	2	.78
749-1274	CM101S	H.E.Red	Diff.Red	105°	8.0/20	2	.87
749-1276	CM101G	Red	Diff.Red	105°	3.2/20	2	.57
749-1278	CM101G	H.E.Grn	Diff.Grn	105°	8.0/20	2	.87
749-1280	CM101Y	Yellow	Diff.Yel	105°	8.0/20	2	.87
749-1282	CM101R	H.E.Red	Diff.Red	105°	2.0/2	2	.81

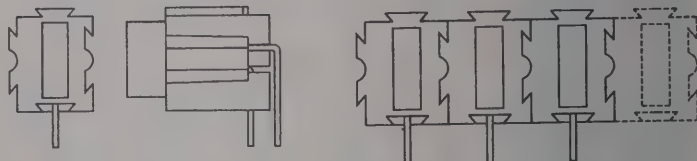


Fig. 3

Rectangular StatusPak™ Circuit Board Indicators

749-1284	CMV01R	H.E.Red	Diff.Red	110°	12.5/10	3	.72
749-1286	CMV01Y	Yellow	Diff.Yel	110°	8.0/10	3	.72
749-1288	CMV01G	H.E.Grn	Diff.Grn	110°	8.0/10	3	.72
749-1290	CMR01R	H.E.Red	Diff.Red	110°	12.5/10	4	.72
749-1292	CMR01Y	Yellow	Diff.Yel	110°	8.0/10	4	.72
749-1294	CMR01G	H.E.Grn	Diff.Grn	110°	8.0/10	4	.72
749-1296	CMS01R	H.E.Red	Diff.Red	110°	12.5/10	5	.72
749-1298	CMS01Y	Yellow	Diff.Yel	110°	8.0/10	5	.72
749-1300	CMS01G	H.E.Grn	Diff.Grn	110°	8.0/10	5	.72

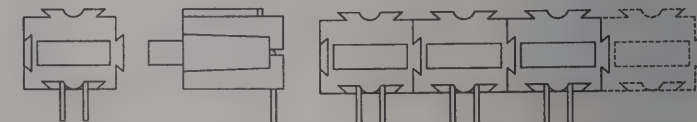


Fig. 4

550 Series — Circuit Board Indicators are available in both Square back and Slant back configurations and are pin for pin replacements to Dialight's 550 Series.

550 Series — Square Back Circuit Board Indicators

749-9770	550-0205	Green	Diff.Grn	80°	3.2/20	6	.83
749-9771	550-0305	Yellow	Diff.Yel	80°	3.2/20	6	.83
749-9772	550-0405	Red	Diff.Red	80°	2.0/20	6	.60
749-9773	550-2205	H.E.Grn	Diff.Grn	80°	3.0/20	6	.98
749-9774	550-2305	Yellow	Diff.Yel	80°	3.0/10	6	.92
749-9775	550-2405	H.E.Red	Diff.Red	80°	4.0/10	6	.98

Diff. = Diffused / N.D. = Non-Diffused

550 Series — Slant Back Circuit Board Indicators

749-0206	550-0206	Green	Diff.Grn	80°	3.2/20	7	.83
749-0306	550-0306	Yellow	Diff.Yel	80°	3.2/20	7	.83
749-0760	550-0406	Red	Diff.Red	80°	2.0/20	7	.60
749-0680	550-2206	H.E.Grn	Diff.Grn	80°	3.0/20	7	.98
749-0685	550-2306	Yellow	Diff.Yel	80°	3.0/10	7	.98
749-0690	550-2406	H.E.Red	Diff.Red	80°	4.0/10	7	.98

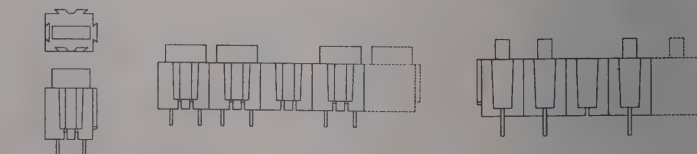


Fig. 5

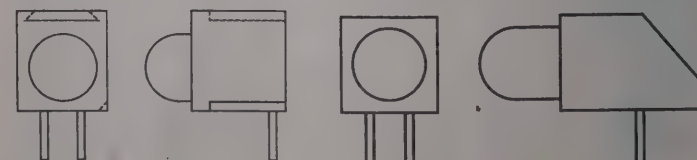


Fig. 6

Fig. 7

Dot Matrix LCD Module

Applications

- ▶ Portable Computer Terminals
- ▶ Word Processors
- ▶ Telecommunications
- ▶ High Class Electronic Calculators
- ▶ Display Devices
- ▶ Automobile Display Panes
- ▶ Chemical Analyzers
- ▶ Measuring Equipment
- ▶ Medical Instruments

Features

- ▶ By The Combination Of Dots It Can Display Many Kinds Of Characters And Symbols
- ▶ Due To Low Drive Voltage and Low Current Consumption, It Can Be Operated With Battery
- ▶ Custom Character Generator Is Included

TN type for cost effective basic requirements; STN type for wider view angle and high contrast. **Standard Temperature:** Operating Temperature — 0°C~+50°C; Storage Temperature — -20°C~+70°C. **Backlights:** LED — Character modules, bright, longer life; CCFL — Graphic modules, long life and low power consumption.

Standard Pin Connections*

Pin No.	Symbol	Pin No.	Symbol
1	VSS	9	D2
2	VDD	10	D3
3	VL	11	D4
4	RS	12	D5
5	R/W	13	D6
6	E	14	D7
7	DO	15	A**
8	DI	16	K**

*Exceptions: HDM16216H, HDM40416H. ** LED Backlight model only.

TN Character Type LCD Modules

Stock No.	Mir.'s Type	External Dimension (W × H × D) mm	Display	Viewing Area (W × H) mm	Character Size (W × H) mm	EACH		
						1-9	10-99	100-Up
289-0010	HDM08111H-1-000	54 × 37.0 × 10.0	8 × 1	32.0 × 16.0	2.90 × 7.60	12.15	11.21	10.37
289-0020	HDM08216H-1-000	54 × 37.0 × 10.5	8 × 2	32.0 × 16.0	2.95 × 5.15	12.15	11.21	10.37
289-0040	HDM16116H-2-000	80 × 36.0 × 10.0	16 × 1	65.6 × 13.8	3.20 × 6.35	13.88	12.80	11.87
289-0050	HDM16216H-4-000	122 × 44.0 × 10.0	16 × 2	99.0 × 24.0	4.84 × 9.66	24.93	23.01	21.37
289-0060	HDM16216H-5-000	80 × 36.0 × 10.0	16 × 2	65.6 × 13.8	2.95 × 4.35	16.42	15.15	14.07
289-0070	HDM16416H-000	87 × 60.0 × 10.0	16 × 4	61.8 × 25.2	2.95 × 4.75	26.99	24.99	22.99
289-0080	HDM20216H-3-000	116 × 37.0 × 10.0	20 × 2	83.0 × 18.6	3.20 × 5.55	22.25	20.53	19.07
289-0090	HDM20416H-000	98 × 60.0 × 10.0	20 × 4	76.0 × 25.2	2.95 × 4.75	31.36	28.95	26.95
289-0100	HDM24216H-2-000	118 × 36.0 × 10.0	24 × 2	93.5 × 15.8	3.20 × 5.55	23.95	21.95	20.47
289-0110	HDM40216H-4-000	182 × 33.5 × 10.0	40 × 2	154.5 × 15.8	3.20 × 5.55	36.50	33.50	31.22
289-0120	HDM40416H-4-000	190 × 54.0 × 10.0	40 × 4	147.0 × 29.5	2.80 × 4.91	68.33	63.07	58.57

STN Character Type LCD Modules

Stock No.	Mir.'s Type	External Dimension (W × H × D) mm	Display	Viewing Area (W × H) mm	Character Size (W × H) mm	EACH		
						1-9	10-99	100-Up
289-0280	HDM08111H-1-H00	54 × 37.0 × 10.0	8 × 1	32.0 × 16.0	2.90 × 7.60	15.06	13.91	12.92
289-0290	HDM08216H-1-H00	54 × 37.0 × 10.5	8 × 2	32.0 × 16.0	2.95 × 5.15	15.06	13.91	12.92
289-0310	HDM16116H-2-H00	80 × 36.0 × 10.0	16 × 1	65.6 × 13.8	3.20 × 6.35	17.26	15.94	14.80
289-0320	HDM16216H-4-H00	122 × 44.0 × 10.0	16 × 2	99.0 × 24.0	4.84 × 9.66	31.67	29.25	27.14
289-0330	HDM16216H-5-H00	80 × 36.0 × 10.0	16 × 2	65.6 × 13.8	2.95 × 4.35	20.00	18.50	17.25
289-0340	HDM16416H-H00	87 × 60.0 × 10.0	16 × 4	61.8 × 25.2	2.95 × 4.75	35.00	32.50	30.00
289-0350	HDM20216H-3-H00	116 × 37.0 × 10.0	20 × 2	83.0 × 18.6	3.20 × 5.55	28.23	26.06	24.20
289-0360	HDM20416H-H00	98 × 60.0 × 10.0	20 × 4	76.0 × 25.2	2.95 × 4.75	40.00	36.92	34.30
289-0370	HDM24216H-2-H00	118 × 36.0 × 10.0	24 × 2	93.5 × 15.8	3.20 × 5.55	32.38	29.89	27.75
289-0380	HDM40216H-4-H00	182 × 33.5 × 10.0	40 × 2	154.5 × 15.8	3.20 × 5.55	48.99	45.20	41.97
289-0390	HDM40416H-4-H00	190 × 54.0 × 10.0	40 × 4	147.0 × 29.5	2.80 × 4.91	87.88	81.12	75.33

STN Character Type LCD Modules With LED Backlight

Stock No.	Mir.'s Type	External Dimension (W × H × D) mm	Display	Viewing Area (W × H) mm	Character Size (W × H) mm	EACH		
						1-9	10-99	100-Up
289-0130	HDM16116L-V30	80 × 36.0 × 12.5	16 × 1	65.6 × 13.8	3.20 × 6.35	24.50	22.25	20.50
289-0140	HDM16216L-5-V30	80 × 36.0 × 13.0	16 × 2	65.6 × 13.8	2.95 × 4.35	27.56	25.44	23.50
289-0150	HDM16216L-7-V30	122 × 44.0 × 12.5	16 × 2	99.0 × 24.0	4.84 × 9.60	46.13	42.58	39.54
289-0160	HDM16416L-V30	87 × 60.0 × 12.5	16 × 4	61.8 × 25.2	2.95 × 4.75	47.23	43.60	40.56
289-0170	HDM20216L-V30	116 × 37.0 × 13.0	20 × 2	83.0 × 18.6	3.20 × 5.55	38.20	35.25	32.75
289-0180	HDM20416L-V30	98 × 60.0 × 12.5	20 × 4	76.0 × 25.2	2.95 × 4.75	54.05	49.99	46.50
289-0185	HDM24216L-U30P	118 × 38.0 × 14.0	24 × 2	93.5 × 15.8	3.20 × 5.55	35.95	33.18	30.81
289-0190	HDM40216L-V30	182 × 33.5 × 13.0	40 × 2	154.5 × 15.8	3.20 × 5.55	59.99	55.00	51.24
289-0200	HDM40416L-4-V30	190 × 54.0 × 14.5	40 × 4	147.0 × 29.5	2.80 × 4.91	104.50	96.50	89.50

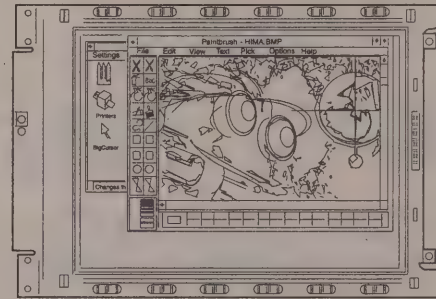
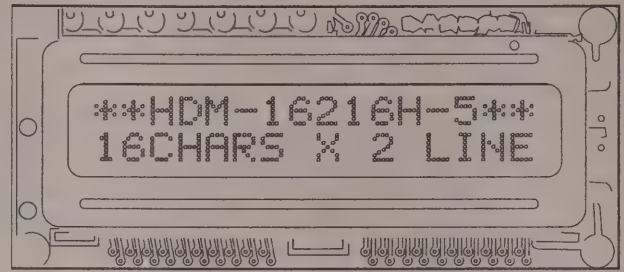
Inverters For CCFL Backlight

Stock No.	Mir.'s Type	Starting Voltage	Output Voltage	Output Current	LCD Module	EACH		
						1-9	10-99	100-Up
289-0400	HVI3224	1000 Vrms	360 Vrms	5.25 mArms	HDM3224	29.16	26.92	25.00
289-0410	HVI6448	1000 Vrms	360 Vrms	5.25 mArms	HDM6448	29.16	26.92	25.10
289-0420	HVI6448C	1200 Vrms	475 Vrms	5.25 mArms	HDM6448C-2	29.16	26.92	25.10

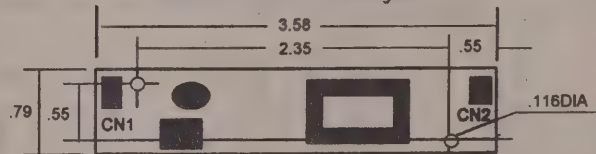
Graphic LCD Modules

Stock No.	Mir.'s Type	External Dimension (W × H × D) mm	Dot Number (W × H) Dot	Viewing Area (W × H) mm	Duty	Dot Size (W × H) mm	Backlight	Controller	EACH		
									1-9	10-99	100-Up
289-0210	HDM64GS12L-WCY	93.0 × 70.0 × 9.4	128 × 64	70.7 × 38.8	1/64	0.48 × 0.48	LED	HD61202	67.52	62.32	57.87
289-0220	HDM64GS24Y-2-R00	180.0 × 65.0 × 10.0	240 × 64	132.0 × 39.0	1/64	0.49 × 0.49	—	HD61830	83.82	77.37	71.84
289-0230	HDM128GS12Y-R00	85.0 × 100.0 × 14.0	128 × 128	62.0 × 62.0	1/128	0.40 × 0.40	—	T6963C	79.16	73.10	67.96
289-0240	HDM3224	143.0 × 96.8 × 13.0	320 × 240	104.0 × 79.3	1/240	0.27 × 0.27	CCFL	—	137.36	126.60	117.75
289-0250	HDM6448	260.0 × 174.0 × 7.0	640 × 480	196.0 × 148.0	1/240	0.27 × 0.27	CCFL	—	279.40	257.91	239.49
289-0260	HDM6448C-2	252.5 × 178.0 × 10.0	640 × (R,G,B) × 480	196.0 × 147.0	1/240	0.28 × 0.28	CCFL	—	977.90	902.67	836.20

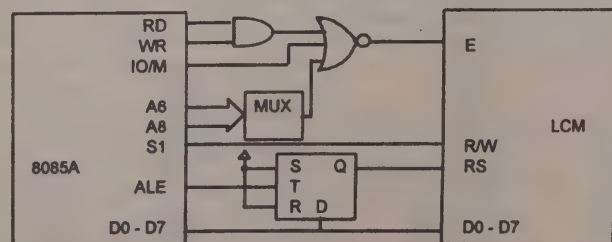
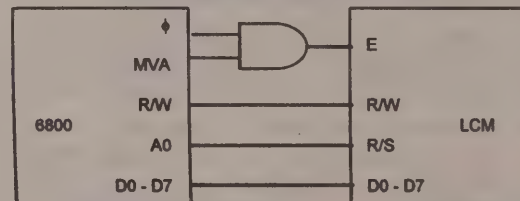
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Inverters For CCFL Backlight



Character Module Interface To MPU

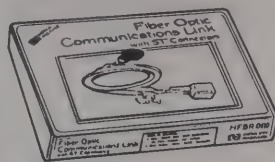


Miniature Link Fiber-Optic Components

Interface directly with industry-standard ST and SMA connectors. Designed for auto insertion and wave soldering. No mounting hardware required. These components provide cost effective, high performance fiber-optic communication links for computers, central office switch, PBX, local area network and industrial-control applications.

Type HFBR-0410 Miniature Link ST Evaluation Kit

HFBR-0410 ST evaluation kit is used with ST type HFBR-1400 transmitters and type HFBR-241X-T receivers, both of which are listed separately on this page. Kit contains one each of the following: HFBR-1412 transmitter; HFBR-2412 five megabaud TTL receiver; three meters of ST connected 62.5/125 μ m fiber-optic cable with plastic ferrules; HFBR-0400 series data sheets; HP application bulletin 73; ST connector and cable data sheets.



782-2200. Type HFBR-0410.....EACH 49.95

Miniature Link High-Speed Fiber-Optic Transmitters



With SMA Port



With ST Port

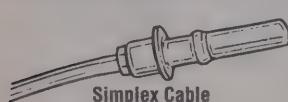
HFBR-1400 series contains an 820 nm GaAlAs emitter capable of launching optical power into four different optical fiber sizes: 62.5/125 μ m, 100/400 μ m, 50/125 μ m and 200 μ m PCS. Designed to operate with the HFBR-2400 series Miniature Link receivers ordered separately on this page. Standard transmitter, type HFBR-1402 has an SMA connector that typically can couple -11.5 dBm of optical power into large size 100/140 μ m fiber cable. High power transmitters types HFBR-1404 and HFBR-1404T are optimized for small size fiber and typically can launch -16.5 dBm optical power into 50/125 μ m fiber and -12 dBm into 62.5/125 μ m fiber. HFBR-1404 has an SMA connector; HFBR-1414 has a threaded ST connector. **Operating Temperature Range:** -40° to $+85^{\circ}\text{C}$.

Stock No.	Mfr.'s Type	Min. Output Power	Input Current		Power	EACH
			Peak	DC		
782-2205	HFBR-1402	-19.0 dBm	120 mA	60 mA	Standard	21.75
782-2210	HFBR-1404	-15.0 dBm	120 mA	60 mA	High	23.75
782-2215	HFBR-1414T	-15.0 dBm	120 mA	60 mA	High	23.75

Versatile Link Plastic Fiber-Optic Component

The Versatile Link series of components is ideal for solving problems with voltage isolation/insulation, EMI/RFI immunity or data security. Versatile Link applications include motor controller triggering, automotive communications, power supply control, robotics communication. Standard performance 1 MBd and High performance 5 MBd are available.

Standard Attenuation Plastic Fiber-Optic Cable For Versatile Link



Simplex Cable



Duplex Cable

Simplex fiber-optic cable is constructed of a single step index plastic fiber sheathed in a PVC jacket. Duplex fiber-optic cable has two plastic fibers joined with a web. UL recognized and passes UL VW-1 flame retardancy specs.

Connected Cable

Stock No.	Mfr.'s Type	Length	Cable Type	EACH
782-2290	HFBR-PNS001	1 m	Simplex	3.55
782-2295	HFBR-PNS005	5 m	Simplex	6.75
782-2300	HFBR-PNS010	10 m	Simplex	10.75
782-2305	HFBR-PND001	1 m	Duplex	7.10
782-2310	HFBR-PND005	5 m	Duplex	13.50
782-2315	HFBR-PND010	10 m	Duplex	21.50

Unconnected Cable

782-2320	HFBR-PUS100	100 m	Simplex	120.00
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Versatile Link Polishing Kit

Type HFBR-4593 polishing kit contains one each of the following: plastic polishing tool, 600-grit abrasive paper and 3 μ m pink lapping film. Designed for use on all connectors. Polishes two simplex connectors simultaneously or one duplex connector.



782-2325. Type HFBR-4593.....EACH 2.50

Miniature Link Fiber-Optic Receivers



Receivers are designed to operate with the HFBR-1400 series transmitters ordered separately on this page. Types HFBR-2402/2412 TTL/CMOS compatible receivers with -25.4 dBm sensitivity incorporate an integrated-photo IC containing a photodetector and DC amplifier driving an open-collector Schottky output transistor. Types HFBR-2404/2414 preamp receivers for data rates up to 35 MBd. Both models contain a PIN photodiode and low noise transimpedance pre-amplifier integrated circuit with an inverting output. Types HFBR-2406/2416 PIN-preamp receivers for data rates up to 150 MBd are well suited for demanding link designs that require wide receiver dynamic range. No mounting hardware required for all types. **Operating Temperature Range:** -40° to $+85^{\circ}\text{C}$.

Receivers With SMA Connector

Stock No.	Mfr.'s Type	Description	Max. Supply Volts	Input Power	EACH
782-2245	HFBR-2402	5 MBd TTL	7.0	102 μ W	16.50
782-2250	HFBR-2404	25 MHz, Analog	7.0	55 μ W	16.50
782-2255	HFBR-2406	125 MHz, Analog	6.0	175 μ W	26.25

Receivers With Threaded ST Connector

782-2260	HFBR-2412T	5 MBd TTL	7.0	102 μ W	16.50
782-2265	HFBR-2414T	25 MHz, Analog	7.0	55 μ W	16.50
782-2270	HFBR-2416T	125 MHz, Analog	6.0	175 μ W	26.25

Connected Glass Fiber-Optic Cable For Miniature Link

Connected simplex cable is constructed of a single graded index glass fiber surrounded by a silicone buffer, secondary jacket and aramid strength members. UL recognized and passes UL VW-1 flame retardant specs.



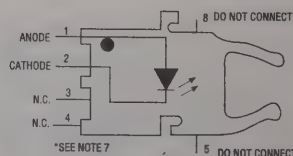
Stock No.	Mfr.'s Type	Length	Cable Type	EACH
782-2275	HFBR-AWS010	10 m	SMA Connector, 100/140 Fiber	117.95
782-2280	HFBR-AWS100	100 m	SMA Connector, 100/140 Fiber	294.35
782-2285	HFBR-BXS010	10 m	ST Connector, 62.5/125 Fiber	117.95

Versatile Link 1 MBd Standard Evaluation Kit

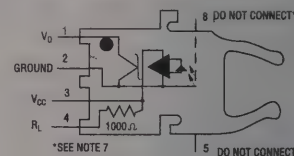
Kit contains one each of the following: Type HFBR-1524 transmitter, HFBR-2524 receiver, HFBR-4506 duplex connector with crimp ring, HFBR-4501 gray simplex connector with crimp ring, HFBR-4513 blue simplex latching connector with crimp ring, HFBR-4505 gray adapter. Kit also contains 5 meters of connected simplex cable with blue and gray latching connectors, polishing tool, 600 grit paper and data sheet with a brochure.

782-2220. Type HFBR-0501.....EACH 24.95

Versatile Link Transmitters And Receivers



Transmitter



Receiver

Transmitters incorporate a 660 nm LED in a gray horizontal housing that can be easily interfaced to standard TTL logic. **Peak Input Current:** 100 mA. **DC Input Current:** 80 mA. Order receiver separately below.

Stock No.	Mfr.'s Type	Transmitter Description	Output Power	EACH
782-2225	HFBR-1524	1 MBd, Standard	-5.1 dBm max.	6.20
782-2230	HFBR-1521	5 MBd, High Performance	-8.0 dBm max.	8.05

Blue plastic receivers feature a shielded, integrated photodetector and a wide bandwidth DC amplifier for high EMI immunity. **Supply Voltage:** 7.0 V. **Output Voltage:** 18 V. Order transmitter separately above.

Stock No.	Mfr.'s Type	Receiver Description	Sensitivity @ 8 mA, 25°C	EACH
782-2235	HFBR-2524	1 MBd, Standard	-20 dBm min.	7.00
782-2240	HFBR-2521	5 MBd, High Performance	-21.6 dBm min.	9.00



Optical Potentiometers

Optical potentiometers have 2-channel outputs and a single 5V supply input that are accessed through a 6" cable. TTL compatible. Designed to mount in a 3/8" hole, 1/4" diameter shaft. 1/2" shaft length. Operating temperature range: **HEDS-7500/7501** are -40°C to +85°C; **HRPG-A** are 0°C to +70°C.

General Purpose Motion Control ICs

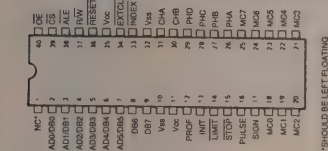


Fig. 1

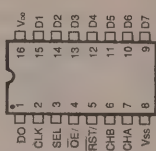


Fig. 2

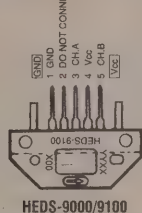
HCTL-1100 is a general purpose motion control CMOS IC that provides closed loop control of DC, DC Brushless, and Step Motors, using a digital incremental encoder for feedback. 5V operation. TTL compatible. 24 bit position counter. 4 control modes. Programmable digital filter and brushless motor commutator. 40 pin plastic DIP package. Row spacing: 0.600". Operating temperature range: -20°C to +85°C. **HCTL-2000/2016** are CMOS ICs that interface digital incremental encoders to microprocessor systems. The IC's include a 4X quadrature decoder, binary up/down counter, and tristate bus interface. 5V operation. TTL compatible. Operates at clock frequencies up to 14 MHz. 16 pin plastic DIP package. Row spacing: 0.300". Operating temperature range: -40°C to +85°C. **HCTL-2000** has a 12 bit binary counter, **HCTL-2016** has a 16 bit binary counter.

Stock No.	Mfr.'s Type	Fig.	Description	EACH
782-2000	HCTL-1100	1	CMOS Motion Controller 100KHz to 2 MHz clock	38.77
782-2005	HCTL-2000	2	CMOS 12 Bit Quadrature Decoder/Counter	12.15
782-2010	HCTL-2016	2	CMOS 16 Bit Quadrature Decoder/Counter	12.15

2 and 3 Channel Encoders



HEDS-5010/6010



HEDS-9000/9100



HEDS-5500

HEDS-5500 are high performance optical incremental encoders. 2-channel digital outputs and single 5V supply input are accessed through five 0.025" square pins on 0.1" centers. Operating temperature range: -40°C to +100°C. **HEDS-5010/6010** 3-piece encoder kits consist of 1.13" (28mm) dia. encoder body, metal code wheel and emitter end plate. 3-channel digital outputs, and uses a single 5V supply which is accessed through a 2-foot 1-pin ribbon cable (included in kit). Operating temperature range: -55°C to +100°C. Both series are TTL compatible. Mechanical phasing of the encoder outputs is required during assembly for **HEDS-5010/6010**; no mechanical or electrical adjustments are needed for **HEDS-5500**.

Stock No.	Mfr.'s Type	Resolution	Shaft Diameter	Output	EACH
782-2015	HEDS-5500 G06	360 cpr	1/4"	2 channel	33.10
782-2020	HEDS-5500 A06	500 cpr	1/4"	2 channel	33.10
782-2025	HEDS-5500 I06	512 cpr	1/4"	2 channel	33.10
782-2030	HEDS-5010 A05	500 cpr	3/16"	3 channel	87.78
782-2035	HEDS-5010 A06	500 cpr	1/4"	3 channel	87.78
782-2040	HEDS-6010 B06	1000 cpr	1/4"	3 channel	107.93
782-2045	HEDS-6010 B08	1000 cpr	3/8"	3 channel	107.93

Two-Channel Encoder Modules

HEDS9000/9100 are high performance, optical-incremental encoder modules. When operated in conjunction with a codewheel, the modules detect rotary position. Supply input: 5V. Five 0.025" square pins located on 0.1" centers. Operating temperature range: -40°C to +100°C. TTL compatible **HEDS-5120** and **HEDS-6100** are precision metal codewheels for use with the **HEDS-9000/9100** encoder modules. Order codewheels separately below.

Stock No.	Mfr.'s Type	Optical Radius	Resolution	EACH
782-2050	HEDS-9000 A00	24mm	500 cpr	22.50
782-2055	HEDS-9000 B00	24mm	1000 cpr	22.50
782-2060	HEDS-9100 A00	11mm	500 cpr	22.50
782-2065	HEDS-9100 G00	11mm	360 cpr	22.50

Codewheels For HEDS-9000 Encoder Modules

Stock No.	Mfr.'s Type	Resolution	Shaft Diameter	EACH
782-2070	HEDS-6100 A06	500 cpr	1/4"	21.79
782-2075	HEDS-6100 A08	500 cpr	3/8"	21.79
782-2080	HEDS-6100 A09	500 cpr	1/2"	21.79
782-2085	HEDS-6100 B06	1000 cpr	1/4"	21.79
782-2090	HEDS-6100 B08	1000 cpr	3/8"	21.79
782-2095	HEDS-6100 B09	1000 cpr	1/2"	21.79

Codewheels For HEDS-9100 Encoder Modules

Stock No.	Mfr.'s Type	Resolution	Shaft Diameter	EACH
782-2100	HEDS-5120 G03	360 cpr	1/8"	13.65
782-2105	HEDS-5120 G05	360 cpr	3/16"	13.65
782-2110	HEDS-5120 G06	360 cpr	1/4"	13.65
782-2115	HEDS-5120 A03	500 cpr	1/8"	13.65
782-2120	HEDS-5120 A05	500 cpr	3/16"	13.65
782-2125	HEDS-5120 A06	500 cpr	1/4"	13.65

Stock No.	Mfr.'s Type	Resolution	Termination	EACH
782-2135	HEDS-7500	256 cpr	4 wires	63.14
782-2140	HEDS-7501	256 cpr	10 pin ribbon cable	67.98

Optical Reflective Sensor

Hewlett Packard's family of sensor products are fully integrated modules designed for applications requiring optical-reflective sensing. They are packaged in a TO-5 metal sealed package and are available in three wavelengths and resolutions. Possible applications include: Bar Code Scanning; Edge sensing; Pattern recognition and verification; Tachometry; Optical limit switching.

Stock No.	Mfr.'s Type	Wavelength	Resolution	EACH
782-6000	HEDS-1200	820nm	0.130mm	37.00
782-6002	HEDS-1300	700nm	0.190mm	28.50
782-6004	HEDS-1500	655nm	0.178mm	28.50

Bar Code Decoder ICs

High-performance decoder ICs simplify the implementation of bar code reading capability in any OEM system. **Type HBCR-1610/1611** accepts digital wand inputs and supports the following bar code symbologies: 3 of 9 Code; Code 128; Interleaved 2 of 5; Codabar and UPC/EAN/JAN. **Type HBCR-2210/2211** accepts both digital wand and Laser inputs and supports the previously mentioned symbologies as well as MSI code and Code 11. To include the user's programming manual, add -B01 to the end of the type number when ordering.

Stock No.	Mfr.'s Type	Package Type	Input Devices Supported	EACH
782-6010	HBCR-1610	40 pin DIP	Digital Wand Input Only	33.00
782-6012	HBCR-1611	44 pin PLCC	Digital Wand Input Only	35.00
782-6014	HBCR-2210	40 pin DIP	Wand and Laser Input	60.00
782-6016	HBCR-2211	44 pin PLCC	Wand and Laser Input	64.00

Bar Code Wands

Digital Bar Code Wands

These rugged Polycarbonate wands operate in direct sunlight and have a low continuous current drain of less than 5mA @ 5V. To order in a box with a data sheet, simply add -A01 to the end of the type number when ordering.

Stock No.	Mfr.'s Type	Connector Type	Switch	ESD Isolation	EACH
782-6018	HBCS-A200	5-pin 240° DIN	Yes	15KV	133.90
782-6020	HBCS-A300	5-pin 240° DIN	No	10KV	133.90

SmartWand Bar Code Reader: Digital Wand with Built-in Decoder

The SmartWand is an intelligent peripheral designed to easily add bar code scanning capability to any host system which can support a +5V serial asynchronous interface. The SmartWand may be programmed optically by scanning bar code labels. The SmartWand comes with a 9-pin D-sub connector. **Type HBSW-8205** is a SmartWand Kit that comes with a **HBSW-8200** SmartWand, a user's manual, and a wand holder. Supported Bar Code symbologies include: Code 3 of 9, Interleaved 2 of 5, UPC/EAN/JAN, Codabar, Code 128, Code 11, and MSI Code.

Polycarbonate Case with LED

782-6022. HBSW-8205. SmartWand Kit*	EACH 305.00
782-6024. HBSW-8200. SmartWand Only	EACH 285.00

Metal Case without LED

782-6026. HBSW-8305. SmartWand Kit*	EACH 315.00
782-6028. HBSW-8300. SmartWand Only	EACH 295.00

Accessories

782-6030. HBSW-8997. Users' Manual	EACH 20.00
782-9931. HBCS-2998. Wand Holder (Black)	EACH 2.00
*Kit Includes Reader Manual and Wand Holder.	

KeyWand Bar Code Reader: PC Interface Wand

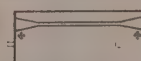
The KeyWand bar code reader lets you scan directly into a personal computer via the keyboard interface, without hardware modifications. All electronics are self-contained within the compact wand for clutter free operation.

Type HBKW-1240. Universal KeyWand kit that includes a KeyWand bar code reader, a user's manual, wand holder and interface adapters.

782-6034. HBKW-1240	EACH 325.00
782-6040. HBKW-1210. KeyWand for IBM PC/XVAT 5-pin DIN	EACH 325.00
782-6042. HBKW-1220. KeyWand for PS/2 6-pin Mini-DIN	EACH 350.00

Accessories

782-6044. HBKW-1910. KeyWand User's Manual	EACH 20.00
782-6046. HBKW-1920. Wand Holder	EACH 5.00
782-6048. HBKW-1925. Interface Adapters (2)	EACH 20.00



Digital Slot Readers

Designed to provide excellent scanning performance on a wide variety of bar-coded cards and badges. Black textured epoxy finish. **Slot Width:** 0.125". Straight cable of 48" terminating in a 5-pin, 240° locking DIN connector. To order in a box with a data sheet, simply add -A01 to the end of the type number when ordering.

Stock No.	Mfr.'s Type	Light Source	EACH
782-2190	HBCS-7000	Visible Red, 660nm	200.85
782-2195	HBCS-7100	Infrared, 880nm	200.85

Seven-Segment Right-Hand Decimal Point Displays



Fig. 1
7.62 mm (0.3")
Monolithic package
0.5"H x 0.3"W x 0.24"D



Fig. 2
7.62 mm (0.3")
Monolithic package
0.75"H x 0.4"W x 0.18"D



Fig. 3
10.16 mm (0.4")
(Single Digit)
0.51"H x 0.39"W x 0.25"D



Fig. 4
10.16 mm (0.4")
(Dual Digit)
0.67"H x 0.9"W x 0.24"D



Fig. 5
10.92 mm (0.43")
Monolithic package
0.75"H x 0.5"W x 0.25"D



Fig. 6
14.2 mm (0.56")
(Single Digit)
0.67"H x 0.49"W x 0.31"D

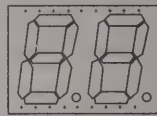


Fig. 7
14.2 mm (0.56")
(Dual Digit)
0.67"H x 1.0"W x 0.31"D

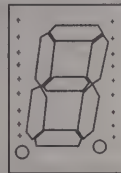


Fig. 8
20 mm (0.8")
Monolithic package
1.09"H x 0.78"W x 0.33"D

Solid-state LED numeric displays for applications such as instruments, weighing scales, meters and point-of-sale terminals. Dual-in-line package. Available in character sizes from 7.62mm (0.3") to 20mm (0.8") and colors, red, AlGaAs deep red, high-efficiency red (HER in tables below), yellow and high-performance green, AlGaAs displays are tested and selected for their excellent low current characteristics to ensure that the segments match at low currents. Type numbers ending in "1" are Common Anode; Type numbers ending in "3" and "0" are Common Cathode.

Stock No.	Mfr.'s Type	Fig.	Color	Typical Intensity Per Segment	EACH 1-49
782-5000	HDSP-7301	1	Red	1100µcd @20mA	1.15
782-5005	HDSP-7303	1	Red	1100µcd @20mA	1.15
782-5010	HDSP-A101	1	AlGaAs Red	600µcd @1mA	2.29
782-5015	HDSP-A103	1	AlGaAs Red	600µcd @1mA	2.29
782-0320	HDSP-7501	1	HER	980µcd @5mA	1.82
782-0325	HDSP-7503	1	HER	980µcd @5mA	1.82
782-0330	HDSP-7401	1	Yellow	480µcd @5mA	1.82
782-0335	HDSP-7403	1	Yellow	480µcd @5mA	1.82
782-0340	HDSP-7801	1	Green	3000µcd @10mA	1.82
782-0345	HDSP-7803	1	Green	3000µcd @10mA	1.82
782-0350	5082-7731	2	Red	770µcd @20mA	1.12
782-0355	5082-7740	2	Red	770µcd @20mA	1.12
782-0360	5082-7611	2	HER	800µcd @5mA	1.79
782-0365	5082-7613	2	HER	800µcd @5mA	1.79
782-0370	HDSP-3531	2	HER	7100µcd @100mA1/5df	2.07
782-0375	HDSP-3533	2	HER	7100µcd @100mA1/5df	2.07
782-0380	5082-7621	2	Yellow	620µcd @5mA	1.79
782-0385	5082-7623	2	Yellow	620µcd @5mA	1.79
782-0390	HDSP-3601	2	Green	2700µcd @10mA	1.79
782-0395	HDSP-3603	2	Green	2700µcd @10mA	1.79
782-6050	HDSP-F001	3	Red	1200µcd @20mA	1.14
782-6052	HDSP-F003	3	Red	1200µcd @20mA	1.14
782-6054	HDSP-G001	4	Red	1200µcd @20mA	2.42
782-6056	HDSP-G003	4	Red	1200µcd @20mA	2.42
782-6058	HDSP-F101	3	AlGaAs Red	650µcd @1mA	1.98
782-6060	HDSP-F103	3	AlGaAs Red	650µcd @1mA	1.98
782-6062	HDSP-G101	4	AlGaAs Red	650µcd @1mA	3.69
782-6064	HDSP-G103	4	AlGaAs Red	650µcd @1mA	3.69
782-6066	HDSP-F201	3	HER	1200µcd @5mA	1.72
782-6068	HDSP-F203	3	HER	1200µcd @5mA	1.72
782-6070	HDSP-G201	4	HER	1200µcd @5mA	3.21
782-6072	HDSP-G203	4	HER	1200µcd @5mA	3.21
782-6074	HDSP-F301	3	Yellow	800µcd @5mA	1.72
782-6076	HDSP-F303	3	Yellow	800µcd @5mA	1.72
782-6078	HDSP-G301	4	Yellow	800µcd @5mA	3.21
782-6080	HDSP-G303	4	Yellow	800µcd @5mA	3.21
782-6082	HDSP-F501	3	Green	3500µcd @10mA	1.72
782-6084	HDSP-F503	3	Green	3500µcd @10mA	1.72
782-6086	HDSP-G501	4	Green	3500µcd @10mA	3.21
782-6088	HDSP-G503	4	Green	3500µcd @10mA	3.21
782-0400	5082-7751	5	Red	1100µcd @20mA	1.12
782-0405	5082-7760	5	Red	1100µcd @20mA	1.12
782-0410	HDSP-E101	6	AlGaAs Red	650µcd @1mA	2.29
782-0415	HDSP-E103	6	AlGaAs Red	650µcd @1mA	2.29
782-0420	5082-7651	5	HER	1115µcd @5mA	1.79
782-0425	5082-7653	5	HER	1115µcd @5mA	1.79
782-0430	HDSP-3731	5	HER	10860µcd @100mA1/5df	2.07
782-0435	HDSP-3733	5	HER	10860µcd @100mA1/5df	2.07
782-0440	5082-7661	5	Yellow	835µcd @5mA	1.79
782-0445	5082-7663	5	Yellow	835µcd @5mA	1.79
782-0450	HDSP-4601	5	Green	4000µcd @10mA	1.79
782-0455	HDSP-4603	5	Green	4000µcd @10mA	1.79
782-0460	HDSP-5301	6	Red	1300µcd @20mA	1.17
782-0465	HDSP-5303	6	Red	1300µcd @20mA	1.17
782-0470	HDSP-5321	7	Red	1300µcd @20mA	2.11
782-0475	HDSP-5323	7	Red	1300µcd @20mA	2.11
782-0480	HDSP-H101	6	AlGaAs Red	700µcd @1mA	2.29
782-0485	HDSP-H103	6	AlGaAs Red	700µcd @1mA	2.29
782-0490	HDSP-5501	6	HER	2800µcd @10mA	1.83
782-0495	HDSP-5503	6	HER	2800µcd @10mA	1.83
782-0500	HDSP-5521	7	HER	2800µcd @10mA	3.29
782-0505	HDSP-5523	7	HER	2800µcd @10mA	3.29
782-0510	HDSP-5531	6	HER	6000µcd @100mA1/5df	2.11
782-0515	HDSP-5533	6	HER	6000µcd @100mA1/5df	2.11
782-0520	HDSP-5701	6	Yellow	1800µcd @10mA	1.83
782-0525	HDSP-5703	6	Yellow	1800µcd @10mA	1.83
782-0530	HDSP-5721	7	Yellow	1800µcd @10mA	3.29
782-0535	HDSP-5723	7	Yellow	1800µcd @10mA	3.29
782-0540	HDSP-5601	6	Green	2500µcd @10mA	1.83
782-0545	HDSP-5603	6	Green	2500µcd @10mA	1.83
782-0550	HDSP-5621	7	Green	2500µcd @10mA	3.29
782-0555	HDSP-5623	7	Green	2500µcd @10mA	3.29
782-0560	HDSP-3401	8	Red	1200µcd @20mA	1.42
782-0565	HDSP-3403	8	Red	1200µcd @20mA	1.42
782-0570	HDSP-3901	8	HER	7000µcd @100mA1/5df	2.55
782-0575	HDSP-3903	8	HER	7000µcd @100mA1/5df	2.55
782-0580	HDSP-4201	8	Yellow	7000µcd @100mA1/5df	2.55
782-0585	HDSP-4203	8	Yellow	7000µcd @100mA1/5df	2.55
782-0590	HDSP-8601	8	Green	1500µcd @10mA	2.55
782-0595	HDSP-8603	8	Green	1500µcd @10mA	2.55

Alphanumeric LED Display

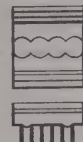


Fig. 8
0.79"H x 10.69"W x
0.24"D (0.99"W x
0.26"D)



Fig. 9
0.79"H x
0.99"W x
0.26"D



Fig. 10
0.77"H x
1.677"W x
0.209"D

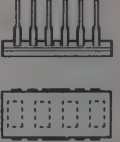


Fig. 11
0.31"H x
0.70"W x
0.200"D

Solid-state alphanumeric LED displays are available in 16 segment monolithic smart, 5 x 7 dot matrix smart, and 5 x 7 dot matrix intelligent versions. Low power on-board CMOS IC contains memory, ASCII decoder and driver circuitry. Dual-in-line (DIP) packaging, TTL compatible, wave solderable and end-stackable. **Types HPDL-1414** and **HPDL-2416** decode 64 ASCII characters. **Types HPLR-, HPLD-, HDLA-, HDLG-2416** decode 128 ASCII characters. **Types HDSP-2110** thru **-2113** decode 128 ASCII characters, has an on-board RAM that stores up to 16 user-definable characters, and features flashing characters, full display blinking, multi-level dimming and self test. **Types HCMS-2001** thru **-2003** shows full ASCII set of characters and feature integrated shift registers with constant current drivers. All of these devices are ideal for a variety of applications in avionics, industrial control and instrumentation.

Stock No.	Mfr.'s Type	Fig.	Color	Description	EACH 1-49
782-0600	HPDL-1414†	8†	Red	‡2.85 mm (0.112") ±4.1 mm (0.16") 4 Character, 16 Segment, Monolithic Smart, Alphanumeric Display, Operating Temperature Range: -40°C to +85°C	14.95
782-0605	HPDL-2416†	8†	Red		15.45
782-0610	HDLR-2416	9	Red	5.00 mm (0.20") 5 x 7 Dot Matrix, 4 Character Smart, Alphanumeric Display	16.58
782-0615	HDLO-2416		HER*		17.85
782-0620	HDLA-2416		Orange		17.85
782-0625	HDLY-2416		Yellow		17.85
782-0630	HDLG-2416		Green		17.85
782-6090	HDLU-2416		Red		22.31
782-6092	HDLS-2416		Red		22.31
782-0635	HDSP-2112	10	HER*	5.00 mm (0.20") Flexible 5 x 7 Dot Matrix, 8 Character Intelligent Display, Operating Temperature Range -20°C to +70°C	39.95
782-0640	HDSP-2110		Orange		39.95
782-0645	HDSP-2111		Yellow		39.95
782-0650	HDSP-2113		Green		39.95
782-0655	HCMS-2002	11	HER*	3.8 mm (0.15") 5 x 7 Dot Matrix, 4 Character Alphanumeric Display with shift register	37.68
782-0660	HCMS-2001		Yellow		37.68
782-0665	HCMS-2003		Green		37.68

*High-efficiency red

LED Light Bars



Fig. 12



Fig. 13



Fig. 14

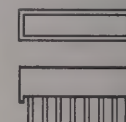


Fig. 15

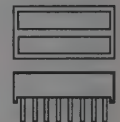


Fig. 16

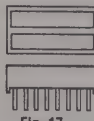


Fig. 17

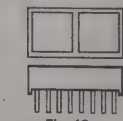


Fig. 18

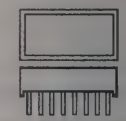


Fig. 19

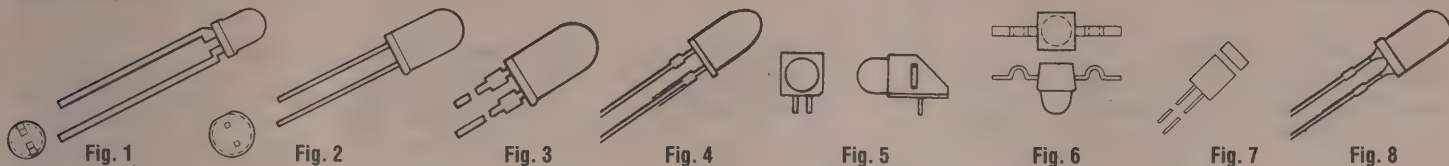
LED light bars designed for fixed message annunciation. All are configured in a dual-in-line DIP package except **types HLMP-2300, -2350, -2400, -2450, -2500, -2550** which are SIP packages. Each of the eight X-Y stackable package styles offers one, two or four large, uniformly illuminated light emitting surfaces. 0.100" centers; flush mountable. Available in high-efficiency red, yellow and high-performance green colors. Diffused lens. Ideal use for backlighting legends or simple indicators. For panel and legend mount capabilities, order corresponding part separately in table below. Replace the X in stock number with following color code: 1 (Red), 2 (Yellow), 3 (Green).

Stock No.	Fig.	Red Type HLMP-	Yellow Type HLMP-	Green Type HLMP-	No. of Pins	Device Size L x W x H	Light Emitting Areas		EACH 1-49
							No.	Size	
782-069X	12	2300	2400	2500	4	.400 x .195 x .245"	1	.350 x .150"	1.01
782-070X	15	2350	2450	2550	8	.800 x .195 x .245"	1	.750 x .150"	1.50
782-075X	13	2600	2700	2800	8	.400 x .400 x .245"	2	.350 x .150"	1.50
782-080X	16	2620	2720	2820	16	.800 x .400 x .245"	4	.350 x .150"	2.14
782-085X	17	2635	2735	2835	16	.800 x .400 x .245"	2	.150 x .750"	2.14
782-090X	14	2655	2755	2855	8	.400 x .400 x .245"	1	.350 x .350"	1.50
782-095X	18	2670	2770	2870	16	.800 x .400 x .245"	2	.350 x .350"	2.14
782-100X	19	2685	2785	2885	16	.800 x .400 x .245"	1	.350 x .750"	2.14

Panel And Legend Mounts

Stock No.	Mfr.'s Type	For Light Bar Type (above)	EACH
782-0670	HLMP-2599	HLMP-2300/2400/2500	0.16
782-0675	HLMP-2598	HLMP-2350/2450/2550	0.16
782-0680	HLMP-2898	HLMP-2600/2700/2800/2655/2755/2855	0.16
782-0685	HLMP-2899	HLMP-2620/2720/2820/2635/2735/2835/2670/2770/2870/2685/2785/2885	0.16

LED Lamps

**T-1 Tinted, Diffused Lamps**

Lamps have a wide viewing angle and are used as front panel indicators where panel space is limited.

Stock No.	Mfr.'s Type	Fig.	LED Color	Iv(mcd) @ Fwd Current	201/2 View Angle	EACH 1-49
782-0005	HLMP-1000	1	Red	1 @ 20 mA	60°	.23
782-0010	HLMP-K101	1	AlGaAs Red	45 @ 20 mA	60°	.35
782-0015	HLMP-1301	1	HER	5.5 @ 10 mA	60°	.35
782-0020	HLMP-1401	1	Yellow	6 @ 10 mA	60°	.35
782-0025	HLMP-1503	1	Green	5 @ 10 mA	60°	.28

T-1 Tinted, Diffused Lamps

782-0050	HLMP-3001	3	Red	4 @ 20 mA	60°	.26
782-0055	HLMP-D101	2	AlGaAs Red	70 @ 20 mA	65°	.35
782-0060	HLMP-3301	2	HER	7 @ 10 mA	60°	.35
782-0065	HLMP-3401	2	Yellow	8 @ 10 mA	60°	.35
782-0070	HLMP-3507	2	Green	5.2 @ 10 mA	60°	.35

Subminiature LED Lamps

Subminiature lamps are for use in applications where space is at a premium. The tinted, diffused lamps are ideally suited for backlighting applications and may be surface mounted. The 0.010 inch thick copper leads are silver plated.

782-0110	HLMP-6000	6	Red	1.2 @ 20 mA	90°	.23
782-0115	HLMP-Q101	6	AlGaAs Red	45 @ 20 mA	90°	.35
782-0120	HLMP-6300	6	HER	3 @ 10 mA	90°	.35
782-0125	HLMP-6400	6	Yellow	3 @ 10 mA	90°	.35
782-0130	HLMP-6500	6	Green	3 @ 10 mA	90°	.35

High Intensity LED Lamps**T-1 High Intensity, Tinted, Nondiffused Lamps**

Lamps provide high luminous intensity. Ideal for use in high ambient lighting conditions.

782-0210	HLMP-1321	1	HER	12 @ 10 mA	45°	.35
782-0215	HLMP-1421	1	Yellow	12 @ 10 mA	45°	.35
782-0220	HLMP-1521	1	Green	12 @ 10 mA	45°	.35

T-1 High Intensity, Tinted, Nondiffused Lamps

782-0225	HLMP-3316	2	HER	60 @ 10 mA	35°	.39
782-0230	HLMP-3416	2	Yellow	50 @ 10 mA	35°	.39
782-0235	HLMP-3519	2	Green	70 @ 10 mA	24°	.39

High Power Lamps, T-1 1/4**Subminiature, Untinted, Nondiffused Lamps**

782-6128	HLMA-QL00	6	AlInGaP Amber	500 @20mA	28°	.90
782-6130	HLMA-QH00	6	AlInGaP Reddish Orange	500 @20mA	28°	.00

T1, Untinted, Nondiffused

782-6132	HLMA-KL00	1	AlInGaP Amber	200 @20mA	45°	.00
782-6134	HLMA-KH00	1	AlInGaP Reddish Orange	200 @20mA	45°	.00

T1 1/4, Untinted, Nondiffused

782-6136	HLMA-CL00	4	AlInGaP Amber	3000 @20mA	7°	.98
782-6138	HLMA-CH00	4	AlInGaP Reddish Orange	3000 @20mA	7°	.98
782-6140	HLMP-8100	4	Ts-AlGaAs Red	1000 @20mA	19°	.65
782-6142	HLMA-DL00	8	AlInGaP Amber	1000 @20mA	30°	.89
782-6144	HLMA-DH00	8	AlInGaP Reddish Orange	800 @20mA	30°	.89
782-6146	HLMA-C100	8	Ts-AlInGaP Red	750 @20mA	30°	.00

Surface Mount Lamps**3.20mm x 1.60mm PACKAGE**

The small size, low 1.1 mm profile and wide viewing angle make these LEDs excellent for backlighting applications and front panel illumination. They are compatible with IR reflow soldering process.

782-6148	HSMH-C650	A	AlInGaS Red	16 @20mA	155°	.00
782-6150	HSMS-C650	A	HER	5 @20mA	155°	.00
782-6160	HSMO-C650	A	Orange	4 @20mA	155°	.19
782-6162	HSMO-C650	A	Yellow	5 @20mA	155°	.19
782-6164	HSMO-C650	A	Green	9 @20mA	155°	.19

2.00mm x 1.25mm PACKAGE

782-6166	HSMH-C670	B	AlGaAs Red	16 @20mA	155°	.23
782-6168	HSMS-C670	B	HER	5 @20mA	155°	.21
782-6170	HSMO-C670	B	Orange	4 @20mA	155°	.21
782-6172	HSMY-C670	B	Yellow	5 @20mA	155°	.21
782-6174	HSMG-C670	B	Green	9 @20mA	155°	.00

3.20mm x 1.25mm PACKAGE

783-9000	HSMF-C655	C	HER/Green	5/9 @20mA	155°	.34
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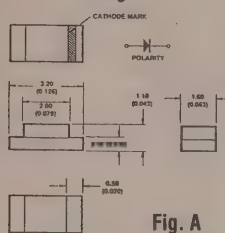


Fig. A

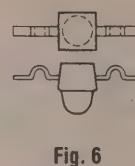


Fig. 6

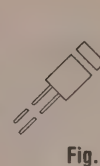


Fig. 7

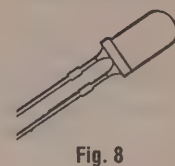


Fig. 8

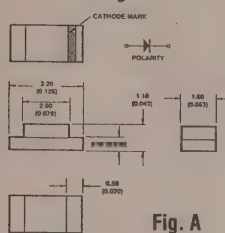


Fig. A

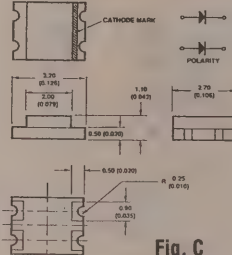


Fig. C

T-1 Low Current, Tinted, Diffused Lamps

Used where available power is limited. Ideal for use in battery powered equipment.

Stock No.	Mfr.'s Type	Fig.	LED Color	Iv(mcd) @ Fwd Current	201/2 View Angle	EACH 1-49
782-0030	HLMP-K150	1	AlGaAsRed	2.0 @ 1 mA	60°	.39
782-0035	HLMP-1700	1	HER	1.8 @ 2 mA	50°	.44
782-0040	HLMP-1719	1	Yellow	1.6 @ 2 mA	50°	.44
782-0045	HLMP-1790	1	Green	1.6 @ 2 mA	50°	.44

T-1 1/4 Low Current, Tinted, Diffused Lamps

782-0075	HLMP-D150	2	AlGaAsRed	3.0 @ 1 mA	65°	.39
782-0080	HLMP-4700	2	HER	2.0 @ 2 mA	50°	.44
782-0085	HLMP-4719	2	Yellow	1.8 @ 2 mA	50°	.44
782-0090	HLMP-4740	2	Green	1.8 @ 2 mA	50°	.44

Rectangular LED Lamps

Rectangular LED lamps are ideal for specialized front panel and switch lighting applications. The tinted, diffused lamps may be stacked side by side to form a linear array.

782-6100	HLMP-R100	7	AlGaAs Red	7.5 @ 20 mA	100°	.30
782-0095	HLMP-Q301	7	HER	5 @ 20 mA	100°	.39
782-0100	HLMP-Q401	7	Yellow	5 @ 20 mA	100°	.39
782-0105	HLMP-Q504	7	Green	5 @ 20 mA	100°	.39

Ultra-Bright LED Lamps**T-1 Ultra-Bright, Untinted, Nondiffused Lamps**

782-0135	HLMP-K105	1	AlGaAsRed	65 @ 20 mA	45°	.35
782-0140	HLMP-1340	1	HER	45 @ 20 mA	45°	.44
782-0145	HLMP-1440	1	Yellow	45 @ 20 mA	45°	.44
782-0150	HLMP-1540	1	Green	45 @ 20 mA	45°	.44

T-1 1/4 Ultra Bright, Untinted, Nondiffused Lamps

782-0155	HLMP-D105	3	AlGaAsRed	240 @ 20 mA	24°	.35
782-0160	HLMP-3750	3	HER	125 @ 20 mA	24°	.44
782-0165	HLMP-3850	3	Yellow	140 @ 20 mA	24°	.44
782-0170	HLMP-3950	3	Green	120 @ 20 mA	24°	.44

T-1 1/4 Super Ultra Bright, Untinted, Nondiffused Lamps

782-6108	HLMP-8115	4	AlGaAsRed	1200 @ 20 mA	15°	.30
782-6110	HLMP-8109	4	AlGaAsRed	500 @ 20 mA	25°	.30
782-6112	HLMP-8205	4	HER	350 @ 20 mA	15°	.27
782-6114	HLMP-8209	4	HER	260 @ 20 mA	25°	.27
782-6116	HLMP-8305	4	Yellow	350 @ 20 mA	15°	.27
782-6118	HLMP-8309	4	Yellow	260 @ 20 mA	25°	.27
782-6120	HLMP-8405	4	Orange	350 @ 20 mA	15°	.27
782-6122	HLMP-8409	4	Orange	260 @ 20 mA	25°	.27
782-6124	HLMP-8505	4	Green	350 @ 20 mA	15°	.27
782-6126	HLMP-8509	4	Green	260 @ 20 mA	25°	.27

Right Angle LED Lamps**T-1 1/4 Right Angle Tinted, Nondiffused Lamps**

782-0190	HLMP-5000	5	Red	4 @ 20 mA	60°	.41
782-0195	HLMP-5030	5	HER	6 @ 10 mA	60°	.56
782-0200	HLMP-5040	5	Yellow	6 @ 10 mA	60°	.56
782-0205	HLMP-5050	5	Green	6 @ 20 mA	60°	.56

Optocouplers

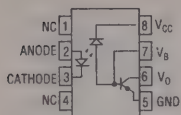


Fig. 8

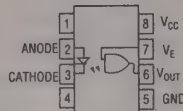


Fig. 9

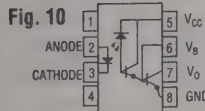


Fig. 10

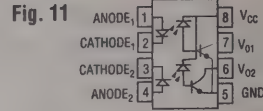


Fig. 11

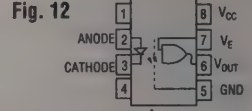


Fig. 12

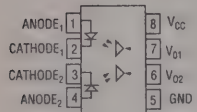


Fig. 13

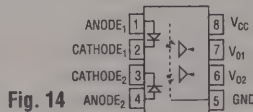


Fig. 14

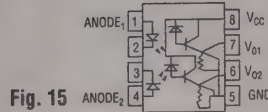


Fig. 15

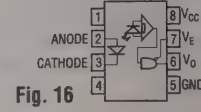


Fig. 16

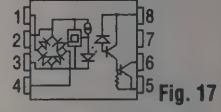


Fig. 17

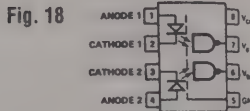


Fig. 18

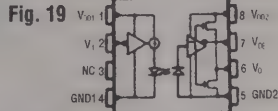


Fig. 19

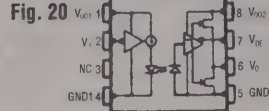


Fig. 20

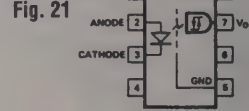


Fig. 21

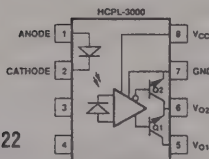


Fig. 22

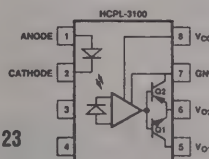


Fig. 23

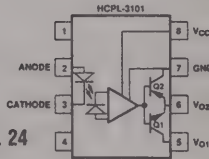


Fig. 24

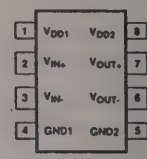


Fig. 25

Single Channel

Type 6N135 is for use in TTL/CMOS, TTL/LSTTL or wide bandwidth analog applications. Current Transfer Ratio (CTR) is 7% minimum at $I_F=16\text{mA}$. Type 6N136 is designed for high speed TTL/TTL applications. CTR is 19% minimum at $I_F=16\text{mA}$. Type 6N137 is LSTTL/TTL compatible. 5V supply. Ideal in high speed digital interfacing applications. Type 6N138 is designed for use in TTL applications. 300% minimum CTR enables operation with 1 U.L. out with a 2.2K Ω pull-up resistor. Type 6N139 is for use in CMOS, LSTTL or other low power applications. 400% minimum CTR is guaranteed over a 0-70°C operating range for a 0.5mA LED current. All are 8-pin, UL recognized.

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-49
782-0240	6N135	8	Transistor Output, 1 Mbit/s	1.23
782-0245	6N136	8	Transistor Output, 1 Mbit/s	1.27
782-0250	6N137	9	Logic Gate Output, 10 Mbit/s	1.70
782-0255	6N138	10	High Gain Darlington Output	1.48
782-0260	6N139	10	High Gain Darlington Output	1.55
782-0285	HCPL-2601	12	Shielded Version of type 6N137	3.38
782-0315	HCPL-3700	17	AC/DC to Logic Interface	3.63
782-6214	HCPL-3760	17	Low Current Version of type HCPL-3700	3.99
782-6216	HCPL-4502	8	Transistor Output, 1 Mbit/s	1.70

*Each channel.

Surface Mount SOIC-8 Package

782-6180	HCPL-0211	21	Surface mount version of type HCPL-2211	4.27
782-6182	HCPL-0452	8	Surface mount version of type HCPL-4502	2.16
782-6184	HCPL-0453	8	Surface mount version of type HCPL-4503	2.49
782-6186	HCPL-0500	8	Surface mount version of type 6N135	1.80
782-6188	HCPL-0501	8	Surface mount version of type 6N136	1.92
782-6190	HCPL-0600	9	Surface mount version of type 6N137	2.30
782-6192	HCPL-0601	12	Surface mount version of type HCPL-2601	2.72
782-6194	HCPL-0611	12	Surface mount version of type HCPL-2611	3.62
782-6196	HCPL-0700	10	Surface mount version of type 6N138	1.80
782-6198	HCPL-0701	10	Surface mount version of type 6N139	1.92

VDE 0884 Compliant 400 mil. Package

782-6200	CNW135	8	Wide body version of type 6N135	1.06
782-6202	CNW136	8	Wide body version of type 6N136	1.91
782-6204	CNW137	9	Wide body version of type 6N137	1.84
782-6206	CNW138	10	Wide body version of type 6N138	1.74
782-6208	CNW139	10	Wide body version of type 6N139	1.87
782-6210	CNW2601	12	Wide body version of type HCPL-2601	2.81
782-6212	CNW2611	12	Wide body version of type HCPL-2611	3.71

Dual Channel

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-49
782-0275	HCPL-2530	11	Dual Version of Type 6N135	2.84
782-0280	HCPL-2531	11	Dual Version of Type 6N136	3.16
782-0295	HCPL-2630	12	Dual Version of Type 6N137	5.49
782-0300	HCPL-2631	14	Dual Version of Type HCPL-2601	5.86
782-0305	HCPL-2730	12	Dual Version of Type 6N138	2.84
782-0310	HCPL-2731	13	Dual Version of Type 6N139	3.27

Ultra High Speed

782-0265	HCPL-2400	16	20 MBaud	4.65
782-6220	HCPL-2430	18	Dual Version of Type HCPL-2400	8.14
782-6222	HCPL-7100	19	15 MBaud	4.23
782-6224	HCPL-7101	20	50 MBaud	5.31

Ultra High CMR

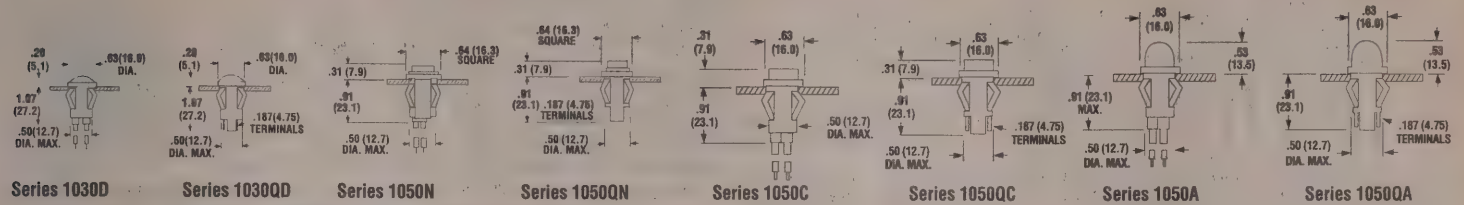
782-6226	HCPL-2211	21	CMR: 5000V/us @ Vcm=800V	3.88
782-0270	HCPL-2411	16	CMR: 1000V/us @ Vcm=300V	5.35
782-6228	HCPL-2611	12	CMR: 5000V/us @ Vcm=1000V	2.68
782-6230	HCPL-4503	8	CMR: 15000V/us @ Vcm=1500V	1.90

Motor & Industrial Control

The HCPL-3000, HCPL-3100 and HCPL-3101 have integrated amplifiers and provide isolation between the motor controller and the high voltage transistors which regulate the motor. HCPL-3000: CMR=1.5kV/us at Vcm=600V; Vcc=5.4 to 18 Volts; Output Current $I_{O1}=1.0\text{A}$ Peak; 0.5 A Continuous; $I_{O2}=2.0\text{A}$ Peak; 0.6 A Continuous; Propagation Delay=2us. HCPL-3100/3101: CMR=1.5kV/us @ Vcm=600V; Vcc=15 to 30 Volts; Output Current I_{O1} & $I_{O2}=0.4\text{A}$ Peak, 0.1 A Continuous; Propagation Delay=1us (HCPL-3100) or 0.3us (HCPL-3101). The HCPL-7800 is the world's smallest isolation amplifier and provides a very low cost isolation solution in the feed back portion of a typical motor control drive circuit. CMR=15kV/us @ Vcm=1000 V; 4.6uV/C Offset Drift vs. Temp.

782-6232	HCPL-3000	22	Power Bipolar Transistor Base Drive	1.46
782-6234	HCPL-3100	23	Power MOSFET/IGBT Gate Drive	1.23
782-6236	HCPL-3101	24	Power MOSFET/IGBT Gate Drive	1.92
782-9935	HCPL-7820	25	High CMR Analog Isolation Amplifier	5.95

Series 1000 Neon Lamps



UL File No. E20325, CSA File No. 13346. White nylon housing will snap-fit into a .500/.505" diameter hole in panels .020/.100" thick. Bezel: Stainless Steel.

Pilot Lamps with Low-Profile Lenses

Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-99	100-499	500-999
679-5050	1030D1†	Red	105-125	2.29	1.62	1.33
679-5060	1030D3†	Amber	105-125	2.29	1.62	1.33
679-5070	1030D4†	White	105-125	2.29	1.62	1.33
679-5080	1032D5†	Green	105-125	3.42	2.43	1.99
679-5055	1030QD1†	Red	105-125	2.48	1.77	1.44
679-5065	1030QD3†	Amber	105-125	2.48	1.77	1.44
679-5075	1030QD4†	White	105-125	2.48	1.77	1.44
679-5085	1032QD5†	Green	105-125	3.64	2.58	2.11
679-9768	1031D1†	Red	208-250	2.29	1.62	1.33
679-9769	1031D3†	Amber	208-250	2.29	1.62	1.33
679-9771	1033D5†	Green	208-250	3.42	2.43	1.99
679-9772	1031QD1†	Red	208-250	2.48	1.77	1.44
679-9773	1031QD3†	Amber	208-250	2.48	1.77	1.44
679-9774	1033QD5†	Green	208-250	3.64	2.58	2.11

Pilot Lamps with High-Hat Lenses

Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-99	100-499	500-999
679-5100	1050C1†	Red	105-125	2.29	1.62	1.33
679-5130	1050C2†	Clear	105-125	2.29	1.62	1.33
679-5110	1050C3†	Amber	105-125	2.29	1.62	1.33
679-5120	1050C4†	White	105-125	2.29	1.62	1.33
679-5140	1052C5*	Green	105-125	3.42	2.43	1.99
679-5105	1050QC1†	Red	105-125	2.48	1.77	1.44
679-5135	1050QC2†	Clear	105-125	2.48	1.77	1.44
679-5115	1050QC3†	Amber	105-125	2.48	1.77	1.44
679-5125	1050QC4†	White	105-125	2.48	1.77	1.44
679-5145	1052QC5*	Green	105-125	3.64	2.58	2.11
679-9781	1051C1†	Red	208-250	2.29	1.62	1.33
679-9782	1051C3†	Amber	208-250	2.29	1.62	1.33
679-9783	1053C5†	Green	208-250	3.64	2.58	2.11
679-9784	1051QC1†	Red	208-250	2.29	1.62	1.33
679-9785	1051QC3†	Amber	208-250	2.29	1.62	1.33
679-9786	1053QC5†	Green	208-250	3.64	2.58	2.11

Pilot Lights with Dome Lenses

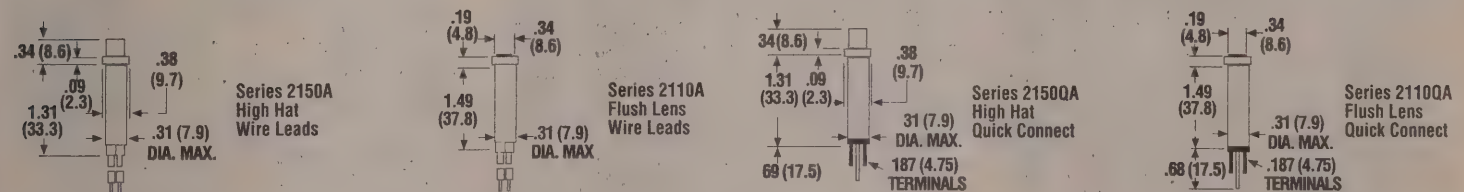
Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-99	100-499	500-999
679-5150	1050A1†	Red	105-125	2.29	1.62	1.33
679-5160	1050A3†	Amber	105-125	2.29	1.62	1.33
679-5170	1050A4†	White	105-125	2.29	1.62	1.33
679-5190	1052A5†	Green	105-125	3.42	2.43	1.99
679-5155	1050QA1†	Red	105-125	2.48	1.77	1.44
679-5185	1050QA2†	Clear	105-125	2.48	1.77	1.44
679-5165	1050QA3†	Amber	105-125	2.48	1.77	1.44
679-5195	1052QA5†	Green	105-125	3.64	2.58	2.11
679-9787	1051A1†	Red	208-250	2.29	1.62	1.33
679-9788	1051A3†	Amber	208-250	2.29	1.62	1.33
679-9789	1053A5†	Green	208-250	3.42	2.43	1.99
679-9790	1051QA1†	Red	208-250	2.48	1.77	1.44
679-9791	1051QA3†	Amber	208-250	2.48	1.77	1.44
679-9792	1053QA5†	Green	208-250	3.64	2.58	2.11

Pilot Lights with Square Lenses

Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-99	100-499	500-999
679-6060	1050N1†	Red	105-125	2.48	1.77	1.11
679-6070	1050N3†	Amber	105-125	2.48	1.77	1.11
679-6080	1050N4†	White	105-125	2.48	1.77	1.11
679-6090	1052N5†	Green	105-125	3.64	2.58	2.11
679-6065	1050QN1†	Red	105-125	2.68	1.90	1.55
679-6075	1050QN3†	Amber	105-125	2.68	1.90	1.55
679-6084	1050QN4†	White	105-125	2.68	1.90	1.55
679-6095	1052QN5†	Green	105-125	3.85	2.74	2.24

†With wire leads 4.4/4.8" long, striped .43/.57". ‡With .187"-.020" tinned brass terminals. *Incorporates G2B lamp and resistor.

Glo-Dot Miniature Neon Pilot Lights Series 2150, 2110



These miniature neon pilot lights are engineered for long service reliability. Rugged, unaffected by shock and vibration. Two lens shapes, flush and high-hat which are available in five colors: red, amber, white, clear and green. Mounting hole is .31" minimum diameter. **Average Operating Life:**

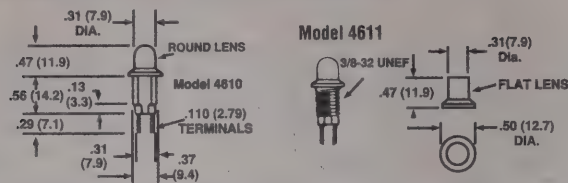
25,000 hours. UL recognized and CSA approved. Supplied with push-on speed nut (SN1287). Units supplied with 4.4"-4.8" wire terminals, stripped 1/2" or .187"-.020" tinned brass terminals.

Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-99	100-499	500-999
679-6400	2150A1	Red	105-125	2.43	1.72	1.40
679-6405	2150A3	Amber	105-125	2.43	1.72	1.40
679-6410	2150A4	White	105-125	2.43	1.72	1.40
679-6415	2150A2	Clear	105-125	2.43	1.72	1.40
679-6420	2152A5*	Green	105-125	3.88	2.75	2.25
679-6611	2110A1	Red	105-125	2.26	1.61	1.32
679-6613	2110A3	Amber	105-125	2.26	1.61	1.32
679-6615	2110A4	White	105-125	2.26	1.61	1.32
679-6617	2110A2	Clear	105-125	2.26	1.61	1.32
679-6620	2112A5*	Green	105-125	3.41	2.42	1.97
679-6500	2150QA1	Red	105-125	2.61	1.85	1.51
679-6505	2150QA3	Amber	105-125	2.61	1.85	1.51
679-6510	2150QA4	White	105-125	2.61	1.85	1.51
679-6520	2152QA5*	Green	105-125	4.07	2.89	2.35
679-6700	2110QA1	Red	105-125	2.45	1.74	1.42
679-6705	2110QA3	Amber	105-125	2.45	1.74	1.42
679-6710	2110QA4	White	105-125	2.45	1.74	1.42
679-6715	2110QA2	Clear	105-125	2.45	1.74	1.42
679-6720	2112QA5*	Green	105-125	3.62	2.57	2.10
679-9700	2151A1	Red	208-250	2.43	1.72	1.40

*Incorporates G2B lamp and resistor. †Incorporates T2B lamp and resistor.

Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-99	100-499	500-999
679-9701	2151A2	Clear	208-250	2.43	1.72	1.40
679-9702	2151A3	Amber	208-250	2.43	1.72	1.40
679-9703	2151A4	White	208-250	2.43	1.72	1.40
679-9704	2153A5†	Green	208-250	3.88	2.75	2.25
679-9705	2153A6†	Blue	208-250	3.88	2.75	2.25
679-9706	2111A1	Red	208-250	2.26	1.61	1.32
679-9707	2111A2	Clear	208-250	2.26	1.61	1.32
679-9708	2111A3	Amber	208-250	2.26	1.61	1.32
679-9709	2111A4	White	208-250	2.26	1.61	1.32
679-9710	2113A5*	Green	208-250	3.41	2.42	1.97
679-9711	2113A6†	Blue	208-250	3.41	2.42	1.97
679-9712	2151QA1	Red	208-250	2.61	1.85	1.51
679-9713	2151QA3	Amber	208-250	2.61	1.85	1.51
679-9714	2151QA4	White	208-250	2.61	1.85	1.51
679-9715	2153QA5*	Green	208-250	4.07	2.89	2.35
679-9716	2111QA1	Red	208-250	2.45	1.74	1.42
679-9717	2111QA2	Clear	208-250	2.45	1.74	1.42
679-9718	2111QA3	Amber	208-250	2.45	1.74	1.42
679-9719	2111QA4	White	208-250	2.45	1.74	1.42
679-9720	2113QA5*	Green	208-250	3.62	2.57	2.10

Tiny-Mite Indicator Light Assemblies



Ordering Information: The complete assembly consists of socket plus lens plus lamp. All sold separately.
Mounting: Model 4610 (without thread) supplied with push-on speednut—can be keyed to prevent rotation.
Lens: Polycarbonate. **Bezel:** Polished stainless steel. **Socket:** Black nylon. Model 4611 (threaded) supplied with zinc finish hex nut and internal tooth lock washer.

Sockets

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
679-4610	4610	Unthreaded	1.57	1.12	.91
679-4611	4611	Threaded	1.57	1.12	.91

Sub-Miniature Wedge-Base Lamps

Stock No.	Mfr.'s Type	Design Volt.	Amps	Candle Power (Approx)	Rated Life Hrs.	EACH		
						1-99	100-499	500-999
679-4556	56	5.0	.115	.15	20,000	.83	.59	.48
679-4584	84	6.3	.040	.03	20,000	.95	.67	.56
679-4586	86	6.3	.200	.40	20,000	.83	.59	.48
679-4518	18	14.0	.040	.13	5,000	1.11	.79	.64
679-4573	73	14.0	.080	.30	15,000	.83	.59	.48
679-4585	85	28.0	.040	.30	7,000	.83	.59	.48
679-4517	17	28.0	.060	.65	5,000	1.11	.79	.64

Lenses

Stock No.	Round Lens No.	Stock No.	Flat Lens No.	Color	EACH		
					1-99	100-499	500-999
679-4621	4621	679-4631	4631	Red	.71	.51	.41
679-4623	4623	679-4633	4633	Red Amber	.71	.51	.41
679-4625	4625	679-4635	4635	Green	.71	.51	.41
679-4626	4626	679-4636	4636	Blue	.71	.51	.41
679-4627	4627	679-4637	4637	Yellow	.71	.51	.41

Incandescent and Solid State Indicators

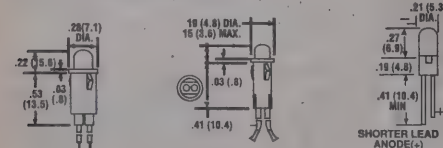


Series 1090 is identical to Series 1050 except these indicators are incandescent and are available in 6, 12, or 28 volt types. Series 1091M is solid state, complete with built-in current limiting resistor and rectifier diode. For solid state lens colors, insert 1-Red, 2-Green, 3-Yellow, where X appears in the stock number. For incandescent lens colors, insert 1-Red, 2-Green, or 3-Yellow, 4-White.

Solid State Indicators

Stock No.	Mfr.'s Type	Volts	EACH		
			1-99	100-499	500-999
679-708X	1091M	12	3.41	2.43	1.98
679-709X	1091M	24	3.41	2.43	1.98
679-950X	1091M*	105-125VAC	3.99	2.84	2.31

Panel Mounted LEDs



Series 5100H 1/4" Diameter. Super brite-30mcd, low current available—only 2mA needed. Black nylon housing will snap-in. .249/.254" diameter hole in panels .031/.062" thick. Leads are 24 AWG, 6" long.

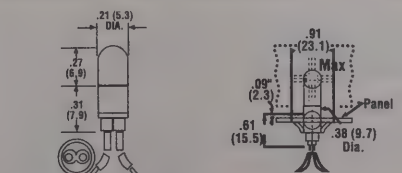
Stock No.	Mfr.'s Type	Lens Color	Forward Volt @ mA	EACH		
				1-99	100-499	500-999
679-7101	5100H1	Red	2.0@20	1.62	.87	.78
679-7102	5100H5	Green	2.2@20	1.62	.87	.78
679-7103	5100H7	Yellow	2.1@20	1.62	.87	.78
679-9911	5102H1-5V	Red	5@10	1.84	.98	.89
679-9912	5102H3-5V	Amber	5@10	1.84	.98	.89
679-9913	5102H5-5V	Green	5@12	1.84	.98	.89
679-9914	5102H1-12V	Red	12@13	1.84	.98	.89
679-9915	5102H3-12V	Amber	12@13	1.84	.98	.89
679-9916	5102H5-12V	Green	12@13	1.84	.98	.89

Incandescent Indicators with Dome Lenses

Stock No.	Mfr.'s Type	Volts	EACH		
			1-99	100-499	500-999
679-614X	1090A	12	2.93	2.09	1.70
679-615X	1090A	28	2.93	2.09	1.70
679-706X	1090QA	12	2.93	2.09	1.70
679-625X	1090QA	28	2.93	2.09	1.70

Incandescent Indicators with Square Lenses

Stock No.	Mfr.'s Type	Volts	EACH		
			1-99	100-499	500-999
679-617X	1090N	12	3.12	2.22	1.81
679-618X	1090N	28	3.12	2.22	1.81



Series 5110F 3/32" Dia. Super brite, T-1 LED, 20mcd diffused lens. Low current available—only 2mA needed. Black nylon housing snap-fits .155/.158" dia. hole in panels .031/.062" thick. Leads 26 AWG, 6" long stripped, 1/2".

Stock No.	Mfr.'s Type	Lens Color	Forward Volt @ mA	EACH		
				1-99	100-499	500-999
679-7111	5110F1	Red	2.0@10	1.67	.90	.81
679-7112	5110F5	Green	2.2@20	1.67	.90	.81
679-7113	5110F7	Yellow	2.1@20	1.67	.90	.81
679-9917	5110F1-5V	Red	5@13	2.17	1.17	1.05
679-9918	5110F3-5V	Amber	5@10	2.17	1.17	1.05
679-9919	5110F5-5V	Green	5@12	2.17	1.17	1.05
679-9920	5110F1-12V	Red	12@13	2.17	1.17	1.05
679-9921	5110F3-12V	Amber	12@10	2.17	1.17	1.05
679-9922	5110F5-12V	Green	12@12	2.17	1.17	1.05

Rectangular Neon Pilot Lights

Series 2300 will snap-fit into .032/.100" thick panels without speednut and into other thicknesses with speednut. Mounting hole 1.276/1.281" x .395/.400".

Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-99	100-499	500-999
679-5001	2330QD1+	Red	120	2.77	1.97	1.61
679-5010	2330QD3+	Amber	120	2.77	1.97	1.61
679-5020	2332QD5+	Green	120	3.89	2.77	2.26
679-5005	2330D1+	Red	120	2.74	1.95	1.59
679-5015	2330D3+	Amber	120	2.74	1.95	1.59
679-5025	2332D5+	Green	120	3.80	2.70	2.21



† With 4.4/4.8" long wire leads, stripped .43/.57". ‡ With .250" tinned brass terminals. Speed nuts supplied.

Oil-Tight Series 6000

- Fully gasketed construction
- Meets NEMA Specification ICS1-110.60
- Neon Models come with Built-In Current Limiting Resistor. LED Models Come With Built-In Current Limiting Resistor and a Rectifier Diode

Mounting: Supplied with internal tooth lockwasher and hex nut; requires .38" (9.65) min. dia. hole. **Wire Leads:** No. 22 AWG (105°C), 4.4/4.8" (11.8/121.9) long, stripped .43/.57" (10.9/14.5). **Lens:** Polycarbonate. **Bezel:** Stainless Steel. **Gaskets:** Buna-N. **Housing:** Black Nylon.

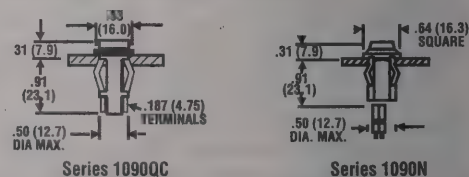
Solid State Lamps

Stock No.	Mfr.'s Type	Volts	Color	EACH		
				1-99	100-499	500-999
679-7283	6091M1-12V	12	Red	5.69	4.04	3.31
679-7284	6091M5-12V	12	Green	5.69	4.04	3.31
679-7285	6091M7-12V	12	Yellow	5.69	4.04	3.31
679-7286	6091M1-24V	24	Red	5.69	4.04	3.31
679-7287	6091M5-24V	24	Green	5.69	4.04	3.31
679-7288	6091M7-24V	24	Yellow	5.69	4.04	3.31

Neon Lamps

Stock No.	Mfr.'s Type	Volts	Color	EACH		
				1-99	100-499	500-999
679-7277	6010M1	125	Red	4.84	3.43	2.80
679-7278	6010M3	125	Amber	4.84	3.43	2.80
679-7279	6012M5	125	Green*	4.84	3.43	2.80
679-7280	6011M1	250	Red	4.84	3.43	2.80
679-7281	6011M3	250	Amber	4.84	3.43	2.80
679-7282	6011M5	250	Green*	4.84	3.43	2.80

*Incorporates G2B Lamp and Resistor.



Incandescent Indicators with High-Hat Lenses

Stock No.	Mfr.'s Type	Volts	EACH		
			1-99	100-499	500-999
679-611X	1090C	12	2.93	2.09	1.70
679-612X	1090C	28	2.93	2.09	1.70
679-621X	1090QC	12	3.12	2.22	1.81
679-622X	1090QC	28	3.12	2.22	1.81

*125VAC supplied with 6" white wire, stripped 1/2" with external 3.9K 1/2 watt resistor attached to one lead, covered with shrink tubing insulation.

Series 5200F 3/16" Diameter. Quick push-in panel mounting. T-1 "Super-Brite" LED Assemblies will snap into .187/.192" diameter holes in panels .020/.097" thick. Wide angle visibility and high-intensity light output.

Stock No.	Mfr.'s Type	Lens Color	Forward Volt @ mA	EACH		
				1-99	100-499	500-999
679-7131	5200F1	Red	2.0@10	1.25	.68	.61
679-7132	5200F5	Green	2.2@20	1.25	.68	.61
679-7133	5200F7	Yellow	2.1@20	1.25	.68	.61

Series 5210F 3/16" Diameter. A wire version of the 5200F (sold above). This series gives protection against static discharge. Leads are 26 AWG, 4.4/4.8" long, stripped .18/.32".

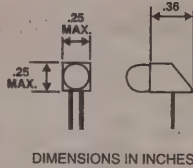
Stock No.	Mfr.'s Type	Lens Color	Forward Volt @ mA	EACH		
				1-99	100-499	500-999
679-7164	5210F1	Red	2.0@10	1.92	1.04	.93
679-7165	5210F5	Green	2.2@20	1.92	1.04	.93
679-7166	5210F7	Yellow	2.1@20	1.92	1.04	.93

Series 5400A 3/16" Diameter. Two piece unit consisting of lens and LED-housing assembly. Allows pre-wiring into circuit and testing before installation. 24 AWG wire leads 4.4/4.8" long, stripped .43/.57". Natural nylon housing, polycarbonate lens, red lead positive. To install, insert lens into panel, press firmly to snap LED assembly into rear of lens.

Stock No.	Mfr.'s Type	Lens Color	Forward Volt @ mA	EACH		
				1-99	100-499	500-999
679-5501	5400A1	Red	2.0@20	2.54	1.81	1.48
679-5502	5400A5	Green	2.1@20	2.54	1.81	1.48
679-5503	5400A7	Yellow	2.0@20	2.54	1.81	1.48

Series 5300E, 5300H, 5302H, and 5308H

- Easy to Mount
- High Contrast Ratio
- Includes Board Standoff to Prevent Flux Entrapment — Permits Easy Washing
- TTL Compatible — Requires No External Current Limiting Resistors (Series 5302H-5 V Only)
- Housing: Black Nylon UL94V-0

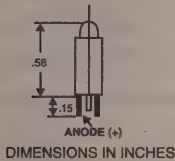


Stock No.	Mfr.'s Type	LED Color	Forward Volt@mA	Brt. Med.	EACH 1-99
679-7236	5300E1	Red	1.7 @ 20	3.0	.60
679-7161	5300H1	Red	2.0 @ 20	30.0	.60
679-7162	5300H5	Green	2.2 @ 20	30.0	.60
679-7163	5300H7	Yellow	2.1 @ 20	25.0	.60
679-7240	5302H1-5V	Red	5.0 @ 10	5.0	.83
679-7241	5302H3-5V	Amber	5.0 @ 10	7.0	.83
679-7242	5302H5-5V	Green	5.0 @ 20	10.0	.83
679-7106	5300H1LC*	Red	1.8 @ 2	2.0	.78
679-7107	5300H5LC*	Green	1.8 @ 2	2.5	.78
679-7108	5300H7LC*	Yellow	1.9 @ 2	2.0	.78
679-7289	5308H1	Red	2.2 @ 20	120.0	.75
679-7291	5308H5	Green	2.2 @ 20	120.0	.75
679-7292	5308H7	Yellow	2.1 @ 20	120.0	.75
679-7293	5300H1/5	Red/Grn	2.2 @ 10	6.0	1.46
679-7210	5300H5/1	Grn/Red	2.2 @ 10	6.0	1.46
679-9970	5302H1-12V	Amber	12.0 @ 12	4.0	.83
679-9972	5302H3-12V	Red	12.0 @ 12	4.0	.83
679-9974	5302H5-12V	Green	12.0 @ 12	4.0	.83

*LC = Low current, high efficiency.

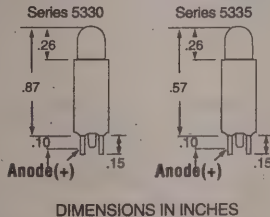
Series 5310F

- Press-in Mounting for accurate location on printed circuit board
- High intensity light output
- Housing: Black Nylon



Stock No.	Mfr.'s Type	LED Color	Forward Volt@mA	Brt. Med.	EACH 1-99
679-7170	5310F1	Red	2.0 @ 10	6.0	1.09
679-7171	5310F5	Green	2.2 @ 20	12.0	1.09
679-7172	5310F7	Yellow	2.1 @ 20	20.0	1.09

Circuit Board Indicators Series 5330H and 5335H



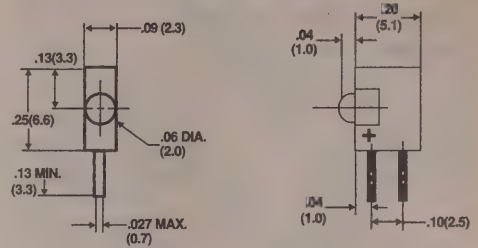
- T-1 1/4 Size Wide Viewing Angle (Series 5330H) Or Intense Beam (Series 5331H) LEDs
- Easy, Press-in Mounting For Precise Positioning On PC Board
- Includes Board Stand-Off To Prevent Flux Entrapment, Permits Easy Washing
- Height Matches Popular Size Rocker And Toggle Switches
- Use Series 5330H and 5335H To Fit Panel Hole Openings
- Use Series 5331H To Line Up Behind Panel Overlays
- Housing: Black Nylon UL94V-0

Stock No.	Mfr.'s Type	LED Color	Forward Volt@mA	Brt. Med.	EACH 1-99
679-7243	5330H1	Red	2.0 @ 20	30.0	.78
679-7244	5330H5	Green	2.2 @ 20	20.0	.78
679-9740	5330H3	Amber	2.0 @ 20	30.0	.78
679-9976	5330H7	Yellow	2.0 @ 20	25.0	.78
679-9741*	5330H1LC**	Red	1.8 @ 2	2.0	.88
679-9742*	5330H5LC**	Green	1.8 @ 2	2.5	.88
679-9978*	5330H7LC**	Yellow	1.9 @ 2	2.0	.88
679-9743	5330H1-5V*	Red	5.0 @ 10	6.0	.99
679-9744	5330H3-5V*	Amber	5.0 @ 10	7.0	.99
679-9745	5330H5-5V*	Green	5.0 @ 10	10.0	.99
679-7249	5335H1	Red	2.0 @ 20	30.0	.78
679-7250	5335H5	Green	2.2 @ 20	30.0	.78
679-9746*	5335H1LC**	Red	1.8 @ 2	2.0	.88
679-9747*	5335H5LC**	Green	1.8 @ 2	2.5	.88
679-9748	5335H1-5V*	Red	5.0 @ 10	6.0	.99
679-9749	5335H5-5V*	Green	5.0 @ 10	7.0	.99

*Built-in Resistor. **LC = Low current, high efficiency.

Series 5350T LEDs

- Small Size Enables These to be Stacked on 0.100" Center
- High-Intensity Light Output
- Ideal for Use Where LEDs Must Align with Opening in a Cover Panel
- Housing: Black Nylon UL94V-0
- Sub-Miniature 2.0mm LED Right Angle Mounted Simplify PC Board Mounting — Saves Assembly Time and Costs
- Low current — only 2mA
- Built-in Resistor Chip; Operates at 5 Volts Without External Resistor

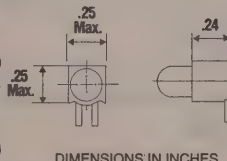


Stock No.	Mfr.'s Type	Lens Color	Forward Volt @ mA	EACH 1-99	EACH 100-499	EACH 500-999
679-8348	5350T1	Red	2.2 @ 10	.91	.49	.44
679-8349	5350T5	Green	2.3 @ 10	.91	.49	.44
679-8350	5350T7	Yellow	2.2 @ 10	.91	.49	.44
679-8351	5352T1-5V	Red	5.0 @ 9.6	.91	.49	.44
679-8352	5352T3-5V	Amber	5.0 @ 10	1.04	.56	.50
679-8353	5352T5-5V	Green	5.0 @ 10	1.04	.56	.50
679-8354	5350T1LC*	Red	1.8 @ 2	1.04	.56	.50
679-8355	5350T5LC*	Green	1.8 @ 2	1.04	.56	.50
679-8360	5350T7LC*	Yellow	1.9 @ 2	1.09	.59	.53
679-8354	5352T1-5VLC*	Red	5.0 @ 3.5	1.09	.59	.53
679-8355	5352T3-5VLC*	Amber	5.0 @ 3.5	1.09	.59	.53
679-8356	5352T5-5VLC*	Green	5.0 @ 3.5	1.09	.59	.53

*LC = Low current, high efficiency.

Circuit Board Indicators Series 5380E, 5380H

- Easy Mounting
- Includes Board Stand-off to Prevent Flux Entrapment, Permits Easy Washing
- Needs Minimum Space
- Housing: Black Nylon UL94V-0



Stock No.	Mfr.'s Type†	LED Color	Forward Volt@mA	Brt. Med.	EACH 1-99
679-7256	5380E1	Red	1.7 @ 20	3.0	.60
679-7259	5380H1**	Red	2.0 @ 20	30.0	.60
679-7260	5380H5**	Green	2.2 @ 20	30.0	.60
679-7261	5380H7	Yellow	2.1 @ 20	25.0	.60
679-9730	5380H1LC	Red	1.8 @ 2	2.0	.78
679-9731	5380H5LC	Green	1.8 @ 2	2.5	.78
679-9732	5380H7LC	Yellow	1.9 @ 2	2.0	.78
679-9733	5380H1-5V*	Red	5.0 @ 10	5.5	.83
679-9734	5380H3-5V*	Red/Amber	5.0 @ 10	7.0	.83
679-9735	5380H5-5V*	Green	5.0 @ 12	10.0	.83
679-9736	5380H1-12V*	Red	12.0 @ 12	4.0	.83
679-9737	5380H3-12V*	Red/Amber	12.0 @ 12	4.0	.83
679-9738	5380H5-12V*	Green	12.0 @ 12	4.0	.83

*Built-in Resistor. **Super Brite 30mcd. †LC = Low current, high efficiency.

Circuit Board Indicator Super Brite LED Assemblies Series 5670H, 5680F

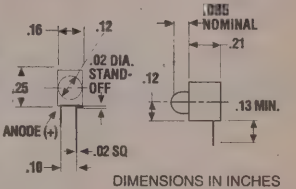
- Dual Mounted
- Allow Two LEDs In The Same Board Area Required for a Single LED
- High Contrast Ratio, High Intensity Light Output
- Includes Board Stand-off to Prevent Flux Entrapment — Permits Easy Washing

Stock No.	Mfr.'s Type	LED Color	Forward Volt@mA	Brt. Med.	EACH 1-99
679-8670	5670H1:1*	Red/Red	2.0 @ 20	30	1.38
679-8671	5670H5:5*	Grn/Grn	2.0 @ 20	20	1.38
679-8672	5670H7:7	Yel/Yel	2.1 @ 20	25	1.38
679-9750	5670H3:3	Amb/Amb	2.0 @ 20	20	1.38
679-8680	5680F1:1	Red/Red	2.0 @ 10	6	1.38
679-8681	5680F5:5	Grn/Grn	2.2 @ 20	12	1.38
679-8682	5680F7:7	Yel/Yel	2.1 @ 20	20	1.38
679-9750	5680F3:3	Amb/Amb	2.0 @ 10	5	1.38

*Super Brite 30mcd. Note: Allied and IDI can also supply the user who may have a special requirement, calling for various color/elec. specs.

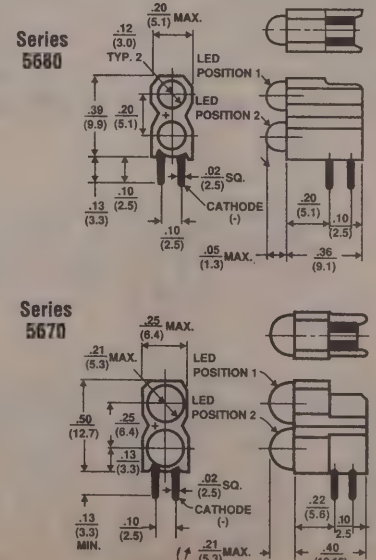
Miniature Circuit Board Indicator LED T-1 Block Assembly Series 5600F, 5602F

- Easy to Mount
- Includes Board Stand-off to Prevent Flux Entrapment, Permits Easy Washing
- T-1 Size High Intensity LED
- Housing: Black Nylon UL94V-0



Stock No.	Mfr.'s Type†	LED Color	Forward Volt@mA	Brt. Med.	EACH 1-99
679-7262	5600F1	Red	2.0 @ 10	6.0	.60
679-7263	5600F5	Green	2.2 @ 20	12.0	.60
679-7264	5600F7	Yellow	2.1 @ 20	20.0	.60
679-9761	5600F3	Amber	2.0 @ 10	5.0	.60
679-9762	5600F1LC	Red	1.8 @ 2	1.8	.78
679-9763	5600F5LC	Green	1.8 @ 1	1.8	.78
679-9764	5600F7LC	Yellow	1.9 @ 2	1.6	.78
679-9765	5602F1-5V*	Red	5.0 @ 10	8.0	.83
679-9766	5602F3-5V*	Red/Amber	5.0 @ 10	8.0	.83
679-9767	5602F5-5V*	Green	5.0 @ 12	8.0	.83

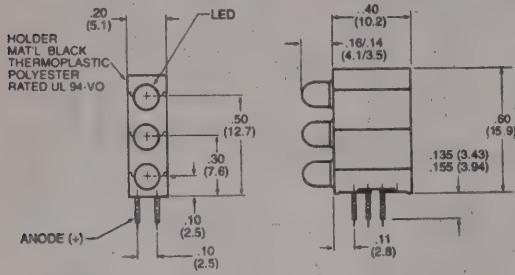
*Resistor built-in 5 volts. †LC = Low current, high efficiency.



PC Board, 3-Up and 4-Up T-1 LED Lamps

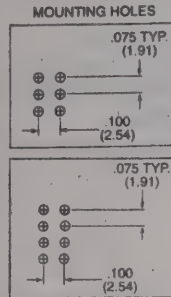
High Density — Right Angle Mounting

Series 5693F — All One Color

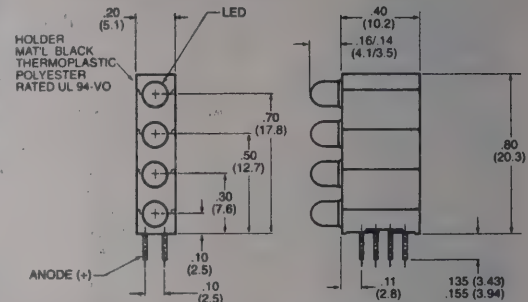


ALL DIMENSIONS ARE IN INCHES (MM)

- ▶ 3 and 4 T-1 LEDs Stack Mounted in Single Block Saves Space and Assembly Time
- ▶ Black Plastic Mounting Block for High Contrast Ratio
- ▶ As Special Colors Can Be Mixed and Matched



Series 5694F — All One Color



Stock No.	Mfr.'s Type	LED Color Code No.	Color	Typical Intensity	Rated Current	Forward Voltage Typ.	EACH	
							1-99	100-499
679-9816	5693F1;1;1	1	Red	10.0 mcd	10 mA	2.2 V	4.26	1.78
679-9817	5693F3;3;3	3	Amber	6.5 mcd	10 mA	2.2 V	4.26	1.78
679-9818	5693F5;5;5	5	Green	8.5 mcd	10 mA	2.3 V	4.26	1.78
679-9819	5693F7;7;7	7	Yellow	10.0 mcd	10 mA	2.2 V	4.26	1.78

Stock No.	Mfr.'s Type	LED Color Code No.	Color	Typical Intensity	Rated Current	Forward Voltage Typ.	EACH	
							1-99	100-499
679-9820	5694F1;1;1	1	Red	10.0 mcd	10 mA	2.2 V	5.93	2.48
679-9821	5694F3;3;3	3	Amber	6.5 mcd	10 mA	2.2 V	5.93	2.48
679-9822	5694F5;5;5	5	Green	8.5 mcd	10 mA	2.3 V	5.93	2.48
679-9823	5694F7;7;7	7	Yellow	10.0 mcd	10 mA	2.2 V	5.93	2.48

Also Available: Multi-Colored 3- and 4-Up LEDs

Call Allied at 1-800-433-5700 for Pricing

Color Code: 1 = Red, 3 = Amber, 5 = Green, 7 = Yellow. Ordering Information: Insert number of colors desired for each position to determine Mfr.'s Type.

3-Up LEDs

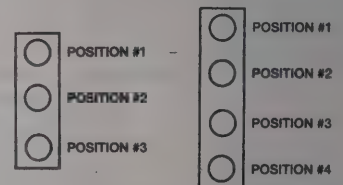
Example: 5693F

Pos. #1 Pos. #2 Pos. #3

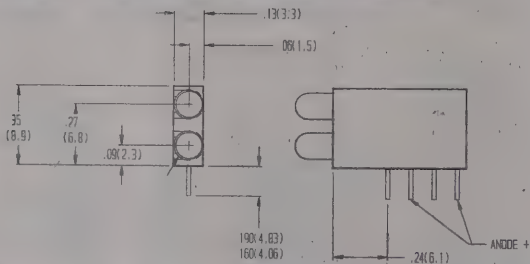
4-Up LEDs

Example: 5694F

Pos. #1 Pos. #2 Pos. #3 Pos. #4



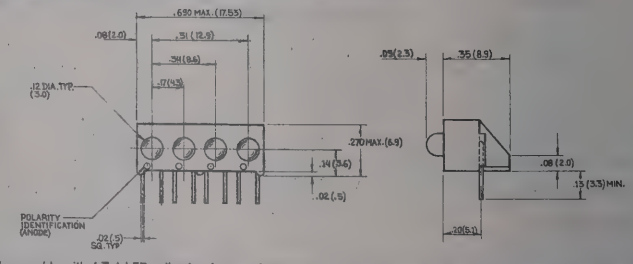
Series 5682F Bi-Level Circuit Board Indicators



Bi-level assembly features single-inline mounting. Only 0.13" wide allowing high density mounting. Black plastic housing provides high contrast ratio. Housing UL 94V-0 black nylon.

Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Typical Current	EACH	
					1-99	100-499
679-1160	5682F1;1	Red	10.0	10	3.18	1.33
679-1161	5682F3;3	Amber	6.5	10	3.18	1.33
679-1162	5682F5;5	Green	8.5	10	3.18	1.33
679-1163	5682F7;7	Yellow	10.0	10	3.18	1.33

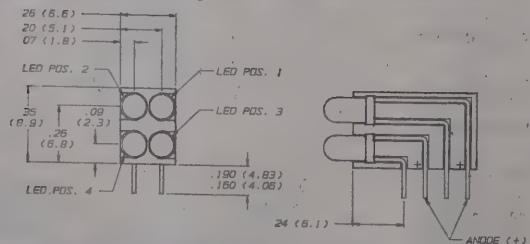
Series 5360F Circuit Board Indicators



Quad assembly with 4 T-1 LEDs allowing for easy installation — assuring matched height and center to center spacing — reduces assembly time and costs. High Brite and Super Brite LEDs feature high light output and diffused lenses. Low current — only 2 mA available. Standoffs prevent flux entrapment. Housing UL 94V-0 black nylon.

Stock No.	Mfr.'s Type	Output Color	Lum. Intensity		EACH	
			Min.	Typ.	1-99	100-499
679-1164	5360F1	Red	1.5	6.0	2.24	1.20
679-1165	5360F3	Amber	3.0	5.0	2.55	1.37
679-1166	5360F5	Green	2.0	12.0	2.24	1.20
679-1167	5360F7	Yellow	1.5	20.0	2.24	1.20

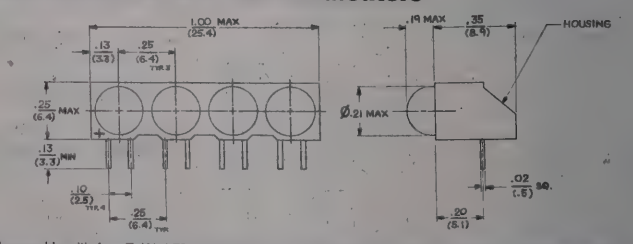
Series 5684F Quad Array Circuit Board Indicators



Four T-1 LEDs mounted in a single block. Bi-level features dual-inline mounting. Only 0.26" wide allowing for high density mounting. Black plastic housing provides for high contrast ratio. Housing UL 94V-0 black nylon.

Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Typical Current	EACH	
					1-99	100-499
679-1168	5684F1;1;1;1	Red	10.0	10	5.93	2.48
679-1169	5684F3;3;3;3	Amber	6.5	10	5.93	2.48
679-1170	5684F5;5;5;5	Green	8.5	10	5.93	2.48
679-1171	5684F7;7;7;7	Yellow	10.0	10	5.93	2.48

Series 5640H Circuit Board Indicators

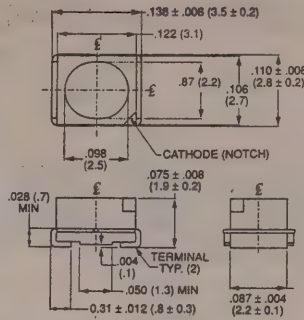


Quad assembly with four T-1 1/4 LEDs allowing for easy installation — assuring matched height and center to center spacing — reduces assembly time and costs. Super Brite LEDs feature high light output and diffused lenses. Low current — only 2 mA available. Standoffs prevent flux entrapment. Housing UL 94V-0 black nylon.

Stock No.	Mfr.'s Type	Output Color	Lum. Intensity		EACH	
			Min.	Typ.	1-99	100-499
679-1172	5640H1	Red	3.0	30.0	2.52	1.36
679-1173	5640H3	Amber	4.0	20.0	2.52	1.36
679-1174	5640H5	Green	3.0	30.0	2.52	1.36
679-1175	5640H7	Yellow	2.5	25.0	2.52	1.36

Series 7002X and 7008X

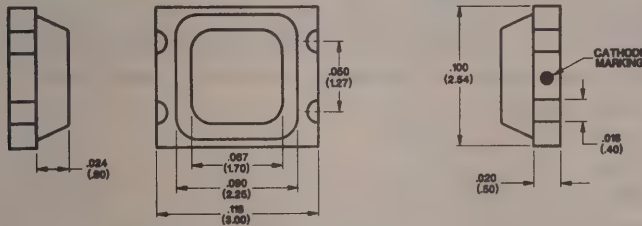
- Non-Diffused
- Package Color: Clear
- Viewing Angle: 120°
- Rated Current: 10 mA
- Premium Brightness in Miniature Chip-Type LED Assemblies
- Ideally Suited for Applications Such As Telecommunications, Data Processing Peripherals and Networking Units As Replacements for Through-Hole Products
- Also Ideal for Backlighting or Light Pipe Applications
- Integral Reflection Cup Maximizes Output
- Compact Size: 3.5 mm Wide × 2.8 mm Deep × 2 mm High
- Compatible with Full Range of IR and Vapor Phase Reflow Processes, and Conductive Adhesives, to Facilitate High-Speed Board Loading
- Packaged for Automatic Component Placement in Pocketed Anti-Static Tape Reels.



Stock No.	Mfr.'s Type	Output Color	Lum. Intensity at 10 mA		Forward Voltage Typ.	EACH* 100-400
			Min.	Typ.		
679-1101	7002X1	Red	2.0 mcd	6.0 mcd	1.9 Vf	.68
679-1102	7008X1	Red	2.0 mcd	6.0 mcd	1.9 Vf	.68
679-1103	7002X11	Red	9.0 mcd	17.0 mcd	1.8 Vf	.78
679-1104	7008X11	Red	9.0 mcd	17.0 mcd	1.8 Vf	.78
679-1105	7002X3	Amber	1.5 mcd	5.0 mcd	1.9 Vf	.68
679-1106	7008X3	Amber	1.5 mcd	5.0 mcd	1.9 Vf	.68
679-1107	7002X5	Green	5.0 mcd	10.0 mcd	2.0 Vf	.68
679-1108	7008X5	Green	5.0 mcd	10.0 mcd	2.0 Vf	.68
679-1109	7002X7	Yellow	2.0 mcd	5.0 mcd	2.0 Vf	.68
679-1110	7008X7	Yellow	2.0 mcd	5.0 mcd	2.0 Vf	.68

*Sold in 100 piece multiples. Full reels available; 7002X supplied 2,000 parts per 7" reel and 7008X supplied 8,000 parts per 13" reel.

Series CMD113 Surface Mount LED Lamps

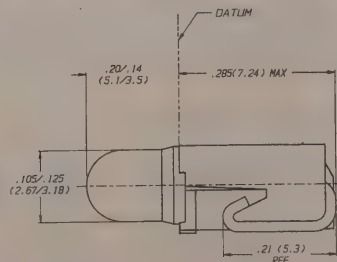


Single and dual surface mount LED Lamps are designed to be compatible with today's state-of-the-art surface mount technology. Packaged on an 8 mm tape allowing for easy automated placement. All have clear lenses.

Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Typical Current	EACH	
					1-99	100-499
679-1130	CMD11304HR	H. E. Red	7.0	20	1.03	.69
679-1131	CMD11304Y	Yellow	14.0	20	1.03	.69
679-1132	CMD11304A	Amber	14.0	20	1.03	.69
679-1133	CMD11304G	H. E. Green	22.0	20	1.03	.69
679-1134	CMD11304UR	Ultra Red	14.0	10	1.03	.69
679-1135	CMD11354HRG	Red/Green	4.0/12.0	20	1.34	.90
679-1136	CMD11354AG	Amber/Green	8.0/12.0	20	1.34	.90
679-1137	CMD11354URG	Red/Green	8.0/12.0	10/20	1.34	.90

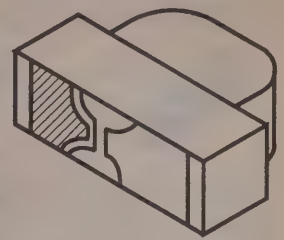
Series 6251F T-1 Surface Mount Circuit Board Indicator

Compact size only 3.8 mm high. Available in diffused or non-diffused styles. High brightness uniform light output. Direct optics with no bends or losses. Housing meets UL 94V-0.



Stock No.	Mfr.'s Type	Output Color	Lens Style	Typical Intensity	EACH	
					1-99	100-499
679-1138	6251F1	Red	Diffused	5.0	1.01	.55
679-1139	6251F5	Green	Diffused	5.0	1.01	.55
679-1140	6251F7	Yellow	Diffused	5.0	1.01	.55
679-1141	6251F21	Super Red	Diffused	10.0	1.25	.67
679-1142	6251F11	Red	Non-Diffused	10.0	1.01	.55
679-1143	6251F15	Green	Non-Diffused	10.0	1.01	.55
679-1144	6251F17	Yellow	Non-Diffused	10.0	1.01	.55
679-1145	6251F31	Super Red	Non-Diffused	20.0	1.25	.67

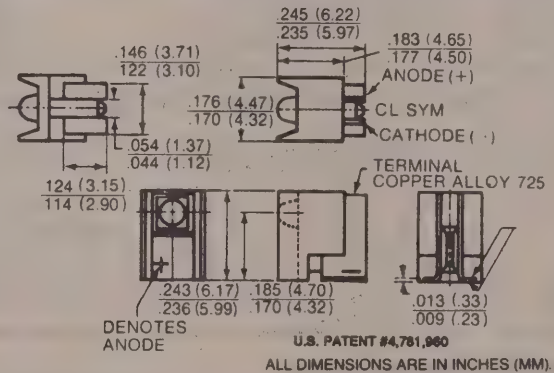
Series CMD115 Right Angle Surface Mount LED Lamps



Right angle surface mount LED Lamps are designed to be compatible with today's state-of-the-art surface mount technology. Packaged on 8 mm tape allowing for easy automated placement. All have clear lenses. Compact size only 3.0 mm × 1.0 mm × 2.0 mm.

Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Typical Current	EACH	
					1-99	100-499
679-1124	CMD11504UR	Red	13.2	20	.58	.39
679-1125	CMD11504A	Orange	3.2	20	.58	.39
679-1126	CMD11504Y	Yellow	3.2	20	.58	.39
679-1127	CMD11504PY	Pure Yellow	10.4	20	.58	.39
679-1128	CMD11504G	Green	16.0	20	.58	.39
679-1129	CMD11504PG	Pure Green	2.6	20	.58	.39

Series 6200 Sub-Miniature 1.65 mm Right Angle Block Assembly



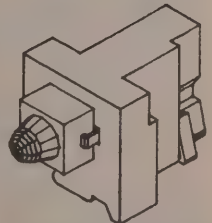
Designated the model 6200 series, these devices position LEDs for easy visibility, particularly in applications where boards are mounted in parallel close to one another. 6200 series surface mount LEDs are available in red, amber, green, and yellow colors, in standard and low-current versions, and in both standard and low-current 5 volt resistor-included versions. 6200 series LEDs are designed and packaged to meet the requirements of automated surface mount production lines. These devices will withstand processing temperatures of either IR or vapor-phase reflow, and are compatible with most common fluxes and cleaning agents. **Housing:** Black Polyphenylene Sulfide, UL 94V-0.

Stock No.	Mfr.'s Type	Color	Typical Intensity	Rated Current	Forward Voltage Typ.	EACH 100-400
679-1120	6200T1	Red	5.0 mcd	10.0 mA	2.2 V	.63
679-1121	6200T3	Amber	5.0 mcd	10.0 mA	2.0 V	.63
679-1122	6200T5	Green	4.0 mcd	10.0 mA	2.3 V	.63
679-1123	6200T7	Yellow	3.8 mcd	10.0 mA	2.2 V	.63

*Sold in 100 piece multiples only.

Series 6255T Surface Mount Circuit Board Indicator

Full surface mount reflow compatibility. Wide view angle and super brite output. Direct optics, no bends or losses. Ideal drop-in replacement for Dialight 591 Series Prism. Black housing provides high contrast. UL 94V-0 rated housing.



Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Current mA	EACH	
					1-99	100-499
679-1146	6255T1	Red	5.0	10	1.12	.60
679-1147	6255T3	Amber	5.0	10	1.12	.60
679-1148	6255T5	Green	4.0	10	1.12	.60
679-1149	6255T7	Yellow	3.8	10	1.12	.60
679-1150	6255T1LC	Red	0.5	2	1.30	.70
679-1151	6255T5LC	Green	1.2	2	1.30	.70
679-1152	6255T7LC	Yellow	0.5	2	1.30	.70



LED Displays and Lamps, Vacuum Fluorescent Display Modules, Mounting Hardware

HERCULES™ Series LED Displays



LED character displays ranging from .27 to 4.0". Common anode or common cathode (CA or CC) single and dual digit models with left-hand or right-hand decimal points (LHDP or RHDP). Seven and fourteen segment numeric and hexadecimal versions plus dot matrix models are available. Some models have internal TTL MSI decoder driver and latch. Many HERCULES displays are compatible with ATLAS Display Mounting Hardware. Low power DC operation. Compact "dual-in-line" packages. These devices are equivalent to many models from other manufacturers. Type number suffixes denote display color: R=red, E=red-orange, H=high efficiency red.

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
658-1010	LR-1705R	0.27" char. ht., LHDP with logic, serial IN, 0-9	24.03	22.18
658-9999	LR-1706R	0.27" char. ht., LHDP with logic, BCD IN, 0-9, A-F	24.03	22.18
658-1030	LR-1707R	0.3" char. ht., HEX with L and RHDP and IC	27.51	25.40
658-1050	LR-1737R	0.3" char. ht., CA, R and LHDP	2.10	1.94
658-1055	LR-1738R	0.3" char. ht., CC, RHDP	2.10	1.94
658-5005	LR5002-7651	0.43" char. ht., CA, RHDP, hi-eff. red	3.28	3.02
658-5010	LR5002-7750	0.43" char. ht., CA, LHDP, red	2.51	2.32
658-5015	LR5002-7760	0.43" char. ht., CC, RHDP, red	2.51	2.32
658-1076	LR-8321R	0.5" char. ht., CA, RHDP, red, horiz. DIP layout	2.41	2.22
658-3764	LR-3784R	0.54" char. ht., Dual alphanumeric, CC, RHDP, 14 seg. per char., red	5.20	4.80
658-1800	LR-1800R	0.63" char. ht., CA, LHDP, red	3.60	3.32
658-4720	LR-1720R	1.02" char. ht., CA, RHDP, red	3.74	3.45
658-4723	LR-1723R	1.02" char. ht., CC, RHDP, red	3.74	3.45
658-5046	LR2351E	2.25" char. ht., CC, RHDP, orange	14.67	13.54

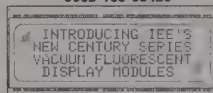
"FLIP™", "NO-FRILLS™" and "NINETY SERIES™" Modules

"FLIP™", "NO-FRILLS™" modules feature 5 x 7 dot matrix characters, an on-board microprocessor, and operation from a single +5 VDC power supply. Type 3601-9X-XXX FLIP "NINETY SERIES™" modules are manufactured using SMT and feature software dimming, accented European characters, and can display several user-defined "downloadable" characters. They are very compact and UL recognized.

Stock No.	Mfr.'s Type	Line x Character	Character Height		Display Size H x W — In.	EACH
			In.	mm		
558-5250	3600-83-032	1 x 32	.210	5.40	2.20 x 8.10	140.00
558-9896	3601-97-032	2 x 16	.210	5.40	2.60 x 3.39	125.00

The New Flip Century™ Series Vacuum Fluorescent Display Modules

3602-100-05420



- Small Size — Surface Mount Technology
- Interface to Intel and Motorola Microprocessors
- Emulates Hitachi Type LCD Controllers
- Data Entry-Serial RS-232-C or 8 Bit Parallel
- Bell/Alarm Output (Selected Models)
- Reset Controls — Hardware and Software
- Low Power Requirements: 5 Volt DC
- Standard Temperature Range: -20° to +70°C
- Extended Temperature Range (-40° to +85°C) Available
- Five Unique User Downloadable Characters

- Five Selectable Character Sets: ASCII, European, Katakana, Cyrillic and Hebrew
- Scroll Modes — Vertical and Horizontal
- Blink Field and Underline Modes (Selected Models)
- Dimming Level Control — Hardware and Software (8 Levels)
- Screen Saver Control for Increased Tube Life
- Extensive Self-Test Mode with Both Hardware and Software Control
- Other Models Available

ATLAS™ Display Mounting Hardware

Bezel Dimensions

DMH22463 and DMH23441			DMH24036		
No. of Digits	Opening (A)	Width (B)	No. of Digits	Opening (C)	Width (D)
2	1.18	1.7	1	1.16	2.16
3	1.68	2.2	2	2.06	3.06
4	2.18	2.7	3	2.96	3.96
5	2.68	3.2	4	3.86	4.86
6	3.18	3.7	5	4.76	5.76
7	3.68	4.2	6	5.66	6.66
8	4.18	4.7	7	6.56	7.56
—	—	—	8	7.46	8.46

Panel Cutout Dimensions

DMH22463***			DMH23441***			DMH24036***		
No. of Digits	Suffix	W x H	No. of Digits	Suffix	W x H	No. of Digits	Suffix	W x H
2	-02	1.593 x 0.5	2	-02	1.593 x 1.0	1	-01	1.93 x 1.67
3	-03	2.093 x 0.5	3	-03	2.093 x 1.0	2	-02	2.83 x 1.67
4	-04	2.593 x 0.5	4	-04	2.593 x 1.0	3	-03	3.73 x 1.67
5	-05	3.093 x 0.5	5	-05	3.093 x 1.0	4	-04	4.63 x 1.67
6	-06	3.593 x 0.5	6	-06	3.593 x 1.0	5	-05	5.53 x 1.67
7	-07	4.093 x 0.5	7	-07	4.093 x 1.0	6	-06	6.43 x 1.67
8	-08	4.593 x 0.5	8	-08	4.593 x 1.0	7	-07	7.33 x 1.67
—	—	—	—	—	—	8	-08	8.23 x 1.67

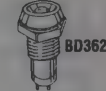
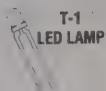
Used with IEE's HERCULES LED display, ATLAS Universal Mounting Hardware allows design of three basic assemblies with 1 to 8 digits and display character heights from .27" to 1.02". To make an assembly, the displays are installed in a socket, then attached to a molded bezel with integral 4-40 mounting studs. Bezels can be specified with clear or colored polarized or non-polarized filters. Most versions can be assembled using DMD1760 series Decoder/Driver modules (one DMD unit per digit) creating attractive, ready to use BCD input display-bezel assemblies. Front panel installation is quick; two mounting nuts secure the assembly firmly in the panel. The ATLAS selection table below will help when choosing basic combinations. Ask ALLIED for combinations not shown. Made in U.S.A.

LED Display Mounting Hardware (Sockets and Bezels)

Mfr.'s Type	Description	Recommended Displays	No. of Digits (Not Incl.)	Max. Display Body Width*	2 Digits†		4 Digits†	
					Stock No.	EACH	Stock No.	EACH
DMH1750P	Assembly consists of Bezel w/red filter***	.27-.3" Char. Ht.	2-8†	.5"	658-5500	20.53	658-5505	31.43
DMH22463P**	Socket	.3" Std. DIP row spacing			658-1610	9.83	658-1635	10.42
DMH22464					658-1110	11.36	658-1130	22.13
DMH1751P	Assembly consists of Bezel w/red filter***	.4-.43" Char. Ht.	2-8†	.5"	658-5525	21.31	658-5530	31.63
DMH23441P**	Socket	.3" Std. DIP row spacing			658-5545	10.28	658-5550	11.52
DMH2464					658-1110	11.36	658-1130	22.13
DMH1752P	Assembly consists of Bezel w/red filter***	.63-1.02" Char. Ht.	1-8†	.9"	658-5565	38.37	658-5570	54.48
DMH24036P**	Socket	.6" LSI Std. DIP row spacing			658-5585	16.53	658-5595	17.28
DMH24038					658-5590	21.78	658-5600	37.20

*The body width of each display used may vary among manufacturers. **Bezels and sockets may be purchased separately. Contact your local Allied Sales Office for information and Atlas catalogs. ***Allied stocks the red plex (P). Contact your local Allied Sales Office for the following additional colors: R=Red Polarized, A=Amber Polarized, G=Green Plex, M=Magenta Plex, N=Neutral Polarized, C=Clear Plex, J= Neutral Plex and K=No Screen. †Note: Other display widths (1, 3, 5, and 7 digits) are available. Ask Allied for catalogs and information.

JUPITER™ Series LED Indicator Lamps



Solid state (LED) lamps in industry standard packages from T-1 through T-1 1/4. Encapsulated in colored-transparent, colored-diffused, clear-diffused or water-clear housings. T-1 1/4 right-angle indicators are end-stackable, housed in contrasting black cases designed to seat flush on the mounting surface. These have wide viewing angles with tinted-diffused lamps. In the JUPITER Series, illumination values range from 2 mcd to 3,000 mcd. Low current and high efficiency versions are offered. Ten element bar graphs are made in standard colors (red, yellow, and green). Customers may specify multi-color combinations not listed below. Ask your local Allied office for the JUPITER BAR GRAPH FLYER and SOLID STATE LAMP CATALOG.

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
558-5055	LL201R	T-1, Red LED, Red diffused, 0.8 mcd @ 20 mA	.15	.14
558-5060	LL203R	T-1 1/4, Red LED, Red diffused, 0.8 mcd @ 20 mA	.15	.14
558-5065	LL231G	T-1, Green LED, Green diffused, 3.8 mcd @ 20 mA	.18	.17
558-5070	LL233G	T-1 1/4, Green LED, Green diffused, 3 mcd @ 20 mA	.18	.17
558-5075	LL251Y	T-1, Yellow LED, Yellow diffused, 3.8 mcd @ 20 mA	.20	.18
558-5080	LL253Y	T-1 1/4, Yellow LED, Yellow diffused, 3 mcd @ 20 mA	.20	.18
558-5090	LL291E	T-1, Hi-efficiency Red LED, Red diffused, 3.8 mcd @ 20 mA	.18	.17
558-5095	LL293E	T-1 1/4, Hi-efficiency Red LED, Red diffused, 3 mcd @ 20 mA	.18	.17
558-5095	LL307E	T-1 1/4, Hi-efficiency Red LED, Red diffused, 19 mcd @ 20 mA	.22	.20
558-5100	LL307GT	T-1 1/4, Green, Green transparent, 29 mcd @ 20 mA	.22	.20
558-5105	LL307H	T-1 1/4, Hi-efficiency Red, Red diffused, 19 mcd @ 20 mA	.22	.20
558-5110	LL307Y	T-1 1/4, Yellow, Yellow diffused, 12.6 mcd @ 20 mA	.23	.22
558-5115	LL4201R	T-1, Red, Red diffused, .8 mcd @ 20 mA	.17	.15
558-5120	LL4202RT	T-1, Red, Red transparent, 4 mcd @ 20 mA	.17	.15
558-5125	LL4203R	T-1 1/4, Red, Red diffused, 1.1 mcd @ 20 mA	.17	.15
558-5130	LL4204RT	T-1 1/4, Red, Red transparent, 5.5 mcd @ 20 mA	.17	.15
558-5135	LL4223R	T-1 1/4, Red, Red diffused, 8.7 mcd @ 20 mA, hi-eff.	.22	.20
558-5140	LL4224RT	T-1 1/4, Red, Red transparent, 40 mcd @ 20 mA, hi-eff.	.22	.20
558-5145	LL4234GT	T-1 1/4, Green, Green transparent, 40 mcd @ 20 mA	.22	.20
558-5150	LL4235G	T-1 1/4, Green, Green diffused, 8.7 mcd @ 20 mA	.23	.22
558-5155	LL4253Y	T-1 1/4, Yellow, Yellow diffused, 8.7 mcd @ 20 mA	.23	.22
558-5160	LL4254YT	T-1 1/4, Yellow, Yellow transparent, 40 mcd @ 20 mA	.23	.22
558-5165	LL4293E	T-1 1/4, Hi-efficiency Red, Red diffused, 8.7 mcd @ 20 mA	.22	.20
558-5170	LL4294ET	T-1 1/4, Hi-efficiency Red, Red transparent, 40 mcd @ 20 mA	.22	.20
558-5175	LL80317	T-1 1/4, Mounting clip (2 piece)	.12	.11
558-5180	LL83146	T-1 1/4, Mounting clip (1 piece)	.08	.07
558-5189	LL7164R	10 Element LED Bar Graph	2.36	2.18
558-5187	LL7164G	10 Element LED Bar Graph, Green	2.70	2.49
558-5183	LL7164-II	10 Element LED Bar Graph, 5 Green, 3 Yellow, 2 Red	4.43	4.09
558-5185	BD362G	Cylindrical panel mount Bi-Pin LED Lamp; Green, diffused concave	3.07	2.84
558-5185	BD362R	Cylindrical panel mount Bi-Pin LED Lamp; Red, diffused concave	2.73	2.52

Century Dot Matrix Series

Stock No.	Mfr.'s Type	Char. Height		Description	EACH
		In.	mm		
558-9805	3602-100-05420	.197	5.00	New super-compact, full-featured design, 4 lines of 20 characters	247.00
558-9820	3602-124-09420	.358	9.10	4 x 20 Large character height for 20' distance	291.00

Century Segmented Series

658-9835	3702-022-13112	.512	13.00	1 x 12 Low profile compact models	85.00
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Existing FLIP Models

The existing FLIP products listed below are for use in designs where special character formats and/or unique size or specific data interface is required.

FLIP™ Vacuum Fluorescent — Special Purpose Modules

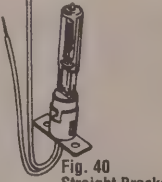
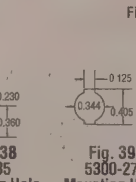
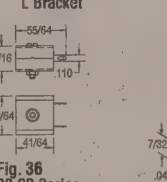
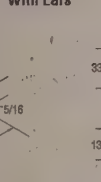
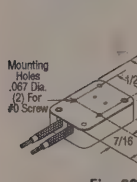
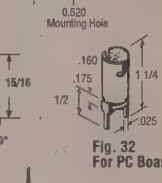
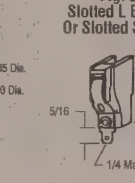
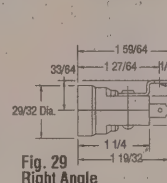
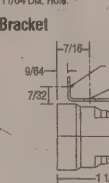
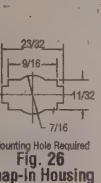
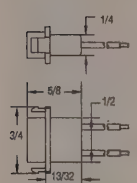
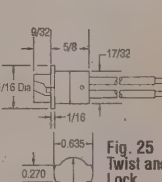
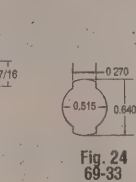
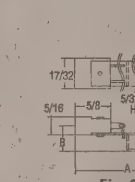
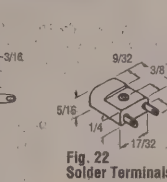
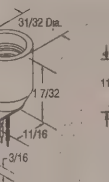
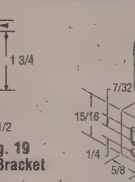
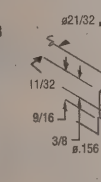
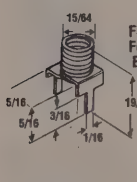
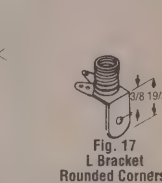
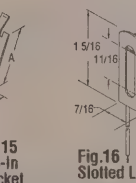
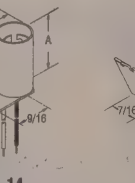
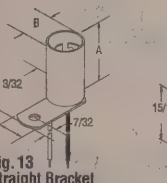
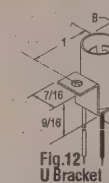
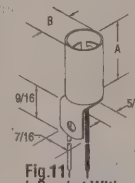
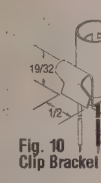
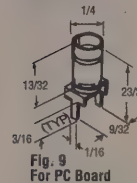
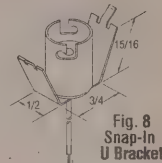
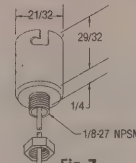
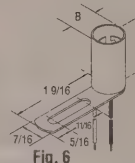
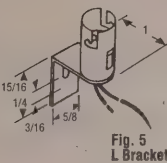
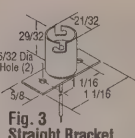
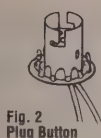
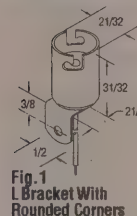
558-5230	3601-13-020	.350	9.00	1 x 20 2.35 x 8.25" (59.69 x 209.55)	Large characters	165.00
558-9875	3601-30-040	.440	11.30	2 x 20 2.75 x 10.80" (69.85 x 274.32)	Serial only	410.00
558-9887	3601-34-080	.440	11.30	4 x 20 4.75 x 10.00" (120.65 x 254.00)	Serial only	547.00

Lampholders

Dimensions In Inches

► Quantity Pricing Available

► For More Specifications Call your Allied Office 1(800) 433-5700



Series 11-200 Single-Contact Candelabra Bayonet Lampholders For T-4 1/2 and S-8 Lamps — UL/CSA Recognized, Series 12-200 Double-Contact Candelabra Bayonet For G6, S6, 10C7 and NE-48 Lamps — UL/CSA Recognized

Both series designed with zinc-plated steel shells; mounting brackets are .025" to .042" zinc-plated steel; 6" built-in #18 AWG, bare copper wire, PVC insulation, leads stripped 1/2", UL/CSA rated at 105°C. The 11-200 Series Consists Of: One center contact mounted on fiber insulator with one wire lead; brackets are grounded to shell. Can also be supplied with wire grounded to the internal spring for those customers that need a second wire lead for ease of installation. Call Allied with your lampholder requirements today. The 12-200 Series Consists Of: Two center contacts mounted on Phenolic-insulated disc with two wire leads; brackets and wire leads are grounded independent of contacts. Designed for incandescent and neon-glow lamps. Lampholders 11-240 and 12-240 snap into 15/16" hole. **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types. **Maximum Ratings 11-200 Series:** 25 Watts, 12 Volts. **Maximum Ratings 12-200 Series:** 75 Watts, 125 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH
				1-9
931-5000	11-208	1	1	5.15
931-5001	11-240	2	2	6.48
931-3302	11-225	3	3	5.15
931-9991	11-227	4	4	5.15
931-5002	11-272	5	5	5.15
931-5003	11-271	5	5†	5.15
931-5004	11-275	5	6	5.15
931-5005	11-230BN	7	7	6.48
931-5006	11-282	8	8	5.15
931-5007	11-255	8	*	5.15
931-3640	12-240	2	2	5.35
931-5008	12-208	1	1	5.35
931-3625	12-225	3	3	5.35
931-3627	12-227	4	4	5.35
931-3672	12-272	5	5	5.35
931-3671	12-271	5	5†	5.35
931-5009	12-275	5	6	5.35
931-3630	12-230BN	7	7	6.78
931-5010	12-282	8	8	5.35
931-5011	12-255	8	*	5.35

*Right angle clip bracket. †Reversed.

Series 25-00 Midget Grooved Lampholders For TL-1 3/4 and T-1 3/4 Lamps

► Easy Lamp Insertion

Series Design Includes: Tin-plated steel shell; mounting brackets are .025" to .032" zinc-plated steel and are grounded; One 6" built-in #26 AWG, stripped 1/2", tinned copper wire lead, PVC Insulated. For PC Board applications, the 25-35 has two tinned solder terminals. Series uses TL-1 3/4 and T-1 3/4 lamps. **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types. **Maximum Ratings:** 15 Watts, 28 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH
				1-9
931-4997	25-35	9	9	6.27
931-4998	25-230N-1	9	7	7.43
931-4999	25-240-1	9	2	7.43

Series 200 Miniature Bayonet Lampholders For T-3 1/4, G-3 1/2 or G-4 1/2 Lamps

Series designed with zinc-plated steel shell and fiber insulating sleeve; mounting brackets are .025" to .032" zinc-plated steel; two built-in #22 AWG, tinned copper with overcoat wire leads, PVC Insulated, stripped 1/2", UL Rated at 80°C. **Maximum Ratings:** 75 Watts, 125 Volts.

Stock No.	Mfr.'s Type	Holder Style	EACH
			1-9
931-5012	02-01	10	5.25
931-5013	02-08	11	5.25
931-5014	02-11	12	5.25
931-5015	02-12	13	5.25
931-5016	02-20	14	5.25
931-5017	02-40	*	5.25
931-5018	02-82	15	5.25
931-5019	02-30N	†	5.25

*Mounting type similar to Style 2. †Mounting type similar to Style 7.

17-00 Series Miniature Bayonet Lampholders For T-3 1/4, G-3 1/2 or G-4 1/2 Lamps — UL/CSA Recognized

Series Designed with zinc-plated steel shell in nylon housing; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two 6" built-in #22 AWG, stranded, tinned copper wire leads, PVC Insulated, stripped 1/2", UL/CSA rated at 105°C. **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types. **Maximum Ratings:** 75 Watts, 125 Volts.

Stock No.	Mfr.'s Type	Holder Style	EACH
			1-9
931-5020	17-01	10	5.06
931-5021	17-05	16	5.06
931-5022	17-06	16†	5.06
931-5023	17-08	11	5.06
931-5024	17-11	12	5.06
931-5025	17-12	13	5.06
931-5026	17-13	6	5.06
931-5027	17-14	15	5.06

† Reversed.

Series 500 Miniature Screw Lampholders For T-3 1/4, TL-3 or G-3 1/2 Lamps

Series designed with nickel-plated brass shell; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two solder terminals, tinned for easy soldering. For low-voltage incandescent lamp applications. Grounded units can also be supplied. **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types. **Maximum Ratings:** 25 Watts, 50 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH
				1-9
931-1209	05-07	17	*	5.57
931-2408	05-08	17	17	4.57
931-1210	05-35	17	18	5.30
931-1211	05-87	17	4	5.30

*Solder terminals only.

Many Lighting Components and Design products cross to Dialight and Christiana. Lighting Components and Design, manufacturer of the LEECRAFT line of Standard and Custom

Lampholders, Indicators Lights and Optoelectronic Devices, is an ISO 9000 Quality Standards Participant.

Lampholders

Series 400 Candelabra Screw Lampholders For NE-45, S6 Or 10C7 Lamps — UL/CSA Listed

Series designed with brass shell in Polyester housing; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two built-in 6" black #18 AWG, bare copper wire, PVC insulation, leads stripped 1/2", UL/CSA rated at 105°C. Type 4-40 snaps into 1/8" hole. Type 4-30N with nut and washer. For both incandescent and neo-glow lamps. **Note:** Reference is made to other lampholders to clarify mounting or bracket style and type. **Maximum Ratings:** 75 Watts, 125 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH	
				1-9	
931-5032	04-01	19	10	5.99	
931-5033	04-05	19	10	5.99	
931-2303	04-08	19	10	5.99	
931-2334	04-11	19	12	5.99	
931-2335	04-20	19	14	5.99	
931-2336	04-55	19	14	5.99	
931-2337	04-82	19	15	5.99	

*Right angle clip bracket. **Note:** 6-00 Series, Candelabra Screw Lampholders for G-6 and C-7 Lamps, are also available. Series designed with nickel-plated brass shell; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two 6" built-in #18 AWG, bare copper wire, PVC insulation, leads stripped 1/2", UL/CSA rated at 105°C. **Maximum Ratings:** 75 Watts, 125 Volts. Call Allied for information.

14-00 Series Intermediate Screw Lampholders For S11 Lamps — UL/CSA Listed

Series designed with Phenol housing; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two 6" built-in #18 AWG, bare copper wire, PVC insulation, leads stripped 1/2", UL/CSA rated at 105°C. **Maximum Ratings:** 75 Watts, 250 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH	
				1-9	
931-5028	14-30N	20	7	8.69	
931-5029	14-07	20	*	8.15	
931-5030	14-40	20	2	8.69	
931-5031	14-72	20	20	8.15	

*2 wire leads only.

Series 1600 Midget Screw Lampholders For T-2 1/2, T-1 3/4 Lamps

► Designed For PC Boards

Series designed with brass shell; two solder terminals; tinned for easy soldering. For low-voltage incandescent lamp PC board applications, .070 mounting hole, .296 spacing, 16-35XP11 uses T-2 1/2 lamps, 16-35 uses T-1 3/4 lamps. Grounded units can also be supplied. **Maximum Ratings:** 15 Watts, 28 Volts.

Stock No.	Mfr.'s Type	Holder Style	EACH	
			1-9	
931-5038	16-35	18	7.01	
931-5039	16-35XP11	18*	7.01	

*Right angle configuration.

23-00 Series Miniature Wedge Base Lampholders For T-3 1/4 and T-5 Lamps — UL/CSA Recognized

► Easy Lamp Insertion, Excellent Bulb Retention
► New! Twist and Lock Miniature Wedge Base Available

Series Design Includes: Nylon 6/6 housing; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two 6" built-in #22 AWG, stranded tinned copper wire leads, PVC insulated, UL/CSA rated at 105°C or two tinned solder terminals. The 23-35 and 23-35H lampholders are designed for PC board applications which require .070 mounting hole with .400 spacing. The 23-233TL Twist and Lock miniature wedge base lampholders require no soldering. The 23-240PL and 23-40PL are Plastic Plug button types which require 3/8" mounting hole. Grounded units also offered. **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types. **Maximum Ratings:** 20 Watts, 28 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	Wire or Terminals	EACH	
					1-9	
931-5040	23-01	21	21	2**	3.49	
931-2307	23-07	22	22	2**	2.87	
931-2335	23-35	22	18	2**	2.87	
931-5041	23-35H	22	†	2**	2.97	
931-5042	23-40PL	22	2	2**	2.97	
931-5043	23-72N	23	23	2**	3.49	
931-5044	23-74	23	23	2**	3.49	
931-6933	69-33	*	24		1.33	
931-5045	23-207	22	†	2 wire	3.31	
931-2340	23-240PL	22	2	2 wire	3.31	
931-5046	23-272N	23	23	2 wire	3.72	
931-5047	23-274	23	23	2 wire	3.72	
931-5048	23-233TL	25	25	2 wire	3.31	
931-5049	23-207XP61	26	26	2 wire	3.31	

*Lampholder style similar to Style 23. **Terminals. †PC board applications and at right angle. ‡2 wire leads only.

A96 Series Double Ended Special Automotive Lampholders For Miniature Caps

► Designed For Heavy Duty Auto Usage
► A96 with Zinc-Plated Steel Bracket, 3/64" Dia. Holes on 3/8" Centers
► A96N with Polyester Bracket, 3/64" Dia. Holes on 3/8" Centers

Series includes two sturdy clips to hold bulb securely and your choice of brackets. **Maximum Ratings:** 12 Watts, 13.5 Volts.

Stock No.	Mfr.'s Type	Holder Style	EACH	
			1-9	
931-5056	A96	27	6.65	
931-5057	A96N	27	6.65	

Series 300 Miniature Bayonet Lampholders For T-3 1/4, G-3 1/2, G-4 1/2 Or NE-51 Lamps — UL/CSA Listed

Series designed with brass shell in Polyester housing; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two built-in 6" #22 AWG, stranded tinned copper wire leads, PVC insulated, stripped 1/2", UL/CSA rated at 105°C. 03-30N supplied with nut and washer. **Note:** Reference is made to other lampholders to clarify bracket styles and types. **Maximum Ratings:** 75 Watts, 125 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH	
				1-9	
931-2102	03-05	16	16	5.53	
931-5071	03-08	11	11	5.53	
931-5072	03-11	12	12	5.53	
931-5073	03-12	13	13	5.53	
931-5074	03-13	6	6	5.53	
931-5075	03-20	14	14	5.53	
931-5076	03-30N	11	7	6.65	
931-9994	03-40	11	2	5.53	
931-9991	03-45	11	10	5.53	
931-5077	03-82	11	15	5.53	

57-00 Series Double Contact Candelabra Bayonet Lampholders For S8 Lamps — UL/CSA Listed

Series designed with zinc-plated steel shells; mounting brackets are .025" to .032" zinc-plated steel insulated; two tinned 1/4" male solder lugs supplied. **Maximum Ratings Series:** 75 Watts, 125 Volts.

Stock No.	Mfr.'s Type	Holder Style	EACH	
			1-9	
931-5067	57-07	28*	4.30	
931-5068	57-41	29†	4.75	
931-5069	57-41X	29	4.75	
931-5070	57-83	28	4.75	

*2 solder terminals only. †L bracket with rounded corners.

Halogen Sockets — 22-00 Series Double Contact Halogen Candelabra Bayonet and 26 Series Double Ended Single-Contact Halogen Cycle

► Both Series UL/CSA Recognized

The 22-00 Series is designed with nickel-plated steel shell; two built-in #18 AWG, stripped 1/2", nickel-plated copper wire with silicone rubber insulation, UL Style 3135, UL/CSA rated for 200°C. **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types.

The 26-00 Series is designed with high-heat resistant ceramic housing; one tab terminal .25" or one 4" built-in #18 AWG tinned copper wire, stripped 1/2", silicone rubber, lacquered glass braid insulation, UL/CSA rated for 200°C. **Maximum Ratings For 22-00 Series:** 500 Watts, 125 Volts. **Maximum Ratings For 26-00 Series:** 2000 Watts, 600 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH	
				1-9	
931-5087	22-40	40	2	8.16	
931-5088	22-08	40	19	6.35	
931-5089	22-25	40	40	6.35	
931-8002	22-27	40	4	6.35	
931-5090	22-72	40	23†	6.35	
931-5091	22-71	40	23†	6.35	
931-5092	22-75	40	23	6.35	
931-5093	22-30BN	40	7	8.16	
931-5094	22-82	40	15	6.35	
931-5095	22-55	40	*	6.35	
931-5096	26-07*	30	**	7.90	
931-5097	26-207*	30	†	7.90	

*Sold in single units. **1/4" tab terminals includes .093 dia. hole for #1 screw. †Reversed. ‡Wire leads include .093 dia. hole for #1 screw. *Right angle clip bracket.

700 Series Miniature Bayonet Lampholders For T-3 1/4, G-3 1/2 and G-4 1/2

Series designed with zinc-plated steel shell; mounting brackets are .025" to .032" zinc-plated steel and are insulated; two solder terminals, tinned for easy soldering. For low-voltage incandescent lamp applications. The 07-35 and 07-35J are specifically designed for PC boards. The 07-35J is a shorter, lower profile version of the 07-35, with a mounted height of .68". **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types. **Maximum Ratings:** 10 Watts, 50 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH	
				1-9	
931-1200	07-01	31	10	4.63	
931-1199	07-06	31	16†	4.63	
931-9907	07-07	31	‡	4.63	
931-1201	07-08	31	11	4.63	
931-1202	07-11	31	12	4.63	
931-1203	07-12	31	13	4.63	
931-1204	07-20	31	31	4.63	
931-1205	07-35	32	32	5.32	
931-1206	07-35J	32	32	5.58	
931-1207	07-40-1*	31	12	4.44	
931-1208	07-82	31	15	4.63	

*Supplied with grounded mounting bracket, one tinned solder lug terminal. †Reversed. ‡Supplied with 2 solder terminals only.

Halogen Cycle Bi-Pin Base

QLB Series For G5.3 Lamps — UL/CSA Recognized

The QLB Series is designed with high heat-resistant ceramic housing; two built-in #18 AWG, silicone rubber with lacquered glass braid insulation, stripped 1/2", UL Style 3135, UL/CSA rated for 200°C. DYH, DYT, DZA, EPX and PLH. **Maximum Ratings:** 750 Watts, 300 Volts.

27V-00 Series For G-4 Lamps — UL/CSA Recognized

The 27V-00 Series is designed with a polyester housing; with two 6" built-in #18 AWG, tinned copper wire with PVC insulation, UL Style 1015, UL/CSA rated 105°C. This series may also be supplied with tab terminals. **Maximum Rating:** 12 Watts, 12 Volts.

21-00 Series For T-2 1/4 Wedge Base Halogen Lamps

27-00 Series For G4 Bi-Pin Halogen Lamps — UL/CSA Listed

28-00 Series For G4 Bi-Pin Halogen Lamps

38-00 Series For G6.35 Bi-Pin Halogen Lamps — UL/CSA Recognized

These Series offer variety with halogen lamp products, all are supplied with high heat-resistant ceramic housings; two tab terminals or two built-in #18 AWG wire leads, stripped 1/2", UL Style 3135, 200°C; mounting brackets which are .025" to .032" zinc-plated steel. **Maximum Rating 38 Series:** 50 Watts, 12 Volts. **Maximum Rating 21-00, 27-00 and 28-00 Series:** 50 Watts, 14 Volts. **Note:** Reference is made to other lampholders to clarify bracket or mounting styles and types.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	Wire or Terminals	EACH	
					1-9	
931-7003	QLB-6	33	33	6" wire	2.46	
931-7004	QLB-12	33	33	12" wire	2.77	
931-5050	QLB-6*	33	33	6" wire	2.46	
931-5051	QLB-12*	33	33	12" wire	2.77	
931-5052	21-07	34	34	.110**	5.25	
931-7001	27-07	35	35	.110**	3.80	
931-7002	28-07	35	35	.187**	4.26	
931-5053	27V-207	35	35	Wire	5.22	
931-5054	27-274	35	23	Wire	5.95	
931-5055	38-07	36	36	.110**	4.26	

*Wires exit bottom of lampholder. **Tab Terminals.

53-00 Series Wedge Base Lampholders For T-1 3/4 Lamps New! Plug Button and Twist and Lock Wedge Base Lampholders

► Ideal When Space Is A Premium

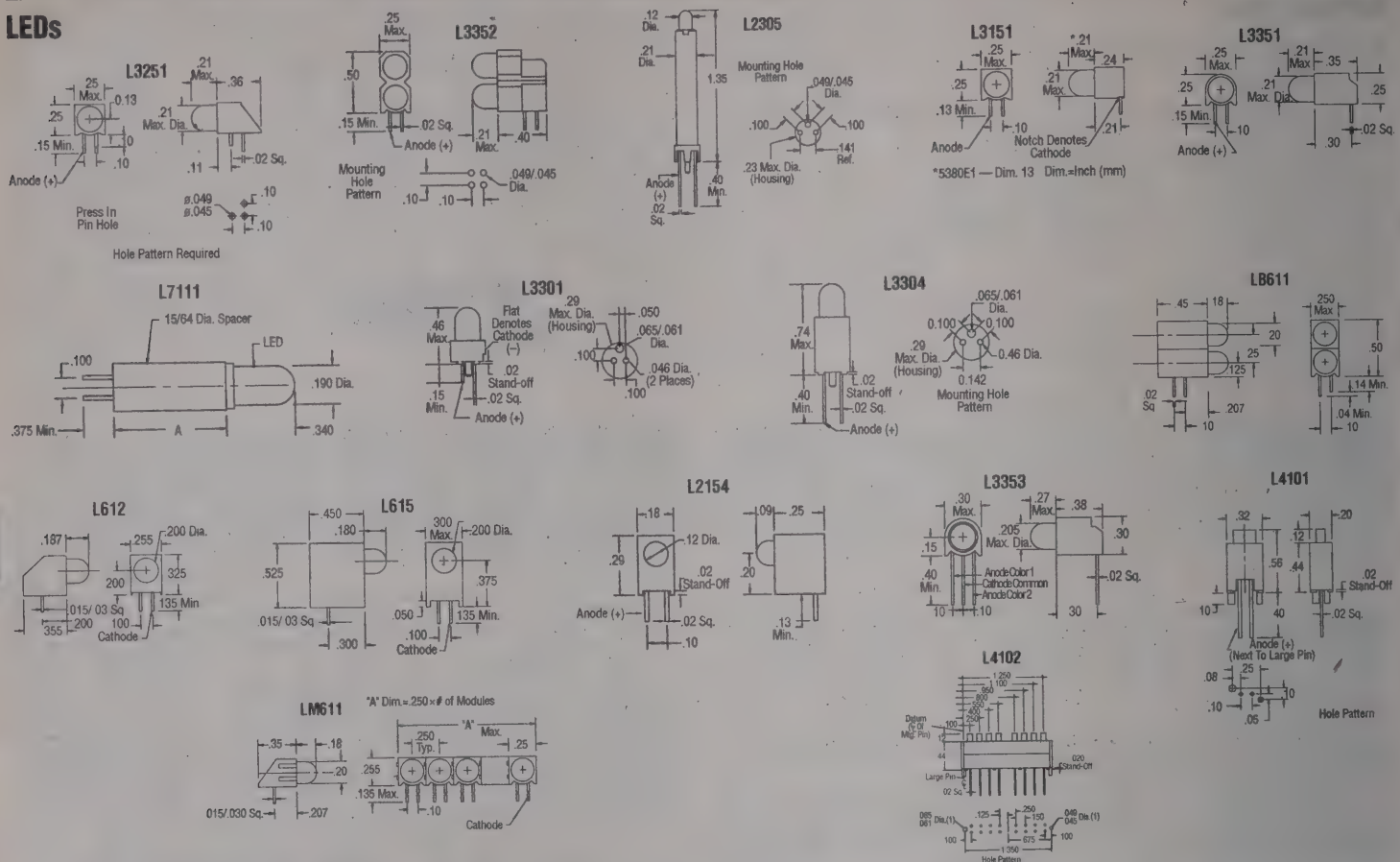
Series Design Includes: Nylon-molded housings; mounting brackets are .025" to .032" zinc-plated steel; available with two tinned solder terminals or two 6" built-in #22 AWG, stranded tinned copper wire leads, stripped 1/2", UL/CSA rated for 105°C. For PC Board applications, the 53-35 has two tinned solder terminals and 69-35 is designed for rear mount and requires no soldering. Grounded units also offered. **Note:** Reference is made to other lampholders to clarify mounting or bracket styles and types. **Maximum Ratings:** 10 Watts, 28 Volts.

Stock No.	Mfr.'s Type	Holder Style	Bracket Style	EACH	
				1-9	
931-5078	53-07	37	†	1.95	
931-5335	53-35	37	†	1.95	
931-5079	69-35	**	38	1.23	
931-5080	53-35XP11	37	†	3.77	
931-5081	53-201*	37	10	2.71	
931-5082	53-207N*	37	*	2.32	
931-5083	53-208*	37	5	2.71	
931-5084	53-240PL*	37	2	2.32	
931-5085	5300-27*	37	39	2.32	
931-5086	5300-28*	37	2	2.32	

*Series with wire, as listed above. **Lampholder style similar to Style 37. †Supplied with 2 solder terminals only. ‡For PC board, right angle configured. *Supplied with 2 wire leads only.

ALLIED ▶ 389

LEDs



L3251 Series T-1³/₄ Right Angle Wedge Circuit Board Indicator

These LEDs are designed with Standard, Super Bright LEDs, Low Current LEDs or Built-In Resistor Chip LEDs that operate off 5 V or 12 V supply without external resistor. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other colors and higher brightness LEDs are available, call Allied with your requirements. **Reference Figure:** L3251

LEDs

Stock No.	Mfr.'s Type	LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH 1-9
931-1162	L3251-DG*	Green, Diffused	2.2 @ 10	5.0	.63
931-1163	L3251-DR*	Red, Diffused	2.0 @ 10	20.0	.63
931-1164	L3251-DY*	Yellow, Diffused	2.1 @ 10	5.0	.63

*Available with clear or transparent lenses, flashing and bi-color.

Super Efficiency, Low Current

931-1165	L3251-DGL	Green, Diffused	1.9 @ 2	0.8	.81
931-1166	L3251-DRL	Red, Diffused	1.7 @ 2	0.8	.81
931-1167	L3251-DYL	Yellow, Diffused	1.8 @ 2	0.8	.81

With Built-In Resistor

931-1168	L3251-DG5	Green, Diffused	5.0 @ 10	5.0	.86
931-1169	L3251-DR5	Red, Diffused	5.0 @ 10	20.0	.86
931-1170	L3251-DY5	Yellow, Diffused	5.0 @ 10	5.0	.86
931-1171	L3251-DG12	Green, Diffused	12.0 @ 10	5.0	.86
931-1172	L3251-DR12	Red, Diffused	12.0 @ 10	20.0	.86
931-1173	L3251-DY12	Yellow, Diffused	12.0 @ 10	5.0	.86

L3352 Series T-1³/₄ Octagonal Dual LED Right Angle Mount

These LEDs are designed to dual mount 2 LEDs. Single block mounting, saves assembly time and cost. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Other colors and higher brightness LED configurations are available, call Allied with your requirements. **Reference Figure:** L3352.

931-0406	L3352-DGDG†	Two Green, Diffused	2.2 @ 10	5.0	1.38
931-0407	L3352-DRDR†	Two Red, Diffused	2.0 @ 10	20.0	1.38
931-0408	L3352-DYDY†	Two Yellow, Diffused	2.1 @ 10	5.0	1.38

†Other colors and combinations available, call Allied today with your requirements.

L2305 Series T-1 Vertical Mount, Cylinder

This series features a press-in pin to mount the LED securely to the PCB while soldering. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other colors and higher brightness LEDs are available, call Allied with your requirements. **Reference Figure:** L2305.

931-1174	L2305-DA	Amber, Diffused	2.1 @ 10	5.0	.63
931-1175	L2305-DG	Green, Diffused	2.2 @ 10	5.0	.63
931-1176	L2305-DR	Red, Diffused	2.0 @ 10	1.3	.63
931-1177	L2305-DY	Yellow, Diffused	2.1 @ 10	5.0	.63

PC Board and Panel Mounted LEDs and Assemblies — L3151 Series T-1³/₄ Right Angle Cube; L3351 Series T-1³/₄ Right Angle Cylinder

These LEDs are designed with Standard, Super Bright LEDs, Low Current LEDs or Built-In Resistor Chip LEDs that operate off 5 V or 12 V supply without external resistor. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC Board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other LEDs are available, call Allied with your requirements. **Reference Figures:** L3151 and L3351.

LEDs

L3151 Series Cube		L3351 Series Cylinder		LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH 1-9
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type				
931-1125	L3151-DG	931-1128	L3351-DG	Green, Diffused	2.2 @ 10	5.0	.63
931-1126	L3151-DR	931-1129	L3351-DR	Red, Diffused	2.0 @ 10	20.0	.63
931-1127	L3151-DY	931-1130	L3351-DY	Yellow, Diffused	2.1 @ 10	5.0	.63

With Built-In Resistor

931-1131	L3151-DG5	931-1137	L3351-DG5	Green, Diffused	5.0 @ 10	5.0	1.34
931-1132	L3151-DR5	931-1138	L3351-DR5	Red, Diffused	5.0 @ 10	20.0	1.34
931-1133	L3151-DY5	931-1139	L3351-DY5	Yellow, Diffused	5.0 @ 10	5.0	1.34
931-1134	L3151-DG12	931-1140	L3351-DG12	Green, Diffused	12.0 @ 10	5.0	1.34
931-1135	L3151-DR12	931-1141	L3351-DR12	Red, Diffused	12.0 @ 10	20.0	1.34
931-1136	L3151-DY12	931-1142	L3351-DY12	Yellow, Diffused	12.0 @ 10	5.0	1.34

Low Current

931-1143	L3151-DGL	931-1146	L3351-DGL	Green, Diffused	1.9 @ 2	0.8	1.04
931-1144	L3151-DRL	931-1147	L3351-DRL	Red, Diffused	1.7 @ 2	0.8	1.04
931-1145	L3151-DYL	931-1148	L3351-DYL	Yellow, Diffused	1.8 @ 2	0.8	1.04

L7111 — Vertical LED Circuit Board Indicators — T-1³/₄

► Several Options Available With Different Housing Sizes To Choose

The L7111 Series Vertical Indicators represent an economical and reliable solution for elevating free standing, unstable, discrete LEDs which when moved from station to station, may have a tendency to be jostled out of position easily. This series is designed with a white nylon housing in the following height choice. Complete the part number with the height representing the distance from the board in thousands of an inch. **Standard Height Sizes:** 260, 375, 440, 565 (thousandths of an inch). Other colors and higher brightness LEDs are available, call Allied with your requirements. quantity pricing always available. **Example Part Number:** L7111-DR-260, diffused red LED 260 thousandths of an inch from the PC board. **Reference Figure:** L7111.

Stock No.*	Mfr.'s Type	LED Color Lens Type	Forward Volt @ mA	Intensity (mcd.)	EACH 1-9
931-020X	L7111-DG-XXX	Green, Diffused	2.2 @ 10	5	1.11
931-030X	L7111-DR-XXX	Red, Diffused	2.0 @ 10	20	1.11
931-040X	L7111-DY-XXX	Yellow, Diffused	2.1 @ 10	5	1.11

*X in Allied Stock No. represents height: 2=260, 3=375, 4=440, 5=565.

LEDs

L3301 and 3304 Series — T-1 1/4 Vertical Mount Cylinder Circuit Board Indicators, 2 Mounting Heights Available

These series feature a press-in pin to mount the LED securely to the PCB while soldering. These LEDs are designed with Standard, High Bright and Super Bright LEDs, Low Current LEDs or Built-in Resistor Chip LEDs that operate off 5 V or 12 V supply without external resistor. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other colors and higher brightness LEDs are available, call Allied with your requirements. **Reference Figures:** L3301 and L3304.

LEDs

.46 Overall Mount. Height		.76 Overall Mount. Height		LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH 1-9
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type				
931-1301	L3301-DG	931-1304	L3304-DG	Green, Diffused	2.2 @ 10	5.0	.81
931-1311	L3301-DR	931-1314	L3304-DR	Red, Diffused	2.0 @ 10	20.0	.81
931-1321	L3301-DY	931-1324	L3304-DY	Yellow, Diffused	2.1 @ 10	5.0	.81

Super Efficiency, Low Current

931-1331	L3301-DGL	931-1334	L3304-DGL	Green, Diffused	1.9 @ 2	0.8	1.59
931-1341	L3301-DRL	931-1344	L3304-DRL	Red, Diffused	1.7 @ 2	0.8	1.59
931-1351	L3301-DYL	931-1354	L3304-DYL	Yellow, Diffused	1.8 @ 2	0.8	1.59

With Built-In Resistor

931-1361	L3301-DG5	931-1364	L3304-DG5	Green, Diffused	5.0 @ 10	5.0	1.74
931-1371	L3301-DR5	931-1374	L3304-DR5	Red, Diffused	5.0 @ 10	20.0	1.74
931-1381	L3301-DY5	931-1384	L3304-DY5	Yellow, Diffused	5.0 @ 10	5.0	1.74
931-1391	L3301-DG12	931-1394	L3304-DG12	Green, Diffused	12.0 @ 10	5.0	1.74
931-1401	L3301-DR12	931-1404	L3304-DR12	Red, Diffused	12.0 @ 10	20.0	1.74
931-1411	L3301-DY12	931-1414	L3304-DY12	Yellow, Diffused	12.0 @ 10	5.0	1.74

LB611 Bi-Level Circuit Board Indicators

These low power consumption LED indicators are designed with High Intensity Diffused LEDs and can be ordered in many combinations. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Please fill in the colors desired, with X for the top LED and Y for the Bottom LED. Use R for Red, G for Green, or Y for Yellow. Other LEDs are available, call the factory with your requirements. **Example Part Number:** LB611D-RG; LED bi-level circuit board with red for top LED and green for bottom LED. **Reference Figure:** LB611.

LED Color	Forward Volt @ mA	Intensity (mcd)
Red	2.0 @ 10	20
Green	2.2 @ 10	5
Yellow	2.1 @ 10	5

Stock No.*	Mfr.'s Type	LED Color	EACH
			1-9
931-012X	LB611D-RX	RX	1.38
931-013X	LB611D-GX	GX	1.38
931-014X	LB611D-YX	YX	1.38

*Replace X in Allied Stock No. with 2=Red, 3=Green, 4=Yellow. Note: This series is available with many LED options, including other LED colors. Call Allied with your requirements.

L612 Right Angle Wedge Standard Efficiency Circuit Board Indicators

These LEDs are designed to raise the LED height for increased visibility or front panel alignment. This series is supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other LEDs are available, call Allied with your requirements. **Reference Figure:** L612.

Stock No.	Mfr.'s Type	LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH
					1-9
931-0110	L612-DG	Green, Diffused	2.2 @ 10	5	1.15
931-0111	L612-DR	Red, Diffused	2.0 @ 10	20	1.15
931-0112	L612-DY	Yellow, Diffused	2.1 @ 10	5	1.15

L632 Right Angle Wedge Super Efficiency/Low Current Circuit Board Indicators

These LEDs are designed into a raised element LED housing with Super Bright LEDs, the increased LED height provides for greater visibility. This series is supplied with a Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other LEDs are available, call Allied with your requirements. **Reference Figure:** L612.

931-0113	L632-DG	Green, Diffused	2.20 @ 20	100	2.44
931-0114	L632-DR	Red, Diffused	1.85 @ 20	100	2.44
931-0115	L632-DY	Yellow, Diffused	1.85 @ 20	100	2.44

L615 Right Angle High Profile Cube — Standard Efficiency Circuit Board Indicators

These LED indicators are designed to raise the LED for increased visibility or front panel alignment. This series is supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other LEDs are available, call Allied with your requirements. **Reference Figure:** L615.

931-0116	L615-DG	Green, Diffused	2.2 @ 10	5	1.15
931-0117	L615-DR	Red, Diffused	2.0 @ 10	20	1.15
931-0118	L615-DY	Yellow, Diffused	2.1 @ 10	5	1.15

L635 Right Angle High Profile Cube — Super Efficiency/Low Current Circuit Board Indicators

These LED indicators are designed for increased visibility of the LED by raising the element and providing higher intensity LEDs. This series is supplied with a Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other LEDs are available, call Allied with your requirements. **Reference Figure:** L615.

931-0119	L635-DG	Green, Diffused	2.20 @ 20	100	2.44
931-0120	L635-DR	Red, Diffused	1.85 @ 20	100	2.44
931-0121	L635-DY	Yellow, Diffused	1.80 @ 20	100	2.44

L2154 Series T-1 Right Angle Cube

These LEDs are designed with Standard, High Bright and Super Bright LEDs, Low Current LEDs or Built-in Resistor Chip LEDs that operate off 5 V or 12 V supply without external resistor. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other colors and higher brightness LEDs are available, call Allied with your requirements. Quantity pricing always available. **Reference Figure:** L2154.

LEDs

Stock No.	Mfr.'s Type	LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH
					1-9
931-1150*	L2154-DG	Green, Diffused	2.2 @ 10	8.0	.76
931-1151*	L2154-DR	Red, Diffused	2.0 @ 10	12.5	.76
931-1152*	L2154-DY	Yellow, Diffused	2.1 @ 10	8.0	.76

*Available with clear lenses.

With Built-In Resistor

931-1153	L2154-DG5	Green, Diffused	5.0 @ 10	8.0	1.01
931-1154	L2154-DR5	Red, Diffused	5.0 @ 10	12.5	1.01
931-1155	L2154-DR12	Red, Diffused	12.0 @ 10	12.5	1.01

Low Current

931-1156	L2154-DGL	Green, Diffused	1.9 @ 2	0.8	.93
931-1157	L2154-DRL	Red, Diffused	1.7 @ 2	0.5	.93
931-1158	L2154-DYL	Yellow, Diffused	1.8 @ 2	0.8	.93

White Lens, Bi-Color LEDs

931-1159	L2154-MWGR	Green/Red	2.2 @ 20/2.0 @ 20	8.0/8.0	1.09
931-1160	L2154-MWGY	Green/Yellow	2.2 @ 20/2.1 @ 20	8.0/5.0	1.09
931-1161	L2154-MWGR	Red/Green	2.0 @ 20/2.2 @ 20	8.0/8.0	1.09

L3353 Series — T-1 1/4 Tri-Color Right Angle Cylinder

This series features a tri-color from a single LED lamp. Design includes a three lead design with common cathode and standoffs to prevent flux entrapment. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other LEDs are available, call Allied with your requirements. Quantity pricing always available. **Reference Figures:** L3353.

Stock No.	Mfr.'s Type*	LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH
					1-9
931-0145	L3353-MWRG	Red, Green/White Lens	2.00 @ 20 2.20 @ 20	20/20	1.27
931-0146	L3353-MWGY	Green, Yellow/White Lens	2.20 @ 20 2.10 @ 20	20/20	1.27
931-0147	L3353-MWRY	Red, Yellow/White Lens	2.00 @ 20 2.10 @ 20	20/20	1.27
931-0148	L3353-MCRHGH	Super Red, Super Green/Clear Lens	1.85 @ 20 2.20 @ 20	300/80	1.27

*Available in reverse color combinations. Allied and Lighting Components and Design can make product according to your requirements. Call Allied today.

L4101 2 mm × 5 mm Vertical Block LEDs, L4102 2 mm × 5 mm 8 LEDs Vertical Block

The L4101 LED indicators feature a block mounting design for consistent height and side-by-side alignment. Press-in pin design secures LED to board during soldering. Supplied with Black Housing to assure proper LED alignment and enhance contrast. Standoffs on housing facilitate PC board cleaning and prevent flux entrapment. Vibration and shock resistant design. Other colors and higher brightness LEDs are available, call Allied with your requirements. Other LEDs are available, call Allied with your requirements. Quantity pricing always available. **Reference Figure:** L4101.

Stock No.	Mfr.'s Type	LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH
					1-9
931-0409	L4101-DG	Green, Diffused	2.20 @ 10	2.0	.87
931-0410	L4101-DRH	Red, Diffused	1.85 @ 10	3.2	.97
931-0411	L4101-DY	Yellow, Diffused	2.10 @ 10	2.0	.87
931-0412	L4101-MWGR	Bi-Color, Green, Red	2.20 @ 20	5.0/5.0	1.27
931-0413	L4101-MWGY	White Lens	2.00 @ 20	5.0/5.0	1.39
		Bi-Color, Green, Yellow	2.20 @ 20		
931-0414	L4101-MWRG	White Lens	2.10 @ 20	5.0/5.0	1.27
		Bi-Color, Red, Green	2.00 @ 20		
931-0415	L4101-MWRY	White Lens	2.20 @ 20	5.0/5.0	1.39
		Bi-Color, Red, Yellow	2.00 @ 20		

L4102 Series Vertical Block with eight LEDs can be made according to your requirements, simply choose the LEDs that are required from the L4101 Vertical Block LEDs color combinations listed, however, do not use the L4104 designations, only the letters after the "-". LEDs for this series are listed from the "Large Pin", reference figure L4102. Call Allied for lead time. **Reference Figure:** L4102. **Example Part Number:** L4102-3DR3DG2DR.

L4102	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7	Pos. 8	EACH	
									1-24	25-99
Color LED	Red	Red	Red	Green	Green	Green	Red	Red	7.07	6.70

LM611 "Build Your Own" Modular Array Circuit Board Indicators

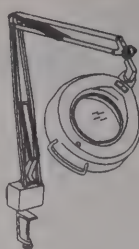
- May Be Ordered Individually Or As Customized LED Modular Array
- Minimizes Insertion Costs and Provides Uniformity
- Provides Optimum Color and Array Length Versatility
- Individual Modules Easily Slide Together Without Tools Or Extra Mating Pieces
- Quantity Pricing Always Available

These low power consumption LED indicators are designed to easily slide together with High Intensity Diffused LEDs. Other LED colors are available. **Reference Figure:** LM611.

Stock No.	Mfr.'s Type	LED Color Lens Type	Forward Volt @ mA	Intensity (mcd)	EACH
					1-9
931-1088	LM611-DR	Red	2.0 @ 10	20	1.09
931-1089	LM611-DG	Green	2.2 @ 10	5	1.09
931-1090	LM611-DY	Yellow	2.1 @ 10	5	1.09

Ledu Taskmaster Magnifiers

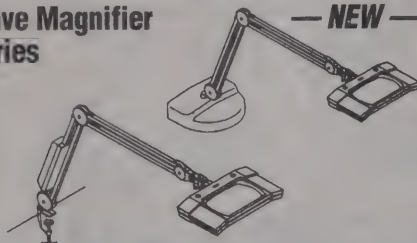
- ▶ Stamped Metal Shade Houses a 5" Diameter Lens, Available in a 3-Diopter (1.75X) and Includes a 22-Watt Fluorescent Tube
- ▶ Swivel Joint in Neck Permits Head to Rotate 90-Degrees to Left or Right of Direction Arm Faces
- ▶ A 42" Arm with External Springs is Mounted in a Drafting Board Style Clamp
- ▶ Comes with a 3-Conductor Cord, a Built-In Convenience Outlet (Rated for 600 Watts), and is UL Listed
- ▶ Available in Matte Black or White



Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-1036	707-1037	IM12D Magnifier, 3-Diopter	153.84	139.39

Wave Magnifier Series

— NEW —

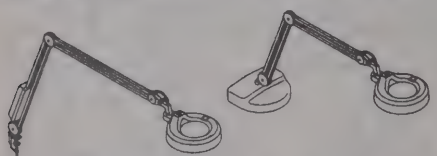


- ▶ Large 6.75" x 4.5" Lens, 3-Diopter (1.75X) Makes It Easy to See Large Areas without "Hunching" Over the Magnifier
- ▶ Dual 7-Watt Compact Fluorescent Tubes (Included) Are Individually Switched and Provide Full Illumination, or, With Only One Light On, Better 3-Dimensional Viewing
- ▶ Heavy Duty K-Arms, .5" Square Tubing, Provide Superior Strength and Durability
- ▶ Choice of Arm Lengths, Mounting Options and Accessory Lenses
- ▶ Come with 3-Conductor Cord; All Models UL Listed
- ▶ Available in Light Gray or Black

Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-1784	707-1785	1780S K1A 45" with Clamp	327.75	292.94
707-1786	707-1788	1780B K2A 30" with Clamp	327.75	292.94
707-1787	707-1789	1780T K2FE 30" with Base	371.72	320.49

KFM Magnifier Series

— NEW —



- ▶ Heavy Duty, Cast Aluminum Shade with 3-Diopter Primary Lens
- ▶ Exclusive "Instant On" Switch Obsoletes Holding Down a Switch and Waiting for the Fluorescent Tube to Illuminate (Includes 22-Watt Circine Tube)
- ▶ Heavy Duty K-Arms, .5" Square Tubing, Provide Superior Strength and Durability
- ▶ Come with 3-Conductor Cord; All Models UL Listed
- ▶ Available in Black or Lt. Gray

Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-3000	707-3005	17113 KFM1A 45" Arm with Clamp	240.36	218.24



Handheld UV Magnifier

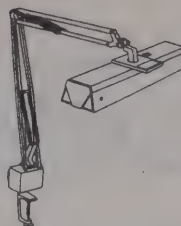
- ▶ The One-Piece Body is Molded from Durable Noryl Thermoplastic and Houses a 4" x 2", 5-Diopter (2.25X) Rectangular Lens
- ▶ Comes with Two 4-Watt Ultraviolet (UV) Tubes and Two 4-Watt Standard Fluorescent Tubes
- ▶ Dual Switches Insure Only One Type Light On at a Time
- ▶ UV Tubes Used for Checking Conformal Coatings, Contaminants, Metal Fatigue and Stress Testing Where a UV Indicator is Present; Standard Fluorescent Used in Normal Inspection Processes
- ▶ Comes with 3-Conductor Cord; UL Listed

— NEW —

Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-3015	16401	Handheld UV Magnifier	273.60	247.89

Ledu Taskmaster 2-Tube Fluorescent

- ▶ Two 15-Watt Fluorescent Tubes (Included) Are Housed in an Attractive Metal Shade with a Handle for Easy Positioning of the Lamp; An Indicator Lamp Reminds the User the Lamp is On
- ▶ A 42" Arm with External Springs is Mounted in a Drafting Board Style Clamp
- ▶ Comes with a 3-Conductor Cord, a Built-In Convenience Outlet (Rated for 600 Watts), and is UL Listed
- ▶ Available in Matte Black or White



Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-2007	707-2008	DF12D 2-Tube Fluorescent	149.00	135.00

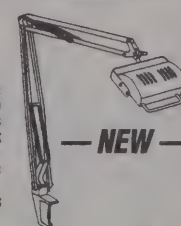
FL Series 2-Tube Fluorescent

- ▶ Two 15-Watt Fluorescent Tubes (Included) Housed in Metal Shade with an Inverted Ridge Reflector to Give Even Light Distribution Over a Large Work Area
- ▶ Available on L-Arms (Arms with External Springs); Comes On Heavy Duty K-Arm (Arm Has Enclosed Springs With .5" Square Arm Tubes) for Added Strength and Durability
- ▶ Arms Have Individually Calibrated, Heat-Treated Springs for Perfect Balance and Durability
- ▶ All Models Come with 3-Conductor Cords and Are UL Listed
- ▶ Available in Black or Lt. Gray, or White or Oyster as Special Order

Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-3030	707-3035	KFL1A 45" Arm with Clamp	220.00	193.86

Ledu Taskmaster Halogen Worklight

- ▶ An All Metal Shade Houses the 100-Watt (Line Voltage — 120 V) Halogen Bulb Positioned Behind a Protective Glass Filter that's Ready to Flood Your Work Area with Crisp, White Light
- ▶ A 42" Arm with External Springs is Mounted in a Clamp-Style Bracket
- ▶ Comes with a 2-Conductor Cord and is UL Listed
- ▶ Available in Black



Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-3070	L554BK	Halogen Work Light	144.00	131.00



Star

Model 336. 100 watt. Clamp-on 34" reach. Vented shade, heat resistant handle. Edge clamp included. "Easy-dial" on/off switch. Available in white.

707-2000. Model 336. 1-5.....	EACH 29.95
6-11.....	EACH 25.75

Exhaust Fan Lamp

- ▶ Cast Aluminum Head Houses Powerful Exhaust Fan Which Delivers 100 CFM at 2900 RPM
- ▶ 3-Way Switch Permits 22-Watt Fluorescent Tube (Included) and Fan on Together, or 22-Watt Tube by Itself; Lamp Immediately Turns On Just by Touching the "Instant On" Switch
- ▶ Heavy Duty K-Arms, .5" Square Tubing, Provide Superior Strength and Durability
- ▶ Calibrated, Heat Treated Springs Insure Proper Arm Balance without the Sagging Effect Experienced in Lesser Grade Arms
- ▶ Come with 3-Conductor Cord; UL Listed
- ▶ Available in Light Gray

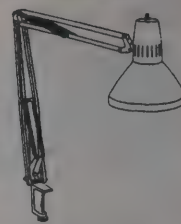


Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-3010	16159	45" Arm with Clamp	332.50	302.17

Magnifiers, Lamps and Holders

Ledu Taskmaster Incandescent

- ▶ A Durable, 7" Diameter Metal Shade with Porcelain Socket Rated for 100-Watts (Bulb Not Included)
- ▶ A 42" Arm with External Springs is Mounted in a Drafting Board Style Clamp
- ▶ Comes with a 2-Conductor Cord and is UL Listed
- ▶ Available in Matte Black or White



Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-2018	707-2019	UN12D Incandescent Lamp	79.00	71.25

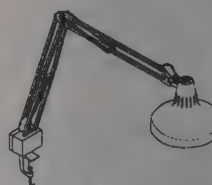
Incandescent — LS and LB Series

- ▶ Two Choices of Incandescent Models for Different Applications: LS-Models Feature 8" Diameter Shades, Include a 100-Watt Bulb, and Are Excellent for Illuminating Large Work Areas; LB-Models Have a Bullet-Shaped, 4 1/2" Diameter Shade with a 60-Watt Bulb for Confined Work Areas and Use Around Machinery (Drill Press, Lathe, etc.)
- ▶ All Models Available on L-Arms (External Spring Arm)
- ▶ Arms Have Individually Calibrated, Heat-Treated Springs for Perfect Balance and Durability
- ▶ All Models Come with 3-Conductor Cords and Are UL Listed
- ▶ LS Models Available in Black or White, or Light Gray or Oyster as Special Order

Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-3040	707-3045	LS1A 45" Arm with Clamp	122.66	112.17
707-3050	707-3055	LB1A 45" Arm with Clamp	122.66	112.17

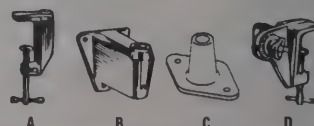
LC Series (Combination Models)

- ▶ Two Light Sources, a 22-Watt Circine Fluorescent Tube and 60-Watt Bulb (Both Included), Provide Color Balanced Light for Seeing Colors Correctly — Easier on the Eyes for Repetitive, Detailed Assembly Tasks
- ▶ All Models Available on L-Arms (External Spring Arm)
- ▶ Arms Have Individually Calibrated, Heat-Treated Springs for Perfect Balance and Durability
- ▶ All Models Come with 3-Conductor Cords and Are UL Listed
- ▶ LS Models Available in Black or White, or Light Gray or Oyster as Special Order

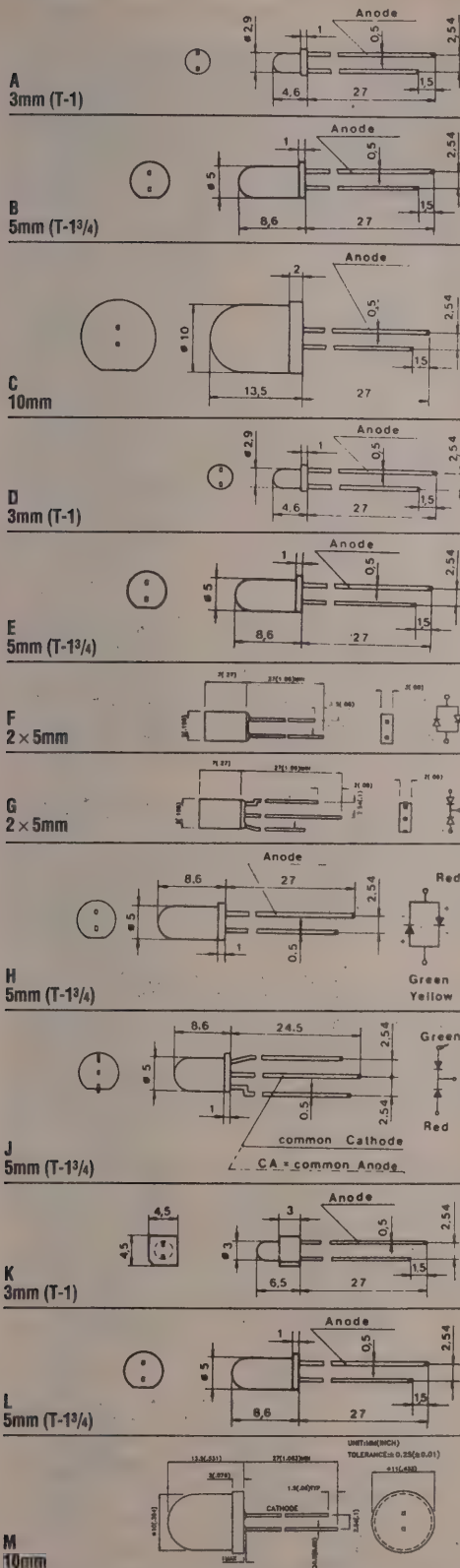


Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-11
707-3020	707-3025	LC1A 45" Arm with Clamp	194.57	176.77

Accessories — Brackets, Bases, and Fluorescent Tubes



Stock No.	Mfr.'s Type	Fig.	Description	EACH
707-2045	50001LG	A	Standard Mounting Bracket	12.47
707-2046	50003BK	B	Wall Bracket	13.00
707-2047	50005LG	C	Fixed Table Bracket	13.00
707-2048	60016LG	D	Drafting Table Bracket	21.00
707-0009	31640	—	T9 Circine Fluorescent Tube	16.00



Super Bright LEDs

Stock No.	Mfr.'s Type	Fig.	Light Color /Material	Wave Length Peak (nm)	Lens Color	Lum. Intensity @ 20mA (mcd)	View Angle°	EACH	
								PK/10	1-9
639-7000	MLED-934SRD/B	A	Red, GaAlAs	660	Red — Diffused	70 - 90	60	5.10	—
639-7002	MLED-934SRD/C	A	Red, GaAlAs	660	Red — Diffused	90 - 100	60	6.90	—
639-7004	MLED-934SRD/D	A	Red, GaAlAs	660	Red — Diffused	100 - 200	60	—	1.01
639-7006	MLED-934SRD/E	A	Red, GaAlAs	660	Red — Diffused	200 - 300	60	—	1.52
639-7008	MLED-934SRC/B	A	Red, GaAlAs	660	Water — Clear	250 - 360	50	5.10	—
639-7010	MLED-934SRC/C	A	Red, GaAlAs	660	Water — Clear	360 - 500	50	6.90	—
639-7012	MLED-934SRC/D	A	Red, GaAlAs	660	Water — Clear	500 - 700	50	—	1.52
639-7014	MLED-934SRC/E	A	Red, GaAlAs	660	Water — Clear	700 - 1000	50	—	2.02
639-7016	MLED-53SRD/B	B	Red, GaAlAs	660	Red — Diffused	90 - 100	60	4.60	—
639-7018	MLED-53SRD/C	B	Red, GaAlAs	660	Red — Diffused	110 - 200	60	5.60	—
639-7020	MLED-53SRD/D	B	Red, GaAlAs	660	Red — Diffused	200 - 300	60	—	1.01
639-7022	MLED-53SRD/E	B	Red, GaAlAs	660	Red — Diffused	300 - 500	60	—	1.52
639-7024	MLED-53SRC/B	B	Red, GaAlAs	660	Water — Clear	400 - 500	30	4.60	—
639-7026	MLED-53SRC/C	B	Red, GaAlAs	660	Water — Clear	500 - 1000	30	5.60	—
639-7028	MLED-53SRC/D	B	Red, GaAlAs	660	Water — Clear	1000 - 2000	30	—	.76
639-7030	MLED-53SRC/E	B	Red, GaAlAs	660	Water — Clear	2000 - 3500	30	—	1.52
639-7032	MLED-813ID	C	Red, GaAsP/GaP	625	Red — Diffused	20 - 100	60	5.60	—
639-7034	MLED-813GD	C	Green, GaP	565	Green — Diffused	20 - 70	60	5.60	—
639-7036	MLED-813YD	C	Yellow, GaAsP/GaP	590	Yellow — Diffused	20 - 70	60	5.60	—
639-7038	MLED-813ED	C	Orange, GaAsP/GaP	625	Orange — Diffused	20 - 100	60	5.60	—
639-7040	MLED-813SRD/B	C	Red, GaAlAs	660	Red — Diffused	120 - 200	60	10.10	—
639-7042	MLED-813SRD/C	C	Red, GaAlAs	660	Red — Diffused	200 - 350	60	—	1.52
639-7044	MLED-813SRD/D	C	Red, GaAlAs	660	Red — Diffused	350 - 450	60	—	2.53
639-7046	MLED-813SRD/E	C	Red, GaAlAs	660	Red — Diffused	450 - 550	60	—	3.03
639-7048	MLED-813SRC/B	C	Red, GaAlAs	660	Water — Clear	500 - 1000	40	10.10	—
639-7050	MLED-813SRC/C	C	Red, GaAlAs	660	Water — Clear	1000 - 1600	40	—	1.52
639-7052	MLED-813SRC/D	C	Red, GaAlAs	660	Water — Clear	1600 - 2000	40	—	3.03
639-7054	MLED-813SRC/E	C	Red, GaAlAs	660	Water — Clear	2000 - 3000	40	—	3.54

Standard LEDs

639-7058	MLED-934HD	D	Red, GaP	700	Red — Diffused	1.3 - 5	60	1.80	—
639-0802	MLED-934GD	D	Green, GaP	565	Green — Diffused	8 - 32	60	—	.22
639-0804	MLED-934YD	D	Yellow, GaAsP/GaP	590	Yellow — Diffused	8 - 32	60	—	.24
639-7064	MLED-934ED	D	Orange, GaAsP/GaP	625	Orange — Diffused	12.5 - 50	60	2.40	—
639-7066	MLED-934ID	D	Red, GaAsP/GaP	625	Red — Diffused	12.5 - 50	60	2.40	—
639-7070	MLED-53HD	E	Red, GaP	700	Red — Diffused	2 - 5	60	1.70	—
639-0840	MLED-53GD	E	Green, GaP	565	Green — Diffused	5 - 32	60	1.90	—
639-7072	MLED-53YD	E	Yellow, GaAsP/GaP	590	Yellow — Diffused	5 - 32	60	2.30	—
639-7074	MLED-53ED	E	Orange, GaAsP/GaP	625	Orange — Diffused	20 - 80	60	2.40	—
639-7076	MLED-53ID	E	Red, GaAsP/GaP	625	Red — Diffused	20 - 80	60	2.20	—

2 Chip Single and Tri-Color LEDs

639-7078	MLED-117EGW	F	Red/Green	625/565	White — Diffused	5 - 20/5 - 12.5	110	6.00	—
639-7080	MLED-119EGW	G	Red/Green	625/565	White — Diffused	5 - 20/5 - 12.5	110	6.00	—
639-7082	MLED-57EGW	H	Red/Green	625/565	White — Diffused	20 - 50/12.5 - 40	60	5.60	—
639-7084	MLED-57EYW	H	Red/Yellow	625/590	White — Diffused	20 - 50/5 - 20	60	6.00	—
639-7086	MLED-57GYW	H	Green/Yellow	565/590	White — Diffused	12.5 - 40/5 - 20	60	11.60	—
639-7088	MLED-57IID	H	Red	625/625	Red — Diffused	8 - 40/8 - 40	60	6.00	—
639-7090	MLED-57GGD	H	Green	565/565	Green — Diffused	5 - 20/5 - 20	60	6.00	—
639-7092	MLED-57YYD	H	Yellow	590/590	Yellow — Diffused	5 - 20/5 - 20	60	6.00	—
639-7094	MLED-57SRD	H	Red	660/660	Red — Diffused	80 - 200/80 - 200	60	9.30	—
639-7096	MLED-59EGW	J	Red/Green	625/565	White — Diffused	20 - 90/20 - 70	60	5.60	—
639-7098	MLED-59EGW/CA	J	Red/Green	625/565	White — Diffused	3.2 - 8/3.2 - 8	60	6.90	—
639-7100	MLED-59EYW	J	Red/Yellow	625/590	White — Diffused	20 - 90/20 - 60	60	6.00	—
639-7102	MLED-59GYW	J	Green/Yellow	565/590	White — Diffused	20 - 70/20 - 60	60	6.00	—
639-7104	MLED-59EGC	J	Red/Green	625/565	Water — Clear	100 - 300/50 - 200	24	6.90	—
639-7106	MLED-59EYC	J	Red/Yellow	625/590	Water — Clear	100 - 300/30 - 80	24	6.90	—
639-7108	MLED-59GYC	J	Green/Yellow	565/590	Water — Clear	50 - 200/30 - 80	24	6.90	—

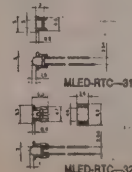
Blinking LEDs

639-7110	MLED-616BHD	K	Red, GaP	700	Red — Diffused	1.3 - 3.2	60	—	1.77
639-7112	MLED-616BGD	K	Green, GaP	565	Green — Diffused	5 - 20	60	—	1.77
639-7114	MLED-616BYD	K	Yellow, GaAsP/GaP	590	Yellow — Diffused	5 - 20	60	—	1.92
639-7116	MLED-616BID	K	Red, GaAsP/GaP	625	Red — Diffused	12.5 - 32	60	—	1.92
639-7118	MLED-616BSRD/B	K	Red, GaAlAs	660	Red — Diffused	100 - 300	60	—	2.78
639-7120	MLED-56BHD	L	Red, GaP	700	Red — Diffused	2 - 8	60	—	1.21
639-7122	MLED-56BGD	L	Green, GaP	565	Green — Diffused	5 - 32	60	—	1.31
639-7124	MLED-56BYD	L	Yellow, GaAsP/GaP	590	Yellow — Diffused	5 - 32	60	—	1.67
639-7126	MLED-56BID	L	Red, GaAsP/GaP	625	Red — Diffused	20 - 80	60	—	1.52
639-7128	MLED-56BSRD/B	L	Red, GaAlAs	660	Red — Diffused	100 - 300	60	—	2.02
639-7130	MLED-816BID	M	Red, GaAsP/GaP	625	Red — Diffused	20 - 100	60	—	2.53
639-7132	MLED-816BGD	M	Green, GaP	565	Green — Diffused	20 - 70	60	—	2.53
639-7134	MLED-816BYD	M	Yellow, GaAsP/GaP	590	Yellow — Diffused	20 - 70	60	—	2.53
639-7136	MLED-816BSRD/B	M	Red, GaAlAs	660	Red — Diffused	100 - 400	60	—	3.03
639-7138	MLED-816BSRC/B	M	Red, GaAlAs	660	Water — Clear	500 - 1000	40	—	3.03

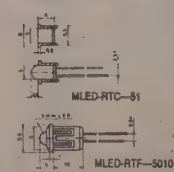
LED Lamp Holders

639-7140. MLED-RTC-31	EACH .14
639-7142. MLED-RTC-32	EACH .14
639-7144. MLED-RTC-51	EACH .09
639-7146. MLED-RTF-5010	EACH .37
639-7148. MLED-RTC-52	EACH .14
639-7150. MLED-RTF-5020	EACH .37
639-7152. MLED-RTF-8080	EACH .46
639-7154. MLED-RTF-1090	EACH .46

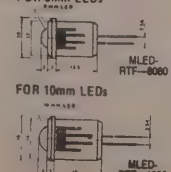
FOR 3mm (T-1) LEDs



FOR 5mm (T-1/4) LEDs



FOR 8mm LEDs



Wedge Base Incandescent Lamps

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	MSCP	Avg. Life Hrs.	Bulb Style	Application	MOL Max.		MOD Max.		PER PKG./10
									MM	In.	MM	In.	
639-0142	161	A	14.00	.190	1.00	4.0K	T-3/4	Auto. Instru.	26.80	1.055	10.30	.405	3.40
639-0144	194	A	14.00	.270	2.00	1.5K	T-3/4	Auto. Instru.	26.80	1.055	10.30	.405	3.20
639-0146	259	A	6.30	.250	.65	5.0K	T-3/4	Radio	26.80	1.055	10.30	.405	3.30
639-0150	73	A	14.00	.080	.30	15.0K	T-1/4	Auto.	20.30	.800	5.84	.230	4.50
639-0152	74	A	14.00	.100	.70	20.0K	T-1/4	Auto.	20.30	.800	5.84	.230	4.50
639-0156	86	A	6.30	.200	.40	50.0K	T-1/4	Indicator	20.30	.800	5.84	.230	4.20

Flange Base Incandescent Lamps

639-0164	327	C	28.00	.040	.34	4.0K	T-1/4	Aircraft	15.90	.625	5.84	.230	3.70
639-0166	328	C	6.00	.200	.80	1.0K	T-1/4	Aircraft	15.90	.625	5.84	.230	4.30
639-0168	330	C	14.00	.080	.50	1.5K	T-1/4	Aircraft	15.90	.625	5.84	.230	4.40
639-0178	381	C	6.30	.200	.40	50.0K	T-1/4	Indicator	15.90	.625	5.84	.230	4.50
639-0180	382	C	14.00	.080	.30	15.0K	T-1/4	Indicator	15.90	.625	5.84	.230	4.40
639-0182	385	C	28.00	.040	.15	10.0K	T-1/4	Indicator	15.90	.625	5.84	.230	4.50
639-0184	387	C	28.00	.040	.30	7.0K	T-1/4	Indicator	15.90	.625	5.84	.230	3.70
639-0186	394	C	12.00	.040	.12	10.0K	T-1/4	Indicator	15.90	.625	5.84	.230	4.70
639-0188	6839	C	28.00	.024	.15	4.0K	T-1	Indicator	13.21	.520	3.20	.125	15.50
639-0202	PR2	B	2.38	.500	.80	15.0K	B-3/2	Flash 2-D Cell	31.80	1.250	11.30	.445	4.20
639-0204	PR3	B	3.57	.500	1.50	15.0K	B-3/2	Flash 3-D Cell	31.80	1.250	11.30	.445	4.20
639-0206	PR4	B	2.33	.270	.40	10.0K	B-3/2	Flash 2-D Cell	31.80	1.250	11.30	.445	4.20

Slide Base Incandescent Lamps

639-0224	24E-2	E	24.00	.035	.17	8.0K	T-2	Telephone	42.80	1.690	7.60	.299	8.70
639-0232	28ESB	E	28.00	.040	.25	6.0K	T-2	Telephone	23.24	.915	7.60	.299	8.70
639-0234	28PSB	E	28.00	.040	.29	5.0K	T-2	Telephone	28.06	1.105	7.60	.299	7.90
639-0244	6PSB	E	6.00	.140	.12	15.0K	T-2	Telephone	28.06	1.105	7.60	.299	7.90

Miniature Screw Base Incandescent Lamps

639-0252	335	D	28.00	.040	.32	4.0K	T-1/4	Indicator	17.50	.688	5.84	.200	4.70
639-0254	342	D	6.00	.040	.03	10.0K	T-1/4	Indicator	11.71	.460	5.84	.200	4.60

Bi-Pin Base Incandescent Lamps

639-0004	12	F	6.30	.150	.32	5.0K	G-3/2	Radio	23.90	.940	11.71	.460	17.50
639-0024	7382	G	14.00	.080	.30	15.0K	T-1/4	PC Boards	15.90	.625	5.84	.230	6.10
639-0026	7387	G	28.00	.040	.30	7.0K	T-1/4	PC Boards	15.90	.625	5.84	.230	6.10

Candelabra Base Incandescent Lamps

639-0034	6S6	H	120.00	6W	3.25	1.5K	S-6	Line Voltage	47.6	1.880	19.70	.775	8.00
639-0036	6S6	H	145.00	6W	3.25	1.5K	S-6	Line Voltage	47.6	1.880	19.70	.775	8.00

Bayonet Base Incandescent Lamps

639-0042	120MB	I	120.00	.025	0.36	5.0K	T-2	Telephone	30.22	1.190	8.31	0.327	10.00
639-0050	1813	I	14.00	.100	0.86	1.0K	T-3/4	Radio	30.20	1.190	10.30	0.405	4.10
639-0052	1815	I	14.00	.200	1.40	3.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	3.50
639-0058	1819	I	28.00	.040	0.34	2.5K	T-3/4	Indicator	30.20	1.190	10.30	0.405	4.00
639-0060	1820	I	28.00	.100	1.60	1.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	4.00
639-0064	1829	I	28.00	.070	1.00	1.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	3.80
639-0066	1835	I	55.00	.050	1.10	5.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	6.10
639-0070	1864	I	28.00	.170	3.00	1.5K	T-3/4	Auto Instr.	30.20	1.190	10.30	0.405	4.00
639-0072	1866	I	6.30	.250	0.65	5.0K	T-3/4	Radio	30.20	1.190	10.30	0.405	4.70
639-0074	1891	I	14.00	.240	2.00	500.0	T-3/4	Auto.	30.20	1.190	10.30	0.405	3.60
639-0076	1892	I	14.00	.120	0.75	1.0K	T-3/4	Auto.	30.20	1.190	10.30	0.405	3.50
639-0084	313	I	28.00	.170	3.50	500.0	T-3/4	Aircraft	30.20	1.190	10.30	0.405	3.70
639-0086	3995	I	120.00	.020	.20	5.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	3.04
639-0088	44	I	6.30	.250	0.90	3.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	3.20
639-0090	47	I	6.30	.150	0.52	3.0K	T-3/4	Radio	30.20	1.190	10.30	0.405	3.30
639-0092	51	J	7.50	.220	1.00	1.0K	G-3/2	Indicator	23.90	0.940	11.70	0.460	3.30
639-0094	53	J	14.00	.120	1.00	1.0K	G-3/2	Auto.	23.90	0.940	11.70	0.460	3.50
639-0100	6S6DC	—	145.00	6.00 W	3.25	1.5K	S-6	Line Voltage	46.00	1.810	19.70	.775	8.00
639-0102	6S6DC	—	120.00	6.00 W	3.25	1.5K	S-6	Line Voltage	46.00	1.810	19.70	.775	8.00
639-0104	755	I	6.30	.150	0.33	20.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	4.20
639-0106	756	I	14.00	.080	0.31	15.0K	T-3/4	Indicator	30.20	1.190	10.30	0.405	7.00
639-0108	757	I	28.00	.080	0.62	7.5K	T-3/4	Indicator	30.20	1.190	10.30	0.405	4.30

*This part priced as EACH.

Miniature Groove Base Incandescent Lamps

639-0112	334	K	28.00	.040	.34	4.0K	T-1/4	Aircraft	15.90	.625	5.84	.230	4.40
639-0114	386	K	14.00	.080	.30	15.0K	T-1/4	Indicator	15.90	.625	5.84	.230	4.40
639-0116	388	K	28.00	.040	.30	7.0K	T-1/4	Indicator	15.90	.625	5.84	.230	4.40

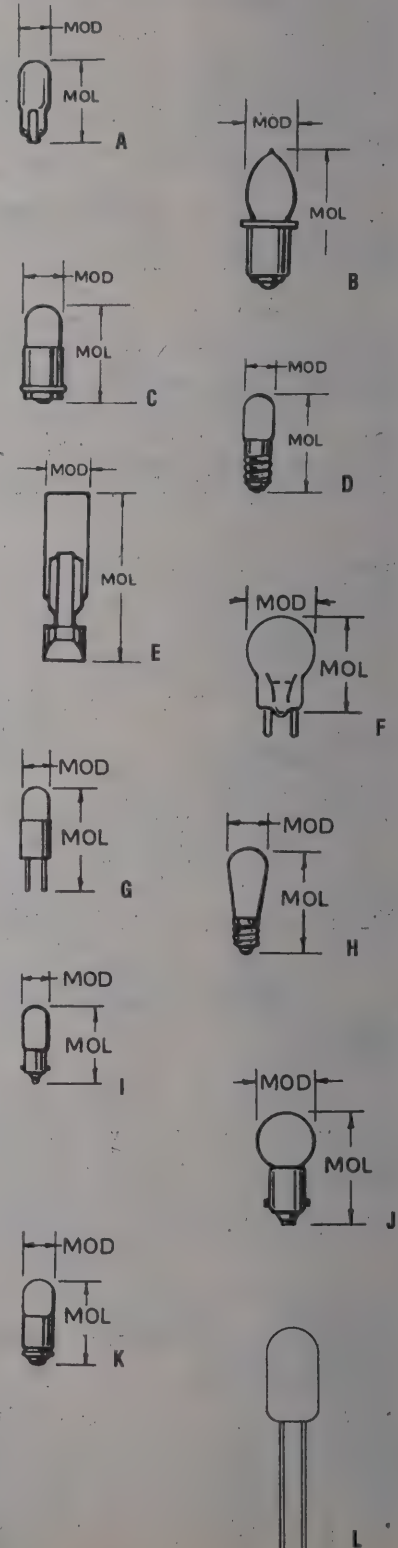
Wire Terminal Incandescent Lamps

639-0126	683	L	5.00	.060	.05	25K	T-1	Aircraft	6.35	.250	3.18	.125	3.40
639-0134	7219	L	12.00	.060	.15	10K	T-1	Indicator	6.35	.250	3.18	.125	8.70

Neon Glow Lamps

Stock No.	Mfr.'s Type	Volts	Watts	Average Life Hrs.	Bulb Style	Base Style	EACH	
							1-49	
639-9805	A1A	105-125	1/17	25.0K	T-2	1" Wire Term	.41	
639-9810	A1H	105-125	1/7	25.0K	T-2	Mid. Fig	1.57	
639-9815	A9A (NE-2E)	105-125	1/12	25.0K	T-2	2" Wire Term.	.32	
639-9820	B1A (NE-51)	105-125	1/25	15.0K	T-3/4	Min. Bayo	1.77	
639-9825	B2A (NE-51H)	105-125	1/7	25.0K	T-3/4	Min. Bayo	1.65	
639-0296	B7A (NE-45)	105-125	1/4	7.5K	T-4 1/2	Cand.	4.31	
639-9830	C2A (NE-2H)	105-125	1/4	25.0K	T-2	2" Wire Term.	.32	
639-9835	C7A (NE-2D)	105-125	1/12	25.0K	T-2	Mid. Fig.	1.49	
639-9840	C9A (NE-2J)	105-125	1/4	25.0K	T-2	Mid. Fig.	1.59	

The wide selection of miniature incandescent lamps fill the requirements of today's electronic design engineers. The lamps described are designed for applications where space is at a premium low power consumption and long life are rigid requirements. Four basic criteria govern the operating characteristics of miniature incandescent lamps. Voltage, Current, Luminous Intensity, and Life. Power consumption in relation to envelope size and environmental consideration are important and data relating to these perimeters are listed for ease in selecting the correct lamp. All lamps are identified by an industry standard number which indicates all physical and electrical characteristics including bulb type, design voltage, current, M.S.C.P., and rated life. Aging and selection for special tolerances and colored lamps are available on "Special Order" only. For additional lamp offerings or data, call your nearest Allied Sales Office at 1-800-433-5700. Quantity pricing always available.



Liquid Crystal Displays

NL128102AC20-04. Diagonal Display Size: 33 cm (13 Type). **Application:** Workstation, Monitor. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.067 (H) × 0.201 (V) mm. **Pixel Pitch:** 0.201 (H) × 0.201 (V) mm. **Pixel Number:** 1280 × 1024. One pixel is defined as an RGB dot trio. **Display Size:** 257.28 (H) × 205.824 (V) mm. **Back-light:** 4 cold cathode fluorescent lamps. **Luminance:** 100 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 100:1 (typ.) (Ta = 25°C). **Display Color:** Full color. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 50 msec (max.) (Ta = 25°C). **Outline Dimension:** 310.0 (H) × 255.5 (V) × 37.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 23 V, 12 V, 10 V, 5 V. **Power Consumption:** 28 W (typ.). **Input Signal:** Analog RGB (0.7 Vp-p, 75 Ω of input impedance) Hsync, Vsync.

NL128102AC20-05. Diagonal Display Size: 33 cm (13 Type). **Application:** Workstation, Monitor. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.067 (H) × 0.201 (V) mm. **Pixel Pitch:** 0.201 (H) × 0.201 (V) mm. **Pixel Number:** 1280 × 1024. One pixel is defined as an RGB dot trio. **Display Size:** 257.28 (H) × 205.824 (V) mm. **Back-light:** 4 cold cathode fluorescent lamps. **Luminance:** 80 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 100:1 (typ.) (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 50 msec (max.) (Ta = 25°C). **Outline Dimension:** 310.0 (H) × 255.5 (V) × 37.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 24 V, 12 V, 5 V. **Power Consumption:** 22 W (typ.). **Input Signal:** Digital RGB (4 bit × 2 each). Dot clock (53.75 MHz), Hsync, Vsync.

NL10276AC24-01. Diagonal Display Size: 31 cm (12.1 Type). **Application:** Workstation, Monitor. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.08 (H) × 0.24 (V) mm. **Pixel Pitch:** 0.24 (H) × 0.24 (V) mm. **Pixel Number:** 1024 × 768. One pixel is defined as an RGB dot trio. **Display Size:** 245.76 (H) × 184.32 (V) mm. **Back-light:** 4 cold cathode fluorescent lamps. **Luminance:** 200 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 150:1 (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 310.0 (H) × 235.0 (V) × 18.5 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 12 V, 5 V. **Power Consumption:** 15.6 W (typ.). **Input Signal:** Digital RGB (4 bit × 2 each), Dot clock (32.5 MHz), Hsync, Vsync.

NL10276AC20-02. Diagonal Display Size: 26 cm (10.4 Type). **Application:** Workstation, Laptop PC. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.069 (H) × 0.207 (V) mm. **Pixel Pitch:** 0.207 (H) × 0.207 (V) mm. **Pixel Number:** 1024 × 768. One pixel is defined as an RGB dot trio. **Display Size:** 211.968 (H) × 158.976 (V) mm. **Back-light:** 2 cold cathode fluorescent lamps. **Luminance:** 85 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 100:1 (typ.) (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 282.0 (H) × 190.0 (V) × 13.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V, 6 to 20 V. **Power Consumption:** 7.6 W (typ.). **Input Signal:** Digital RGB (4 bit × 2 each), Dot clock (32.5 MHz), Hsync, Vsync.

NL8060AC26-02. Diagonal Display Size: 26 cm (10.4 Type). **Application:** Notebook PC. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.088 (H) × 0.264 (V) mm. **Pixel Pitch:** 0.264 (H) × 0.264 (V) mm. **Pixel Number:** 800 × 600. One pixel is defined as an RGB dot trio. **Display Size:** 211.2 (H) × 158.4 (V) mm. **Back-light:** 1 cold cathode fluorescent lamps. **Luminance:** 90 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 150:1 (typ.) (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 270.0 (H) × 183.0 (V) × 13.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V, 5.2 to 20 V. **Power Consumption:** 5.2 W (typ.). **Input Signal:** Digital RGB (4 bit each), Dot clock (38.362 MHz), Hsync, Vsync.

NL8060AC26-04. Diagonal Display Size: 26 cm (10.4 Type). **Application:** Notebook PC. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.088 (H) × 0.264 (V) mm. **Pixel Pitch:** 0.264 (H) × 0.264 (V) mm. **Pixel Number:** 800 × 600. One pixel is defined as an RGB dot trio. **Display Size:** 211.2 (H) × 158.4 (V) mm. **Back-light:** 1 cold cathode fluorescent lamps. **Luminance:** 70 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 150:1 (typ.) (Ta = 25°C). **Display Color:** 262,144 colors. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 243.0 (H) × 179.0 (V) × 8.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 3.3 V, 5.0 V. **Power Consumption:** 2.7 W (typ.) @ 3.3 V dc. **Input Signal:** Digital RGB (6 bit each), Dot clock (38.362 MHz), Hsync, Vsync.

NL8060AC24-01. Diagonal Display Size: 24 cm (9.4 Type). **Application:** Notebook PC. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.08 (H) × 0.24 (V) mm. **Pixel Pitch:** 0.24 (H) × 0.24 (V) mm. **Pixel Number:** 800 × 600. One pixel is defined as an RGB dot trio. **Display Size:** 192.0 (H) × 144.0 (V) mm. **Back-light:** 1 cold cathode fluorescent lamps. **Luminance:** 90 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 110:1 (typ.) (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 259.5 (H) × 179.0 (V) × 12.5 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V, 6 to 20 V. **Power Consumption:** 5.1 W (typ.). **Input Signal:** Digital RGB (4 bit each), Dot clock (38.362 MHz), Hsync, Vsync.

NL6448AC33-11. Diagonal Display Size: 26 cm (10.4 Type). **Application:** Notebook PC, Monitor. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.11 (H) × 0.33 (V) mm. **Pixel Pitch:** 0.33 (H) × 0.33 (V) mm. **Pixel Number:** 640 × 480. One pixel is defined as an RGB dot trio. **Display Size:** 211.2 (H) × 158.4 (V) mm. **Back-light:** 2 cold cathode fluorescent lamps. **Luminance:** 120 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 135:1 (typ.) (Ta = 25°C). **Display Color:** Full color. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 270.0 (H) × 183.0 (V) × 16.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V, 5.2 to 20 V, 6 to 20 V. **Power Consumption:** 9.8 W (typ.). **Input Signal:** Analog RGB (0.7 Vp-p, 75 Ω of input impedance), Dot clock (25.175 MHz), Hsync, Vsync.

NL6448AC33-10. Diagonal Display Size: 26 cm (10.4 Type). **Application:** Notebook PC. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.11 (H) × 0.33 (V) mm. **Pixel Pitch:** 0.33 (H) × 0.33 (V) mm. **Pixel Number:** 640 × 480. One pixel is defined as an RGB dot trio. **Display Size:** 211.2 (H) × 158.4 (V) mm. **Back-light:** 1 cold cathode fluorescent lamps. **Luminance:** 90 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 150:1 (typ.) (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 270.0 (H) × 183.0 (V) × 13.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V, 5.2 to 20 V. **Power Consumption:** 4.8 W (typ.). **Input Signal:** Digital RGB (4 bit each), Dot clock (25.175 MHz), Hsync, Vsync.

NL6448AC32-01. Diagonal Display Size: 26 cm (10.2 Type). **Application:** Notebook PC. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.107 (H) × 0.321 (V) mm. **Pixel Pitch:** 0.321 (H) × 0.321 (V) mm. **Pixel Number:** 640 × 480. One pixel is defined as an RGB dot trio. **Display Size:** 205.44 (H) × 154.08 (V) mm. **Back-light:** 1 cold cathode fluorescent lamps. **Luminance:** 70 cd/m2 (typ.) (Ta = 25°C, lamp voltage = 455 Vrms, lamp current = 3.5 mAmps). The luminance is measured at a saturation point. **Contrast Ratio:** 150:1 (typ.) (Ta = 25°C). **Display Color:** 262,144. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 264.2 (H) × 180.2 (V) × 9.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 3.3 V or 5.0 V. **Power Consumption:** 2.9 W (typ.) (Vcc = 3.3 V, at above luminance condition). **Input Signal:** Digital RGB (6 bit each), Dot clock (25.175 MHz), Hsync, Vsync, DE signal.

NL6448AC30-09. Diagonal Display Size: 24 cm (9.4 Type). **Application:** Notebook PC, Monitor. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.1 (H) × 0.3 (V) mm. **Pixel Pitch:** 0.3 (H) × 0.3 (V) mm. **Pixel Number:** 640 × 480. One pixel is defined as an RGB dot trio. **Display Size:** 192.0 (H) × 144.0 (V) mm. **Back-light:** 2 cold cathode fluorescent lamps. **Luminance:** 120 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 135:1 (typ.) (Ta = 25°C). **Display Color:** Full color. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 257.0 (H) × 179.0 (V) × 16.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V, 6 to 20 V, 6 to 20 V. **Power Consumption:** 11 W (typ.). **Input Signal:** Analog RGB (0.7 Vp-p, 75 Ω of input impedance), Dot clock (25.175 MHz), Hsync, Vsync.

NL6448AC30-12. Diagonal Display Size: 24 cm (19.4 Type). **Application:** Notebook PC. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.10 (H) × 0.30 (V) mm. **Pixel Pitch:** 0.30 (H) × 0.30 (V) mm. **Pixel Number:** 640 × 480. One pixel is defined as an RGB dot trio. **Display Size:** 192.0 (H) × 144.0 (V) mm. **Back-light:** 1 cold cathode fluorescent lamps. **Luminance:** 70 cd/m2 (typ.) (Ta = 25°C, lamp voltage = 450 Vrms, lamp current = 3.7 mAmps). The luminance is measured at a saturation point. **Contrast Ratio:** 150:1 (typ.) (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D25°, R/L45° (typ.) (Ta = 25°C). **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 241.8 (H) × 178.8 (V) × 10.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V. **Power Consumption:** 2.7 W (typ.) (at above luminance condition). **Input Signal:** Digital RGB (4 bit each), Dot clock (25.175 MHz), Hsync, Vsync.

NL6448CC30-15. Diagonal Display Size: 24 cm (9.4 Type). **Application:** Overhead Projection. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.10 (H) × 0.30 (V) mm. **Pixel Pitch:** 0.30 (H) × 0.30 (V) mm. **Pixel Number:** 640 × 480. One pixel is defined as an RGB dot trio. **Display Size:** 192.0 (H) × 144.0 (V) mm. **Display Color:** 4096. **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 241.8 (H) × 178.8 (V) × 10.0 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V. **Power Consumption:** 1 W (typ.). **Input Signal:** Digital RGB (4 bit each), Dot clock (25.175 MHz), Hsync, Vsync, DE signal.

NL6448AC20-02. Diagonal Display Size: 17 cm (6.5 Type). **Application:** Measuring Instrument. **Drive Method:** Active matrix (Amorphous Si TFT). **Dot Pitch:** 0.069 (H) × 0.207 (V) mm. **Pixel Pitch:** 0.207 (H) × 0.207 (V) mm. **Pixel Number:** 640 × 480. One pixel is defined as an RGB dot trio. **Display Size:** 132.48 (H) × 99.36 (V) mm. **Back-light:** 1 cold cathode fluorescent lamp. **Luminance:** 120 cd/m2 (typ.) (Ta = 25°C). The luminance is measured at a saturation point. **Contrast Ratio:** 100:1 (typ.) (Ta = 25°C). **Display Color:** 4096. **Viewing Angle:** U/D30°, R/L45° (typ.) (Ta = 25°C). More than the contrast ratio of 10:1. **Designed Viewing Direction:** 12 o'clock direction (upper direction). **Response Time:** 40 msec (max.) (Ta = 25°C). **Outline Dimension:** 178.8 (H) × 126.8 (V) × 12.5 (max.) (D) mm. The inverter size is 32 (H) × 127 (V) × 12.5 (max.) (D) mm. **Operating Temperature:** 0 to 50°C. Measured at the center of the panel surface. **Storage Temperature:** -20°C to +60°C. **Power Supply:** 5 V, 12 V. **Power Consumption:** 5 W (typ.). **Input Signal:** Digital RGB (4 bit each), Dot clock (25.175 MHz), Hsync, Vsync.

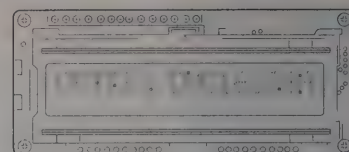
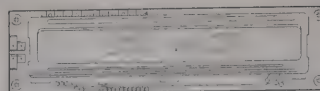
Stock No.	Mir.'s Type†	Pixel Number*	Display Color	Diagonal Display Size	Application	Remark
209-0010	NL128102AC20-04	1280 × 1024	Full color	33 cm (13 Type)	Workstation, Monitor	Incorporated-inverter
209-0020	NL128102AC20-05		4096			
209-0030	NL10276AC24-01	1024 × 768	4096	31 cm (12.1 Type)	Workstation, Laptop PC	Incorporated-inverter,High Luminance
209-0040	NL10276AC20-02		4096			
209-0050	NL8060AC26-02	800 × 600	4096	26 cm (10.4 Type)	Notebook PC	Incorporated-inverter
209-0060	NL8060AC26-04		262,144			
209-0070	NL8060AC24-01	640 × 480	4096	24 cm (9.4 Type)	Notebook PC, Monitor	Incorporated-inverter
209-0080	NL6448AC33-11		Full Color			
209-0090	NL6448AC33-10	640 × 480	4096	26 cm (10.4 Type)	Notebook PC	Inverter-less
209-0100	NL6448AC32-01		262144			
209-0110	NL6448AC30-09	640 × 480	Full Color	24 cm (9.4 Type)	Notebook PC, Monitor	Incorporated-inverter
209-0120	NL6448AC30-12		4096			
209-0130	NL6448CC30-15	640 × 480	4096	17 cm (6.5 Type)	Overhead Projection	Without backlight
209-0140	NL6448AC20-02		4096			

*One pixel is defined as an RGB dot trio. †Consult Allied for pricing and delivery.



Character Type/DMC Series

- ▶ 8-Bit or 4-Bit MPU Interface Is Available
- ▶ 160 JIS Type Characters Such As Alphabet, Numeral and Kana and 32 Special Characters and Symbols Can Be Displayed By Internal Character Generator (ROM)
- ▶ Random Symbols Can Be Displayed By Character Generator (RAM)
- ▶ Many Instructional Functions By Means Of Program Such As "Clear Display", "Home Cursor", "On/Off Cursor", "Blank Character", "Shift Display", "Shift Cursor", "Read/Write Display Data", Etc. Are Available
- ▶ Compact and Light Weight Design Enable Easy Assembly On Device
- ▶ Single "+5 V" Power Supply (Except For Extended Temperature Type)
- ▶ Low Power Consumption
- ▶ European Font Available Upon Request
- ▶ Operating Temperature: Normal — 0°C+50°C; Extended — -20°C+70°C
- ▶ Storage Temperature: Normal — -20°C+70°C; Extended — -30°C+80°C



695-1040, D32-46C, Inverter, 1-99 EACH 9.27
100-199 EACH 8.87 200-499 EACH 8.46

Stock No.	Mfr.'s Type	Display Format	Supply	Display Fonts	Character Size (mm)	Dot Size (mm)	Module Dimensions W x H x D (mm)	Viewing Area W x H (mm)	Driving Method	Variations						Inverter	EACH		
										TN Type				STN Type			1-99	100-199	200-499
									Duty	Bias	R	H	EL	LED	R		EL	LED	
695-0500	DMC 16117 A	16 x 1	+5	5 x 8 Dots	3.20 x 5.95	60 x 70	80 x 36 x 10	64.5 x 13	1/16 D	1/5 B	●						11.69	10.85	10.55
695-0510	DMC 16128	16 x 1	+5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 33 x 11	99 x 13	1/16 D	1/5 B	●						18.00	16.71	16.25
695-0520	DMC 16128 NY-LY	16 x 1	+5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 33 x 15.7	99 x 13	1/16 D	1/5 B	●						29.24	27.15	26.40
695-0530	DMC 16129	16 x 1	+5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 33 x 11	99 x 13	1/8 D	1/4 B	●						19.12	17.75	17.26
695-0540	DMC 16188 NY-LY	16 x 1	+5	5 x 8 Dots	6.0 x 14.54	1.152 x 1.765	151 x 40 x 14.2	120 x 23	1/8 D	1/4 B	●						56.24	52.22	50.77
695-0550	DMC 16207	16 x 2	+5	5 x 8 Dots	2.95 x 5.55	55 x 65	80 x 44 x 11	61 x 16	1/16 D	1/5 B	●						16.20	15.04	14.62
695-0560	DMC 16207 N-B	16 x 2	+5	5 x 8 Dots	2.95 x 5.55	55 x 65	80 x 44 x 11	61 x 16	1/16 D	1/5 B	●						21.36	19.84	19.29
695-0570	DMC 16230	16 x 2	+5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 44 x 11	99 x 24	1/16 D	1/5 B	●						21.36	19.84	19.29
695-0580	DMC 16230 N	16 x 2	+5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 44 x 11	99 x 24	1/16 D	1/5 B	●						27.00	25.07	24.37
695-0590	DMC 16230 NY-LY	16 x 2	+5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 44 x 14.6	99 x 24	1/16 D	1/5 B	●						37.12	34.47	33.51
695-0600	DMC 16230 N-B	16 x 2	+5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 44 x 11	99 x 24	1/16 D	1/5 B	●						36.00	33.42	32.50
695-0610	DMC 16230 NY-D	16 x 2	+5/-5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 44 x 11	99 x 24	1/16 D	1/5 B	●						28.12	26.11	25.38
695-0620	DMC 16230 NYJ-LYD	16 x 2	+5/-5	5 x 7 Dots + Cursor	4.84 x 9.66	92 x 110	122 x 44 x 14.6	99 x 24	1/16 D	1/5 B	●						39.37	36.55	35.53
695-0630	DMC 16249 B	16 x 2	+5	5 x 8 Dots	2.95 x 4.35	55 x 50	80 x 36 x 11	64.5 x 13.8	1/16 D	1/5 B	●						17.09	15.87	15.43
695-0640	DMC 1649 BU	16 x 2	+5	5 x 8 Dots	2.95 x 4.35	55 x 50	80 x 36 x 11	64.5 x 13.8	1/16 D	1/5 B	●						17.09	15.87	15.43
695-0650	DMC 16202 LY	16 x 2	+5	5 x 8 Dots	2.95 x 5.55	55 x 65	84 x 45 x 15.1	61 x 16	1/16 D	1/5 B	●						27.00	25.07	24.37
695-0660	DMC 16202 N-LY-B	16 x 2	+5	5 x 8 Dots	2.95 x 5.55	55 x 65	84 x 45 x 15.1	61 x 16	1/16 D	1/5 B	●						29.24	27.17	26.40
695-0670	DMC 16202 NY-LY	16 x 2	+5	5 x 8 Dots	2.95 x 5.55	55 x 65	84 x 45 x 15.1	61 x 16	1/16 D	1/5 B	●						29.24	27.17	26.40
695-0680	DMC 16204 NY-LY	16 x 2	+5	5 x 8 Dots	2.95 x 5.55	55 x 65	80 x 40 x 16.1	59.5 x 16	1/16 D	1/5 B	●						24.75	23.00	22.34
695-0690	DMC 16205 NY-LY	16 x 2	+5	5 x 8 Dots	2.95 x 5.55	55 x 65	88 x 34 x 16.1	59.5 x 16	1/16 D	1/5 B	●						25.87	24.02	23.36
695-0700	DMC 16433 H	16 x 4	+5/-5	5 x 8 Dots	2.95 x 4.75	55 x 55	87 x 60 x 11	61.8 x 25.2	1/16 D	1/5 B	●						34.87	32.38	31.48
695-0710	DMC 16433 N	16 x 4	+5	5 x 8 Dots	2.95 x 4.75	55 x 55	87 x 60 x 11	61.8 x 25.2	1/16 D	1/5 B	●						33.25	31.34	30.47
695-0720	DMC 20171	20 x 1	+5	5 x 7 Dots + Cursor	6.70 x 11.5	130 x 130	182 x 33.5 x 13	83 x 18.6	1/8 D	1/4 B	●						34.87	32.38	31.48
695-0730	DMC 20171 NY-LY-B	20 x 1	+5	5 x 7 Dots + Cursor	6.70 x 11.5	130 x 130	182 x 33.5 x 14.35	83 x 18.6	1/8 D	1/4 B	●						57.36	53.27	51.79
695-0740	DMC 20261 NY-LY	20 x 1	+5	5 x 8 Dots	3.20 x 5.50	60 x 65	116 x 37 x 15.7	83 x 18.6	1/16 D	1/5 B	●						37.53	34.85	33.88
695-0750	DMC 20434	20 x 4	+5	5 x 8 Dots	2.95 x 4.75	55 x 55	98 x 60 x 11	76 x 25.2	1/16 D	1/5 B	●						33.96	31.54	30.66
695-0760	DMC 20434 EB	20 x 4	+5	5 x 8 Dots	2.95 x 4.75	55 x 55	98 x 60 x 11	76 x 25.2	1/16 D	1/5 B	●						47.24	43.87	42.65
695-0770	DMC 20434 N-B-7	20 x 4	+5	5 x 8 Dots	2.95 x 4.75	55 x 55	98 x 60 x 11	76 x 25.2	1/16 D	1/5 B	●						38.24	35.51	34.52
695-0780	DMC 20481 NY-LY	20 x 4	+5	5 x 8 Dots	2.95 x 4.75	55 x 55	98.5 x 61 x 15.6	76 x 25.2	1/16 D	1/5 B	●						47.24	43.87	42.65
695-0790	DMC 20481 NYU-LY	20 x 4	+5	5 x 8 Dots	2.95 x 4.75	55 x 55	98.5 x 61 x 15.6	76 x 25.2	1/16 D	1/5 B	●						47.24	43.87	42.65
695-0800	DMC 24227	24 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	118 x 36 x 11	93.5 x 15.8	1/16 D	1/5 B	●						24.75	23.00	22.34
695-0810	DMC 24227 N	24 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	118 x 36 x 11	93.5 x 15.8	1/16 D	1/5 B	●						27.00	25.09	24.37
695-0820	DMC 24227 N-B	24 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	118 x 36 x 11	93.5 x 15.8	1/16 D	1/5 B	●						27.00	25.09	24.37
695-0830	DMC 40202 NY-LY	40 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	182 x 34.5 x 15.1	161.6 x 16.5	1/16 D	1/5 B	●						60.73	56.40	54.83
695-0840	DMC 40202 NY-LY-B	40 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	182 x 34.5 x 15.1	161.6 x 16.5	1/16 D	1/5 B	●						60.73	56.40	54.83
695-0850	DMC 40205 NY-LY-B	40 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	172 x 31.5 x 15.5	151 x 14.2	1/16 D	1/5 B	●						57.36	53.28	51.79
695-0860	DMC 40218 N-B	40 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	182 x 33.5 x 11	152.5 x 16.5	1/16 D	1/5 B	●						51.75	48.05	46.72
695-0870	DMC 4021 NY	40 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	182 x 33.5 x 11	152.5 x 16.5	1/16 D	1/5 B	●						45.00	41.78	40.62
695-0880	DMC 40218 NY-EB	40 x 2	+5	5 x 8 Dots	3.20 x 5.55	60 x 65	182 x 33.5 x 11	152.5 x 16.5	1/16 D	1/5 B	●						51.75	48.05	46.72
695-0890	DMC 40457	40 x 4	+5	5 x 8 Dots	2.78 x 4.89	50 x 55	190 x 54 x 10	147 x 29.5	1/16 D	1/5 B	●						70.87	65.81	64.00
695-0900	DMC 40457 NY-LY-B	40 x 4	+5	5 x 8 Dots	2.78 x 4.89	50 x 55	190 x 54 x 13.6	147 x 29.5	1/16 D	1/5 B	●						101.24	94.01	91.40
695-0910	DMC 40457 NY-J-LY-D	40 x 4	+5/-5	5 x 8 Dots	2.78 x 4.89	50 x 55	190 x 54 x 13.6	147 x 29.5	1/16 D	1/5 B	●						103.49	96.10	93.43
695-0920	DMC 40401 N	40 x 4	+5	5 x 8 Dots	2.78 x 4.89	50 x 55	190 x 54 x 11	147 x 29.5	1/32 D	1/7 B	●						61.87	57.45	55.86
695-0930	DMC 50244 N-B	20 x 4	+5	5 x 8 Dots	2.95 x 4.75	50 x 55	82.5 x 48 x 9.5	71.6 x 25.2	1/32 D	1/7 B	●						61.87	57.45	55.86

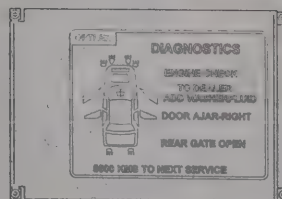
OPTREX LCD Character Modules are available in many backlighting options as well as in standard TN and STN Fluid Technologies.

Graphic Type/DMF Series

Applications

- ▶ Personal Computer
- ▶ Electronic Typewriter
- ▶ Word Processor
- ▶ Facsimile
- ▶ Plain Paper Copier
- ▶ Telecommunication System
- ▶ Instrument Devices
- ▶ POS Terminal
- ▶ Fish Finder
- ▶ Overhead Projector
- ▶ Oscilloscope
- ▶ Handheld Terminal

With a liquid crystal display of excellent characteristics and reliability, OPTREX has developed the "DMF Series" for large area graphic display. These are exceptional in the following advantages, (1) low voltage operation, low power consumption; (2) compact, light, thin; (3) graphic, figure, and character display; (4) high contrast, wide viewing angle, as Super TN LCDP are employed; and (5) large area display as CRT, Neutral Mode, Yellow Mode and Blue Mode etc., are available. *Various types of back light are available in its series, and stated with following abbreviations. R — Reflective Type, EL — With EL, FL — With cold cathode fluorescent tube, OHP — Transmissive for OHP, BW — Black and white with FL.



Optrex DMF Inverters

Stock No.	Mfr.'s Type	EACH		
		1-99	100-199	200-499
695-0940	NEL-D32-49	10.56	10.10	9.68
695-0950	NEL-D32-50	11.95	11.43	10.95
695-0960	CXA-L10L	16.80	16.07	15.40
695-0990	CXA-M10L-L	18.08	17.30	16.57
695-1000	S-12562	33.91	32.43	31.08
695-1020	S-12565	42.04	40.21	38.53
695-1022	CXA-M10M-L	18.05	17.36	16.57

Stock No.	Mfr.'s Type	Controller On Board	Dot Pixels W x H	Dot Size W x H (mm)	Dot Pitch W x H (mm)	Module Dimensions W x H x D (mm)	Viewing Area W x H (mm)	Driving Method		STN Features					Inverter	EACH		
								Duty	Bias	R	EL	CFL	LED	FSTN		1-99	100-199	200-499
695-0100	DMF 633 N	None	240 x 64	48 x 48	53 x 53	180 x 75 x 15	132 x 39	1/32 D	1/6 B	●						159.01	147.65	143.56
695-0110	DMF 651 ANB-FW	None	640 x 200	32 x 46	35 x 49	275 x 137 x 22.6	232 x 106	1/200 D	1/13 B	●						283.17	262.94	255.64
695-0120	DMF 682 ANB-FW	None	256 x 128	43 x 43	47 x 47	147 x 116 x 12	127 x 70	1/64 D	1/9 B	●						158.50	147.65	143.56
695-0130	DMF 5001 NYL	T6963C	160 x 128	54 x 54	58 x 58	129 x 102 x 19.2	101 x 82	1/128 D	1/12 B	●						134.92	125.28	121.80
695-0140	DMF 5002 NY-EB	T6963C	112 x 128	49 x 50	53 x 54	90.6 x 110 x 12.8	66 x 77	1/128 D	1/12 B	●						118.06	109.62	1

Miniature Lamps

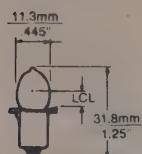


Fig. 1
B-3 1/2 Bulb
Single Contact
Miniature
Flanged Base

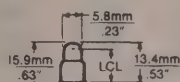


Fig. 2
T-1 1/4 Bulb
Single Contact
Midget Flanged Base



Fig. 6
T-1 1/4 Bulb
Midget Screw Base



Fig. 7
T-2 Bulb
Slide Number
5 Base

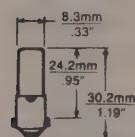


Fig. 11
T-2 1/2 Bulb
Miniature
Bayonet Base

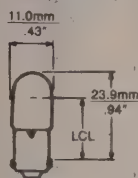


Fig. 12
T-3 1/4 Bulb
Miniature
Bayonet Base



Fig. 16
T-2 Pilot
Cartridge Lamp

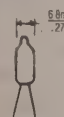


Fig. 17
T-2 Bulb (Neon)
Wire Terminals

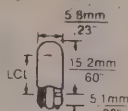


Fig. 3
T-1 1/4 Bulb
Subminiature
Wedge Base

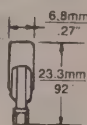


Fig. 8
T-2 Bulb
Slide Number
6 Base

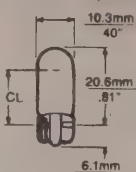


Fig. 13
T-3 1/4 Bulb
Wedge Base



Fig. 18
T-2 Bulb (Neon)
Single Contact
Midget Flanged Base

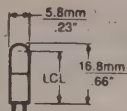


Fig. 4
T-1 1/4 Bulb
Bipin Base

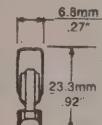


Fig. 9
T-2 Bulb
Slide Number
6 Base



Fig. 14
TL-3 Bulb
Miniature
Screw Base

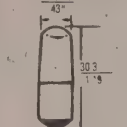


Fig. 19
T-3 1/4 Bulb (Neon)
Miniature
Bayonet Base



Fig. 5
T-1 1/4 Bulb
Midget Grooved
Base



Fig. 10
T-2 Bulb
Slide Number
3 Base

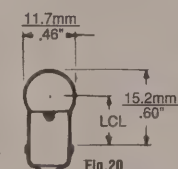


Fig. 20
G-3 1/2 Bulb
Min. Bayonet

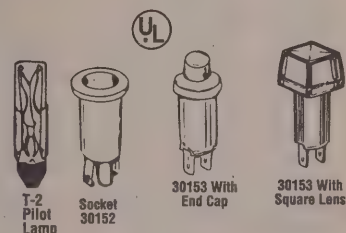
Single Socket Assembly

THREE EASY STEPS

- STEP 1 — Choose Lens or Cap
- STEP 2 — Add a Lamp
- STEP 3 — Insert into Socket



Lenses

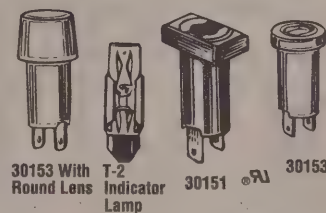


T-2
Pilot
Lamp

Socket
30152

30153 With
End Cap

30153 With
Square Lens



30153 With
Round Lens

T-2
Indicator
Lamp

30151

30153

STEP 1 — Lenses

End Cap — Polycarbonate¹

Stock No.	Mfr.'s Type	Description	PER PKG./10	
			1-9	10-49
937-6255	38001	Red	6.97	6.15
937-6257	38002	Yellow	6.12	5.40
937-6254	38004	Green	7.14	6.30

Lenses, Round and Square

937-6265	30160	Round, Red	6.63	5.85
937-6263	30161	Round, Clear	6.63	5.85
937-6261	30162	Round, Amber	6.63	5.85
937-6266	30163	Round, White	6.63	5.85
937-6264	30164	Round, Green	6.63	5.85
937-6262	30165	Round, Blue	6.63	5.85
937-6275	30170	Square, Red	6.63	5.85
937-6276	30173	Square, White	6.63	5.85
937-6274	30174	Square, Green	6.63	5.85

Note: ¹Polycarbonate end caps are press fit to lamp; cannot be used with lamps rated over 1.1 watts. ²Pyrex end caps must be cemented to the lamp with translucent silicon adhesive.

STEP 2 — Pilot and Indicator Lamps

For Pilot Lamps, select a Fig. 7 lamp from the miniature lamps at left. For Indicator Lamps, select a Fig. 9 lamp from the miniature lamps at left.

STEP 3 — Pilot and Indicator Lamps

Pilot Socket

Dimensions. Round Lens: 0.70" dia x 0.48" high. Square Lens: 0.70" x 0.70" x 0.48" high. Socket: 1.31" M.O.L. Mounting Hole: 0.50" diameter.

Stock No.	Mfr.'s Type	EACH	
		1-99	100-499
937-6152	30152	1.19	1.05

Indicator Socket

Dimensions. Round Lens: 0.70" dia x 0.48" high. Square Lens: 0.70" x 0.48" high. Socket: 1.14" M.O.L. Mounting Hole: .050" diameter. Material: Zytel #101.

Stock No.	Mfr.'s Type	PER PKG./10	
		1-99	100-499
937-6260	30151	7.65	6.75
937-6153	30153	7.99	7.05

Stock No.	Mfr.'s Type	Volts	Amps	Avg. Life (Hrs)	Fig.	PRICE		Stock No.	Mfr.'s Type	Volts	Amps	Avg. Life (Hrs)	Fig.	PRICE	
						EACH	PK/10							EACH	PK/10
937-7045	NE-2/A1A	105-125	0.7mA	25K	17	—	4.25	937-9705	60PSB	60.00	0.050	7.5K	7	1.44	—
937-7050	NE-2/A2A	105-125	0.7mA	25K	17	—	6.63	937-9710	73	14.00	0.080	15K	3	—	6.80
937-9951	NE-2E/A9A	105-125	0.7mA	25K	17	—	6.63	937-7035	74	14.00	0.100	500	3	—	6.12
937-9600	NE-51/B1A	105-125	0.3mA	10K	19	.98	—	937-7170	85	28.00	0.040	7K	3	—	6.29
937-9605	NE-51H/B2A	105-125	1.2mA	20K	19	.86	—	937-7005	86	6.30	0.200	20K	3	—	7.99
937-7095	NE-2H/C2A	105-125	1.9mA	25K	17	—	6.63	937-9720	90MB	90.00	0.030	5K	11	1.71	—
937-7110	NE-2D/C7A	105-125	0.7mA	25K	18	2.36	—	937-9725	120MB	120.00	0.025	7.5K	11	1.19	—
937-7002	PR2	2.38	0.500	15	1	—	6.80	937-9730	120MB/6	120.00	0.052	3K	11	1.66	—
937-7006	PR6	2.47	0.300	30	1	—	7.82	937-5060	120PC	120.00	0.025	7.5K	16	2.43	—
937-7008	PR12	5.95	0.500	15	1	—	8.33	937-9735	120PSB	120.00	0.025	7.5K	7	1.05	—
937-9610	PR13	4.75	0.500	15	1	.88	—	937-7605	194	14.00	0.270	2.5	13	—	5.10
937-4000	6PC	6.00	0.140	20K	16	2.31	—	937-9740	222	2.25	0.250	5	14	.91	—
937-9615	6PSB	6.00	0.140	20K	7	1.41	—	937-7230	259	6.30	0.250	5K	13	—	5.10
937-9620	10ESB	10.00	0.035	10K	9	1.03	—	937-9005	313	28.00	0.170	500	12	1.51	—
937-9950	12MB	12.00	0.170	12K	11	1.59	—	937-7270	327	28.00	0.040	4K	2	—	6.12
937-4010	12PC	12.00	0.170	12K	16	2.34	—	937-9745	328	6.00	0.200	1K	2	.96	—
937-9630	12PSB	12.00	0.170	12K	7	1.39	—	937-9750	330	14.00	0.080	1.5K	2	1.95	—
937-9635	16ESB	16.00	0.040	7.5K	9	1.44	—	937-9755	334	28.00	0.040	4K	5	1.22	—
937-9640	24CSB	24.00	0.017	15K	9	1.66	—	937-9760	376	28.00	0.040	25K	2	.96	—
937-9645	24E	24.00	0.035	7K	10	1.25	—	937-9765	382	14.00	0.080	15K	2	.98	—
937-9650	24MB	24.00	0.070	10K	11	1.64	—	937-7305	387	28.00	0.040	7K	2	—	6.12
937-4070	24PC	24.00	0.073	10K	16	2.34	—	937-9770	388	28.00	0.040	7K	5	1.20	—
937-9655	24ESB	24.00	0.040	8K	9	1.44	—	937-9010	656	28.00	0.060	2.5K	13	—	6.80
937-9500	24PSB	24.00	0.073	10K	7	.85	—	937-7290	657	28.00	0.080	7.5K	13	—	6.80
937-9660	28ESB	28.00	0.040	6K	9	1.32	—	937-9775	755	6.30	0.150	20K	12	.91	—
937-9665	28MB	28.00	0.050	5K	11	1.59	—	937-9015	756	14.00	0.080	15K	12	—	11.39
937-4080	28PC	28.00	0.040	5K	16	2.14	—	937-9020	757	28.00	0.080	7.5K	12	—	7.14
937-9505	28PSB	28.00	0.040	5K	7	.85	—	937-9025	1815	14.00	0.200	3K	12	—	10.54
937-7030	37	14.00	0.090	2.5K	3	—	7.14	937-7440	1816	13.00	0.330	250	12	—	7.82
937-7090	44	6.30	0.250	3K	12	—	4.42	937-7445	1819	28.00	0.040	2.5K	12	—	8.16
937-7105	47	6.30	0.150	3K	12	—	4.08	937-7450	1820	28.00	0.100	1K	12	—	8.16
937-7130	48C	48.00	0.035	7K	10	—	14.11	937-9030	1822	36.00	0.100	1K	12	2.17	—
937-4040	48ESB	48.00	0.040	5K	9	—	14.79	937-7460	1828	37.50	0.050	3K	12	2.34	—
937-4060	48PSB	48.00	0.050	10K	7	—	13.26	937-7455	1829	28.00	0.070	1K	12	—	8.16
937-9685	51A	10.00	0.035	10K	8	1.27	—	937-7405	1835	55.00	0.050	5K	12	2.66	—
937-9000	53	14.40	0.120	1K	20	—	8.67	937-9035	1893	14.00	0.330	7.5K	12	—	6.46
937-9690	55C	55.00	0.050	5K	10	1.53	—	937-9780	7327	28.00	0.040	4K	4	1.37	—
937-7010	56	5.00	0.115	20K	3	—	8.16	937-9785	7328	6.00	0.200	1K	4	1.27	—
937-9695	60MB	60.00	0.050	7.5K	11	1.63	—	937-9790	7387	28.00	0.040	7K	4	1.00	—
937-9700	60PC	60.00	0.050	7.5K	16	1.80	—								

Universal Housing for T-2 Slide Base Pilot and T-2½ and T-3¼ Min. Bayonet

Dimensions: T-2 Lenses. Diameter: 0.63". Height: 0.38". T-2 Socket. Front of Panel to End of Terminals: 0.91". Mounting Hole: 11/16" dia. T-2½ or T-3¼ Lenses. Diameter: 0.63". Height: 0.38". T-2½ or T-3¼ Socket. Front Panel to End of Terminals: 1.68". Mounting Hole: 11/16" dia.

STEP 1 — Lenses

Universal Housing for T-2 Slide Base Pilot and T-3¼ Miniature Bayonet

Stock No.	Mfr.'s Type	Fig.	Description	EACH	
				1-99	100-499
937-6205	30200	A	Flat Top Translucent Red	1.088	.960
937-6204	30212	A	Flat Top Translucent Green	1.088	.960
937-6207	30214	A	Flat Top Translucent Yellow	1.088	.960
937-6215	30100	B	Jeweled Red	1.224	1.080
937-6214	30102	B	Jeweled Green	1.224	1.080
937-6212	30103	B	Jeweled Blue	1.224	1.080
937-6211	30106	B	Jeweled Amber	1.224	1.080
937-6225	30110	C	Dome Transparent Red	.714	.630
937-6221	30111	C	Dome Transparent Amber	.714	.630
937-6224	30112	C	Dome Transparent Green	.714	.630
937-6222	30113	C	Dome Transparent Blue	.714	.630
937-6227	30114	C	Dome Transparent Yellow	.714	.630
937-6223	30116	C	Dome Transparent Clear	.714	.630
937-6245	30120	E	Dome Fluted Red	.714	.630
937-6244	30122	E	Dome Fluted Green	.561	.495
937-6242	30124	E	Dome Fluted Blue	.561	.495
937-6243	30125	E	Dome Fluted Clear	.561	.495
937-6241	30126	E	Dome Fluted Amber	.561	.495
937-6235	30130	D	Dome Translucent Red	.561	.495
937-6237	30131	D	Dome Translucent Yellow	.561	.495
937-6234	30132	D	Dome Translucent Green	.561	.495
937-6236	30133	D	Dome Translucent White	.561	.495

STEP 2 — Lamps — T-2 Pilot — Slide Base

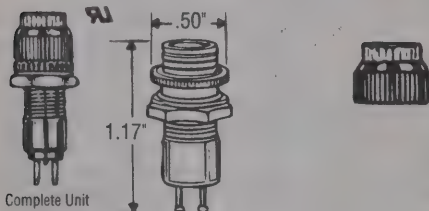
Stock No.	Mfr.'s Type	Volts	Amps	Average Life (Hrs.)	EACH	
					1-99	100-499
937-9615	6PSB	6	.140	20,000	1.41	1.24
937-9630	12PSB	12	.170	12,000	1.39	1.23
937-9500	24PSB	24	.073	10,000	.85	.75
937-9505	28PSB	28	.040	5,000	.85	.75
937-9680	48PSB	48	.053	7,500	1.32	1.17
937-9705	60PSB	60	.050	7,500	1.44	1.27
937-9735	120PSB	120	.025	7,500	1.05	.93

STEP 3 — Sockets

Stock No.	Mfr.'s Type	Description	EACH
937-6098	30099	Single socket assembly for T-2 slide base pilot lamp	2.87
937-6154	31099	Single socket assembly for T-2½ and T-3¼ Miniature Base	4.79

Other Lamp Assemblies

Three Easy Steps (as above)



STEP 1 Lenses — Transparent

Stock No.	Mfr.'s Type	Color	EACH	
			1-99	100-Up
937-6281	30140	Amber	1.37	1.21
937-6283	30141	Clear	1.37	1.21
937-6285	30142	Red	1.37	1.21
937-6282	30143	Blue	1.37	1.21
937-6285	30144	Green	1.37	1.21

STEP 1 Lenses — Translucent

Stock No.	Mfr.'s Type	Color	1-99	100-Up
937-6185	30147	Red	1.66	1.47
937-6184	30149	Green	1.66	1.47
937-6187	30145	Yellow	1.37	1.21
937-6186	30146	White	1.37	1.21

STEP 2 T-2 Indicator Cartridge Lamps

Stock No.	Mfr.'s Type	Volts	Amps	Life Hours	EACH		
					1-99	100-499	500-Up
937-5819	9181C	12	.040	10,000	2.58	2.28	1.97
937-7155	9261C	16	.040	7,500	3.70	2.23	1.93
937-5933	9331C	24	.017	15,000	2.53	2.23	1.93
937-7165	9341C	24	.040	8,000	2.53	2.23	1.93
937-5938	9381C	28	.040	6,000	2.53	2.23	1.93
937-5941	9411C	48	.040	5,000	2.53	2.23	1.93

STEP 3 Socket for Above Lamps



SM1A
Solder

Material: Black Phenolic. Dimensions: Lenses: Diameter .400". Height: .425". Socket: Front of panel to end of terminals — 1.0". Mounting Hole: .372" diameter.

Stock No.	Mfr.'s Type	Base	EACH
			1-9
937-3605	30098	Solder Lugs (SM1A)	4.86

Mil. Std. 18235 Mil-L-3661 A-Mil. Std. 202B.

Three Easy Steps

Fig. A
Flat Top
Translucent

Fig. B
Jeweled

Fig. C
Dome
Transparent

Fig. D
Dome
Translucent

Fig. E
Dome
Fluted

1 Choose your lens & color...

2 Add a T-2 Pilot Lamp...

3 And insert into socket #30099

Complete Assembly

1 Choose your lens & color...

2 Add a T-2½ or T-3¼ lamp with Min. Bay. Base...

3 And insert into socket #31099

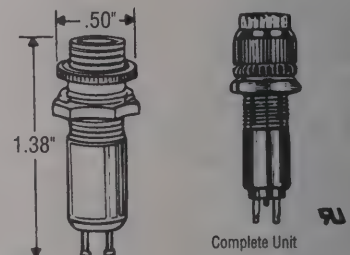
Complete Assembly

STEP 2 — Lamps — T-2½ Miniature Bayonet

Stock No.	Mfr.'s Type	Volts	Amps	Average Life (Hrs.)	EACH	
					1-99	100-499
937-9950	12MB	12.0	.170	12,000	1.59	1.41
937-9650	24MB	24.0	.070	10,000	1.64	1.45
937-9665	28MB	28.0	.040	5,000	1.59	1.41
937-9695	60MB	60.0	.050	7,500	1.63	1.44
937-9720	90MB	90.0	.030	5,000	1.71	1.51
937-9725	120MB	120.0	.025	7,500	1.19	1.05

STEP 2 — Lamps — T-3¼ Miniature Bayonet

Stock No.	Mfr.'s Type	Volts	Amps	Average Life (Hrs.)	PER PKG./10		
					1-9	10-49	50-99
937-7105	47	6.3	.150	3,000	4.08	3.60	3.12
937-7355	755	6.3	.150	20,000	9.18	8.10	7.02
937-7090	44	6.3	.250	3,000	4.42	3.90	3.38
937-7450	1820	28.0	.100	1,000	8.16	7.20	6.24
937-7440	1816	13.0	.330	1,000	7.82	6.90	5.98
937-7445	1819	28.0	.040	2,500	8.16	7.20	6.24
937-7455	1829	28.0	.070	1,000	8.16	7.20	6.24



STEP 2 T-2 Pilot Cartridge Lamps

Stock No.	Mfr.'s Type	Volts	Amps	Life Hours	EACH		
					1-99	100-499	500-Up
937-4000	6PC	6.0	.140	20,000	2.31	2.04	1.76
937-4010	12PC	12.0	.170	12,000	2.34	2.07	1.79
937-4070	24PC	24.0	.073	10,000	2.34	2.07	1.79
937-4080	28PC	28.0	.040	5,000	2.14	1.89	1.63
937-5030	60PC²	60.0	.050	7,500	18.05	15.90	13.78
937-5060	120PC	120.0	.025	7,500	2.43	2.14	1.85

STEP 3 Socket for Above Lamps

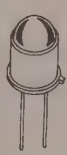
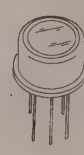
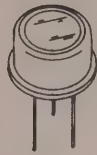


SM2A
Solder

Material: Black Phenolic. Dimensions: Lenses: Diameter .400". Height: .425". Socket: Front of panel to end of terminals — 1.20". Mounting Hole: .372" diameter.

Stock No.	Mfr.'s Type	Base	EACH
			1-9
937-3625	30096	Solder Lugs (SM2A)	4.86

Mil. Std. 18236 Mil-L-3661 B-Mil. Std. 202B.



CdS/CdSe Photoconductive Cells

Cells light adapted at 30-50 ftc for 16 hours minimum prior to test. All measurements conducted at 25°C ambient. 2854°K. Quantity pricing always available.

Hermetically Sealed Package

Stock No.	Mfr.'s Type	Package Type	Spectral Response Peak nm	Resistance at 2 ftc Ohms	Min. Dark Resistance 5 sec. after 2 ftc Ohms	Max. Voltage Rating	EACH 1-99
699-9500	NSL-4970	TO-8	515 CdS	7.25 K (1 ftc)	540.0 K	320 V	2.35
699-0100	NSL-5910	TO-8	550 CdS	1.50 K	100.0 K	170 V	2.35
699-6037	NSL-5930	TO-8	550 CdS	6.00 K	400.0 K	250 V	2.35
699-1025	NSL-6910	TO-8	690 CdSe	250.00	67.0 K	170 V	2.35
699-0110	NSL-6920	TO-8	690 CdSe	510.00	300.0 K	170 V	2.35
699-0120	NSL-6930	TO-8	690 CdSe	1.02 K	680.0 K	170 V	2.35
699-0130	NSL-6940	TO-8	690 CdSe	1.50 K	1.0 Meg	250 V	2.50
699-6023	NSL-3530	TO-5	725 CdS	66.00 K	440.0 Meg	320 V	2.75
699-0140	NSL-4510	TO-5	515 CdS	43.00 K (1 ftc)	65.0 Meg	120 V	2.75
699-0150	NSL-4530	TO-5	515 CdS	8.00 K (1 ftc)	1.8 Meg	120 V	2.75
699-0160	NSL-4540	TO-5	515 CdS	3.50 K (1 ftc)	250.0 K	120 V	2.75
699-0170	NSL-4560	TO-5	515 CdS	155.00 K (1 ftc)	130.0 Meg	320 V	2.75
699-0180	NSL-4570	TO-5	515 CdS	65.00 K	20.0 Meg	320 V	2.75
699-6025	NSL-5540	TO-5	550 CdS	30.00 K	20.0 Meg	120 V	2.75
699-0190	NSL-6510	TO-5	690 CdSe	600.0 K	400.0 K	120 V	2.75
699-0200	NSL-6520	TO-5	690 CdSe	1.20 K	800.0 K	120 V	2.75
699-0210	NSL-6530	TO-5	690 CdSe	30.00 K	20.0 Meg	320 V	2.75
699-9502	NSL-7530	TO-5	615 CdS	10.00 K	6.7 Meg	120 V	2.75
699-9504	NSL-4130	TO-18	515 CdS	30.00 K (1 ftc)	1.8 Meg	80 V	2.35
699-0220	NSL-4140	TO-18	515 CdS	21.00 K (1 ftc)	800.0 K	80 V	2.35
699-0230	NSL-4160	TO-18	515 CdS	260.00 K (1 ftc)	15.6 Meg	320 V	2.25
699-0240	NSL-4170	TO-18	515 CdS	110.00 K (1 ftc)	6.6 Meg	320 V	2.35
699-0250	NSL-4180	TO-18	515 CdS	50.00 K (1 ftc)	3.0 Meg	160 V	2.35
699-0260	NSL-5110	TO-18	550 CdS	10.00 K	670.0 K	100 V	2.35
699-0270	NSL-5120	TO-18	550 CdS	20.00 K	1.3 K	100 V	2.35
699-0280	NSL-5140	TO-18	550 CdS	165.00 K	11.0 Meg	250 V	2.35
699-0290	NSL-5150	TO-18	550 CdS	15.00 K	10.0 Meg	60 V	2.35
699-1070	NSL-5160	TO-18	550 CdS	100.00 K	67.0 Meg	100 V	2.35
699-1060	NSL-6110	TO-18	690 CdSe	2.00 K	1.3 Meg	100 V	2.35

Plastic Encapsulated Ceramic Package

Stock No.	Mfr.'s Type	Package Type	Spectral Response Peak nm	Resistance at 2 ftc Ohms	Min. Dark Resistance 5 sec. after 2 ftc Ohms	Max. Voltage Rating	EACH 1-99
699-0300	NSL-4452	1*	515 CdS	26.00 K (1 ftc)	1.5 Meg	1000 V	1.75
699-9506	NSL-4472	1*	515 CdS	5.50 K (1 ftc)	200.0 K	1000 V	1.75
699-9508	NSL-4962	TO-8	515 CdS	17.00 K (1 ftc)	4.0 Meg	320 V	1.44
699-9510	NSL-5932	TO-8	550 CdS	8.00 K	400.0 K	250 V	1.44
699-0310	NSL-5942	TO-8	550 CdS	9.00 K	600.0 K	250 V	1.44
699-0320	NSL-6922	TO-8	690 CdS	510.00	300.0 K	170 V	1.44
699-0330	NSL-6952	TO-8	690 CdS	2.70 K	720.0 K	170 V	1.44
699-0370	NSL-4512	TO-5	515 CdS	43.00 K (1 ftc)	65.0 Meg	120 V	.88
699-0380	NSL-4532	TO-5	515 CdS	8.00 K (1 ftc)	1.8 Meg	120 V	.88
699-6051	NSL-4542	TO-5	515 CdS	3.50 K (1 ftc)	250.0 K	120 V	.88
699-0390	NSL-4562	TO-5	515 CdS	155.00 K (1 ftc)	130.0 Meg	320 V	.88
699-0400	NSL-4572	TO-5	515 CdS	65.00 K	20.0 Meg	320 V	.88
699-9512	NSL-5512	TO-5	550 CdS	3.30 K	220.0 K	120 V	.88
699-0410	NSL-6512	TO-5	690 CdSe	600.00	400.0 K	120 V	.88
699-0420	NSL-6522	TO-5	690 CdSe	1.20	800.0 K	120 V	.88
699-6532	NSL-6532	TO-5	690 CdSe	30.00 K	20.0 Meg	320 V	.88
699-9514	NSL-7552	TO-5	615 CdS	600.00 K	400.0 Meg	320 V	.88
699-0440	NSL-4122	TO-18	515 CdS	75.00 K (1 ftc)	4.5 Meg	80 V	.86
699-0450	NSL-4132	TO-18	515 CdS	30.00 K (1 ftc)	1.8 Meg	80 V	.86
699-0460	NSL-4152	TO-18	515 CdS	550.00 K (1 ftc)	33.0 Meg	320 V	.86
699-0470	NSL-4162	TO-18	515 CdS	260.00 K (1 ftc)	15.6 Meg	320 V	.86
699-0480	NSL-4182	TO-18	515 CdS	50.00 K (1 ftc)	3.0 Meg	160 V	.86
699-1055	NSL-5162	TO-18	550 CdS	100.00 K	67.0 Meg	100 V	.86
699-9516	NSL-6112	TO-18	690 CdSe	2.00 K	1.3 Meg	100 V	.86
699-1035	NSL-7142	TO-18	615 CdS	4.50 K	3.0 Meg	70 V	.86
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LED/Photocell Optoisolators

Axial lead LED/CdSe photoresistive cell modules for use as audio limiters, AGC, noiseless potentiometers and analog output circuits. Digital to analog isolation. NSL-32 series also available with radial conversion platform for PCB mounting. Quantity pricing always available.

Stock No.	Mfr.'s Type	LED Current mA	Resistance		Maximum Ratings			Emitter/ Detector Isolation Voltage Peak AC or DC V	EACH 1-99
			Max. on Ohms	Min. Dark Ohms	Volts	Current mA	Power Dissipation ¹ mW		
699-5010	NSL-26	16	2000	10 Meg	120	40	200	2000	5.22
699-0490	NSL-26AA	16	2000	10 Meg	500	40	125	2000	5.22
699-5012	NSL-28	16	400	10 Meg	100	40	50	2000	4.15
699-0500	NSL-28AA	16	2500	1 Meg	100	40	50	2000	4.15
699-5014	NSL-32	20	500	500 K	60	40	50	2000	2.20
699-0510	NSL-32AA	10	10000	10 Meg	60	40	50	2000	2.20
699-5015	NSL-32B-001	1	1260	500 K	60	40	50	2000	2.60
699-5016	NSL-32B-002	1	1890	500 K	60	40	50	2000	1.78
699-5017	NSL-32B-003	1	2800	500 K	60	40	50	2000	1.78
699-0520	NSL-32B-004	1	1440	500 K	60	40	50	2000	2.60
699-0530	NSL-32B-005	1	750	500 K	60	40	50	2000	2.60
699-0540	NSL-32B-006	1	1890	500 K	60	40	50	2000	2.60
699-2025	NSL-37V32	2	630	50 Meg	100	40	175	2500	3.25
699-5023	NSL-37V33	40	500	50 Meg	100	40	175	2500	3.25
699-1000	NSL-37V53	40	500	1 Meg	100	40	175	2500	3.25
699-3025	NSL-37V54	40	3500	100 Meg	100	40	175	2500	3.25
699-1005	NSL-37V51	40	2000	10 Meg	100	40	175	2500	3.25
699-1015	NSL-37V52	16	2000	10 Meg	500	40	175	2500	3.25
699-1010	NSL-37V62	40	200	400 K	100	40	175	2500	3.25
699-5027	NSL-37V71	2	1500	1 Meg	100	40	175	2500	3.25

Dual Element

699-9518	NSL-39V51	40	3000	10 Meg	100	40	175	2500	3.50
699-1040	NSL-39V62	10	500	400 K	100	40	175	2500	3.50

¹10 seconds after removal of LED current. ²Power rating applies at 25°C linearly derated to 75°C.

Phototransistors

Silicon planar epitaxial phototransistors and NPN planar photodarlington transistors are available with flat or high profile lens cap in TO-18 hermetically sealed packages. Quantity pricing always available.

Stock No.	Mfr.'s Type	Light Current		Dark Current		Collector Breakdown	Emitter Breakdown	Saturation Voltage	Rise/Fall Time	Ang. Resp. Half Power	EACH	
		IC		ICEO		VBR (CEO)	VBR (ECO)	VCE (SAT)	Tr Tf			
		H*=5 mW/cm² 2870°K		H=0		IC=100 µA H=0	IC=100 µA H=0	IC=10 mA IB=0.5 mA H=0	IC=0.8 mA RL↑=100 Ω			
		min.	max.	VCE V	max. nA	VCE V	min. V	min. V	max. V			typ. µsec	typ.
		mA										
699-9522	SLT-50F1	0.2		5	50	10	40	7.5	0.3	3	40°	2.13
699-9524	SLT-50F2	0.4	1.5	5	50	10	40	7.5	0.3	3	40°	2.39
699-9526	SLT-50F3	1.0	3.5	5	50	10	40	7.5	0.3	3	40°	2.39
699-9528	SLT-50F4	2.5		5	50	10	40	7.5	0.3	3	40°	2.58
699-9530	SLT-50L1	0.6		5	25	10	40	7.5	0.3	3	10°	2.26
699-9532	SLT-50L2	1.2		5	25	10	40	7.5	0.3	3	10°	2.39
699-9534	SLT-50L3	2.4		5	25	10	40	7.5	0.3	3	10°	2.39
699-9536	SLT-50L4	4.0		5	40	10	40	7.5	0.3	3	10°	2.39
699-9540	SLT-50L6	12.0		5	40	10	40	7.5	0.3	3	10°	2.63

Photodarlington†

699-9542	SLR-50F1	2.0	5	100	5	40	10.0	1.2	100	40°	2.97
699-9544	SLR-50F2	6.0	5	100	5	40	10.0	1.2	100	40°	2.97
699-9546	SLR-50F3	14.0	5	100	5	40	10.0	1.2	100	40°	3.00
669-0340	SLR-50L1	0.5	5	100	5	40	10.0	1.2	100	10°	3.00
669-0350	SLR-50L2	2.0	5	100	5	40	10.0	1.2	100	10°	3.00
669-0360	SLR-50L3	4.0	5	100	5	40	10.0	1.2	100	10°	3.00

*The light source is a frosted Tungsten Incandescent Lamp @ 2870°K. †The light source is a gallium arsenide LED with a rise time less than 300 ns. ‡Light Current: H=2 mW/cm²; Rise/Fall: IC=0.5 mA. VCE (SAT) IB=0.05 mA.

Planar Photodiodes

Planar, passivated silicon photodetectors designed to operate either in photovoltaic mode or in a reverse-bias mode. Series available in five standard ID sorts.

Stock No.	Mfr.'s Type	Short Circuit Current		Spectral Response	Dark Current		Breakdown Voltage	Junction Capacitance	Rise/Fall Time		Area	Package Type	EACH
		ISC		λ	ID		VBR	CJ	Tr	Tf	A		
		H*=25 mw/cm ²		Range nm	H=0	@ Vr=	IR=100 μ A	VR=0 V f=1 MHz	RL†=1 K Ω		typ. mm ²		
		min. μ A	typ. μ A		max. nA	V	typ. V	typ. pF	typ. μ S				
699-0572	SLD-68E1A	30	45	400-1100	100	5	50	40	3	3.5	2.5	TO-46	2.40
699-0573	SLD-68HFA	40	50	400-1100	100	5	50	40	3	3.5	2.5	TO-46	1.78
699-0574	SLD-68HLA	150	175	400-1100	100	5	50	40	3	3.5	2.5	TO-46	2.40
699-0575	SLD-68EBG1A	—	10	450-750	100	5	50	40	3	3.5	2.5	TO-46	2.70
699-0576	SLD-68HFBG1A	—	12	450-750	100	5	50	40	3	3.5	2.5	TO-46	2.95
699-0577	SLD-68HLBG1A	—	25	450-750	100	5	50	40	3	3.5	2.5	TO-46	3.10
699-0576	SLD-67HF3A	450	650	400-1100	100	5	25	180	8	10.0	10.1	TO-5	2.98
699-0579	SLD-67HF4A	150	—	400-1100	50	5	40	120	5	7.0	6.8	TO-5	2.30
699-0580	SLD-67HFBG4A	15	—	450-750	50	5	40	120	5	7.0	6.8	TO-5	2.60
699-0581	SLD-65FA	800	1100	400-1100	100	1	40	380	10	12.0	18.0	TO-8	9.70
699-0582	SLD-65FBA	25	—	450-750	100	1	40	380	10	12.0	18.0	TO-8	14.55

*The light source is a frosted Tungsten incandescent lamp at 2870°K. †The light source is a gallium arsenide LED with a rise time <300 ns.

Planar Photodiodes, Ceramic Package

Featuring high linearity, low dark current and fast response in a low cost ceramic package. Available with visible blocking filter or BG filter. Quantity pricing always available.

Stock No.	Mfr.'s Type	Short Circuit Current		Spectral Response	Dark Current		Breakdown Voltage	Junction Capacitance	Rise/Fall Time		Area	Ceramic Package Type	EACH
		ISC		λ	ID		VBR	CJ	Tr	Tf	A		1-99
		H*=25 mw/cm ²		Range nm	H=0	@ Vr=	IR=100 μ A	VR=0 V f=1 MHz	RL†=1 K Ω		typ. mm ²		
		min. μ A	typ. μ A		max. nA	V	min. V	typ. pF	typ. μ s				
699-0585	SLD-52C1	150	—	400-1100	100	0.1	20	120	1.5	3.0	6.8	8 mm	2.30
699-0586	SLD-52C1R	100	180	700-1100	100	0.1	20	120	1.5	3.0	6.8	8 mm	2.20
699-0587	SLD-52BG	18	25	450-750	100	0.1	20	120	1.5	3.0	8.8	8 mm	2.65
699-0588	SLD-53C1	80	120	400-1100	100	0.1	25	50	1.0	1.5	2.5	6 mm	2.50
699-0589	SLD-53BG	5	8	450-750	100	0.1	25	50	1.0	1.5	2.5	6 mm	3.10
699-0590	SLD-69C1	600	950	400-1100	100	0.1	25	350	8.0	10.0	18.0	9 mm	1.75
699-0591	SLD-69C1R	400	550	770-1100	100	0.1	20	350	8.0	10.0	18.0	9 mm	1.61
699-0592	SLD-70C1	150	225	400-1100	100	0.1	25	50	1.0	1.5	2.5	TO-5	1.45
699-0593	SLD-70C1R	60	100	770-1100	100	0.1	25	50	1.0	1.5	2.5	TO-5	1.50
699-0594	SLD-70BG3	35	50	450-750	100	0.1	20	180	1.0	1.5	10.1	TO-5	2.65
699-0595	SLD-70C2	300	380	400-1100	100	0.1	20	180	4.0	6.0	10.1	TO-5	1.61
699-0596	SLD-70C2IR	225	300	700-1100	100	0.1	20	180	4.0	6.0	10.1	TO-5	1.50

*Light source is a frosted incandescent lamp at 2870°K. †Measured in an unsaturated condition with an IR source and a load resistor of 1 K Ω .

Solderable Planar Photodiodes

Silicon solderable planar photodiodes are available with flexible leads, in chip form or custom configurations as single or multielement arrays.

Single Arrays

Stock No.	Mfr.'s Type	Short Circuit Current	Open Circuit Voltage	Dark Current	Breakdown Voltage	Junction Capacitance	Chip With Leads	EACH
		ISC typ.	VOC typ.	ID typ.	VBD typ.	CJ typ.		
		H=500 fc 2870°K		VR=5 V	I=100 μ A	OV		
		mA	V	μ A	V	nF		
699-0568	SLSD-71N1	0.6	0.45	0.5	20	0.4	10" x 20"	4.53
699-0568	SLSD-71N2	0.9	0.45	1.0	20	0.7	20" x 20"	6.09
699-0568	SLSD-71N3	1.6	0.45	1.5	20	1.0	20" x 40"	8.24
699-0570	SLSD-71N4	1.7	0.45	1.5	20	1.5	10" x 10"	8.99
699-0570	SLSD-71N5	3.0	0.45	1.0	10	2.0	40" x 40"	9.60
699-0572	SLSD-71N7	6.0	0.45	1.5	15	2.5	35" x 76"	25.07

Multielement Arrays

699-0583	SLSD-71N1-6	0.6	0.45	2.5	20	0.4	6 element	10.40
699-0584	SLSD-71N1-9	0.6	0.45	2.5	20	0.4	9 element	14.20

Arrays

Multielement arrays available in chip form or DIP package.

Stock No.	Mfr.'s Type	Short Circuit Current		Dark Current		Breakdown Voltage	Junction Capacitance	Area	Package Type	EACH
		ISC		ID		VBR	CJ	A		
		H*=25 mw/cm ²		H=0		IR=20 μ A [†] IR=100 μ A	VR=0 V F=1 MHz			
		min. μ A	typ. μ A	max. μ A	VR V	min. V	typ. pF	typ.		
699-0597	SLCD-61-0948/4	100	150	1.5	5.0	35 [†]	250	.039" × .175"	4 element chip	3.80
699-0598	SLCD-61-0948/6	100	150	1.5	5.0	35 [†]	250	.039" × .175"	6 element chip	5.80
699-0599	SLCD-61-0948/12	100	150	1.5	5.0	35 [†]	250	.039" × .175"	12 element chip	12.10
699-0600	SLD-74A1/16	80		0.1	0.1	40	50	.024 cm ²	18 Pin DIP	49.00
699-0601	SLD-74D/4	360		0.1	0.1	60	180	.101 cm ²	Quad 8 Pin DIP	25.60

*Light source is a frosted incandescent lamp at 2870°K.

Light Emitting Diodes

GaAs (940 nm), GaAlAs (880 nm) and GaP (700 nm) LEDs available in TO-46 hermetic high profile lens, flat lens and low profile clear epoxy for wide angle radiation emission.

Stock No.	Mfr.'s Type	Output Power		Peak Wavelength	Forward Voltage	Reverse Breakdown	Reverse Current	Ang. Resp. Half Power	EACH		
		Po		λ Peak	VF	VBR	IR				
		IF=50 mA		typ.	IF=60 mA	IR=10 μ A	VR=3 V				
		min.	typ.		typ.	max.	min.			typ.	max.
		mW			nm	V	V			μ A	typ.
699-9548	SLED-561L	1.00	3.0	940	1.8	3.0	10	30°	1.81		
699-9550	SLED-561F	1.00	3.0	940	1.8	3.0	10	45°	1.78		
699-9552	SLED-561E	1.00	3.0	940	1.8	3.0	10	80°	1.95		
699-9554	SLED-562L	3.00	4.0	880	1.3†	1.6†	5.0 30	10	30°	2.22	
699-9556	SLED-562F	3.00	4.0	880	1.3†	1.6†	5.0 30	10	45°	2.18	
699-9558	SLED-562E	3.00	4.0	880	1.3†	1.6†	5.0 30	10	80°	2.18	
699-9560	SLED-563L	0.05*	0.3*	700	2.4*	3.0	10	30°	1.96		
699-9562	SLED-563F	0.05*	0.3*	700	2.4*	3.0	10	45°	1.92		
699-9564	SLED-563E	0.05*	0.3*	700	2.4*	3.0	10	80°	1.85		

*IF=10 mA. †IF=20 mA.

Lamp/Photocell Optoisolators

Tube axial modules available with incandescent or neon lamps optically coupled with a fast response CdS/CdSe photoconductive cell. The PLT-package is a single channel module with extremely high inherent isolation. Typical Capacitance: 4 pF.

Neon

Stock No.	Mfr.'s Type	Lamp Spec.		Resistance		Maximum Ratings			Time Response ms		Emitter/ Detector Isolation ¹	EACH
		V	mA	Max. on Ohms	Min. Dark Ohms	Volts V	Current mA	Power Dissipation ² mW	to 90% on	to 1% off	Voltage Peak AC or DC V	
699-5008	PLT-2H384	200	2 $\dagger$	500	10 M	80	20	100	300	30	7500	5.90
699-5020	PLT-2H387	200	2 $\dagger$	10 K	50 M	320	70	100	300	30	7500	5.90

Incandescent

699-5002	PLT-10384	10 $\dagger$	15	250	10 M	80	20	100	90	125	7500	5.90
699-5003	PLT-10387	10 $\dagger$	15	3 K	50 M	320	70	100	90	100	7500	5.90

¹15 seconds after removal of lamp voltage. ²Power rating applies at 25°C linearly derated to zero at 65°C. ³Typical capacitive coupling between lamp and photocell 1.5 pF. ⁴Series resistor required to limit current to value specified; lamp life at 2 mA — 5,000 hours. ⁵Lamp life at 10 V — 10,000 hours.

modules, custom LCDs and custom LCD modules in quantities from 100 to 1000,000 that meet exact customer requirements.

Direct Drive TN LCDs



- The STANDISH LCD line of standard Liquid Crystal Display Modules offers stocked models for all applications. The line features Dot Matrix and Intelligent Graphic LCDs in STN models. EL and LED backlighting optional, and modules with 8 character one line to 20 character 4 lines to 240 x 128 pixel Graphic Modules. Quantity pricing always available.

8.8:8.8
 3900-365-920

$\div 1.8:8.8$
 3901-365-920

$\div 1.8:8.8$
 3902-365-920

8.8:8.8
 3906-365-920

8.8:8.8:8.8
 3918-365-920

.8.8
 3935-365-920

8.8:8.8:8.8
 3919-365-420

8.8:8.8:8.8
 3920-365-420

8.8:8.8:8.8:8.8
 3922-365-920

8.8.8
 3940-365-920

(Empty display)
 3975-365-420

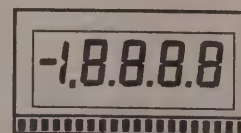
- ▶ **Transflective Viewing Mode**
- ▶ **Positive Black Segments on Silver**
- ▶ **-30° to +85°C Operating Temperature**
- ▶ **.250" Long Pins on .100" Pitch**
- ▶ **Other Fluid, Polarizer and Mechanical Options Available on Request**

*LCD modules are factory specials, non-cancellable, non-returnable, 10-12 weeks lead time.

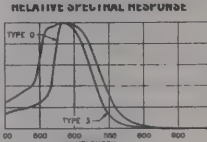
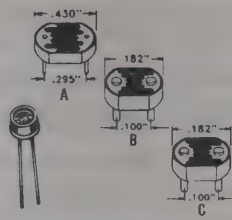
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Stock No.	Mfr.'s Type	Description	Glass Size	EACH
552-3112	4201-365-420	4.5 digit (.4"), 44 contacts	2.0" x 1.05", 0.9"	18.95
552-3113	4284-365-420	8 Characters, 5 x 7 dot matrix (.3"), 48 contacts	2.5" x 0.80", 0.6"	20.65
552-3114	4285-365-420	16 Characters, 5 x 7 dot matrix (.3"), 88 contacts	4.7" x 0.90", 20.7"	30.90



CdS Photoconductive Cells

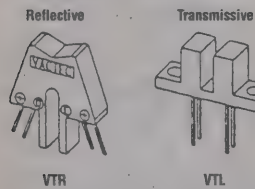


Photoconductive cells provide a very economical and technically superior solution for many many light level sensing applications. They offer wide dynamic range and sensitivity to low light levels. EG&G Vactec is a major world supplier of photoconductive cells. Vactec's photocells are available in low cost plastic encapsulated packages as well as hermetic packages (TO-46, TO-5, TO-8). The following table lists a few of the standard packages and resistance ranges available.

Electrical/Optical Characteristics @ 25°C (16 Hrs. Light Adapt, Min. @ 30-50 fc)

Stock No.	Mfr.'s Type	Resistance (Ohms)						Peak Spectral Response		Sensitivity (γ, typ.) Log (R10/R100)	V _{Max} (V, pk)	Response Time @ 1 fc (ms, typ.)		EACH
		10 Lux 2850K			2 fc 2850K		Dark					Rise (1-1/e)	Fall (1/e)	
		Min.	Typ.	Max.	Typ.	Min.	Sec.	nm	Typ.	Log (100/10)					1-99
980-0100	VT43N3 ^{1a}	16	32.0	48	—	500K	30	550	3	0.9	400	90	18	2.15
980-0101	VT905G ²													1.54
	Group A	8K	14.0K	20K	6.5K	200K	5	565	0	0.7	100	78	8	
	Group B	14K	25.0K	36K	11.6K	200K	5	565	0	0.7	100	78	8	
	Group C	24K	42.0K	60K	19.5K	200K	5	565	0	0.7	100	78	8	
980-0105	VT935G ³													1.54
	Group A	10K	18.5K	27K	9.3K	1M	10	550	3	0.9	100	35	5	
	Group B	20K	29.0K	38K	15.0K	1M	10	550	3	0.9	100	35	5	
	Group C	31K	40.5K	50K	20.0K	1M	10	550	3	0.9	100	35	5	
980-9977	VT20N2 ⁴	16K	34.0K	52K	15.8K	500K	5	565	0	0.8	100	78	8	3.94
980-0110	VT33N1 ¹	20K	40.0K	60K	18.6K	500K	5	550	3	0.9	100	35	5	4.28
980-0112	VT50N3 ¹	16K	32.0K	48K	14.9K	1M	5	565	0	0.8	300	78	8	5.00

Application: ¹Street Light; ²Night Light; ³Toys/Camera; ⁴Low Light Detection; ⁵Photocopier; ⁶Flame Detection. Package Style/Dimensions: ¹Fig. A; ²Fig. B; ³Fig. C; ⁴TO-46, Hermetic; ⁵TO-5, Hermetic; ⁶TO-8, Hermetic. *Resistance values for this cell are @ 1fc, 6500.



Optoswitches

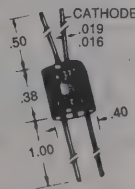
These optical switches are designed for object sensing applications. These are offered in reflective and transmissive configurations.

Stock No.	Mfr.'s Type	Specific Features	Light Current			Light Current			Light Current			EACH
			mA Min.	Test Conditions		nA Max.	Test Conditions		Volts Max.	Test Conditions		
				IF mA	VCE Volts		IF mA	VCE Volts		IF mA	VCE Volts	
980-9901	VTR1601	Sealed Case*	0.3	20	5	100	0	5	—	—	—	3.71
980-9902	VTR1701	Sealed Case*	0.3	20	5	100	0	5	—	—	—	4.84
980-9903	VTL1103	Sealed Case*	2.0	20	5	100	0	10	0.4	20	1.8	3.21

*P.C.B. Mount Leads. *Flying Leads.

Analog Optoisolators — VACTROLS®

Combine a solid-state light source (LED) with a photoresistor to provide input-output isolation. Sealed in an axial plastic package. Use for photochoppers, linear isolators, SCR and Triac firing, logic circuit inputs, noiseless switching, proportional control circuits. External Current Limiting Resistor Required.



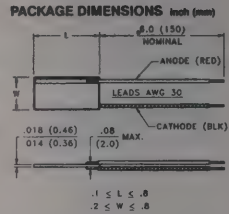
Stock No.	Mfr.'s Type	Output Resistance			Response		Cell Voltage Max. Volts	EACH	
		On		Off Resistance Min. Megohm	Ascent Typ. ms	Decay to 100 KΩ (1 MΩ) max. ms			
		Input Current mA	Dark Adapted Typ.				Light Adapted Max.		
980-0700	VTL5C1	40/10	200/600	500	50.0	2.5	35	100	3.75
980-0705	VTL5C2	40/10	200/800	500	1.0	3.5	500	200	3.75
980-0710	VTL5C3	40/10	1.5/5K	2000	10.0	2.5	35	250	3.75
980-0715	VTL5C4	40/10	75/125	200	0.4	6.0	1500	50	3.75
980-0720	VTL5C8	16/4	1000/1800	2000	10.0	4.0	60	500	3.75

Dual Element (Specs for each side)

980-0725	VTL5C4/2	40/10	100/150	500	0.4	6.0	1500	30	4.24
980-0730	VTL5C3/2	40/10	2000/4500	3000	10.0	3.0	50	100	4.24

Photodiodes with Solderable Contacts

EG&G Vactec manufactures large area photodiodes with solderable contacts. They serve a variety of applications. Many of our customers have found it cost effective for us to do the value added assemblies, such as PCB assembly and/or custom testing. A sampling of popular solderable contact photodiodes is listed below.

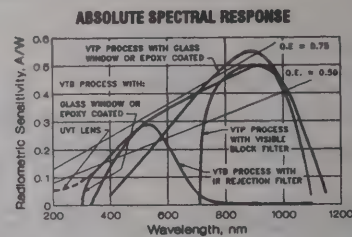


Electrical/Optical Characteristics @ 25°C

Stock No.	Mfr.'s Type	Active Area	Short Circuit Current I _{sc}	Spectral Sensitivity S _n	Open Circuit Volt. V _{oc}	Dark Current I _o	Shunt Resist. R _{SH}	Junction Cap. C _J	EACH		
			H=100 fc 2850K	A/W @ nm	2850K	H=0	V=10 mV H=0	V=0 V H=0	1-99		
			in ² (mm ²)	μA Min.	Typ.	Volts Typ.	H (fc)	μA Max.		V _R (Volts)	MΩ Typ.	nF Typ.
980-0115	VTS3085 ¹	.032 (21)	140	0.6 @ 950	0.33	100	5.0	0.5	0.44	0.36	2.73
980-0120	VTS3082 ¹	.144 (93)	600	0.6 @ 950	0.33	100	5.0	0.5	0.22	1.00	8.57
980-0125	VTS3072 ¹	.144 (93)	550	0.3 @ 400	0.33	100	2.0	0.1	0.12	1.00	8.57
980-0130	VTS3080 ¹	.607 (392)	2500	0.6 @ 950	0.33	100	1.0	0.1	0.30	5.00	39.61

Chip Size (L x W): ¹200' x 200' (5.08 x 5.08 mm); ²400' x 400' (10.16 x 10.16 mm); ³800' x 800' (20.32 x 20.32 mm)

Silicon Photodiodes



Electrical/Optical Characteristics @ 25°C

Stock No.	Mfr.'s Type	Active Area	Short Circuit Current I _{sc}		Spectral Sensitivity S _R	Dark Current I _o		Shunt Resist. R _{SH}	Special Application Range		EACH
			H=100 fc 2850K		A/W @ nm	H=0		V=10 mV H=0	λ _{range} nm		1-99
			in ² (mm ²)	μA Min.	μA Typ.	Typ.	Max.	V _R (Volts)	Typ.	Min.		Max.
980-2625	VTB1113 ¹	.0025 (1.600)	30	60	0.19 @ 365	20 pA	2.0	7.0 GΩ	320	1100	4.11
980-9999	VTB5051B ²	.0080 (5.160)	8	13	—	250 pA	2.0	560.0 MΩ	330	720	26.92
980-2675	VTB8441B ³	.0230 (14.80)	4	5	—	100 pA	2.0	1.4 GΩ	330	720	2.51
980-0150	VTD34 ⁴	.0120 (7.450)	50	70	0.60 @ 950	30 nA	10.0	50.0 MΩ	400	1150	1.30
980-2680	VTP100 ⁵	.0120 (7.450)	35	55	0.50 @ 925	30 nA	10.0	250.0 MΩ	725	1150	1.33
980-0135	VTP1188S ⁶	.0170 (11.00)	—	200	0.55 @ 925	30 nA	10.0	67.0 MΩ	400	1150	1.81
980-0140	VTP3310LA ⁷	.0011 (0.684)	24	36	0.55 @ 925	35 nA	50.0	10.0 GΩ	400	1150	1.46

Package Style: ¹TO-46 Hermetic; ²TO-5 Hermetic; ³8 mm Ceramic; ⁴Mini DIP, ⁵Flat Sidelooker; ⁶Lensed Ceramic; ⁷Long T-1.

IR Emitters and Phototransistors

EG&G Vactec offers a broad line of high performance IREDs and detectors in a variety of packages and specifications. Vactec makes both GaAs (940 nm) and GaAlAs (880 nm) IREDs. GaAlAs IREDs provide almost twice the power output at the same drive current. These IREDs are often used with solid state phototransistor or photodarlington detectors having internal gains from 100 to over 100,000. A sampling of available standard package styles is listed below.

IR Emitters — Electrical/Optical Characteristics @ 25°C

Stock No.	Mfr.'s Type	Total Power P _o		Irradiance E _s				Peak Radiant Intensity I _e	Forward Test Current I _{FT}	Forward Drop V _F @ I _{FT}	Half Power Beam Angle ±1/2	Wave-length	EACH	
		mW		mW/cm ²		dist.	Dia.	mW/sr	mA		Volts			
		Min.	Typ.	Min.	mm	mm	Typ.		Typ.	Max.	Typ.	nm	1-99	
980-0145	VTE1166 ¹	8	—	—	—	—	40.00	100	1.50	2.0	±10°	880	3.05	
980-9991	VTE1285 ¹	—	20	3.0	36.30	6.35	200.00	100	1.50	2.0	± 8°	880	.77	
980-0155	VTE3322LA ²	—	—	1.0	10.16	2.10	—	20	1.25	1.5	±10°	940	1.36	
980-0160	VTE7122 ²	—	1.0	0.2	16.70	4.60	0.65	20	1.25	1.5	±25°	940	1.38	

Package Style: ¹TO-46; ²T-13/c; ³Long T-1; ⁴Lateral.

Phototransistors — Electrical/Optical Characteristics @ 25°C

Stock No.	Mfr.'s Type	Light Current I _c			Dark Current I _{co}		Collector Breakdown V _{BR(CEO)}	Emitter Breakdown V _{BR(EO)}	Saturation Voltage V _{CE(SAT)}	Rise/Fall Time t _{r/t_f}	EACH
		mA		H f _c (mW/cm ²) V _{CE} =5.0 V	H=0		I _c =100 μA H=0	I _e =100 μA H=0	I _c =1.0 mA H=400 fC	I _c =1.0 mA R _L =100 Ω	
		Min.	Max.		nA	V _{CE} (Volts)	Volts Min.	Volts Min.	Volts Max.	μsec. Typ.	
980-0165	VTT3323LA ¹	2.0	—	20 (1)	100	10	30	5.0	0.25	3.0	1.35
980-0170	VTT7122 ²	1.0	—	100 (5)	100	10	30	5.0	0.25	2.0	.85
980-0175	VTT9112 ²	6.0	18.0	100 (5)	100	5	30	4.0	0.55	4.0	1.63

Package Style: ¹Long T-1; ²Lateral; ³TO-106. Angular Response ±1/2 Typ.: ¹±10°; ²±36°; ³±42°.

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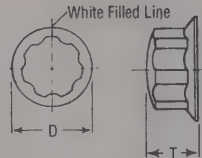
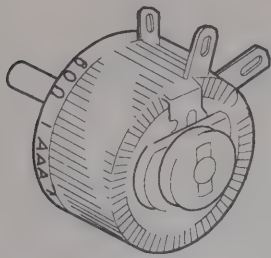
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Rheostats and Hardware



Knob No.	Knob Thick. (T)	Knob Dia. (D)
452	7/16	3/4
552	3/4	1 1/2
952	1 1/32	3

These vitreous enameled power rheostats are designed to provide exceptional reliability through the application of modern manufacturing techniques and the use of sophisticated materials. The base and ring are molded of high density ceramic. The winding is uniform to maintain maximum resolution and power dissipation. The insulator is molded of high density, porcelain/ceramic. Three terminals permit use as a potentiometer or a rheostat. Vitreous enamel provides the bonding medium necessary to securely attach the ring and base together and to lock the windings from shifting. 300° rotation. MP06A has 1/8" shaft; MP10A, MP15A, MP25A, and MP30A have 1/4" shaft; MP40A has 3/8" shaft. Standard position for the locating tab is at 6 o'clock with the terminals down. Additional features, wattages, values, and configurations available as custom orders. Manufacturer's literature available upon request.

12.5 Watts 7/8" Dia.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
934-7000	MP06A 1	1	21.22	19.45	17.95
934-7002	MP06A 2	2	21.22	19.45	17.95
934-7004	MP06A 3	3	21.22	19.45	17.95
934-7006	MP06A 6	6	21.22	19.45	17.95
934-7008	MP06A 8	8	21.22	19.45	17.95
934-7010	MP06A 10	10	21.22	19.45	17.95
934-7012	MP06A 15	15	21.56	19.77	18.25
934-7014	MP06A 25	25	21.56	19.77	18.25
934-7016	MP06A 50	50	21.56	19.77	18.25
934-7018	MP06A 75	75	21.56	19.77	18.25
934-7020	MP06A 100	100	21.56	19.77	18.25
934-7022	MP06A 125	125	21.56	19.77	18.25
934-7024	MP06A 175	175	21.56	19.77	18.25
934-7026	MP06A 250	250	21.56	19.77	18.25
934-7028	MP06A 350	350	21.56	19.77	18.25
934-7030	MP06A 500	500	21.56	19.77	18.25
934-7032	MP06A 1000	1000	21.56	19.77	18.25
934-7034	MP06A 1500	1500	21.56	19.77	18.25
934-7036	MP06A 2500	2500	21.56	19.77	18.25
934-7038	MP06A 3500	3500	20.18	18.50	17.08
934-7040	MP06A 5000	5000	20.18	18.50	17.08

Stock No.	Mfr.'s Type	Desc	Shaft Dia.	EACH	
				1-9	10-24
934-7075	452	Knob	1/8	1.67	1.54
934-7080	448	Dial	1/8	1.52	1.40

25 Watts 1 1/8" Dia.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
934-7100	MP10A 1	1	20.87	19.13	17.66
934-7102	MP10A 3	3	20.87	19.13	17.66
934-7104	MP10A 6	6	20.87	19.13	17.66
934-7106	MP10A 10	10	20.87	19.13	17.66
934-7108	MP10A 15	15	18.95	17.37	16.03
934-7110	MP10A 25	25	18.95	17.37	16.03
934-7112	MP10A 50	50	18.95	17.37	16.03
934-7114	MP10A 75	75	18.95	17.37	16.03
934-7116	MP10A 100	100	18.95	17.37	16.03
934-7118	MP10A 125	125	18.95	17.37	16.03
934-7120	MP10A 175	175	18.95	17.37	16.03
934-7122	MP10A 250	250	18.95	17.37	16.03
934-7124	MP10A 350	350	18.95	17.37	16.03
934-7126	MP10A 500	500	18.95	17.37	16.03
934-7128	MP10A 750	750	18.95	17.37	16.03
934-7130	MP10A 1000	1000	18.95	17.37	16.03
934-7132	MP10A 1500	1500	18.95	17.37	16.03
934-7134	MP10A 2500	2500	18.95	17.37	16.03
934-7136	MP10A 3500	3500	19.55	17.92	16.54
934-7138	MP10A 5000	5000	19.55	17.92	16.54

Stock No.	Mfr.'s Type	Desc	Shaft Dia.	EACH	
				1-9	10-24
934-7175	552	Knob	1/4	1.57	1.44
934-7180	548	Dial	1/4	0.98	0.90

50 Watts 2 9/32" Dia.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
934-7200	MP15A 1	1	32.55	29.83	27.54
934-7202	MP15A 4	4	32.55	29.83	27.54
934-7204	MP15A 6	6	32.55	29.83	27.54
934-7206	MP15A 8	8	24.55	22.50	20.77
934-7208	MP15A 16	16	24.55	22.50	20.77
934-7210	MP15A 22	22	24.55	22.50	20.77
934-7212	MP15A 35	35	24.55	22.50	20.77
934-7214	MP15A 50	50	24.55	22.50	20.77
934-7216	MP15A 100	100	24.55	22.50	20.77
934-7218	MP15A 125	125	24.55	22.50	20.77
934-7220	MP15A 150	150	24.55	22.50	20.77
934-7222	MP15A 225	225	24.55	22.50	20.77
934-7224	MP15A 500	500	24.55	22.50	20.77
934-7226	MP15A 1000	1000	24.55	22.50	20.77
934-7228	MP15A 1600	1600	24.55	22.50	20.77
934-7230	MP15A 2500	2500	24.55	22.50	20.77
934-7232	MP15A 3500	3500	25.87	23.72	21.89
934-7234	MP15A 5000	5000	25.87	23.72	21.89
934-7236	MP15A 10000	10000	25.87	23.72	21.89

Stock No.	Mfr.'s Type	Desc	Shaft Dia.	EACH	
				1-9	10-24
934-7175	552	Knob	1/4	1.57	1.44
934-7180	548	Dial	1/4	0.98	0.90

100 Watts 3 5/32" Dia.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
934-7300	MP25A 1	1	39.75	36.43	33.63
934-7302	MP25A 2	2	39.75	36.43	33.63
934-7304	MP25A 5	5	39.75	36.43	33.63
934-7306	MP25A 7R5	7R5	39.75	36.43	33.63
934-7308	MP25A 10	10	39.75	36.43	33.63
934-7310	MP25A 25	25	32.36	29.67	27.38
934-7312	MP25A 50	50	32.36	29.67	27.38
934-7314	MP25A 75	75	32.36	29.67	27.38
934-7316	MP25A 100	100	32.36	29.67	27.38
934-7318	MP25A 200	200	32.36	29.67	27.38
934-7320	MP25A 300	300	32.36	29.67	27.38
934-7322	MP25A 500	500	32.36	29.67	27.38
934-7324	MP25A 1000	1000	32.36	29.67	27.38
934-7326	MP25A 2500	2500	32.36	29.67	27.38
934-7328	MP25A 5000	5000	36.55	33.50	30.92

Stock No.	Mfr.'s Type	Desc	Shaft Dia.	EACH	
				1-9	10-24
934-7175	552	Knob	1/4	1.57	1.44
934-7180	548	Dial	1/4	0.98	0.90

150 Watts 4" Dia.

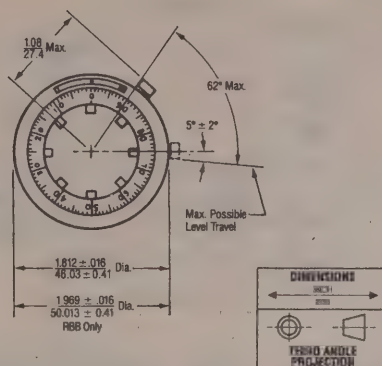
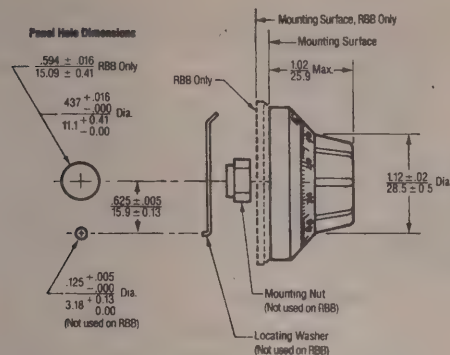
Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
934-7400	MP30A 1	1	44.91	41.17	38.00
934-7402	MP30A 10	10	44.91	41.17	38.00
934-7404	MP30A 50	50	41.27	37.83	34.92
934-7406	MP30A 100	100	41.27	37.83	34.92
934-7408	MP30A 150	150	41.27	37.83	34.92
934-7410	MP30A 500	500	41.27	37.83	34.92
934-7412	MP30A 1250	1250	41.27	37.83	34.92
934-7414	MP30A 2250	2250	48.18	44.17	40.77
934-7416	MP30A 4500	4500	48.18	44.17	40.77
934-7418	MP30A 10000	10000	56.91	52.17	48.15

Stock No.	Mfr.'s Type	Desc	Shaft Dia.	EACH	
				1-9	10-24
934-7175	552	Knob	1/4	1.57	1.44
934-7180	548	Dial	1/4	0.98	0.90

300 Watts 6" Dia.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
934-7500	MP40A 1	1	78.00	71.50	66.00
934-7502	MP40A 10	10	78.00	71.50	66.00
934-7504	MP40A 25	25	74.49	68.28	63.03
934-7506	MP40A 50	50	74.49	68.28	63.03
934-7508	MP40A 100	100	74.49	68.28	63.03
934-7510	MP40A 400	400	74.49	68.28	63.03
934-7512	MP40A 2500	2500	98.29	90.10	83.17

Stock No.	Mfr.'s Type	Desc	Shaft Dia.	EACH	
				1-9	10-24
934-7575	952	Knob	3/8	25.93	23.87
934-7580	949	Dial	3/8	3.02	2.78



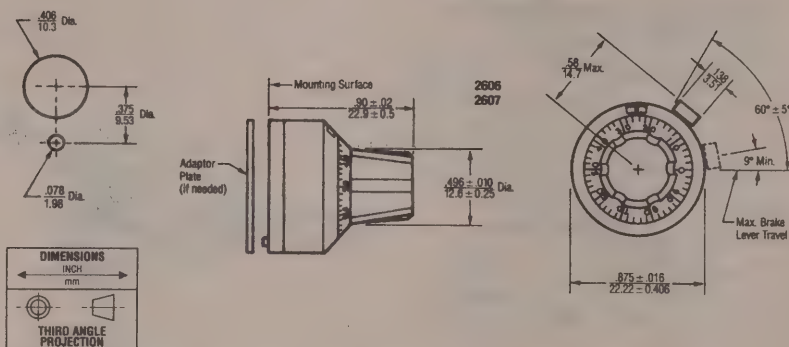
Model Series RB 1 13/16" Dia. Turns Counting Dial

The RB Series is an analog 1 13/16" diameter 15-turns counting dial for 1/4" diameter shafts with 3/8" bushings. Single set screw. 0.100" high numerals. Knob is black plastic. Dial has black numerals on satin chrome. Housing is satin chrome. Positive locking action mechanisms. **Weight:** 3.0 oz. **Operating Temperature Range:** -55° to +71°C.

525-0010. RB EACH 19.20

Model Series 2600 7/8" Dia. Turns Counting Dial

The 2600 Series is an analog 7/8" diameter 20-turns counting dial for 1/4" diameter shafts with 3/8" bushings. The 2606 has single set screw. The 2607 has dual set screw. Both have 0.05" high black numerals on satin chrome with black plastic knob and satin chrome housing finish. Positive locking action mechanisms. **Weight:** 0.60 oz. **Operating Temperature Range:** -55° to +71°C.

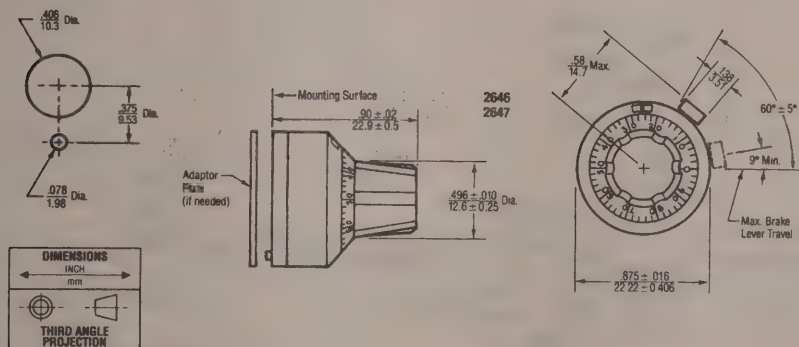


525-0020. 2606 EACH 12.60
525-0030. 2607 EACH 13.40

Model Series 2640 7/8" Dia. Turns Counting Dial

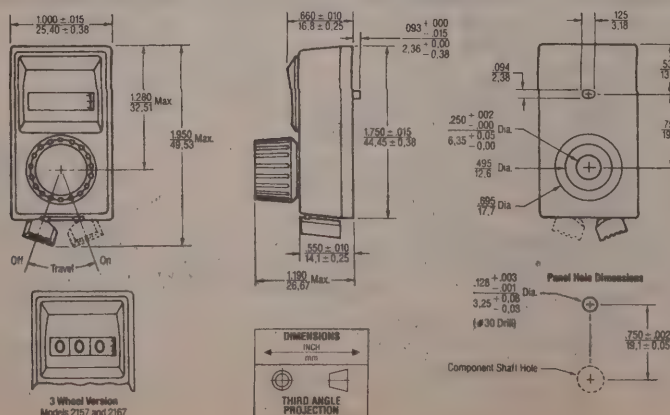
The 2640 Series is an analog 7/8" diameter 20-turns counting dial for 1/4" diameter shafts with 3/8" bushings. The 2646 has single set screw. The 2647 has dual set screw. Both have 0.05" high white numerals on black matte with black plastic knob and satin chrome housing finish. Positive locking action mechanisms. **Weight:** 0.60 oz. **Operating Temperature Range:** -55° to +71°C.

525-0040. 2646 EACH 12.60
525-0050. 2647 EACH 13.40



Model Series 2100 Rectangular Turns Counting Dial

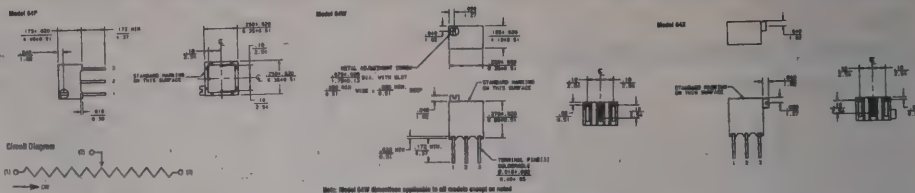
The 2100 Series is a digital 1" wide 10-turn counting dial for 1/4" diameter shafts with 3/8" bushings. Dual set screws. Positive locking action mechanisms. Three 0.12" high white numerals on black background. **Weight:** 1.5 oz. **Operating Temperature Range:** -55° to +71°C.



525-0060. 2157. Clear Anodized EACH 26.00
525-0070. 2167. Black Anodized EACH 26.00

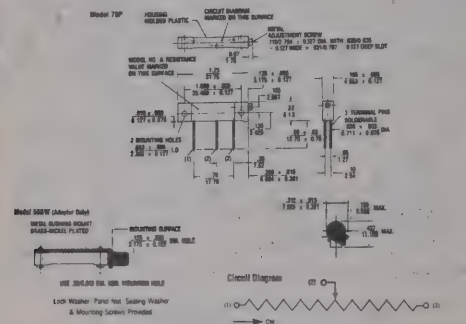
Model 64 Series 1/4" Sq. Multi-Turn Trimmer

The Model 64 is a 15-turn cermet trimming potentiometer. These essentially infinite resolution trimmers are 1/4" square. They are 1/4-watt at 85°C derating to 0 at 125°C. The metal electrical adjustment screw has a slot .02" wide x .02" deep. **Standard Tolerance:** ±10%. They are sealed to have no leaks in 85° Florinert® test. **Maximum Temperature Coefficient:** ±100 ppm/°C. **Operating Temperature Range:** -65°C to +150°C. **Rotational Life:** 200 cycles. **Load Life:** 1000 hours at 85°C at 0.25 watts. Clutch action mechanical stops at both ends. Solderable terminal pins. **Resistance to Solder Heat:** 260°C for 10 seconds. **Nominal Weight:** .014 oz. Additional pin configurations available as special order item. Manufacturer literature available upon request.



64PR Series		64WR Series		64XR Series		64YR Series		Ohms	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-99	100-249	250-499
525-4400	64PR100	525-4500	64WR100	525-4600	64XR100	525-4700	64YR100	100	2.48	1.98	1.78
525-4405	64PR200	525-4505	64WR200	525-4605	64XR200	525-4705	64YR200	200	2.48	1.98	1.78
525-4410	64PR500	525-4510	64WR500	525-4610	64XR500	525-4710	64YR500	500	2.48	1.98	1.78
525-4415	64PR1K	525-4515	64WR1K	525-4615	64XR1K	525-4715	64YR1K	1 K	2.48	1.98	1.78
525-4420	64PR2K	525-4520	64WR2K	525-4620	64XR2K	525-4720	64YR2K	2 K	2.48	1.98	1.78
525-4425	64PR5K	525-4525	64WR5K	525-4625	64XR5K	525-4725	64YR5K	5 K	2.48	1.98	1.78
525-4430	64PR10K	525-4530	64WR10K	525-4630	64XR10K	525-4730	64YR10K	10 K	2.48	1.98	1.78
525-4435	64PR20K	525-4535	64WR20K	525-4635	64XR20K	525-4735	64YR20K	20 K	2.48	1.98	1.78
525-4440	64PR50K	525-4540	64WR50K	525-4640	64XR50K	525-4740	64YR50K	50 K	2.48	1.98	1.78
525-4445	64PR100K	525-4545	64WR100K	525-4645	64XR100K	525-4745	64YR100K	100 K	2.48	1.98	1.78
525-4450	64PR200K	525-4550	64WR200K	525-4650	64XR200K	525-4750	64YR200K	200 K	2.48	1.98	1.78
525-4455	64PR500K	525-4555	64WR500K	525-4655	64XR500K	525-4755	64YR500K	500 K	2.48	1.98	1.78
525-4460	64PR1M	525-4560	64WR1M	525-4660	64XR1M	525-4760	64YR1M	1 M	2.48	1.98	1.78

Model 78 Series 1 1/4" Rectangular Multi-Turn Trimmer

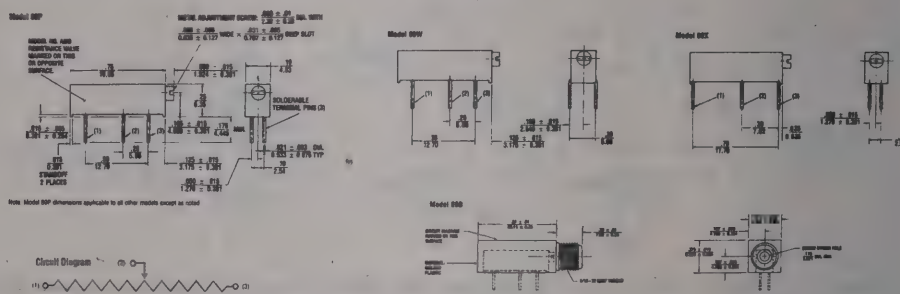


The Model 78 is a 22-turn cermet trimming potentiometer. These essentially infinite resolution trimmers are 1 1/4" rectangular. They are 1-watt at 70°C derating to 0 at 125°C. The metal electrical adjustment screw has a slot .025" wide x .031" deep. **Standard Tolerance:** ±10% (< 100 ohms = ±20%). They are sealed to have no leaks in 85° Florinert® test. **Maximum Temperature Coefficient:** ±100 ppm/°C. **Operating Temperature Range:** -55°C to +125°C. **Rotational Life:** 200 cycles. **Load Life:** 1000 hours at 70°C at 0.5 watts. Clutch action mechanical stops at both ends. Solderable terminal pins. **Resistance to Solder Heat:** 260°C for 10 seconds. **Nominal weight:** .09 oz. 56BW adapter is used for panel mounting the 78 Series. Additional pin configurations available as special order item. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-99	100-249	250-499
525-4815	78PR1K	1 K	4.14	3.31	2.98
525-4820	78PR2K	2 K	4.14	3.31	2.98
525-4825	78PR5K	5 K	4.14	3.31	2.98
525-4830	78PR10K	10 K	4.14	3.31	2.98
525-4835	78PR20K	20 K	4.14	3.31	2.98
525-4840	78PR50K	50 K	4.14	3.31	2.98
525-4845	78PR100K	100 K	4.14	3.31	2.98

525-4895. 56BW. Panel Mount. 1-99.....EACH 8.15
100-249.....EACH 2.90
250-499.....EACH 2.71

Model 89 Series 3/8" Sq. Multi-Turn Trimmer



The Model 89 is a 20-turn cermet trimming potentiometer. These essentially infinite resolution trimmers are 3/8" sq. x 3/4" long. They are 3/4-watt at 85°C derating to 0 at 125°C. The metal electrical adjustment screw has a slot .025" wide x .031" deep. **Standard tolerance:** ±10% (< 100 ohms = ±20%). They are sealed to have no leaks in 85° Florinert® test. **Maximum temperature coefficient:** ±100 ppm/°C. **Operating temperature range:** -55°C to +125°C. **Rotational life:** 200 cycles. **Load life:** 1000 hours at 70°C at 0.5 watts. Clutch action mechanical stops at both ends. Solderable terminal pins. **Resistance to solder heat:** 260°C for 10 seconds. **Nominal weight:** .05 oz. Additional pin configurations available as special order item. Manufacturer literature available upon request.

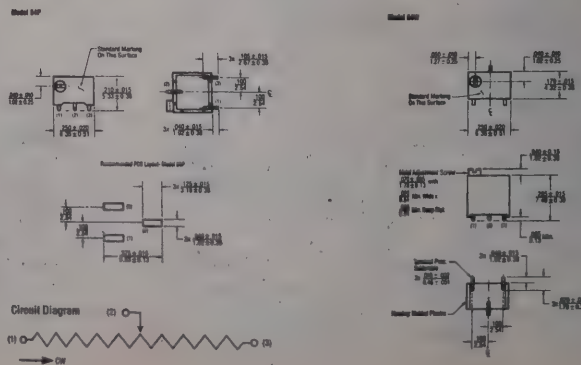
89PR Series		89WR Series		89XR Series		Ohms	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-99	100-249	250-499
525-4000	89PR100	525-4100	89WR100	525-4200	89XR100	100	1.26	1.01	.91
525-4005	89PR200	525-4105	89WR200	525-4205	89XR200	200	1.26	1.01	.91
525-4010	89PR500	525-4110	89WR500	525-4210	89XR500	500	1.26	1.01	.91
525-4015	89PR1K	525-4115	89WR1K	525-4215	89XR1K	1 K	1.26	1.01	.91
525-4020	89PR2K	525-4120	89WR2K	525-4220	89XR2K	2 K	1.26	1.01	.91
525-4025	89PR5K	525-4125	89WR5K	525-4225	89XR5K	5 K	1.26	1.01	.91
525-4030	89PR10K	525-4130	89WR10K	525-4230	89XR10K	10 K	1.26	1.01	.91
525-4035	89PR20K	525-4135	89WR20K	525-4235	89XR20K	20 K	1.26	1.01	.91
525-4040	89PR50K	525-4140	89WR50K	525-4240	89XR50K	50 K	1.26	1.01	.91
525-4045	89PR100K	525-4145	89WR100K	525-4245	89XR100K	100 K	1.26	1.01	.91
525-4050	89PR200K	525-4150	89WR200K	525-4250	89XR200K	200 K	1.26	1.01	.91
525-4055	89PR500K	525-4155	89WR500K	525-4255	89XR500K	500 K	1.26	1.01	.91
525-4060	89PR1M	525-4160	89WR1M	525-4260	89XR1M	1 M	1.26	1.01	.91

525-4295. 89B. Panel Mount. 1-99.....EACH .79
100-249.....EACH .63
250-499.....EACH .57

Model 84 Series 1/4" Sq. Multi-Turn Trimmer

The Model 84 is a 15-turn surface mount cermet trimming potentiometer. These essentially infinite resolution trimmers are 1/4" square. They are 1/4-watt at 85°C derating to 0 at 150°C. The metal electrical adjustment screw has a slot .02" wide x .02" deep. **Standard Tolerance:** ±10%. They are sealed to have no leaks in 85° Florinert® test. **Maximum Temperature Coefficient:** ±100 ppm/°C. **Operating Temperature Range:** -65°C to +150°C. **Rotational Life:** 200 cycles. **Load Life:** 1000 hours at 85°C at 0.5 watts. Clutch action mechanical stops at both ends. Solderable terminal pins. **Resistance to Solder Heat:** 260°C for 10 seconds. **Nominal Weight:** .014 oz. Additional pin and adjustment configurations available as special order item. Manufacturer literature available upon request.

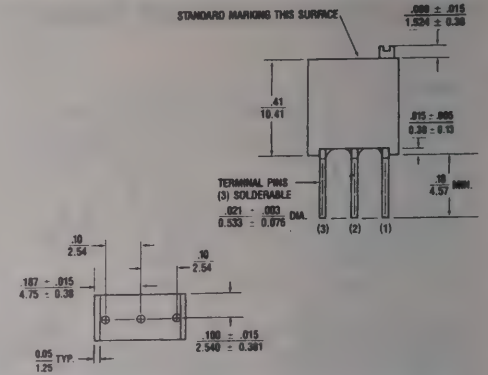
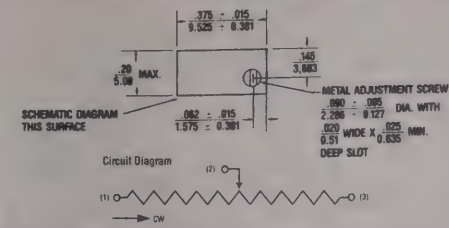
84PR Series		84WR Series		Ohms	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-99	100-249	250-499
525-4915	84PR1K	525-5015	84WR1K	1 K	3.04	2.43	2.19
525-4920	84PR2K	525-5020	84WR2K	2 K	3.04	2.43	2.19
525-4925	84PR5K	525-5025	84WR5K	5 K	3.04	2.43	2.19
525-4930	84PR10K	525-5030	84WR10K	10 K	3.04	2.43	2.19
525-4935	84PR20K	525-5035	84WR20K	20 K	3.04	2.43	2.19
525-4940	84PR50K	525-5040	84WR50K	50 K	3.04	2.43	2.19
525-4945	84PR100K	525-5045	84WR100K	100 K	3.04	2.43	2.19



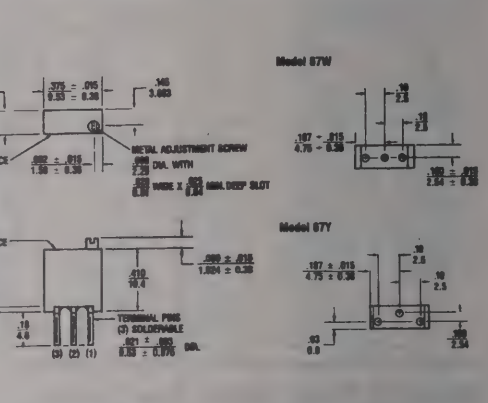
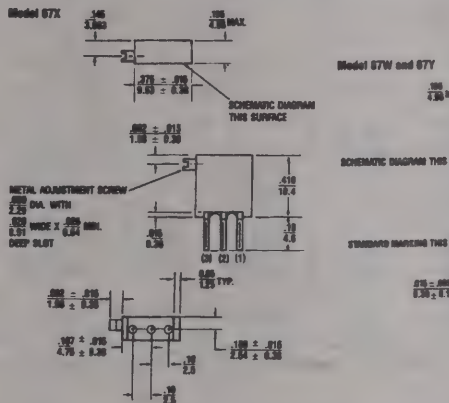
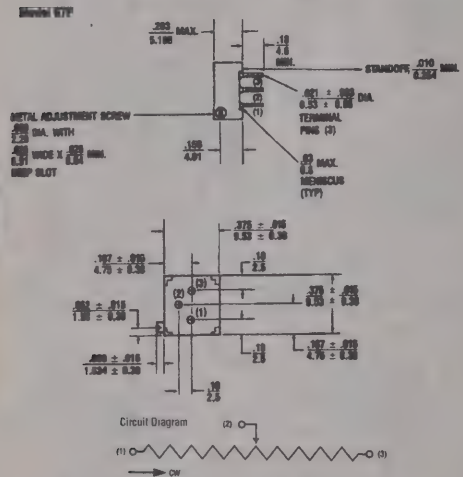
Model 66 Series 3/8" Sq. Multi-Turn Trimmer

The Model 66 is a 20-turn cermet trimming potentiometer. These essentially infinite resolution trimmers are 3/8" square. They are 1/2-watt at 70°C derating to 0 at 125°C. The metal electrical adjustment screw has a slot .02" wide x .025" deep. **Standard Tolerance:** ±10% (< 100 ohms = ±20%). They are sealed to have no leaks in 85° Florinert® test. **Maximum Temperature Coefficient:** ±100 ppm/°C. **Operating Temperature Range:** -65°C to +150°C. **Rotational Life:** 200 cycles. **Load Life:** 1000 hours at 70°C at 0.5 watts. Clutch action mechanical stops at both ends. Solderable terminal pins. **Resistance to Solder Heat:** 260°C for 10 seconds. **Nominal Weight:** .04 oz. Additional pin and adjustment configurations available as special order item. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-99	100-249	250-499
525-4315	66WR1K	1K	4.91	3.92	3.53
525-4320	66WR2K	2K	4.91	3.92	3.53
525-4325	66WR5K	5K	4.91	3.92	3.53
525-4330	66WR10K	10K	4.91	3.92	3.53



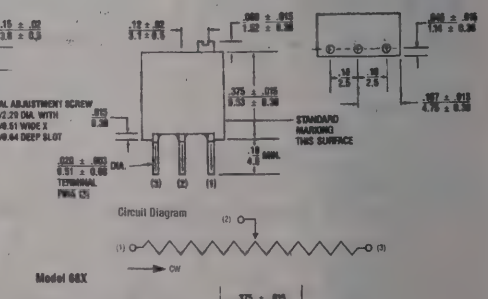
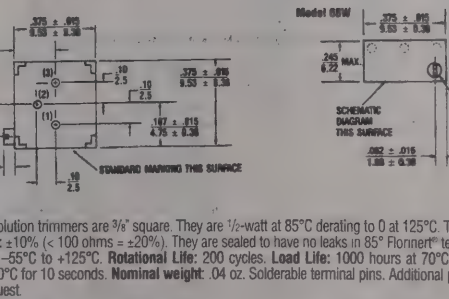
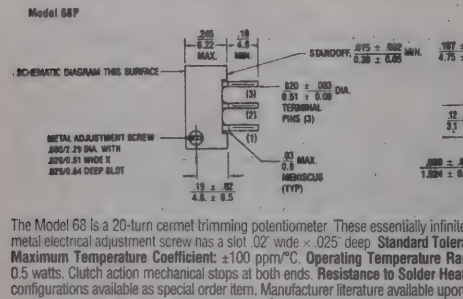
Model 67 Series 3/8" Sq. Multi-Turn Trimmer



The Model 67 is a 20-turn cermet trimming potentiometer. These essentially infinite resolution trimmers are 3/8" square. They are 1/2-watt at 85°C derating to 0 at 125°C. The metal electrical adjustment screw has a slot .02" wide x .025" deep. **Standard Tolerance:** ±10% (< 100 ohms = ±20%). They are sealed to have no leaks in 85° Florinert® test. **Maximum Temperature Coefficient:** ±100 ppm/°C. **Operating Temperature Range:** -55°C to +125°C. **Rotational Life:** 200 cycles. **Load Life:** 1000 hours at 70°C at 0.5 watts. Clutch action mechanical stops at both ends. **Resistance to Solder Heat:** 260°C for 10 seconds. **Nominal Weight:** .04 oz. Additional pin configurations available as special order item. Manufacturer literature available upon request.

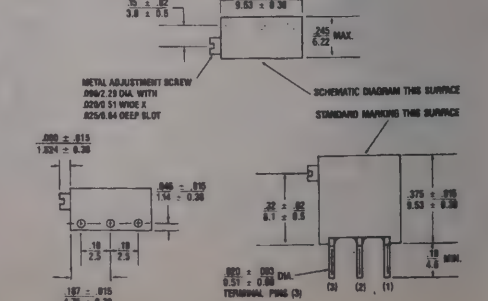
67PR Series		67WR Series		67XR Series		67YR Series		Ohms	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-99	100-249	250-499
525-3300	67PR100	525-3400	67WR100	525-3500	67XR100	525-3600	67YR100	100	2.48	1.98	1.78
525-3305	67PR200	525-3405	67WR200	525-3505	67XR200	525-3605	67YR200	200	2.48	1.98	1.78
525-3310	67PR500	525-3410	67WR500	525-3510	67XR500	525-3610	67YR500	500	2.48	1.98	1.78
525-3315	67PR1K	525-3415	67WR1K	525-3515	67XR1K	525-3615	67YR1K	1 K	2.48	1.98	1.78
525-3320	67PR2K	525-3420	67WR2K	525-3520	67XR2K	525-3620	67YR2K	2 K	2.48	1.98	1.78
525-3325	67PR5K	525-3425	67WR5K	525-3525	67XR5K	525-3625	67YR5K	5 K	2.48	1.98	1.78
525-3330	67PR10K	525-3430	67WR10K	525-3530	67XR10K	525-3630	67YR10K	10 K	2.48	1.98	1.78
525-3335	67PR20K	525-3435	67WR20K	525-3535	67XR20K	525-3635	67YR20K	20 K	2.48	1.98	1.78
525-3340	67PR50K	525-3440	67WR50K	525-3540	67XR50K	525-3640	67YR50K	50 K	2.48	1.98	1.78
525-3345	67PR100K	525-3445	67WR100K	525-3545	67XR100K	525-3645	67YR100K	100 K	2.48	1.98	1.78
525-3350	67PR200K	525-3450	67WR200K	525-3550	67XR200K	525-3650	67YR200K	200 K	2.48	1.98	1.78
525-3355	67PR500K	525-3455	67WR500K	525-3555	67XR500K	525-3655	67YR500K	500 K	2.48	1.98	1.78
525-3360	67PR1M	525-3460	67WR1M	525-3560	67XR1M	525-3660	67YR1M	1 M	2.48	1.98	1.78

Model 68 Series 3/8" Sq. Multi-Turn Trimmer

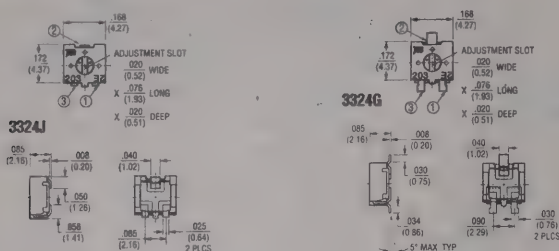


The Model 68 is a 20-turn cermet trimming potentiometer. These essentially infinite resolution trimmers are 3/8" square. They are 1/2-watt at 85°C derating to 0 at 125°C. The metal electrical adjustment screw has a slot .02" wide x .025" deep. **Standard Tolerance:** ±10% (< 100 ohms = ±20%). They are sealed to have no leaks in 85° Florinert® test. **Maximum Temperature Coefficient:** ±100 ppm/°C. **Operating Temperature Range:** -55°C to +125°C. **Rotational Life:** 200 cycles. **Load Life:** 1000 hours at 70°C at 0.5 watts. Clutch action mechanical stops at both ends. **Resistance to Solder Heat:** 260°C for 10 seconds. **Nominal weight:** .04 oz. Solderable terminal pins. Additional pin configurations available as special order item. Manufacturer literature available upon request.

68PR Series		68WR Series		68XR Series		Ohms	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-99	100-249	250-499
525-3700	68PR100	525-3800	68WR100	525-3900	68XR100	100	2.03	1.62	1.46
525-3705	68PR200	525-3805	68WR200	525-3905	68XR200	200	2.03	1.62	1.46
525-3710	68PR500	525-3810	68WR500	525-3910	68XR500	500	2.03	1.62	1.46
525-3715	68PR1K	525-3815	68WR1K	525-3915	68XR1K	1 K	2.03	1.62	1.46
525-3720	68PR2K	525-3820	68WR2K	525-3920	68XR2K	2 K	2.03	1.62	1.46
525-3725	68PR5K	525-3825	68WR5K	525-3925	68XR5K	5 K	2.03	1.62	1.46
525-3730	68PR10K	525-3830	68WR10K	525-3930	68XR10K	10 K	2.03	1.62	1.46
525-3735	68PR20K	525-3835	68WR20K	525-3935	68XR20K	20 K	2.03	1.62	1.46
525-3740	68PR50K	525-3840	68WR50K	525-3940	68XR50K	50 K	2.03	1.62	1.46
525-3745	68PR100K	525-3845	68WR100K	525-3945	68XR100K	100 K	2.03	1.62	1.46
525-3750	68PR200K	525-3850	68WR200K	525-3950	68XR200K	200 K	2.03	1.62	1.46
525-3755	68PR500K	525-3855	68WR500K	525-3955	68XR500K	500 K	2.03	1.62	1.46
525-3760	68PR1M	525-3860	68WR1M	525-3960	68XR1M	1 M	2.03	1.62	1.46



3324 Series — 4 mm Square Sealed Single-Turn Cermet SMD Trimmer

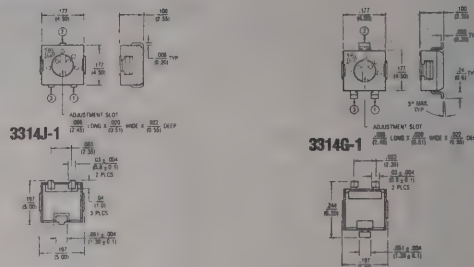


These 1/4 watt (@ 70°C) trimmers are compatible with most surface mount soldering processes. Standoffs facilitate board washing and mechanical stability. Plastic housing allows use in RF applications. **Tolerance:** ±20%. **Soldering Heat:** 260°C for ten seconds or less. **Operating Range:** -55°C to +125°C. **Rotational Cycling:** 100 cycles. **Mechanical Angle Rotation:** 250°. **Weight:** 0.01 oz.

Stock No.	Mfr.'s Type	SMD Tabs	Qty. Per Reel	PER REEL
754-03XX	3324G-1	Gull-Wing	500	585.00
754-04XX	3324J-1	J-Hook	500	585.00

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1K	70	5K	75	10K	80	20K	85

3314 Series — 4 mm Square Sealed Single-Turn Cermet SMD Trimmer



These 1/4 watt (@ 70°C) trimmers are compatible with most surface mount soldering processes and are compatible with pick-and-place equipment. **Tolerance:** ±20%. **Soldering Heat:** 260°C for 10 seconds or less. **Operating Range:** -55°C to +125°C. **Rotational Cycling:** 100 cycles. **Mechanical Angle Rotation:** 240°. **Weight:** 0.01 oz.

Stock No.	Mfr.'s Type	SMD Tabs	Qty. Per Reel	PER REEL
754-07XX	3314G-1	Gull-Wing	500	585.00
754-08XX	3314J-1	J-Hook	500	585.00

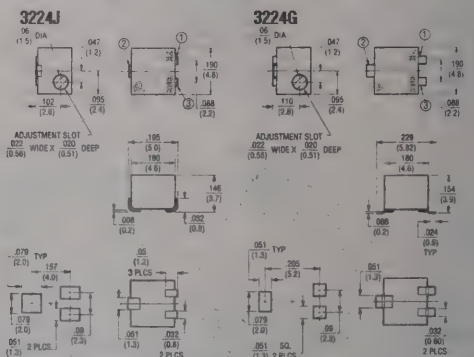
Ohms	XX	Ohms	XX	Ohms	XX
1K	20	10K	26	100K	32
2K	22	20K	28	—	—
5K	24	50K	30	—	—

3224 Series — 4 mm Square Sealed Multi-Turn Cermet SMD Trimmer

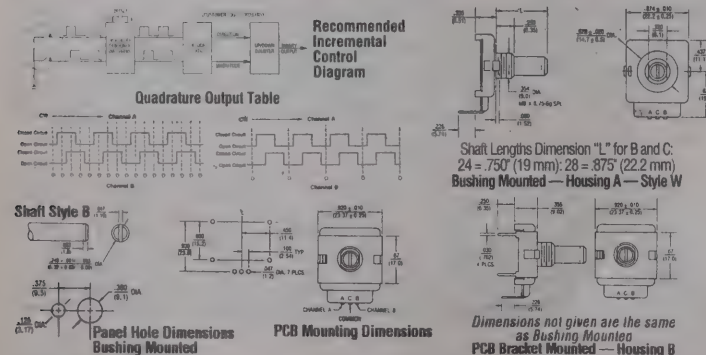
These 11-turn, 1/4 watt (@ 85°C) trimmers are compatible with most surface mount soldering processes and provides pick and place centering design with flush adjustment. Uses standard EIA/EIA/PC/VRCI SMD trimmer footprint. **Tolerance:** ±10%. **CRV:** Low 1%. **Operating Range:** 65°C to +150°C. **Wiper** idles when the mechanical stop is reached. **Rotational Cycling Life:** 200 cycles. **Weight:** 0.01 oz.

Stock No.	Mfr.'s Type	SMD Tabs	Qty. Per Reel	PER REEL
754-07XX	3224G-1	Gull-Wing	500	1280.00
754-08XX	3224J-1	J-Hook	500	1280.00

Ohms	XX	Ohms	XX	Ohms	XX
1K	20	10K	26	100K	32
2K	22	20K	28	—	—
5K	24	50K	30	—	—



EC Encoders — Incremental Digital Contacting Encoder



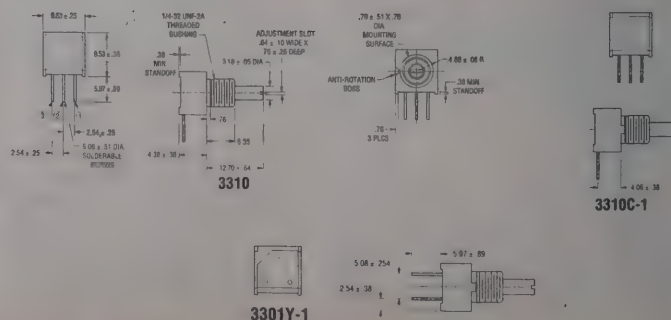
The sturdy construction and exceptionally long life of the digital contacting encoder make it a good choice where reliability and dependability are required. The EC encoder produces a 2-channel, 2-bit gray code quadrature signal which is suitable for digital systems where both magnitude and direction of adjustment must be provided. Channel A leads Channel B by 90° (electrical) with clockwise rotation. The output of this device is a digital gray code signal, rather than a conventional potentiometric voltage ratio output. The advantage of the digital contacting encoder is that it permits the direct entry of digitized analog data into a digital circuit without A/D conversion. The 2 channel gray coded signal of this incremental encoder allows the user's decode circuit to sense analog direction of rotation as well as up-down counter capabilities. This is done without the time and cost of A/D conversion. This approach can reduce memory overhead, wiring and wiring interconnects, and can provide greater MPU program speed. Electrical travel and mechanical angle are continuous. **Weight:** 0.75 oz. Additional configurations available as special order. Call for pricing, delivery and ordering conditions. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Shaft Style	Shaft Length	Shaft Dia.	Resolution (Cycles/Revolution)	Terminal Style	EACH	
							1-24	25-49
754-3964	ECW1J-B24-AB0012	Slotted	3/8"	1/8"	12	PC Pin/Bracket	3.01	2.34
754-3965	ECW1J-B28-AB0012	Slotted	7/8"	1/8"	12	PC Pin/Bracket	3.01	2.34
754-3968	ECW1J-B24-BB0012	Slotted	3/8"	1/8"	12	PC Pin	3.01	2.34
754-3969	ECW1J-B28-BB0012	Slotted	7/8"	1/8"	12	PC Pin	3.01	2.34
754-3976	ECW1J-B24-AC0024	Slotted	3/8"	1/8"	24	PC Pin/Bracket	3.01	2.34
754-3977	ECW1J-B28-AC0024	Slotted	7/8"	1/8"	24	PC Pin/Bracket	3.01	2.34
754-3980	ECW1J-B24-BC0024	Slotted	3/8"	1/8"	24	PC Pin	3.01	2.34
754-3981	ECW1J-B28-BC0024	Slotted	7/8"	1/8"	24	PC Pin	3.01	2.34

3310 Series — 9 mm Square Sealed Panel Controls

This single turn linear conductive plastic panel control uses compact size to save board and panel space. The control may be panel mounted with the threaded bushing or PC board mounted using the PC pins. Sealed to withstand typical industrial washing processes. 0.25-watt power at 70°C. **Tolerance:** ±20%. Request manufacturer's literature describing other options including mounting details and multiple functions such as switching.

Stock No.	Mfr.'s Type	Ohms	Adjustment	EACH	
				1-99	100-449
754-0150	3310C-1-102	1K	Horizontal	1.29	1.01
754-0151	3310C-1-202	2K	Horizontal	1.29	1.01
754-0152	3310C-1-502	5K	Horizontal	1.29	1.01
754-0153	3310C-1-103	10K	Horizontal	1.29	1.01
754-0154	3310C-1-203	20K	Horizontal	1.29	1.01
754-0155	3310Y-1-102	1K	Vertical	1.29	1.01
754-0156	3310Y-1-202	2K	Vertical	1.29	1.01
754-0157	3310Y-1-502	5K	Vertical	1.29	1.01
754-0158	3310Y-1-103	10K	Vertical	1.29	1.01
754-0159	3310Y-1-203	20K	Vertical	1.29	1.01



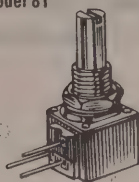
Modular Potentiometers

Model 81. Combines design versatility and advanced modular construction with factory assembled reliability and quality assurance. The net result is a consistently high quality $\frac{3}{8}$ " square panel control. **Temperature Range:** -55°C to 125°C . **Temperature Coefficient:** ± 1000 ppm/ $^{\circ}\text{C}$. **Running Torque:** 0.2 to 1.5 oz.-in. 1000 VAC dielectric with standing voltage @ sea level. **Minimum Resistance:** 2 Ohms. **Infinite Resolution:** Single Turn.

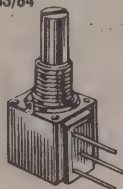
Model 83/84. The only 10 turn precision modular control in the industry. **Resistance Tolerance:** $\pm 5\%$. 1000 VAC dielectric withstanding voltage @ sea level. **Temperature Range:** -55°C to 125°C . **Temperature Coefficient:** ± 50 ppm/ $^{\circ}\text{C}$. **Load Life:** 1000 hrs. Moisture resistant. Compatible with all Model 80 Series. Resistance value available only up to 10K.

Model 91. Construction features include a one-piece molded shaft and rotor. The one-piece rotor shaft provides virtually infinite electrical circuit isolation. **Temperature Range:** -55°C to $+125^{\circ}\text{C}$. **Temperature Coefficient:** 1000 ppm/ $^{\circ}\text{C}$. **Load Life:** 1000 hrs. 1000 VAC dielectric withstanding voltage @ sea level.

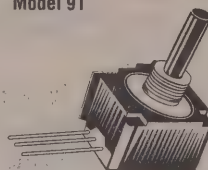
Model 81



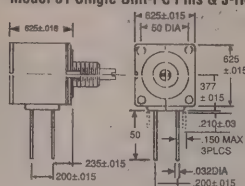
Model 83/84



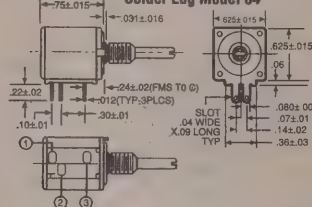
Model 91



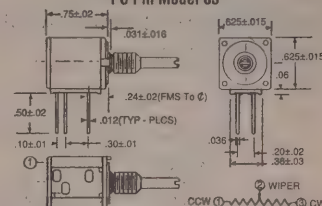
Model 81 Single Unit-PC Pins & J-Hook



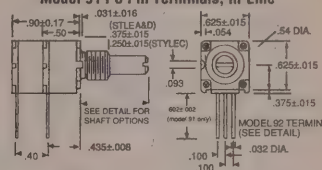
Solder Lug Model 84



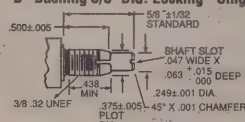
PC Pin Model 83



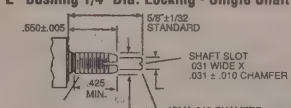
Model 91 PC Pin Terminals, In-Line



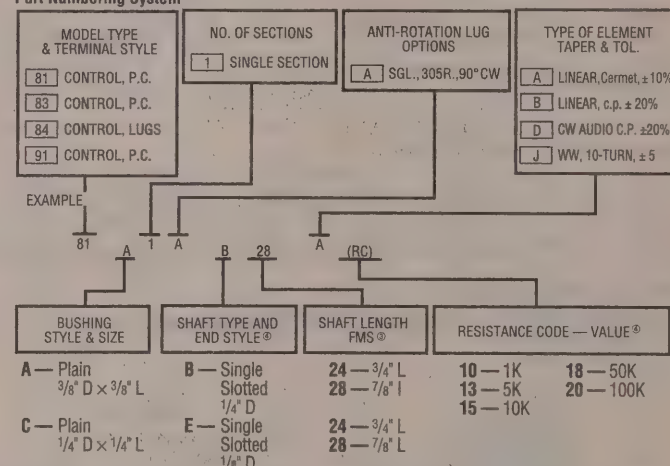
"B" Bushing $\frac{3}{8}$ " Dia. Locking - Single Shaft



"E" Bushing $\frac{1}{4}$ " Dia. Locking - Single Shaft



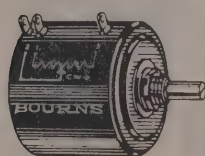
Part Numbering System



Stock No.*	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
754-87XX	81A1A-B28-A(RC)	7.91	6.16	5.03	4.26
754-88XX	81C1A-E28-A(RC)	7.91	6.16	5.03	4.26
754-89XX	81A1A-B28-B(RC)	7.91	6.16	5.03	4.26
754-90XX	81C1A-E28-B(RC)	7.91	6.16	5.03	4.26
754-91XX	83A1A-B28-J(RC)	20.74	16.15	13.19	11.16
754-92XX	84A1A-B28-J(RC)	20.74	16.15	13.19	11.16
754-94XX	91A1A-B24-B(RC)	4.57	3.56	2.91	2.46
754-95XX	91A1A-B28-B(RC)	4.57	3.56	2.91	2.46
754-97XX	91C1A-D24-B(RC)	4.57	3.56	2.91	2.46
754-98XX	91A1A-B24-D(RC)	5.20	4.05	3.31	2.80
754-99XX	91A1A-B28-D(RC)	5.20	4.05	3.31	2.80

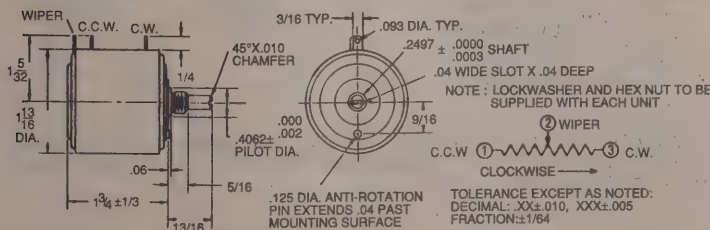
*Using OHM chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX
1K	10	10K	15	100K	20
5K	13	50K	18		



Model 3400

10 turn, 5 Watt — $1\frac{1}{16}$ " dia. **Operating Temperature:** -65°C to $+125^{\circ}\text{C}$. **Power Rating:** 5 Watts @ 40°C . **Resistance Tolerance:** $\pm 3\%$. **End Voltage:** 15% max. sealable; ext. temp. range; high stop strength; excellent wiper stability; high power precision potentiometer.



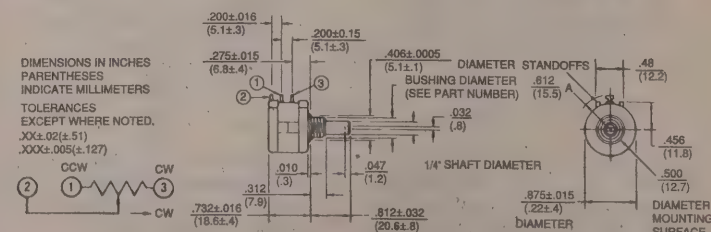
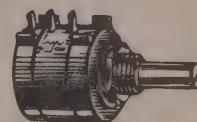
Stock No.*	Mfr.'s Type	EACH			
		1-24	25-99	100-499	500-Up
754-84XX	3400S-1	67.20	54.43	49.73	47.04

*Using OHM chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX
1K	04	5K	12	10K	06

Model 3590

10 turn, 2 Watt — $\frac{7}{8}$ " dia. Bushing mount, wirewound element. The -1 and -2 units are not sealed. **Operating Temperature:** -55°C to $+125^{\circ}\text{C}$. **Resistance Tolerance:** $\pm 5\%$. **Power Rating:** 2 Watts @ 40°C . 2000 VAC dielectric withstanding voltage @ sea level. **Temperature Coefficient:** ± 50 ppm/ $^{\circ}\text{C}$.

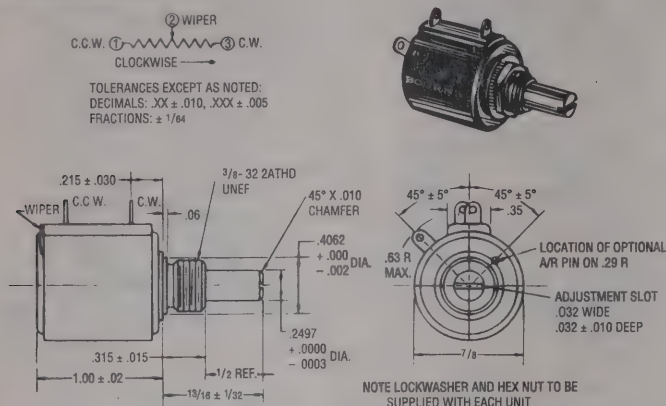


Stock No.*	Mfr.'s Type	Description	EACH			
			1-24	25-99	100-499	500-Up
754-67XX†	3590S-1	Plastic Bushing/Shaft	7.70	6.24	5.70	5.39
754-68XX	3590S-2	Metal Bushing/Shaft	9.58	7.76	7.09	6.71

†20K not stocked. *Using OHM chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value. 50K and 100K pricing higher. PC pin terminals available. Call for pricing and minimums.

Ohms	XX	Ohms	XX	Ohms	XX
1K	01	10K	04	50K	06
5K	03	20K	05	100K	07

Models 3500 and 3501 Panel Mount/Wirewound and Hybritron Element Potentiometers



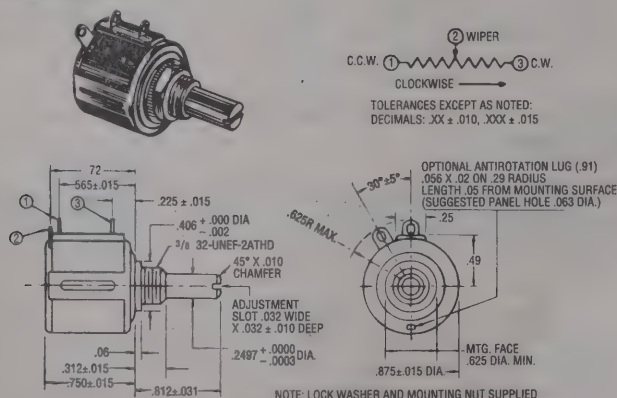
10 turn, 2 Watt, 7/8" Dia. Wirewound and Hybritron elements. Both models have power ratings of 2 Watts @ +70°C. **Model 3500S.** Wirewound. **Temperature Range:** -65°C to +125°C. **Temperature Coefficient:** ±50 ppm/°C. **Resistance Tolerance:** ±3%. **Model 3501H.** Hybritron. **Temperature Coefficient:** ±100 ppm/°C. **Resistance Tolerance:** ±10%.

Stock No.*	Mr.'s Type	Description	EACH			
			1-24	25-99	100-499	500-999
754-71XX	3500S-2-	Wirewound	36.60	29.65	27.08	25.62
754-72XX†	3501H-1-	Cond. Plastic	52.60	42.61	38.92	36.82

†1K, 5K and 10K only. *Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1K	50	5K	52	10K	53	100K	56

Models 3540 and 3541 Panel Mount/Wirewound and Hybritron Element Potentiometers



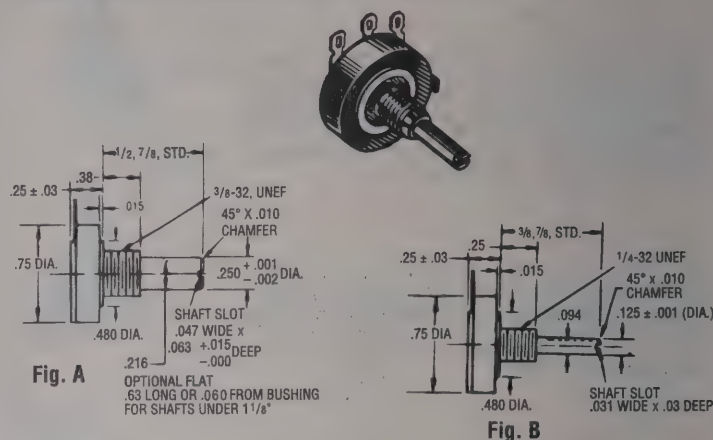
10 Turn, 2 Watt, 7/8" Dia. Wirewound and Hybritron elements. Both models have power ratings of 2 watts @ +70°C. **Model 3540S.** Wirewound. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ±50 ppm/°C. **Resistance Tolerance:** ±5%. **Model 3541H.** Hybritron. **Temperature Coefficient:** ±100 ppm/°C. **Resistance Tolerance:** ±10%.

Stock No.*	Mfr.'s Type	Description	EACH			
			1-24	25-99	100-499	500-999
754-73XX	3540S-1-	Wirewound	12.36	10.01	9.15	8.65
754-74XX†	3541H-1-	Cond. Plastic	29.44	23.85	21.79	20.61

†1K to 10K only. *Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX
1K	53	10K	56	100K	58
5K	55	50K	59	—	—

Model 3852 Panel Mount/Cermet Element Potentiometers



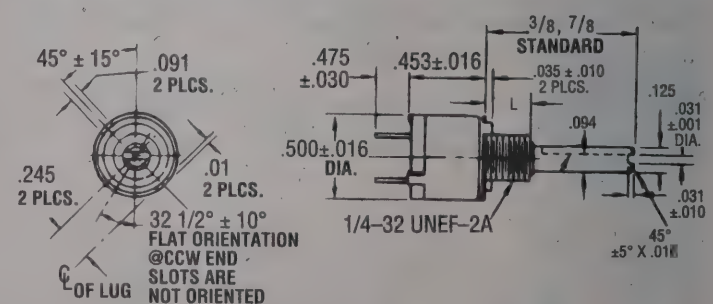
Power Rating: 2 Watts @ +70°C. **Resistance Tolerance:** ±3%. **Contact Resistance:** Variation ±3%. **Temperature Range:** -65°C to +150°C. All are supplied with hardware. **Temperature Coefficient:** ±150 ppm/°C. **Model 3852A-162-** 1/2" shaft length; 3/8" dia. plain bushing with 1/4" dia. shaft. **Model 3852A-282-** 7/8" shaft length; 3/8" dia. plain bushing with 1/4" dia. shaft. **Model 3852C-122-** 3/8" shaft length; 1/4" dia. plain bushing with 1/8" dia. shaft. **Model 3852C-282-** 7/8" shaft length; 1/4" dia. plain bushing with 1/8" dia. shaft.

Stock No.*	Mfr.'s Type	Fig.	EACH			
			1-24	25-99	100-499	500-999
754-52XX	3852A-162-	A	7.86	6.12	5.00	4.23
754-53XX	3852A-282-	A	7.86	6.12	5.00	4.23
754-56XX	3852C-162-	B	7.86	6.12	5.00	4.23
754-55XX	3852C-282-	B	7.86	6.12	5.00	4.23

*Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX
1K	01	10K	04	100K	07
5K	03	50K	06	—	—

Model 3862 Panel Mount/Cermet Element Potentiometer



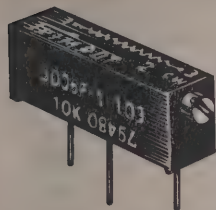
1/2" dia. body with power rating of 1 Watt @ +70°C. **Model 3862C-122-** 3/8" shaft length; 1/4" plain bushing with 1/8" shaft dia. **Model 3862C-282-** 7/8" shaft length; 1/4" plain bushing with 1/8" shaft dia. **Tolerance: ±10%.**

Stock No.*	Mfr.'s Type	EACH			
		1-24	25-99	100-499	500-999
754-58XX	3862C-122-	12.57	9.79	7.99	6.76
754-59XX	3862C-282-	12.57	9.79	7.99	6.76

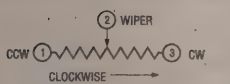
*Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX
1K	01	10K	04	100K	07
5K	03	50K	06	—	—

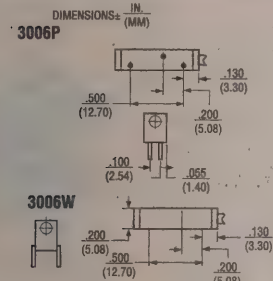
Model 3006 15-Turn/Cermet



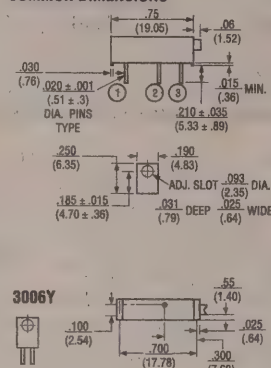
1/4" high, low cost cermet trimmer offers infinite resolution, low temperature coefficient ± 100 PPM/ $^{\circ}$ C -55° C to $+125^{\circ}$ C. Sealed to withstand wave soldering and immersion cleaning. **Load Life**: 1000 hours, 0.75 Watt at 70° C. $\pm 10\%$ tolerance. 15 turn nominal travel. **Suffix**: P, W and Y styles. **Dimensions**: $3/4 \times 0.19 \times 0.25$ ". See drawings below for pin configurations. **Weight**: .04 oz.



TOLERANCES $\pm .010$ (25) EXCEPT WHERE NOTED



COMMON DIMENSIONS

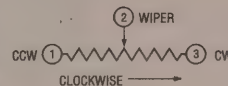


Stock No.*	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-Up
754-100X	3006P	10	1.55	1.19	1.05	.92
754-101X	3006P	20	1.55	1.19	1.05	.92
754-102X	3006 (P or Y)	50	1.55	1.19	1.05	.92
754-103X	3006 (P, W or Y)	100	1.55	1.19	1.05	.92
754-104X	3006 (P, W or Y)	200	1.55	1.19	1.05	.92
754-105X	3006 (P, W or Y)	500	1.55	1.19	1.05	.92
754-106X	3006 (P, W or Y)	1K	1.55	1.19	1.05	.92
754-107X	3006 (P, W or Y)	2K	1.55	1.19	1.05	.92
754-108X	3006 (P, W or Y)	5K	1.55	1.19	1.05	.92
754-109X	3006 (P, W or Y)	10K	1.55	1.19	1.05	.92
754-110X	3006 (P, W or Y)	20K	1.55	1.19	1.05	.92
754-111X	3006 (P, W or Y)	50K	1.55	1.19	1.05	.92
754-112X	3006 (P, W or Y)	100K	1.55	1.19	1.05	.92
754-113X	3006 (P, or W)	200K	1.55	1.19	1.05	.92
754-114X	3006P	1M	1.55	1.19	1.05	.92
754-115X	3006P	2M	1.55	1.19	1.05	.92

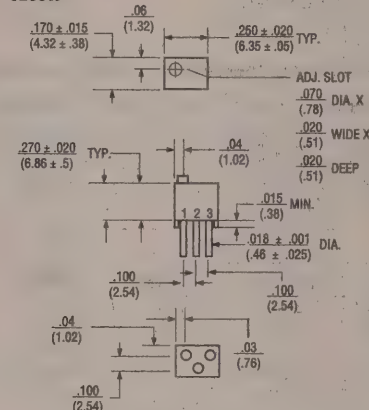
* Insert #1 for P suffix, #2 for W suffix, #3 for Y suffix, where X appears in stock number.

Model 3266 12-Turn/Cermet

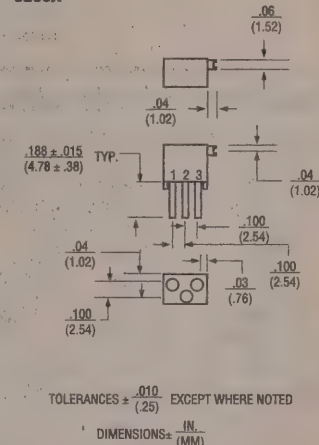
Low cost 1/4" square multi-turn trimmer. Sealed to withstand wave soldering and boardwash process. Infinite resolution. 1/4 Watt power at 70° C. **Low Temperature Coefficient**: ± 100 PPM/ $^{\circ}$ C. **Temperature Range**: -55° C to $+125^{\circ}$ C. 12 turn nominal travel. **Suffix**: W=Vertical Mount; X=Offset Vertical Mount. **Dimensions**: 1/4" square $\times 0.170$. **Weight**: 0.015 oz.



3266W



3266X

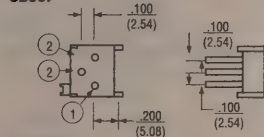


TOLERANCES $\pm .010$ (25) EXCEPT WHERE NOTED
DIMENSIONS $\pm .010$ (MM)

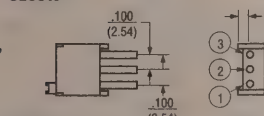
Stock No.*	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-Up
754-216X	3266W	50	2.83	2.17	2.00	1.76
754-217X	3266 (W or X)	100	2.83	2.17	2.00	1.76
754-218X	3266 (W or X)	200	2.83	2.17	2.00	1.76
754-219X	3266 (W or X)	500	2.83	2.17	2.00	1.76
754-220X	3266 (W or X)	1K	2.83	2.17	2.00	1.76
754-221X	3266 (W or X)	2K	2.83	2.17	2.00	1.76
754-222X	3266 (W or X)	5K	2.83	2.17	2.00	1.76
754-223X	3266 (W or X)	10K	2.83	2.17	2.00	1.76
754-224X	3266 (W or X)	20K	2.83	2.17	2.00	1.76
754-225X	3266 (W or X)	50K	2.83	2.17	2.00	1.76
754-226X	3266 (W or X)	100K	2.83	2.17	2.00	1.76
754-227X	3266W	1M	2.83	2.17	2.00	1.76

* Insert #2 for W suffix, #4 for X suffix where X appears in stock number.

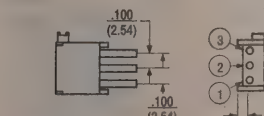
3296P



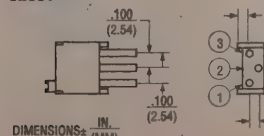
3296W



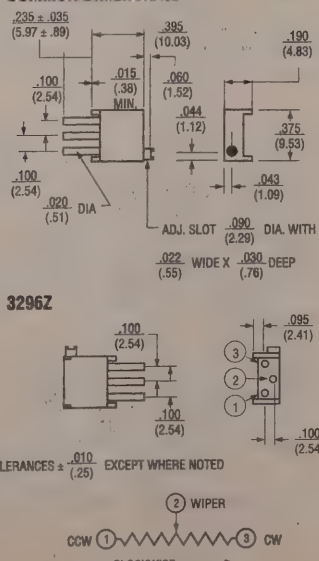
3296X



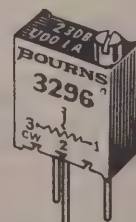
3296Y



COMMON DIMENSIONS



Model 3296 25-Turn/Cermet

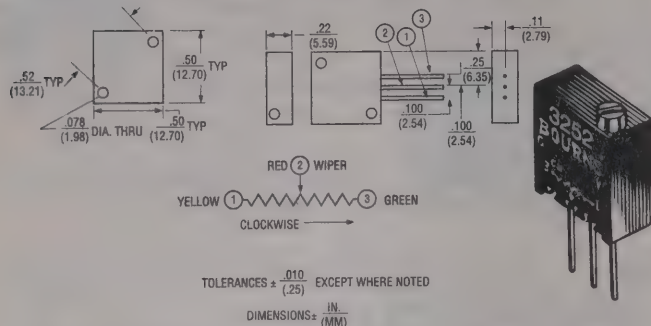


Listed on DESC QPL for style RJ24 per MIL-R-22097. Thin body profile, low cost square multi-turn trimmer with infinite resolution. Wiper idling mechanism clicks at end of rotation. Sealed to withstand wave soldering and boardwash process. 0.5 Watt at 70° C. $\pm 10\%$ tolerance. **Temperature Range**: -55° C to $+125^{\circ}$ C. **Suffix**: P=Offset PC pins, W=Vertical Mount; X=Inline Vertical Mount; Y=Offset PC pins, Z=Offset PC pins. **Dimensions**: $3/8$ square $\times 0.19$ " thick. **Weight**: .03 oz.

Stock No.*	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-Up
754-310X	3296(P, W, X, Y or Z)	500	2.14	1.64	1.51	1.33
754-311X	3296(P, W, X, Y or Z)	1K	2.14	1.64	1.51	1.33
754-312X	3296(P, W, X, Y or Z)	2K	2.14	1.64	1.51	1.33
754-313X	3296(P, W, X, Y or Z)	5K	2.14	1.64	1.51	1.33
754-314X	3296(P, W, X, Y or Z)	10K	2.14	1.64	1.51	1.33
754-315X	3296(P, W, X, Y or Z)	20K	2.14	1.64	1.51	1.33
754-316X	3296(P, W, X, Y or Z)	50K	2.14	1.64	1.51	1.33
754-317X	3296(P, W, X, Y or Z)	100K	2.14	1.64	1.51	1.33

* Insert #1 for P suffix, #2 for W suffix, #3 for Y suffix, #4 for X suffix, and #5 for Z suffix where X appears in stock number.

Models 3252 Multi-Turn, Cermet



Stable, infinite resolution cermet element. Listed on the DESC QPL for style RJ22 per MIL-R-22097. Low temperature coefficient ± 100 ppm/ $^{\circ}$ C over entire temperature and resistance range. High temperature, all plastic case. Superior humidity-proof performance under the most severe conditions. **Temperature Range:** -65° to $+150^{\circ}$ C. **Power Rating:** .75 Watt at 85° C. **Resistance Tolerance:** $\pm 10\%$.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-17XX	3252W-1-	10.98	8.42	7.75	6.82

*Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1K	04	5K	06	20K	08	50K	10
2K	05	10K	07	25K	09	100K	11

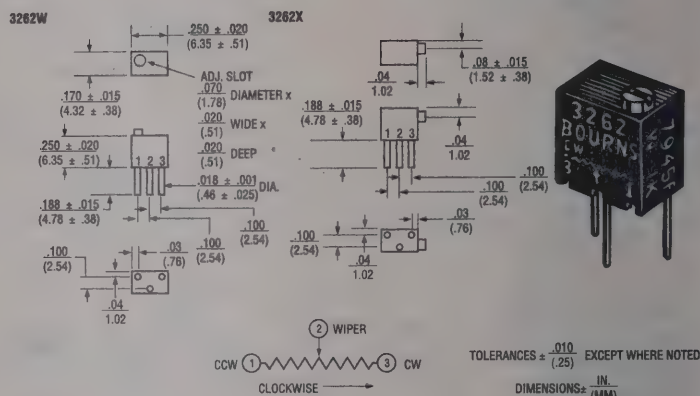
Model 3262 Multi-Turn Cermet

Listed on DESC QPL for RJ26 per MIL-R-22097 and RJ26 per High-Rel MIL-R-39035. 0.25 Watt @ $+85^{\circ}$ C. Low temperature coefficient ± 100 ppm/ $^{\circ}$ C. Outstanding humidity resistance and low contact resistance. **Temperature Range:** -65° C to $+150^{\circ}$ C. Stable, infinite resolution cermet element. **Resistance Tolerance:** $\pm 10\%$.

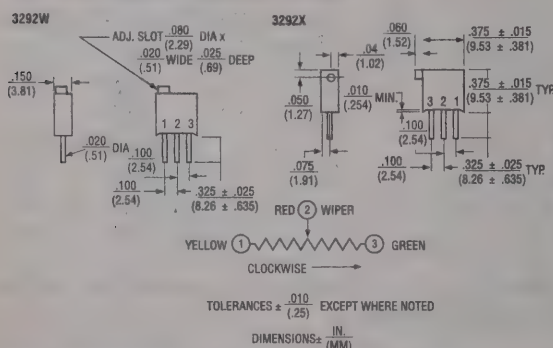
Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-18XX	3262W-1-	11.30	8.67	7.98	7.03
754-19XX†	3262X-1-	11.30	8.67	7.98	7.03

†10K, 20K, 100K only. *Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	02	1K	05	10K	08	50K	11
200	03	2K	06	20K	09	100K	12
500	04	5K	07	25K	10	1Meg	13



Model 3292 Multi-Turn Cermet



Infinite resolution cermet element. Reliable wiper idling mechanism with audible 'Click' at end of rotation. Double chevron shaft seal; plasma etched body. **Temperature Range:** -65° C to $+150^{\circ}$ C. **Temperature Coefficient:** ± 100 ppm/ $^{\circ}$ C. **Power:** 0.5 Watts at $+85^{\circ}$ C. **Tolerance:** $\pm 10\%$.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-24XX	3292W-1-	12.26	9.40	8.66	7.62
754-25XX†	3292X-1-	12.26	9.40	8.66	7.62

†2K, 10K, 20K only. *Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
200	05	2K	08	10K	10	500K	14
1K	07	5K	09	20K	11	1Meg	15

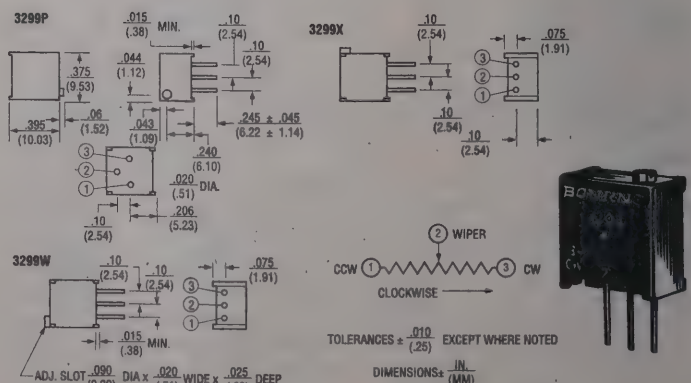
Model 3299 Multi-Turn Cermet

Low noise, high performance square trimmer. **Power Rating:** 0.5 Watt at $+70^{\circ}$ C. Infinite resolution cermet element. Low temperature coefficient ± 100 ppm/ $^{\circ}$ C over entire temperature and resistance range. Sealed to withstand wave soldering and cleaning processes. **Temperature Range:** -55° C to $+125^{\circ}$ C. **Resistance Tolerance:** $\pm 10\%$.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-26XX†	3299P-1-	2.48	1.90	1.75	1.54
754-27XX	3299W-1-	2.30	1.77	1.63	1.43
754-28XX†	3299X-1-	2.30	1.77	1.63	1.43

†50 to 2M only. *Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	500	06	20K	11	250K	16
20	02	1K	07	25K	12	500K	17
50	03	2K	08	50K	13	1Meg	18
100	04	5K	09	100K	14	2Meg	19
200	05	10K	10	200K	15	5Meg	20



Multi- and Single-Turn Wirewound and Cermet Trimmers



Model 3290 Multi-Turn, Wirewound

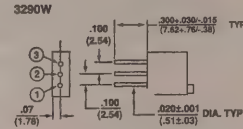
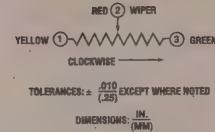
This 3/8" square wirewound potentiometer is listed on DESC QPL for style RT24 per MIL-R-27208 and RTR24 per High-Rel MIL-R-39015. **High Performance:** 1 Watt @ +85°C. **Temperature Range:** -65°C to +150°C. All plastic case provides sealing against liquids and potting compounds. **Resistance Tolerance:** ±5%. **Dielectric Strength:** 1000 VAC @ sea level. **Moisture resistance.** **Mechanical Life:** 200 cycles. Solder PC pin terminals.

Other Resistance Values Available. Call for Pricing.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-08XX	3290W-1	16.72	12.47	11.47	10.12

*Using OHM chart below, replace "XX" in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Resolution Percent
1K	05	0.33
10K	08	0.26
20K	09	0.14



Model 3339 Multi-Turn Cermet

Unique planetary drive offers precise wiper setting in a single turn size package. Space-saving 0.30" dia. x 0.25" H. Rated 0.5 Watt @ 85°C. Sealed to withstand wave soldering and immersion cleaning process. **Temperature Range:** -55°C to +150°C. **Temperature Coefficient:** ±100 ppm/°C max. **Resistance Tolerance:** ±10%.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-72XX	3290H-1	4.18	3.20	2.95	2.60
754-73XX	3290P-1	4.18	3.20	2.95	2.60
754-74XX†	3290W-1	5.99	4.59	4.23	3.73

†100Ω to 200K only. *Using OHM chart below, replace "XX" in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	10K	07	200K	11
200	02	2K	05	50K	09	1Meg	13
500	03	5K	06	100K	10	—	—

Model 3323 Single-Turn Cermet

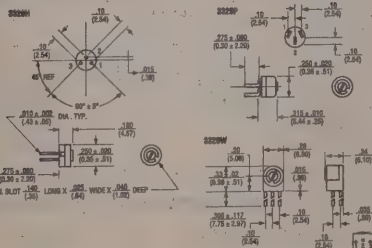
Low cost Industrial grade trimmer with infinite resolution cermet element. Sealed to withstand wave soldering and immersion cleaning process. 0.5 Watt power rating @ +70°C. Rotor designed for automatic machined adjust interface. **Temperature Coefficient:** ±100 ppm/°C max. **Temperature Range:** -55°C to 125°C. **Resistance Tolerance:** ±20%.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-75XX	3323P-1	1.33	1.02	.94	.82
754-76XX	3323W-1	1.33	1.02	.94	.82

*Using OHM chart below, replace "XX" in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	10K	07	100K	10
200	02	2K	05	20K	08	—	—
500	03	5K	06	50K	09	—	—

Model 3329 Single-Turn Cermet



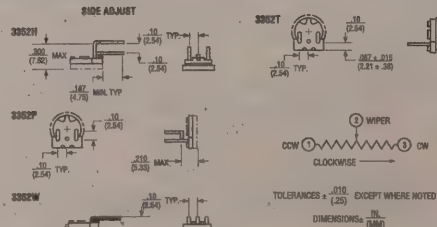
Listed on DESC QPL for style RJ50 per MIL-R-22097 and RJR50 per High-Rel MIL-R-39035. Infinite resolution cermet element. Space saving 0.25" dia. Low temperature coefficient ±100 ppm/°C max. **Power Rating:** 0.5 Watt @ 85°C. **Temperature Range:** -55°C to +150°C. **Resistance Tolerance:** ±10%.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-77XX	3329H-1	2.02	1.55	1.43	1.26
754-78XX	3329P-1	2.02	1.55	1.43	1.26
754-79XX	3329W-1	2.43	1.86	1.72	1.51

*Using OHM chart below, replace "XX" in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
50	03	500	06	5K	09	50K	12
100	04	1K	07	10K	10	100K	13
200	05	2K	08	20K	11	200K	14

Model 3352 Single-Turn Cermet



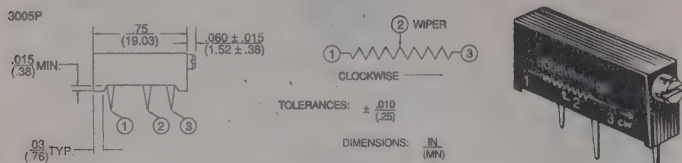
Adjustability of ±0.05% voltage ratio. Low temperature coefficient of ±100 ppm/°C. **Power Ratio:** 0.50 Watt @ 85°C. **Temperature Range:** -55°C to +125°C. Stable cermet element offers infinite resolution. **Resistance Tolerance:** ±20%.

Side Adjust		Top Adjust		EACH			
Stock No.*	Mfr.'s Type	Stock No.*	Mfr.'s Type	1-99	100-499	500-999	1000-Up
754-80XX	3352W	754-81XX	3352T	.93	.70	.62	.54
754-82XX	3352H	754-83XX	3352P	.93	.70	.62	.54

*Using OHM chart below, replace "XX" in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
50	01	1K	05	20K	09	200K	13
100	02	2K	06	25K	10	500K	14
200	03	5K	07	50K	11	1Meg	15
500	04	10K	08	100K	12	2Meg	16

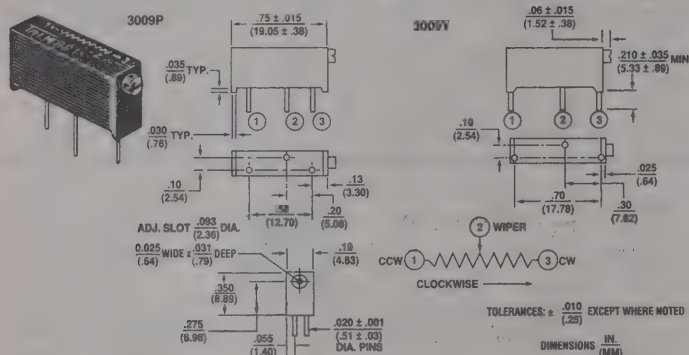
Model 3005 Multi-Turn



Wirewound resistance element, 3/4" long. Sealed to prevent contamination from fluxing, soldering and cleaning. **Power Rating:** 1 Watt @ 70°C. **Adjustment Travel:** 20 turns nominal. **Temperature Range:** -65°C to 125°C. **Load Life:** 1000 hrs. at 70°C. **Mechanical Life:** 200 cycles. Solderable PC pins. **Tolerance:** ±10%. **Dimensions:** 3/4 × 0.16 × 0.31". **Weight:** 0.45 oz.

Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0025	3005P-1-501	500	0.5	6.11	4.49	4.13	3.85
754-0030	3005P-1-102	1K	0.5	6.11	4.49	4.13	3.85
754-0035	3005P-1-202	2K	0.4	6.11	4.49	4.13	3.85
754-0040	3005P-1-502	5K	0.3	6.11	4.49	4.13	3.85
754-0045	3005P-1-103	10K	0.3	6.11	4.49	4.13	3.85
754-0050	3005P-1-203	20K	0.2	6.11	4.49	4.13	3.85

Model 3009 Multi-Turn Cermet



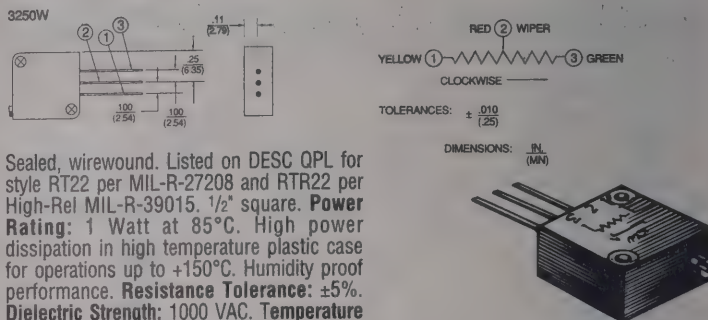
Sealed to withstand soldering and board wash process. **Low Temperature Coefficient:** ± 100 ppm/ $^{\circ}$ C. Stable, infinite resolution cermet element. CRV 1.0% or 1 ohm. **Temperature Range:** -55° C to $+125^{\circ}$ C. Meet humidity requirements of MIL-STD-202, method 103. **Power Rating:** 25 Watt at $+70^{\circ}$ C. **Resistance Tolerance:** $\pm 10\%$.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-14XX	3009P-1-	2.15	1.65	1.52	1.34
754-15XX†	3009Y-1-	2.15	1.65	1.52	1.34

†200, 200K, 1M not available. *Using OHM Chart below replace "XX" in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
50	03	500	06	5K	09	50K	12	500K	15
100	04	1K	07	10K	10	100K	13	1Meg	16
200	05	2K	08	20K	11	200K	14	—	—

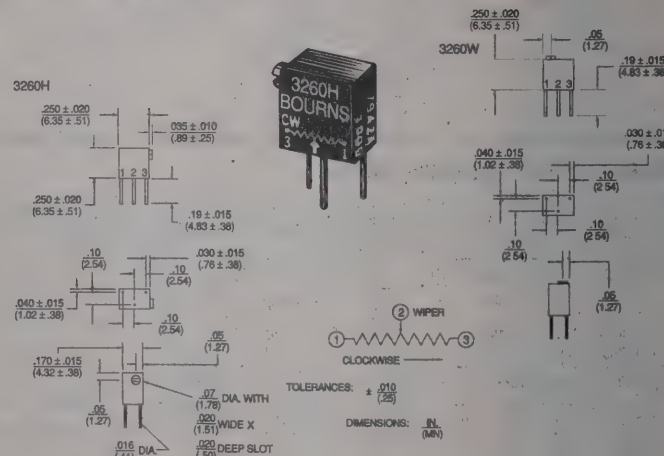
Model 3250 Multi-Turn



Sealed, wirewound. Listed on DESC QPL for style RT22 per MIL-R-27208 and RTR22 per High-Rel MIL-R-39015. 1/2" square. **Power Rating:** 1 Watt at 85°C. High power dissipation in high temperature plastic case for operations up to +150°C. Humidity proof performance. **Resistance Tolerance:** ±5%. **Dielectric Strength:** 1000 VAC. **Temperature Range:** -65°C to 150°C. **Load Life:** 1000 hrs. Solderable PC pin terminals.

Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0310	3250W-1-102	1K	0.36	6.78	4.99	4.59	4.27
754-0315	3250W-1-202	2K	0.26	6.78	4.99	4.59	4.27
754-0320	3250W-1-502	5K	0.20	6.78	4.99	4.59	4.27
754-0325	3250W-1-103	10K	0.16	6.78	4.99	4.59	4.27
754-0330	3250W-1-203	20K	0.14	6.78	4.99	4.59	4.27

Model 3260 Multi-Turn



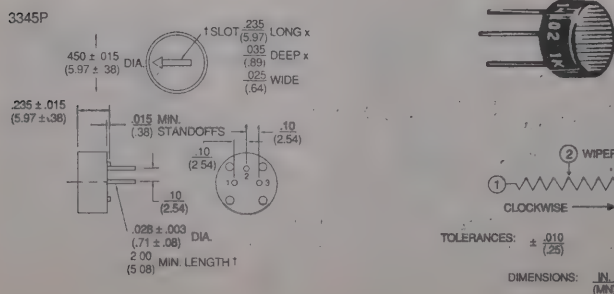
Reliable, wirewound. Listed on DESC QPL for style RT26 per MIL-R-27208. 1/4" square. **Power Rating:** .25 Watt at +85°C. All plastic case provides sealing against liquids and potting compounds. **Resistance Tolerance:** $\pm 5\%$. **Dielectric Strength:** 600 VAC. **Temperature Range:** -65°C to 150°C. **Lead Life:** 1000 hrs. **Mechanical Life:** 200 cycles. Solder PC pin terminals. Moisture Resistant.

Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0425	3260H-1-103	10K	0.25	16.74	12.31	11.32	10.55
754-0430	3260H-1-203	20K	0.21	16.74	12.31	11.32	10.55
754-0455	3260W-1-103	10K	0.25	16.74	12.31	11.32	10.55

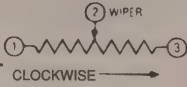
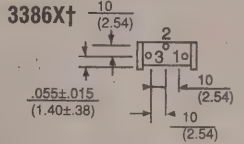
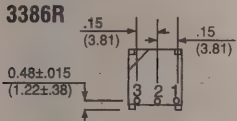
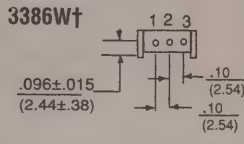
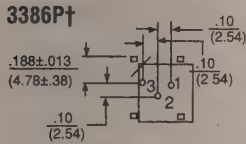
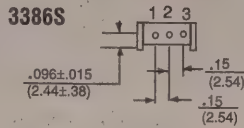
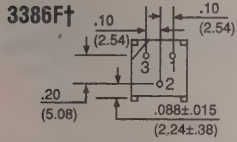
Model 3345 Single-Turn

Single turn, 1/2" dia. with top adjustment. **Power Rating:** 1 Watt @ +70°C. Compact .450" dia. x .235" H. Sealed for PC applications. **Standard Resistance Range:** 10 to 20K ohms. **Resistance Tolerance:** ±5%. **Dielectric Strength:** 1500 VAC. 300 adjustment angle nominal. **Temperature Range:** -55°C to +150°C. **Load Life:** 1000 hrs. **Mechanical Life:** 200 cycles. Solder PC pin terminals.

Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0525	3345P-1-501	500	0.38	4.70	3.45	3.18	2.96
754-0530	3345P-1-102	1K	0.30	4.70	3.45	3.18	2.96
754-0535	3345P-1-202	2K	0.24	4.70	3.45	3.18	2.96
754-0540	3345P-1-502	5K	0.18	4.70	3.45	3.18	2.96
754-0545	3345P-1-103	10K	0.14	4.70	3.45	3.18	2.96



Model 3386 Single-Turn, Cermet



TOLERANCES = .010 (MIN)
DIMENSIONS IN (MIN)

†Preferred Pin Styles For New Designs

3/8" square units. Infinite resolution cermet element. **Power Rating:** .5 Watt at +85°C. **Resistance Tolerance:** ±10%. **Adjustability:** ±0.05% voltage ratio. **Temperature Range:** -55°C to 125°C. **Low Temperature Coefficient:** ±100 ppm/°C. Sealed to withstand wave soldering and immersion cleaning process. **Dielectric Strength:** 900 VAC at sea level. **Mechanical Life:** 200 cycles.

Top Adjust

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-32XX	3386F-1	1.11	.86	.80	.71
754-33XX	3386P-1	1.11	.86	.80	.71
754-34XX	3386R-1	1.11	.86	.80	.71

Side Adjust

754-35XX	3386S-1	1.11	.86	.80	.71
754-36XX	3386W-1	1.11	.86	.80	.71
754-37XX	3386X-1	1.11	.86	.80	.71

*Using OHM chart below, replace "XX" in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
50	03	500	06	5K	09	50K	12	500K	15
100	04	1K	07	10K	10	100K	13	1Meg	16
200	05	2K	08	20K	11	200K	14	—	—

Model 3059 Multi-Turn Cermet

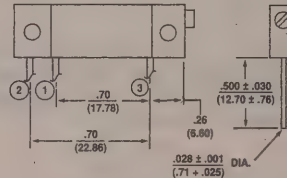
Listed on the DESC QPL for style RJ12 per MIL-R-22097. Infinite resolution cermet element. **Adjustability:** ±0.01% (V.R. Mode). **High Power Dissipation:** 1 Watt @ 70°C. **Resistance Tolerance:** ±10%. **Temperature Range:** -55°C to +150°C. **Low Temperature Coefficient:** ±100 ppm/°C.

Stock No.*	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-12XX†	3059P-1	5.13	3.93	3.63	3.19
754-13XX	3059Y-1	5.13	3.93	3.63	3.19

†1K, 2K, 10K only. *Using OHM chart below, replace "XX" in Stock No. with numbers that correspond with desired OHM value.

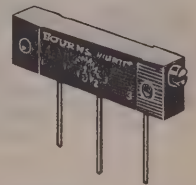
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	5K	06	20K	08	100K	10
500	03	2K	05	10K	07	50K	09	—	—

3059P

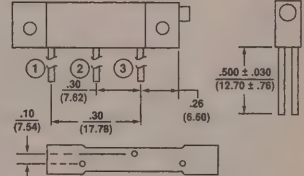


TOLERANCES: ±.010 (MIN) EXCEPT WHERE NOTED

DIMENSIONS: IN (MM)



3059Y



H-800 Trim Bin™ Kit

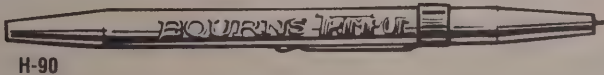
- Multi-Turn, Wirewound and Cermet
- Multi-Turn, Cermet, Square
- Single-Turn, Cermet and Wirewound
- Open Frames, Cermet

This kit contains over 125 parts representing 50 varieties of resistance and pin styles. You are able to select the size, shape, type of element and method of adjustment to suit your applications from these popular styles of trimming potentiometers. Also included in the package are adjustment tools and the latest product literature.

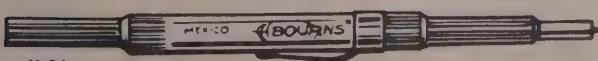


754-0001. Model H-800.....EACH 129.17

Trimmer Adjustment Tools



H-90

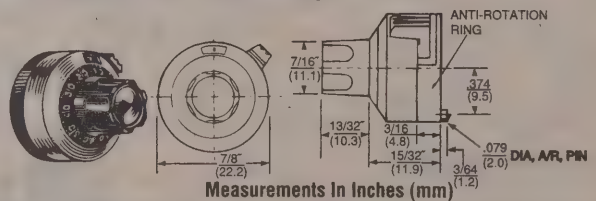


H-91

These glass-filled nylon body trim tools have corrosion resistant stainless steel blades which are extended as well as recessed for critical adjustments. Designed to adjust all sizes of trimmers. 5 inches long, .225 inches diameter.

754-0002. Model H-90.....EACH 1.54
754-0003. Model H-91.....EACH 1.54

Model H-507-6, Turns Counting Dial

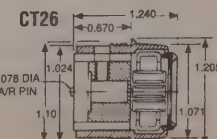
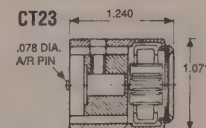


Measurements In Inches (mm)

Model H-507-6. Used with precision potentiometers or other rotating devices for up to 15 turns. 50 dial divisions per turn. 2 parts in 1000 readability. White on black marking; clear finish. 7/8" dia.; fits 1/4" shaft. **Fits Panel Thickness:** 3/32" (2.0 mm) min. 3/16" (5.0 mm) max. High quality rugged construction.

754-0004. 1-24.....EACH 22.14 25-49.....EACH 17.24
50-99.....EACH 14.08 100-Up.....EACH 11.91

CT23/CT26, Turns Counting Dials



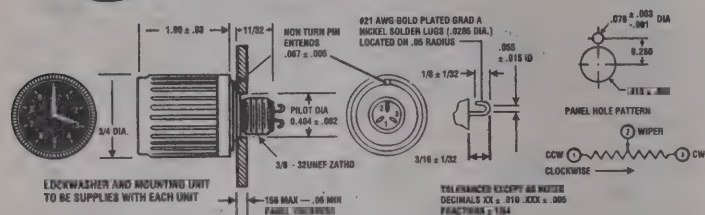
These highly accurate dials enhance the machine interface of any control panel. Excellent readability. White on black numerals. Accurate within 1/500 of a turn. White finish. Fits 1/4" shaft. **Model CT23:** Rear panel mount. **Model CT26:** Recessed mount. 0-10 turns.

Stock No.	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
754-0006	CT23	16.89	15.16	14.50	13.82
754-0007	CT26	17.10	15.35	14.68	13.99

Model 3600S KNOBPOT®



10 Turn; 1.5 watt; 3/4" dia. Highly readable integral clock face readout. Cost saving, pre-phased. Easy mounting; drill two holes, install and secure with lock washer and nut. **Power Rating:** 1.5 watts @ +25°C. **Tolerance:** ±5%. **Temperature Range:** -65°C to +85°C. **Temperature Coefficient:** ±50 ppm/°C.

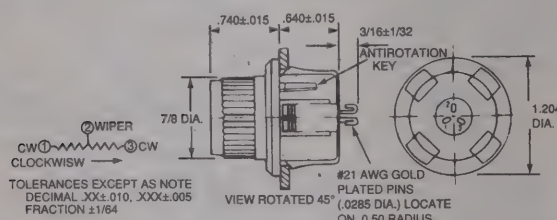


Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-99	100-Up
754-7555	3600S-1-102	1K	56.42	45.51	41.48
754-7565	3600S-1-502	5K	56.42	45.51	41.48
754-7570	3600S-1-103	10K	56.42	45.51	41.48

Model 3610S KNOBPOT®



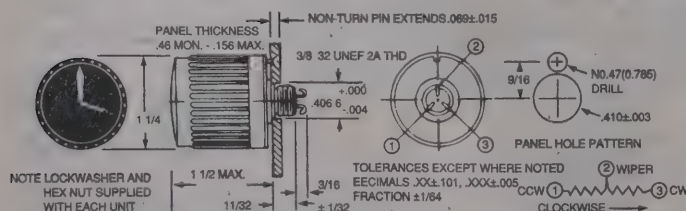
10 turn; 1.5 watt; 7/8" dia. Cost saving; space saving; easy one-hole, snap-in mounting with integral digital readout. **Temperature Range:** -25°C to +85°C. **Power Rating:** 1.5 watts @ +25°C. **Temperature Coefficient:** ±50 ppm/°C. **Tolerance:** ±5%. **Accuracy:** ±0.5%.



Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-99	100-Up
754-7655	3610S-1-102	1K	53.90	43.47	39.63
754-7665	3610S-1-502	5K	53.90	43.47	39.63
754-7670	3610S-1-103	10K	53.90	43.47	39.63

Model 3640S KNOBPOT®

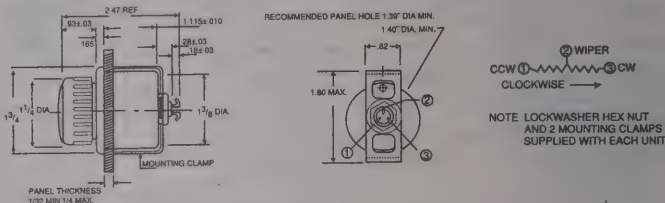
10 turn; 2.5 watt; 1 1/4" dia. Integral clock face readout. Cost saving; pre-phased; Highly readable. Easy mounting; drill two holes, install and secure with lock washer and nut. **Temperature Range:** -65°C to +85°C. **Power Rating:** 2.5 watts @ +25°C. **Tolerance:** ±3%. **Temperature Coefficient:** ±50 ppm/°C.



Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-99	100-Up
754-7750	3640S-1-102	1K	109.00	87.90	80.57
754-7755	3640S-1-202	2K	109.00	87.90	80.57
754-7760	3640S-1-502	5K	109.00	87.90	80.57
754-7765	3640S-1-103	10K	109.00	87.90	80.57

Model 3650S KNOBPOT®

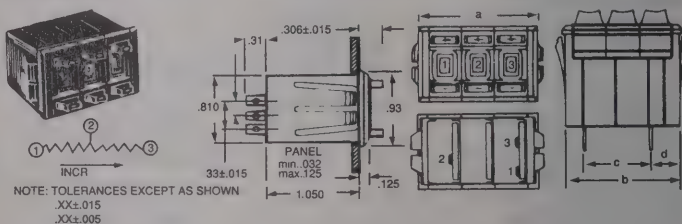
10 turn; 2.5 watt; 1 1/4" dia. Easy one-hole mounting with recessed cup furnished. Integral digital readout; cost saving; pre-phased; excellent readability. **Temperature Range:** -25°C to +85°C. **Temperature Coefficient:** ±50 ppm/°C. **Power Rating:** 2.5 watts @ +25°C. Output accuracy within 0.15% of total applied voltage. **Tolerance:** ±3%.



Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-99	100-Up
754-7850	3650S-1-102	1K	149.86	121.24	110.77
754-7860	3650S-1-502	5K	149.86	121.24	110.77
754-7865	3650S-1-103	10K	149.86	121.24	110.77

Models 3682 and 3683 KNOBPOTS®

Rear solder terminals fit standard interconnections. In-line digital readout. Convenient snap-in mounting with bezel. Rectangular to match other panel components. **Power Rating:** 2.0 watts @ +25°C. **Temperature Range:** -25°C to +85°C. **Temperature Coefficient:** ±100 ppm/°C. **Dielectric Strength:** 1000 VAC @ sea level. **Resistance Tolerance:** ±3%.



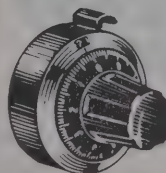
Two Decades

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-99	100-Up
754-7950	3682S-1-102	1K	20.24	19.52	16.81
754-7955	3682S-1-103	10K	20.24	19.52	16.81
754-7960	3682S-1-104	100K	20.24	19.52	16.81

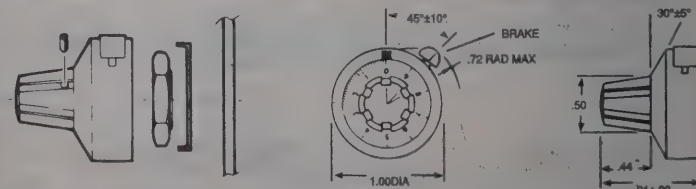
Three Decades

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-99	100-Up
754-7965	3683S-1-102	1K	35.80	28.87	24.86
754-7970	3683S-1-502	5K	35.80	28.87	24.86
754-7975	3683S-1-103	10K	35.80	28.87	24.86
754-7980	3683S-1-104	100K	35.80	28.87	24.86

H-490 Series Turns Counting Dials



1" dia. turn counting dials for use with precision potentiometers or other rotating devices up to 30 turns. Simplified mounting, no special holes required, uses only 1" dia. panel space. No backlash, mounted directly to shaft. Excellent legibility. Available with or without brake. Two set screws standard on all models. **Temperature Range:** -15°C to +85°C.



Stock No.	Mfr.'s Type	Finish	Shaft Dia.	Brake	EACH		
					1-24	25-99	100-Up
754-8065	H-492-3	Clear	1/4"	Yes	26.29	20.24	14.15
754-8075	H-493-3	Black	1/4"	Yes	26.29	20.24	14.15

MIL RV4, MIL RV6, MIL JA1N, MIL JA1L and 53C Potentiometers

MIL JA1N/JA1L Carbon Potentiometers

— NEW —

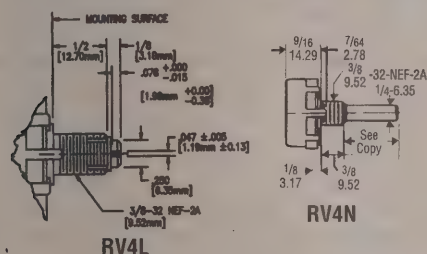
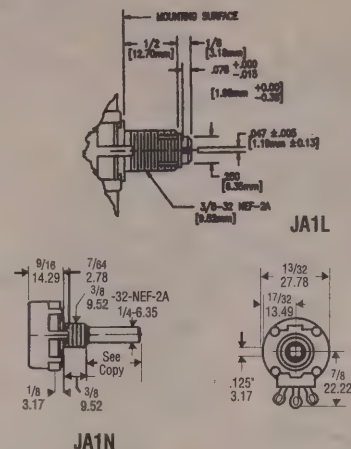
Type J hot-molded carbon composition potentiometers are used in industrial and military applications for reliable, dependable and exceptional service requirements. Meet MIL-R-94. JA1N Series has 3/8" bushing length with 1/4" dia., 7/8" long slotted shaft. JA1L Series has 1/2" bushing with 1/4" dia., 5/8" long slotted shaft. They are dust, corrosion and splash resistant. Made of non-magnetic material. Coated terminals. **Tolerance:** 10%. Linear taper. 2.25 watts. 100,000 rotations cycle life. Supplied with locating pin and hardware.

Ohms	JA1N Series		JA1L Series	
	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type
100	753-2200	JA1N056S101UA	753-2225	JA1L040S101UC
250	753-2201	JA1N056S251UA	753-2226	JA1L040S251UC
500	753-2202	JA1N056S501UA	753-2227	JA1L040S501UC
1000	753-2203	JA1N056S102UA	753-2228	JA1L040S102UC
2000	753-2204	JA1N056S202UA	753-2229	JA1L040S202UC
2500	753-2205	JA1N056S252UA	753-2230	JA1L040S252UC
5000	753-2206	JA1N056S502UA	753-2231	JA1L040S502UC
10 K	753-2207	JA1N056S103UA	753-2232	JA1L040S103UC
20 K	753-2208	JA1N056S203UA	753-2233	JA1L040S203UC

MIL Type	EACH			
	1-9	10-24	25-99	100-249
JA1N	28.80	26.19	24.00	22.25

Ohms	JA1N Series		JA1L Series	
	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type
25 K	753-2209	JA1N056S253UA	753-2234	JA1L040S253UC
50 K	753-2210	JA1N056S503UA	753-2235	JA1L040S503UC
100 K	753-2211	JA1N056S104UA	753-2236	JA1L040S104UC
250 K	753-2212	JA1N056S254UA	753-2237	JA1L040S254UC
500 K	753-2213	JA1N056S504UA	753-2238	JA1L040S504UC
1 Meg	753-2214	JA1N056S105UA	753-2239	JA1L040S105UC
2.5 Meg	753-2215	JA1N056S255UA	753-2240	JA1L040S255UC
5 Meg	753-2216	JA1N056S505UA	753-2241	JA1L040S505UC

MIL Type	EACH			
	1-9	10-24	25-99	100-249
JA1L	36.60	33.28	30.50	28.16



MIL-R-94 RV4 2-Watt and Commercial 53C Series Conductive Plastic Potentiometers

Crafted of the finest materials available to insure long, reliable service. Provides extra long life with very low noise level. Rated 2 watts. Precision construction is completely enclosed. Conductive plastic element. RV4L and 53C2 designate 5/8" screwdriver slotted shaft FMS with 1/2" split locking bushing. RV4N and 53C1 designate 7/8" screwdriver slotted shaft FMS with 3/8" long bushing. 53C1 designates 2" long round shaft FMS with 3/8" long bushing. All have 1/4" diameter shaft. **Average Shipping Weight:** 4 oz.

Specifications. Resistance Tolerance: 100 to 1 Meg — ±10%; over 1 Meg — ±20%. **Rotation:** 312° ±3%. **End Resistance:** Per MIL-R-94. **Working Voltage:** 500 VDC across end terminals: Linear Taper. **Tolerance:** ±20%.

Ohms	Military		Commercial	
	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type
100	753-1301	RV4NAYS101A	753-1230	53C1-100
250	753-1375	RV4NAYS251A	753-1231	53C1-250
500	753-1340	RV4NAYS501A	753-1235	53C1-500
1000	753-1305	RV4NAYS102A	753-1233	53C1-1000
2000	753-1355	RV4NAYS202A	753-1236	53C1-2000
2500	753-1380	RV4NAYS252A	753-1239	53C1-2500
5000	753-1445	RV4NAYS502A	753-1242	53C1-5000
10 K	753-1310	RV4NAYS103A	753-1232	53C1-10K
25 K	753-1385	RV4NAYS253A	753-1240	53C1-25K
50 K	753-1450	RV4NAYS503A	753-1243	53C1-50K
100 K	753-1315	RV4NAYS104A	753-1245	53C1-100K
250 K	753-1390	RV4NAYS254A	753-1246	53C1-250K
500 K	753-1455	RV4NAYS504A	753-1244	53C1-500K
1 Meg	753-1320	RV4NAYS105A	753-1247	53C1-1MEG
5 Meg	753-1360	RV4NAYS505B	753-1248	53C1-5MEG

Type	EACH			
	1-9	10-24	25-99	100-249
RV4N	7.80	6.80	5.90	4.10
RV4L	8.50	7.50	6.40	4.30

Ohms	Military		Commercial	
	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type
100	753-1001	RV4LAYS101A	753-1201	53C2-100
250	753-1075	RV4LAYS250A	753-1208	53C2-250
500	753-1140	RV4LAYS501A	753-1212	53C2-500
1000	753-1005	RV4LAYS102A	753-1202	53C2-1000
2000	753-1055	RV4LAYS202A	753-1204	53C2-2000
2500	753-1080	RV4LAYS252A	753-1209	53C2-2500
5000	753-1145	RV4LAYS502A	753-1213	53C2-5000
10 K	753-1010	RV4LAYS103A	753-1203	53C2-10K
25 K	753-1085	RV4LAYS253A	753-1206	53C2-25K
50 K	753-1050	RV4LAYS503A	753-1207	53C2-50K
100 K	753-1015	RV4LAYS104A	753-1210	53C2-100K
250 K	753-1090	RV4LAYS254A	753-1211	53C2-250K
500 K	753-1155	RV4LAYS504A	753-1214	53C2-500K
1 Meg	753-1020	RV4LAYS105A	753-1205	53C2-1MEG
5 Meg	753-1160	RV4LAYS505A	753-1215	53C2-5MEG

Type	EACH			
	1-9	10-24	25-99	100-249
53C1	7.80	6.80	5.90	4.10
53C2	8.50	7.50	6.40	4.30

Ohms	Military		Commercial	
	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type
100	—	—	753-1270	53C1-100
250	—	—	753-1271	53C1-250
500	—	—	753-1272	53C1-500
1000	—	—	753-1273	53C1-1000
2000	—	—	753-1274	53C1-2000
2500	—	—	753-1275	53C1-2500
5000	—	—	753-1276	53C1-5000
10 K	—	—	753-1277	53C1-10K
25 K	—	—	753-1278	53C1-25K
50 K	—	—	753-1279	53C1-50K
100 K	—	—	753-1280	53C1-100K
250 K	—	—	753-1281	53C1-250K
500 K	—	—	753-1282	53C1-500K
1 Meg	—	—	753-1283	53C1-1MEG
5 Meg	—	—	753-1284	53C1-5MEG

Type	EACH			
	1-9	10-24	25-99	100-249
53C1	8.40	7.40	6.30	4.30

RV6/392M Series 1/2-Watt MIL Potentiometers

Military Potentiometer. RV6/392M and RV6/382M Series 1/2-Watt conductive plastic. **RV6/392M Series.** Economical sealed potentiometers meet the flow solderability and washability test requirements, and MIL-R-94 apply where appropriate. QPL listed. Highly stable unit with high resolution for applications requiring miniaturization and reliability. 1/8" dia. metal shaft (7/8" long STD; 5/8" long on locking). 1/2" body diameter. **Dynamic Noise:** 1.5%. **Rotational Life:** 50,000 cycles. **Operating Temperature:** -40° to +120°C. **RV6/382M Series.** Same as above except with metal body. **Dynamic Noise:** 1%. **Operating Temperature:** -55° to +120°C. Other shaft lengths and styles, tolerances and tapers, resistance values and bushings available as special order items.

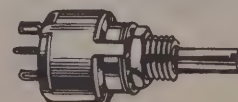
Specifications. Resistance Tolerance: ±10%. **Power Rating:** 0.5 watt @ 70°C. Derated to zero power @ 120°C. **Electrical and Mechanical Rotation:** 295° ±5°. **Effective Rotation:** 265° ±0° -10°. **End Resistance:** 5 max. — up to 750; 10 max. — above 750. **Functional Output:** Linear. **Dielectric Strength:** 750 VAC for 60 seconds @ ATM; 350 VAC for 60 seconds. 3.44 in H.G. **Working Voltage:** 350 VDC maximum, but power not to exceed rating. Available with standard or locking type bushing. RV6L — locking bushing; RV6N — standard bushing.

RV6/382M Series

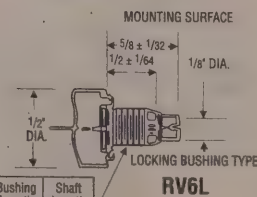
Ohms	RV6N Series		RV6L Series	
	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type
100	753-2120	RV6NAYS101A	753-2150	RV6LAYS101A
250	753-2121	RV6NAYS251A	753-2151	RV6LAYS251A
500	753-2122	RV6NAYS501A	753-2152	RV6LAYS501A
1000	753-2123	RV6NAYS102A	753-2153	RV6LAYS102A
5000	753-2124	RV6NAYS202A	753-2154	RV6LAYS202A
10 K	753-2125	RV6NAYS103A	753-2155	RV6LAYS103A
25 K	753-2126	RV6NAYS253A	753-2156	RV6LAYS253A
50 K	753-2127	RV6NAYS503A	753-2157	RV6LAYS503A
100 K	753-2128	RV6NAYS104A	753-2158	RV6LAYS104A
500 K	753-2129	RV6NAYS504A	753-2159	RV6LAYS504A
1 Meg	753-2130	RV6NAYS105A	753-2160	RV6LAYS105A

RV6/392M Series

Ohms	RV6N Series		RV6L Series	
	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type
100	753-2101	RV6NAYS101A-P	753-3101	RV6LAYS101A-P
250	753-2251	RV6NAYS251A-P	753-3251	RV6LAYS251A-P
500	753-2501	RV6NAYS501A-P	753-3501	RV6LAYS501A-P
1000	753-2102	RV6NAYS102A-P	753-3102	RV6LAYS102A-P
5000	753-2502	RV6NAYS202A-P	753-3502	RV6LAYS202A-P
10 K	753-2103	RV6NAYS103A-P	753-3103	RV6LAYS103A-P
25 K	753-2253	RV6NAYS253A-P	753-3253	RV6LAYS253A-P
50 K	753-2503	RV6NAYS503A-P	753-3503	RV6LAYS503A-P
100 K	753-2104	RV6NAYS104A-P	753-3104	RV6LAYS104A-P
500 K	753-2504	RV6NAYS504A-P	753-3504	RV6LAYS504A-P
1 Meg	753-2105	RV6NAYS105A-P	753-3105	RV6LAYS105A-P



RV6N



RV6L

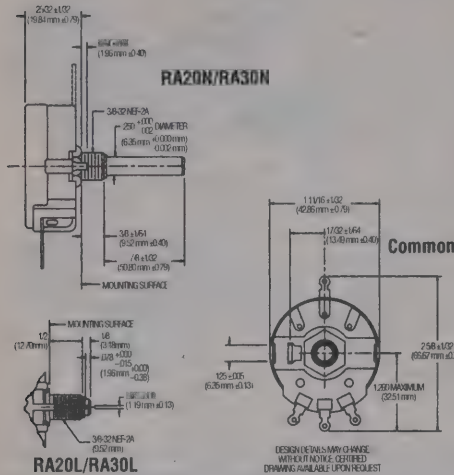
MIL Type	EACH			
	1-9	10-24	25-99	100-249
RV6N	12.90	11.30	9.70	7.90
RV6L	14.30	12.50	10.70	8.70
RV6N-P	8.80	7.70	6.60	4.40
RV6L-P	9.40	8.20	7.10	4.80

Series RA Wirewound Potentiometers

The RA30 is the Military 4-watt version of the 58C Series. The RA20 Series is a 2-watt potentiometer and meets strict military standard MIL-R-19. The RA30NASD Series has 1/4" dia., 7/8" long FMS slotted shaft with 3/8" long bushing with 3/8-32 NEF-2A threads. The RA30LASB Series has 1/4" dia., 5/8" long FMS screwdriver slotted shaft with 1/2" long split locking bushing with 3/8-32 NEF-2A threads. Hardware not supplied. The RA20NASD Series has 1/4" dia., 7/8" long FMS slotted shaft with 3/8" long bushing with 3/8-32 NEF-2A threads. The RA20LASB Series has 1/4" dia., 5/8" long FMS screwdriver slotted shaft with 1/2" long split locking bushing with 3/8-32 NEF-2A threads. **Specifications. Operating Temperature:** -55°C to 105°C. **Tolerance:** 10%. **Standard Effective Rotation:** 280°. **Electrical Rotation:** 300°. Hardware not supplied.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
753-0370	RA20NASD101A	100	24.44	22.81	18.01
753-0372	RA20NASD251A	250	24.44	22.81	18.01
753-0374	RA20NASD501A	500	24.44	22.81	18.01
753-0376	RA20NASD102A	1 K	24.44	22.81	18.01
753-0378	RA20NASD202A	2 K	24.44	22.81	18.01
753-0380	RA20NASD252A	2.5 K	24.44	22.81	18.01
753-0382	RA20NASD502A	5 K	24.44	22.81	18.01
753-0384	RA20NASD103A	10 K	24.44	22.81	18.01
753-0390	RA20LASB101A	100	26.39	24.63	19.45
753-0392	RA20LASB201A	200	26.39	24.63	19.45
753-0394	RA20LASB251A	250	26.39	24.63	19.45
753-0396	RA20LASB501A	500	26.39	24.63	19.45
753-0398	RA20LASB102A	1 K	26.39	24.63	19.45
753-0400	RA20LASB202A	2 K	26.39	24.63	19.45
753-0402	RA20LASB252A	2.5 K	26.39	24.63	19.45
753-0404	RA20LASB502A	5 K	26.39	24.63	19.45
753-0406	RA20LASB103A	10 K	26.39	24.63	19.45
753-0416	RA30NASD100A	10	34.61	32.30	25.50
753-0418	RA30NASD250A	25	34.61	32.30	25.50

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
753-0420	RA30NASD500A	50	34.61	32.30	25.50
753-0422	RA30NASD101A	100	34.61	32.30	25.50
753-0424	RA30NASD501A	500	34.61	32.30	25.50
753-0426	RA30NASD102A	1 K	34.61	32.30	25.50
753-0428	RA30NASD202A	2 K	34.61	32.30	25.50
753-0430	RA30NASD252A	2.5 K	34.61	32.30	25.50
753-0432	RA30NASD502A	5 K	34.61	32.30	25.50
753-0434	RA30NASD103A	10 K	34.61	32.30	25.50
753-0436	RA30NASD203A	20 K	34.61	32.30	25.50
753-0438	RA30NASD253A	25 K	34.61	32.30	25.50
753-0450	RA30LASB250A	25	35.77	33.39	26.36
753-0452	RA30LASB500A	50	35.77	33.39	26.36
753-0454	RA30LASB101A	100	35.77	33.39	26.36
753-0456	RA30LASB201A	200	35.77	33.39	26.36
753-0458	RA30LASB501A	500	35.77	33.39	26.36
753-0460	RA30LASB102A	1 K	35.77	33.39	26.36
753-0462	RA30LASB502A	5 K	35.77	33.39	26.36
753-0464	RA30LASB253A	25 K	35.77	33.39	26.36

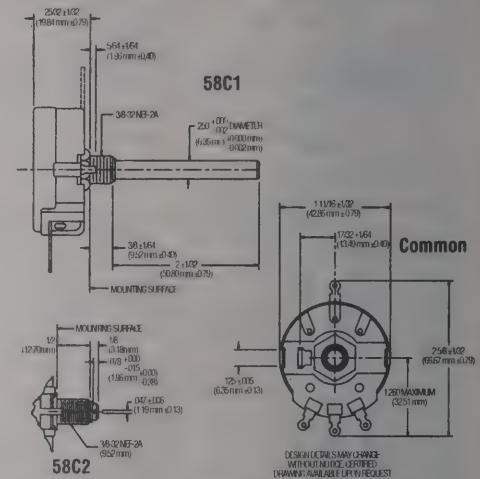


Series 58 4-Watt Wirewound Potentiometers

58C Series potentiometers are an industrial grade 4-watt potentiometer. 58C1 Series has 1/4" dia., 2" long round shaft FMS with 3/8" long bushing with 3/8-32 NEF-2A threads. 58C2 Series has 1/4" dia., 5/8" long screwdriver slotted shaft FMS with 1/2" long split locking bushing with 3/8-32 NEF-2A threads. **Specifications. Operating Temperature:** -55°C to 105°C. **Tolerance:** 5%. **Standard Effective Rotation:** 280°. **Electrical Rotation:** 300°. Hardware not supplied.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
753-0470	58C1-10	10	37.73	35.21	27.80
753-0472	58C1-25	25	37.73	35.21	27.80
753-0474	58C1-50	50	37.73	35.21	27.80
753-0476	58C1-100	100	37.73	35.21	27.80
753-0478	58C1-200	200	37.73	35.21	27.80
753-0480	58C1-500	500	37.73	35.21	27.80
753-0482	58C1-1K	1 K	37.73	35.21	27.80
753-0484	58C1-2K	2 K	37.73	35.21	27.80
753-0486	58C1-2.5K	2.5 K	37.73	35.21	27.80
753-0488	58C1-5K	5 K	37.73	35.21	27.80
753-0490	58C1-10K	10 K	37.73	35.21	27.80
753-0492	58C1-20K	20 K	42.82	39.96	31.55

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
753-0494	58C1-25K	25 K	42.82	39.96	31.55
753-0496	58C1-50K	50 K	60.79	56.74	44.79
753-0510	58C2-50	50	42.03	39.23	30.97
753-0512	58C2-100	100	42.03	39.23	30.97
753-0514	58C2-500	500	42.03	39.23	30.97
753-0516	58C2-1K	1 K	42.03	39.23	30.97
753-0518	58C2-2K	2 K	42.03	39.23	30.97
753-0520	58C2-2.5K	2.5 K	42.03	39.23	30.97
753-0522	58C2-5K	5 K	42.03	39.23	30.97
753-0524	58C2-10K	10 K	42.03	39.23	30.97
753-0526	58C2-25K	25 K	46.73	43.61	34.43
753-0528	58C2-50K	50 K	66.65	62.21	49.11



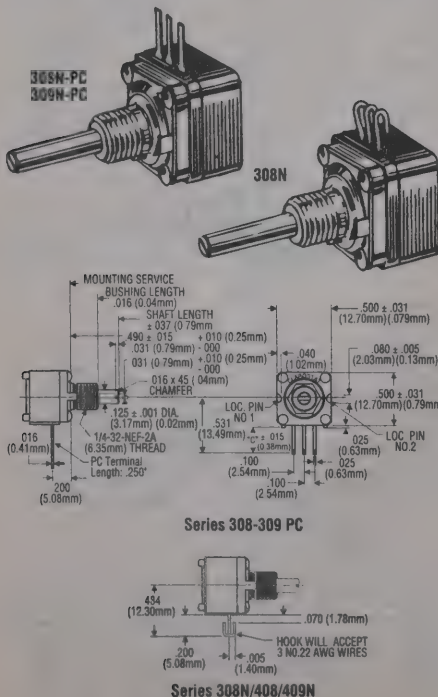
308/309/408/409 Series Potentiometers

The 308 and 309 series potentiometers are high performance, low cost potentiometers. The 408 and 409 series are high performance potentiometers designed for wave soldering applications for mounting to PC boards. The 308 and 408 are 0.5 watt with conductive plastic element and the 309 and 409 are 1.0 watt with thick film cermet element. All feature a compact 1/2" miniature, modular size. They are cost effective with design simplicity through fewer component parts. Horizontal or vertical mounting with support plates. Nickel-plated brass shaft and bushings in various diameters and lengths. Insert molded gold plated terminals for strength. The conductive element is precision made using screen printed conductive elements. The stability for the 308 and 408 series is -40° to +150°C. Both the 308 and 309 have solvent resistant housing, but are not immersion sealed. Both the 408 and 409 have O-ring shaft seal and the entire unit is sealed for wave solder and wash processing. 295° ± 5° electrical rotation. 350 VDC across end terminals, but power not to exceed rating. N=non-locking 1/4" dia. × 1/4" long bushing with 1/8" dia. × 3/4" long (FMS) slotted shaft. L=locking 3/8" dia. × 1/4" long bushing with 1/8" dia. × 7/16" long (FMS) slotted shaft. NS=S.P.D.T. rotary switch. PPS=push-pull S.P.D.T. switch. 309 for 409 locking bushing available as special order. Also available as special order with S.P.S.T. or S.P.D.T. switches up to three multiple sections, log tapers and reverse log tapers. 408 and 409 available with PC pins as special order. Call Allied for price and delivery info on custom parts. Manufacturers literature and catalog available on request.

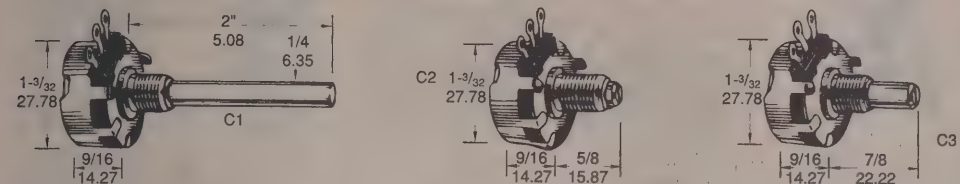
Stock No.	Mfr.'s Type	Stocked Resistance Values	EACH		
			1-9	10-24	25-49
753-26XX	308N	100, 250, 500, 1 K, 2.5 K, 5 K, 10 K, 25 K, 50 K, 100 K, 250 K, 500 K, 1 Meg, 2.5 Meg, 5 Meg	8.40	6.60	5.60
753-27XX	308N-PC	100, 250, 500, 1 K, 2.5 K, 5 K, 10 K, 25 K, 50 K, 100 K, 250 K, 500 K, 1 Meg, 2.5 Meg, 5 Meg	8.60	6.70	5.70
753-28XX	308L	500, 1 K, 5 K, 10 K, 25 K, 50 K, 100 K, 250 K, 500 K	8.70	6.80	5.80
753-29XX	309N-PC	100, 250, 500, 1 K, 2.5 K, 5 K, 10 K, 25 K, 50 K, 100 K, 250 K, 500 K, 1 Meg, 2.5 Meg, 5 Meg	8.90	7.00	5.90
753-07XX	408N	500, 1 K, 2.5 K, 5 K, 10 K	33.17	18.33	15.55
753-07XX	408NS	500, 1 K, 2.5 K, 5 K, 10 K	48.65	26.88	22.76
753-07XX	408NPPS	500, 1 K, 2.5 K, 5 K, 10 K	65.10	36.05	30.49
753-07XX	409N	500, 1 K, 2.5 K, 5 K, 10 K	33.97	19.78	16.69

Resistance Chart

Ohms	XX	Ohms	XX	Ohms	XX
100	10	5 K	35	250 K	60
250	15	10 K	40	500 K	65
500	20	25 K	45	1 M	70
1 K	25	50 K	50	2.5 M	75
2.5 K	30	100 K	55	5 M	80



2-Watt Series 380 Thick Film Conductive Plastic Called the "Quiet Ones"



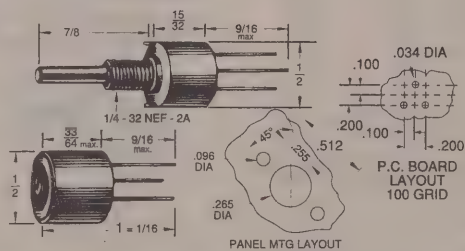
These quiet, precision-made potentiometers are made by a controlled process that virtually insures a reliable, homogeneous and strain-free resistance element with 1% dynamic noise and 5% independent linearity. All have stainless steel shafts. **Type C1** has 2" round shaft FMS. $\frac{3}{8}$ " long bushing with $\frac{3}{8}$ " $\times$ 32. NEF-2A thread. **Type C2** has $\frac{5}{8}$ " screwdriver slotted shaft FMS with a $\frac{1}{2}$ " split locking bushing. **Type C3** has $\frac{7}{8}$ " screwdriver shaft FMS $\frac{3}{8}$ " long bushing with $\frac{3}{8}$ " $\times$ 32-NEF-2A thread. **Resistance Tolerance:** up to 1 megohm $\pm 10\%$, above $\pm 20\%$. **Dielectric Strength:** 1000 VAC. **Weight:** 1 oz.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-49	50-99
753-5023	380-C1-100-S	100	14.80	12.82	11.25
753-5029	380-C1-250-S	250	14.80	12.82	11.25
753-5035	380-C1-500-S	500	14.80	12.82	11.25
753-5047	380-C1-1000-S	1000	14.80	12.82	11.25
753-5053	380-C1-2500-S	2500	14.80	12.82	11.25
753-5059	380-C1-5000-S	5000	14.80	12.82	11.25
753-5061	380-C1-10K-S	10K	14.80	12.82	11.25
753-5067	380-C1-25K-S	25K	14.80	12.82	11.25
753-5073	380-C1-50K-S	50K	14.80	12.82	11.25
753-5075	380-C1-100K-S	100K	14.80	12.82	11.25
753-5083	380-C1-500K-S	500K	14.80	12.82	11.25
753-5087	380-C1-1 Meg-S	1Meg	14.80	12.82	11.25
753-5147	380-C2-1K	1000	18.14	15.72	13.78
753-5159	380-C2-5K	5000	18.14	15.72	13.78

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-49	50-99
753-5161	380-C2-10K	10K	18.14	15.72	13.78
753-5173	380-C2-50K-S	50K	18.14	15.72	13.78
753-5175	380-C2-100K-S	100K	18.14	15.72	13.78
753-5223	380-C3-100-S	100	14.60	12.65	11.09
753-5235	380-C3-500-S	500	14.60	12.65	11.09
753-5247	380-C3-1000-S	1000	14.60	12.65	11.09
753-5253	380-C3-2500-S	2500	14.60	12.65	11.09
753-5259	380-C3-5000-S	5000	14.60	12.65	11.09
753-5261	380-C3-10K-S	10K	14.60	12.65	11.09
753-5267	380-C3-25K-S	25K	14.60	12.65	11.09
753-5273	380-C3-50K-S	50K	14.60	12.65	11.09
753-5275	380-C3-100K-S	100K	14.60	12.65	11.09
753-5283	380-C3-500K-S	500K	14.60	12.65	11.09
753-5287	380-C3-1 Meg-S	1Meg	14.60	12.65	11.09

Series 392 Immersible 0.5 Watt Potentiometers

Economical potentiometer designed to meet wave soldering applications for mounting to PC boards. Meets flow solderability and washability test requirements. MIL-R-94 standards apply where applicable. **Resistance Tolerance:** Linear, up to 1 Meg ohm $\pm 10\%$, above 1 Meg to 5 Meg $\pm 20\%$. Tapers, up to 250K $\pm 10\%$, above 250K to 5 Meg $\pm 20\%$. **Resistance Range:** 100 ohm to 5 Meg ohm, linear, 500 ohm to 2 Meg ohm, tapered. **Power Rating:** 0.5 watt maximum continuous power rating for linear taper, but voltage not to exceed rating. **Working Voltage:** 350 VDC across end terminals, but power not to exceed rating. **Linearity:** $\pm 5\%$ Independent. **Torque Range:** .20 to 2.0 oz. in. **Shafts, Standard:** .125 dia. **Solvent Resistance:** Housing resistant to trichlorethylene, chloroethane, NU Freon TMS, Freon TMC, carbon tetrachloride, toluene, MEK ethylacetate and gasoline.



Stock No.	Mfr.'s Type	Resistance Values (Ohms)	Description	EACH		
				1-9	10-49	50-99
753-94XX	392JA	See Table A	$\frac{7}{8}$ " long shaft FMS, screwdriver slotted metal bushing and shaft, P.C. terminals	9.06	7.95	6.97
753-95XX	392JB	See Table A	Same as 392JA but with plastic shaft and bushing	6.94	5.96	5.23
753-96XX	392-5	See Table A	Trimmer version, plastic shaft and faceplate	6.18	5.42	4.75

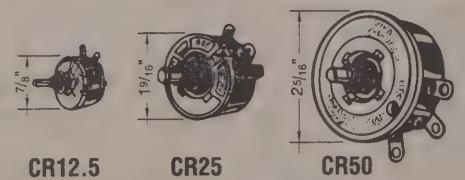
Table A Complete the Stock Number by placing the designated Resistance Code for Ohms value where XX appears in Stock Number.

Value	RC	Value	RC	Value	RC	Value	RC	Value	RC	Value	RC	Value	RC
100	21	500	26	2.5K	33	10K	41	50K	53	250K	63	1Meg	70
250	23	1K	29	5K	38	25K	45	100K	59	500K	67	5Meg	90

†Not available in 392JB series.

Series CR Rheostats

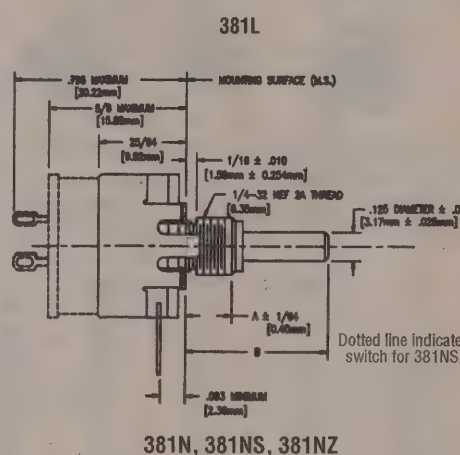
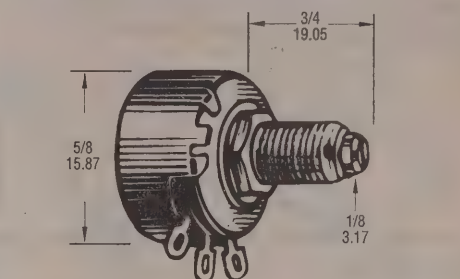
The CR series of rheostats is ideal for use over long periods of time. Features vitreous enamel to bond the core and base, wiper tracks are buffered to assure smooth rotation and uniform contact, three terminals for potentiometer applications, and minimum backlash. The series is made in accordance to MIL-R-22. The 25 and 50 watt models are UL approved. The 12.5 watt units are not UL approved. $\pm 10\%$ resistance tolerance. High strength ceramic hub insulates the shaft and bushing from all line parts.



Stock No.	Mfr.'s Type	Watts	Ohms	EACH	
				1-9	10-24
753-0600	CR-12.5 25	12.5	25	15.96	14.00
753-0602	CR-12.5 50	12.5	50	15.96	14.00
753-0604	CR-12.5 75	12.5	75	15.96	14.00
753-0606	CR-12.5 100	12.5	100	15.96	14.00
753-0608	CR-12.5 250	12.5	250	15.96	14.00
753-0610	CR-12.5 500	12.5	500	17.86	15.67
753-0614	CR-25 10	25	10	18.70	16.40
753-0616	CR-25 25	25	25	17.02	14.93
753-0618	CR-25 50	25	50	17.02	14.93
753-0622	CR-25 100	25	100	17.02	14.93

Stock No.	Mfr.'s Type	Watts	Ohms	EACH	
				1-9	10-24
753-0624	CR-25 250	25	250	17.02	14.93
753-0626	CR-25 500	25	500	17.02	14.93
753-0628	CR-25 1000	25	1000	17.02	14.93
753-0632	CR-25 2500	25	2500	18.90	16.58
753-0634	CR-25 5000	25	5000	18.90	16.58
753-0636	CR-25 10K	25	10K	19.32	16.95
753-0640	CR-50 50	50	50	21.22	18.61
753-0646	CR-50 500	50	500	21.22	18.61
753-0648	CR-50 1000	50	1000	21.22	18.61

Series 381 1-Watt $\frac{5}{8}$ " Diameter Thick Film Conductive Plastic



- Precision Machined from Corrosion Resistant and Non-Magnetic Materials
- Rotational Life 100,000 Cycles Under Load
- Homogeneous, Strain-Free Thick-Film Resistance Element with 1% Dynamic Noise, 5% Independent Linearity
- Meets Stringent MIL-R-94 Specifications

381N has plain $\frac{1}{4}$ " long bushing with $\frac{1}{4}$ -32NEF-2A thread and $\frac{1}{8}$ " dia. $\frac{3}{4}$ " (FMS) long shaft. 381L is a locking bushing that has $\frac{3}{8}$ " long bushing with $\frac{1}{4}$ -32NEF-2A thread and long $\frac{1}{8}$ " dia. $\frac{7}{16}$ " (FMS) shaft. D381 is the same as the 381N but is dual ganged using the same resistance value for both sections. Dimensions are the same as 381N except total depth is $\frac{49}{64}$ " ($\pm \frac{1}{32}$). 381NS is the same as the 381N except it includes a factory attached SPST switch (1 A, 125 V AC/DC). 381N-Z is the same as the 381N except using a Z-taper. Dust and splash proof housing. Cover is sealed to base with epoxy seal. Terminals are molded into base and sealed for solderability per MIL-STD-202, Method 208B. **Resistance Tolerance:** $\pm 10\%$ through 500 K; $\pm 20\%$ above 500 K.

Stock No.	Mfr.'s Type	Std. Resis. Values Ohms (See Table A)	EACH		
			1-9	10-49	50-99
753-80XX	D381	5K, 10K	26.06	22.76	19.57
753-81XX	381NS	1K, 5K, 10K, 50K, 100K, 1M	18.75	16.48	14.11
753-82XX	381N-Z	2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 1M	11.43	9.99	8.55
753-83XX	381N	100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 100K, 1M, 2.5M, 5M	10.09	8.86	7.62
753-84XX	381L	100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 500K	11.33	9.89	8.45

Table B Complete the Stock Number by placing the designated Resistance Code for Ohms value where XX appears in Stock Number. Check values available in the table below.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
250	29	5K	59	100K	75	2.5M	90
500	35	10K	61	250K	81	5M	95
1K	47	25K	67	500K	83	—	—
2.5K	53	50K	73	1M	87	—	—

10-Turn 1" Dia. Concentric Scale Dials

Calibrated dials designed for multi-turn potentiometers up to ten turns. Requires only one inch of panel space. Knob attaches directly to the shaft, and the body of the dials is mounted rigidly to the panel. **Mounting Requirements:** 1/4" shaft and 3/8" 32-NEF-2A bushing.



Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
753-0007	411	Black Anodize, No Lock	19.22	18.06	16.91	11.45
753-0008	412	Black Anodize, With Lock	19.85	17.54	17.54	12.50
753-0009	461	Clear Anodize, No Lock	19.22	18.06	16.91	11.45
753-0010	462	Clear Anodize, With Lock	19.85	17.54	17.54	12.50

Claroknobs

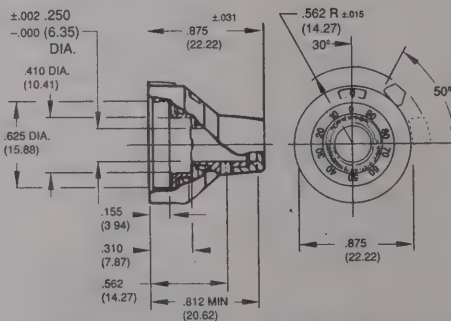
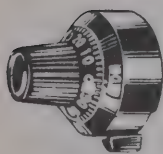


The Claroknob is a high quality knob fabricated from machined aluminum. Manufactured to enhance products, the Claroknob comes in a variety of styles for your requirements. HD series is a control knob with a sawcut indicator. JD series is a straight knurl with top and side indicator. DD series is a straight knurl with side indicator. The DDS series is a straight knurl with arrow on skirt. Stainless-steel setscrews are standard. One setscrew for HD series and two setscrews for JD, DD, DDS series. For use with 1/8" or 1/4" diameter shafts. Anodized in clear or black, gloss or matte finishes.

Stock No. *	Mfr.'s Type	Knob Dia.	Overall Height	EACH		
				1-49	50-99	100-Up
753-06XY	HD-50†	.500	1.000	3.50	3.23	3.00
753-07XY	HD-75†	.750	1.000	4.38	4.05	3.76
753-08XY	HD-90†	.925	1.000	4.90	4.52	4.20
753-09XY	JD-50	.500	.625	2.98	2.75	2.56
753-15XY	JD-75	.750	.625	3.15	2.91	2.70
753-16XY	JD-90	.925	.625	3.68	3.40	3.16
753-17XY	DD-50	.500	.625	2.98	2.75	2.56
753-18XY	DD-75	.750	.625	3.15	2.91	2.70
753-19XY	DD-90	.925	.625	3.68	3.40	3.16
753-20XY	DDS-50	.500	.625	4.03	3.72	3.46
753-23XY	DDS-75	.750	.625	4.20	3.88	3.60
753-24XY	DDS-90	.925	.625	4.55	4.20	3.90

*NOTE: To complete stock number replace the letter with the number of the option desired. For X: 5=1/4" shaft; 6=1/8" shaft. For Y: 1=Clear, 2=Black, 3=Matte Clear, 4=Matte Black. †For matte finish, add \$.20 each.

Clarodials



A high quality concentric scale dial designed to be used in conjunction with the 73JB multiturn potentiometer, the series 316 is available in clear brushed metal design or black anodized metal with white numerals at slightly higher cost. Price inducements are available when the 73JB and 316 dial are purchased together as a set.

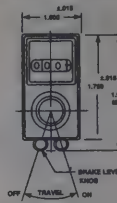
Readout and Operation: Unit shall register a total count of 15 turns. The number in the window (0-14) indicates completed number of turns of the drive sleeve. Graduated circular dial indicates the percent of a partial turn of the drive sleeve. **Transfer Point:** The number in center of window shall change as graduated dial rotates between 94 and 0. **Rotation:** Readout shall increase with clockwise and decrease with counterclockwise rotation. **Brake Lever Operation:** 1st Position (15° movement of Brake Lever) operates a high torque system for fine adjustment; 2nd Position (15° additional movement of Brake Lever) actuates brake. **Accuracy:** Backlash shall be zero between graduated dial and drive sleeve. **Mounting:** Install mounting bracket between panel and panel nut. Clarodial shall mount directly to shaft with No. 2-56 spline socket set screw, located adjacent to No. 50 on graduated dial. **Numerical Size:** 0.075 high. **Graduation Size:** Numerical graduations .045 long (1.14) intermediate graduations .030 long (0.76). **Finish:** Exposed metal parts—Brushed metal finish; Turning knob and brake lever knob—Black plastic. **Numerals:** Graduated Dial—black; Turns Counter—white on black background. **Weight:** 0.7 oz. max. (19.84 gm).

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-49	50-99
753-0300	316-11	Clear Anodized	15.23	14.06	13.06	12.19
753-0301	316-12	Black Anodized	2.170	20.03	18.60	17.36

Potentiometers, Decade Box, Knobs and Dials

Digital Readout Dials

Digi-Dials are designed for multi-turn potentiometers. Removable knob exposes end of component shaft for precise phasing. Positive breaking action and large, highly readable numbers. **Mounting Requirements:** 1/4" shaft and 3/8" 32-NEF-2A bushing.



Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
753-0005	DR300	3 Digit Metallic Finish	30.45	28.11	26.10	24.36
753-0006	DR400	4 Digit Metallic Plastic	40.95	37.60	35.10	32.76

Resistor Decade Box



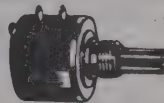
- 1 to 999,999 Ohms in One-Ohm Intervals
- Dissipates Up to 225 Watts
- Terminals Accept 3 Kinds of Connections
- Wirewound Resistors Used Throughout

Model 240-C Bench Type

Allows selection of any value from 1 to 999,999 ohms in one-ohm increments. Six dials read Rx1, Rx10, Rx100, Rx1 K, Rx10 K and Rx100 K for quick setting and quick readout. Dissipates up to 225 W; max VDC 1000, or 660 VAC per decade, 2% tol. except Rx1 decade, 5%. Max. current rate range from 5 A for Rx1 to .005 A for Rx100 K. Rugged, long-lasting wirewound power resistors used throughout. Two sets of terminals accept any of the following: banana plugs, spade lugs or plain wire connections. 8 1/2" x 13" x 5 3/4". **Shipping Weight:** 1 1/4 lbs.

753-7840EACH 885.00

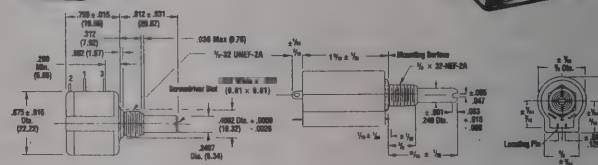
2 Watt Wirewound Precision 10-Turn Potentiometers



73JA/73JB



62JA



The 73 series is a 2-watt precision 10-turn potentiometer. The 73JB is the economical version of the 73JA, offering all the electrical features of the 73JA, but employing a long life nylon shaft construction. The 73JB has a metal bushing with glass filled black nylon shaft. The 73JA has a stainless steel shaft and metal bushing. Both shafts are 1/4" dia. 13 1/8" long FMS and have 5/16" plain threaded bushing, screwdriver slots, and 50,000 cycles rotational life. End resistance is 0.3% of total resistance or 1Ω, whichever is greater. 5% tolerance. 500 WV max. **To complete stock number, see Table B.**

Stock No.	Mfr.'s Type	Power Rating	Working Voltage	Stop Torque	Resistance Values (Ohms) See Table B	EACH		
						1-9	10-49	50-99
753-02XX	73JA	2 Watt @ 70°C	500V max	75 oz.-in.	100, 200, 500, 1K, 2K, 5K	13.90	11.58	10.69
					10K, 20K	18.58	15.48	14.29
					25K, 50K	19.40	16.17	14.92
753-03XX	73JB	—	—	—	100, 200, 500, 1K, 2K, 5K	11.04	9.20	8.49
					10K, 20K	11.22	9.35	8.63
					25K, 50K	12.14	10.12	9.34

62JA 10 Turn Potentiometer Type 62JA. 3/8" plain busing. **Slotted shaft:** 15/16" FMS. 100,000 shaft revolutions life. Sleeve bearings. **Functional Output:** Linear. **Absolute Linearity:** ±0.25%. **Power Dissipation:** 2 watts at 25°C.

Stock No.	Mfr.'s Type	Resistance Values (Ohms) See Table B	Resis. Tol.	Stop Torque	Effective Rotation	EACH		
						1-9	10-49	50-99
753-01XX	62JA	100, 200, 250	± 5%	50 oz.-in.	3600°	116.85	106.23	85.69
		500, 1K, 2K, 2.5K, 5K, 10K, 20K, 25K				110.44	100.40	80.99
		30K, 50K				116.11	105.55	85.15
		100K				130.65	118.78	95.81

Table B - Important Ordering Information

To Order: Complete the Stock Number shown by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows what ohm values are available.

Value	XX	Value	XX	Value	XX	Value	XX	Value	XX
100	21	500	26	2.5K	33	20K	44	50K	53
200	22	1K	29	5.0K	38	25K	45	100K	59
250	23	2K	32	10.0K	41	30K	46	—	—

Clarotrim Trimmers

- Superior Setability and Stability
- Temp. Coeff. of $\pm 100\%$ PPM/ $^{\circ}\text{C}$

- CRV of 3% or 3 Ω
- Sealed for Cleaning in Common Solvents

SPECIFICATIONS. Per MIL-R-22097 where (para.) is noted. **SERIES 335.** 0.5 Watt. Single turn. Tolerance: $\pm 10\%$. Effective Travel: 230 $^{\circ}$ nominal. Weight: .03 oz. **SERIES 343P.** Low profile, .5 Watt. Rectangular cermet. Effective Travel: 20 turns nominal. Resistance Tolerance: $\pm 10\%$. Power Rating: 0.75 Watt at 70 $^{\circ}\text{C}$. Stops: Wiper idles against stops. Weight: 0.04 oz. (1.2 g) maximum. **SERIES 363.** $\frac{3}{8}$ " square, .5 Watt Cermet. Effective Travel: 270 nominal. Resistance Tolerance: 20% ($\pm 10\%$ available). Power Rating: 0.5 Watt at 70 $^{\circ}\text{C}$. Stops: Solid. Weight: 0.03 oz. (0.85 g) maximum. **SERIES 364.** $\frac{3}{8}$ " square, .5 Watt. Multiturn cermet. Effective Travel: 25 turns nominal. Resistance Tolerance: 10%. Power Rating: 0.5 Watt at 85 $^{\circ}\text{C}$. Stops: Contact idles at stops. Weight: 0.04 oz. (1.13 g) maximum. **SERIES 370.** High stability, 1 Watt. Multiturn cermet. Effective Travel: 20 turns nominal (para. 3.8). Resistance Tolerance: 10% (para. 3.7.1.). Power Rating: 1.0 Watt at 85 $^{\circ}\text{C}$. Stops: Wiper idles against stops. Weight: 0.116 oz. (3.3 g) maximum. 363, 364 and 335 series have 0.10" line spacing.

Refer to Table A to complete Stock Number for ordering.

Stock No.	Mfr.'s Type	EACH			
		1-9	10-49	50-99	100-Up
753-40XX	343P	1.76	1.43	1.25	1.10
753-41XX	363M	1.76	1.43	.99	.87
753-42XX	363P	1.76	1.43	.99	.87
753-43XX	363X	1.76	1.43	.99	.87
753-44XX	364P	2.31	2.10	1.86	1.64
753-45XX	364W	2.31	2.10	1.86	1.64
753-46XX	364X	2.31	2.10	1.86	1.64
753-47XX	364Y	2.31	2.10	1.86	1.64
753-36XX	335H	1.80	1.47	1.60	1.41
753-37XX	335P	1.80	1.47	1.60	1.41
753-38XX	335T	1.80	1.47	1.60	1.41
753-38XX	370L	5.39	4.89	4.31	3.79
753-39XX	370Y	5.39	4.89	4.31	3.79

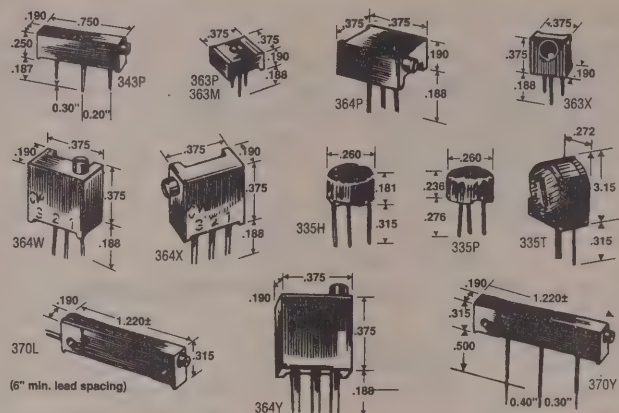
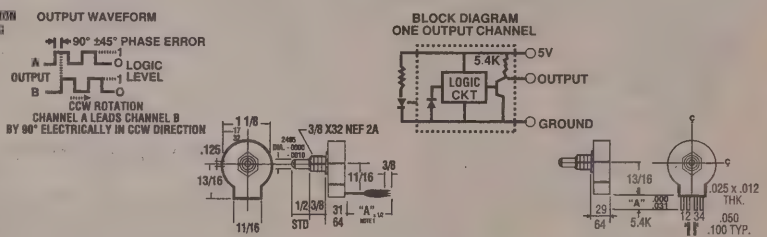
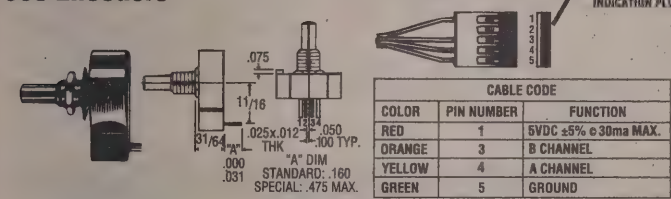


TABLE A: Select Ohms desired, and replace XX in Stock Number with corresponding number from chart.

Ohms	XX	Ohms	XX	Ohms	XX
100	10	2K	30	50K	50
200	15	5K	35	100K	55
500	20	10K	40	200K	60
1K	25	20K	45	500K	65
—	—	—	—	1M	70

600 Encoders



- Optical Incremental Encoders
- Analog to Digital Converters

- TTL Compatible All Models
- Only 1.125" Diameter $\times$.484" Deep

SPECIFICATIONS. Input Power: 5 volts DC $\pm 5\%$ @ 30 MA max. plus external requirements. Output Rate 128 pulses/revolution per channel-standard; Other pulses/revolution between 60 and 128 are available. Channels: Two separate output channels in quadrature, 90 $^{\circ}$ $\pm 45^{\circ}$. Output Voltage: High level voltage—2.4 volts min. with 10 K Ω load to ground; Low level voltage—4 volt max. Operating Temp: -20 $^{\circ}\text{C}$ to +65 $^{\circ}\text{C}$. Vibration: 10 to 2000 Hz, 15 G peck; MIL-STD-202 method 204 test C. Shock: 100 G @ 6 ms MIL-STD-202 method 213 condition 1.

The Series 600 controls are manually operated, rotary, optical encoders that output two square waves in quadrature at a rate of 128 pulses per channel per revolution as a standard with other resolutions down to 60 pulses available. The outputs are TTL compatible. The variation in this series is in the terminal configuration: either pin leads or cable leads.

MECHANICAL CHARACTERISTICS. Shaft Rotation: Continuous in either direction. Operating Speed: 300 rpm max. Rotational Life: 10 million revolutions. Rotational Torque: 1.5 oz. in. max. Shaft: $\frac{1}{4}$ " diameter standard, stainless steel. Bushing: $\frac{3}{8}$ " diameter standard, brass, nickel plated. Terminals: P/C Type—0.25 by 0.12 thick brass, gold plated to facilitate soldering. Cable Type—Four lead ribbon cables, color-coded, with .050 spacing, 28 AWG stranded copper wire, 0.39 diameter. Strength: Terminals withstand 2 lb. push and pull and a 90 $^{\circ}$ bend. Mounting Hardware (not supplied): For

$\frac{3}{8}$ " bushing, use hex mounting nut $\frac{3}{8}$ " $\times$ 32 thread, $\frac{1}{2}$ " across flats, $\frac{3}{32}$ " thick; internal tooth lockwasher $\frac{11}{16}$ " O.D. by .022 thick. Seals: Mounting seal and shaft seal available. Controls are not sealed for board washing. Weight: P/C type or cable type. 1 in. FMS shaft and $\frac{3}{8}$ " bushing-.046 lb. (21 G). Loc. Pin (NOT STANDARD): Single pin located $\frac{1}{32}$ " from center can be supplied.

No. 600-128-CBL (Cable Style) a four lead ribbon cable $\pm$ color coded with .050 spacing, 28 AWG stranded copper wire. .039 diameter. Length 7.5".	EACH 39.21	10-49	EACH 32.68
753-0060-1-9	EACH 39.21	10-49	EACH 32.68
No. 600-128-CN. As above except wire leads have connector.	EACH 49.67	10-49	EACH 41.38
753-0059-1-9	EACH 49.67	10-49	EACH 41.38
No. 600-128-B66 employs PC mounting vertical plane. .160" long. Terminals are gold plated on .025 by .012 brass to facilitate soldering.	EACH 37.64	10-49	EACH 31.38
753-0061-1-9	EACH 37.64	10-49	EACH 31.38
No. 600-128-C24 employs PC mounting horizontal plane. .160" long. Terminals are gold plated on .025 by .012 brass to facilitate soldering.	EACH 37.16	10-49	EACH 30.98
753-0062-1-9	EACH 37.16	10-49	EACH 30.98

388E Mechanical Encoders



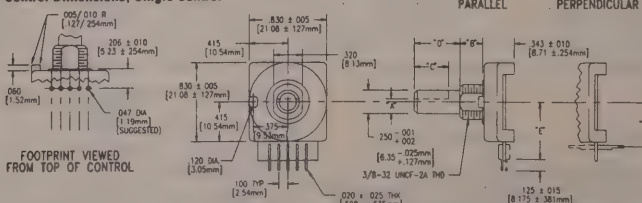
Only one half inch square, the Series 388E is a direct digital, contacting, mechanical encoder for low resolution limits in such applications as sensing, cursing, scanning or robotics. Meets those requirements for a digital output component for limited space applications. Bushing: $\frac{1}{4}$ " $\times$ $\frac{1}{4}$ " inches. Shaft: $\frac{1}{8}$ " dia. $\times$ $\frac{3}{4}$ " in. FMS. Ig. screwdriver slotted. Terminals: .875 in. lg., P.C. Pins. Locating Pin: 9 o'clock.

388-4. 4 Pulse/Rev/Chan. 16 Detent. $\frac{1}{4}$ " Pulse/Detent.	EACH 14.32	10-49	EACH 11.94
753-0070-1-9	EACH 14.32	10-49	EACH 11.94
388-6. 6 Pulse/Rev/Chan. 24 Detent. $\frac{1}{4}$ " Pulse/Detent.	EACH 15.28	10-49	EACH 12.73
753-0075-1-9	EACH 15.28	10-49	EACH 12.73

500 Mechanical Rotary Encoder



Control Dimensions, Single Control



- Cost Effective
- High Resolution
- Expandable

- Stability
- Variability

The Series 500 Controls are manually-operated, rotary, mechanical encoders that provide a 2-bit grey code for relative reference applications and a 4-bit grey code for absolute electrical reference applications. In 2-bit grey code, the L channel leads the R channel by 90 $^{\circ}$ electrically in CW position. Continuous electrical travel. It has a rotational life of more than 100,000 shaft revolutions, a positive detent feel and can be combined with a second modular section in a concentric-shafts construction. This series is small sized (.83" sq. $\times$.343" thick) and commonly used in limited-space, panel-mounted applications where the need for costly front-panel displays can be completely eliminated. Direct digital output, which eliminates A/D converts. Up to 36 electrical and mechanical detented positions. -55 $^{\circ}\text{C}$ to +105 $^{\circ}\text{C}$ operating temperature. PC type terminals on .100" grid lines. Molded housing/bushing and shaft are polyester PBT, chosen for heat resistance and electrical characteristics. Program code board is glass epoxy, copper clad with nickel plating. Horizontal or vertical mountings relative to the PC board as well as metric shafts and bushings are available as special order. Also available as special order is dual constructions with concentric shafts. Hexadecimal, BCD, and counting codes and rotational position stops are available as special order.

Stock No.	Mfr.'s Type	No. of Bits	Mechanical Detents	Terminal Mounting	Extends	EACH	
						1-9	10-49
753-0081	500EN-204P-B1	2	4 cycles/rev, 16 detents/rev	.615" from center	Down	4.80	4.00
753-0082	500EN-204P-C2	2	4 cycles/rev, 16 detents/rev	.625" from center	Back	4.80	4.00
753-0083	500EN-206P-B1	2	6 cycles/rev, 24 detents/rev	.615" from center	Down	4.80	4.00
753-0084	500EN-206P-C2	2	6 cycles/rev, 24 detents/rev	.625" from center	Back	4.80	4.00
753-0085	500EN-412P-B1	4	12 elec posit/rev, 12 detents/rev	.615" from center	Down	5.31	4.42
753-0086	500EN-412P-C2	4	12 elec posit/rev, 12 detents/rev	.625" from center	Back	5.31	4.42
753-0087	500EN-209P-B1	2	9 cycles/rev, 36 detents	.615" from center	Down	4.80	4.00
753-0088	500EN-209P-C2	2	9 cycles/rev, 36 detents	.625" from center	Back	4.80	4.00
753-0089	500EN-416P-B1	4	16 elec posit/rev, 16 detents	.615" from center	Down	5.31	4.42
753-0090	500EN-416P-C2	4	16 elec posit/rev, 16 detents	.625" from center	Back	5.31	4.42

753-0091. 500BKT. Mounting Bracket (optional). 1-9 EACH .69 10-49 EACH .58

10 Turn or 3 Turn Pots

Model MW22B-10. Wirewound element, $\frac{7}{16}$ " diameter $\times$ $\frac{3}{4}$ " long, 10 or 3 turns. Ten turn unit features 1,000,000 turns life, 2 watt power rating and .25% linearity. Three turn unit features 300,000 turns life, 1 watt power rating and 0.5% linearity. Both units have extremely smooth rotation, brass bushing and gold plated terminals. **Operating Temperature Range:** -55°C to $+105^{\circ}\text{C}$. Slotted shaft. **Also available:** 5 turn, multi-ganged and high-torque units. Also: see our page on turns counting dials.

Stock No.	Mfr.'s Type	No. of Turns	Standard Resistance Ohms (See Table Below)	EACH		
				1-9	10-24	25-49
522-20XX	MW22B-10	10	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	11.85	10.81	9.94
522-21XX	MW22B-3	3	100, 200, 500, 1K, 2K, 5K, 10K, 20K	11.85	10.81	9.94

MH22B-10 Hybrid Element 10-Turn Potentiometer

Model MH22B-10. Conductive plastic over a wirewound element for the stability of wirewound and the low inductance and essentially infinite resolution of conductive plastic. **Operating Temperature:** -55°C to $+105^{\circ}\text{C}$. **Life Shaft Revolutions:** 10,000,000. **Linearity Tolerance:** $\pm 25\%$. **Also Available:** 3 or 5 turn units, high-torque units. Also: see our page on turns counting dials.

Stock No.	Mfr.'s Type	No. of Turns	Standard Resistance Ohms (See Table Below)	EACH		
				1-9	10-24	25-49
522-19XX	MH22B-10	10	1K, 2K, 5K, 10K, 20K	28.76	26.55	24.65
522-19XX	MH22B-10	10	50K, 100K	40.73	37.60	34.91

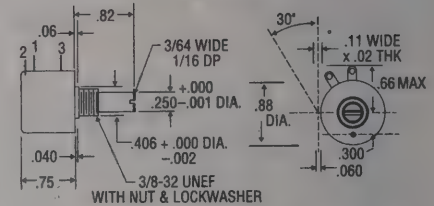
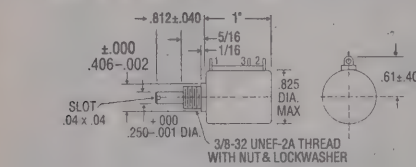


Table A — Important Ordering Information

To Order: Complete the Stock Number shown by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows what ohm values are available. Other values are also available — contact Allied. All multi-turn pots listed have $\frac{3}{8}$ -32 threaded bushing mount with $\frac{1}{4}$ " shaft.

Value	XX	Value	XX	Value	XX	Value	XX	Value	XX
100	21	500	26	2K	32	10K	41	50K	53
200	22	1K	29	5K	38	20K	44	100K	59



10 Turn Potentiometer (2 Watts) Hi-Rel

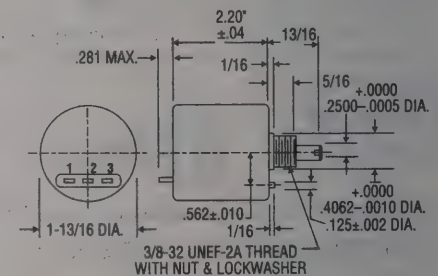
Model MW20B-10. Highest-quality ten-turn Potentiometer. **Power Rating:** 2 watts at 70°C ambient. High temperature plastic with stainless steel shaft. **Operating Temperature:** -55°C to $+105^{\circ}\text{C}$. **Life Shaft Revolutions:** 2,000,000. **Independent Linearity:** $\pm 25\%$. **Dielectric Strength:** 1000 VAC. **Insulation Resistance:** 1000 megohms at 1000 VDC. **Running Torque:** 0.6 oz.-in. maximum. **Stop Strength:** 96 oz.-in. minimum. **Also Available:** Hybrid element (10,000,000 turns life), multi-ganged models, 3 and 5 turns, and high-torque units. Also see our page on turns counting dials.

Stock No.	Mfr.'s Type	Ohms	Stock No.	Mfr.'s Type	Ohms	Stock No.	Mfr.'s Type	Ohms	EACH		
									1-9	10-24	25-49
522-5121	MW20B-10	100	522-5132	MW20B-10	2K	522-5144	MW20B-10	20K	23.12	21.26	20.92
522-5126	MW20B-10	500	522-5138	MW20B-10	5K	522-5153	MW20B-10	50K	23.12	21.26	20.92
522-5129	MW20B-10	1K	522-5141	MW20B-10	10K	522-5159	MW20B-10	100K	23.12	21.26	20.92

Precision Ten-Turn Potentiometers $\pm 1\%$ Zero-Based Linearity (5 Watts)

Model MR46B-10. Features $\pm 0.1\%$ zero-based linearity. Ten-turn precision pot, long life, with all metal case. Rated 5 watts at 40°C . **Operating Temperature Range:** -55°C to $+105^{\circ}\text{C}$. Aluminum housing, stainless steel shaft. **Life Shaft Revolutions:** 2,000,000. **Insulation Resistance:** 100 megohms minimum at 1000 VDC. **Dielectric strength:** 1000 VAC minimum. **Running Torque:** 2.8 oz.-in. maximum. **Stop Strength:** 125 oz.-in. minimum. **Also Available:** Up to 30 turns, oil-filled units (up to 20 turns), 5 AMP limit switches, rear shaft extensions. Also: see our page on turns counting dials.

Stock No.	Mfr.'s Type	Ohms	Stock No.	Mfr.'s Type	Ohms	EACH		
						1-9	10-24	25-49
522-8221	MR46B-10	100	522-8238	MR46B-10	5K	48.56	44.82	41.62
522-8222	MR46B-10	200	522-8241	MR46B-10	10K	48.56	44.82	41.62
522-8226	MR46B-10	500	522-8244	MR46B-10	20K	48.56	44.82	41.62
522-8229	MR46B-10	1K	522-8253	MR46B-10	50K	48.56	44.82	41.62
522-8232	MR46B-10	2K	522-8259	MR46B-10	100K	48.56	44.82	41.62



Motorized Potentiometers, 10-Turn, DC Motor

- Other units available with:
- High Torque Transmissions
 - Limit Switches
 - 24 VAC Inputs
 - Hybrid Elements
 - Additional Ganging of Pots

► Circuitry for Positioning
Contact your Allied office for more information.

Type MC20-1. Motor-Controlled 10-Turn Potentiometer gives the design engineer new latitudes in speed controls and temperature and valve positioning. This single-ganged, ten-turn pot operates from 6 or 12 VDC input, from an operational amplifier or external power supply. Slip clutch allows for manual adjustment of pot, plus prevents stop breakage. Panel mounts in a .407" diameter mounting hole. **Potentiometer RPM:** 1, 3, 10, and 18. **Potentiometer Power Rating:** 3 Watts at 70°C . **Resistance Tolerance:** $\pm 3\%$. **Independent Linearity:** $\pm 25\%$. **Rotational Life:** 2,000,000 turns. **Modifications Available:** 3 and 5 turn pots; 24 VDC inputs; other RPMs; hybrid element for 10,000,000 turn life. Allow 2-8 weeks delivery. Call for pricing.

Stock No.	Mfr.'s Type	Resistance	Motor Volt	Output RPM	Stock No.	Mfr.'s Type	Resistance	Motor Volt	Output RPM	EACH		
										1-9	10-24	25-49
522-9507	MC20-1	1K	6 VDC	1 RPM	522-9515	MC20-1	1K	12 VDC	3 RPM	169.58	156.53	145.35
522-9509	MC20-1	5K	6 VDC	1 RPM	522-9520	MC20-1	5K	12 VDC	3 RPM	169.58	156.53	145.35
522-9510	MC20-1	10K	6 VDC	1 RPM	522-9530	MC20-1	10K	12 VDC	3 RPM	169.58	156.53	145.35
522-9500	MC20-1	1K	6 VDC	10 RPM	522-9527	MC20-1	1K	12 VDC	18 RPM	169.58	156.53	145.35
522-9505	MC20-1	5K	6 VDC	10 RPM	522-9525	MC20-1	5K	12 VDC	18 RPM	169.58	156.53	145.35
522-9506	MC20-1	10K	6 VDC	10 RPM	522-9535	MC20-1	10K	12 VDC	18 RPM	169.58	156.53	145.35

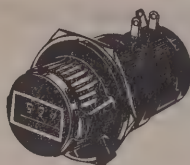
Turns Counting Dials



ALLIED

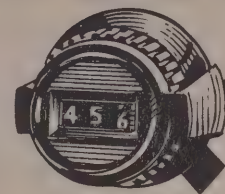
Combination 10-Turn Dial/Pot

Model DC22. 10-Turn dial/pot combination mounts in 1 1/8" dia. hole in panel up to 3/16" thick. ±5% resistance tolerance, 2 watts. Gold plated terminals, over the center lock. Uses DC27 dial with MW22B-10MM pot.



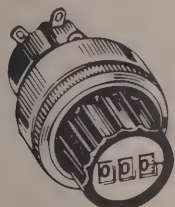
Model DC27 1 1/16" Turns Counting Dial

Model DC27. 1 1/16" dia. concentric dial counts 1-10 turns. Over the center lock. Accepts 1/4" shaft dia. High temp. black plastic housing. Other shaft sizes available on special order.



522-0027. DC27. 1-9EACH 21.15
10-24EACH 19.52
25-49EACH 18.13

Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table B)	EACH		
			1-9	10-24	25-49
522-29XX	DC22-10	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	44.63	41.19	38.25



Combo® 3— 10-Turn Dial/Pot Combination

Model DW22-10 (Combo® 3). Reduce assembly costs by eliminating the time-consuming mounting and calibrating of dial to pot. The COMBO 3 is a pre-mounted and pre-calibrated digital dial mounted to an ETI Systems Model MW22B-10MM precision 10 turn potentiometer. Gold plated terminal lugs. ±5% resistance tolerance. ±0.5% read-out accuracy. 1,000,000 turns life, 2 watts.

Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table B)	EACH		
			1-9	10-24	25-49
522-24XX	DW22-10	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	53.02	48.94	45.45

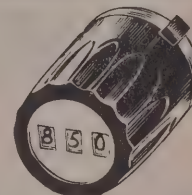
Table B — Important Ordering Information

To Order: Complete the Stock Number Shown by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows what ohm values are available.

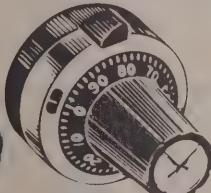
Value	XX	Value	XX	Value	XX	Value	XX
100	21	1K	29	10K	41	100K	59
200	22	2K	32	20K	44	—	—
500	26	5K	38	50K	53	—	—

Digital Counting Dial 1" Dia.

Model DA10. An excellent choice in a precision-made digital counting dial. Gear driven numbers. Counting dial is equipped with a magnifying lens for easy readability, with lock. Black finish. Made for potentiometers with 1/4" or 6 mm shafts. Mounting hardware is supplied.



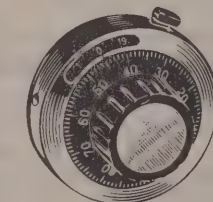
522-1010. 1-9EACH 20.93
10-24EACH 19.32
25-49EACH 17.94



7/8" Diameter Turns Counting Dial

Model MG22. Low cost, 7/8" diameter. Counts 1 to 20 turns. Over the center lock. Anti-rotation pin for easy mounting. Fits 1/4" dia. shaft. (Avail. to fit 1/8" dia. shaft size.) Also available in grey.

Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-24	25-49
522-2853	MGA22	Black	11.85	10.62	9.78
522-2855	MG22	Satin/Black	11.85	10.62	9.78



MF46 Dial 1 13/16" Diameter Turns Counting Dial for 1-20 Turn Pots

Model MF46. 1 13/16" diameter black plastic knob, aluminum base. Large, easy to read numbers. Over the center lock for positive locking action. Fits 1/4" shafts. Counts up to 20 turns.

522-1370. 1-9EACH 17.36
10-24EACH 16.16
25-49EACH 15.12

522-1371. MFA46. Black. 1-9EACH 17.36
10-24EACH 16.16 25-49EACH 15.12

1 13/16" Diameter Turns Counting Dial

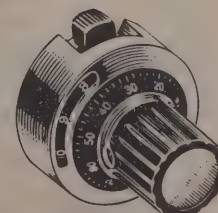
Model MD30. Counts 1-10 turns. Low cost, precision turns counting dial. Easy to read numbers which can be seen from longer distances. Numbered wheels progress smoothly without flip action, to avoid misreadings. Lock is easy to apply with red and white indicators of lock position. For shaft diameters of 1/4". Black finish.



522-1001. 1-9EACH 30.21
10-24EACH 27.89
25-49EACH 25.89

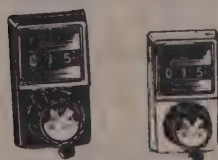
1" Diameter Turns Counting Dial

Model MB25. 1" diameter counts 1 to 10 turns. Satin finish aluminum body. Black plastic finger tip knob with white filled, easy-to-read numbers. Over the center lock for positive locking action. Fits 1/4" shaft.



522-1025. MB25. 1-9EACH 17.27
10-24EACH 15.94
25-49EACH 14.80

522-1026. MBA25. Black. 1-9EACH 17.27
10-24EACH 15.94 25-49EACH 14.80



Turns Counting Dials — 10-Turns

Model DB10. Heavy-duty construction. Clear dust-proof window over numbers protects internal mechanism. Precision, gear driven numbers. 1" × 1.75". Counts up to 10-turns. For 1/4" diameter shafts. Over the center lock.

Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-24	25-49
522-2850	DB10	Satin Finish	19.52	18.01	16.73
522-2851	DBA10	Black	19.52	18.01	16.73

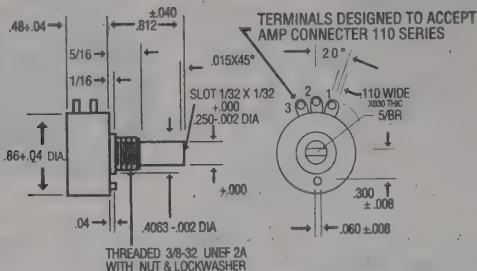


Turns Counting Dial — 100 Turns Digital Readout

Model DB100. Heavy-duty construction. Counts up to 100 turns. Fits 1/4" diameter shafts. Clear dust-proof window over numbers protects internal mechanism. Precision, gear driven numbers. 1" × 1.75". Over the center lock.

Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-24	25-49
522-2858	DB100	Satin	89.23	82.37	76.49
522-2859	DBA100	Black	89.23	82.37	76.49

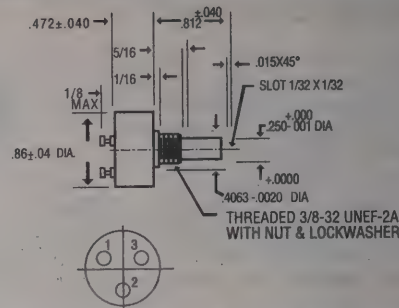
Single Turn 1-Watt Potentiometers



Model SP22E. This conductive plastic single turn features 10,000,000 turns life, $\pm 1.0\%$ linearity. High-quality molded plastic element gives superior performance over film-type elements. Also available with wirewound element (SW22E), featuring 500,000 turns life, $\pm 0.5\%$ linearity. Both are $7/8"$ dia., with 320 deg. electrical angle, $1/4"$ shaft. Other resistance values, multi-ganged continuous rotation available. Call for pricing and delivery info.

Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table A)	EACH		
			1-9	10-24	25-49
522-16XX	SP22E	1K, 2K, 5K, 10K	15.68	14.38	13.26
522-15XX	SW22E	100, 200, 500, 1K, 2K, 5K, 10K	15.68	14.38	13.26

Single Turn 1-Watt Rear Terminals



Model SP22D. Conductive plastic features 10,000,000 turns life, $\pm 1.5\%$ linearity, all metal housing and solder terminals. Also available in wirewound (SW22D series, 500,000 turns life, $\pm 0.5\%$ linearity, lug terminals). Both have $7/8"$ diameter, 320 deg. electrical angle, $1/4"$ shaft. Also available with continuous mechanical rotation, non-standard resistance values and multi-ganged.

Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table A)	EACH		
			1-9	10-24	25-49
522-26XX	SP22D	1K, 2K, 5K, 10K	27.25	24.95	23.46
522-25XX	SW22D	100, 200, 500, 1K, 2K, 5K, 10K	27.25	24.95	23.46

Mini-Linear Motion Potentiometer — Conductive Plastic

"Mini-Lini" LCP8-10. Smallest linear motion potentiometer in its class! Features .433" electrical stroke, with .472" mechanical stroke. Conductive plastic element provides 20,000,000 shaft reciprocating motions. **Resistance Tolerance:** $\pm 15\%$. **Independent Linearity:** $\pm 2\%$. 0.2 Watts power rating. **Operating Temperature Range:** -30°C to $+105^{\circ}\text{C}$. **Housing Size:** only .287" high $\times$.322" wide $\times$ 1.259" long. **Also Available:** threaded shaft, spring return, special shaft modifications.

Stock No.*	Mfr.'s Type	Std. Resistance Ohms	EACH	
			1-9	10-24
522-27XX	LCP8P-10	1K, 2K, 5K, 10K, 20K, 50K	26.17	24.16

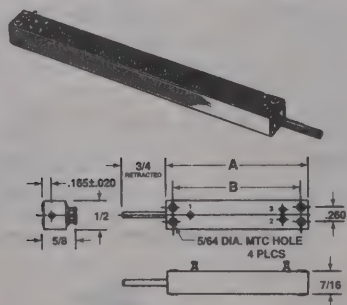
"Mini-Lini" LCP8-12. Conductive Plastic. 0.5" Mechanical, 0.5" Electrical Stroke. 20,000,000 shaft reciprocating motions. **Resistance Tolerance:** $\pm 15\%$. **Independent Linearity:** $\pm 2\%$. 0.2 Watts. **Operating Temperature Range:** -30°C to $+105^{\circ}\text{C}$. Only .287" high $\times$.322" wide $\times$ 1.259" long. Spring return and special shaft styles available.

522-30XX	LCP8P-12	1K, 2K, 5K, 10K, 20K, 50K	90.13	83.19
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*See Table A below for ordering information.



Linear Motion Potentiometer — 1/2" to 4" Conductive Plastic and Wirewound



Mfr.'s Type	Standard Resistance Values	Resistance Tolerance Linearity (Ind.)	Power Rating	Stroke Mech. $\pm 1.0"$ Elect. $\pm 0.2"$	Dimensions	
					"A" $\pm 0.04"$	"B" $\pm 0.02"$
LCP12-12	500, 1K, 2K, 5K, 10K	$\pm 20\%$, $\pm 1.5\%$	0.20W	1/2"	1.50"	1.26"
LCP12-25	1K, 2K, 5K, 10K	$\pm 20\%$, $\pm 1.0\%$	0.40W	1"	2.00"	1.77"
LCP12-50	1K, 2K, 5K, 10K	$\pm 20\%$, $\pm 0.7\%$	0.70W	2"	3.00"	2.75"
LCP12-100	1K, 2K, 5K, 10K, 20K	$\pm 20\%$, $\pm 0.5\%$	1.20W	4"	5.00"	4.76"
LW12-12	500, 1K, 2K, 5K, 10K	$\pm 20\%$, $\pm 1.5\%$	0.25W	1/2"	1.50"	1.26"
LW12-25	1K, 2K, 5K, 10K	$\pm 20\%$, $\pm 1.0\%$	0.50W	1"	2.00"	1.77"
LW12-50	1K, 2K, 5K, 10K	$\pm 20\%$, $\pm 0.7\%$	1.00W	2"	3.00"	2.75"
LW12-100	1K, 2K, 5K, 10K, 20K	$\pm 20\%$, $\pm 0.5\%$	2.00W	4"	5.00"	4.76"

Stock No.*	Mfr.'s Type	Stock No.*	Mfr.'s Type	Shaft Type	Stroke	EACH	
						1-9	10-24
522-01XX	LCP12P-12	522-36XX	LW12P-12	P	1/2"	86.22	79.58
522-02XX	LCP12A-12	522-37XX	LW12A-12	A	1/2"	86.22	79.58
522-03XX	LCP12B-12	522-38XX	LW12B-12	B	1/2"	86.22	79.58
522-05XX	LCP12S-12	522-39XX	LW12S-12	S	1/2"	117.92	108.86
522-31XX	LCP12P-25	522-42XX	LW12P-25	P	1"	108.80	100.43
522-32XX	LCP12A-25	522-43XX	LW12A-25	A	1"	108.80	100.43
522-33XX	LCP12B-25	522-44XX	LW12B-25	B	1"	108.80	100.43
522-35XX	LCP12S-25	522-45XX	LW12S-25	S	1"	138.59	127.92
522-61XX	LCP12P-50	522-46XX	LW12P-50	P	2"	108.80	100.43
522-62XX	LCP12A-50	522-47XX	LW12A-50	A	2"	108.80	100.43
522-63XX	LCP12B-50	522-48XX	LW12B-50	B	2"	108.80	100.43
522-65XX	LCP12S-50	522-49XX	LW12S-50	S	2"	138.59	127.92
522-91XX	LCP12P-100	522-52XX	LW12P-100	P	4"	161.15	148.75
522-92XX	LCP12A-100	522-53XX	LW12A-100	A	4"	161.15	148.75
522-93XX	LCP12B-100	522-54XX	LW12B-100	B	4"	161.15	148.75
522-95XX	LCP12S-100	522-55XX	LW12S-100	S	4"	192.79	177.95

*See Table A below for ordering information.

The LCP12 series conductive plastic element and the LW12 series wirewound element both feature essentially infinite resolution, high precision, a contact resistance variation less than 2%, 500 VAC dielectric strength, and a choice of shaft styles. The LCP12 offers a long life of 20,000,000 strokes, output smoothness less than 0.1% input voltage, and 10% resistance tolerance. The LW12 offers excellent high speed tracking, 100 ohms max. noise, life of 100,000 strokes, and 5% resistance tolerance.

Table A — Important Ordering Information

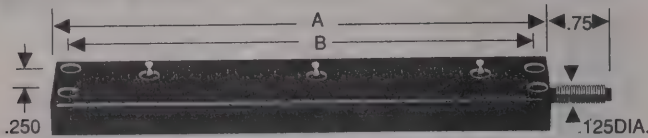
To Order: Complete the Stock Number by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows ohm values available.

Value	XX	Value	XX	Value	XX	Value	XX	Values	XX
100*	21	500	23	2K	32	10K	41	50K	53
200*	22	1K	29	5K	38	20K	44	—	—

*NOTE: 100 and 200 ohms only available in SW22 series. Please contact Allied for available application assistance, custom and special designs.

M1326 Wirewound

AMERICAN MADE



The M1326 linear motion wirewound potentiometer enjoys a unique position. It combines the best electrical characteristics in the smallest size at the lowest cost. A solid precious metal contact, engaging the precision wirewound mandrel, produces exceptional linear and resolution characteristics. For applications where forces are limited, such as in instrumentation, the M1326 is ideal because of its low shaft frictional force as well as small size and light weight Nylon bearings.

Model M1326-1—1 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH		
				1-4	5-9	10-24
606-1030	M1326-1-102	1K	0.6	82.45	76.11	70.67
606-1035	M1326-1-202	2K	0.5	82.45	76.11	70.67
606-1040	M1326-1-502	5K	0.4	82.45	76.11	70.67
606-1045	M1326-1-103	10K	0.3	82.45	76.11	70.67

Model M1326-2—2 Watt Potentiometer With 2" Travel

606-1230	M1326-2-102	1K	0.3	95.90	88.53	82.20
606-1235	M1326-2-202	2K	0.3	95.90	88.53	82.20
606-1240	M1326-2-502	5K	0.2	95.90	88.53	82.20
606-1245	M1326-2-103	10K	0.2	95.90	88.53	82.20

Model M1326-4—4 Watt Potentiometer With 4" Travel

606-2025	M1326-4-102	1K	0.2	118.03	108.95	101.16
606-2027	M1326-4-202	2K	0.2	118.03	108.95	101.16
606-2030	M1326-4-502	5K	0.2	118.03	108.95	101.16
606-2040	M1326-4-103	10K	0.1	118.03	108.95	101.16
606-2045	M1326-4-203	20K	0.1	118.03	108.95	101.16

*Independent Linearity

Wirewound and Conductive Plastic Linear Motion Precision Potentiometers

AMERICAN MADE

M2078

Wirewound Type. These miniature precision transducers have the smallest size at the lowest cost. Created for use in laboratory test equipment, light industrial applications, and automation, these units offer high accuracy of electrical output. Features spherical ball ends for flexibility in mounting.

Model M2078-1—1 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH		
				1-4	5-9	10-24
606-5100	M2078-1-102	1K	0.6	131.79	121.66	112.97
606-5103	M2078-1-202	2K	0.5	131.79	121.66	112.97
606-5105	M2078-1-502	5K	0.4	131.79	121.66	112.97
606-5110	M2078-1-103	10K	0.3	131.79	121.66	112.97

Model M2078-2—2 Watt Potentiometer With 2" Travel

606-5200	M2078-2-102	1K	0.3	144.42	133.31	123.79
606-5203	M2078-2-202	2K	0.3	144.42	133.31	123.79
606-5205	M2078-2-502	5K	0.2	144.42	133.31	123.79
606-5210	M2078-2-103	10K	0.2	144.42	133.31	123.79

Model M2078-4—4 Watt Potentiometer With 4" Travel

606-5400	M2078-4-102	1K	0.2	168.61	155.64	144.53
606-5403	M2078-4-202	2K	0.2	168.61	155.64	144.53
606-5405	M2078-4-502	5K	0.2	168.61	155.64	144.53
606-5410	M2078-4-103	10K	0.1	168.61	155.64	144.53
606-5415	M2078-4-203	20K	0.1	168.61	155.64	144.53

*Independent Linearity

Conductive Plastic Slide Potentiometer P2333

AMERICAN MADE

This slide action linear motion potentiometer was developed for applications requiring high reliability, infinite resolution and long life. The range of electrical strokes is 1 to 4 inches. Repeatability is 0.2%; taper is linear. The combination of a raised molded resistive track and a compatible formulated contact, make this unit practically impervious to dust, oil or moisture. It therefore is suitable for use in the hostile environment often found in a steel mill, tire factory or mining operation. In addition, this construction makes possible the exceptionally long life of 5,000,000 cycles. With the knob removed, the lever arm may be attached to machinery to monitor the position of any linear motion.

Model P2333-1—5 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH		
				1-4	5-9	10-24
606-0107	P2333-1-102	1K	2.0	78.02	72.02	66.87
606-0110	P2333-1-202	2K	2.0	78.02	72.02	66.87
606-0120	P2333-1-502	5K	2.0	78.02	72.02	66.87
606-0130	P2333-1-103	10K	2.0	78.02	72.02	66.87

Model P2333-2—1 Watt Potentiometer With 2" Travel

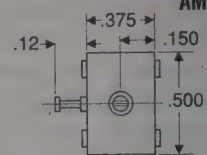
606-0140	P2333-2-102	1K	1.0	99.86	92.18	85.59
606-0150	P2333-2-202	2K	1.0	99.86	92.18	85.59
606-0160	P2333-2-502	5K	1.0	99.86	92.18	85.59
606-0170	P2333-2-103	10K	1.0	99.86	92.18	85.59

*Independent Linearity

Conductive Plastic P1613

AMERICAN MADE

Elec. Travel	1.000	2.000	4.000
A	2.000	3.000	5.000
B	1.800	2.800	4.800



The P1613 linear motion conductive plastic potentiometer is designed with simplicity in mind. It combines all the excellent features of the more expensive transducers yet is the smallest available in the market as well as the least costly. The molded raised track, combined with the special formulated contact, results in phenomenal life—the life expectancy at 60 inches/min. is 50,000,000 strokes. Total resistance tolerance: $\pm 20\%$. Operating Temperature Range: -55° to 105°C . Nylon bearings.

Model P1613-1—5 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 20%	Lin. %*	EACH		
				1-4	5-9	10-24
606-4007	P1613-1-102	1K	2.0	131.87	121.72	113.03
606-4000	P1613-1-202	2K	2.0	131.87	121.72	113.03
606-4008	P1613-1-502	5K	2.0	131.87	121.72	113.03
606-4009	P1613-1-103	10K	2.0	131.87	121.72	113.03

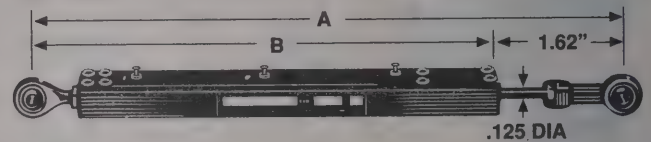
Model P1613-2—1 Watt Potentiometer With 2" Travel

606-4017	P1613-2-102	1K	1.0	147.08	135.76	126.07
606-4020	P1613-2-202	2K	1.0	147.08	135.76	126.07
606-4018	P1613-2-502	5K	1.0	147.08	135.76	126.07
606-4019	P1613-2-103	10K	1.0	147.08	135.76	126.07

Model P1613-4—2 Watt Potentiometer With 4" Travel

606-4013	P1613-4-202	2K	0.5	175.81	162.29	150.69
606-4010	P1613-4-502	5K	0.5	175.81	162.29	150.69
606-4011	P1613-4-103	10K	0.5	175.81	162.29	150.69
606-4012	P1613-4-203	20K	0.5	175.81	162.29	150.69

*Independent Linearity



AMERICAN MADE

P2080

Conductive Plastic Type. These precision transducers feature molded, raised tracks and graphite composition contacts for long life in a hostile environment. They are impervious to dust, water, and oil. High contact pressure offers resistance to severe vibration and shock effects. Trouble-free operation in factories and mills. Operating temperature range: -55° to 105°C .

Model P2080-1—5 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH		
				1-4	5-9	10-24
606-5150	P2080-1-102	1K	2.0	193.07	178.22	165.49
606-5153	P2080-1-202	2K	2.0	193.07	178.22	165.49
606-5155	P2080-1-502	5K	2.0	193.07	178.22	165.49
606-5160	P2080-1-103	10K	2.0	193.07	178.22	165.49

Model P2080-2—1 Watt Potentiometer With 2" Travel

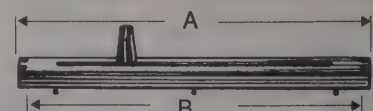
606-5250	P2080-2-102	1K	1.0	212.65	196.29	182.27
606-5253	P2080-2-202	2K	1.0	212.65	196.29	182.27
606-5255	P2080-2-502	5K	1.0	212.65	196.29	182.27
606-5260	P2080-2-103	10K	1.0	212.65	196.29	182.27

Model P2080-4—2 Watt Potentiometer With 4" Travel

606-5450	P2080-4-102	2K	0.5	249.46	230.27	213.83
606-5453	P2080-4-502	5K	0.5	249.46	230.27	213.83
606-5455	P2080-4-103	10K	0.5	249.46	230.27	213.83
606-5460	P2080-4-203	20K	0.5	249.46	230.27	213.83

*Independent Linearity

Dash No.	Elec. Travel $\pm .05$	Mech. Travel $\pm .05$	A	B
-1	1.00	1.25	3.00	2.80
-2	2.00	2.25	4.00	3.80
-4	4.00	4.25	6.00	5.80



Model P2333-4—2 Watt Potentiometer With 4" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH		
				1-4	5-9	10-24
606-0180	P2333-4-202	2K	0.5	124.88	115.28	107.04
606-0190	P2333-4-502	5K	0.5	124.88	115.28	107.04
606-0195	P2333-4-103	10K	0.5	124.88	115.28	107.04
606-0199	P2333-4-203	20K	0.5	124.88	115.28	107.04

*Independent Linearity

Rheostats, Dial Plates and Knobs

Vitreous-Enameled Rheostats

- Choose from 12½ to 300 Watts in a Wide Range of Resistances
- Highly Reliable and Economical
- U.L. Approved.

All porcelain vitreous-enameled, silicon-ceramic for smooth action and electrical control. Choose from 12½ to 300 watts in a wide range of resistances. Rheostats are highly reliable and economical; cannot smoke, char, shrink or shift. Metal-graphite contact brushes, varied to fit current and resistance. Ratings at full setting. U.L. approved 25 watts and up. Less knobs; see knobs, dial plates and handwheel below. Other resistances available as special order items.

12½ Watt – Type R12½

Rheostats have three terminals for use as a potentiometer. Resistance Tolerance: ± 10%. Running Torque: 1 to 6 inch oz. Rotation: 300° ± 5%. Mounting for Panels: up to ⅛". Standard Resistance: 1-5000 ohms. Shpg. wt.: 2½ oz.

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4001	1	17.16	14.56	12.06
875-4003	3	17.16	14.56	12.06
875-4008	25	14.98	12.69	10.35
875-4010	50	14.98	12.69	10.35
875-4012	100	14.98	12.69	10.35

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4017	500	14.98	12.69	10.35
875-4019	1000	15.55	13.31	10.92
875-4020	1500	15.55	13.31	10.92
875-4022	2500	15.55	13.31	10.92
875-4023	5000	16.54	14.14	11.54

25 Watt – Type R25

Wiper tracks on this rheostat are buffed and polished to assure smooth rotation and uniform wiper contact. A high strength ceramic hub is used to insulate the shaft and bushing from live parts. The wiper design assures minimum backlash. A vitreous enamel bonds core and base together for uniform heat dissipation and structural integrity. Cores on the larger sizes are enameled prior to winding to increase core strength and improve bond between wire and core. UL approved. ¼" dia. shaft. Resistance Tolerance: ± 10%. Running Torque: .25 to .5 inch-pound. Rotation: 300° ± 5%. Mounting for Panels: up to ¼". Standard Resistance: 1-10K ohms. Shpg. wt.: ½ lb.

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4025	1	16.89	14.35	11.82
875-4027	3	16.89	14.35	11.82
875-4029	5	16.89	14.35	11.82
875-4026	8	16.89	14.35	11.82
875-4030	10	16.89	14.35	11.82
875-4031	15	14.56	12.38	10.19
875-4032	25	14.56	12.38	10.19
875-4034	50	14.56	12.38	10.19

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4036	100	14.56	12.38	10.19
875-4039	250	14.56	12.38	10.19
875-4041	500	14.56	12.38	10.19
875-4043	1000	15.25	12.96	10.67
875-4044	1500	15.25	12.96	10.67
875-4045	2500	15.25	12.96	10.67
875-4047	5000	15.25	12.96	10.67
875-4050	10K	16.37	13.92	11.46

50 Watt – Type R50

UL approved rheostats have vitreous enamel bonded core and base. Buffed and polished wiper tracks assure smooth rotation and uniform wiper contact. Rheostats have three terminals to allow use as potentiometers. ¼" dia. shaft. Resistance Tolerance: ± 10%. Running Torque: .25 to 2 inch-pound. Rotation: 300° ± 5%. Mounting for Panels: up to ¼". Standard Resistance: 1-10K ohms. Shpg. wt.: ¾ lb.

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4051	1	23.40	20.07	16.53
875-4053	10	23.40	20.07	16.53
875-4054	12	18.35	15.76	12.98
875-4056	25	18.35	15.76	12.98
875-4058	50	18.35	15.76	12.98
875-4060	100	18.35	15.76	12.98
875-4062	225	18.35	15.76	12.98

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4061	250	18.35	15.76	12.98
875-4063	300	18.35	15.76	12.98
875-4064	500	18.35	15.76	12.98
875-4066	1000	18.35	15.76	12.98
875-4068	2500	18.35	15.76	12.98
875-4070	5000	21.20	18.20	14.99
875-4072	10K	21.20	18.20	14.99

100 Watt – Type R100

UL approved. Has ¼" dia. shaft and 3/8" dia. body. Furnished with three terminals for use as potentiometer. Resistance Tolerance: ± 10%. Running Torque: .5 to 2 inch-pound. Rotation: 300° ± 5%. Mounting for Panels: up to ¼". Standard Resistance: 1-10K ohms. Shpg. wt.: 1 lb.

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4074	1	27.88	23.65	19.43
875-4079	10	27.88	23.65	19.43
875-4080	25	25.94	22.01	18.07
875-4082	50	25.94	22.01	18.07
875-4084	100	25.94	22.01	18.07
875-4085	250	27.41	23.26	19.09

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4087	500	27.41	23.26	19.09
875-4088	1000	27.41	23.26	19.09
875-4090	2500	27.41	23.26	19.09
875-4091	5000	29.30	24.87	20.40
875-4093	10K	29.30	24.87	20.40

150 Watt – Type R150

UL approved. Has ¼" dia. shaft and 4" dia. body. Furnished with three terminals to allow use as potentiometer. Resistance Tolerance: ± 10%. Running Torque: .5 to 3 inch-pound. Rotation: 300° ± 5%. Mounting for Panels: up to ¼". Standard Resistance: 1-10K ohms. Shipping wt.: 1½ lb.

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4094	1	33.55	29.35	25.16
875-4095	5	33.55	29.35	25.16
875-4096	10	33.55	29.35	25.16
875-4098	15	30.98	27.11	23.22
875-4099	25	30.98	27.11	23.22
875-4101	50	30.98	27.11	23.22
875-4103	100	30.98	27.11	23.22

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4104	150	30.98	27.11	23.22
875-4106	250	30.98	27.11	23.22
875-4107	500	30.98	27.11	23.22
875-4108	1000	30.98	27.11	23.22
875-4109	2500	32.70	28.61	24.52
875-4110	5000	32.70	28.61	24.52
875-4111	10K	34.66	30.33	26.00

300 Watt – Type R300

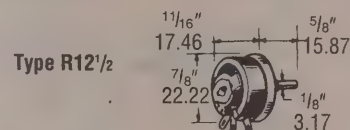
6" dia. ⅝" shaft dia. Resistance Tolerance: ± 10%. 2.38" behind panel; 4⅞" long. Torque: 2.5 to 5.0 inch-pound. Standard mounting: for panels up to 1¼" thick. Rotation: 320° ± 5%. Shpg. wt.: 2½ lbs.

Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4112	1	66.28	53.86	41.43
875-4117	10	66.28	53.86	41.43
875-4120	50	54.62	44.38	34.14
875-4122	100	54.62	44.38	34.14

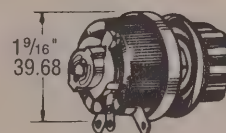
Stock No.	Ohms	EACH		
		1-9	10-24	25-49
875-4124	500	54.62	44.38	34.14
875-4126	1000	54.62	44.38	34.14
875-4128	1500	54.62	44.38	34.14
875-4132	2500	54.62	44.38	34.14

Rheostat Cross Reference

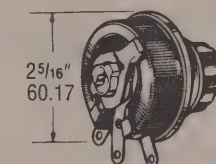
Memcor	Ohmite	Mallory
R12½	Type E	—
R25	Type H	25K
R50	Type J	50K
R100	Type K	100K
R150	Type L	150K
R300	Type N	300K



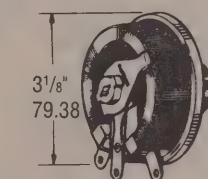
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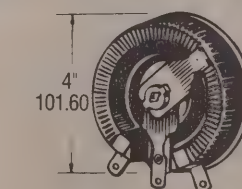
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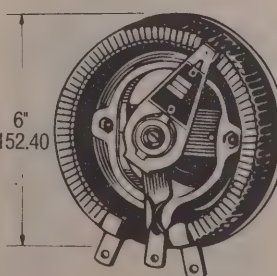
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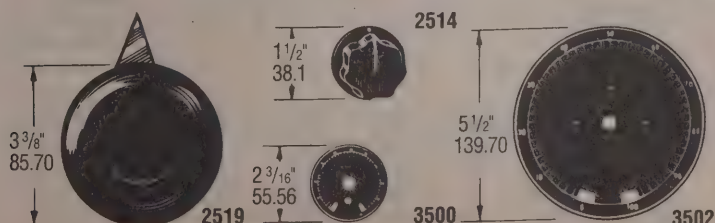
Type R100



Type R150



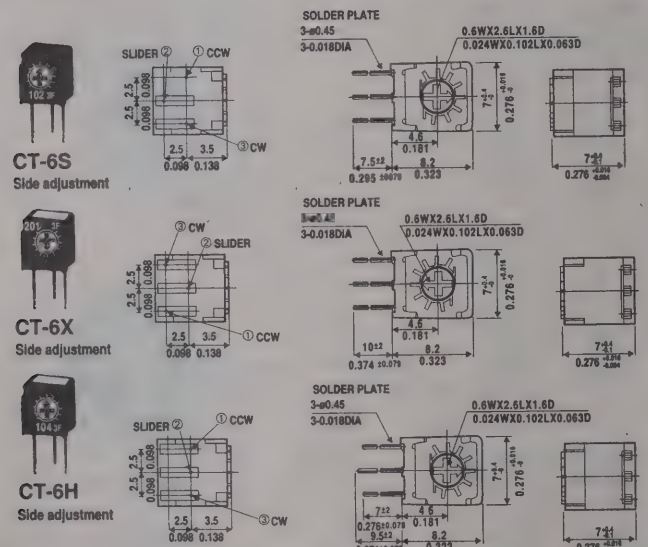
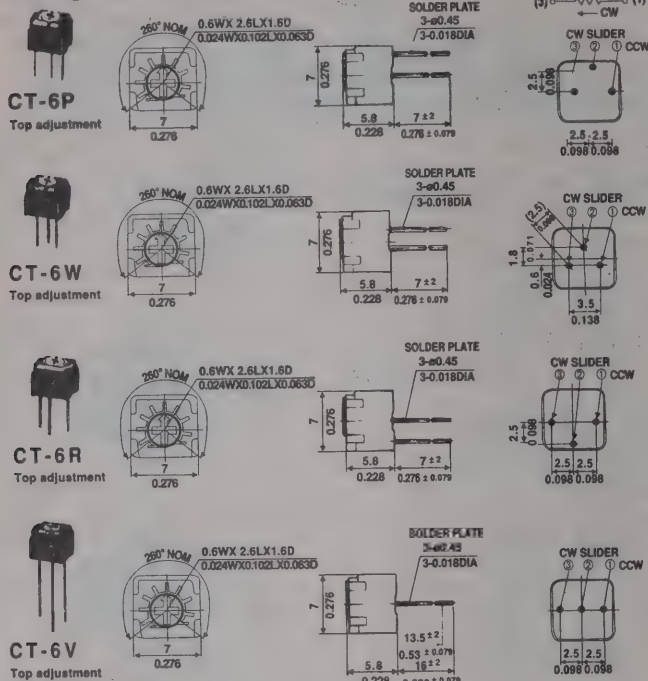
Type R300



Accessories

Stock No.	Mfr.'s Type	Catalog No.	Description	EACH		
				1-9	10-24	25-49
875-8035	2491-020-001	—	1⅞" dial for 12½ watt	1.05	.70	.55
875-8030	2491-020-002	3500	2⅞" dial for 25-300 watt	1.20	.80	.62
875-8031	2492-020-003	3502	5⅞" dial for 300 watt	5.13	3.42	2.66
875-8050	2493-010-004	2519	3⅞" dia. knob for 300 watt	16.55	11.03	8.60
875-8060	2491-010-017	2514	1½" dia. skirted knob	1.18	.78	.61
875-8061	2491-010-005	2400	¾" dia. skirted knob	1.10	.73	.57
875-8068	2492-010-001	2512	2⅞" dia. similar to 2519	10.80	7.25	5.65

CT6 Single-Turn Cermet Trimmer



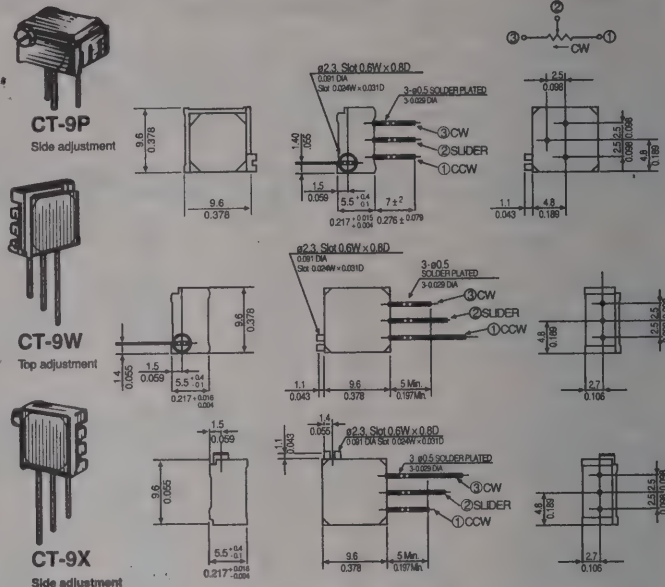
Affordable 1/4" square cermet trimmer. **Tolerance:** $\pm 10\%$. **Power Rating:** 0.5 watt at 70°C. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ± 100 ppm/°C max.

Stock No.*	Mfr.'s Type	EACH	
		1-99	100-249
751-10XX	CT6P	.99	.66
751-11XX	CT6W	.99	.66
751-12XX	CT6R	.99	.66
751-13XX	CT6V	.99	.66
751-14XX	CT6S	.99	.66
751-15XX	CT6X	.99	.66
751-16XX	CT6H	.99	.66

*Using the table below, replace XX in stock number with code which corresponds to desired OHM values.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	500	35	20K	60	250K	85
20	15	1K	40	25K	65	500K	90
50	20	2K	45	50K	70	1M	95
100	25	5K	50	100K	75	2M	99
200	30	10K	55	200K	80		

CT9 Multi-Turn Cermet Trimmer



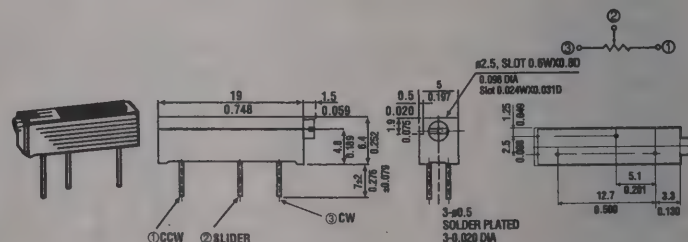
High quality, 18-turn sealed cermet trimmer. **Tolerance:** $\pm 10\%$. **Power Rating:** 0.5 watt at 70°C. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ± 100 ppm/°C max.

Stock No.*	Mfr.'s Type	EACH	
		1-99	100-249
751-17XX	CT9P	1.66	1.22
751-18XX	CT9W	1.66	1.22
751-19XX	CT9X	1.66	1.22

*Using the table below, replace XX in stock number with code which corresponds to desired OHM values.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	500	35	20K	60	250K	85
20	15	1K	40	25K	65	500K	90
50	20	2K	45	50K	70	1M	95
100	25	5K	50	100K	75	2M	99
200	30	10K	55	200K	80		

CT20 Multi-Turn Cermet Trimmer



Low cost, 15-turn sealed cermet trimmer. **Tolerance:** $\pm 10\%$. **Power Rating:** 0.75 watt at 70°C. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ± 100 ppm/°C max.

Stock No.*	Mfr.'s Type	EACH	
		1-99	100-249
751-20XX	CT20P	1.34	1.09

*Using the table below, replace XX in stock number with code which corresponds to desired OHM values.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	500	35	20K	60	250K	85
20	15	1K	40	25K	65	500K	90
50	20	2K	45	50K	70	1M	95
100	25	5K	50	100K	75	2M	99
200	30	10K	55	200K	80		

TM7 Multi-Turn Cermet Trimming Potentiometers

Three-turn sealed cermet trimmer. **Tolerance:** $\pm 10\%$. **Power Rating:** 0.5 watt at 70°C. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ± 100 ppm/°C max.

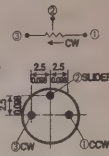
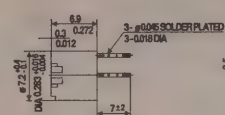
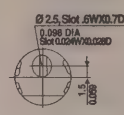
Stock No.	Mfr.'s Type	EACH	
		1-99	100-249
751-50XX	TM7P	3.72	2.52
751-51XX	TM7W	3.72	2.52
751-52XX	TM7S	3.72	2.52
751-53XX	TM7X	3.18	2.11

Using the table below, replace XX in stock number with code which corresponds to desired OHM values.

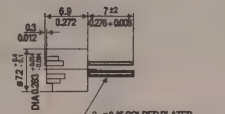
Ohms	XX	Ohms	XX	Ohms	XX
50	20	2K	45	100K	75
100	25	5K	50	200K	80
200	30	10K	55	500K	90
500	35	20K	60	1M	95
1K	40	50K	70	2M	99



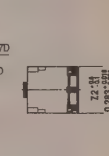
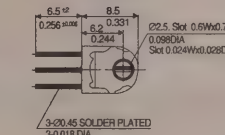
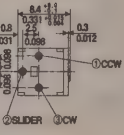
TM - 7P
Top adjustment



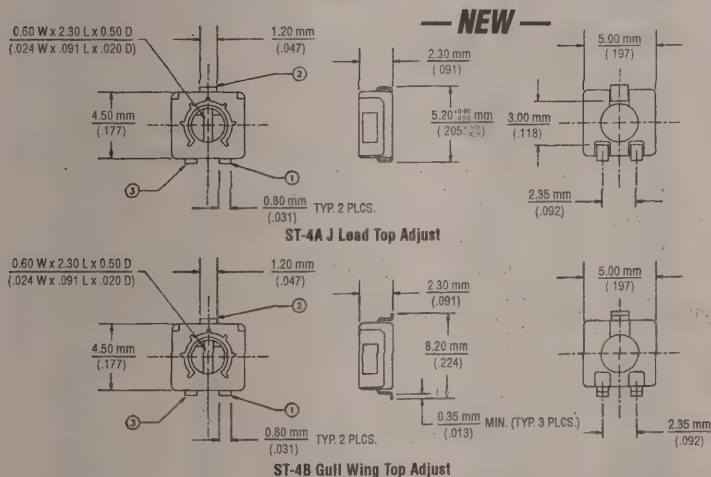
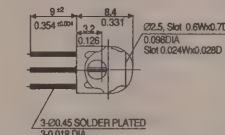
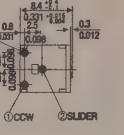
TM - 7W
Top adjustment



TM - 7S
Side adjustment



TM - 7X
Side adjustment



ST4 Single-Turn Cermet Surface Mount Trimmers

4 mm square, single-turn sealed cermet trimmer. Gull wing or J lead terminations. **Tolerance:** $\pm 20\%$. **Power Rating:** .25 watt at 70°C. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ± 100 ppm/°C max.

Stock No.	Mfr.'s Type	EACH	
		1-99	100-249
751-08XX	ST4A	1.20	1.09
751-09XX	ST4B	1.20	1.09

Using the table below, replace XX in stock number with code which corresponds to desired OHM values.

Ohms	XX	Ohms	XX	Ohms	XX
100	25	5K	47	200K	81
200	31	10K	55	500K	87
500	33	20K	62	1M	95
1K	40	50K	67	2M	99
2K	41	100K	75	—	—

2322-410 Single-Turn Carbon Trimming Potentiometers

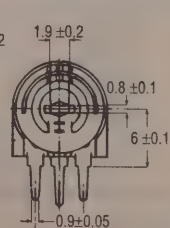
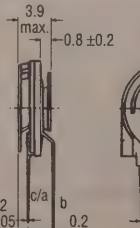
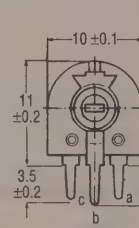
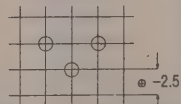
10 mm open-frame carbon trimmer. **Tolerance:** $\pm 20\%$. **Power Rating:** 0.1 watt at 40°C. **Maximum Operating Temperature:** 70°C.

Stock No.	Mfr.'s Type	EACH	
		1-99	100-249
751-57XX	2322-410-011	.16	.15
751-58XX	2322-410-033	.16	.15

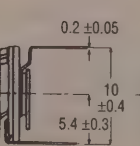
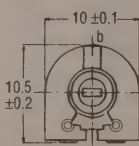
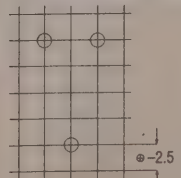
Using the table below, replace XX in stock number with code which corresponds to desired OHM values.

Ohms	XX	Ohms	XX	Ohms	XX
100	25	4.7K	47	220K	81
220	31	10K	55	470K	87
470	33	22K	62	1M	95
1K	40	47K	67	2.2M	97
2.2K	41	100K	75	4.7M	98

2322-410-011



2322-410-033



Rheostats

These rheostats are designed and manufactured to operate smoothly and reliably over long periods of use. All models are constructed with metal and ceramic and are coated with protective vitreous enamel or Ohmicon silicone-ceramic. Used for motor speed controls, light dimmers and for equipment requiring convenient variable resistance settings. Windings are linear taper on stock models. Tapered windings available as custom order. Ceramic body, high grade resistance alloy windings, vitreous enamel coating (some models silicone-ceramic), metal spring contact arm, metal graphite composition and solder coated terminals. **Tolerance: ±10%.** Wattage based on 25°C.

7 1/2 Watt. Core Diameter: .515". Shaft Diameter: 1/8".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4146	RCS10R	10	36.82	31.30
296-4147	RCS25R	25	36.82	31.30
296-4143	RCS100	100	36.82	31.30
296-4144	RCS200	200	36.82	31.30
296-4148	RCS500	500	36.82	31.30
296-4149	RCL10R*	10	39.33	33.43

*Locking Shaft.

12 1/2 Watt. Core Diameter: .875". Shaft Diameter: 1/8".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4155	RES1R0	1	17.73	15.07
296-4156	RES8R0	8	17.73	15.07
296-4157	RES10R	10	17.73	15.07
296-4158	RES15R	15	17.73	15.07
296-4160	RES25R	25	15.29	13.00
296-4165	RES50R	50	15.29	13.00
296-4170	RES75R	75	15.29	13.00
296-4175	RES100	100	15.29	13.00
296-4176	RES125	125	15.29	13.00
296-4177	RES175	175	15.29	13.00
296-4180	RES250	250	15.29	13.00
296-4181	RES350	350	15.29	13.00
296-4182	RES500	500	15.29	13.00
296-4183	RES1K0	1K	15.29	13.00
296-4185	RES1K5	1.5K	15.29	13.00
296-4186	RES2K5	2.5K	15.29	13.00
296-4187	RES5K0	5K	17.00	14.45
296-4190	RES10K	10K	18.24	15.50

25 Watt. Core Diameter: 1 9/16". Shaft Diameter: 1/4".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4203	RHS1R0	1	18.81	15.99
296-4204	RHS2R0	2	18.81	15.99
296-4205	RHS3R0	3	18.81	15.99
296-4210	RHS6R0	6	18.81	15.99
296-4212	RHS8R0	8	18.81	15.99
296-4215	RHS10R	10	18.81	15.99
296-4220	RHS15R	15	15.77	13.40
296-4225	RHS25R	25	15.77	13.40
296-4230	RHS50R	50	15.77	13.40
296-4235	RHS75R	75	15.77	13.40
296-4240	RHS100	100	15.77	13.40
296-4245	RHS125	125	15.77	13.40
296-4250	RHS175	175	15.77	13.40
296-4255	RHS250	250	15.77	13.40
296-4257	RHS350	350	15.77	13.40
296-4260	RHS500	500	15.77	13.40
296-4265	RHS750	750	15.77	13.40
296-4270	RHS1K0	1K	16.41	13.95
296-4275	RHS1K5	1.5K	16.41	13.95
296-4280	RHS2K5	2.5K	16.41	13.95
296-4285	RHS3K5	3.5K	16.80	14.28
296-4290	RHS5K0	5K	16.80	14.28
296-4295	RHS10K	10K	17.37	14.76
296-4297	RHS25K	25K	20.37	17.31

50 Watt. Core Diameter: 2 5/16". Shaft Diameter: 1/4".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4300	RJSR50	5	26.32	22.37
296-4305	RJS1R0	1	26.32	22.37
296-4306	RJS6R0	6	26.32	22.37
296-4308	RJS35R	35	17.80	15.13
296-4310	RJS50R	50	17.80	15.13
296-4315	RJS125	125	17.80	15.13
296-4317	RJS150	150	17.80	15.13
296-4320	RJS225	225	17.80	15.13
296-4325	RJS500	500	17.80	15.13
296-4330	RJS1K0	1K	19.04	16.18

Knobs

Any knob can be used with any rheostat model which has the corresponding shaft diameter. Knobs are fastened to shafts with slotted set screws.



Stock No.	Mfr.'s Type	Description	Knob Dia.	Hole Dia.	Set Screw	EACH	
						1-9	10-24
296-1215	5103	Bar knob 1 1/4" long	—	1/4"	Slot	3.35	2.35
296-1217	5104	Handwheel with pointer	3 3/4"	3/8"	Slot	13.37	9.36
296-1218	5104A	Handwheel with pointer	3 3/4"	3/8"	Hex	13.86	9.70
296-1220	5105	Handwheel without pointer	3 3/4"	3/8"	Slot	11.53	8.07
296-1225	5109	Fingergrip with pointer	1 9/8"	1/4"	Slot	12.78	8.95
296-1227	5111	Fingergrip with pointer	2 9/8"	1/4"	Slot	14.96	10.47
296-1230	5111A	Fingergrip with pointer	2 9/8"	1/4"	Hex	13.02	9.11
296-1232	5116	Bar knob 1 1/2" long	—	1/4"	Slot	5.44	3.81
296-1235	5150	Fingergrip	1 1/2"	1/4"	Slot	4.86	3.40
296-1240	5151	Fingergrip	3/4"	1/8"	Slot	3.54	2.48

50 Watt — Continued. Core Diameter: 2 5/16". Shaft Diameter: 1/4".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4331	RJS2K5	2.5K	19.04	16.18
296-4332	RJS5K0	5K	21.30	18.11
296-4335	RJS10K	10K	26.76	22.75

100 Watt. Core Diameter: 3 1/8". Shaft Diameter: 1/4".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4338	RKS2R0	2	31.46	26.74
296-4340	RKS5R0	5	29.26	24.87
296-4345	RKS7R5	7.5	29.26	24.87
296-4336	RKS10R	10	29.26	24.87
296-4337	RKS50R	50	24.52	20.84
296-4350	RKS100	100	24.52	20.84
296-4352	RKS500	500	24.52	20.84
296-4353	RKS1K0	1K	29.26	24.87
296-4354	RKS5K0	5K	34.73	29.52

150 Watt. Core Diameter: 4". Shaft Diameter: 1/4".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4600	RLSR50	5	38.47	32.70
296-4605	RLS1R0	1	38.47	32.70
296-4610	RLS7R5	7.5	34.90	29.67
296-4615	RLS10R	10	34.90	29.67
296-4655	RLS15R	15	34.90	29.67
296-4625	RLS25R	25	33.39	28.38
296-4630	RLS50R	50	33.39	28.38
296-4635	RLS150	150	33.39	28.38
296-4640	RLS250	250	33.39	28.38
296-4645	RLS500	500	33.39	28.38
296-4650	RLS4K5	4.5K	39.26	33.37
296-4655	RLS10K	10K	48.10	40.89

225 Watt. Core Diameter: 5". Shaft Diameter: 3/8".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4430	RPS1R0	1	63.53	54.00
296-4435	RPS2R0	2	63.53	54.00
296-4440	RPS10R	10	63.53	54.00
296-4445	RPS15R	15	53.42	45.41
296-4450	RPS25R	25	53.42	45.41
296-4453	RPS100	100	53.42	45.41
296-4455	RPS200	200	53.42	45.41
296-4460	RPS300	300	53.42	45.41

300 Watt. Core Diameter: 6". Shaft Diameter: 3/8".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4360	RNS1R0	1	66.90	56.87
296-4365	RNS2R0	2	66.90	56.87
296-4370	RNS4R0	4	66.90	56.87
296-4375	RNS5R0	5	66.90	56.87
296-4380	RNS7R5	7.5	66.90	56.87
296-4385	RNS10R	10	66.90	56.87
296-4390	RNS15R	15	66.90	56.87
296-4395	RNS25R	25	55.54	47.21
296-4400	RNS50R	50	55.54	47.21
296-4405	RNS100	100	55.54	47.21
296-4410	RNS200	200	55.54	47.21
296-4415	RNS300	300	55.54	47.21
296-4420	RNS400	400	55.54	47.21
296-4425	RNS1K5	1.5K	63.31	53.81

500 Watt. Core Diameter: 8". Shaft Diameter: 3/8".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4465	RRS1R0	1	98.95	84.11
296-4470	RRS3R0	3	98.95	84.11
296-4475	RRS5R0	5	98.95	84.11
296-4480	RRS8R0	8	98.95	84.11
296-4485	RRS12R5	12.5	86.59	73.60
296-4490	RRS25R	25	86.59	73.60
296-4495	RRS50R	50	86.59	73.60
296-4500	RRS125	125	80.41	68.35
296-4505	RRS250	250	80.41	68.35
296-4510	RRS500	500	80.41	68.35
296-4507	RRS1K0	1K	83.47	70.95
296-4508	RRS2K5	2.5K	83.47	70.95

1000 Watt. Core Diameter: 12". Shaft Diameter: 3/8".

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-4515	RUS1R0	1	235.49	200.17
296-4520	RUS5R0	5	235.49	200.17
296-4525	RUS10R	10	235.49	200.17
296-4530	RUS25R	25	203.01	172.56
296-4535	RUS50R	50	203.01	172.56
296-4540	RUS500	500	203.01	172.56
296-4543	RUS1K0	1K	203.01	172.56

Dials

Handsomely finished dials for rheostats. Figures and lines are etched on a black background for contrast and ease of readability. Divisions, which indicate approximate percentage of rheostat resistance in circuit, are marked from 0 to 100.



Stock No.	Mfr.'s Type	Dial Dia.	Rheostat Recommended		EACH	
			Watts	Knob	1-9	10-24
296-1208	5007	1 1/4"	7.5, 12.5	5151	1.05	.74
296-1210	5000	2 5/16"	25, 50, 100, 150	5150, 5116, 5103	1.05	.74
296-1212	5001	5/16"	225, 300, 500, 1000	5104	6.63	6.04

Dials and Multi-Turn Potentiometers

Precision Multi-Turn Counting Dials

Concentric and digital turn-counting dials for use on multi-turn potentiometers and other rotating devices. Shaft bore is 1/4" dia.



11



15



16/17

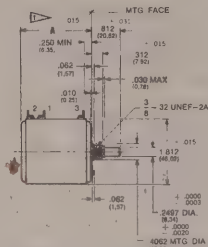


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Stock No.	Mfr.'s Type	No. Turns	Minor Div.	Scale	Finish Chrome	Size	EACH	
							1-9	10-24
970-1030	11-1-11	11	1/50	Vernier	Satin	1.000 D x 0.826 H	18.25	17.23
970-1035	15-1-11	10	1/500	Digital	Satin	1.000 W x 1.750 H	17.04	16.71
970-1040	16-1-11	15	1/50	Vernier	Clear	0.875 D x 0.875 H	9.68	9.31
970-1043	17-1-11	15	1/50	Vernier	Clear	0.880 D x 0.791 H	7.67	7.19
970-1045	21-1-11	15	1/50	Vernier	Satin	1.812 D x 1.000 H	19.00	17.80

Model 860 Ten-Turn Wirewound Precision Potentiometer

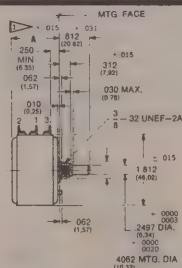
Ten-Turn wirewound precision potentiometer. Glass filled thermoset plastic housing with anodized aluminum bushing mount. Stainless steel terminals. 1/4" dia. stainless steel shaft. Moisture resistant. 8-watt power rating at 40°C. 3% tolerance (5% below 200 ohms). 0.25% linearity tolerance. -55°C to +125°C operating temperature. 1.812" D x 2.000" L. 500,000 turn rotational life. 4.5 oz.



Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1977	860-1-1-101	100	75.35	48.65
970-1979	860-1-1-501	500	75.35	48.65
970-1980	860-1-1-102	1000	75.35	48.65
970-1985	860-1-1-202	2000	75.35	48.65
970-1990	860-1-1-502	5000	75.35	48.65
970-1995	860-1-1-103	10K	75.35	48.65
970-2000	860-1-1-503	50K	75.35	48.65

Model 830 Three Turn Wirewound Potentiometer

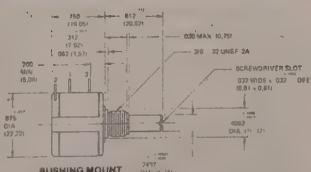
Three-Turn wirewound precision potentiometer. Glass filled thermoset plastic housing with anodized aluminum bushing mount. Stainless steel 1/4" dia. shaft. Solderable brass plated terminals. Moisture resistant. 3-watt power rating at 40°C. 3% tolerance (5% below 200 ohms). 0.25% linearity tolerance. -55°C to +125°C operating temperature. 1.812" D x 1.218" L. 500,000 turn rotational life. 3.0 oz.



Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1957	830-1-1-101	100	66.95	43.25
970-1959	830-1-1-501	500	66.95	43.25
970-1960	830-1-1-102	1000	66.95	43.25
970-1965	830-1-1-202	2000	66.95	43.25
970-1970	830-1-1-502	5000	66.95	43.25
970-1975	830-1-1-103	10K	66.95	43.25

Model 536 Ten-Turn Wirewound Precision Potentiometer

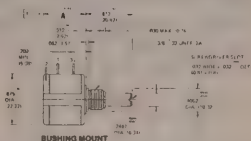
Ten-Turn wirewound precision potentiometer. Glass filled thermoset plastic housing with nickel plated brass bushing mount. Thermoset plastic 1/4" dia. shaft. Moisture resistant. 3-watt power rating at 40°C. 5% resistance tolerance. 0.25% linearity tolerance. -55°C to +125°C operating temperature. 0.875" D x 0.750" L. 1,000,000 turns rotational life. 0.75 oz.



Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1910	536-1-1-101	100	10.80	9.82
970-1915	536-1-1-201	200	10.80	9.82
970-1920	536-1-1-501	500	10.80	9.82
970-1925	536-1-1-102	1000	10.80	9.82
970-1930	536-1-1-202	2000	10.80	9.82
970-1935	536-1-1-502	5000	10.80	9.82
970-1940	536-1-1-103	10K	10.80	9.82
970-1945	536-1-1-203	20K	10.80	9.82
970-1950	536-1-1-503	50K	13.62	12.38
970-1955	536-1-1-104	100K	13.62	12.38

Model 535 Five-Turn Wirewound Precision Potentiometer

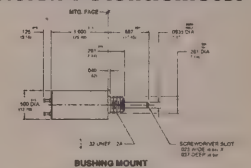
Five-Turn wirewound precision potentiometer. Glass filled thermoset plastic housing with nickel plated brass bushing mount. Stainless steel 1/4" dia. shaft. Solderable brass plated terminals. Moisture resistant. 2.32-watt power rating at 40°C. 5% tolerance. 0.25% linearity tolerance. -55°C to +125°C operating temperature. 0.875" D x 0.750" L. 500,000 turns rotational life. 0.75 oz.



Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1890	535-1-1-102	1000	15.14	14.42
970-1895	535-1-1-502	5000	15.14	14.42
970-1900	535-1-1-103	10K	15.14	14.42
970-1905	535-1-1-203	20K	15.14	14.42

Model 162 Ten-Turn Wirewound Precision Potentiometer

Ten-Turn wirewound precision potentiometer. Glass filled thermoset plastic housing with nickel plated brass bushing mount. Stainless steel 0.0935" dia. shaft. Solderable brass plated terminals. Moisture resistant. 2-watt power rating at 40°C. 5% tolerance. 0.3% linearity tolerance. -55°C to +125°C operating temperature. 0.500" D x 1.000" L. 500,000 turns rotational life. 0.3 oz.



Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1810	162-1-1-102	1000	74.75	45.67
970-1815	162-1-1-502	5000	74.75	45.67
970-1820	162-1-1-103	10K	74.75	45.67

Model 534 Ten-Turn Wirewound Precision Potentiometer

Ten-Turn wirewound precision potentiometer. Glass filled thermoset plastic housing with nickel plated brass bushing mount. Stainless steel 1/4" dia. shaft. Solderable brass plated terminals. Moisture resistant. 3-watt power rating at 40°C. 5% tolerance. 0.25% linearity tolerance. -55°C to +125°C operating temperature. 0.875" D x 0.750" L. 1,000,000 turn rotational life. 0.75 oz.



Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1840	534-1-1-101	100	10.80	9.82
970-1845	534-1-1-201	200	10.80	9.82
970-1850	534-1-1-501	500	10.80	9.82
970-1855	534-1-1-102	1000	10.80	9.82
970-1860	534-1-1-202	2000	10.80	9.82
970-1865	534-1-1-502	5000	10.80	9.82
970-1870	534-1-1-103	10K	10.80	9.82
970-1875	534-1-1-203	20K	10.80	9.82
970-1880	534-1-1-503	50K	13.62	12.38
970-1885	534-1-1-104	100K	13.62	12.38

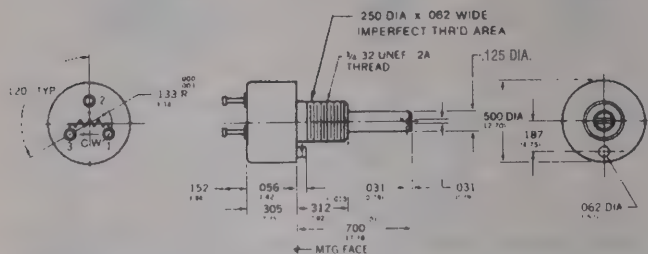
Model 533 Three-Turn Wirewound Precision Potentiometer

Three-Turn wirewound precision potentiometer. Glass filled thermoset plastic housing with nickel plated brass bushing mount. Stainless steel 1/4" dia. shaft. Solderable brass plated terminals. Moisture resistant. 1.55-watt power rating at 40°C. 5% tolerance. 0.25% linearity tolerance. -55°C to +125°C operating temperature. 0.875" D x 0.750" L. 300,000 turns rotational life. 0.75 oz.



Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1825	533-1-1-102	1000	15.14	13.76
970-1835	533-1-1-502	5000	15.14	13.76
970-1840	533-1-1-103	10K	15.14	13.76

Model 140 Single Turn Potentiometer

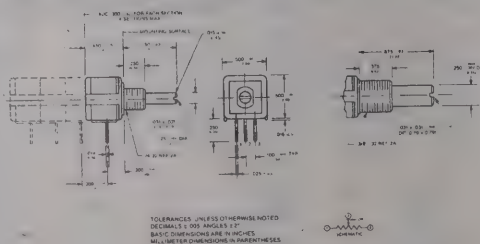


Anodized aluminum housing with stainless steel 1/8" dia. shaft and gold plated brass terminals. Moisture resistant. 2-watt power rating at 40°C. 5% resistance tolerance. 1% linearity tolerance. -55°C to +125°C operating temperature. 0.500"D x 0.305"L. 500,000 turn rotational life. 0.1 oz.

Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1700	140-0-0-102	1000	47.50	27.25
970-1705	140-0-0-502	5000	47.50	27.25
970-1710	140-0-0-103	10K	47.50	27.25

Model 148 Single Turn Potentiometer

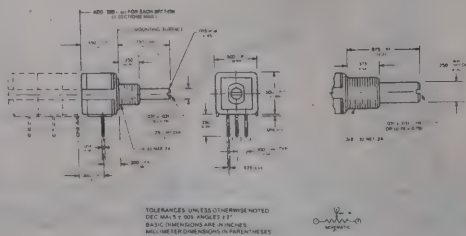
Plastic housing with zinc plated Zemack bushing and nickel plated brass shaft. Conductive plastic element. Plated PC pin terminals for solderability. Moisture resistant. 0.7 watt at 70°C. 20% resistance tolerance. 5% linearity tolerance. -20°C to +125°C operating temperature. 1/2" sq. body. 100,000 turns rotational life. 0.2 oz.



Stock No.	Mfr.'s Type	Ohm Value	Shaft Dia. (in.)	EACH	
				1-9	10-24
970-1720	148-08-08-102	1000	1/8	7.48	6.65
970-1725	148-08-08-502	5000	1/8	7.48	6.65
970-1730	148-08-08-103	10K	1/8	7.48	6.65
970-1735	148-08-08-104	100K	1/8	7.48	6.65
970-1740	148-09-10-502	5000	1/4	7.48	6.65
970-1745	148-09-10-103	10K	1/4	7.48	6.65
970-1750	148-09-10-104	100K	1/4	7.48	6.65

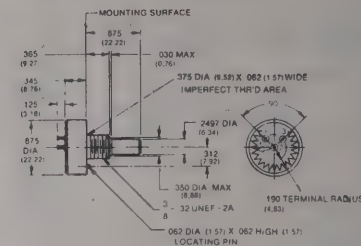
Model 149 Single Turn Potentiometer

Plastic housing with zinc plated Zemack bushing and nickel plated brass shaft. Cermet element. Plated PC pin terminals for solderability. Moisture resistant. 1-watt at 85°C. 10% resistance tolerance. 5% linearity tolerance. -20°C to +150°C operating temperature. 1/2" sq. body. 50,000 turns rotational life. 0.2 oz.



Stock No.	Mfr.'s Type	Ohm Value	Shaft Dia. (in.)	EACH	
				1-9	10-24
970-1755	149-08-08-102	1000	1/8	7.48	6.65
970-1760	149-08-08-502	5000	1/8	7.48	6.65
970-1765	149-08-08-103	10K	1/8	7.48	6.65
970-1770	149-08-08-503	50K	1/8	7.48	6.65
970-1775	149-09-10-102	1000	1/4	7.48	6.65
970-1780	149-09-10-502	5000	1/4	7.48	6.65
970-1785	149-09-10-103	10K	1/4	7.48	6.65
970-1790	149-09-10-104	100K	1/4	7.48	6.65

Model 157 Single Turn Potentiometer

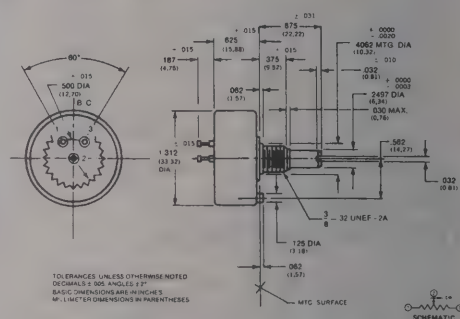


Anodized aluminum housing and bushing with 1/4" stainless steel shaft and solderable brass terminals. Moisture resistant. 1-watt at 40°C. 20% resistance tolerance. 2% linearity tolerance. -55°C to +125°C operating temperature. 0.875"D x 0.345"L. 2,000,000 turns rotational life. 0.5 oz.

Stock No.	Mfr.'s Type	Ohm Value	EACH	
			1-9	10-24
970-1795	157-1-1-102	1000	19.25	12.40
970-1800	157-1-1-502	5000	19.25	12.40
970-1805	157-1-1-103	10K	19.25	12.40

Model 132 Single Turn Potentiometer

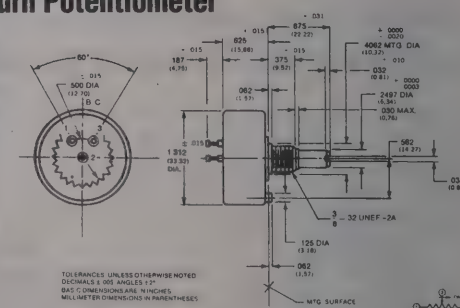
Thermo plastic housing with nickel plated brass bushing and 1/4" dia. stainless steel shaft. Solderable brass terminals. Wirewound element. Moisture resistant. 2.75-watt power rating at 40°C. 3% resistance tolerance. 0.5% linearity tolerance. -55°C to +125°C operating temperature. 1.312"D x 0.625"L. 2,000,000 turn rotational life. 1.0oz.



Stock No.	Mfr.'s Type	Ohm Value	Rotation	EACH	
				1-9	10-24
970-1665	132-0-0-102	1000	Continuous	25.30	21.08
970-1670	132-0-0-202	2000	Continuous	25.30	21.08
970-1675	132-0-0-502	5000	Continuous	25.30	21.08
970-1680	132-0-0-103	10K	Continuous	25.30	21.08
970-1685	132-2-0-102	1000	2 stops	25.30	21.08
970-1690	132-2-0-502	5000	2 stops	25.30	21.08
970-1693	132-2-0-103	10K	2 stops	25.30	21.08

Model 138 Single Turn Potentiometer

Thermo plastic housing with nickel plated brass bushing and 1/4" dia. stainless steel shaft. Solderable brass terminals. Conductive plastic element. Moisture resistant. 2-watt power rating at 40°C. 10% resistance tolerance. 0.5% linearity tolerance. -55°C to +125°C operating temperature. 1.312"D x 0.625"L. 2,000,000 turn rotational life. 1.0oz.

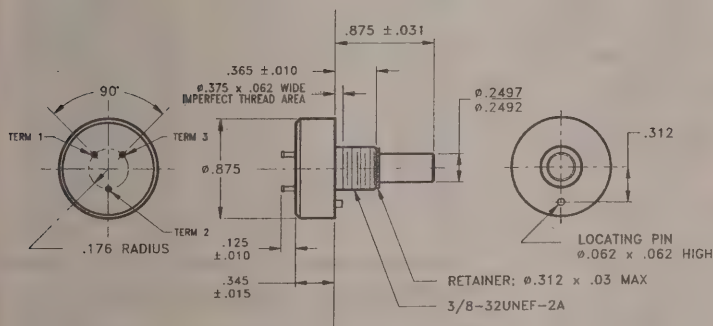
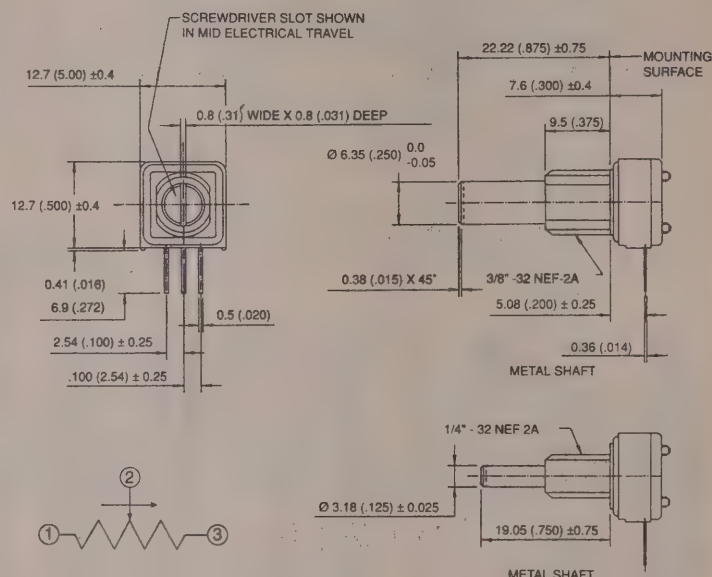


Stock No.	Mfr.'s Type	Ohm Value	Rotation	EACH	
				1-9	10-24
970-1695	138-0-0-102	1000	Continuous	20.64	17.20
970-1694	138-0-0-502	5000	Continuous	20.64	17.20
970-1696	138-0-0-103	10K	Continuous	20.64	17.20
970-1697	138-2-0-102	1000	2 stops	20.64	17.20
970-1698	138-2-0-502	5000	2 stops	20.64	17.20
970-1699	138-2-0-103	10K	2 stops	20.64	17.20

Models 248 and 249 Potentiometers

The model 248/249 has proven high performance characteristics in a cost effective package. They are designed to become the choice when seeking high quality, inexpensive panel or PCB mounting potentiometers. The model 248 is conductive plastic with $\pm 20\%$ resistance tolerance and the 249 is cermet with $\pm 10\%$ tolerance. The 248 is 0.5 watts at 70°C with a temperature coefficient of 1000 ppm/°C. The 249 is 1.0 watts at 70°C with a temperature coefficient of 100 ppm/°C. Both have 295° ($\pm 5^\circ$) mechanical rotation with 265° ($\pm 5^\circ$) electrical rotation. **Rotational Life:** 50,000 cycles. **Shaft:** Plated brass. The housing and rear lid are flame retardant plastic. **Terminals:** Phosphor bronze with solder plated. **Operating Temperature:** -55°C to +125°C. **Load Life:** 1000 hours at 70°C. Additional configurations such as rear standoffs, solder hook terminals, rear locating lugs, audio taper and various shaft lengths in plastic or metal are available as special order items. Manufacturer's literature available upon request.

Stock No.	Mfr.'s Type	Ohms	Shaft Dia. (In.)	Shaft Length (In.)	EACH				
					1-9	10-24	25-49	50-99	100-249
970-2100	248-8-08-102	1K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2102	248-8-08-252	2.5K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2104	248-8-08-502	5K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2106	248-8-08-103	10K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2108	248-8-08-253	25K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2110	248-8-08-503	50K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2112	248-8-08-104	100K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2114	248-9-10-102	1K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2116	248-9-10-252	2.5K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2118	248-9-10-502	5K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2120	248-9-10-103	10K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2122	248-9-10-253	25K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2124	248-9-10-503	50K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2126	248-9-10-104	100K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2128	249-8-08-102	1K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2130	249-8-08-252	2.5K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2132	249-8-08-502	5K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2134	249-8-08-103	10K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2136	249-8-08-253	25K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2138	249-8-08-503	50K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2140	249-8-08-104	100K	1/8	3/4	4.44	4.17	3.92	3.53	3.18
970-2142	249-9-10-102	1K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2144	249-9-10-252	2.5K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2146	249-9-10-502	5K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2148	249-9-10-103	10K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2150	249-9-10-253	25K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2152	249-9-10-503	50K	1/4	7/8	4.44	4.17	3.92	3.53	3.18
970-2154	249-9-10-104	100K	1/4	7/8	4.44	4.17	3.92	3.53	3.18



Model 157 Precision Industrial Potentiometer

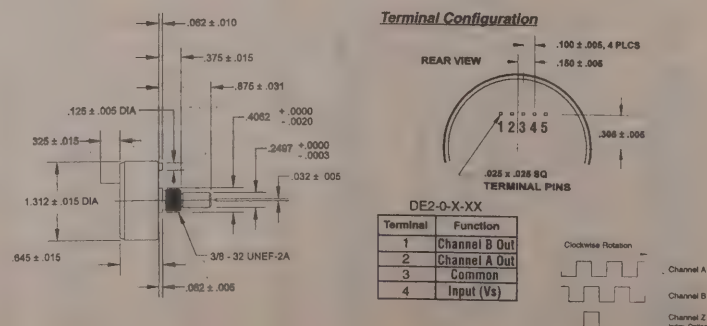
The model 157 features a rugged moisture resistant one piece aluminum anodized metal housing with a rear lid, stainless steel shaft, long 2,000,000 turns rotational life, wide operating range and solderable terminals. These 1.0 watt at 40°C are derated to 0 watts at 125°C. **Load Life:** 900 hours. **Electrical Travel:** 340° ($\pm 4^\circ$). **Mechanical Travel:** 360° continuous. The bushing uses a sleeve bearing. **Resistance Tolerance:** $\pm 20\%$ with 600 ppm/°C temperature coefficient. **Operating Temperature:** -55°C to +125°C. Optional features that are available as special order items include mechanical stops at 340°, internal shaft seal, high torque, 1/8" diameter shaft, shaft slot, special shaft lengths, no locating pin and special electrical angles. Manufacturer's literature available upon request.

Stock No.	Mfr.'s Type	Ohms	EACH				
			1-9	10-24	25-49	50-99	100-249
970-2050	157-11102	1K	19.27	12.45	11.40	10.90	10.15
970-2052	157-11202	2K	19.27	12.45	11.40	10.90	10.15
970-2054	157-11502	5K	19.27	12.45	11.40	10.90	10.15
970-2056	157-11103	10K	19.27	12.45	11.40	10.90	10.15
970-2058	157-11203	20K	19.27	12.45	11.40	10.90	10.15
970-2060	157-11503	50K	19.27	12.45	11.40	10.90	10.15
970-2062	157-11104	100K	19.27	12.45	11.40	10.90	10.15

Model DE2 Incremental Encoder

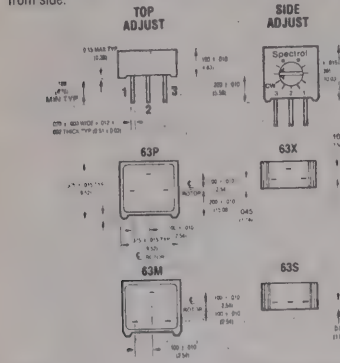
This incremental encoder uses a patented silver-in-glass switching technology. It features a two channel quadrature output. The 32 pulses per revolution can be resolved to 128 increments per revolution. Internal active CMOS de-bounce circuitry provides clean, high level outputs. **Rotational Speed:** 200 RPM continuous and 400 RPM periodic. **Housing:** Molded glass filled thermoplastic. **Shaft:** Stainless steel in a nickel plated brass bushing. **Terminal Pins:** Phosphor bronze and are solderable. **Weight:** 1 ounce maximum. Channel Z is an optional index output available as special order item. Optional 64 pulses per revolution which can be resolved to 256 increments per revolution is also available as special order item.

Stock No.	Mfr.'s Type	EACH			
		1-9	10-24	25-49	50-99
970-0002	DE2-0-1-32	28.25	27.40	24.90	22.13



Single - Turn Cermet Model 63

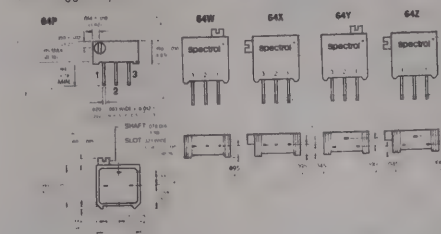
.375" square x .190" single turn cermet trimmer. 10% resistance tolerance. 0.5 watt at 70°C. 270° electrical travel. -55°C to +125°C operating temperature. Styles: 63M: Inline pins (0.100" spacing). 63P: Staggered pins from base. 63S: Inline pins (0.100" spacing) from side. 63X: Inline pins (0.100" spacing) from side.



Stock No.	Mfr.'s Type	Ohm Value	EACH		
			1-49	50-99	100-249
970-1120	63M 102	1000	1.07	1.03	0.84
970-1125	63M 502	5000	1.07	1.03	0.84
970-1130	63M 103	10K	1.07	1.03	0.84
970-1135	63M 503	50K	1.07	1.03	0.84
970-1140	63P 101	100	1.02	0.99	0.81
970-1145	63P 201	200	1.02	0.99	0.81
970-1150	63P 501	500	1.02	0.99	0.81
970-1155	63P 102	1000	1.02	0.99	0.81
970-1160	63P 202	2000	1.02	0.99	0.81
970-1165	63P 502	5000	1.02	0.99	0.81
970-1170	63P 103	10K	1.02	0.99	0.81
970-1175	63P 203	20K	1.02	0.99	0.81
970-1180	63P 503	25K	1.02	0.99	0.81
970-1185	63P 503	50K	1.02	0.99	0.81
970-1190	63P 104	100K	1.02	0.99	0.81
970-1195	63P 204	200K	1.02	0.99	0.81
970-1200	63P 504	250K	1.02	0.99	0.81
970-1205	63P 504	500K	1.02	0.99	0.81
970-1210	63S 105	1M	1.02	0.99	0.81
970-1215	63S 102	1000	1.07	1.03	0.84
970-1220	63S 502	5000	1.07	1.03	0.84
970-1225	63S 103	10K	1.07	1.03	0.84
970-1230	63S 503	50K	1.07	1.03	0.84
970-1235	63S 501	500	1.02	0.99	0.81
970-1240	63X 102	1000	1.02	0.99	0.81
970-1245	63X 202	2000	1.02	0.99	0.81
970-1250	63X 502	5000	1.02	0.99	0.81
970-1255	63X 103	10K	1.02	0.99	0.81
970-1260	63X 203	20K	1.02	0.99	0.81
970-1265	63X 503	50K	1.02	0.99	0.81
970-1270	63X 104	100K	1.02	0.99	0.81

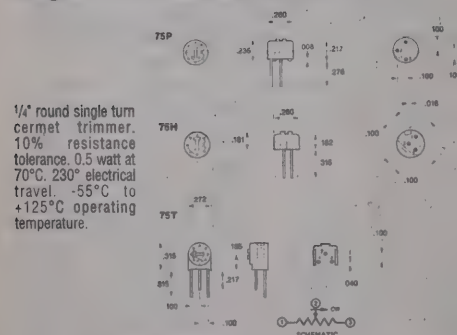
Multi-Turn Cermet Model 64

3/8" square multi-turn cermet trimmer. 10% resistance tolerance. 0.5 watt at 85°C. 25-turn nominal. 200 cycles mechanical life. -55°C to +125°C operating temperature. 0.375" x 0.395" x 0.190" Styles: 64P: Staggered pins. 64W: Inline pins (0.100" spacing). 64X: Inline pins (0.100" spacing). 64Y: Staggered pins. 64Z: Staggered pins.



Stock No.	Mfr.'s Type	Ohm Value	EACH		
			1-49	50-99	100-249
970-1275	64P 102	1000	2.00	1.88	1.54
970-1280	64P 502	5000	2.00	1.88	1.54
970-1285	64P 103	10K	2.00	1.88	1.54
970-1290	64P 203	20K	2.00	1.88	1.54
970-1295	64W 101	100	2.00	1.88	1.54
970-1300	64W 201	200	2.00	1.88	1.54
970-1305	64W 501	500	2.00	1.88	1.54
970-1310	64W 102	1000	2.00	1.88	1.54
970-1315	64W 202	2000	2.00	1.88	1.54
970-1320	64W 502	5000	2.00	1.88	1.54
970-1325	64W 103	10K	2.00	1.88	1.54
970-1330	64W 203	20K	2.00	1.88	1.54
970-1335	64W 503	50K	2.00	1.88	1.54
970-1340	64W 104	100K	2.00	1.88	1.54
970-1345	64W 204	200K	2.00	1.88	1.54
970-1350	64W 105	1M	2.00	1.88	1.54
970-1355	64X 101	100	2.00	1.88	1.54
970-1360	64X 501	500	2.00	1.88	1.54
970-1365	64X 102	1000	2.00	1.88	1.54
970-1370	64X 202	2000	2.00	1.88	1.54
970-1375	64X 502	5000	2.00	1.88	1.54
970-1380	64X 103	10K	2.00	1.88	1.54
970-1385	64X 203	20K	2.00	1.88	1.54
970-1390	64X 104	100K	2.00	1.88	1.54
970-1395	64Y 101	100	2.00	1.88	1.54
970-1400	64Y 501	500	2.00	1.88	1.54
970-1405	64Y 102	1000	2.00	1.88	1.54
970-1410	64Y 202	2000	2.00	1.88	1.54
970-1415	64Y 502	5000	2.00	1.88	1.54
970-1420	64Y 103	10K	2.00	1.88	1.54
970-1425	64Y 503	50K	2.00	1.88	1.54
970-1430	64Y 104	100K	2.00	1.88	1.54
970-1435	64Z 102	1000	2.00	1.88	1.54
970-1440	64Z 502	5000	2.00	1.88	1.54
970-1445	64Z 103	10K	2.00	1.88	1.54
970-1450	64Z 203	20K	2.00	1.88	1.54
970-1455	64Z 104	100K	2.00	1.88	1.54

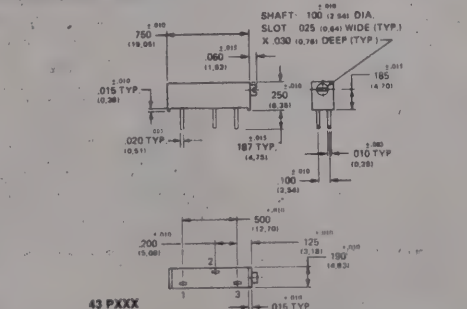
Single - Turn Cermet Model 75



Stock No.	Mfr.'s Type	Ohm Value	EACH		
			1-49	50-99	100-249
970-1580	75H 102	1000	1.93	1.54	1.40
970-1585	75H 202	2000	1.93	1.54	1.40
970-1590	75H 502	5000	1.93	1.54	1.40
970-1595	75H 103	10K	1.93	1.54	1.40
970-1600	75H 203	20K	1.93	1.54	1.40
970-1605	75H 503	50K	1.93	1.54	1.40
970-1610	75H 104	100K	1.93	1.54	1.40
970-1615	75P 102	1000	1.93	1.54	1.40
970-1620	75P 502	5000	1.93	1.54	1.40
970-1625	75P 103	10K	1.93	1.54	1.40
970-1630	75P 503	50K	1.93	1.54	1.40
970-1635	75P 104	100K	1.93	1.54	1.40
970-1640	75T 102	1000	2.00	1.60	1.45
970-1645	75T 502	5000	2.00	1.60	1.45
970-1650	75T 103	10K	2.00	1.60	1.45
970-1655	75T 203	20K	2.00	1.60	1.45
970-1660	75T 104	100K	2.00	1.60	1.45

Multi - Turn Cermet Model 43

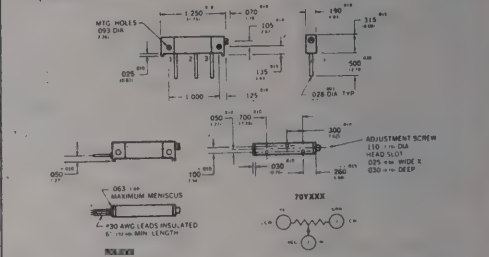
3/8" rectangular multi-turn cermet trimmer. 10% resistance tolerance. 20-turn nominal. 0.75 watt at 70°C. 200 cycles mechanical life. -55°C to +125°C operating temperature.



Stock No.	Mfr.'s Type	Ohm Value	EACH		
			1-49	50-99	100-249
970-1050	43P 500	50	1.38	1.20	1.07
970-1055	43P 101	100	1.38	1.20	1.07
970-1060	43P 201	200	1.38	1.20	1.07
970-1065	43P 501	500	1.38	1.20	1.07
970-1070	43P 102	1000	1.38	1.20	1.07
970-1075	43P 202	2000	1.38	1.20	1.07
970-1080	43P 502	5000	1.38	1.20	1.07
970-1085	43P 103	10K	1.38	1.20	1.07
970-1090	43P 203	20K	1.38	1.20	1.07
970-1095	43P 503	25K	1.38	1.20	1.07
970-1100	43P 503	50K	1.38	1.20	1.07
970-1105	43P 104	100K	1.38	1.20	1.07
970-1110	43P 204	200K	1.38	1.20	1.07
970-1115	43P 254	250K	1.38	1.20	1.07

Multi-Turn Cermet Model 70

1-1/4" rectangular multi-turn cermet trimmer. 10% resistance tolerance. 20-turn nominal. 1-watt at 85°C. 200 cycles mechanical life. -55°C to +150°C operating temperature.



Stock No.	Mfr.'s Type	Ohm Value	EACH		
			1-49	50-99	100-249
970-1460	70L 502	5000	8.05	6.42	5.84
970-1465	70L 103	10K	8.05	6.42	5.84
970-1470	70L 104	100K	8.05	6.42	5.84
970-1475	70Y 202	2000	5.25	5.00	3.93
970-1480	70Y 502	5000	5.25	5.00	3.93
970-1485	70Y 103	10K	5.25	5.00	3.93
970-1490	70Y 203	20K	5.25	5.00	3.93

Multi-Turn Cermet Model 74

1/4" square multi-turn cermet trimmer. 10% resistance tolerance. 12-turns nominal. 0.25 watt at 85°C. -55°C to +125°C operating temperature. 200 cycles mechanical life.



Stock No.	Mfr.'s Type	Ohm Value	EACH		
			1-49	50-99	100-249
970-1495	74P 102	1000	2.84	2.39	2.17
970-1500	74P 502	5000	2.84	2.39	2.17
970-1505	74P 103	10K	2.84	2.39	2.17
970-1510	74P 503	50K	2.84	2.39	2.17
970-1515	74P 104	100K	2.84	2.39	2.17
970-1520	74P 105	100K	2.84	2.39	2.17
970-1525	74P 205	200K	2.84	2.39	2.17
970-1530	74W 501	500	2.84	2.39	2.17
970-1535	74W 102	1000	2.84	2.39	2.17
970-1540	74W 103	10K	2.84	2.39	2.17
970-1545	74W 503	50K	2.84	2.39	2.17
970-1550	74W 104	100K	2.84	2.39	2.17
970-1555	74X 102	1000	2.84	2.39	2.17
970-1560	74X 502	5000	2.84	2.39	2.17
970-1565	74X 103	10K	2.84	2.39	2.17
970-1570	74X 503	50K	2.84	2.39	2.17
970-1575	74X 104	100K	2.84	2.39	2.17

Hardware and Adjustment Tool

Spectrol's standard 3/8" and 1-1/4" rectangular trimming potentiometers (models 43 and 70), may be easily panel mounted through the use of the Model 6 Panel Mount Adapters. These standard trimmer models can be quickly, easily, conveniently and economically converted into panel mount trimmers. Assembly is accomplished with the trimmer by snap-in, providing for minimal installation time. Adjustment tool is used to adjust trimmers. Can be used without magnetic or capacitance influence on the circuit.



Snap-On Adapters

Stock No.	Mfr.'s Type	Description	EACH		
			1-49	50-99	100-249
970-1000	6-1-0	For model 43 trimmers	1.78	1.51	1.40
970-1005	6-2-0	For models 40 & 70	1.78	1.51	1.40

Shaft Extenders

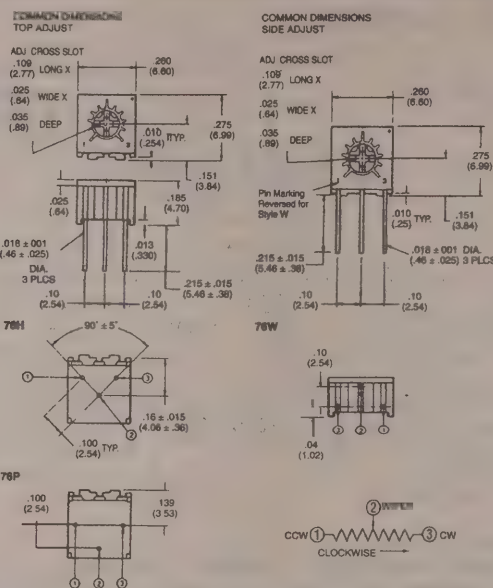
Stock No.	Mfr.'s Type	Description	.82	.69	.64
970-1010	6-0-1	Flush with bushing	.82	.69	.64
970-1015	6-0-2	0.575" FMS Extension	.82	.69	.64
970-1020	6-0-3	0.875" FMS Extension	.82	.69	.64

Adjustment Tool

Stock No.	Mfr.'s Type	Description	1.00	.85	.79
970-1025	8	Adjustment Tool	1.00	.85	.79

Model 76 single turn cermet trimming potentiometers are 1/4" square with standard features which include the ability to withstand immersion cleaning processes, a multi-finger wiper to minimize CRV and a rotor designed for automatic adjustment. They are rated at 1/2 watt at 70°C derated to 0 watts at 125°C. **Resistance Tolerance:** ±10% with a temperature coefficient of ±100 ppm/°C. **Angle Of Rotation:** 270° nominal. **Rotational Life:** 200 cycles. Terminal Pins are solderable. **Load Life:** 1000 hours at 0.5 watt at 70°C. **Temperature Range:** -55°C to +125°C. **Weight:** 0.02 oz. Manufacturer's literature available upon request.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
970-0700	76W102	1K	1.93	1.71	1.54	1.40
970-0702	76W202	2K	1.93	1.71	1.54	1.40
970-0704	76W502	5K	1.93	1.71	1.54	1.40
970-0706	76W103	10K	1.93	1.71	1.54	1.40
970-0708	76W203	20K	1.93	1.71	1.54	1.40
970-0730	76P102	1K	1.93	1.71	1.54	1.40
970-0732	76P202	2K	1.93	1.71	1.54	1.40
970-0734	76P502	5K	1.93	1.71	1.54	1.40
970-0736	76P103	10K	1.93	1.71	1.54	1.40
970-0738	76P203	20K	1.93	1.71	1.54	1.40
970-0760	76H102	1K	1.93	1.71	1.54	1.40
970-0762	76H202	2K	1.93	1.71	1.54	1.40
970-0764	76H502	5K	1.93	1.71	1.54	1.40
970-0766	76H103	10K	1.93	1.71	1.54	1.40
970-0768	76H203	20K	1.93	1.71	1.54	1.40



The models 4G and 4J are single-turn 5 mm cermet trimming potentiometers that have been designed for high performance and stability with optimum packaging density. Both the J-lead (4J) and the gull wing (4G) are fully sealed for wave, vapor phase, reflow soldering and immersion cleaning processes. Designed for both manual or automatic operation, and fitted with mechanical stops, both models are available as standard on tape and reel or in bulk (as special order item). **Electrical Travel:** 220°C $\pm 15^\circ$. **Mechanical Travel:** 270°C $\pm 10^\circ$. **Linear Power Rating:** 0.2 watts at 85°C. Logarithmic taper not available. **Resistance Tolerance:** $\pm 20\%$. **Temperature Range:** -55°C to +125°C. **Load Life:** 1000 hours at 0.2 watt at 85°C. **Rotational Life:** 100 cycles. **Max Unit Weight:** 0.15 grams. Manufacturer's literature available upon request.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
970-0800	4G101	100	1.80	1.72	1.64	1.56
970-0802	4G201	200	1.80	1.72	1.64	1.56
970-0804	4G501	500	1.80	1.72	1.64	1.56
970-0806	4G102	1K	1.80	1.72	1.64	1.56
970-0808	4G202	2K	1.80	1.72	1.64	1.56
970-0810	4G502	5K	1.80	1.72	1.64	1.56
970-0812	4G103	10K	1.80	1.72	1.64	1.56
970-0814	4G203	20K	1.80	1.72	1.64	1.56
970-0816	4G503	50K	1.80	1.72	1.64	1.56
970-0818	4G104	100K	1.80	1.72	1.64	1.56
970-0820	4G204	200K	1.80	1.72	1.64	1.56
970-0822	4G504	500K	1.80	1.72	1.64	1.56
970-0824	4G105	1M	1.80	1.72	1.64	1.56
970-0826	4G205	2M	1.80	1.72	1.64	1.56
970-0850	4J101	100	1.80	1.72	1.64	1.56
970-0852	4J201	200	1.80	1.72	1.64	1.56
970-0854	4J501	500	1.80	1.72	1.64	1.56
970-0856	4J102	1K	1.80	1.72	1.64	1.56
970-0858	4J202	2K	1.80	1.72	1.64	1.56
970-0860	4J502	5K	1.80	1.72	1.64	1.56
970-0862	4J103	10K	1.80	1.72	1.64	1.56
970-0864	4J203	20K	1.80	1.72	1.64	1.56
970-0866	4J503	50K	1.80	1.72	1.64	1.56
970-0868	4J104	100K	1.80	1.72	1.64	1.56
970-0870	4J204	200K	1.80	1.72	1.64	1.56
970-0872	4J504	500K	1.80	1.72	1.64	1.56
970-0874	4J105	1M	1.80	1.72	1.64	1.56
970-0876	4J205	2M	1.80	1.72	1.64	1.56

[illegible]

The model 4H is an open frame 4 mm single turn cermet trimming potentiometer that has excellent solder wettability and excellent solder heat resistance as well as high solder leaching resistance with the nickel barrier layer construction. The model 4M is a single turn, miniature, superthin ($4.7 \times 4.0 \times 2.0$ mm), highly reliable sealed cermet trimming potentiometer. It is suitable for flow and reflow soldering and is sealed to withstand immersion cleaning process. No cleaning process is necessary after soldering. **Max. Working Voltage:** 50 VDC. **Resistance Tolerance:** $\pm 5\%$. **Power:** 0.1 watt at 70°C. **Effective Rotational Angle:** 4H — $270^\circ \pm 10^\circ$; 4J — $240^\circ \pm 10^\circ$. **Temperature Range:** -55°C to $+125^\circ\text{C}$. **Rotational Life:** 20 cycles. Manufacturer's literature available upon request.

Stock No.	Mir.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
970-0900	4H101	100	0.70	0.65	0.62	0.58
970-0902	4H201	200	0.70	0.65	0.62	0.58
970-0904	4H501	500	0.70	0.65	0.62	0.58
970-0906	4H102	1K	0.70	0.65	0.62	0.58
970-0908	4H202	2K	0.70	0.65	0.62	0.58
970-0910	4H502	5K	0.70	0.65	0.62	0.58
970-0912	4H103	10K	0.70	0.65	0.62	0.58
970-0914	4H203	20K	0.70	0.65	0.62	0.58
970-0916	4H503	50K	0.70	0.65	0.62	0.58
970-0918	4H104	100K	0.70	0.65	0.62	0.58
970-0920	4H204	200K	0.70	0.65	0.62	0.58
970-0922	4H504	500K	0.70	0.65	0.62	0.58
970-0924	4H105	1M	0.70	0.65	0.62	0.58
970-0926	4H205	2M	0.70	0.65	0.62	0.58
970-0950	4M101	100	0.70	0.65	0.62	0.58
970-0952	4M201	200	0.70	0.65	0.62	0.58
970-0954	4M501	500	0.70	0.65	0.62	0.58
970-0956	4M102	1K	0.70	0.65	0.62	0.58
970-0958	4M202	2K	0.70	0.65	0.62	0.58
970-0960	4M502	5K	0.70	0.65	0.62	0.58
970-0962	4M103	10K	0.70	0.65	0.62	0.58
970-0964	4M203	20K	0.70	0.65	0.62	0.58
970-0966	4M503	50K	0.70	0.65	0.62	0.58
970-0968	4M104	100K	0.70	0.65	0.62	0.58
970-0970	4M204	200K	0.70	0.65	0.62	0.58
970-0972	4M504	500K	0.70	0.65	0.62	0.58
970-0974	4M105	1M	0.70	0.65	0.62	0.58
970-0976	4M205	2M	0.70	0.65	0.62	0.58

Carbon Film Resistors

Supplied Tape/Box

NOTE: 1/2 watt size is the same as 1/4 watt size, but with gray body color.



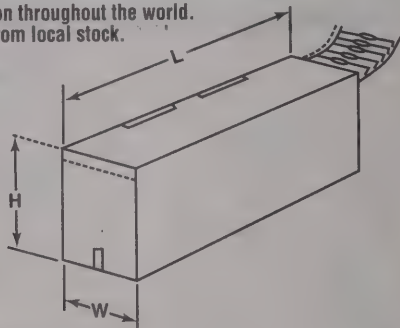
Style	CF25	CS50	Style		CF25	CS50
Rating Wattage	1/4W	1/2W	Body	Length (L)	6.0 ±0.3	6.0 ±0.3
Max. Working Voltage	250V	350V		Diameter (D) ±0.2	2.3	2.3
Rated Ambient Temp.	70°C		Lead-Wire	Length (H) Minimum	28	28
Operating Temp. Range	-55°C to +155°C			Diameter (d)	0.6	0.6
Resistance Range	1Ω to 10MΩ	1Ω to 2.2MΩ				
Resistance Tolerance	±5%					

NOTE: Zero Ohm Available.

Dimensions (mm).

- Rigid control of raw materials.
- Manufacturing and quality control to international standards.
- Meeting or exceeding the applicable requirements of EIA-RS-196-A, JIS-C-6402, and IEC-115.
- Product recognition throughout the world.
- Prompt delivery from local stock.

AMMOPACK BOX DIMENSIONS



Ammopack Box dimensions (mm).

(PRICING BELOW)

	Resistor Style	Tape/Box Code	W	H	L	Quantity Per Box
Axial Taping	1/4 Watt	T50	85	118	260	5000
	1/2 Watt	T50	85	118	260	5000

- Feeds to all automatic machines the same as tape/reel.
- Saves shelf space compared to tape/reel.
- More cost effective than tape/reel.
- Ask your Allied sales office for automatic machine application information.

Stock No.	Mfr.'s Type	Watts @ 70°C	Body Color	Values (See Table Below)	PER BOX/5000
697-1XXX	CF25	1/4	Tan	1 Ohm-10M	40.00
697-2XXX	CS50	1/2	Gray	1 Ohm-2.2M	69.00

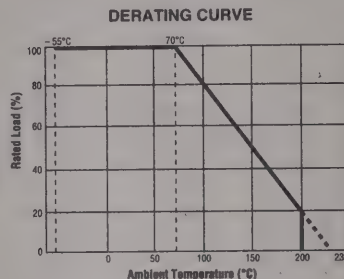
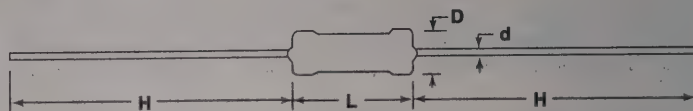
Please call for large volume pricing.

Standard Resistance Values

To Complete Allied Stock Number, Insert 3-Digit Number Shown In XXX Column After Value Desired In Place Of XXX In Stock Number.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
0.51	010	2.7	041	13	063	68	178	360	278	1.8K	393	9.1K	511	47K	650	330K	796	3.0M	911
0.56	011	3.0	042	15	064	75	185	390	288	2.0K	400	10K	522	51K	657	390K	811	3.3M	912
0.62	012	3.3	043	16	065	82	190	430	296	2.2K	405	11K	528	56K	666	470K	825	3.6M	913
0.68	013	3.6	044	18	066	91	191	470	302	2.4K	412	12K	533	62K	677	510K	830	3.9M	914
0.75	014	3.9	046	20	098	100	202	510	308	2.7K	421	13K	543	68K	685	560K	836	4.3M	915
0.82	016	4.3	047	22	102	110	206	560	315	3.0K	427	15K	550	75K	698	680K	850	4.7M	916
0.91	017	4.7	049	24	114	120	212	620	324	3.3K	433	16K	563	82K	703	910K	871	5.1M	917
1.0	020	5.1	051	27	117	130	218	680	330	3.6K	441	18K	565	91K	712	1.0M	877	5.6M	918
1.1	021	5.6	053	30	123	150	226	750	338	3.9K	446	20K	575	100K	717	1.1M	881	6.2M	919
1.2	022	6.2	054	33	130	160	230	820	343	4.3K	453	22K	585	110K	718	1.2M	886	6.8M	920
1.3	023	6.8	055	36	135	180	237	910	351	4.7K	461	24K	592	120K	727	1.3M	890	7.5M	921
1.5	024	7.5	056	39	140	200	243	1.0K	356	5.1K	467	27K	603	150K	740	1.5M	900	8.2M	922
1.6	025	8.2	057	43	143	220	248	1.1K	361	5.6K	473	30K	611	180K	751	1.8M	903	9.1M	923
1.8	026	9.1	058	47	153	240	255	1.2K	366	6.2K	482	33K	617	200K	759	2.0M	905	10M	924
2.0	028	10	060	51	160	270	263	1.3K	373	6.8K	489	36K	621	220K	765	2.2M	907	-	-
2.2	032	11	061	56	166	300	270	1.5K	380	7.5K	498	39K	636	270K	783	2.4M	908	-	-
2.4	035	12	062	62	172	330	276	1.6K	383	8.2K	504	43K	643	300K	790	2.7M	909	-	-

Mini Series Metal Oxide Film Resistors



Style	RSS1	RSS2	RSS5
Body	L ± 1.0	9	11
	D ± 0.6	4	4.5
Lead-Wire	H ± 3	30	30
	d ± 0.05	0.65	0.8

Dimensions (mm).

Introduction

Metal Oxide Film Resistors have been developed for application in circuits where stability under high temperature conditions is required.

Features

- Small Size and High Performance.
- Uniform Quality, and High Reliability.
- Flame Proof.
- Long Term Stability.
- Low Noise.
- 1W and 2W Supplied in Tape and Box: 1000 Pcs/Box
- 5W Supplied in Tape and Box: 500 Pcs/Box

SPECIFICATIONS

(PRICING BELOW)

Style	Rated Power at 70°C	Max. Working Voltage	Max. Overload Voltage	Dielectric Withstanding Voltage	Tol. (%)	Resistance Range
RSS1	1W	300V	600V	500V	5	0.51Ω-50KΩ
RSS2	2W	350V	700V	500V	5	0.51Ω-50KΩ
RSS5	5W	500V	800V	500V	5	0.51Ω-100KΩ

Stock No.	Mfr.'s Type	Watts @ 70°C	Values (See Table Below)	PER BOX/1000
697-4XXX	RSS1	1W	.51 Ohm-50K	65.00
697-5XXX	RSS2	2W	.51 Ohm-50K	85.00
697-6XXX	RSS5	5W	.51 Ohm-100K	350.00

Please call for large volume pricing.
10% Devices available on special request.

Metal Film Resistors

Supplied Tape/Box: 1,000 Pcs/Box

Specifications

Style	MF25
Rating Wattage	0.25
Max. Working Voltage	250V
Rated Ambient Temp	70°C
Operating Temp Range	-55°C to +150°C
Temperature Coefficient: ppm/°C	100
Resistance Tolerance	1%
Resistance Range	10Ω-1MΩ
Series	E96
Dielectric Voltage	500V

2% Tolerance and MF30-Device Available By Special Request

Performance Characteristics

Item	Requirements	Procedures
Resistance Value	See Specifications	Resistance Max. test Voltage 1 Ohm to 9.9 Ohm 0.3V 10 Ohm to 99 Ohm 1V 100 Ohm to 9.9 K Ohm 3V 10 K Ohm to 99 K Ohm 10V 100 K Ohm and higher 30V
Terminal Strength Tensile Bending Torsion	No damage ΔR max 0.25% + 0.05 Ohm	load 2.5Kg: 10 sec load 0.5Kg: 4x90° 3 x 360° in opposite directions
Solderability	Good tining	5 sec 230°C 3 sec 350°C
Resistance to Heat	No damage ΔR max 0.5% + 0.05 Ohm ΔR max 0.25% + 0.05 Ohm	frequency: 10-55 Hz displacement 1.6 mm three directions total 9 hrs 40°C 90-95% R.H., 1000 hrs 2000 hrs, 70°C Rated Voltage 1 1/2 hrs on, 1/2 hr off between -55°C and +155°C 2 x Max Voltage
Vibration	ΔR max 1.5% + 0.05 Ohm ΔR max 2% + 0.05 Ohm	DC 100V 1 min 2.5 x Rated Voltage (not more than 2 x Max. Voltage) 5 sec
Moisture Resistance Load Life	ΔR max 1.5% + 0.05 Ohm ΔR max 2% + 0.05 Ohm	Noise 0.1 uv N
Temperature Coefficient Dielectric Strength	See Specifications No breakdown ΔR max 0.25% + 0.05 Ohm	Solvent Resistance No damage
Insulation Resistance Short Time Overload	>10 ⁴ Meg Ohm ΔR max 0.25% + 0.05 Ohm	

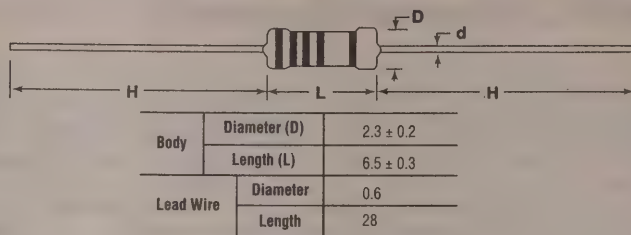
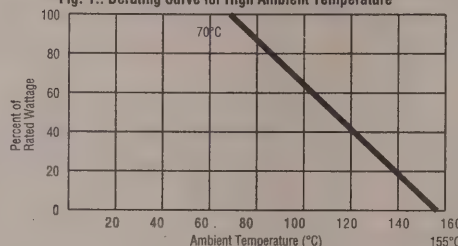
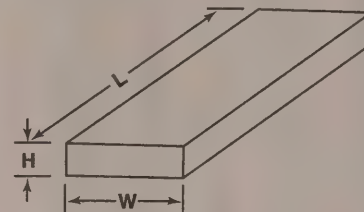


Fig. 1.: Derating Curve for High Ambient Temperature



Ammopack Box	Dimensions in mm			Qty/Box
	W	H	L	
Axial Taping	90	30	270	1,000



Stock No.	Mfr.'s Type	Tol.	Watts	T.C.	PER BOX 1,000
697-3XXX	MF-25	1%	1/4W	100 PPM	15.00

See Chart for XXX code.

Call for large volume pricing.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	100	51.1	161	348	280	2K	400	4.75K	462	11K	528	27.4K	604	82.5K	705	464K	791
12.1	107	56.2	167	402	292	2.15K	403	4.87K	463	12.1K	535	30.1K	612	84.5K	706	475K	796
15	113	75	185	475	303	2.21K	406	4.99K	465	12.4K	536	33.2K	618	90.9K	711	499K	828
20	121	90.9	196	499	306	2.49K	415	5.11K	468	13K	538	40.2K	638	100K	717	511K	831
22.1	125	100	202	604	322	2.74K	422	6.19K	481	15K	550	46.4K	649	121K	728	619K	841
24.9	128	121	213	750	338	3.01K	428	6.81K	490	15.8K	552	47.5K	651	150K	740	681K	853
30.1	135	150	226	825	345	3.32K	435	7.5K	498	17.4K	561	49.9K	655	200K	759	750K	862
34.8	140	200	243	909	350	3.48K	437	8.25K	505	18.2K	566	51.1K	658	221K	766	825K	875
40.2	146	221	250	1K	356	3.57K	440	9.09K	513	20K	575	61.9K	675	249K	777	909K	881
47.5	152	249	257	1.21K	367	3.83K	445	9.53K	518	22.1K	586	68.1K	686	301K	781	953K	885
49.9	157	301	271	1.5K	380	4.02K	450	10K	522	24.9K	594	75K	694	402K	788	1Meg	891

Chip Resistors

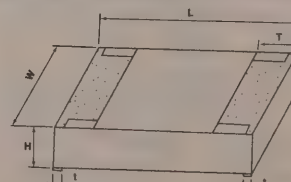
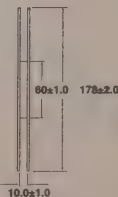
Features

- Uniform Quality and High Performance
- Excellent Mechanical Strength
- Equivalent Specification: EIAJ—RC—2690
- Supplied in Tape/Reel: 5,000 Pcs/Reel
- Resistance Range: 10 Ohm – 1Meg
- Zero Ohm and Other Values Available by Special Request

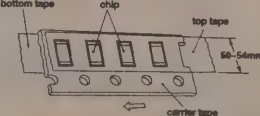
Dimensions

Style	L	W	H	T	t
E001 (0805)	2.0 ± 0.2	1.25 ± 0.1	0.45 ± 0.1	0.4 ± 0.2	0.2 - 0.5
E002 (1206)	3.2 ± 0.2	1.55 ± 0.1	0.55 ± 0.1 0.05	0.45 ± 0.2	0.2 - 0.5

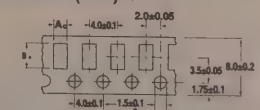
Reel Dimension (mm)



Tape



Tape Dimension (mm)



Stock No.	Mfr.'s Type	Style	Watts	Max Volts (Working)	Tol.	PER REEL 5,000
697-93XX	CFC-12	1206	1/4W	200V	5%	59.00
697-95XX	CFC-10	0805	1/8W	150V	5%	54.00

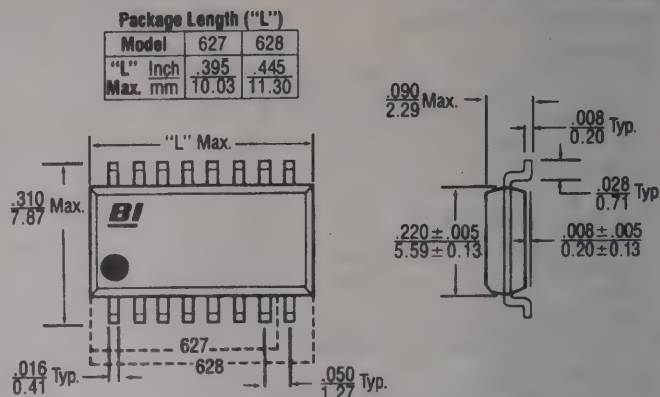
See Chart for XX Code. Large Quantity Pricing Available.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	39	18	200	26	470	34	2700	42	5600	50	30K	58	100K	66	390K	74
20	12	47	20	270	28	560	36	3000	44	10K	52	39K	60	200K	68	470K	76
27	14	56	22	300	30	1000	38	3900	46	20K	54	47K	62	270K	70	560K	78
30	16	100	24	390	32	2000	40	4700	48	27K	56	56K	64	300K	72	1Meg	80

Model 627, 628 Series SMD DIP Networks

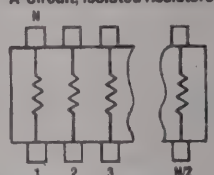
These dual-in-line (DIP) thick film resistor networks are small outline surface mount devices (SMD). The A configuration is isolated resistors and the B configuration is bussed resistors. They are 1.28-watts per package at 70°C derated to 0 at 150°C. **Resistance Tolerance:** at 25°C is 2% (<33 ohm = ±1 ohm). **Resistance Temperature Coefficient:** ±100 ppm/°C (<100 ohms = 250 ppm/°C). **Resistance to Solder Heat:** 280°C for 10 seconds. **Operating Temperature Range:** -55°C to +125°C. **Lead Material:** Copper alloy dipped in 60/40 tin-lead solder. Leads are in a gull-wing configuration. An alumina substrate material is used with cermet resistor material enclosed in epoxy body material. Additional tolerances and packaging available as special order items. Manufacturer's literature available upon request.

Stock No.	Mfr.'s Type	Ohms	Tolerance	EACH				
				1-99	100-249	250-499	500-999	1000-9999
525-5500	627A220	22	2.0	1.50	.75	.45	.34	.28
525-5502	627A101	100	2.0	1.50	.75	.45	.34	.28
525-5504	627A201	200	2.0	1.50	.75	.45	.34	.28
525-5506	627A221	220	2.0	1.50	.75	.45	.34	.28
525-5508	627A102	1K	2.0	1.50	.75	.45	.34	.28
525-5510	627A202	2K	2.0	1.50	.75	.45	.34	.28
525-5512	627A222	2.2K	2.0	1.50	.75	.45	.34	.28
525-5514	627A103	10K	2.0	1.50	.75	.45	.34	.28
525-5516	627A203	20K	2.0	1.50	.75	.45	.34	.28
525-5518	627A104	100K	2.0	1.50	.75	.45	.34	.28
525-5520	627A204	200K	2.0	1.50	.75	.45	.34	.28
525-5542	628B220	22	2.0	1.50	.75	.45	.34	.28
525-5544	628B330	33	2.0	1.50	.75	.45	.34	.28
525-5546	628B470	47	2.0	1.50	.75	.45	.34	.28
525-5548	628B101	100	2.0	1.50	.75	.45	.34	.28
525-5550	628B221	220	2.0	1.50	.75	.45	.34	.28
525-5552	628B331	330	2.0	1.50	.75	.45	.34	.28
525-5554	628B471	470	2.0	1.50	.75	.45	.34	.28
525-5556	628B102	1K	2.0	1.50	.75	.45	.34	.28
525-5558	628B202	2K	2.0	1.50	.75	.45	.34	.28
525-5560	628B222	2.2K	2.0	1.50	.75	.45	.34	.28
525-5562	628B332	3.3K	2.0	1.50	.75	.45	.34	.28
525-5564	628B472	4.7K	2.0	1.50	.75	.45	.34	.28
525-5566	628B103	10K	2.0	1.50	.75	.45	.34	.28
525-5568	628B203	20K	2.0	1.50	.75	.45	.34	.28
525-5570	628B223	22K	2.0	1.50	.75	.45	.34	.28
525-5572	628B333	33K	2.0	1.50	.75	.45	.34	.28
525-5574	628B473	47K	2.0	1.50	.75	.45	.34	.28
525-5576	628B104	100K	2.0	1.50	.75	.45	.34	.28
525-5578	628B204	200K	2.0	1.50	.75	.45	.34	.28
525-5580	628B224	220K	2.0	1.50	.75	.45	.34	.28
525-5582	628B270	270K	2.0	1.50	.75	.45	.34	.28
525-5584	628B474	470K	2.0	1.50	.75	.45	.34	.28
525-5586	628B105	1M	2.0	1.50	.75	.45	.34	.28



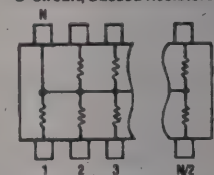
Note: Maximum allowable mold excursion = 0.006"

A-Circuit, Isolated Resistors

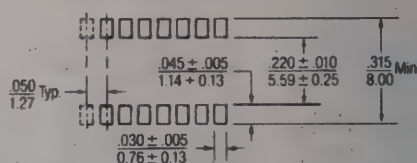


627: N = 14 Leads 628: N = 16 Leads

B-Circuit, Bussed Resistors

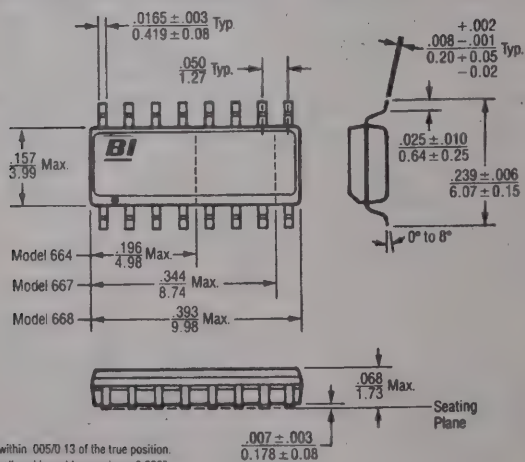


Solder Pad Layout



Model 664, 668 Series SMD DIP Networks

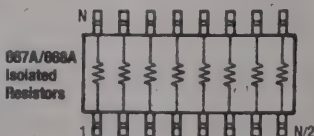
These dual-in-line (DIP) thin film precision resistor networks are small outline surface mount devices (SMD). The A configuration is for isolated resistors. The 664 is .4-watts per package and the 668 is .5-watts per package at 70°C derated to 0 at 125°C. **Resistance Tolerance (and ratio):** at 25°C is A = 0.1%/0.05%; B = 0.1%/0.1%; D = 0.5%/0.1%; F = 1.0%/0.5%. **Resistance Temperature Coefficient:** ±25 ppm/°C. **Resistance to Solder Heat:** 280°C for 10 seconds. **Operating Temperature Range:** -55°C to +125°C. **Lead Material:** Copper alloy dipped in 85/15 tin-lead solder. Leads are in a gull-wing configuration. An alumina substrate material is used with nichrome resistor material enclosed in a molded epoxy body material. Manufacturer's literature available upon request.



Notes:
1. Leads are within .005/0.13 of the true position.
2. Maximum allowable mold excursion = 0.006"



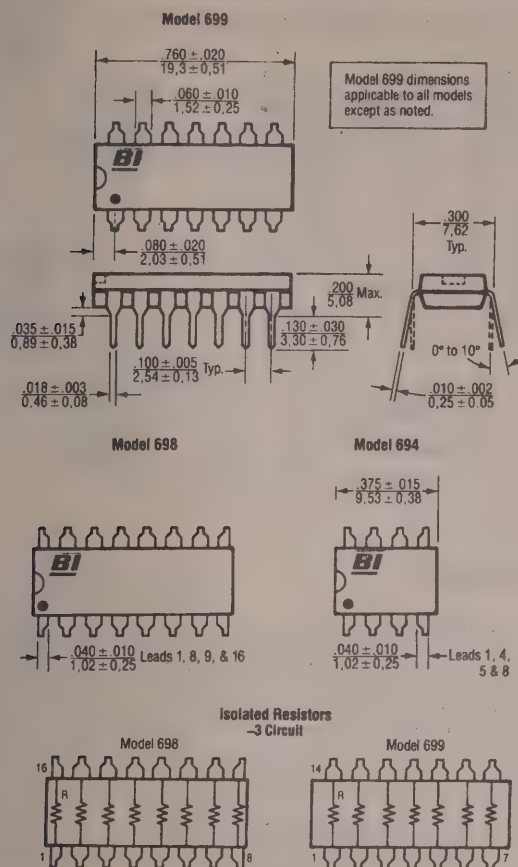
667: N = 14 Leads
668: N = 16 Leads



Stock No.	Mfr.'s Type	Ohms	Tolerance	EACH				
				1-99	100-249	250-499	500-999	1000-9999
525-5590	664A1002A	10K	0.05	3.50	2.65	2.50	2.35	2.25
525-5595	664A1002D	10K	0.5	2.75	2.05	1.90	1.75	1.65
525-5600	668A1001D	1K	0.5	3.35	2.50	2.35	2.20	2.10
525-5602	668A1001F	1K	1.0	3.10	2.30	2.15	2.00	1.90
525-5604	668A2001B	2K	0.1	3.80	3.05	2.90	2.75	2.65
525-5606	668A2001D	2K	0.5	3.35	2.50	2.35	2.20	2.10
525-5608	668A2001F	2K	1.0	3.10	2.30	2.15	2.00	1.90
525-5610	668A5001B	5K	0.1	3.80	3.05	2.90	2.75	2.65
525-5612	668A5001D	5K	0.5	3.35	2.50	2.35	2.20	2.10
525-5614	668A5001F	5K	1.0	3.10	2.30	2.15	2.00	1.90
525-5616	668A1002B	10K	0.1	3.80	3.05	2.90	2.75	2.65
525-5618	668A1002D	10K	0.5	3.35	2.50	2.35	2.20	2.10
525-5620	668A1002F	10K	1.0	3.10	2.30	2.15	2.00	1.90
525-5622	668A2002B	20K	0.1	3.80	3.05	2.90	2.75	2.65
525-5624	668A2002D	20K	0.5	3.35	2.50	2.35	2.20	2.10
525-5626	668A2002F	20K	1.0	3.10	2.30	2.15	2.00	1.90
525-5628	668A5002B	50K	0.1	3.80	3.05	2.90	2.75	2.65
525-5630	668A5002D	50K	0.5	3.35	2.50	2.35	2.20	2.10
525-5632	668A5002F	50K	1.0	3.10	2.30	2.15	2.00	1.90
525-5634	668A1003B	100K	0.1	3.80	3.05	2.90	2.75	2.65
525-5636	668A1003D	100K	0.5	3.35	2.50	2.35	2.20	2.10
525-5638	668A1003F	100K	1.0	3.10	2.30	2.15	2.00	1.90

Model 694, 698, 699 Series DIP Networks

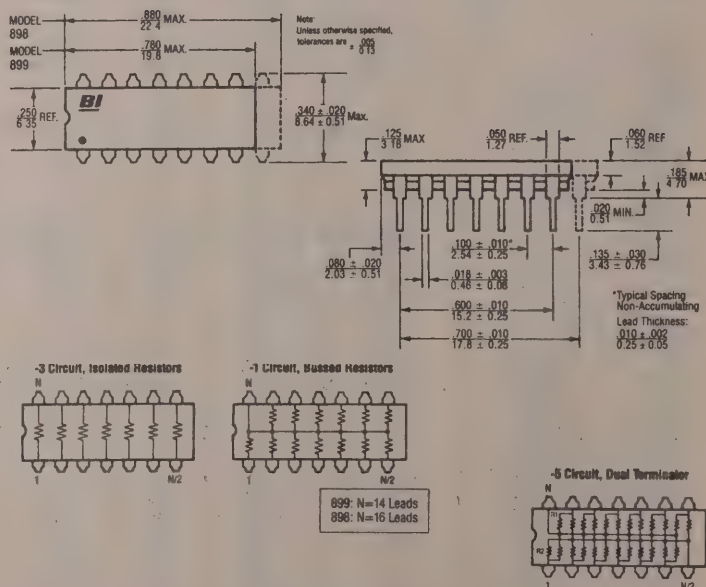
These dual-in-line (DIP) thin film precision resistor networks are thru-hole devices. They are isolated resistors in each package. The 694 is .4-watts per package, the 698 and 699 are .6-watts per package at 70°C derated to 0 at 150°C. **Resistance Tolerance (and ratio):** at 25°C is A = 0.1%/0.05%; B = 0.1/0.1%; D = 0.5/0.1%; F = 1.0%/0.5%. **Resistance Temperature Coefficient:** ± 50 ppm/°C. **Resistance to Solder Heat:** 280°C for 10 seconds. **Operating Temperature Range:** -55°C to +125°C. **Lead Material:** Copper alloy dipped in 60/40 tin-lead solder. Leads are in PC-pin configuration. An alumina substrate material is used with nichrome resistor material enclosed in a molded epoxy body material. Manufacturer's literature available upon request.



Stock No.	Mfr.'s Type	Ohms	Tolerance	EACH				
				1-99	100-249	250-499	500-999	1000-9999
525-3900	6943R1KA	1K	0.05	3.25	2.45	2.30	2.15	2.05
525-3905	6943R1KD	1K	0.5	2.80	1.85	1.70	1.55	1.45
525-3910	6943R5KB	5K	0.1	2.95	2.05	1.90	1.75	1.65
525-3915	6943R5KF	5K	1.0	2.65	1.65	1.50	1.35	1.25
525-3920	6943R10KA	10K	0.05	3.25	2.45	2.30	2.15	2.05
525-3925	6943R10KB	10K	0.1	2.95	2.05	1.90	1.75	1.65
525-3930	6943R10KD	10K	0.5	2.80	1.85	1.70	1.55	1.45
525-3935	6943R10KF	10K	1.0	2.65	1.65	1.50	1.35	1.25
525-3940	6943R20KA	20K	0.05	3.25	2.45	2.30	2.15	2.05
525-3945	6943R20KB	20K	0.1	2.95	2.05	1.90	1.75	1.65
525-3950	6943R20KD	20K	0.5	2.80	1.85	1.70	1.55	1.45
525-3955	6943R50KA	50K	0.05	3.25	2.45	2.30	2.15	2.05
525-3960	6943R50KB	50K	0.1	2.95	2.05	1.90	1.75	1.65
525-3965	6943R50KD	50K	0.5	2.80	1.85	1.70	1.55	1.45
525-3970	6943R100KA	100K	0.05	3.25	2.45	2.30	2.15	2.05
525-3975	6943R100KB	100K	0.1	2.95	2.05	1.90	1.75	1.65
525-3980	6943R100KD	100K	0.5	2.80	1.85	1.70	1.55	1.45
525-3985	6943R100KF	100K	1.0	2.65	1.65	1.50	1.35	1.25
525-4000	6981R1KB	1K	0.1	4.25	3.25	3.10	2.95	2.85
525-4005	6981R1KD	1K	0.5	3.85	2.70	2.55	2.40	2.30
525-4010	6981R1KF	1K	1.0	3.30	2.00	1.85	1.70	1.60
525-4015	6981R2KD	2K	0.5	3.85	2.70	2.55	2.40	2.30
525-4020	6981R2KF	2K	1.0	3.30	2.00	1.85	1.70	1.60
525-4025	6981R10KB	10K	0.1	4.25	3.25	3.10	2.95	2.85
525-4030	6981R10KD	10K	0.5	3.85	2.70	2.55	2.40	2.30
525-4035	6981R20KB	20K	0.1	4.25	3.25	3.10	2.95	2.85
525-4040	6981R20KD	20K	0.5	3.85	2.70	2.55	2.40	2.30
525-4045	6981R20KF	20K	1.0	3.30	2.00	1.85	1.70	1.60
525-4050	6981R100KD	100K	0.5	3.85	2.70	2.55	2.40	2.30
525-4055	6981R100KF	100K	1.0	3.30	2.00	1.85	1.70	1.60
525-4100	6991R1KD	1K	0.5	3.35	2.50	2.35	2.20	2.10
525-4105	6991R1KF	1K	1.0	2.60	1.90	1.75	1.60	1.50
525-4110	6991R5KD	5K	0.5	3.35	2.50	2.35	2.20	2.10
525-4115	6991R5KF	5K	1.0	2.60	1.90	1.75	1.60	1.50
525-4120	6991R10KD	10K	0.5	3.35	2.50	2.35	2.20	2.10
525-4125	6991R10KF	10K	1.0	2.60	1.90	1.75	1.60	1.50
525-4130	6991R100KD	100K	0.5	3.35	2.50	2.35	2.20	2.10
525-4135	6991R100KF	100K	1.0	2.60	1.90	1.75	1.60	1.50

Model 898, 899 Series DIP Networks

These dual-in-line (DIP) thick film precision resistor networks are thru-hole devices. The -1 configuration is bussed, the -3 configuration is isolated and the -5 is dual terminator in each package. The 898 is 2-watts per package and the 899 is 1.28-watts per package at 70°C derated to 0 at 125°C. **Resistance Tolerance:** at 25°C is 2% (<100 ohm = ± 2 ohm). **Resistance Temperature Coefficient:** ± 100 ppm/°C (<100 ohms = ± 250 ppm/°C). **Resistance to Solder Heat:** per MIL-STD-202, method 210, cond. B. **Operating Temperature Range:** -55°C to +125°C. **Lead Material:** Copper alloy dipped in 60/40 tin-lead solder. Leads are in PC-pin configuration. An alumina substrate material is used with cermet resistor material enclosed in a molded epoxy body material. Custom circuit configurations are available as special order items. Manufacturer's literature available upon request.



Stock No.	Mfr.'s Type	Ohms	Tolerance	EACH				
				1-99	100-249	250-499	500-999	1000-9999
525-4200	8981R1K	1K	2.0	.56	.48	.43	.38	.34
525-4205	8981R2.2K	2.2K	2.0	.56	.48	.43	.38	.34
525-4210	8981R4.7K	4.7K	2.0	.56	.48	.43	.38	.34
525-4215	8981R10K	10K	2.0	.56	.48	.43	.38	.34
525-4220	8981R22K	22K	2.0	.56	.48	.43	.38	.34
525-4225	8981R47K	47K	2.0	.56	.48	.43	.38	.34
525-4300	8983R22	22	2.0	.56	.48	.43	.38	.34
525-4303	8983R27	27	2.0	.56	.48	.43	.38	.34
525-4306	8983R33	33	2.0	.56	.48	.43	.38	.34
525-4309	8983R39	39	2.0	.56	.48	.43	.38	.34
525-4312	8983R47	47	2.0	.56	.48	.43	.38	.34
525-4315	8983R51	51	2.0	.56	.48	.43	.38	.34
525-4318	8983R56	56	2.0	.56	.48	.43	.38	.34
525-4321	8983R68	68	2.0	.56	.48	.43	.38	.34
525-4324	8983R82	82	2.0	.56	.48	.43	.38	.34
525-4327	8983R100	100	2.0	.56	.48	.43	.38	.34
525-4330	8983R120	120	2.0	.56	.48	.43	.38	.34
525-4333	8983R150	150	2.0	.56	.48	.43	.38	.34
525-4336	8983R220	220	2.0	.56	.48	.43	.38	.34
525-4339	8983R270	270	2.0	.56	.48	.43	.38	.34
525-4342	8983R330	330	2.0	.56	.48	.43	.38	.34
525-4345	8983R390	390	2.0	.56	.48	.43	.38	.34
525-4348	8983R470	470	2.0	.56	.48	.43	.38	.34
525-4351	8983R1K	1K	2.0	.56	.48	.43	.38	.34
525-4354	8983R2.2K	2.2K	2.0	.56	.48	.43	.38	.34
525-4357	8983R3.3K	3.3K	2.0	.56	.48	.43	.38	.34
525-4360	8983R4.7K	4.7K	2.0	.56	.48	.43	.38	.34
525-4363	8983R10K	10K	2.0	.56	.48	.43	.38	.34
525-4366	8983R22K	22K	2.0	.56	.48	.43	.38	.34
525-4369	8983R33K	33K	2.0	.56	.48	.43	.38	.34
525-4372	8983R47K	47K	2.0	.56	.48	.43	.38	.34
525-4375	8983R100K	100K	2.0	.56	.48	.43	.38	.34
525-4400	8985R220/330	220/330	2.0	.87	.68	.64	.59	.54
525-4405	8985R330/470	330/470	2.0	.87	.68	.64	.59	.54
525-4500	8991R1K	1K	2.0	.56	.48	.43	.38	.34
525-4505	8991R4.7K	4.7K	2.0	.56	.48	.43	.38	.34
525-4510	8991R10K	10K	2.0	.56	.48	.43	.38	.34

Stock No.	Mfr.'s Type	Ohms	Tolerance	EACH				
				1-99	100-249	250-499	500-999	1000-9999
525-4600	8993R33	33	2.0	.56	.48	.43	.38	.34
525-4605	8993R100	100	2.0	.56	.48	.43	.38	.34
525-4610	8993R150	150	2.0	.56	.48	.43	.38	.34
525-4615	8993R220	220	2.0	.56	.48	.43	.38	.34
525-4620	8993R470	470	2.0	.56	.48	.43	.38	.34
525-4625	8993R1K	1K	2.0	.56	.48	.43	.38	.34
525-4630	8993R4.7K	4.7K	2.0	.56	.48	.43	.38	.34
525-4635	8993R10K	10K	2.0	.56	.48	.43	.38	.34
525-4640	8993R33K	33K	2.0	.56	.48	.43	.38	.34
525-4645	8993R47K	47K	2.0	.56	.48	.43	.38	.34
525-4650	8993R82K	82K	2.0	.56	.48	.43	.38	.34
525-4655	8993R100K	100K	2.0	.56	.48	.43	.38	.34
525-4660	8993R220K	220K	2.0	.56	.48	.43	.38	.34
525-4700	8995R220/330	220/330	2.0	.87	.68	.64	.59	.54

Model L-Series Networks

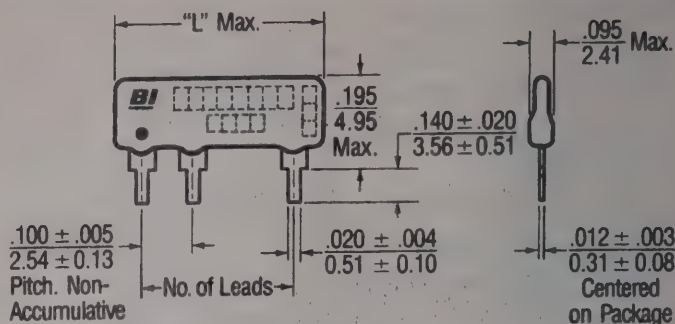
These single in-line thick film resistor networks are conformal coated and low profile. The power dissipation at 70°C per package is 0.6 watts for L06; 0.8 watts for L08; 1.0 watts for L10. They are derated from 100% at 70°C to 0 watts at 125°C. **Standard Tolerance:** 2% at 25°C. **Temperature Coefficient:** ±100 ppm/°C (<100 ohms = ±250 ppm/°C). **Operating Temperature Range:** -55°C to +125°C. **Substrate Material:** Alumina. **Resistor Material:** Cermet. **Body Material:** Conformal epoxy resin. The leads are steel alloy for most economy (lowest resistances are copper alloy) and have a lead finish of 90/10 tin-lead. Package has UL-94V-0 flammability rating.

L06 Series

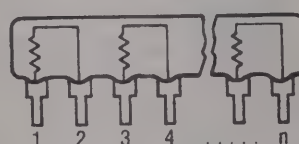
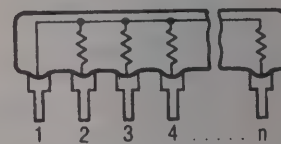
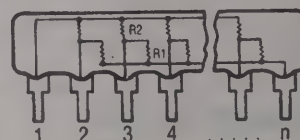
Stock No.	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-4999
525-5100	L061C330	33	.19	.17	.14	.12
525-5102	L061C121	120	.19	.17	.14	.12
525-5104	L061C151	150	.19	.17	.14	.12
525-5106	L061C271	270	.19	.17	.14	.12
525-5108	L061C331	330	.19	.17	.14	.12
525-5110	L061C471	470	.19	.17	.14	.12
525-5112	L061C102	1K	.19	.17	.14	.12
525-5114	L061C222	2.2K	.19	.17	.14	.12
525-5116	L061C332	3.3K	.19	.17	.14	.12
525-5118	L061C472	4.7K	.19	.17	.14	.12
525-5120	L061C103	10K	.19	.17	.14	.12
525-5122	L061C223	22K	.19	.17	.14	.12
525-5124	L061C473	47K	.19	.17	.14	.12
525-5126	L061C104	100K	.19	.17	.14	.12
525-5128	L061C124	120K	.19	.17	.14	.12
525-5130	L063C220	22	.19	.17	.14	.12
525-5133	L063C470	470	.19	.17	.14	.12
525-5136	L060C510	51	.19	.17	.14	.12
525-5139	L063C101	100	.19	.17	.14	.12
525-5142	L063C102	1K	.19	.17	.14	.12
525-5145	L063C222	2.2K	.19	.17	.14	.12
525-5148	L063C103	10K	.19	.17	.14	.12
525-5151	L063C153	15K	.19	.17	.14	.12
525-5154	L063C473	47K	.19	.17	.14	.12
525-5157	L063C104	100K	.19	.17	.14	.12
525-5160	L063C105	1M	.19	.17	.14	.12
525-5170	L065C221/331	220/330	.38	.34	.28	.21

L08 Series

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-4999
525-5200	L081C151	150	.25	.23	.19	.15
525-5202	L081C271	270	.25	.23	.19	.15
525-5204	L081C331	330	.25	.23	.19	.15
525-5206	L081C391	390	.25	.23	.19	.15
525-5208	L081C471	470	.25	.23	.19	.15
525-5210	L081C102	1K	.25	.23	.19	.15
525-5212	L081C152	1.5K	.25	.23	.19	.15
525-5214	L081C202	2K	.25	.23	.19	.15
525-5216	L081C222	2.2K	.25	.23	.19	.15
525-5218	L081C332	3.3K	.25	.23	.19	.15
525-5220	L081C472	4.7K	.25	.23	.19	.15
525-5222	L081C103	10K	.25	.23	.19	.15
525-5224	L081C473	47K	.25	.23	.19	.15
525-5226	L081C104	100K	.25	.23	.19	.15
525-5228	L081C105	1M	.25	.23	.19	.15
525-5250	L083C220	22	.25	.23	.19	.15
525-5252	L083C330	33	.25	.23	.19	.15
525-5254	L083C470	47	.25	.23	.19	.15
525-5256	L083C510	51	.25	.23	.19	.15
525-5258	L083C560	56	.25	.23	.19	.15
525-5260	L083C680	68	.25	.23	.19	.15
525-5262	L083C101	100	.25	.23	.19	.15
525-5264	L083C151	150	.25	.23	.19	.15
525-5266	L083C201	200	.25	.23	.19	.15
525-5268	L083C221	220	.25	.23	.19	.15
525-5270	L083C271	270	.25	.23	.19	.15
525-5272	L083C331	330	.25	.23	.19	.15
525-5274	L083C471	470	.25	.23	.19	.15
525-5276	L083C511	510	.25	.23	.19	.15
525-5278	L083C681	680	.25	.23	.19	.15
525-5280	L083C102	1K	.25	.23	.19	.15
525-5282	L083C152	1.5K	.25	.23	.19	.15
525-5284	L083C202	2K	.25	.23	.19	.15
525-5286	L083C222	2.2K	.25	.23	.19	.15
525-5288	L083C332	3.3K	.25	.23	.19	.15
525-5290	L083C472	4.7K	.25	.23	.19	.15
525-5292	L083C682	6.8K	.25	.23	.19	.15
525-5294	L083C103	10K	.25	.23	.19	.15
525-5296	L083C183	18K	.25	.23	.19	.15
525-5298	L083C203	20K	.25	.23	.19	.15
525-5300	L083C223	22K	.25	.23	.19	.15
525-5302	L083C473	47K	.25	.23	.19	.15
525-5304	L083C104	100K	.25	.23	.19	.15
525-5306	L083C105	1M	.25	.23	.19	.15
525-5320	L805C221/331	220/330	.44	.40	.33	.27



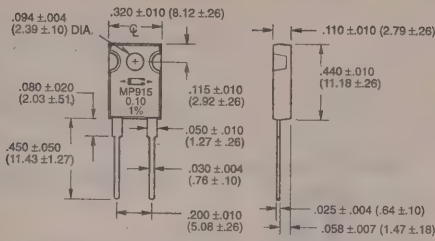
# of Leads	6	8	10
"L" in.	.60	.80	1.00
Max. mm	15.24	20.32	25.40

-3 Circuit, Isolated Resistors

-1 Circuit, Bussed Resistors

-5 Circuit, Dual Terminator

L10 Series

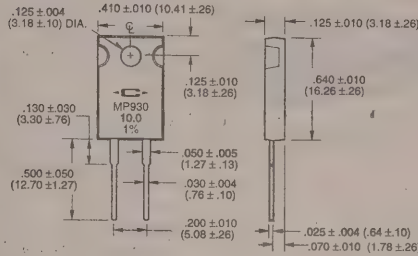
Stock No.	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-4999
525-5330	L101C101	100	.32	.29	.23	.19
525-5332	L101C151	150	.32	.29	.23	.19
525-5334	L101C181	180	.32	.29	.23	.19
525-5336	L101C221	220	.32	.29	.23	.19
525-5338	L101C331	330	.32	.29	.23	.19
525-5340	L101C471	470	.32	.29	.23	.19
525-5342	L101C102	1K	.32	.29	.23	.19
525-5344	L101C152	1.5K	.32	.29	.23	.19
525-5346	L101C222	2.2K	.32	.29	.23	.19
525-5348	L101C272	2.7K	.32	.29	.23	.19
525-5350	L101C332	3.3K	.32	.29	.23	.19
525-5352	L101C472	4.7K	.32	.29	.23	.19
525-5354	L101C562	5.6K	.32	.29	.23	.19
525-5356	L101C682	6.8K	.32	.29	.23	.19
525-5358	L101C822	8.2K	.32	.29	.23	.19
525-5360	L101C103	10K	.32	.29	.23	.19
525-5362	L101C153	15K	.32	.29	.23	.19
525-5364	L101C203	20K	.32	.29	.23	.19
525-5366	L101C223	22K	.32	.29	.23	.19
525-5368	L101C333	33K	.32	.29	.23	.19
525-5370	L101C473	47K	.32	.29	.23	.19
525-5372	L101C563	56K	.32	.29	.23	.19
525-5374	L101C104	100K	.32	.29	.23	.19
525-5376	L101C224	220K	.32	.29	.23	.19
525-5400	L101C105	1M	.32	.29	.23	.19
525-5403	L103C220	22	.32	.29	.23	.19
525-5406	L103C330	33	.32	.29	.23	.19
525-5409	L103C470	47	.32	.29	.23	.19
525-5412	L103C680	68	.32	.29	.23	.19
525-5415	L103C101	100	.32	.29	.23	.19
525-5418	L103C102	1K	.32	.29	.23	.19
525-5421	L103C472	4.7K	.32	.29	.23	.19
525-5424	L103C103	10K	.32	.29	.23	.19
525-5427	L103C473	47K	.32	.29	.23	.19
525-5430	L103C104	100K	.32	.29	.23	.19
525-5433	L105C221/331	220/330	.51	.46	.37	.31
525-5436	L105C331/471	330/470	.51	.46	.37	.31

MP Series Heat Sink Mountable Resistors in the TO-126 and TO-220 Style Power Packages

Case "A"
(TO-126 STYLE)
MP915



Case "B"
(TO-220 STYLE)
MP930 and
MP850



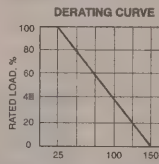
All dimensions in inches and (millimeters)

Standard Tolerance: 1%. **Temperature Coefficient:** TC taken at 25°C and 150°C. **MP850:** 5 ohms and above, 0 to +50 ppm/°C; below 5 ohms down to 0.5 ohm, 0 to +100 ppm/°C; below 0.5 ohm down to 0.2 ohm, 0 to +200 ppm/°C. **MP915/MP930:** 0.5 ohm and above, 0 to +100 ppm/°C; 0.05 ohm to 0.49 ohm, 0 to +200 ppm/°C. **Dielectric Strength:** 1500 Vrms AC. **Measurement Note:** Below 1 ohm the resistance measurement shall be made at a point 0.2 inch (5.08 mm) from the resistor body. **The MP915 and MP930 feature an exposed ceramic heat dissipating mounting surface. The MP850 has a copper heat sink integral in the molded package.**

Stock No.	Mfr.'s Type	Case Type	Power Rating	Max. Voltage	Ohms/Range	EACH	
						1-24	25-99
524-6XXX	MP915	A	15 Watts*	200	0.05 0.1 - 5 10 - 1K	4.52 3.16 2.68	3.77 2.63 2.23
524-7XXX	MP930	B	30 Watts*	250	0.05 0.1 - 5 10 - 10K	5.74 4.02 3.42	4.78 3.35 2.85
524-4XXX	MP850	B	50 Watts*	300	0.2 - 5 10 - 10K	8.50 7.72	7.08 6.43

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
.05	005	1	020	20	098	100	202	2K	400
0.1	010	2	028	25	115	200	243	5K	465
0.2	012	5	050	50	158	500	306	10K	522
0.5	015	10	060	75	185	1K	356	—	—

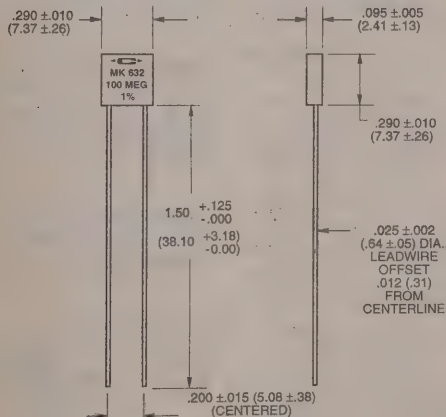
Derating (Thermal Resistance):
MP915: 0.12 W/°C (8.33 °C/W)
MP930: 0.24 W/°C (4.17 °C/W)
MP850: 0.40 W/°C (2.50 °C/W)



***Power Rating:** The case temperature is to be used for purposes of establishing the maximum applied power. See Derating Curve. The case temperature measurement is made with the thermocouple contacting the bottom insulated mounting surface of the package (center of bottom surface), the device mounted on a heat sink, thermal grease applied at a mounting torque of 8 in-lbs (0.90 N-m) maximum. **Without a heat sink, when in free air at 25°C, the MP930 and MP850 are rated for 2.25 watts, the MP915 is rated for 1.25 watts.**

Mounting Note: The MP915/MP930 and MP850 must be mounted using a screw and compression washer mounting technique. This will provide sufficient pressure on the package over time and through large temperature variations to maintain the maximum power dissipation capability. Maximum torque to be applied to mounting screw is 8 in-lbs (0.90 N-m) maximum. **See Power Rating Note** for instructions on determining maximum power dissipation on your heat sink.

Type MK Radial Lead Precision Power Resistor, CK06 Size, 1 Ohm to 100 Meg, 0.75 Watt Rating



Standard Tolerance: 1%. **Temperature Coefficient:** 5 ohm to 5 Meg, ±50 ppm/°C; <5 ohm ±200 ppm/°C; >5 Meg, ±80 ppm/°C; TC referenced to +25°C, ΔR taken at -15°C and +105°C. **Operating Temperature:** -55°C to 175°C, 100% rated power at 125°C derated linearly to zero at 175°C. **Leadwire:** Tinned Copper.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1	020	20	098	500	306	10K	522	200K	759	5M	906
2	028	50	158	1K	356	20K	575	500K	627	10M	924
5	050	100	202	2K	400	50K	655	1M	877	20M	935
10	060	200	243	5K	465	100K	717	2M	905	50M	950

Stock No.	Mfr.'s Type	Wattage 125°C	Max. Voltage	Ohms/Range	EACH	
					1-24	25-99
524-5XXX	MK 132	.75	400	1 - 20 50 - 50K 100K - 500K 1 M - 5 M	5.00 2.60 3.14 4.06	4.17 2.17 2.62 3.38
524-5XXX	MK 632	.75	400	10 M 20 M 50 M - 100 M	4.32 5.18 6.20	3.60 4.32 5.17

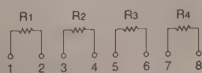
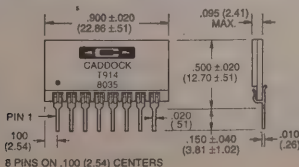
Comparison of Type MK and "RN" Ratings and Dimensions

Resistor Type	Power Rating	Maximum Resistance	Mounting Hole Spacing	
MK 132 or MK 632	.75W	100 Megohms	.200 (5.08)	
RN50	.05W	1 Megohm	.400 (10.15)	
RN55	.10W	5 Megohms	.500 (12.70)	
RN60	.125W	10 Megohms	.625 (15.90)	
RN65	.25W	20 Megohms	.875 (22.20)	
RN70	.50W	40 Megohms	1.000 (25.40)	

Type T914 Resistor Quads with 0.1% Ratio Tolerance and 10 ppm/°C Ratio TC

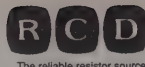
Ratio Tolerance: 0.1% at 25°C. **Ratio TC:** 10 ppm/°C 0°C to 70°C. **Absolute Tolerance:** 0.1% at 25°C. **Absolute TC:** 25ppm/°C 0°C to 70°C. **Voltage Rating:** 30 volts per resistor at

70°C max. **Power Rating:** 0.100 watt per resistor at 70°C max. (not to exceed rated voltage). **Storage Temperature:** -55°C to +105°C.

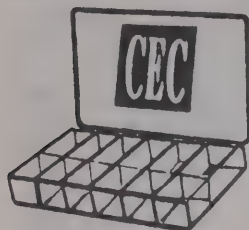


All dimensions in inches and (millimeters)

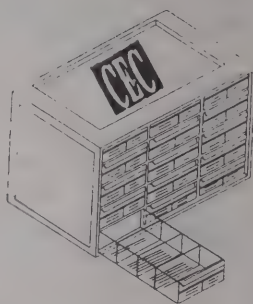
Stock No.	Mfr.'s Type	Resistance R1 thru R4	EACH	
			1-24	25-99
524-6103	T914-10K-100-10	10 K	7.66	6.38
524-6203	T914-20K-100-10	20 K	7.66	6.38
524-6403	T914-40K-100-10	40 K	7.66	6.38
524-6104	T914-100K-100-10	100 K	7.66	6.38



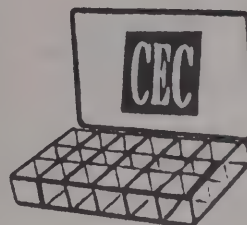
Century Resistor and Diode Kits



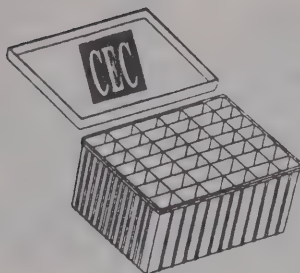
Case C12



Case C15



Case C18



Case C42



Case C62

Dale Wirewound Kits

KD-WSC1/2 Dale Precision Power Wirewound Kit. 1/2 watt 1% precision power wirewound surface mount resistor. 5 pieces per value of 6 values for a total of 30 pieces in a sturdy, clear, see-through plastic case with 6 individual compartments. Case C12.
777-0701. KD-WSC1/2EACH 58.23

KD-WSC1 Dale Precision Power Wirewound Kit. 1 watt 1% precision power wirewound surface mount resistor. 5 pieces per value of 6 values for a total of 30 pieces in a sturdy, clear, see-through plastic case with 6 individual compartments. Case C12.
777-0702. KD-WSD1EACH 56.95

KD-WSC2 Dale Precision Power Wirewound Kit. 2 watt 1% precision power wirewound surface mount resistor. 5 pieces per value of 6 values for a total of 30 pieces in a sturdy, clear, see-through plastic case with 6 individual compartments. Case C12.
777-0703. KD-WSD2EACH 58.23

KD-LVR1 Dale Precision Power Wirewound Kit. 1 watt 1% precision power wirewound axial lead low value MIL/qualified resistor. Proprietary processing technique produces extremely low resistance values. 10 pieces per value of 6 values for a total of 60 pieces in a sturdy, clear, see-through plastic case with 6 individual compartments. Case C12.
777-0704. KD-LVR1EACH 56.95

GL-25 Resistor Kit. Quantity of 1050 (25 of each value) 1/4 W deposited carbon film resistors in 42 resistance values from 0.5 ohms to 4.7 M ohms. 0.250"L, 0.095" diameter. $\pm 5\%$ tolerance. Conformal multi-coating, solder coated lead wire, EIA std. color coding. For microcircuits. Exceed MIL-R-11F performance characteristics. Case C42.
777-0025. GL-25EACH 45.10
777-0050. GL-50 (as above except 1/2-watt)EACH 54.50
777-0018. GL-18 (as above except 1/8-watt)EACH 52.45

CEC-180 Economy Kit. High quality 1206 size 1/8 watt 5% surface mount chip resistors. High reliability and wave flow solderability. Dramatic space saving advantage with extremely miniature size. Mounts on either side of PC board. 18 different resistance values. 10 pieces per value. 180 pieces total. Case C18.
777-0180. CEC-180EACH 28.75

RC-1200 Resistor Kit. 1/8 W 5% highly reliable metal glazed chip resistors. 60 resistance values from 2.7 ohms to 2.2 M ohms — 20 pieces of each value, total of 1200 pieces. Miniature size, wave flow solderability. Mount on either side of PC board. With X8/X16 magnifying glass and chip-designed tweezers. Case C62.
777-1200. RC-1200EACH 215.20

EMF-55 Resistor Kit. 1/4 W 1%, 50 ppm metal film resistors. 10 pieces of each value, with 111 values from 10 ohm through 1 M ohm, for a total of 1110 resistors. Case C15.
777-0055. EMF-55EACH 184.75

CEC-215 Economy LED Kit. 177 pieces, 30 different types, high quality LEDs in T-1 and T-1 3/4 package size. Red, yellow, green and orange colors in both clear and diffused lens types. Stand-off and flush type leads. Standard, super and ultra brights. Supplied in flip-open notebook type cabinet. Case C62.
777-0215. CEC-215EACH 147.00

Quick Pick Resistor Organizer
Featuring top quality deposited carbon film resistors. 60 resistance values from 2.2 through 2.2M ohms. Case C15.

Model 1815. 1/8 W 5% resistors. 25 pieces of each value for a total of 1500 pieces.
777-1815. 1815EACH 157.50

Model 2515. 1/4 W 5% resistors. 25 pieces of each value for a total of 1500 pieces.
777-2515. 2515EACH 115.45

Model 2530. 1/4 W 5% resistors. 50 pieces of each value for a total of 3000 pieces.
777-2530. 2530EACH 153.25

Model 5015. 1/2 W 5% resistors. 25 pieces of each value for a total of 1500 pieces.
777-5015. 5015EACH 131.20

Model CEC-450-1W. 450 pieces, 45 values, 10 pieces each value. 1 watt. 5% CF resistors, 4.7 ohms-1.0 M ohm.
777-4501. CEC-450-1WEACH 143.80

Model CEC-450-2W. 450 pieces, 45 values, 10 pieces each value. 2 watt. 5% CF resistors, 4.7 ohms-1.0 M ohm.
777-4502. CEC-450-2WEACH 139.60

RCD Chip Resistor Kits

► Economical Pricing

► Great for Engineering Labs or Prototyping

► Packaged In Plastic Boxes

0805 Thick Film 5%
Provides MC0805 5% parts, 122 values, 10 pieces each. 10 Ω to 1 M (including zero ohm) in 200ppm parts. 1220 pieces total.
849-5000. 0805J10EACH 55.89

0805 Thick Film 5%
Same as above, except 50 pieces each, 6100 pieces total.
849-5005. 0805J50EACH 116.65

0805 Thick Film 1%
Provides MCR0805 1% parts, 72 values, 10 pieces each. 10 Ω to 1 M in 100 ppm parts. 720 pieces total.
849-5010. 0805F10EACH 58.50

0805 Thick Film 1%
Same as above, except 50 pieces each, 3600 pieces total.
849-5015. 0805F50EACH 130.89

1206 Thick Film 5%
Provides MC1A 5% parts, 24 values, 10 pieces each. 10 Ω to 1 M (including zero ohm) in 200 ppm parts. 240 pieces total.
849-5020. 1206C10EACH 25.00

1206 Thick Film 5%
Provides MC1A 5% parts, 122 values, 10 pieces each. 10 Ω to 1 M (including zero ohm) in 200 ppm parts. 1220 pieces total.
849-5025. 1206J10EACH 55.89

1206 Thick Film 5%
Same as above, except 50 pieces each, 6100 pieces total.
849-5030. 1206J50EACH 115.00

0805 Thin Film 0.5%
Provides BLU-0805 0.5% parts, 97 values, 100 pieces each. 10 Ω to 100 K Ω in 50 ppm parts. 9700 pieces total.
849-5035. B0805D100EACH 915.00

1206 Thin Film 1%
Provides BLU-1206 1% parts, 106 values, 100 pieces each. 10 Ω to 240 K Ω in 25 ppm parts. 10,600 pieces total.
849-5050. B1206F100EACH 1375.00

SEI Kits

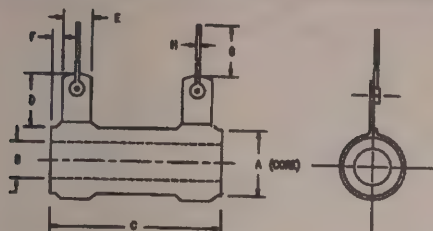
Surface mount thick film chip resistor design kits for RMC-1/8 (1206 size) in 5% and 1% tolerances, RMC-1/16 (0805 size) in 5% and 1% tolerances and RMC-1/16 (0603 size) in 5% tolerance only. Kits have 30 samples per value. 5% kits have 60 values (E24) and 1% kits have 120 values (E96). Kit includes product specifications, packaging guidelines, performance data and the chip samples. Replacement parts available in 1000 piece bulk packaging or 5000 piece tape and reel. Packaged in plastic notebook pages in three-ring binder.

894-0100. RMC-1/8. 5% 1206 kitEACH 79.00
894-0105. RMC-1/8. 1% 1206 kitEACH 115.50
894-0110. RMC-1/16. 5% 0805 kitEACH 79.00
894-0115. RMC-1/16. 1% 0805 kitEACH 115.50
894-0120. RMC-1/16. 5% 0603 kitEACH 107.75

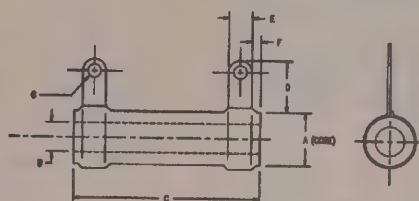
Wirewound Power Resistors



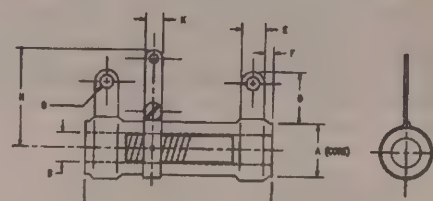
Bracket-Mounted Wirewound Vitreous Enamel Resistors



Series VPR



Series VP and VK



Series VPA and VKA

Dimensions (Inches)

Mfr.'s Type	Watts	A	B	C	D	E	F	G	H	J	K	Weight (Oz.)
VPR-5F	8	.313	.200	1.00	.438	.188	.094	1.750	.036	—	—	.192
VPR-10F	12	.313	.200	1.75	.438	.188	.094	1.750	.036	—	—	.304
VPR-20H	20	.438	.250	2.00	.438	.188	.094	1.750	.036	—	—	.528
VP-25K	25	.563	.313	2.00	.563	.250	.094	.104	—	—	—	.816
VP-50K	50	.563	.313	4.00	.563	.250	.094	.144	—	—	—	1.312
VP-100N	100	.750	.500	6.50	.563	.250	.094	.144	—	—	—	3.200
VK-160W	175	1.125	.750	8.50	.625	.313	.094	.177	—	—	—	7.120
VK-200W	225	1.125	.750	10.50	.625	.313	.094	.177	—	—	—	11.840
VP-10FA	12	.313	.200	1.75	.438	.188	.094	.104	.906	.125	.188	.320
VP-25KA	25	.563	.313	2.00	.563	.250	.094	.144	1.000	.173	.188	.800
VP-50KA	50	.563	.313	4.00	.563	.250	.094	.144	1.050	.173	.188	1.440
VK-100NA	100	.750	.500	6.50	.563	.250	.094	.144	1.250	.141	.188	3.200
VK-160WA	175	1.125	.750	8.50	.625	.313	.094	.177	1.450	.170	.188	8.000
VK-200WA	225	1.125	.750	10.50	.625	.313	.094	.177	1.450	.170	.188	9.920

Fixed Types

These precision wirewound resistors are especially designed to meet a wide variety of military, industrial and general consumer applications. They offer long life and extremely reliable service. For use as voltage droppers, bias resistors and bleeders in applications where resistance need not be varied. Feature fine alloy wire, wirewound on quality ceramic cores and covered with vitreous enamel coatings — the best conductor of heat for a material which must also be a good electrical conductor. Resistance Tolerance: $\pm 5\%$ for values 1 ohm or higher. Wattage ratings are for use in free air. See Table B (Below) Before Ordering. Mounting brackets and extra slider bands sold separately.

VPR-5F — 8 Watts

Stock No.	Resistance (Ohms) See Table B	EACH		
		1-9	10-24	25-99
880-69XX 880-69XX	1, 2, 3, 4, 5, 7.5 10, 15, 20, 25, 50, 75, 100, 150, 200, 500, 1K	2.72 2.55	2.51 2.35	2.33 2.19
880-69XX 880-69XX	1.5K, 2K, 3K, 4K, 5K 10K	2.63 2.83	2.43 2.62	2.26 2.43

880-1075. F-100. Mounting Bracket (2 required).....EACH .21

VPR-10F — 12 Watts

880-70XX 880-70XX	1, 2, 3, 4, 5 10, 15, 20, 25, 50, 75, 100, 150, 200, 500, 1K	2.77 2.57	2.55 2.30	2.37 2.20
880-70XX 880-70XX 880-70XX 880-70XX	1.5K, 2K, 2.5K, 3K, 4K, 5K 10K 25K 50K	2.83 3.07 3.10 3.82	2.62 2.83 2.86 3.52	2.45 2.63 2.66 3.27

880-1075. F-100. Mounting Bracket (2 required).....EACH .21

VPR-20H — 20 Watts

880-71XX 880-71XX	5 10, 25, 50, 75, 100 200, 250, 500, 750, 1K	3.45 2.85	3.18 2.63	2.96 2.44
880-71XX 880-71XX 880-71XX 880-71XX	1.5K, 2K, 2.5K, 3K, 5K 5K 10K 25K, 50K, 75K 100K	3.12 3.53 3.53 4.53	2.88 3.26 3.26 4.18	2.67 3.03 3.03 3.89

880-1075. F-100. Mounting Bracket (2 required).....EACH .21

VP-25K — 25 Watts

880-21XX 880-21XX	1, 2, 3, 4 5, 10, 15, 25, 50, 75, 100, 200, 250, 500, 750, 1K	2.95 2.68	2.72 2.48	2.53 2.30
880-21XX 880-21XX 880-21XX 880-21XX 880-21XX	2K, 2.5K, 5K 7.5K, 10K 25K 50K 100K	2.82 3.17 3.77 4.18 4.28	2.60 2.92 3.48 3.86 3.95	2.41 2.71 3.23 3.59 3.67

880-1182. K-100. Mounting Bracket (2 required).....EACH .30

VP-50K — 50 Watts

Stock No.	Resistance (Ohms) See Table B	EACH		
		1-9	10-24	25-99
880-22XX 880-22XX	1, 2, 3, 4 5, 10, 25, 50, 75, 100, 200 250, 500, 1K, 2K, 2.5K, 5K	4.45 4.05	4.11 3.74	3.81 3.47
880-22XX 880-22XX 880-22XX 880-22XX	10K 50K 75K 100K	4.23 5.18 5.18 6.22	3.91 4.78 4.78 5.74	3.63 4.44 4.44 5.33

880-1182. K-100. Mounting Bracket (2 required).....EACH .30

VP-100N — 100 Watts

880-23XX 880-23XX 880-23XX	1, 2 3, 5, 10 25, 50, 75, 100, 200, 250, 1K, 2K, 2.5K, 5K, 7.5K, 10K	8.30 7.88	7.66 7.28	7.11 6.76
880-23XX	50K, 75K, 100K	7.28 8.72	6.72 8.05	6.24 7.47

880-1455. N-100. Mounting Bracket (2 required).....EACH .30

VK-160W — 175 Watts

880-24XX 880-24XX 880-24XX	1, 2 4, 5, 10 25, 50, 100, 250 1K, 3K, 10K	14.10 13.38 11.23	13.02 12.35 10.37	12.09 11.47 9.63
880-24XX	100K	13.33	12.31	11.43

880-2535. W-100. Mounting Bracket (2 required).....EACH .42

VK-200W — 225 Watts

880-25XX 880-25XX 880-25XX	1, 2 3, 5, 10 25, 50, 75, 100, 200, 250, 500, 750, 1K, 2K, 5K, 10K	19.03 14.57 12.47	17.57 13.45 11.51	16.31 12.49 10.69
880-25XX 880-25XX	25K, 50K 100K	13.05 15.70	12.05 14.49	11.19 13.46

880-2535. W-100. Mounting Bracket (2 required).....EACH .42

Adjustable Types

For voltage dividing networks, power supplies, transmitters—anywhere adjustable resistance is required. These resistors feature fine alloy wire, precision wound on high quality ceramic cores and insulated by vitreous enamel coatings. Slider lug included with each resistor. Resistance tolerance is $\pm 10\%$ of the total resistance value. Wattage rating applied only when the entire resistance is in the circuit; with adjustable lug at intermediate point, rating is reduced in the same proportion. Wattage ratings are for free air mounting. Important — See Table B (below) Before Ordering. Mounting brackets and extra slider bands sold separately.

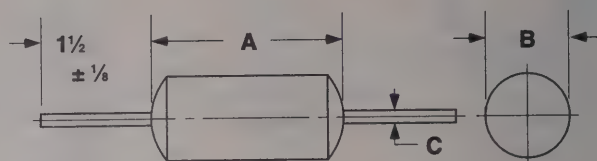
VP-10FA — 12 Watts

Stock No.	Resistance (Ohms) See Table B	EACH		
		1-9	10-24	25-99
880-10XX	1, 2, 3, 5	4.50	4.15	3.86
880-10XX	10, 25, 50, 100, 200	4.10	3.78	3.51
	250, 500, 750			
880-10XX	1K, 2.5K, 5K	4.28	3.95	3.67
880-10XX	10K	4.40	4.06	3.77

Silicone Coated—SC Series

The Clarostat SC Series of precision silicone coated power resistors is manufactured in complete accordance with all applicable portions of MIL-R-26. These precision resistors provide an outstanding degree of reliability and stability in ratings of 1, 3, and 5 watts. All standard precision resistors are offered with a 1% tolerance and in standard MIL Styles RW70U, RW79U, and RW74U. **SC1A Terminal Strength:** Pull Test 7 Lb. Max., Approx. Weight .33 Grams. **SC3D Terminal Strength:** Pull Test 15 Lb. Max. Approx. Weight 1.3 Grams. **SC5E Terminal Strength:** Pull Test 15 Lb. Max. Approx. Weight 4 Grams. All resistors have Copperweld, Tinned leads and solderability conforms to MIL-R-26E.

NOTE: Not all values available in all wattages or types.



Mechanical Specifications

Series	A	B	C
SC1A	.406 ± .063	.094 ± .031	.020 ± .0015
SC3D	.560 ± .062	.187 ± .031	.032 ± .0020
SC5E	.875 ± .062	.312 ± .031	.040 ± .0020

Table of Resistance Value Codes

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
.1	01	30	12	180	23	680	35	4K	63
.2	02	35	13	200	24	750	40	5K	65
.3	03	40	14	220	25	820	42	5.6K	70
.5	04	50	15	250	26	1K	45	6.8K	73
1	05	56	16	270	27	1.5K	48	7.5K	75
3	06	68	17	300	28	1.8K	50	8.2K	82
5	07	75	18	330	29	2K	52	10K	90
10	08	82	19	400	30	2.5K	54	15K	92
15	09	100	20	470	31	2.7K	56	20K	95
20	10	120	21	500	32	3K	58	25K	99
25	11	150	22	560	33	3.5K	60	—	—

Stock No.	Mfr.'s Type	Wattage	Tolerance %	Ohm/Range	EACH		
					1-9	10-49	50-99
880-01XX	SC1A RW70U	1	1	1 - .5	2.37	2.08	1.46
				1 - 1K	2.26	1.98	1.39
				1.5K - 3K	2.51	2.20	1.54
880-02XX	SC3D RW79U	3	1	1 - .5	1.94	1.70	1.19
				1 - 1K	1.31	1.15	0.81
				1.5K - 25K	1.60	1.40	0.98
880-03XX	SC5E RW74U	5	1	1 - .5	2.06	1.80	1.26
				1 - 1K	2.06	1.80	1.26
				1.5K - 10K	1.60	1.40	0.98
				15K - 25K	1.89	1.65	1.16

Axial-Lead Vitreous Enamel Resistors

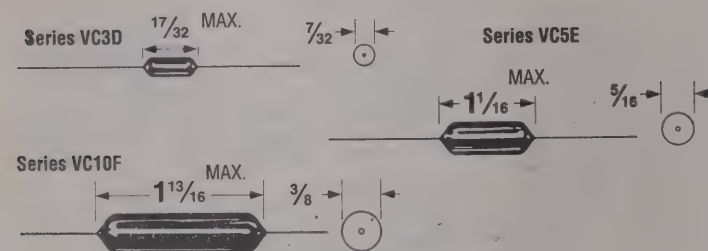


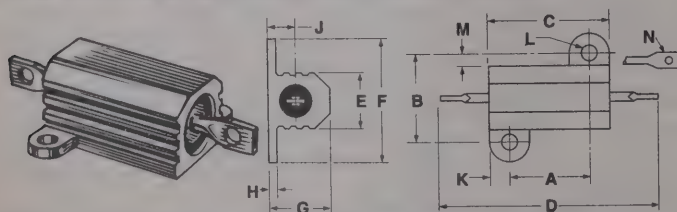
Table of Resistance Value Codes

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1	01	7.5	07	25	12	120	25	470	38	2K	54
2	03	10	08	50	18	150	29	500	40	2.2K	55
3	04	15	09	75	22	200	32	1K	48	2.5K	57
5	06	20	10	100	24	250	34	1.5K	53	5K	67
										25K	80

3, 5 and 10 watt wirewound resistors adapted to printed circuit, terminal board and point-to-point wiring applications. Through elimination of mounting brackets and terminal lugs there are considerable space-saving aspects. **Standard Resistance Tolerance:** ± 5%. **Lead Length:** 1 1/2". **Lead Diameter:** .032" for Type VC3D; Types VC5E and VC10F are .036" Diameter. See table below before ordering. Replace XX (last two numbers of stock number) with ohms value. Example: Mfr.'s Type VC3D, 7.5 ohms is stock number 880-4007. **Note:** Not all values available in all wattages or types.

Stock No.	Mfr.'s Type	Watts	Ohm/Range	EACH		
				1-24	25-99	100-249
880-40XX	VC3D	3.25	1 - 7.5	1.10	1.02	0.94
		3.25	10 - 470	1.03	0.95	0.89
		3.25	500	1.03	0.95	0.89
		3.25	1K - 2.5K	1.27	1.17	1.09
		3.25	5K - 10K	1.47	1.35	1.26
880-50XX	VC5E	6.50	1 - 7.5	1.43	1.32	1.23
		6.50	10 - 470	1.42	1.31	1.21
		6.50	1K - 2.5K	1.58	1.46	1.36
		6.50	5K - 15K	2.28	2.11	1.96
		6.50	20K - 25K	2.45	2.26	2.10
880-60XX	VC10F	11.00	1 - 7.5	1.67	1.54	1.43
		11.00	10 - 470	1.40	1.29	1.20
		11.00	500	1.48	1.37	1.27
		11.00	1K - 2.5K	1.78	1.65	1.53
		11.00	5K - 10K	2.13	1.97	1.83
		11.00	20K	2.33	2.15	2.00
		11.00	25K	2.43	2.25	2.09

CMC Series Chassis Mounted Power Resistors



Standard Specifications. Power Rating: 5-50 watts depending upon style. 275° C maximum hot-spot at 25°C ambient. Conforms to MIL-R-18546. 1% maximum Δ R in 1000 hour load life. Proper heat sinks as follows: CMC-5 and CMC-10—4 x 6 x 2 x 0.040 aluminum chassis; CMC-25 and CMC-50—5 x 7 x 2 x 0.040 aluminum chassis. **Temperature Range:** -55°C to +275°C. **Standard Temperature Coefficient of Resistance:** <1 ohm ± 90 ppm; >1 ohm to <10 ohms ± 50 ppm. 10 ohms ± 20 ppm. **Construction:** Windings are wound on ground ceramic cores. Terminals are electronically welded to end caps for maximum strength. A high temperature silicone encapsulant is used to mold the wound assembly. **Standard Terminal Material:** Copperweld, tinned (Material Code 9) 5-50 watt sizes. **Standard Resistance Tolerance:** ± 1.0% order code F. **Dielectric Withstanding Voltage:** 1000 volts for CMC-5 and CMC-10; 2500 volts for CMC-25 and CMC-50. Note: Not all resistance values available in all wattages.

Dimensions

Style	A	B	C	D	E	F	G	H	J	K	L	M	N
CMC-5	.444 (11.28)	.490 (12.45)	.600 (15.24)	1.125 (28.58)	.334 (8.48)	.646 (16.41)	.320 (8.13)	.065 (1.65)	.140 (3.56)	.078 (1.98)	.093 (2.36)	.078 (1.98)	.050 (1.27)
CMC-10	.562 (14.27)	.625 (15.88)	.750 (19.10)	1.375 (34.93)	.430 (10.92)	.800 (20.30)	.400 (10.20)	.075 (1.91)	.190 (4.83)	.093 (2.40)	.093 (2.40)	.102 (2.59)	.086 (2.18)
CMC-25	.719 (18.26)	.781 (19.84)	1.062 (26.97)	1.938 (49.23)	.530 (13.46)	1.080 (27.43)	.560 (14.22)	.085 (2.16)	.260 (6.60)	.172 (4.37)	.125 (3.18)	.115 (2.92)	.086 (2.18)
CMC-50	1.563 (39.70)	.844 (21.44)	1.968 (49.99)	2.781 (70.64)	.615 (15.62)	1.140 (28.96)	.615 (15.62)	.085 (2.16)	.300 (7.62)	.196 (4.97)	.125 (3.18)	.107 (2.71)	.086 (2.18)

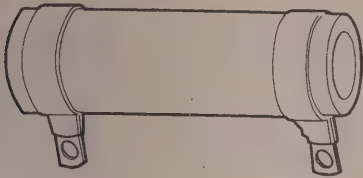
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
.1	01	1	05	15	09	40	14	150	22	400	30	1.5K	48
.2	02	3	06	20	10	50	15	200	24	500	32	2.0K	52
.3	03	5	07	25	11	75	18	250	26	750	40	2.5K	54
.5	04	10	08	30	12	100	20	300	28	1K	45	3.0K	58

Replaces Dale RH-5, RH-10, RH-25, RH-50 and Ohmite 805F, 810F, 825F, 850F.

Stock No.	Mfr.'s Type	Watts		Ohm/Range	EACH		
		Mil	Comm		1-9	10-49	50-99
880-04XX	CMC-5 MIL RE60G	5	5	1 - .5	6.81	5.71	5.28
				1 - 5	5.31	4.45	4.12
				10 - 500	5.71	4.79	4.43
880-05XX	CMC-10 MIL RE65G	10	10	.5	6.81	5.71	5.28
				1 - 5	5.31	4.45	4.12
				10 - 750	5.71	4.79	4.43
880-06XX	CMC-25 MIL RE70G	20	25	1K - 5K	6.12	5.13	4.75
				1 - .5	8.02	6.73	6.22
				1 - 750	5.31	4.45	4.12
880-07XX	CMC-50 RE75G	30	50	1K - 10K	5.12	4.29	3.97
				1 - .5	8.71	7.31	6.76
				1 - 500	6.00	5.03	4.66
				1K - 5K	7.27	6.10	5.64
				10K - 25K	8.02	6.73	6.22

Fixed Tubular Wirebound Resistors

HL Series Silicone Fixed Power Resistors



Core Dimensions

Mfr.'s Type	A Max.	Length ±1/16 (1.59)	O.D.	I.D. ±1/32 (.794)	Terminal Setback ±1/32 (.794)	Standard Terminal Designation
HL-12	13/32	13/4	5/16	3/16	3/32 (2.38)	05
HL-25	11/16	2	9/16	5/16	3/32 (2.38)	06
HL-50	11/16	4	9/16	5/16	3/32 (2.38)	06
HL-100	29/32	6 1/2	3/4	1/2	1/8 (3.18)	06
HL-225	1 1/16	10 1/2	1 1/8	3/4	7/32 (5.56)	07

HL series resistors for inexpensively dissipating larger amounts of power in DC or low frequency AC circuits. Special applications include grid resistors, voltage dropping resistors, high voltage bleeder resistors in power supplies, bias supply resistors, voltage divider networks, filament dropping resistors, load resistors, and shunt resistors. Steatite core is chemically inert and will withstand severe thermal shock and is impervious moisture. Element is highest quality copper-nickel alloy or nickel-chrome alloy, depending on ohm value. Special high temperature silicone coating, cured at much lower temperatures than vitreous enamels. Tinned leads. 5% resistance tolerance. Adjustable types, styles, tapped, non-inductive, additional ohm values, wattages, tolerances and lead styles available as custom order. Contact Allied for price and delivery info and manufacturer's literature.

12 Watt

Stock No.	Mfr.'s No.	Ohm Value	EACH		
			1-24	25-49	50-99
895-1000	HL-12-05Z	1	1.32	1.18	1.03
895-1003	HL-12-05Z	2	1.32	1.18	1.03
895-1006	HL-12-05Z	3	1.32	1.18	1.03
895-1009	HL-12-05Z	5	1.32	1.18	1.03
895-1012	HL-12-05Z	7.5	1.32	1.18	1.03
895-1015	HL-12-05Z	10	1.32	1.18	1.03
895-1018	HL-12-05Z	15	1.32	1.18	1.03
895-1021	HL-12-05Z	20	1.32	1.18	1.03
895-1024	HL-12-05Z	25	1.32	1.18	1.03
895-1027	HL-12-05Z	30	1.32	1.18	1.03
895-1030	HL-12-05Z	50	1.32	1.18	1.06
895-1033	HL-12-05Z	75	1.32	1.18	1.06
895-1036	HL-12-05Z	100	1.32	1.18	1.06
895-1039	HL-12-05Z	150	1.36	1.21	1.06
895-1042	HL-12-05Z	200	1.36	1.21	1.06
895-1045	HL-12-05Z	220	1.36	1.21	1.06
895-1048	HL-12-05Z	250	1.36	1.21	1.06
895-1051	HL-12-05Z	300	1.36	1.21	1.06
895-1054	HL-12-05Z	400	1.36	1.21	1.06
895-1057	HL-12-05Z	500	1.36	1.21	1.06
895-1060	HL-12-05Z	750	1.36	1.21	1.06
895-1063	HL-12-05Z	1K	1.36	1.21	1.06
895-1066	HL-12-05Z	2K	1.39	1.25	1.09
895-1069	HL-12-05Z	3K	1.39	1.25	1.09
895-1072	HL-12-05Z	5K	1.39	1.25	1.09
895-1075	HL-12-05Z	10K	1.54	1.38	1.20
895-1078	HL-12-05Z	20K	1.54	1.38	1.20
895-1081	HL-12-05Z	25K	1.54	1.38	1.20
895-1084	HL-12-05Z	50K	1.61	1.44	1.26

25 Watt

895-1100	HL-25-06Z	1	1.63	1.46	1.27
895-1103	HL-25-06Z	2	1.63	1.46	1.27
895-1106	HL-25-06Z	3	1.63	1.46	1.27
895-1109	HL-25-06Z	5	1.63	1.46	1.27
895-1112	HL-25-06Z	7.5	1.63	1.46	1.27
895-1115	HL-25-06Z	10	1.63	1.46	1.27
895-1118	HL-25-06Z	15	1.63	1.46	1.27
895-1121	HL-25-06Z	20	1.63	1.46	1.27
895-1124	HL-25-06Z	25	1.63	1.46	1.27
895-1127	HL-25-06Z	30	1.63	1.46	1.27
895-1130	HL-25-06Z	50	1.63	1.46	1.27
895-1133	HL-25-06Z	75	1.63	1.46	1.27
895-1136	HL-25-06Z	100	1.63	1.46	1.27
895-1139	HL-25-06Z	150	1.63	1.46	1.27
895-1142	HL-25-06Z	200	1.63	1.46	1.27
895-1145	HL-25-06Z	220	1.63	1.46	1.27
895-1148	HL-25-06Z	250	1.63	1.46	1.27
895-1151	HL-25-06Z	300	1.63	1.46	1.27
895-1154	HL-25-06Z	400	1.76	1.46	1.27
895-1157	HL-25-06Z	500	1.76	1.57	1.37
895-1160	HL-25-06Z	750	1.76	1.57	1.37
895-1163	HL-25-06Z	1K	1.76	1.57	1.37
895-1166	HL-25-06Z	2K	1.76	1.57	1.37
895-1169	HL-25-06Z	3K	1.76	1.57	1.37
895-1172	HL-25-06Z	5K	1.76	1.57	1.37
895-1175	HL-25-06Z	10K	1.76	1.57	1.37
895-1178	HL-25-06Z	20K	1.89	1.69	1.47
895-1181	HL-25-06Z	25K	1.89	1.69	1.47
895-1184	HL-25-06Z	50K	2.05	1.84	1.60
895-1187	HL-25-06Z	100K	4.11	3.67	3.20
895-1190	HL-25-06Z	150K	4.11	3.67	3.20

50 Watt

Stock No.	Mfr.'s No.	Ohm Value	EACH		
			1-24	25-49	50-99
895-1200	HL-50-06Z	1	2.55	2.28	1.99
895-1203	HL-50-06Z	2	2.55	2.28	1.99
895-1206	HL-50-06Z	3	2.55	2.28	1.99
895-1209	HL-50-06Z	5	2.53	2.26	1.97
895-1212	HL-50-06Z	7.5	2.53	2.26	1.97
895-1215	HL-50-06Z	10	2.53	2.26	1.97
895-1218	HL-50-06Z	15	2.53	2.26	1.97
895-1221	HL-50-06Z	20	2.35	2.10	1.83
895-1224	HL-50-06Z	25	2.35	2.10	1.83
895-1227	HL-50-06Z	30	2.35	2.10	1.83
895-1230	HL-50-06Z	50	2.35	2.10	1.83
895-1233	HL-50-06Z	75	2.35	2.10	1.83
895-1236	HL-50-06Z	100	2.35	2.10	1.83
895-1239	HL-50-06Z	150	2.35	2.10	1.83
895-1242	HL-50-06Z	200	2.35	2.10	1.83
895-1245	HL-50-06Z	220	2.35	2.10	1.83
895-1248	HL-50-06Z	250	2.35	2.10	1.83
895-1251	HL-50-06Z	300	2.35	2.10	1.83
895-1254	HL-50-06Z	400	2.35	2.10	1.83
895-1257	HL-50-06Z	500	2.35	2.10	1.83
895-1260	HL-50-06Z	750	2.35	2.10	1.83
895-1263	HL-50-06Z	1K	2.35	2.10	1.83
895-1266	HL-50-06Z	2K	2.58	2.31	2.02
895-1269	HL-50-06Z	3K	2.58	2.31	2.02
895-1272	HL-50-06Z	5K	2.58	2.31	2.02
895-1275	HL-50-06Z	10K	2.58	2.31	2.02
895-1278	HL-50-06Z	20K	2.79	2.49	2.17
895-1281	HL-50-06Z	25K	2.79	2.49	2.17
895-1284	HL-50-06Z	50K	3.35	3.00	2.62
895-1287	HL-50-06Z	100K	3.35	3.00	2.62

100 Watt

895-1300	HL-100-06Z	1	5.11	4.57	3.99
895-1303	HL-100-06Z	2	5.11	4.57	3.99
895-1306	HL-100-06Z	3	5.11	4.57	3.99
895-1309	HL-100-06Z	5	5.11	4.57	3.99
895-1312	HL-100-06Z	7.5	4.99	4.57	3.99
895-1315	HL-100-06Z	10	4.99	4.57	3.99
895-1318	HL-100-06Z	15	4.99	4.57	3.99
895-1321	HL-100-06Z	20	4.99	4.57	3.99
895-1324	HL-100-06Z	25	4.99	4.57	3.99
895-1327	HL-100-06Z	30	4.99	4.57	3.99
895-1330	HL-100-06Z	50	4.99	4.57	3.99
895-1333	HL-100-06Z	75	4.99	4.57	3.99
895-1336	HL-100-06Z	100	4.99	4.57	3.99
895-1339	HL-100-06Z	150	4.99	4.57	3.99
895-1342	HL-100-06Z	200	4.99	4.57	3.99
895-1345	HL-100-06Z	220	4.99	4.57	3.99
895-1348	HL-100-06Z	250	4.99	4.57	3.99
895-1351	HL-100-06Z	300	4.99	4.57	3.99
895-1354	HL-100-06Z	400	4.99	4.57	3.99
895-1357	HL-100-06Z	500	4.99	4.57	3.99
895-1360	HL-100-06Z	750	4.99	4.57	3.99
895-1363	HL-100-06Z	1K	4.99	4.57	3.99
895-1366	HL-100-06Z	2K	4.99	4.57	3.99
895-1369	HL-100-06Z	3K	4.99	4.57	3.99
895-1372	HL-100-06Z	5K	5.22	4.67	4.08
895-1375	HL-100-06Z	10K	5.22	4.67	4.08
895-1378	HL-100-06Z	20K	5.22	4.67	4.08
895-1381	HL-100-06Z	25K	5.22	4.67	4.08
895-1384	HL-100-06Z	50K	5.70	5.10	4.45
895-1387	HL-100-06Z	100K	5.70	5.10	4.45
895-1390	HL-100-06Z	150K	6.71	6.00	5.24

225 Watt

895-1400	HL-225-07Z	1	12.80	11.44	9.99
895-1403	HL-225-07Z	2	10.23	9.15	7.98
895-1406	HL-225-07Z	3	10.23	9.15	7.98
895-1409	HL-225-07Z	5	10.23	9.15	7.98
895-1412	HL-225-07Z	7.5	10.23	9.15	7.98
895-1415	HL-225-07Z	10	10.23	9.15	7.98
895-1418	HL-225-07Z	15	10.23	9.15	7.98
895-1421	HL-225-07Z	20	9.59	8.57	7.48
895-1424	HL-225-07Z	25	9.59	8.57	7.48
895-1427	HL-225-07Z	30	9.59	8.57	7.48
895-1430	HL-225-07Z	50	9.59	8.57	7.48
895-1433	HL-225-07Z	75	9.59	8.57	7.48
895-1436	HL-225-07Z	100	9.59	8.57	7.48
895-1439	HL-225-07Z	150	9.33	8.34	7.28
895-1442	HL-225-07Z	200	9.33	8.34	7.28
895-1445	HL-225-07Z	220	9.33	8.34	7.28
895-1448	HL-225-07Z	250	9.33	8.34	7.28
895-1451	HL-225-07Z	300	9.33	8.34	7.28
895-1454	HL-225-07Z	400	9.33	8.34	7.28
895-1457	HL-225-07Z	500	9.33	8.34	7.28
895-1460	HL-225-07Z	750	9.33	8.34	7.28
895-1463	HL-225-07Z	1K	9.33	8.34	7.28
895-1466	HL-225-07Z	2K	9.33	8.34	7.28
895-1469	HL-225-07Z	3K	9.33	8.34	7.28
895-1472	HL-225-07Z	5K	9.33	8.34	7.28
895-1475	HL-225-07Z	10K	10.36	9.26	8.08
895-1478	HL-225-07Z	20K	10.36	9.26	8.08
895-1481	HL-225-07Z	25K	10.36	9.26	8.08
895-1484	HL-225-07Z	50K	10.36	9.26	8.08
895-1487	HL-225-07Z	100K	10.36	9.26	8.08

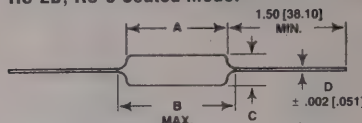
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Silicone Coated Wirewound Resistors

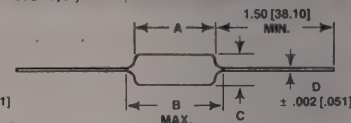
High-temperature silicone coating and welded construction. High power/size ratio. RS series has ceramic, steatite or alumina core (depending on size) and stainless steel end caps. CW series has a heat conductive ceramic core and weldable metal alloy end caps. Both have copper-nickel or nickel-chrome alloy element (depending on resistance value) and tinned Copperweld® terminals. Additional values, tolerances, wattages and other specifications available as custom orders. Call for price and delivery quotes. Manufacturer literature available upon request.

Stock No.	Mfr.'s Type	Comm. Range	Mil. No.	Mil. Range	Watts	Tol.	EACH		
							1-24	24-49	50-99
895-40XX	RS-1/2	10-1.0K	—	—	1/2	1%	1.66	1.31	1.24
895-40XX	RS-1/2	1.5K-4K	—	—	1/2	1%	1.83	1.47	1.36
895-41XX	RS-1A	10-1.0K	RW70	10.0-1.0K	1	1%	1.66	1.31	1.24
895-41XX	RS-1A	1.5K-4K	RW70	1.5K-2.5K	1	1%	1.83	1.47	1.36
895-41XX	RS-1A	5K-10K	—	—	1	1%	2.11	1.64	1.56
895-42XX	RS-2B	10-1.0K	RW79	10.0-1.0K	3	1%	1.27	1.01	.96
895-42XX	RS-2B	1.5K-5K	RW79	1.5K-5.0K	3	1%	1.40	1.12	1.06
895-42XX	RS-2B	7K-10K	—	—	3	1%	1.47	1.15	1.08
895-42XX	RS-2B	15K	—	—	3	1%	1.53	1.22	1.13
895-42XX	RS-2B	20K	—	—	3	1%	1.99	1.27	1.21
895-43XX	RS-5	10-1.0K	RW74	10.0-1.0K	5	1%	1.27	1.01	.96
895-43XX	RS-5	1.5K-5K	RW74	1.5K-5.0K	5	1%	1.40	1.12	1.06
895-43XX	RS-5	7K-10K	RW74	7.0K-10K	5	1%	1.47	1.15	1.08
895-43XX	RS-5	15K	RW74	15K	5	1%	1.53	1.22	1.13
895-43XX	RS-5	20K	RW74	20K	5	1%	1.99	1.27	1.21
895-43XX	RS-5	25K-40K	—	—	5	1%	1.70	1.35	1.27
895-43XX	RS-5	50K	—	—	5	1%	1.82	1.47	1.36
895-43XX	RS-5	75K	—	—	5	1%	2.00	1.58	1.51
895-44XX	CW-2B	10-1K	—	—	3	5%	.71	.42	.40
895-44XX	CW-2B	1.5K-10K	—	—	3	5%	.74	.44	.42
895-44XX	CW-2B	15K	—	—	3	5%	.85	.51	.47
895-45XX	CW-5	10-1K	—	—	5	5%	.74	.44	.42
895-45XX	CW-5	1.5K-4.7K	—	—	5	5%	.81	.48	.45
895-45XX	CW-5	5.1K-10K	—	—	5	5%	.87	.53	.48
895-45XX	CW-5	15K-20K	—	—	5	5%	1.00	.61	.58
895-45XX	CW-5	24K-56K	—	—	5	5%	1.18	.70	.66

RS-2B, RS-5 Coated Model



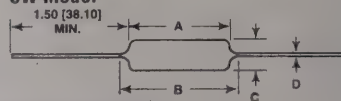
RS-1/2, RS-1A Coated Model



Dimensions (Numbers in brackets indicate millimeters)

Mfr.'s Type	A	B (Max.)	C	D
RS-2B	.560 ± .062 (14.22 ± 1.57)	.622 (15.80)	.187 ± .031 (4.75 ± .787)	.032 (.813)
RS-5	.875 ± .062 (22.23 ± 1.57)	1.0 (25.40)	.312 ± .031 (7.92 ± .787)	.040 (1.02)
RS-1/2	.312 ± .015 (7.92 ± .381)	—	.078 ± .015 (1.98 ± .381)	.020 (.508)
RS-1A	.422 ± .015 (10.72 ± .381)	—	.110 ± .015 (2.79 ± .381)	.020 (.508)

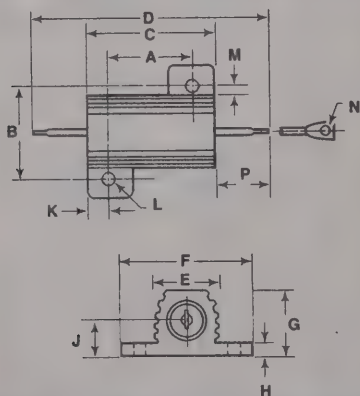
CW Model



Dimensions (Numbers in brackets indicate millimeters)

Mfr.'s Type	A	B (Max.)	C	D
CW-2B	.562 (15.87)	.622 (19.43)	.188 (6.35)	.032 (.813)
CW-5	.875 (22.22)	1.0 (25.40)	.312 (7.92)	.040 (1.02)

Aluminum Housed Wirewound Resistors



Dimensions

Mfr.'s Type	A	B	C	D	E	F	G	H	J	K	L	M	N	P
RH-5	.444	.490	.600	1.125	.334	.646	.320	.065	.133	.078	.093	.078	.050	.266
RH-10	.562	.625	.750	1.375	.420	.800	.390	.075	.165	.093	.094	.102	.085	.438
RH-25	.719	.781	1.062	1.938	.550	1.080	.546	.075	.231	.172	.125	.115	.085	.438
RH-50	1.562	.844	1.968	2.781	.630	1.140	.610	.088	.260	.196	.125	.107	.085	.438

Stock No.	Mfr.'s Type	Comm. Range	Mil. No.	Mil. Range	Watts	Tol.	EACH		
							1-24	24-49	50-99
895-01XX	RH-5	10-1.0K	RE60G	10-1.0K	5	1%	3.09	2.47	2.32
895-01XX	RH-5	1.5K-5K	RE60G	1.5K-5K	5	1%	3.23	2.59	2.43
895-01XX	RH-5	10K	—	—	5	1%	3.54	2.81	2.65
895-02XX	RH-10	10K-1.0K	RE65G	10-1.0K	10	1%	3.09	2.47	2.32
895-02XX	RH-10	1.5K-5K	RE65G	1.21K-4.99K	10	1%	3.23	2.59	2.43
895-02XX	RH-10	10K	—	—	10	1%	3.54	2.81	2.65
895-02XX	RH-10	15K	—	—	10	1%	4.20	3.36	3.16
895-02XX	RH-10	20K-25K	—	—	10	1%	4.52	4.15	3.77
895-03XX	RH-25	10-1.0K	RE70G	10-1.0K	25	1%	3.09	2.47	2.32
895-03XX	RH-25	1.5K-5K	RE70G	1.5K-5K	25	1%	3.23	2.59	2.43
895-03XX	RH-25	10K	RE70G	10K	25	1%	3.54	2.81	2.65
895-03XX	RH-25	15K	—	—	25	1%	4.21	3.37	3.17
895-03XX	RH-25	20K-25K	—	—	25	1%	4.52	4.15	3.77
895-04XX	RH-50	10-1.0K	RE75G	10-1.0K	50	1%	3.79	3.02	2.82
895-04XX	RH-50	1.5K-5K	RE75G	1.5K-5K	50	1%	3.95	3.18	2.98
895-04XX	RH-50	10K	RE75G	10K	50	1%	4.28	3.41	3.21
895-04XX	RH-50	15K-20K	RE75G	15K-20K	50	1%	4.76	3.80	3.56
895-04XX	RH-50	25K-50K	RE75G	25K	50	1%	5.19	4.15	3.86
895-04XX	RH-50	100K	—	—	50	1%	6.04	4.81	4.56

Complete welded and molded construction for total environmental protection in aluminum housed wirewound chassis mount resistor. Mounts on chassis to utilize heat-sink effect. High stability at conventional power ratings. Flat marking surface for easy identification. Series has ceramic, steatite or alumina core (depending on size). Copper-nickel, manganese copper or nickel-chrome alloy element (depending on resistance value) with stainless steel end caps and tinned Copperweld® terminals. -55°C to +275°C operating temperature range. Additional values, tolerances, wattages and other specifications available as custom orders. Call for price and delivery quotes. Manufacturer literature available upon request.

1% Resistance Chart for RS and RH Series

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	33	20	60	30	250	40	400	50	909*	60	3.0K	70	7.0K*	80	30.0K*	90
15	12	35	22	75	32	270	42	470	52	1.0K	62	3.3K*	72	10.0K	82	40.0K	92
20	14	40	24	100	34	300	44	510*	54	1.5K	64	3.5K	74	15.0K	84	50.0K	94
25	16	47	26	150	36	330	46	560	56	2.0K	66	4.0K	76	20.0K	86	75.0K*	96
30	18	50	28	200	38	350*	48	750	58	2.5K	68	5.0K	78	25.0K	88	100.0K†	98

*Not available in RH series. †Available in RH-50 only.

5% Resistance Chart for CW Series

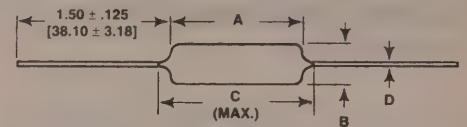
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	36	18	75	26	270	34	560	42	1.8K	50	4.03K	58	9.10K	66	33K	74
15	11	39	19	82	27	300	35	620	43	2K	51	4.70K	59	10K	67	36K	75
18	12	43	20	91	28	330	36	680	44	2.4K	52	5.10K	60	15K	68	39K	76
20	13	47	21	100	29	360	37	750	45	2.7K	53	5.60K	61	18K	69	43K	77
24	14	51	22	150	30	390	38	820	46	3K	54	6.20K	62	20K	70	47K	78
27	15	56	23	180	31	430	39	910	47	3.30K	55	6.80K	63	24K	71	51K	79
30	16	62	24	200	32	470	40	1K	48	3.60K	56	7.50K	64	27K	72	56K	80
33	17	68	25	240	33	510	41	1.5K	49	3.90K	57	8.20K	65	30K	73	—	—

Film and Chip Resistors

Model RN and CMF Metal Film Resistors

Small size, flame retardant epoxy conformal coating with excellent high frequency characteristics. Low noise, low voltage coefficient and controlled temperature coefficient. 1% tolerance. Fire-cleaned high purity ceramic core with vacuum-deposited nickel-chrome alloy element. Standard lead material is solder-coated copper. Leads are solderable and weldable. Resistance shifts due to storage at room temperature are negligible. Additional values, tolerances, temperature coefficients, terminal material, special pre-conditioning, fusible and flameproof versions available as custom orders. Call for price and delivery quotes. Manufacturer literature available upon request.

Stock No.	Mil. No.	Dale Type	Value Range	Tol.	Watts	PPM	PER PK./100	
							1-9	10-49
895-50XX	RN5SD	CMF-55	10-301K	1%	1/8	100	6.00	5.25
895-51XX	RN6SD	CMF-60	10-1M	1%	1/4	100	6.50	5.95
895-52XX	RN6SD	CMF-65	10-1M	1%	1/2	100	14.75	13.50



Dimensions

[Numbers in brackets indicate millimeters]

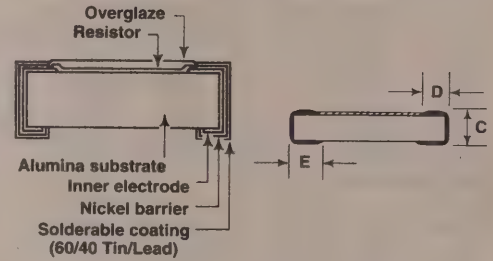
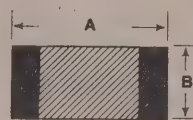
Mfr.'s Type	A	B	C (Max.)	D
CMF-55/ RN-55	.240 ± .020 [6.10 ± .508]	.090 ± .008 [2.29 ± .203]	.278 [7.06]	.025 ± .002 [.635 ± .051]
CMF-60/ RN-60	.344 ± .031 [8.74 ± .787]	.145 ± .015 [3.68 ± .381]	.425 [10.80]	.025 ± .002 [.635 ± .051]
CMF-65/ RN-65	.562 ± .031 [14.27 ± .787]	.180 ± .015 [4.57 ± .381]	.687 [17.45]	.025 ± .002 [.635 ± .051]

Model CRCW Thick Film Chip Resistors

Dimensions

[Numbers in brackets indicate millimeters]

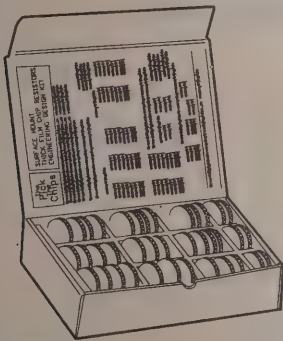
Mfr.'s Type	A	B	C	D	E
CRCW0603	.063 ± .006 [1.60 ± .10]	.031 ± .006 [.80 ± .15]	.020 ± .004 [.50 ± .10]	.012 ± .008 [.30 ± .20]	.012 ± .008 [.30 ± .20]
CRCW0805	.079 ± .008 [2.0 ± .20]	.049 ± .008 [1.25 ± .20]	.020 ± .008 [.50 ± .20]	.016 ± .008 [.40 ± .25]	.016 ± .008 [.40 ± .25]
CRCW1206	.126 ± .006 [3.20 ± .15]	.063 ± .006 [1.60 ± .15]	.022 ± .006 [.56 ± .15]	.020 ± .010 [.50 ± .25]	.020 ± .010 [.50 ± .25]



Internationally standardized size assures automatic placement compatibility. Flow solderable. Thick film element. Wraparound termination. Inner electrode protection. Operating temperature is -55°C to +150°C. Supplied on 7" reels.

Stock No.	Mfr.'s Type	Value Range	Tol.	Watts	PPM	PER REEL/5000	
						1-4	5-9
895-66XX	CRCW0603	10-1M	1%	1/8	100	125.00	115.38
895-67XX	CRCW0603	10-1M	5%	1/8	200	50.00	46.25
895-56XX	CRCW0805	10-1M	1%	1/8	100	91.75	85.00
895-57XX	CRCW0805	10-1M	5%	1/8	200	40.95	37.75
895-58XX	CRCW1206	10-1M	1%	1/8	100	76.75	70.75
895-59XX	CRCW1206	10-1M	5%	1/8	200	40.95	37.75

CRCW Chip Resistor Kits



Stock No.	Mfr.'s Type	Value Range	Values Per Kit	Pieces Per Value	Tol.	Watts	PPM	EACH	
								1-4	5-9
895-0001	CRCW1206-101	51.1-200K	74	500	1%	1/8	100	1530.00	1500.00
895-0002	CRCW1206-102A	51.1-150K	30	100	1%	1/8	100	200.00	180.00
895-0003	CRCW0805-102A	51.1-150K	30	100	1%	1/10	100	200.00	180.00
895-0004	CRCW1206-102B	60.4-200K	30	100	1%	1/8	100	200.00	180.00
895-0005	CRCW0805-102B	60.4-200K	30	100	1%	1/10	100	200.00	180.00
895-0006	CRCW1206-103	80.6-88.7K	15	100	1%	1/8	100	110.00	95.00
895-0007	CRCW0805-103	80.6-88.7K	15	100	1%	1/10	100	110.00	95.00
895-0008	CRCW1206-104	10-1M	30	100	5%	1/8	200	200.00	180.00
895-0009	CRCW0805-104	10-1M	30	100	5%	1/10	200	200.00	180.00
895-0010	CRCW1206-105	33-100K	15	100	5%	1/8	200	110.00	95.00
895-0011	CRCW0805-105	33-100K	15	100	5%	1/10	200	110.00	95.00

5% Resistance Value Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	43	11	150	21	470	31	1.8K	41	5.1K	51	20K	61	56K	71	240K	81	620K	91
15	02	47	12	180	22	510	32	2K	42	5.6K	52	24K	62	62K	72	270K	82	680K	92
18	03	51	13	200	23	560	33	2.4K	43	6.2K	53	27K	63	68K	73	300K	83	750K	93
20	04	56	14	240	24	620	34	2.7K	44	6.8K	54	30K	64	75K	74	330K	84	820K	94
24	05	62	15	270	25	680	35	3K	45	7.5K	55	33K	65	82K	75	360K	85	910K	95
27	06	68	16	300	26	750	36	3.3K	46	8.2K	56	36K	66	91K	76	390K	86	1M	96
30	07	75	17	330	27	820	37	3.6K	47	9.1K	57	39K	67	100K	77	430K	87	—	—
33	08	82	18	360	28	910	38	3.9K	48	10K	58	43K	68	150K	78	470K	88	—	—
36	09	91	19	390	29	1K	39	4.3K	49	15K	59	47K	69	180K	79	510K	89	—	—
39	10	100	20	430	30	1.5K	40	4.7K	50	18K	60	51K	70	200K	80	560K	90	—	—

1% Resistance Value Chart

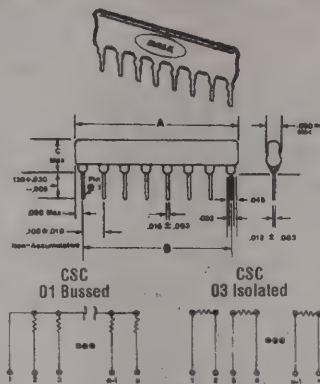
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	43.2	19	121	28	475	37	1.5K	46	4.99K	55	20K	64	56.2K	73	249K	82	750K	91
12.1	11	47.5	20	150	29	499	38	2K	47	5.11K	56	22.1K	65	75K	74	301K	83	806K	92
15	12	49.9	21	200	30	511	39	2.21K	48	5.62K	57	24.9K	66	80.6K	75	348K	84	909K	93
20	13	51.1	22	221	31	562	40	2.49K	49	7.5K	58	30.1K	67	90.9K	76	402K	85	1M	94
22.1	14	56.2	23	249	32	750	41	3.01K	50	8.06K	59	34.8K	68	100K	77	432K	86	—	—
24.9	15	75	24	301	33	806	42	3.48K	51	9.09K	60	40.2K	69	121K	78	475K	87	—	—
30.1	16	80.6	25	348	34	909	43	4.02K	52	10K	61	47.5K	70	150K	79	499K	88	—	—
34.8	17	90.9	26	402	35	1K	44	4.32K	53	12.1K	62	49.9K	71	200K	80	511K	89	—	—
40.2	18	100	27	432	36	1.21K	45	4.75K	54	15K	63	51.1K	72	221K	81	562K	90	—	—



Single-Inline and Dual-Inline Thick Film Resistor Networks

CSC Thick Film Resistor Network Series

Resistor elements protected by tough epoxy conformal coating. Highly stable thick film resistor element. Reduces total assembly costs. Tin-lead plated copper alloy leads. 0.100" lead spacing. 0.195" maximum seated height. Bussed style typically used for pull-up/pull-down applications. Isolated style typically used for pull-up/pull-down, LED current limiting, line termination, and long-line impedance balancing. **Power Rating:** For bussed style, .20-watt; for isolated style, .30-watt. **Operating Temperature:** -55°C to +125°C. **Dimensions:** A: 6-Pin — .59; 8-Pin — .79; 10-Pin — .99. B: 6-Pin — .60; 8-Pin — .80; 10-Pin — .90.



Stock No.	Mfr.'s Type	# of Pins	Circuit Schematic	EACH			
				1-99	100-499	500-999	1000-Up
895-28XX	CSC06A-01	6	Bussed-01	0.18	0.15	0.14	0.12
895-29XX	CSC06A-03	6	Isolated-03	0.18	0.15	0.14	0.12
895-30XX	CSC08A-01	8	Bussed-01	0.23	0.18	0.15	0.13
895-31XX	CSC08A-03	8	Isolated-03	0.23	0.18	0.15	0.13
895-32XX	CSC10A-01	10	Bussed-01	0.28	0.22	0.19	0.17
895-33XX	CSC10A-03	10	Isolated-03	0.28	0.22	0.19	0.17

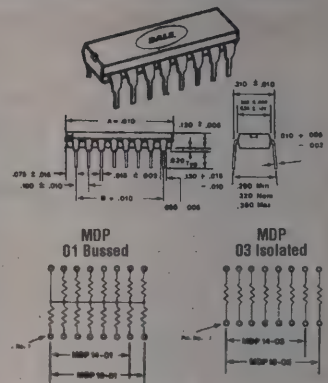
Standard Resistance Value Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
22*	01	330	16	2.2K	27	22K	40
33*	03	390*	17	2.7K	28	27K	41
56	06	470	18	3.3K	29	33K*	42
68*	09	560	19	4.7K	31	47K	44
100	09	680	20	5.6K*	32	68K*	46
120	10	820	21	6.8K	33	100K	48
150	11	1.0K	22	10K	35	220K	52
180	12	1.2K*	23	12K	36	1M	55
220	14	1.5K	24	15K	37	—	—
270*	15	2.0K	26	18K	38	—	—

* Not stocked in CSCxxA-03 series.

MDP Thick Film Resistor Network Series

Rugged, molded epoxy case construction is compatible with automatic surface mounting equipment. Uniform performance characteristics. Highly stable thick film element. Leads are tin-lead plated copper alloy. 0.100" lead spacing. 0.160" maximum seated height. Reduces total assembly costs. Bussed style typically used in pull-up/pull-down applications and digital pulse squaring. Isolated style typically used in pull-up/pull-down circuits, line termination and impedance balancing. **Power Rating:** For bussed style, .125-watt; for isolated style, .250-watt. **Operating Temperature:** -55°C to +125°C. **Dimensions:** A: 14-Pin — .75; 16-Pin — .85. B: 14-Pin — .60; 16-Pin — .70.



Stock No.	Mfr.'s Type	# of Pins	Circuit Schematic	EACH			
				1-99	100-499	500-999	1000-up
895-20XX	MDP-14-01	14	Bussed-01	0.57	0.46	0.37	0.30
895-21XX	MDP-14-03	14	Isolated-03	0.57	0.46	0.37	0.30
895-22XX	MDP-16-01	16	Bussed-01	0.58	0.48	0.39	0.31
895-23XX	MDP-16-03	16	Isolated-03	0.58	0.48	0.39	0.31

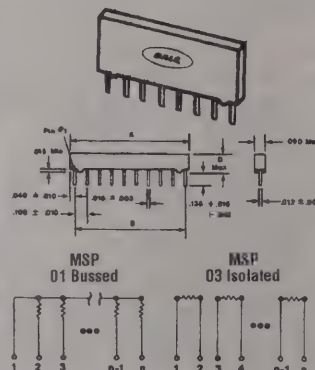
Standard Resistance Value Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
22	01	270	15	3.3K	29	39K	43
27*	02	330	16	3.9K	30	47K	44
33	03	390	17	4.7K	31	56K	45
39	04	470	18	5.6K*	32	68K	46
47	05	560	19	6.8K	33	82K	47
56	06	680	20	8.2K	34	100K	48
68	07	820	21	10K	35	120K	49
82	08	1.0K	22	12K	36	150K	50
100	09	1.2K	23	15K	37	180K	51
120	10	1.5K	24	18K	38	220K	52
150	11	1.8K	25	20K	39	330K	53
180	12	2.0K	26	22K	40	470K	54
200*	13	2.2K	27	27K	41	1M	55
220	14	2.7K	28	33K	42	—	—

* 14 Pin series only.

MSP Thick Film Molded Resistor Network Series

Resistor elements protected by tough epoxy molded coating. Highly stable thick film resistor element. Reduces total assembly costs. Compatible with automatic insertion equipment. Tin-lead plated copper alloy leads. 0.100" lead spacing. 0.195" maximum seated height. Bussed style typically used for pull-up/pull-down applications. Isolated style typically used for pull-up/pull-down, LED current limiting, line termination, and long-line impedance balancing. **Power Rating:** For bussed style, .20-watt; for isolated style, .30-watt. **Operating Temperature:** -55°C to +125°C. **Dimensions:** A: 6-Pin — .59; 8-Pin — .79; 10-Pin — .99. B: 6-Pin — .50; 8-Pin — .70; 10-Pin — .90.



Stock No.	Mfr.'s Type	# of Pins	Circuit Schematic	EACH			
				1-99	100-499	500-999	1000-Up
895-34XX	MSP06A-01	6	Bussed-01	0.34	0.29	0.24	0.20
895-35XX	MSP06A-03	6	Isolated-03	0.34	0.29	0.24	0.20
895-36XX	MSP08A-01	8	Bussed-01	0.41	0.36	0.30	0.25
895-37XX	MSP08A-03	8	Isolated-03	0.41	0.36	0.30	0.25
895-38XX	MSP10A-01	10	Bussed-01	0.49	0.43	0.35	0.30
895-39XX	MSP10A-03	10	Isolated-03	0.49	0.43	0.35	0.30

Standard Resistance Value Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
22	01	390	16	3.9K	30	47K	44
33	03	470	17	4.7K	31	56K	45
39	04	510	18	5.6K	32	68K	46
47	05	560	19	6.8K	33	82K	47
56	06	680	20	8.2K	34	100K	48
68	07	820	21	10K	35	120K	49
82	08	1.0K	22	12K	36	150K	50
100	09	1.2K	23	15K	37	180K	51
120	10	1.5K	24	18K	38	220K	52
150	11	1.8K	25	20K	39	330K	53
180	12	2.0K	26	22K	40	470K	54
220	13	2.2K	27	27K	41	1M	55
270	14	2.7K	28	33K	42	—	—
330	15	3.3K	29	39K	43	—	—

SOMC Thick Film Resistor Network Series

Rugged, molded epoxy case construction is compatible with automatic surface mounting equipment. Uniform performance characteristics. Highly stable thick film element. Leads are tin-lead plated copper alloy. 0.050" lead spacing. 0.090" maximum seated height. Reduces total assembly costs. Bussed style typically used in pull-up/pull-down applications and digital pulse squaring. Isolated style typically used in pull-up/pull-down circuits, line termination and impedance balancing. **Power Rating:** For bussed style, 0.08-watt; for isolated style, 0.16-watt. **Operating Temperature:** -55°C to +125°C.

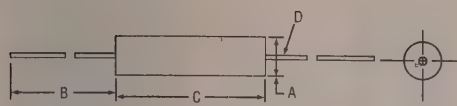
Stock No.	Mfr.'s Type	# of Pins	Circuit Schematic	EACH			
				1-99	100-499	500-999	1000-Up
895-24XX	SOMC-14-01	14	Bussed-01	0.91	0.74	0.60	0.46
895-25XX	SOMC-14-03	14	Isolated-03	0.91	0.74	0.60	0.46
895-26XX	SOMC-16-01	16	Bussed-01	0.91	0.74	0.60	0.46
895-27XX	SOMC-16-03	16	Isolated-03	0.91	0.74	0.60	0.46

Standard Resistance Value Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
22	01	270	15	3.3K	29	39K	43
27*	02	330	16	3.9K	30	47K	44
33	03	390	17	4.7K	31	56K	45
39	04	470	18	5.6K*	32	68K	46
47	05	560	19	6.8K	33	82K	47
56	06	680	20	8.2K	34	100K	48
68	07	820	21	10K	35	120K	49
82	08	1.0K	22	12K	36	150K	50
100	09	1.2K	23	15K	37	180K	51
120	10	1.5K	24	18K	38	220K	52
150	11	1.8K	25	20K	39	330K	53
180	12	2.0K	26	22K	40	470K	54
200*	13	2.2K	27	27K	41	1M	55
220	14	2.7K	28	33K	42	—	—

* 14 Pin series only.

Axial-Lead Vitreous Enamel Resistors



- Low Cost Wirewound Resistor with Vitreous Enamel Coating
- Popular Small Size for Circuit Board, Point-to-Point, or Terminal Board Applications
- Welded Terminations and Lead/End Cap Assembly Assure Maximum Reliability
- Low Temperature Coefficient

Uniform winding and coating assure uniform heat dissipation and excellent appearance. Balanced thermal expansion between core, wire and high temperature vitreous enamel assures reliable performance. Uniformly tinned leads assure reliable electrical and mechanical connections. **Resistance Tolerance:** 5%. **Temperature Coefficient:** ± 150 PPM. Available in non-inductive winding, lower TC, closer tolerance and additional resistance values as special order items. Call for pricing and delivery information. Manufacturer literature available.

Dimensions

Mr.'s Type	A	B	C	D
VL3	$\frac{7}{32}$	$1\frac{1}{2}$	$\frac{17}{32}$	.032
VL5	$\frac{9}{16}$	$1\frac{1}{2}$	$1\frac{1}{16}$	.036
VL10	$\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{13}{16}$	.036

3 Watts

Stock No.	Mr.'s Type	Ohms	EACH	
			1-24	25-99
875-1000	VL3-1	1	.95	.80
875-1002	VL3-3	3	.95	.80
875-1004	VL3-5	5	.95	.80
875-1006	VL3-10	10	.78	.67
875-1008	VL3-25	25	.78	.67
875-1010	VL3-50	50	.78	.67
875-1012	VL3-68	68	.78	.67
875-1014	VL3-75	75	.78	.67
875-1016	VL3-100	100	.78	.67
875-1018	VL3-150	150	.78	.67
875-1020	VL3-180	180	.78	.67
875-1022	VL3-220	220	.78	.67
875-1024	VL3-250	250	.78	.67
875-1026	VL3-470	470	.78	.67
875-1028	VL3-500	500	.92	.78
875-1030	VL3-1000	1000	1.08	.92
875-1032	VL3-1500	1500	1.08	.92
875-1034	VL3-2000	2000	1.08	.92
875-1036	VL3-5000	5000	1.29	1.10
875-1038	VL3-10K	10K	1.29	1.10

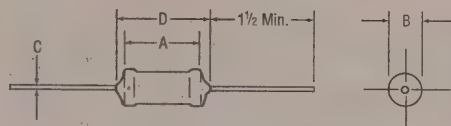
5 Watts

Stock No.	Mr.'s Type	Ohms	1-24	25-99
875-1048	VL5-1	1	1.13	.96
875-1050	VL5-2	2	1.13	.96
875-1052	VL5-5	5	1.13	.96
875-1054	VL5-10	10	1.12	.95
875-1056	VL5-50	50	1.12	.95
875-1058	VL5-82	82	1.12	.95
875-1060	VL5-100	100	1.12	.95
875-1062	VL5-150	150	1.12	.95
875-1064	VL5-200	200	1.12	.95
875-1066	VL5-300	300	1.12	.95
875-1068	VL5-500	500	1.31	1.12
875-1070	VL5-1000	1000	1.39	1.19
875-1072	VL5-2500	2500	1.39	1.19
875-1074	VL5-5000	5000	2.01	1.72
875-1076	VL5-6800	6800	2.01	1.72
875-1078	VL5-8200	8200	2.01	1.72
875-1080	VL5-10K	10K	2.01	1.72
875-1082	VL5-15K	15K	2.01	1.72
875-1084	VL5-25K	25K	2.18	1.85

10 Watts

Stock No.	Mr.'s Type	Ohms	1-24	25-99
875-1094	VL10-5	5	1.36	1.16
875-1096	VL10-7.5	7.5	1.36	1.16
875-1098	VL10-10	10	1.23	1.05
875-1100	VL10-20	20	1.23	1.05
875-1102	VL10-50	50	1.23	1.05
875-1104	VL10-100	100	1.23	1.05
875-1106	VL10-120	120	1.23	1.05
875-1108	VL10-500	500	1.23	1.05
875-1110	VL10-1000	1000	1.59	1.35
875-1112	VL10-1200	1200	1.59	1.35
875-1114	VL10-5000	5000	1.90	1.62
875-1116	VL10-10K	10K	1.90	1.62
875-1118	VL10-20K	20K	2.04	1.73

Silicone Coated Power Resistors



- Complete Welded Construction
- High Temperature Silicone Coating and Molding
- Meets Applicable Requirements of MIL-R-26
- 1% Tolerance

SL-1 (MIL-RW70U); SL-3 (RW79U); SL-5 (MIL-RW74U). Made with ceramic, steatite or alumina core, depending on size. Copper-nickel alloy or nickel-chrome alloy, depending on resistance value. Stainless steel end caps. Standard terminals are tinned copperweld. Also available in non-inductive styles with Aryton-Perry winding, various elements available for special TC, special configurations, closer tolerances, special matching TC and tolerance. Call for pricing and delivery information. Manufacturer literature available.

Dimensions

Mr.'s Type	Watts	A	B	C	Max. Dim.
SL-0001	1	.363/.383	.100/.115	.020	.450
SL-0003	3	.457/.477	.205/.190	.032	.500
SL-0005	5	.895/.915	.305/.290	.040	.950

1 Watt

Stock No.	Mr.'s Type	Ohms	EACH	
			1-24	25-99
875-1598	SL1-1	.1	1.93	1.71
875-1600	SL1-13	.13	1.93	1.71
875-1602	SL1-15	.15	1.93	1.71
875-1604	SL1-2	.2	1.93	1.71
875-1606	SL1-25	.25	1.93	1.71
875-1608	SL1-33	.33	1.93	1.71
875-1610	SL1-5	.5	1.93	1.71
875-1612	SL1-1	1	1.85	1.63
875-1614	SL1-1.5	1.5	1.85	1.63
875-1616	SL1-2	2	1.85	1.63
875-1618	SL1-3	3	1.85	1.63
875-1620	SL1-5	5	1.85	1.63
875-1622	SL1-10	10	1.85	1.63
875-1624	SL1-100	100	1.85	1.63
875-1626	SL1-250	250	1.85	1.63
875-1628	SL1-500	500	1.85	1.63
875-1630	SL1-820	820	1.85	1.63
875-1632	SL1-1000	1000	1.85	1.63
875-1634	SL1-1500	1500	2.02	1.77
875-1636	SL1-1800	1800	2.02	1.77

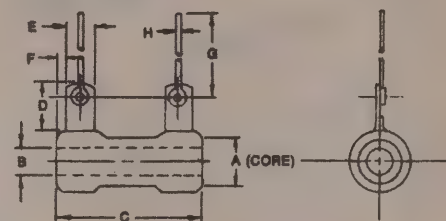
3 Watts

Stock No.	Mr.'s Type	Ohms	1-24	25-99
875-1646	SL3-1	.1	1.81	1.60
875-1648	SL3-15	.15	1.81	1.60
875-1650	SL3-2	.2	1.81	1.60
875-1652	SL3-25	.25	1.81	1.60
875-1654	SL3-33	.33	1.81	1.60
875-1656	SL3-5	.5	1.81	1.60
875-1658	SL3-1	1	1.06	.84
875-1660	SL3-3	3	1.06	.84
875-1662	SL3-5	5	1.06	.84
875-1664	SL3-7.5	7.5	1.06	.84
875-1666	SL3-10	10	1.06	.84
875-1668	SL3-50	50	1.06	.84
875-1670	SL3-100	100	1.06	.84
875-1672	SL3-250	250	1.06	.84
875-1674	SL3-500	500	1.06	.84
875-1676	SL3-1000	1000	1.06	.84
875-1678	SL3-5000	5000	1.17	.93

5 Watts

Stock No.	Mr.'s Type	Ohms	1-24	25-99
875-1688	SL5-1	.1	1.81	1.60
875-1690	SL5-5	.5	1.81	1.60
875-1692	SL5-1	1	1.06	.84
875-1694	SL5-10	10	1.06	.84
875-1696	SL5-1000	1000	1.06	.84

Tubular Vitreous Lug/Leaded Resistors



- Tubular Construction Provides Excellent Heat Dissipation
- Welded Terminals and Termination Guarantees Positive Electrical Connections
- Tinned Terminals

Balanced thermal expansion between core, wire and high temperature vitreous enamel assures reliable performance. Long term stability results from firing at temperatures exceeding 1000°F. Uniform winding and coating assure uniform heat dissipation and excellent appearance. Supplied with 1½" solder leads. **Resistance Tolerance:** $\pm 5\%$. **Temperature Coefficient:** ± 100 PPM. Available in non-inductive winding, lower TC, closer tolerance and additional resistance values as special order items. Call for pricing and delivery information. Manufacturer literature available.

Dimensions

Mr.'s Type	A	B	C	D	E	F	G	H
FRL5-8W	$\frac{9}{16}$	.200	1	$\frac{7}{16}$	$\frac{3}{16}$	$\frac{3}{32}$	$\frac{1}{4}$	.036
FRL10-12W	$\frac{9}{16}$	.200	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{3}{16}$	$\frac{3}{32}$	$\frac{1}{4}$	.036
FRL20W	$\frac{7}{16}$	$\frac{1}{4}$	2	$\frac{7}{16}$	$\frac{3}{16}$	$\frac{3}{32}$	$\frac{1}{4}$	.036

8 Watts

Dimensions: $\frac{9}{16}$ " Dia. x 1" Length.

Stock No.	Mr.'s Type	Ohms	EACH	
			1-24	25-99
875-1128	FRL5-1	1	1.90	1.62
875-1130	FRL5-3	3	1.90	1.62
875-1132	FRL5-5	5	1.90	1.62
875-1134	FRL5-7.5	7.5	1.90	1.62
875-1136	FRL5-125	125	1.42	1.30
875-1138	FRL5-1000	1000	1.42	1.30
875-1140	FRL5-5000	5000	1.64	1.39
875-1142	FRL5-10K	10K	1.80	1.53
875-1144	FRL5-25K	25K	2.16	1.83

12 Watts

Dimensions: $\frac{9}{16}$ " Dia. x 1¼" Length.

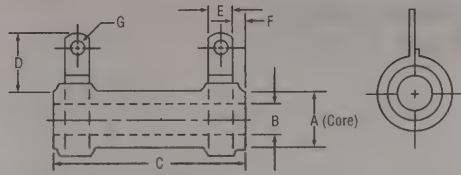
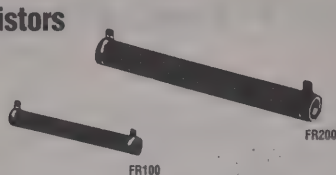
Stock No.	Mr.'s Type	Ohms	1-24	25-99
875-1154	FRL10-2	2	2.21	1.88
875-1156	FRL10-3	3	2.21	1.88
875-1158	FRL10-5	5	2.21	1.88
875-1160	FRL10-7.5	7.5	2.21	1.88
875-1162	FRL10-10	10	1.88	1.60
875-1164	FRL10-20	20	1.88	1.60
875-1166	FRL10-25	25	1.88	1.60
875-1168	FRL10-50	50	1.88	1.60
875-1170	FRL10-100	100	1.88	1.60
875-1172	FRL10-150	150	1.88	1.60
875-1174	FRL10-200	200	1.88	1.60
875-1176	FRL10-250	250	1.88	1.60
875-1178	FRL10-300	300	1.88	1.60
875-1180	FRL10-500	500	1.88	1.60
875-1182	FRL10-750	750	1.88	1.60
875-1184	FRL10-1000	1000	1.88	1.60
875-1186	FRL10-2000	2000	2.21	1.88
875-1188	FRL10-2500	2500	2.21	1.88
875-1190	FRL10-5000	5000	2.21	1.88
875-1192	FRL10-10K	10K	2.45	2.09
875-1194	FRL10-25K	25K	2.54	2.16
875-1196	FRL10-50K	50K	3.13	2.66

20 Watts

Dimensions: $\frac{7}{16}$ " Dia. x 2" Length.

Stock No.	Mr.'s Type	Ohms	1-24	25-99
875-1206	FRL20-5	5	3.03	2.58
875-1208	FRL20-10	10	2.25	1.92
875-1210	FRL20-25	25	2.25	1.92
875-1212	FRL20-50	50	2.25	1.92
875-1214	FRL20-100	100	2.25	1.92
875-1216	FRL20-500	500	2.25	1.92
875-1218	FRL20-2000	2000	2.52	2.15
875-1220	FRL20-15K	15K	3.10	2.63

Fixed Resistors



► Long Term Stability

Used for voltage dropping or dividing, bias, bleeders, power supplies and other military, industrial, commercial and general consumer applications. Uniform winding and coating provides uniform heat dissipation and excellent appearance. Tinned terminals provide reliable solder or mechanical connections. Balanced thermal expansion between core, wire and high temperature vitreous enamel assures reliable performance. Tubular construction provides excellent heat dissipation. Welded terminals and termination guarantees positive electrical connections. Long term stability results from firing at temperatures exceeding 1000°F. **Resistance Tolerance:** ±5%. **Temperature Coefficient:** ±100 PPM. On adjustable resistors, the wattage rating applies when the entire resistance is in the circuit. With the adjustment lug at an intermediate point, the wattage is reduced in the same proportion. Wattage ratings are for free air mounting. Quick disconnect terminals, other/additional mounting hardware, closer tolerances, lower TC, and other resistance values available as special order. Manufacturer literature available. Units are not supplied with mounting hardware; see mounting hardware listed below each wattage listing. Two (each) are required to mount each resistor.

► Tubular Construction

► Excellent Heat Dissipation

25 Watts

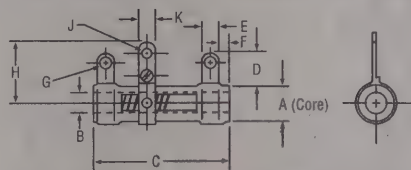
Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1230	FR25-1	1	2.57	2.24
875-1232	FR25-2	2	2.57	2.24
875-1234	FR25-3	3	2.57	2.24
875-1236	FR25-4	4	2.34	2.05
875-1238	FR25-5	5	2.34	2.05
875-1240	FR25-10	10	2.34	2.05
875-1242	FR25-15	15	2.34	2.05
875-1244	FR25-25	25	2.34	2.05
875-1246	FR25-50	50	2.34	2.05
875-1248	FR25-100	100	2.34	2.05
875-1250	FR25-150	150	2.34	2.05
875-1252	FR25-200	200	2.34	2.05
875-1254	FR25-250	250	2.34	2.05
875-1256	FR25-500	500	2.34	2.05
875-1258	FR25-1000	1000	2.34	2.05
875-1260	FR25-1500	1500	2.34	2.05
875-1262	FR25-2500	2500	2.46	2.15
875-1264	FR25-5000	5000	2.46	2.15
875-1266	FR25-7500	7500	2.76	2.42
875-1268	FR25-10K	10K	2.76	2.42
875-1270	FR25-15K	15K	3.29	2.87
875-1272	FR25-25K	25K	3.29	2.87
875-1274	FR25-50K	50K	3.57	3.12
875-1276	FR25-100K	100K	3.74	3.27

875-1229. 1441-005-001. Mounting Bracket (2 required).....EACH .16

50 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1286	FR50-1	1	3.88	3.37
875-1288	FR50-2	2	3.88	3.37
875-1290	FR50-3	3	3.88	3.37
875-1292	FR50-4	4	3.88	3.37

Adjustable Resistors



► Long Term Stability

Used for voltage dropping or dividing, bias, bleeders, power supplies and other military, industrial, commercial and general consumer applications. Uniform winding and coating provides uniform heat dissipation and excellent appearance. Tinned terminals provide reliable solder or mechanical connections. Balanced thermal expansion between core, wire and high temperature vitreous enamel assures reliable performance. Tubular construction provides excellent heat dissipation. Welded terminals and termination guarantees positive electrical connections. Long term stability results from firing at

► Tubular Construction

► Excellent Heat Dissipation

temperatures exceeding 1000°F. **Resistance Tolerance:** ±5%. **Temperature Coefficient:** ±100 PPM. On adjustable resistors, the wattage rating applies when the entire resistance is in the circuit. With the adjustment lug at an intermediate point, the wattage is reduced in the same proportion. Wattage ratings are for free air mounting. Quick disconnect terminals, other/additional mounting hardware, closer tolerances, lower TC, and other resistance values available as special order. Manufacturer literature available. Units are not supplied with mounting hardware; see mounting hardware listed below each wattage listing. Two (each) are required to mount each resistor.

12 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1442	AR10-3	3	3.74	3.40
875-1444	AR10-5	5	3.74	3.40
875-1446	AR10-10	10	3.40	3.09
875-1448	AR10-25	25	3.40	3.09
875-1450	AR10-100	100	3.40	3.09
875-1452	AR10-500	500	3.40	3.09
875-1454	AR10-1000	1000	3.58	3.24

875-1441. 1441-003-001. Mounting Bracket (2 required).....EACH .16

25 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1464	AR25-1	1	4.19	3.78
875-1466	AR25-2	2	4.19	3.78
875-1468	AR25-3	3	4.19	3.78
875-1470	AR25-5	5	4.19	3.78
875-1472	AR25-10	10	4.19	3.78
875-1474	AR25-15	15	4.19	3.78
875-1476	AR25-50	50	4.19	3.78
875-1480	AR25-100	100	4.19	3.78
875-1482	AR25-150	150	4.19	3.78
875-1484	AR25-250	250	4.19	3.78
875-1486	AR25-400	400	4.19	3.78
875-1488	AR25-500	500	4.19	3.78
875-1490	AR25-2000	2000	4.30	3.68
875-1492	AR25-10K	10K	4.49	3.84

25 Watts (Continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1494	AR25-20K	20K	5.04	4.31
875-1496	AR25-25K	25K	5.04	4.31

875-1229. 1441-005-001. Mounting Bracket (2 required).....EACH .16

50 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1506	AR50-1	1	5.79	4.92
875-1508	AR50-2	2	5.79	4.92
875-1510	AR50-3	3	5.79	4.92
875-1512	AR50-5	5	5.13	4.35
875-1514	AR50-10	10	5.13	4.35
875-1516	AR50-25	25	5.13	4.35
875-1518	AR50-50	50	5.13	4.35
875-1520	AR50-100	100	5.13	4.35
875-1522	AR50-150	150	5.13	4.35
875-1524	AR50-200	200	5.13	4.35
875-1526	AR50-500	500	5.13	4.35
875-1528	AR50-1000	1000	5.13	4.35
875-1530	AR50-1500	1500	5.23	4.45

875-1229. 1441-005-001. Mounting Bracket (2 required).....EACH .16

100 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1540	AR100-1	1	10.51	7.92

Dimensions

Mfr.'s Type	A	B	C	D	E	F	G
FR25	9/16	9/16	2	9/16	1/4	3/32	.104
FR50	9/16	9/16	4	9/16	1/4	3/32	.144
FR100	3/4	1/2	6 1/2	9/16	1/4	3/32	.144
FR160	1 1/8	3/4	8 1/2	9/16	3/16	3/32	.177
FR200	1 1/8	3/4	10 1/2	9/16	3/16	3/32	.177

100 Watts (Continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1358	FR100-3000	3000	6.36	5.57
875-1360	FR100-5000	5000	6.36	5.57
875-1362	FR100-10K	10K	6.36	5.57
875-1364	FR100-20K	20K	6.93	6.17
875-1366	FR100-50K	50K	7.28	6.37
875-1368	FR100-100K	100K	7.61	6.65

875-1329. 1441-006-001. Mounting Bracket (2 required).....EACH .18

175 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1378	FR160-2	2	13.68	12.19
875-1380	FR160-4	4	12.46	11.09
875-1382	FR160-10	10	12.46	11.09
875-1384	FR160-25	25	10.84	9.66
875-1386	FR160-50	50	10.84	9.66

875-1377. 1441-007-001. Mounting Bracket (2 required).....EACH .19

225 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1396	FR200-1	1	16.64	13.70
875-1398	FR200-3	3	12.72	10.34
875-1400	FR200-4	4	12.82	11.42
875-1402	FR200-5	5	12.72	10.34
875-1404	FR200-10	10	12.72	10.34
875-1406	FR200-25	25	10.89	8.75
875-1408	FR200-50	50	10.89	8.75
875-1410	FR200-75	75	10.89	8.75
875-1412	FR200-100	100	10.89	8.75
875-1414	FR200-150	150	10.89	8.75
875-1416	FR200-250	250	10.89	8.75
875-1418	FR200-500	500	10.89	8.75
875-1420	FR200-750	750	10.89	8.75
875-1422	FR200-1000	1000	10.89	8.75
875-1424	FR200-1500	1500	10.89	8.75
875-1426	FR200-5000	5000	10.89	8.75
875-1428	FR200-7500	7500	10.89	8.75
875-1430	FR200-15K	15K	10.89	8.75
875-1432	FR200-50K	50K	11.39	9.11

875-1377. 1441-007-001. Mounting Bracket (2 required).....EACH .19

Dimensions

Mfr.'s Type	A	B	C	D	E	F	G	H	J	K
AR10	5/16	.200	1 3/4	7/16	3/16	3/32	.104	2 3/32	1/8	3/16
AR25	9/16	9/16	2	9/16	1/4	3/32	.144	1 3/4	.173	3/16
AR50	9/16	9/16	4	9/16	1/4	3/32	.144	1 3/4	.173	3/16
AR100	3/4	1/2	6 1/2	9/16	1/4	3/32	.144	1 1/4	.141	3/16
AR200	1 1/8	3/4	10 1/2	9/16	3/16	3/32	.177	1 2 3/4	.170	3/16

100 Watts (Continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1542	AR100-2	2	10.51	7.92
875-1544	AR100-5	5	10.51	7.92
875-1546	AR100-10	10	7.86	6.07
875-1548	AR100-25	25	7.86	6.07
875-1550	AR100-50	50	7.86	6.07
875-1552	AR100-100	100	7.86	6.07
875-1554	AR100-250	250	7.86	6.07
875-1556	AR100-500	500	7.86	6.07
875-1558	AR100-1000	1000	7.86	6.07

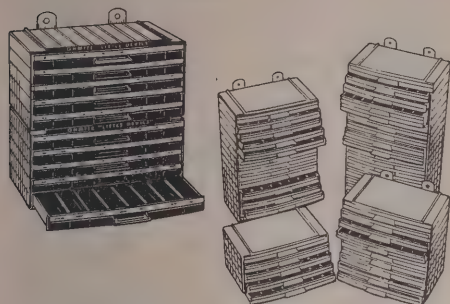
875-1329. 1441-006-001. Mounting Bracket (2 required).....EACH .18

225 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-99
875-1568	AR200-1	1	18.64	14.26
875-1570	AR200-2	2	18.64	14.26
875-1572	AR200-3	3	18.64	14.26
875-1574	AR200-5	5	18.64	14.26
875-1576	AR200-10	10	13.21	10.26
875-1578	AR200-25	25	13.21	10.26
875-1580	AR200-50	50	13.21	10.26
875-1582	AR200-100	100	13.21	10.26
875-1584	AR200-250	250	13.21	10.26
875-1586	AR200-500	500	13.21	10.26
875-1588	AR200-1000	1000	13.21	10.26

875-1377. 1441-007-001. Mounting Bracket (2 required).....EACH .19

Resistor Assortment

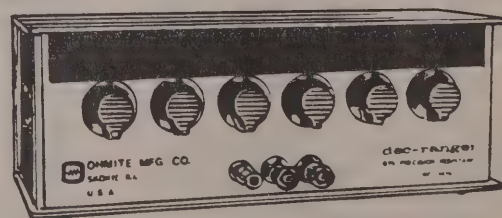


Each cabinet contain the most popular resistance values, including "Mil" specified resistors. Each cabinet is an organized system designed for research and development, prototype laboratory work, education instruction, maintenance and replacement. All cabinets are labeled to identify the resistor series contained and all the drawer compartments identify the resistance values. The cabinets have interlocking bases and tops which permits stacking and helps conserve space. Cabinet models composed of two or more cabinets are stacked and reinforced with metal braces which allow mounting onto walls or pegboards. Each individual cabinet is 9" wide x 4 3/4" high x 5 1/4" deep.

Stock No.	Mfr.'s Type	Type	Watts	Tol. %	Qty.	No. of Values	Ohm Range	EACH
296-1730	CAB-34F	Carbon Film	1/8	5	1000	104	10-22M	253.83
296-1690	CAB-6F	Carbon Film	1/4	5	150	36	1-1M	63.67
296-1705	CAB-23F	Carbon Film	1/4	5	1000	75	1-1M	167.39
296-1735	CAB-43F	Carbon Film	1/4	5	1500	137	1-1M	286.49
296-1710	CAB-24F	Carbon Film	1/2	5	1000	75	1-1M	199.99
296-1740	CAB-44F	Carbon Film	1/2	5	1500	137	1-1M	313.30
296Q1745	CAB-45	Carbon Composition	1/8	5	1000	160	2.7-22M	1674.45
296-1775	CAB-54	Carbon Composition	1/4	5	124	40	10-10M	152.76
296-1785	CAB-525	Carbon Composition	1/4	5	800	80	2.7-22M	680.25
296-1780	CAB-510	Carbon Composition	1/2	5	120	40	10-10M	165.43
296-1790	CAB-526	Carbon Composition	1/2	5	800	80	2.7-22M	698.56
296Q1750	CAB-47	Carbon Composition	1/2	5	1500	160	2.7-22M	1320.62
296-1765	CAB-52	Carbon Composition	1	5	100	40	10-10M	261.95
296Q1795	CAB-527	Carbon Composition	1	5	480	80	2.7-22M	947.19
296Q1760	CAB-48	Carbon Composition	1	5	900	160	2.7-22M	1814.85
296-1770	CAB-53	Carbon Composition	2	5	100	40	10-10M	348.12
296-1695	CAB-8M	Metal Film	1/4	1	250	40	10-301K	105.33
296-1715	CAB-28M	Metal Film	1/4	1	500	80	10-301K	225.00
296-1725	CAB-31M	Metal Film	1/4	1	1000	120	10-301K	425.86
296-1700	CAB-9M	Metal Film	1/2	1	250	40	10-1M	124.20
296-1720	CAB-29M	Metal Film	1/2	1	500	80	10-1M	306.44
296-1725	CAB-32M	Metal Film	1/2	1	1000	120	10-1M	425.86
296-1686	CAB-6SR	SMT Chip	1/10	1 and 5	1000	63	0-2M	420.00
296-1687	CAB-8SR	SMT Chip	1/8	1 and 5	1000	63	0-2M	368.88
296-1688	CAB-12SR	SMT Chip	1/4	1 and 5	1000	63	0-2M	368.88
296-1691	CAB-12SR	SMT Wirewound and Metal Film	0.8-3.5	5	445	64	1-5M	618.75

Decade-Ranger Model No. 3416

A precision, $\pm 1\%$ accuracy, 6 decade resistance box. This unit eliminates the guesswork and aids in the determination of appropriate resistance values. The substitution box is an easy-to-use, dedicated unit which facilitates circuit design, breadboarding, and resolving circuitry problems. The unit has sturdy metal housing, universal binding posts and a grounded metal post for effective shielding. Rotary tap switches operate in either direction. Direct digital readout. 1/4" watt per resistor. **Range:** 1 ohm thru 1,111,110 ohm in 1 ohm increments. **Switch Life:** In excess of 50,000 operations. **Dimensions:** 10.5"W x 3.75"H x 4.675"D. **Weight:** 3 lbs. 10 oz.



296-1195. Model 3416.....EACH 227.96



Ohm-Ranger Model No. 3420

An economical, portable 7-decade resistance selector with a range of over 11 Meg ohms in 1 ohm increments. This unit eliminates the guesswork and aids in the determination of appropriate resistance values. The substitution box is an easy-to-use, dedicated unit which facilitates circuit design, breadboarding, and resolving circuitry problems. Has three binding posts, one to ground the case. The handy slimline size is housed using rugged metal construction. Slide switches are used to change the resistance values. **Power:** 1/2 watt (not to exceed 250 V). **Accuracy:** $\pm 1\%$ over 10 ohms, $\pm 5\%$ under 10 ohms. **Size:** 4" x 6" x 1". **Weight:** 13 oz.

296-1200. Model 3420.....EACH 109.59

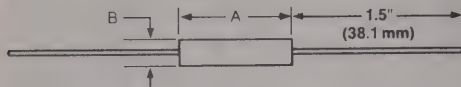
Cap-Ranger Model No. 3430

An economical, portable capacitance selector with 3 binding posts, one to ground the rugged metal case. This unit eliminates the guesswork and aids in the determination of appropriate resistance values. The substitution box is an easy-to-use, dedicated unit which facilitates circuit design, breadboarding, and resolving circuitry problems. Slide switches provide range of 100 picofarads to 11.111 microfarads in 100 picofarads. **Accuracy:** $\pm 2\%$. 200 VDC maximum. **Residual Capacitance:** 60 pf (typical). **Size:** 4" x 6" x 1". **Weight:** 13 oz.



296-1205. Model 3430.....EACH 137.03

Vitreous Enamel Conformal Wirewound Resistors



Dimensions

Power Rating	Max. Length-A		Max. Dia.-B		Leads Ga.	Weight (g)
	In.	mm	In.	mm		
1 W	.406	10.3	.156	4.0	24	.50
2 W	.406	10.3	.219	5.6	20	.75
3 W	.500	14.3	.220	6.4	20	1.00
5 W	.906	25.4	.276	6.4	20	1.75
10 W	1.844	45.6	.394	8.7	20	5.60

Features

- ▶ Rugged Vitreous Enamel Coating Withstands High Humidity And Temperature Cycling
- ▶ Durable Construction, Recommended For Industrial Applications Where Reliability Is Paramount
- ▶ All-Welded Construction
- ▶ Flame Resistant Vitreous Enamel Coating
- ▶ 5% Tolerance

Rugged and flame resistant vitreous enamel coating withstands high humidity and temperature cycling. Durable all welded construction ideal for industrial applications where reliability is paramount. These resistors offer the durability of a silicone-free conformal coated resistor and ideal for computer, communications and industrial applications in which coast, quality and reliability are key considerations. Ceramic core with solder coated axial leads. Tolerance: $\pm 5\%$.

1 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0120	21J1R0	1	3.01	2.56
296-0125	21J2R0	2	3.01	2.56
296-0127	21J2R2	2.2	3.01	2.56
296-0128	21J3R0	3	3.01	2.56
296-0130	21J7R5	7.5	3.01	2.56
296-0131	21J10R	10	2.64	2.24
296-0132	21J15R	15	2.64	2.24
296-0133	21J22R	22	2.64	2.24
296-0140	21J30R	30	2.64	2.24
296-0145	21J47R	47	2.64	2.24
296-0146	21J50R	50	2.64	2.24
296-0150	21J100	100	2.91	2.47
296-0151	21J120	120	2.91	2.47
296-0152	21J180	180	2.91	2.47
296-0155	21J200	200	2.91	2.47
296-0160	21J220	220	2.91	2.47
296-0162	21J250	250	2.91	2.47
296-0170	21J270	270	2.91	2.47
296-0175	21J330	330	2.91	2.47
296-0180	21J470	470	2.91	2.47
296-0182	21J500	500	2.91	2.47
296-0185	21J1K0	1K	2.98	2.53
296-0190	21J1K5	1.5K	2.98	2.53
296-0200	21J2K5	2.5K	2.98	2.53

2 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0205	22J1R0	1	1.38	1.17
296-0206	22J2R0	2	1.38	1.17
296-0207	22J3R0	3	1.38	1.17
296-0208	22J10R	10	1.18	1.00
296-0209	22J20R	20	1.18	1.00
296-0211	22J39R	39	1.18	1.00
296-0212	22J50R	50	1.18	1.00
296-0213	22J56R	56	1.18	1.00
296-0214	22J75R	75	1.18	1.00
296-0216	22J150	150	1.18	1.00
296-0217	22J220	220	1.18	1.00
296-0218	22J560	560	1.46	1.24
296-0219	22J750	750	1.46	1.24
296-0221	22J820	820	1.46	1.24
296-0210	22J1K0	1K	1.65	1.40
296-0222	22J1K2	1.2K	1.65	1.40
296-0223	22J1K5	1.5K	1.65	1.40
296-0224	22J2K0	2K	1.65	1.40
296-0226	22J3K0	3K	1.98	1.68

3 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0215	23J1R0	1	1.24	1.05
296-0227	23J1R5	1.5	1.24	1.05
296-0228	23J2R0	2	1.24	1.05
296-0229	23J2R2	2.2	1.24	1.05
296-0231	23J3R0	3	1.24	1.05
296-0232	23J4R0	4	1.24	1.05
296-0233	23J5R0	5	1.24	1.05
296-0234	23J7R5	7.5	1.24	1.05
296-0236	23J10R	10	1.05	.89
296-0237	23J15R	15	1.05	.89
296-0238	23J20R	20	1.05	.89
296-0239	23J25R	25	1.05	.89
296-0241	23J30R	30	1.05	.89
296-0242	23J33R	33	1.05	.89
296-0243	23J39R	39	1.05	.89
296-0244	23J56R	56	1.05	.89
296-0246	23J68R	68	1.05	.89
296-0220	23J100	100	1.05	.89
296-0225	23J120	120	1.05	.89
296-0247	23J125	125	1.05	.89
296-0230	23J150	150	1.05	.89
296-0248	23J200	200	1.05	.89
296-0249	23J220	220	1.05	.89
296-0251	23J250	250	1.05	.89
296-0252	23J330	330	1.05	.89
296-0253	23J400	400	1.05	.89
296-0254	23J470	470	1.05	.89
296-0235	23J500	500	1.32	1.12
296-0256	23J560	560	1.32	1.12
296-0240	23J600	600	1.32	1.12
296-0257	23J820	820	1.32	1.12
296-0245	23J1K0	1K	1.51	1.28
296-0250	23J1K2	1.2K	1.51	1.28
296-0255	23J1K5	1.5K	1.51	1.28
296-0260	23J2K0	2K	1.51	1.28
296-0265	23J3K0	3K	1.86	1.58
296-0270	23J4K0	4K	1.86	1.58
296-0272	23J5K0	5K	2.13	1.81
296-0273	23J6K0	6K	2.13	1.81
296-0274	23J7K5	7.5K	2.13	1.81
296-0275	23J10K	10K	2.13	1.81

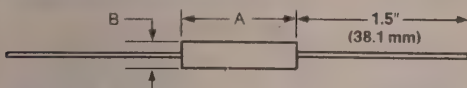
5 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0280	25J1R0	1	1.30	1.11
296-0281	25J1R5	1.5	1.30	1.11
296-0285	25J2R0	2	1.30	1.11
296-0286	25J2R2	2.2	1.30	1.11
296-0287	25J3R0	3	1.30	1.11

5 Watts (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0288	25J4R0	4	1.30	1.11
296-0290	25J5R0	5	1.30	1.11
296-0291	25J7R5	7.5	1.30	1.11
296-0292	25J10R	10	1.16	.99
296-0293	25J20R	20	1.16	.99
296-0294	25J25R	25	1.16	.99
296-0296	25J30R	30	1.16	.99
296-0297	25J33R	33	1.16	.99
296-0298	25J40R	40	1.16	.99
296-0295	25J50R	50	1.16	.99
296-0299	25J56R	56	1.16	.99
296-0301	25J75R	75	1.16	.99
296-0300	25J100	100	1.16	.99
296-0305	25J150	150	1.16	.99
296-0306	25J220	220	1.16	.99
296-0307	25J250	250	1.16	.99
296-0308	25J300	300	1.16	.99
296-0309	25J350	350	1.16	.99
296-0311	25J400	400	1.16	.99
296-0312	25J500	500	1.41	1.20
296-0313	25J560	560	1.41	1.20
296-0310	25J1K0	1K	1.63	1.39
296-0314	25J1K5	1.5K	1.63	1.39
296-0316	25J2K2	2.2K	1.63	1.39
296-0315	25J2K5	2.5K	1.63	1.39
296-0317	25J3K0	3K	1.91	1.62
296-0318	25J3K9	3.9K	1.91	1.62
296-0319	25J4K7	4.7K	1.91	1.62
296-0320	25J5K0	5K	2.31	1.96
296-0321	25J6K0	6K	2.31	1.96
296-0322	25J6K8	6.8K	2.31	1.96
296-0323	25J8K0	8K	2.31	1.96
296-0325	25J10K	10K	2.31	1.96
296-0326	25J12K	12K	2.31	1.96
296-0330	25J15K	15K	2.31	1.96
296-0335	25J20K	20K	2.76	2.35
296-0340	25J22K	22K	2.76	2.35
10 Watts				
296-0076	20J1R0	1	1.87	1.59
296-0077	20J1R5	1.5	1.87	1.59
296-0078	20J2R0	2	1.87	1.59
296-0079	20J4R0	4	1.87	1.59
296-0075	20J5R0	5	1.87	1.59
296-0082	20J10R	10	1.70	1.45
296-0085	20J15R	15	1.70	1.45
296-0086	20J20R	20	1.67	1.42
296-0087	20J22R	22	1.67	1.42
296-0088	20J25R	25	1.67	1.42
296-0089	20J33R	33	1.67	1.42
296-0091	20J40R	40	1.67	1.42
296-0092	20J50R	50	1.67	1.42
296-0085	20J62R	62	1.67	1.42
296-0093	20J100	100	1.67	1.42
296-0090	20J180	180	1.67	1.42
296-0094	20J250	250	1.67	1.42
296-0096	20J300	300	1.67	1.42
296-0097	20J500	500	1.91	1.62
296-0095	20J1K0	1K	2.13	1.81
296-0100	20J2K5	2.5K	2.13	1.81
296-0101	20J3K0	3K	2.41	2.05
296-0102	20J5K0	5K	2.82	2.40
296-0103	20J7K5	7.5K	2.82	2.40
296-0104	20J10K	10K	2.82	2.40
296-0105	20J15K	15K	2.82	2.40
296-0106	20J20K	20K	3.27	2.78
296-0110	20J30K	30K	3.27	2.78
296-0111	20J40K	40K	3.27	2.78
296-0115	20J50K	50K	3.27	2.78

Vitreous Enamel Molded Wirewound Resistors



Dimensions

Power Rating	Max. Length-A		Max. Dia.-B		Leads Ga.	Weight (g)
	In.	mm	In.	mm		
1 1/2 W	.437	11.1	.140	3.6	24	.50
2 1/4 W	.390	9.9	.219	5.6	20	.80
3 1/4 W	.562	14.3	.234	5.9	20	1.20
5 W	.953	24.2	.234	5.9	20	1.80
11 W	1.796	45.6	.343	8.7	20	6.40

Features

- ▶ Molded Construction Provides Consistent Shape And Size (Permits Mounting In Clips Which Extends Power Rating)
- ▶ Meets Mil-R-26 Requirements For Insulated Resistors
- ▶ All-Welded Construction
- ▶ Flame Resistant Vitreous Enamel Coating
- ▶ 5% Tolerance

Molded construction provides consistent shape and size which permits mounting in clips to extend power rating. Mechanical integrity is enhanced by the all-welded construction and the vitreous enamel coating is flame resistant. The durable vitreous enamel coating, which is silicone-free, permits the resistors to maintain a hard coating while operating at high temperatures. Ceramic core with solder coated axial leads.

1 1/2 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-49	50-99
296-0655	91J1R0	1	3.55	3.02
296-0656	91J1R5	1.5	3.55	3.02
296-0657	91J2R0	2	3.55	3.02
296-0660	91J2R4	2.4	3.55	3.02
296-0658	91J2R7	2.7	3.55	3.02
296-0659	91J3R3	3.3	3.55	3.02
296-0661	91J10R	10	2.80	2.38
296-0662	91J15R	15	2.80	2.38
296-0663	91J18R	18	2.80	2.38
296-0664	91J22R	22	2.80	2.38
296-0666	91J33R	33	2.80	2.38
296-0667	91J36R	36	2.80	2.38
296-0668	91J47R	47	2.80	2.38
296-0669	91J50R	50	2.80	2.38
296-0671	91J75R	75	2.80	2.38
296-0672	91J91R	91	2.80	2.38
296-0665	91J100	100	3.08	2.62
296-0673	91J120	120	3.08	2.62
296-0674	91J180	180	3.08	2.62
296-0676	91J220	220	3.08	2.62
296-0677	91J270	270	3.08	2.62
296-0678	91J330	330	3.08	2.62
296-0679	91J470	470	3.08	2.62
296-0681	91J620	620	3.08	2.62
296-0682	91J820	820	3.08	2.62
296-0670	91J1K0	1K	3.15	2.68
296-0683	91J1K2	1.2K	3.15	2.68
296-0684	91J1K5	1.5K	3.15	2.68
296-0686	91J2K0	2K	3.15	2.68
296-0687	91J2K2	2.2K	3.15	2.68

2 1/4 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-49	50-99
296-0688	92J1R0	1	1.73	1.47
296-0689	92J1R5	1.5	1.73	1.47
296-0691	92J2R0	2	1.73	1.47
296-0692	92J2R2	2.2	1.73	1.47
296-0693	92J3R0	3	1.73	1.47
296-0694	92J3R3	3.3	1.73	1.47
296-0696	92J4R0	4	1.73	1.47
296-0697	92J4R7	4.7	1.73	1.47
296-0698	92J7R5	7.5	1.73	1.47
296-0699	92J10R	10	1.45	1.23

2 1/4 Watts (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-49	50-99
296-0701	92J15R	15	1.45	1.23
296-0702	92J22R	22	1.45	1.23
296-0703	92J47R	47	1.45	1.23
296-0704	92J62R	62	1.45	1.23
296-0706	92J100	100	1.45	1.23
296-0707	92J120	120	1.45	1.23
296-0708	92J180	180	1.45	1.23
296-0709	92J220	220	1.45	1.23
296-0711	92J270	270	1.45	1.23
296-0712	92J330	330	1.45	1.23
296-0713	92J390	390	1.45	1.23
296-0675	92J470	470	1.45	1.23
296-0714	92J510	510	1.84	1.56
296-0716	92J680	680	1.84	1.56
296-0717	92J820	820	1.84	1.56
296-0718	92J1K0	1K	2.11	1.79
296-0680	92J1K2	1.2K	2.11	1.79
296-0685	92J1K8	1.8K	2.11	1.79

3 1/4 Watts

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-49	50-99
296-0690	93J1R0	1	1.44	1.22
296-0695	93J2R0	2	1.44	1.22
296-0722	93J3R0	3	1.44	1.22
296-0700	93J4R7	4.7	1.44	1.22
296-0723	93J5R0	5	1.44	1.22
296-0724	93J10R	10	1.21	1.03
296-0726	93J15R	15	1.21	1.03
296-0727	93J16R	16	1.21	1.03
296-0728	93J22R	22	1.21	1.03
296-0729	93J33R	33	1.21	1.03
296-0731	93J39R	39	1.21	1.03
296-0732	93J47R	47	1.21	1.03
296-0705	93J50R	50	1.21	1.03
296-0733	93J68R	68	1.21	1.03
296-0734	93J82R	82	1.21	1.03
296-0710	93J100	100	1.21	1.03
296-0736	93J120	120	1.21	1.03
296-0737	93J130	130	1.21	1.03
296-0738	93J150	150	1.21	1.03
296-0739	93J180	180	1.21	1.03
296-0715	93J220	220	1.21	1.03
296-0741	93J270	270	1.21	1.03
296-0742	93J330	330	1.21	1.03
296-0743	93J390	390	1.21	1.03
296-0744	93J470	470	1.21	1.03
296-0746	93J510	510	1.55	1.32
296-0747	93J680	680	1.55	1.32
296-0748	93J820	820	1.55	1.32
296-0720	93J1K0	1K	1.76	1.50
296-0749	93J1K8	1.8K	1.76	1.50
296-0751	93J2K0	2K	1.76	1.50
296-0725	93J2K4	2.4K	1.76	1.50
296-0752	93J3K3	3.3K	2.15	1.83
296-0753	93J4K0	4K	2.15	1.83
296-0754	93J4K7	4.7K	2.15	1.83
296-0756	93J5K0	5K	2.48	2.11
296-0730	93J5K6	5.6K	2.48	2.11
296-0735	93J6K8	6.8K	2.48	2.11
296-0740	93J10K	10K	2.48	2.11

5 Watts

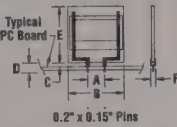
Stock No.	Mfr.'s Type	Ohms	EACH	
			1-49	50-99
296-0745	95J1R0	1	1.72	1.46
296-0757	95J1R2	1.2	1.72	1.46
296-0758	95J2R0	2	1.72	1.46
296-0759	95J2R4	2.4	1.72	1.46
296-0761	95J3R0	3	1.72	1.46
296-0762	95J3R3	3.3	1.72	1.46
296-0763	95J4R0	4	1.72	1.46
296-0750	95J5R0	5	1.72	1.46
296-0755	95J6R8	6.8	1.72	1.46
296-0760	95J10R	10	1.52	1.29
296-0764	95J15R	15	1.52	1.29
296-0766	95J18R	18	1.52	1.29
296-0767	95J22R	22	1.52	1.29
296-0768	95J25R	25	1.52	1.29
296-0769	95J30R	30	1.52	1.29

5 Watts (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-49	50-99
296-0765	95J33R	33	1.52	1.29
296-0771	95J39R	39	1.52	1.29
296-0772	95J40R	40	1.52	1.29
296-0770	95J50R	50	1.52	1.29
296-0773	95J62R	62	1.52	1.29
296-0774	95J75R	75	1.52	1.29
296-0776	95J82R	82	1.52	1.29
296-0775	95J100	100	1.52	1.29
296-0777	95J120	120	1.52	1.29
296-0778	95J150	150	1.52	1.29
296-0779	95J180	180	1.52	1.29
296-0781	95J200	200	1.52	1.29
296-0782	95J220	220	1.52	1.29
296-0783	95J250	250	1.52	1.29
296-0784	95J270	270	1.52	1.29
296-0786	95J330	330	1.52	1.29
296-0787	95J400	400	1.52	1.29
296-0788	95J470	470	1.52	1.29
296-0780	95J1K0	1K	1.84	1.56
296-0789	95J1K2	1.2K	2.14	1.82
296-0791	95J1K5	1.5K	2.14	1.82
296-0792	95J2K0	2K	2.14	1.82
296-0785	95J2K5	2.5K	2.50	2.13
296-0793	95J3K0	3K	2.50	2.13
296-0794	95J3K3	3.3K	2.50	2.13
296-0796	95J4K7	4.7K	2.50	2.13
296-0790	95J5K0	5K	3.04	2.58
296-0795	95J5K6	5.6K	3.04	2.58
296-0797	95J6K0	6K	3.04	2.58
296-0800	95J10K	10K	3.04	2.58
296-0805	95J12K	12K	3.04	2.58
296-0801	95J15K	15K	3.04	2.58
296-0810	95J16K	16K	3.04	2.58
296-0803	95J18K	18K	3.04	2.58
296-0815	95J20K	20K	3.63	3.09
296-0806	95J25K	25K	3.63	3.09
11 Watts				
296-0605	90J5R0	5	2.31	1.96
296-0597	90J10R	10	2.31	1.96
296-0598	90J11R	11	2.31	1.96
296-0599	90J15R	15	2.31	1.96
296-0609	90J20R	20	2.31	1.96
296-0611	90J22R	22	2.31	1.96
296-0612	90J25R	25	2.31	1.96
296-0613	90J30R	30	2.31	1.96
296-0610	90J33R	33	2.31	1.96
296-0614	90J47R	47	2.31	1.96
296-0616	90J50R	50	2.31	1.96
296-0615	90J62R	62	2.31	1.96
296-0617	90J75R	75	2.31	1.96
296-0618	90J82R	82	2.31	1.96
296-0620	90J100	100	2.28	1.94
296-0621	90J120	120	2.28	1.94
296-0622	90J150	150	2.28	1.94
296-0633	90J220	220	2.28	1.94
296-0634	90J270	270	2.28	1.94
296-0625	90J330	330	2.28	1.94
296-0636	90J600	600	2.61	2.22
296-0637	90J1K0	1K	2.92	2.48
296-0638	90J1K2	1.2K	2.92	2.48
296-0639	90J1K3	1.3K	2.92	2.48
296-0641	90J1K5	1.5K	2.92	2.48
296-0642	90J2K0	2K	2.92	2.48
296-0630	90J2K5	2.5K	3.29	2.80
296-0631	90J5K0	5K	3.85	3.27
296-0632	90J7K5	7.5K	3.85	3.27
296-0635	90J10K	10K	3.85	3.27
296-0644	90J12K	12K	3.85	3.27
296-0640	90J15K	15K	3.85	3.27
296-0646	90J18K	18K	3.85	3.27
296-0649	90J20K	20K	4.46	3.79
296-0643	90J25K	25K	4.46	3.79
296-0645	90J27K	27K	4.46	3.79
296-0647	90J30K	30K	4.46	3.79
296-0648	90J33K	33K	4.46	3.79
296-0650	90J50K	50K	4.46	3.79

TA Series — NEW — Power Chip Resistors

The Ohmite Power Chip Resistor is a thick film resistive ink resistor. These resistors are lightweight, economical, non-inductive, have high power density and require minimal board space. It is constructed on an alumina substrate with copper plated silver conductors, ruthenium oxide resistance material, and a glass passivation layer. The resistors have very low inductance of 50 nH measured at 1 MHz. The thin profile and low inductance are specifically designed for switch mode power supplies. Repetitive transient withstand capability is 5 times peak as long as the one second average dissipation remains equal to or less than rating. Terminals are solder plated brass.



Dimensions

Mfr.'s Type	Dimensions (In.)						Power Rating (Watts)
	A	B	C	D	E	F	
TA003PA	.200	.50	.07	.17	.60	.10	3.0
TA005PA	.300	.50	.07	.17	1.00	.10	5.0
TA007PA	.300	.75	.07	.17	1.00	.10	7.5
TA010PA	.300	1.00	.07	.17	1.00	.10	10.0

Stock No.	Mfr.'s Type	Ohms	Watts	Tol. %	EACH		
					1-49	50-99	100-499
292-44XX	TA003PA	1-9	3.0	5	0.91	0.78	0.63
292-44XX	TA003PA	10-10K	3.0	5	0.82	0.70	0.57
292-44XX	TA003PA	11K-100K	3.0	5	0.93	0.80	0.65
292-45XX	TA005PA	1-9	5.0	5	0.95	0.81	0.66
292-45XX	TA005PA	10-10K	5.0	5	0.87	0.75	0.61
292-45XX	TA005PA	11K-100K	5.0	5	0.98	0.84	0.68
292-46XX	TA007PA	1-9	7.5	5	1.18	1.02	0.82
292-46XX	TA007PA	10-10K	7.5	5	1.11	0.95	0.77
292-46XX	TA007PA	11K-100K	7.5	5	1.22	1.05	0.85
292-47XX	TA010PA	1-9	10.0	5	1.40	1.20	0.97
292-47XX	TA010PA	10-10K	10.0	5	1.33	1.14	0.92
292-47XX	TA010PA	11K-100K	10.0	5	1.45	1.25	1.01

Standard Resistance Values

To Complete Allied Stock Number, Insert 2-Digit Number Shown in XX Column After Value Desired in Place of XX in Stock Number.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1	1	6.8	21	43	40	160	54	510	66	4.7K	84
1.5	4	7.5	22	47	41	180	55	620	68	5.6K	86
2	7	10	25	51	42	200	56	680	69	6.8K	87
2.4	10	12	27	56	43	220	57	750	72	10K	89
3	12	15	29	62	44	240	58	820	74	15K	91
3.6	14	20	32	68	45	300	60	1.5K	76	20K	93
4.3	16	27	35	100	48	360	62	1.8K	78	30K	95
4.7	17	30	36	120	50	430	64	2K	79	47K	97
5.1	18	36	38	150	53	470	65	3K	82	100K	99

TWW/TWM — NEW — Ceramic Housed Power Resistors

- Economical Commercial Grade for General Purpose Use
- Wirewound and Metal Oxide Construction
- Flameproof

Ceramic housing for fiberglass or metal oxide core with cement based filling. 5% tolerance. Short time overload is wirewound 10x rated wattage for 5 sec.; metal oxide 5x rated wattage for 5 sec. results in $\pm 2\%$. Derate from 100% at 70°C to 0% at 275°C. Incombustibility at 16x rated wattage for 5 min. is not flamed. Moisture proof load life at 40°C 95% RH on-off cycle 1000 hours yields $\pm 5\%$.

Dimensions

Mfr.'s Type	H		Power Rating (Watts)
	In. ± 0.06	mm ± 1.5	
TWW5J/TWM5J	0.98	25	5.0
TWW7J/TWM7J	1.54	39	7.0
TWW10J/TWM10J	2.01	51	10.0

Stock No.	Mfr.'s Type	Watts	Tol. %	Stocked Values	EACH		
					1-24	25-99	100-249
292-15XX	TWW5J/TWM5J	5	5	0.1-10 K	0.46	0.38	0.33
292-16XX	TWW7J/TWM7J	7	5	0.1-10 K	0.62	0.52	0.44
292-17XX	TWW10J/TWM10J	10	5	0.1-10 K	0.80	0.67	0.57

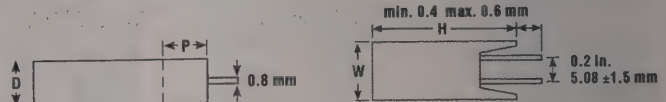
Standard Resistance Values

To Complete Allied Stock Number, Insert 2-Digit Number Shown in XX Column After Value Desired in Place of XX in Stock Number.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
0.1	10	0.68	20	10	30	75	40	470	50	6.8K	60
0.2	12	1	22	15	32	100	42	680	52	10K	62
0.3	14	1.5	24	20	34	150	44	1K	54	—	—
0.43	16	4.7	26	47	36	200	46	2K	56	—	—
0.47	18	6.8	28	56	38	300	48	4.7K	58	—	—

TW Series Vertical Mount Radial Wirewound Resistors

- Radial Leads for PC Mounting
- 2.5 to 7 Watts Power Ratings
- Solder Coated Radial Leads
- Fiberglass Core with Ceramic Coating
- Linear Derating From 100% @ 25°C to 0% @ 250°C



Ceramic housed wirewound resistors in vertical configuration. The radial leads are solder coated and are ideal for PC board mounting. The fiberglass core has a ceramic coating and is in a vertical mount configuration. Linear derating from 100% @ 25°C to 0% @ 250°C. Power rating is based on 25°C free air. 10% tolerance available as special order item. Call for pricing, delivery and minimums.

Dimensions

Mfr.'s Type	Length H		Length W		Width D		Width P		Power Rating (Watts)
	In.	mm ± 1	In.	mm ± 0.5	In.	mm ± 0.4	In.	mm ± 0.2	
TW3	0.79	20.0	0.47	12	0.24	6	0.16	4	2.5
TW4	0.98	25.0	0.47	12	0.28	7	0.24	6	4.0
TW5	1.18	30.0	0.47	12	0.31	8	0.31	8	5.0
TW7	1.46	37.0	0.47	12	0.35	9	0.39	10	7.0

Stock No.	Mfr.'s Type	Watts	Tol. %	Stocked Values	EACH		
					1-24	25-99	100-249
292-0XXX	TW3J	2.5	5	0.1-1.2 K	0.52	0.48	0.41
292-1XXX	TW4J	4.0	5	0.1-2.4 K	0.68	0.63	0.55
292-2XXX	TW5J	5.0	5	0.1-4.7 K	0.73	0.68	0.59
292-3XXX	TW7J	7.0	5	5.1-9.1 K	0.92	0.85	0.73
				0.1-4.7 K	0.75	0.69	0.60
				5.1-15.0 K	0.93	0.86	0.75

Standard Resistance Values

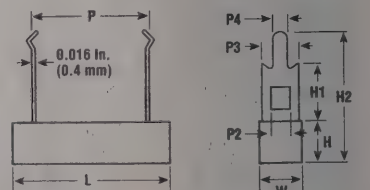
To Complete Allied Stock Number, Insert 3-Digit Number Shown in XXX Column After Value Desired in Place of XXX in Stock Number.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
0.1	995	0.51	010	2	028	7.5	056	30	123	110	206	430	296	1.6K	383	6.2K	482
0.12	996	0.56	011	2.2	032	8.2	057	33	130	120	212	470	302	1.8K	393	6.8K	489
0.15	997	0.62	012	2.4	035	9.1	058	36	135	130	218	510	308	2K	400	7.5K	498
0.18	998	0.68	013	2.7	041	10	060	39	140	150	226	560	315	2.2K	405	8.2K	504
0.2	999	0.75	014	3	042	11	061	43	143	160	230	620	324	2.4K	412	9.1K	511
0.22	001	0.82	016	3.3	043	12	062	47	153	180	237	680	330	2.7K	421	10K	522
0.24	002	0.91	017	3.6	044	13	063	51	160	200	243	750	338	3K	427	11K	528
0.27	003	1	020	3.9	046	15	064	56	166	220	248	820	343	3.3K	433	12K	533
0.3	004	1.1	021	4.3	047	16	065	62	172	240	255	910	351	3.6K	441	13K	543
0.33	005	1.2	022	4.7	049	18	066	68	178	270	263	1K	355	3.9K	446	15K	550
0.36	006	1.3	023	5.1	051	20	068	75	185	300	270	1.1K	361	4.3K	453	—	—
0.39	007	1.5	024	5.6	053	22	102	82	190	330	276	1.2K	366	4.7K	461	—	—
0.43	008	1.6	025	6.2	054	24	114	91	191	360	278	1.3K	373	5.1K	467	—	—
0.47	009	1.8	026	6.8	055	27	117	100	202	390	288	1.5K	380	5K	473	—	—

TVW/TVM — NEW — Ceramic Housed Power Resistors

- Economical Commercial Grade for General Purpose Use
- Wirewound and Metal Oxide Construction
- Flameproof

Ceramic housing for fiberglass or metal oxide core with cement based filling. 5% tolerance. Short time overload is wirewound 10x rated wattage for 5 sec.; metal oxide 5x rated wattage for 5 sec. results in $\pm 2\%$. Derate from 100% at 70°C to 0% at 275°C. Incombustibility at 16x rated wattage for 5 min. is not flamed. Moisture proof load life at 40°C 95% RH on-off cycle 1000 hours yields $\pm 5\%$.



Dimensions

Mfr.'s Type	L		W		H		P		P1		P2		P3		P4		H1		H2		Power Rating (Watts)
	In. ± 0.06	mm ± 1.5	In. ± 0.04	mm ± 1	In. ± 0.04	mm ± 1	In. ± 0.06	mm ± 1.5	In.	mm	In.	mm	In.	mm	In.	mm	In. ± 0.04	mm ± 1	In. ± 0.04	mm ± 1	
TVW5J/TVM5J	1.42	36	0.39	10.0	0.39	10	0.79	20	0.17	4.2	0.08	2	0.20	5	0.06	1.5	0.98	25	0.41	10.5	5.0
TVW7J/TVM7J	1.89	48	0.39	10.0	0.39	10	1.26	32	0.17	4.2	0.08	2	0.20	5	0.06	1.5	0.98	25	0.41	10.5	7.0
TVW10J/TVM10J	1.89	48	0.49	12.5	0.47	12	1.26	32	0.17	4.2	0.08	2	0.20	5	0.06	1.5	1.02	26	0.41	10.5	10.0
TVW25J/TVM25J	1.97	50	0.59	15.0	0.51	13	1.65	42	0.28	7.0	0.24	6	0.39	10	0.11	2.7	1.42	36	0.59	15.0	25.0

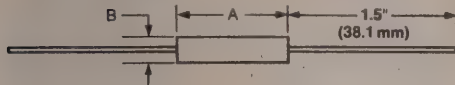
Stock No.	Mfr.'s Type	Watts	Tol. %	Stocked Values	EACH		
					1-24	25-99	100-249
292-25XX	TVW5J/TVM5J	5	5	0.1-10 K	0.36	0.30	0.26
292-26XX	TVW7J/TVM7J	7	5	0.1-10 K	0.52	0.43	0.37
292-27XX	TVW10J/TVM10J	10	5	0.1-10 K	0.62	0.52	0.44
292-28XX	TVW25J/TVM25J	25	5	0.1-10 K	0.68	0.57	0.49

Standard Resistance Values

To Complete Allied Stock Number, Insert 2-Digit Number Shown in XX Column After Value Desired in Place of XX in Stock Number.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
0.10	10	0.43	16	1	22	6.8	28	20	34	75	40	200	46	680	52	4.7K	58	60	—	—	—
0.20	12	0.47	18	3	24	10	30	47	36	100	42	300	48	1.0K	54	6.8K	60	62	—	—	—
0.30	14	0.68	20	4.7	26	15	32	56	38	150	44	470	50	2.0K	56	10K	62	64	—	—	—

Silicone-Ceramic Conformal Wirewound Resistors



Dimensions

Power Rating	Max. Length-A		Max. Dia.-B		Leads Ga.	Weight (g)
	In.	mm	In.	mm		
1 W	.437	11.1	.125	3.2	24	.25
2 W	.406	10.3	.219	5.6	20	.50
3 W	.593	14.3	.218	6.4	20	1.00
5 W	.937	23.8	.343	8.7	18	3.00
10 W	1.842	46.8	.406	10.3	18	7.30

- ▶ Economical
- ▶ Applications Include Commercial, Industrial and Communications Equipment
- ▶ Stability Under High Temperature Conditions
- ▶ All-Welded Construction

Economical conformal silicone-ceramic coated resistors. These all-welded resistors are characterized by low temperature coefficients and resistance to thermal shock, ideal for communications and a wide range of electrical and electronic applications. Ceramic core and solder coated axial leads.

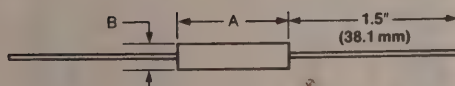
1 Watt 1% Tolerance

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0366	41F1R0	1	2.25	1.91
296-0359	41F3R0	3	2.25	1.91
296-0357	41F100	100	1.76	1.50
296-0365	41F470	470	1.76	1.50
296-0354	41F1K0	1K	2.00	1.70

1 Watt 5% Tolerance

296-0370	41JR40	0.4	3.70	3.15
296-0374	41JR50	0.5	2.68	2.28
296-0375	41JR75	0.75	2.68	2.28
296-0376	41J1R0	1	1.95	1.66
296-0378	41J2R0	2	1.95	1.66
296-0379	41J50R	50	1.54	1.31
296-0381	41J82R	82	1.54	1.31
296-0382	41J100	100	1.54	1.31
296-0383	41J390	390	1.54	1.31
296-0380	41J560	560	1.69	1.44
296-0385	41J1K0	1K	1.73	1.47

80 Series 1% and 5% Tolerance



Dimensions

Power Rating	Max. Length-A		Max. Dia.-B		Leads Ga.	Weight (g)
	In.	mm	In.	mm		
3 W	.563	14.3	.250	6.4	20	1.0
6.5 W	.937	23.8	.343	8.7	18	3.0
11 W	1.842	46.8	.406	10.3	18	7.3

2 Watt 5% Tolerance

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0390	42JR10	0.1	2.20	1.87
296-0395	42JR20	0.2	2.20	1.87
296-0396	42J33R	33	.93	.79
296-0397	42J56R	56	.93	.79
296-0398	42J62R	62	.93	.79
296-0399	42J270	270	.93	.79
296-0401	42J300	300	.93	.79

3 Watt 1% Tolerance

296-0400	43FR10	0.1	2.72	2.31
296-0405	43FR20	0.2	2.72	2.31
296-0406	43FR30	0.3	1.94	1.65
296-0410	43FR50	0.5	1.94	1.65
296-0411	43F1R0	1	1.18	1.00
296-0412	43F10R	10	1.00	.85
296-0413	43F15R	15	1.00	.85
296-0414	43F47R	47	1.00	.85
296-0416	43F68R	68	1.00	.85
296-0415	43F82R	82	1.00	.85
296-0417	43F100	100	1.00	.85
296-0418	43F220	220	1.00	.85
296-0419	43F1K0	1K	1.44	1.22
296-0421	43F10K	10K	1.94	1.65

3 Watt 5% Tolerance

296-0420	43JR10	0.1	2.02	1.72
296-0422	43JR15	0.15	2.02	1.72
296-0423	43JR20	0.2	2.02	1.72
296-0425	43JR30	0.3	1.45	1.23
296-0430	43JR50	0.5	1.45	1.23
296-0435	43J1R0	1	1.02	.87
296-0436	41J2R0	2	1.02	.87
296-0437	43J5R0	5	1.02	.87
296-0438	43J10R	10	.85	.72
296-0439	43J15R	15	.85	.72
296-0441	43J33R	33	.85	.72
296-0442	43J47R	47	.85	.72
296-0443	43J50R	50	.85	.72
296-0440	43J68R	68	.85	.72
296-0444	43J100	100	.85	.72
296-0445	43J125	125	.85	.72
296-0446	43J150	150	.85	.72
296-0447	43J180	180	.85	.72
296-0448	43J220	220	.85	.72
296-0449	43J500	500	1.08	.92
296-0451	43J680	680	1.08	.92
296-0452	43J820	820	1.08	.92
296-0453	43J1K0	1K	1.25	1.06
296-0454	43J2K0	2K	1.25	1.06
296-0456	43J2K2	2.2K	1.25	1.06
296-0457	43J3K0	3K	1.52	1.29
296-0458	43J10K	10K	1.75	1.49

5 Watt 1% Tolerance

296-0450	45FR10	0.1	3.24	2.75
296-0455	45FR15	0.15	3.24	2.75
296-0460	45FR20	0.2	3.24	2.75

5 Watt 1% Tolerance (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-24	25-100
296-0465	45FR50	0.5	2.33	1.98
296-0466	45FR75	0.75	2.33	1.98
296-0467	45F1R0	1	1.41	1.20
296-0468	45F2R0	2	1.41	1.20
296-0470	45F15R	15	1.18	1.00
296-0471	45F150	150	1.18	1.00
296-0472	45F200	200	1.18	1.00
296-0473	45F470	470	1.18	1.00
296-0474	45F750	750	1.49	1.27
296-0476	45F20K	20K	2.31	1.96
296-0475	45F30K	30K	2.31	1.96

5 Watt 5% Tolerance

296-0480	45JR10	0.1	2.41	2.05
296-0481	45JR15	0.15	2.41	2.05
296-0482	45JR20	0.2	2.41	2.05
296-0483	45JR40	0.4	1.73	1.47
296-0484	45JR75	0.75	1.73	1.47
296-0486	45J1R0	1	1.21	1.03
296-0485	45J5R0	5	1.21	1.03
296-0490	45J10R	10	1.02	.87
296-0491	45J15R	15	1.02	.87
296-0492	45J22R	22	1.02	.87
296-0493	45J25R	25	1.02	.87
296-0494	45J30R	30	1.02	.87
296-0495	45J50R	50	1.02	.87
296-0496	45J100	100	1.02	.87
296-0500	45J150	150	1.02	.87
296-0503	45J220	220	1.02	.87
296-0505	45J820	820	1.29	1.10
296-0506	45J1K0	1K	1.48	1.26
296-0507	45J7K5	7.5K	2.09	1.78
296-0508	45J10K	10K	2.09	1.78

10 Watt 1% Tolerance

296-0345	40FR10	0.1	3.88	3.30
296-0346	40FR40	4	1.68	1.43
296-0347	40FR50	5	1.68	1.43
296-0348	40F68R	68	1.42	1.21
296-0349	40F300	300	1.42	1.21
296-0351	40F600	600	1.80	1.53

10 Watt 5% Tolerance

296-0350	40JR10	0.1	2.93	2.49
296-0352	40J3R0	3	1.46	1.24
296-0355	40J10R	10	1.24	1.05
296-0360	40J15R	15	1.24	1.05
296-0361	40J18R	18	1.24	1.05
296-0362	40J22R	22	1.24	1.05
296-0363	40J25R	25	1.24	1.05
296-0364	40J50R	50	1.24	1.05
296-0365	40J100	100	1.24	1.05
296-0367	40J200	200	1.24	1.05
296-0368	40J600	600	1.56	1.33
296-0369	40J2K0	2K	1.80	1.53
296-0371	40J2K5	2.5K	1.80	1.53

- ▶ High Stability $\pm 1\% \Delta R$
- ▶ Designed for Precision Power Applications
- ▶ In Accordance With MIL-R-26 Specification
- ▶ Resistors Marked With "Mil" Designation and Ohmite Stock Part Number
- ▶ All Welded Construction

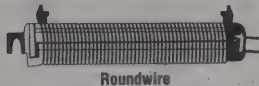
Silicone-Ceramic Conformal Wirewound Resistors

High quality conformal silicone-ceramic coated resistors for applications requiring high precision, power and stability. These resistors have a low temperature coefficient and maintain a high degree of stability under demanding conditions. They feature all-welded construction and have the ability to maintain accurate resistance values due to being stabilized. Meet or exceed MIL-R-26 specifications. Ceramic core with solder coated axial leads. Parts are marked with both Mil designation and Ohmite stock part number.

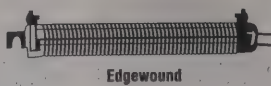
Stock No.	Mfr.'s Type	Ohms	Watts	Tol %	EACH	
					1-24	25-99
296-0520	83FR10	0.1	3	1	3.61	3.07
296-0521	83FR15	0.15	3	1	3.61	3.07
296-0525	83FR20	0.2	3	1	3.61	3.07
296-0530	83FR499	0.499	3	1	2.58	2.19
296-0531	83F1R0	1	3	1	1.35	1.15
296-0540	83J1R0	1	3	5	1.18	1.00
296-0545	83J1R2	1.2	3	5	1.18	1.00
296-0546	83F10R	10	3	1	1.13	.96
296-0550	83J68R	68	3	5	1.00	.85

Stock No.	Mfr.'s Type	Ohms	Watts	Tol %	EACH	
					1-24	25-99
296-0551	83F100	100	3	1	1.13	.96
296-0555	85FR10	0.1	6.5	1	4.30	3.66
296-0560	85FR15	0.15	6.5	1	4.30	3.66
296-0565	85FR20	0.2	6.5	1	4.30	3.66
296-0570	85J4R7	4.7	6.5	5	1.41	1.20
296-0575	85J5R1	5.1	6.5	5	1.41	1.20
296-0577	85J5R6	5.6	6.5	5	1.41	1.20
296-0579	85J10R	10	6.5	1	1.35	1.15
296-0580	85J10R	10	6.5	5	1.18	1.00
296-0581	85F15R	15	6.5	1	1.35	1.15
296-0582	85F20R	20	6.5	1	1.35	1.15
296-0583	85F49R9	49.9	6.5	1	1.35	1.15
296-0585	85J51R	51	6.5	5	1.18	1.00
296-0586	85F100	100	6.5	1	1.35	1.15
296-0590	85J150	150	6.5	5	1.18	1.00
296-0600	85J820	820	6.5	5	1.49	1.27
296-0601	80FR10	0.1	11	1	5.23	4.45
296-0602	80FR15	0.15	11	1	5.23	4.45
296-0603	80FR20	0.2	11	1	5.23	4.45
296-0604	80F1R5	1.5	11	1	1.95	1.66
296-0606	80F20R	20	11	1	1.64	1.39
296-0607	80F100K	100K	11	1	3.10	2.64
296-0608	80J8R2	8.2	11	5	1.70	1.45
296-0510	80J10R	10	11	5	1.43	1.22
296-0515	80J15R	15	11	5	1.43	1.22

Edgewound/Round Wire Power Resistors



Roundwire



Edgewound

Pow-Ribs™ are designed to handle 700-1000 watts of power. Their construction consists of thick, heavy resistance alloy wound around porcelain ceramic core insulators supported by a metal mounting bar. The bar is slotted on each end to facilitate installation. Edgewound Pow-Ribs™ provide low resistance at high current ratings, while Round Wire Pow-Ribs™ provide higher resistance at lower current ratings. Clamp-type terminals on the Edgewound units permit a reliable connection which can be moved along the resistive element to obtain intermediate values. **Tolerance: ±10%.** **Average Weight: 3 lbs. 16.25" long between mounting centers.**

Edgewound

Stock No.	Mfr.'s Type	Ohms	Max. Amps	Dia. (In.)	Overall Height	EACH	
						1-9	10-24
296-4015	PFESKR100	0.10	100.0	2.125	3.313	123.76	105.20
296-4017	PFESKR250	0.25	63.0	1.875	3.125	73.20	62.22
296-4020	PFESKR370	0.37	50.0	1.875	3.125	88.67	75.37
296-4025	PFESKR500	0.50	47.0	1.875	3.125	107.79	91.62
296-4030	PFESKR750	0.75	39.0	1.875	3.125	99.54	84.61

Edgewound (continued)

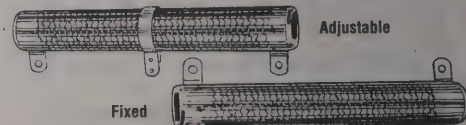
Stock No.	Mfr.'s Type	Ohms	Max. Amps	Dia. (In.)	Overall Height	EACH	
						1-9	10-24
296-4035	PFESK1R00	1.00	33.0	1.875	3.125	69.45	59.03
296-4040	PFESK1R30	1.30	29.0	1.875	2.563	54.43	46.27
296-4045	PFESK1R60	1.60	26.0	1.875	2.563	50.45	42.88
296-4050	PFESK2R20	2.20	18.4	1.750	2.500	51.54	43.81
296-4055	PFESK2R80	2.80	16.3	1.750	2.500	50.45	42.88
296-4060	PFESK3R50	3.50	14.6	1.625	2.438	43.41	36.90
296-4065	PFESK4R50	4.50	12.7	1.750	2.500	75.62	64.28
296-4070	PFESK5R40	5.40	11.8	1.750	2.500	74.15	63.03
296-4075	PFESK6R80	6.80	10.3	1.625	2.438	72.07	61.26
296-4080	PFESK8R50	8.50	9.4	1.625	2.438	67.27	57.18

Roundwire

296-4085	PFR5K11R0	11.00	8.3	2.063	2.625	78.84	67.01
296-4086	PFR5K13R0	13.00	7.6	2.063	2.625	79.88	67.90
296-4087	PFR5K17R0	17.00	6.6	2.063	2.625	78.35	66.60
296-4088	PFR5K20R0	20.00	5.9	2.063	2.625	78.84	67.01
296-4089	PFR5K25R0	25.00	5.1	2.063	2.625	77.43	65.82

Fixed/Adjustable Vitreous Enamel High Power Corrib Resistors

Corrib resistors are ideal for applications involving high currents at very low resistance values — as low as 0.1 ohm at 300 watts. These large, heavy-duty resistors are designed to withstand frequent start-stop cycles characteristic of motor starting, dynamic braking, and other similar applications. They are manufactured with corrugated resistive wire. Ribbed construction aids in rapid cooling. To accelerate cooling, the wire is securely fused to the ceramic core by a protective vitreous enamel coating to improve durability. Corrib resistors are hollow-core units which can be securely fastened to chassis surfaces with the same thru bolts and brackets used with the 210/270 series resistors. **Tolerance: ±10%.** **Core Diameter: 8.5" long × 1.125". Overall Height: 1.895".**



Fixed 300 Watts

Stock No.	Mfr.'s Type	Ohms	Max. Amps	EACH	
				1-9	10-24
296-1955	C300KR10	0.10	54.7	25.82	21.95
296-1960	C300KR12	0.12	50.0	25.82	21.95
296-1965	C300KR31	0.31	31.1	22.17	18.84
296-1970	C300KR50	0.50	24.5	18.46	15.69
296-1973	C300K1R0	1.00	17.3	18.46	15.69
296-1975	C300K1R2	1.20	15.8	16.93	14.39
296-1980	C300K1R6	1.60	13.7	16.93	14.39
296-1985	C300K2R0	2.00	12.2	16.93	14.39
296-1990	C300K3R1	3.10	9.8	16.93	14.39
296-1995	C300K4R0	4.00	8.6	16.93	14.39
296-1997	C300K5R0	5.00	7.7	16.93	14.39
296-2000	C300K6R3	6.30	6.9	16.33	13.80
296-2005	C300K8R0	8.00	6.1	16.33	13.80
296-2010	C300K10R	10.00	5.5	16.33	13.80
296-2015	C300K12R	12.00	5.0	15.51	13.18
296-2020	C300K16R	16.00	4.3	15.51	13.18
296-2025	C300K20R	20.00	3.8	15.51	13.18

Adjustable 300 Watts

Stock No.	Mfr.'s Type	Ohms	Max. Amps	EACH	
				1-9	10-24
296-2445	E300KR10	0.10	54.7	29.16	24.79
296-2447	E300KR12	0.12	50.0	29.16	24.79
296-2450	E300KR16	0.16	43.3	29.16	24.79
296-2455	E300KR20	0.20	38.7	29.16	24.79
296-2460	E300KR25	0.25	34.6	25.50	21.68
296-2465	E300KR31	0.31	31.1	25.50	21.68
296-2470	E300KR50	0.50	24.5	21.79	18.52
296-2475	E300K1R0	1.00	17.3	21.79	18.52
296-2477	E300K1R6	1.60	13.7	20.26	17.22
296-2478	E300K2R0	2.00	12.2	20.26	17.22
296-2480	E300K3R1	3.10	9.8	20.26	17.22
296-2485	E300K4R0	4.00	8.6	20.26	17.22
296-2490	E300K5R0	5.00	7.7	20.26	17.22
296-2495	E300K6R3	6.30	6.9	19.66	16.71
296-2500	E300K8R0	8.00	6.1	18.90	16.07
296-2505	E300K10R	10.00	5.5	19.66	16.71
296-2510	E300K12R	12.00	5.0	18.33	16.01
296-2515	E300K16R	16.00	4.3	18.33	16.01
296-2520	E300K20R	20.00	3.8	18.33	16.01

Dimensions



Metal-Mite Aluminum Housed Axial Lead Wirewound Resistors

These molded-construction metal housed axial-lead performance resistors are available in higher power ratings than standard axial-lead resistors and are better suited to withstand shock, vibration and harsh environmental conditions. Metal-Mite resistors are aluminum housed to maintain high stability during operation and to permit secure mounting to chassis surfaces. The metal housing also provides heat-sinking capabilities, allowing the units to exceed the power ratings set by Mil specifications. Meets or exceeds MIL-R-18546 specifications. Solder coated axial lead terminals. **Tolerance: ±1%.** Power rating based on chassis mounting area and temperature stability. Proper heat sink for wattage is: 4" × 6" × 2" × .040" aluminum chassis for 5 and 10 watt units; 5" × 7" × 2" × .040" aluminum chassis for 25 watt units; 12" × 12" × .059" aluminum panel for 50 watt units.

Stock No.	Mfr.'s Type	Watts	Ohms	EACH	
				1-9	10-24
296-1020	805F1R0	5	1	3.42	2.91
296-1023	805F5R0	5	5	3.42	2.91
296-1024	805F10R	5	10	3.25	2.76
296-1025	805F15R	5	15	3.25	2.76
296-1026	805F25R	5	25	3.25	2.76
296-1027	805F50R	5	50	3.25	2.76
296-1028	805F100	5	100	3.09	2.63
296-1029	805F250	5	250	3.09	2.63
296-1030	805F300	5	300	3.09	2.63
296-1031	805F500	5	500	3.09	2.63
296-1032	805F1K5	5	1.5K	3.31	2.81
296-1033	805F2K0	5	2.0K	3.31	2.81
296-1034	805F5K0	5	5.0K	3.58	3.04
296-1036	805F10K	5	10K	4.08	3.47
296-1035	805F15K	5	15K	4.08	3.47
296-1038	805F25K	5	25K	4.97	4.22
296-1040	810F1R0	10	1	3.53	3.00
296-1045	810F5R0	10	5	3.53	3.00
296-1050	810F10R	10	10	3.36	2.86
296-1055	810F20R	10	20	3.36	2.86

Stock No.	Mfr.'s Type	Watts	Ohms	EACH	
				1-9	10-24
296-1056	810F50R	10	50	3.36	2.86
296-1057	810F100	10	100	3.31	2.81
296-1058	810F250	10	250	3.31	2.81
296-1059	810F500	10	500	3.42	2.91
296-1062	810F2K0	10	2.0K	3.42	2.91
296-1060	810F3K0	10	3.0K	3.42	2.91
296-1066	810F5K0	10	5.0K	3.64	3.09
296-1065	825F1R0	25	0.1	4.70	4.00
296-1070	825F10R	25	1	4.38	3.72
296-1075	825F2R0	25	2	4.38	3.72
296-1080	825F3R0	25	3	4.38	3.72
296-1085	825F5R0	25	5	4.38	3.72
296-1090	825F10R	25	10	3.92	3.33
296-1095	825F15R	25	15	3.92	3.33
296-1096	825F25R	25	25	3.92	3.33
296-1097	825F50R	25	50	3.92	3.33
296-1099	825F100	25	100	3.73	3.17
296-1100	825F150	25	150	3.73	3.17
296-1105	825F250	25	250	3.73	3.17
296-1107	825F500	25	500	3.73	3.17

Stock No.	Mfr.'s Type	Watts	Ohms	EACH	
				1-9	10-24
296-1110	825F750	25	750	3.73	3.17
296-1115	825F1K0	25	1.0K	3.94	3.35
296-1117	825F5K0	25	5.0K	3.94	3.35
296-1120	825F10K	25	10K	4.46	3.79
296-1124	850F1R0	50	0.1	6.34	5.39
296-1125	850F1R0	50	1	5.34	4.54
296-1130	850F2R0	50	2	5.34	4.54
296-1135	850F3R0	50	3	5.34	4.54
296-1140	850F10R	50	10	4.75	4.04
296-1145	850F15R	50	15	4.75	4.04
296-1150	850F25R	50	25	4.75	4.04
296-1155	850F50R	50	50	4.75	4.04
296-1160	850F75R	50	75	4.75	4.04
296-1165	850F100	50	100	4.53	3.85
296-1170	850F150	50	150	4.53	3.85
296-1175	850F500	50	500	4.53	3.85
296-1176	850F1K0	50	1.0K	4.90	4.17
296-1177	850F1K5	50	1.5K	4.90	4.17
296-1178	850F5K0	50	5K	4.90	4.17
296-1179	850F10K	50	10K	5.79	4.17

Dimensions (Inches)

Power Rating	A ±.005	B ±.005	C ±.031	D ±.0025	E ±.015	F ±.015	G ±.015	H ±.010	J ±.015	K ±.010	L ±.005	M Min.	N ±.005	P ±.062	R ±.062	S Min. AWG
Watts																
5	.444	.490	.600	.245	.334	.646	.320	.060	.126	.078	.093	.085	.050	.266	1.125	16
10	.562	.625	.750	.312	.420	.800	.390	.075	.183	.093	.093	.140	.086	.312	1.375	12
25	.719	.781	1.062	.391	.550	1.080	.546	.088	.231	.172	.125	.140	.086	.438	1.938	12
50	1.563	.844	1.968	.422	.630	1.140	.610	.088	.260	.196	.125	.140	.086	.438	2.781	12

Type 270 Fixed Vitreous Enamel Power Resistors



Suitable for applications requiring higher wattage ratings from 12½ to 225 watts. The rugged vitreous enamel coating provides electrical insulation, excellent heat conduction, and is flame resistant. These wirewound resistors are wound on a high quality ceramic core with lug terminals suitable for soldering or sturdy bolt connection. For sturdy mounting, the hollow core permits fastening with spring-type brackets, thru bolts or thru bolts with slotted-steel brackets. **Tolerance:** ±5%. Power rating based on 25°C free air rating. Mounting brackets, thru bolts and hardware sold separately on page 462.

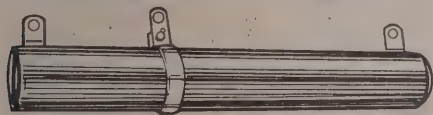
12 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-2796	L12J1R0	1	2.69	2.29
296-2797	L12J3R3	3.3	2.57	2.18
296-2798	L12J10R	10	2.57	2.18
296-2800	L12J15R	15	2.41	2.05
296-2799	L12J27R	27	2.41	2.05
296-2801	L12J100	100	2.41	2.05
296-2802	L12J150	150	2.41	2.05
296-2803	L12J1K0	1000	2.41	2.05
296-2804	L12J2K2	2200	2.66	2.26

25 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-2730	L25J1R0	1	3.34	2.84
296-2735	L25J2R0	2	3.34	2.84
296-2740	L25J3R0	3	3.34	2.84
296-2745	L25J5R0	5	3.28	2.79
296-2750	L25J10R	10	3.28	2.79
296-2755	L25J15R	15	3.28	2.79
296-2760	L25J25R	25	3.28	2.79

Type 210 Adjustable Vitreous Enamel Power Resistors



Type 210 adjustable resistors are used for applications requiring settings at different resistance values. These wirewound resistors are equipped with a screwdriver adjustable lug, making them ideal for adjusting circuits, obtaining odd resistance values and setting equipment to meet various line voltages. These resistors have a vitreous enamel coating with a strip of uncovered wire that makes contact with the adjustment lug. One screwdriver adjustment lug is provided with each resistor. The hollow core permits secure fastening with spring-type clips, thru bolts or thru bolts with washers. They also offer the durability and flame resistance of vitreous enamel coating and all-welded construction. **Tolerance:** ±10%.

NOTE: The stated wattage rating applies only when the entire resistance is in the circuit. Setting the lug at an intermediate point reduces the wattage by the approximate same proportion. Mounting brackets, thru bolts and hardware sold separately on page 462.

12 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-2030	D12K1R0	1	4.46	3.79
296-2033	D12K5R0	5	4.46	3.79
296-2035	D12K10R	10	4.38	3.72
296-2037	D12K20R	20	4.38	3.72
296-2040	D12K25R	25	4.38	3.72
296-2045	D12K50R	50	4.38	3.72
296-2050	D12K100	100	4.38	3.72
296-2055	D12K150	150	4.38	3.72
296-2060	D12K250	250	4.38	3.72
296-2061	D12K500	500	4.38	3.72
296-2062	D12K1K0	1000	4.63	3.94
296-2063	D12K2K0	2000	4.63	3.94
296-2065	D12K3K0	3000	4.63	3.94
296-2070	D12K5K0	5000	4.97	4.22
296-2073	D12K10K	10K	4.97	4.22

25 Watt

296-2075	D25K1R0	1	5.69	4.84
296-2080	D25K2R0	2	5.69	4.84

25 Watt (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-2765	L25J50R	50	3.28	2.79
296-2770	L25J75R	75	3.28	2.79
296-2775	L25J100	100	3.22	2.74
296-2776	L25J150	150	3.22	2.74
296-2777	L25J250	250	3.22	2.74
296-2778	L25J500	500	3.22	2.74
296-2779	L25J750	750	3.22	2.74
296-2780	L25J1K0	1000	3.22	2.74
296-2783	L25J1K5	1500	3.28	2.79
296-2785	L25J2K0	2000	3.28	2.79
296-2786	L25J2K5	2500	3.28	2.79
296-2787	L25J3K0	3000	3.28	2.79
296-2790	L25J3K5	3500	3.28	2.79
296-2793	L25J4K0	4000	3.28	2.79
296-2795	L25J5K0	5000	3.28	2.79
296-2794	L25J7K5	7500	3.85	3.27
296-2806	L25J10K	10K	3.85	3.27
296-2807	L25J15K	15K	4.08	3.47
296-2808	L25J20K	20K	4.08	3.47
296-2809	L25J50K	50K	4.41	3.75
296-2811	L25J100K	100K	5.48	4.66

50 Watt

296-2812	L50J1R0	1	5.78	4.00
296-2805	L50J5R0	5	5.16	4.39
296-2810	L50J10R	10	5.16	4.39
296-2815	L50J25R	25	5.16	4.39
296-2820	L50J50R	50	5.16	4.39
296-2825	L50J75R	75	5.16	4.39
296-2830	L50J100	100	5.16	4.39
296-2831	L50J150	150	5.16	4.39
296-2832	L50J200	200	5.16	4.39
296-2835	L50J250	250	5.33	4.53
296-2840	L50J500	500	5.33	4.53
296-2845	L50J1K0	1000	5.33	4.53
296-2846	L50J2K0	2000	5.33	4.53
296-2847	L50J5K0	5000	5.33	4.53
296-2848	L50J10K	10K	5.46	4.64
296-2849	L50J25K	25K	7.21	6.13
296-2851	L50J50K	50K	7.37	6.26
296-2852	L50J75K	75K	7.50	6.38
296-2850	L50J100K	100K	7.69	6.54

25 Watt (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-2085	D25K3R0	3	5.69	4.84
296-2090	D25K5R0	5	5.69	4.84
296-2095	D25K7R5	7.5	5.69	4.84
296-2100	D25K10R	10	5.25	4.46
296-2105	D25K15R	15	5.25	4.46
296-2110	D25K20R	20	5.25	4.46
296-2115	D25K25R	25	5.25	4.46
296-2120	D25K50R	50	5.25	4.46
296-2125	D25K100	100	5.25	4.46
296-2130	D25K200	200	5.25	4.46
296-2135	D25K250	250	5.25	4.46
296-2137	D25K500	500	5.25	4.46
296-2140	D25K1K0	1000	5.25	4.46
296-2145	D25K1K5	1500	5.25	4.46
296-2146	D25K2K0	2000	5.25	4.46
296-2147	D25K2K5	2500	5.25	4.46
296-2148	D25K5K0	5000	5.55	4.72
296-2150	D25K7K0	7000	5.55	4.72
296-2151	D25K10K	10K	5.95	5.06
296-2152	D25K20K	20K	5.95	5.06
296-2153	D25K25K	25K	5.95	5.06

50 Watt

296-2155	D50K1R0	1	8.45	7.18
296-2160	D50K2R0	2	8.45	7.18
296-2165	D50K5R0	5	6.36	5.41
296-2170	D50K10R	10	6.36	5.41
296-2175	D50K25R	25	6.36	5.41
296-2180	D50K50R	50	6.36	5.41
296-2185	D50K100	100	6.36	5.41
296-2190	D50K150	150	6.36	5.41
296-2193	D50K250	250	6.36	5.41
296-2195	D50K300	300	6.36	5.41
296-2200	D50K500	500	6.36	5.41
296-2205	D50K750	750	6.36	5.41
296-2210	D50K1K0	1000	6.55	5.57
296-2212	D50K2K0	2000	6.55	5.57
296-2213	D50K3K0	3000	6.55	5.57
296-2215	D50K5K0	5000	6.73	5.72
296-2214	D50K10K	10K	7.21	6.13
296-2216	D50K20K	20K	7.21	6.13
296-2217	D50K25K	25K	7.21	6.13
296-2218	D50K50K	50K	7.76	6.60
296-2219	D50K100K	100K	7.76	6.60

75 Watt

296-2220	D75K15R	15	7.95	6.76
296-2225	D75K25R	25	7.95	6.76
296-2230	D75K100	100	7.95	6.76
296-2235	D75K300	300	7.95	6.76
296-2240	D75K750	750	7.95	6.76
296-2242	D75K1K0	1000	8.19	6.96

100 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-2855	L100J1R0	1	10.88	9.25
296-2860	L100J2R0	2	10.88	9.25
296-2865	L100J5R0	5	8.56	7.28
296-2870	L100J10R	10	8.56	7.28
296-2875	L100J25R	25	8.08	6.87
296-2880	L100J50R	50	8.08	6.87
296-2883	L100J75R	75	8.08	6.87
296-2885	L100J100	100	8.08	6.87
296-2890	L100J150	150	8.08	6.87
296-2895	L100J250	250	8.08	6.87
296-2900	L100J500	500	8.20	6.97
296-2905	L100J1K0	1000	8.20	6.97
296-2910	L100J1K5	1500	8.20	6.97
296-2906	L100J2K0	2000	8.35	7.10
296-2907	L100J2K5	2500	8.35	7.10
296-2908	L100J5K0	5000	8.35	7.10
296-2909	L100J10K	10K	8.42	7.16
296-2911	L100J20K	20K	8.56	7.28
296-2915	L100J50K	50K	9.29	7.90
296-2920	L100J100K	100K	11.36	9.66

225 Watt

296-2925	L225J1R0	1	25.41	21.60
296-2930	L225J5R0	5	14.58	12.39
296-2935	L225J10R	10	14.58	12.39
296-2940	L225J25R	25	13.46	11.44
296-2945	L225J50R	50	13.46	11.44
296-2950	L225J100	100	12.33	10.48
296-2955	L225J150	150	12.33	10.48
296-2960	L225J250	250	12.33	10.48
296-2965	L225J500	500	11.97	10.17
296-2970	L225J1K0	1000	11.97	10.17
296-2975	L225J1K5	1500	11.97	10.17
296-2980	L225J2K0	2000	12.53	10.65
296-2983	L225J2K5	2500	12.53	10.65
296-2984	L225J5K0	5000	12.53	10.65
296-2985	L225J10K	10K	13.20	11.22
296-2986	L225J20K	20K	13.71	11.65
296-2990	L225J50K	50K	13.93	11.84
296-3105	L225J100K	100K	14.53	12.35

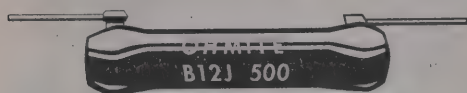
75 Watt (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-2243	D75K10K	10K	9.02	7.67
296-2245	D75K20K	20K	9.02	7.67

100 Watt

296-2250	D100K1R0	1	14.19	12.06
296-2255	D100K2R0	2	14.19	12.06
296-2260	D100K3R0	3	14.19	12.06
296-2265	D100K4R0	4	14.19	12.06
296-2270	D100K5R0	5	14.19	12.06
296-2275	D100K10R	10	9.94	8.45
296-2280	D100K25R	25	9.94	8.45
296-2285	D100K50R	50	9.94	8.45
296-2290	D100K100	100	9.94	8.45
296-2295	D100K250	250	9.94	8.45
296-2300	D100K500	500	9.94	8.45
296-2305	D100K1K0	1000	9.94	8.45
296-2306	D100K2K5	2500	9.94	8.45
296-2310	D100K5K0	5000	9.94	8.45
296-2311	D100K10K	10K	11.28	9.59
296-2312	D100K50K	50K	12.12	10.30
296-2314	D100K100K	100K	12.12	10.30

200 Series Vitreous Enamel Wirewound Power Resistor



These resistors have a rugged, fire resistant vitreous enamel coating to ensure successful performance under high temperatures. Small, exceptionally durable power resistors use all-welded construction and have a self supporting lead mounting option. **Tolerance:** $\pm 5\%$. Power rating based on 25°C free air. Can be mounted using mounting hardware for 210/270 series resistors or by using attached leads.

5 1/4 Watt. Length: .625. OD: .250. ID: .135.

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-1366	B5J1R0	1	1.58	1.34
296-1367	B5J2R0	2	1.58	1.34
296-1368	B5J5R1	5.1	1.58	1.34
296-1369	B5J8R2	8.2	1.58	1.34
296-1370	B5J10R	10	1.43	1.22
296-1371	B5J15R	15	1.43	1.22
296-1372	B5J20R	20	1.43	1.22
296-1373	B5J47R	47	1.43	1.22
296-1374	B5J56R	56	1.43	1.22
296-1376	B5J100	100	1.43	1.22
296-1377	B5J120	120	1.43	1.22
296-1378	B5J150	150	1.43	1.22
296-1379	B5J200	200	1.43	1.22
296-1381	B5J330	330	1.43	1.22
296-1382	B5J390	390	1.43	1.22
296-1383	B5J510	510	1.43	1.22
296-1384	B5J680	680	1.43	1.22
296-1386	B5J1K0	1K	1.43	1.22
296-1387	B5J1K5	1.5K	1.56	1.33
296-1388	B5J2K0	2K	1.56	1.33
296-1389	B5J4K7	4.7K	1.56	1.33
296-1391	B5J5K1	5.1K	1.61	1.37
296-1392	B5J6K2	6.2K	1.61	1.37
296-1393	B5J8K2	8.2K	1.61	1.37

5 Watt (continued). Length: .625. OD: .250. ID: .135.

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-1394	B5J10K	10K	1.61	1.37
296-1396	B5J15K	15K	1.99	1.69
296-1397	B5J20K	20K	1.99	1.69

8 Watt. Length: 1.000. OD: .313. ID: .188.

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-1380	B8J1R0	1	1.99	1.69
296-1385	B8J1R5	1.5	1.99	1.69
296-1390	B8J2R0	2	1.99	1.69
296-1395	B8J3R0	3	1.99	1.69
296-1400	B8J5R0	5	1.99	1.69
296-1405	B8J10R	10	1.64	1.39
296-1410	B8J25R	25	1.64	1.39
296-1412	B8J50R	50	1.64	1.39
296-1414	B8J75R	75	1.64	1.39
296-1415	B8J100	100	1.64	1.39
296-1417	B8J200	200	1.64	1.39
296-1420	B8J250	250	1.64	1.39
296-1425	B8J300	300	1.64	1.39
296-1426	B8J350	350	1.64	1.39
296-1428	B8J400	400	1.64	1.39
296-1430	B8J500	500	1.64	1.39
296-1433	B8J800	800	1.64	1.39
296-1435	B8J1K0	1K	1.64	1.39
296-1437	B8J2K0	2K	1.73	1.47
296-1440	B8J2K5	2.5K	1.73	1.47
296-1445	B8J3K0	3K	1.73	1.47
296-1447	B8J4K0	4K	1.73	1.47
296-1450	B8J5K0	5K	1.73	1.47
296-1453	B8J6K0	6K	1.91	1.62
296-1455	B8J7K0	7K	1.91	1.62
296-1460	B8J8K0	8K	1.91	1.62
296-1465	B8J10K	10K	1.91	1.62
296-1470	B8J15K	15K	1.91	1.62
296-1475	B8J20K	20K	2.24	1.90

12 Watt. Length: 1.750. OD: .313. ID: .188.

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-1480	B12KR50	0.5	2.65	2.25
296-1485	B12J1R0	1	2.30	1.96

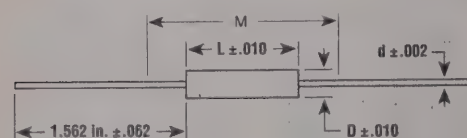
12 Watt (continued). Length: 1.750. OD: .313. ID: .188.

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-1490	B12J3R0	3	2.30	1.96
296-1495	B12J5R0	5	2.30	1.96
296-1500	B12J10R	10	1.97	1.67
296-1505	B12J12R	12	1.97	1.67
296-1510	B12J20R	20	1.97	1.67
296-1515	B12J25R	25	1.97	1.67
296-1520	B12J50R	50	1.97	1.67
296-1525	B12J100	100	1.97	1.67
296-1530	B12J500	500	1.97	1.67
296-1535	B12J1K0	1K	1.97	1.67
296-1540	B12J1K2	1.2K	2.30	1.96
296-1545	B12J2K0	2K	2.30	1.96
296-1550	B12J2K5	2.5K	2.30	1.96
296-1555	B12J3K0	3K	2.30	1.96
296-1560	B12J4K0	4K	2.30	1.96
296-1563	B12J4K5	4.5K	2.30	1.96
296-1565	B12J5K0	5K	2.30	1.96
296-1570	B12J10K	10K	2.56	2.18
296-1575	B12J15K	15K	2.56	2.18
296-1580	B12J20K	20K	2.64	2.24
296-1585	B12J50K	50K	3.24	2.75

20 Watt. Length: 2.000. OD: .438. ID: .250.

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-1590	B20KR50	0.5	3.70	3.15
296-1595	B20J1R0	1	3.22	2.74
296-1600	B20J2R0	2	3.22	2.74
296-1605	B20J3R0	3	3.22	2.74
296-1610	B20J5R0	5	3.22	2.74
296-1615	B20J10R	10	2.42	2.06
296-1620	B20J25R	25	2.42	2.06
296-1625	B20J50R	50	2.42	2.06
296-1630	B20J100	100	2.42	2.06
296-1635	B20J250	250	2.42	2.06
296-1640	B20J500	500	2.42	2.06
296-1650	B20J1K0	1K	2.42	2.06
296-1655	B20J1K5	1.5K	2.69	2.29
296-1660	B20J2K0	2K	2.69	2.29
296-1665	B20J2K5	2.5K	2.69	2.29
296-1670	B20J3K5	3.5K	2.69	2.29
296-1675	B20J5K0	5K	2.69	2.29
296-1680	B20J10K	10K	3.04	2.58
296-1685	B20J100K	100K	4.19	3.56

10 Series Molded Silicone Axial Lead Wire Element Resistors



These molded silicone resistors are ideal for current sensing applications. They have low inductance (non-inductive below 0.25 μ). Terminals are constructed of solder-plated copper leads or copper clad steel depending of ohm value with silicone molding encapsulation compound. **Tolerance:** 1%. Power rating based on 25°C free air. **Temperature Range:** 55°C to +275°C.

Dimensions

Power Rating	Dimensions			
	D $\pm$.010	L $\pm$.010	d $\pm$.002	M
2 W	.094	.406	.032	1.156
3 W	.205	.560	.032	1.310
5 W	.330	.925	.040	1.675

Hardware for Power Resistors



Brackets fit inside cores of 210 Type and 270 Type resistors and remain in place by spring tension. Standard brackets are plated steel. Thru bolt kits along with plated steel brackets, centering washers and insulating washers (included) allow for secure perpendicular mounting of these resistors to panels up to 1/4" thick.

2 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-5100	12FR005	.005	1.55	1.37
296-5102	12FR010	.010	1.47	1.29
296-5104	12FR015	.015	1.47	1.29
296-5106	12FR020	.020	1.38	1.22
296-5108	12FR025	.025	1.38	1.22
296-5110	12FR030	.030	1.38	1.22
296-5112	12FR040	.040	1.37	1.21
296-5114	12FR050	.050	1.37	1.21
296-5116	12FR060	.060	1.37	1.21
296-5118	12FR070	.070	1.33	1.18
296-5120	12FR080	.080	1.33	1.18
296-5122	12FR090	.090	1.33	1.18
296-5124	12FR100	.100	1.33	1.18

3 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-5126	13FR005	.005	1.60	1.41
296-5128	13FR010	.010	1.52	1.34
296-5130	13FR015	.015	1.52	1.34
296-5132	13FR020	.020	1.45	1.28
296-5134	13FR025	.025	1.45	1.28
296-5136	13FR030	.030	1.45	1.28
296-5138	13FR040	.040	1.43	1.26
296-5140	13FR050	.050	1.43	1.26
296-5142	13FR060	.060	1.43	1.26
296-5144	13FR070	.070	1.37	1.21

3 Watt (continued)

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-5146	13FR080	.080	1.37	1.21
296-5148	13FR090	.090	1.37	1.21
296-5150	13FR100	.100	1.37	1.21
296-5152	13FR150	.150	1.37	1.21
296-5154	13FR200	.200	1.37	1.21

5 Watt

Stock No.	Mfr.'s Type	Ohms	EACH	
			1-9	10-24
296-5156	15FR005	.005	1.90	1.68
296-5158	15FR010	.010	1.83	1.62
296-5160	15FR015	.015	1.83	1.62
296-5162	15FR020	.020	1.83	1.62
296-5164	15FR025	.025	1.83	1.62
296-5166	15FR030	.030	1.83	1.62
296-5168	15FR040	.040	1.80	1.59
296-5170	15FR050	.050	1.80	1.59
296-5172	15FR060	.060	1.80	1.59
296-5174	15FR070	.070	1.77	1.56
296-5176	15FR080	.080	1.77	1.56
296-5178	15FR090	.090	1.77	1.56
296-5180	15FR100	.100	1.77	1.56
296-5182	15FR150	.150	1.77	1.56
296-5184	15FR200	.200	1.77	1.56
296-5186	15FR250	.250	1.77	1.56
296-5188	15FR300	.300	1.77	1.56

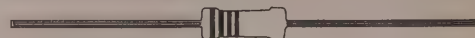
Stock No.	Mfr.'s Type	Description	Res. Watts	EACH	
				1-9	10-49
296-0005	5	Standard Bracket	12	.16	.15
296-0010	5S	Spring Steel Bracket	12	.16	.15
296-0015	9	Standard Bracket	25, 50, 75	.17	.16
296-0020	9S	Spring Steel Bracket	25, 50, 75	.17	.16
296-0025	12	Standard Bracket	100	.21	.20
296-0030	12S	Spring Steel Bracket	100	.21	.20
296-0035	18	Standard Bracket	175, 225	.24	.23
296-0040	18S	Spring Steel Bracket	175, 225	.24	.23
296-1180	2121	Extra Adjustable Lug	25, 50, 75	.75	.64
296-1185	2125	Extra Adjustable Lug	100	.97	.82
296-1187	2133	Extra Adjustable Lug	175, 225	.93	.79
296-0045	7PA10	2.5" Thru-Bolt	12	2.36	2.01
296-0050	7PA25	2.75" Thru-Bolt	25	2.55	2.17
296-0055	7PA50	4.75" Thru-Bolt	50	2.55	2.17

Stock No.	Mfr.'s Type	Description	Res. Watts	EACH	
				1-9	10-49
296-0060	7PA100	7.31" Thru-Bolt	100	3.46	2.95
296-0065	7PA160	9.5" Thru-Bolt	175	4.72	4.00
296-0070	7PA200	11.5" Thru-Bolt	225	5.20	4.40
296-1260	6000	Metal Center Washer	25, 50, 75	.10	.00
296-1265	6001	Metal Center Washer	100	.11	.10
296-1270	6003	Metal Center Washer	175, 225	.11	.10
296-1275	6011	Mica Insulated Washer	25, 50, 75	.10	.00
296-1276	6013	Mica Insulated Washer	100	.15	.10
296-1278	6017	Mica Insulated Washer	175, 225	.19	.15
296-1280	6110-8 1/2	Slot Mtp. Bracket Kit	One 175W	5.40	4.50
296-1285	6126-P-8 1/2	Elongated Bracket Kit	One 175W	11.62	10.80
296-1290	6127-P-8 1/2	Elongated Bracket Kit	Two 175W	7.75	7.20
296-1295	6128-P-8 1/2	Elongated Bracket Kit	Three 175W	11.62	10.80
296-1300	6129-P-8 1/2	Elongated Bracket Kit	Four 175W	13.42	12.50



CR-Series Carbon Film Resistors

CR-Series resistors are high-performance, high-reliability low cost carbon film resistors. They are particularly well suited to those applications that require significantly better performance than can be obtained with carbon composition resistors. These resistors feature very low noise, excellent stability, and wide operating frequency range, in minimum size for their power ratings. These resistors have high temperature and time stability approaching those of industrial metal film resistors. This series features durable design rugged epoxy coating, are well suited to automatic assembly, wave soldering, conveyorized handling and easily withstand industrial solvents used in cleaning circuit boards. Marked using 4 color bands. Tape and Reel product available in multiples of 5000 pc/reel as custom order. Call for price and delivery.



Stock No.	Mfr.'s Type	Philips No.	Tol. %	Wattage @70°C	Value Range	Chart (Values)	Dimensions (Inches)				PER PK./100	
							Body Len.	Body Dia.	Lead Len.	Lead Dia.	1-9	10-49
297-1XXX	CR25	5043CX-J	5	1/4	2.7Ω-10M	A	.268	.098	1.1	.024	2.20	1.87

Type SFR-Series Metal Film Resistors

Designed for high value manufacturing and automatic insertion, this series provides an economic way to upgrade circuits with stability, low noise, low reactance, and temperature coefficient. Color band marking for ease of identification after mounting. The SFR25 series is designed to replace carbon composition (RCR 07 and 20), carbon film, and older design metal film resistors (RL 07 and 20). The SFR25H series is a replacement for RC20, RN60 and RL20 in Mil styles in applications not requiring qualification. Tape and reel product available in multiples of 5000 pc/reel as custom order. Call for price and delivery.

Stock No.	Mfr.'s Type	Philips No.	Tol. %	Wattage @70°C	Temp. Coeff	Value Range	Value Chart	Dimensions (Inches)				PER PK./100	
								Body Len.	Body Dia.	Lead Len.	Lead Dia.	1-9	10-49
297-4XXX	SFR55	5043ED-F	1	1/4	100ppm	10Ω-1M	B	.260	.098	1.1	.024	5.00	3.75
297-5XXX	SFR25	5043EM-J	5	1/4	200ppm	10Ω-1M	A	.260	.098	1.1	.024	5.00	3.75
297-6XXX	SFR25H	5053HD-F	1	1/2	100ppm	10Ω-1M	B	.260	.098	1.1	.024	7.50	6.25
297-7XXX	SFR25H	5053HM-J	5	1/2	200ppm	10Ω-1M	A	.260	.098	1.1	.024	7.00	5.75

CHART A 5% Values To complete Allied Stock No., Insert 3 Digit No. Shown in XXX Column After Value Desired, In Place of XXX in Stock No.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Megs	XXX	Megs	XXX
2.7	041	30	123	160	230	750	338	3600	441	22K	585	150K	740	1.2M	886	5.6M	918
3	042	33	130	180	237	820	343	3900	446	24K	592	180K	751	1.3M	890	6.2M	919
3.3	043	39	140	200	243	910	351	4700	461	27K	603	200K	759	1.5M	900	6.8M	920
3.9	046	47	153	220	248	1000	356	5100	467	30K	611	220K	765	1.8M	903	7.5M	921
4.7	049	51	160	240	255	1100	361	5600	473	33K	617	270K	783	2.0M	905	8.2M	922
5.1	051	56	168	270	263	1200	366	6200	482	39K	636	300K	790	2.2M	907	9.1M	923
5.6	053	68	178	300	270	1500	380	6800	489	47K	650	330K	796	2.4M	908	10M	924
6.8	055	75	185	330	276	1600	383	7500	498	51K	657	390K	811	2.7M	909	—	—
8.2	057	82	190	390	288	1800	393	8200	504	56K	666	470K	825	3.0M	911	—	—
9.1	058	100	202	430	296	2000	400	10K	522	62K	677	510K	830	3.3M	912	—	—
10	060	110	206	470	302	2200	405	11K	528	68K	685	560K	836	3.6M	913	—	—
15	081	120	212	510	308	2400	412	12K	533	82K	703	680K	850	3.9M	914	—	—
20	098	130	218	560	315	2700	421	15K	550	91K	712	910K	871	4.3M	915	—	—
22	102	150	226	620	324	3000	427	18K	565	100K	717	1M	877	4.7M	916	—	—
27	117	160	230	680	330	3300	433	20K	575	120K	727	1.1M	881	5.1M	917	—	—

Chart B 1% Values

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	100	51.1	161	348	280	2.00K	400	4.75K	462	11K	528	27.4K	604	82.5K	705	464K	791
12.1	107	56.2	167	402	292	2.15K	403	4.87K	463	12.10K	535	30.1K	612	84.5K	706	475K	796
15	113	75	185	475	303	2.21K	406	4.99K	465	12.40K	536	33.2K	618	90.9K	711	499K	828
20	121	90.9	196	499	306	2.49K	415	5.11K	468	13K	538	40.2K	638	100K	717	511K	831
22.1	125	100	202	604	322	2.74K	422	6.19K	481	15K	550	46.4K	649	121K	728	619K	841
24.9	128	121	213	750	338	3.01K	428	6.81K	490	15.8K	552	47.5K	651	150K	740	681K	853
30.1	135	150	226	825	345	3.32K	435	7.5K	498	17.4K	561	49.9K	655	200K	759	750K	862
34.8	140	200	243	909	350	3.48K	437	8.25K	505	18.2K	566	51.1K	658	221K	766	825K	875
40.2	146	221	250	1K	356	3.57K	440	9.09K	513	20K	575	61.9K	675	249K	777	909K	881
47.5	152	249	257	1.21K	367	3.83K	445	9.53K	518	22.1K	586	68.1K	686	301K	781	953K	885
49.9	157	301	271	1.5K	380	4.02K	450	10K	522	24.9K	594	75K	694	402K	788	1Meg	891

Series 9C Commercial SMD Chip Resistors

The surface mounted chip resistor consists of a glass passivated thick film resistive paste screened onto a high purity alumina ceramic substrate. The nominal resistance value is achieved by varying the composition of the paste prior to the screening process and by laser trimming the film after it has been screened on. To insure mechanical and environmental integrity, the chip is covered with a silicon based "procoat." The conductive layer consists of a precious metal and a wrap around termination is deposited at each end to allow mechanical and electrical attachment. These chip resistors and adaptable to high speed automated mechanization assembly. They allow excellent printed circuit board density as well as utilization of both board sides. Zero ohm jumper available as custom order in full reels only.

Stock No.	Mfr.'s Type	Tol. %	Philips No.	Wattage @70°C	Value Range	Value Chart	Dimensions (Inches)					PER PK./100	
							A	B	C	D	E	1-5	6-25
297-91XX	9C1206	1	9C12063A-FK	1/8	10Ω-1M	D	.126	.063	.023	.016	.020	3.55	3.00
297-93XX	9C1206	5	9C12063A-JL	1/4	10Ω-1M	C	.126	.063	.023	.016	.020	2.50	2.18
297-95XX	9C0805	5	9C08052A-JL	1/10	10Ω-1M	C	.079	.049	.024	.016	.016	3.00	2.50
297-96XX	9C0805	1	9C08052A-FK	1/10	10Ω-1M	D	.079	.049	.024	.016	.016	3.89	3.26
297-97XX	9C0603	1	9C06031A-FK	1/16	10Ω-1M	D	.062	.031	.018	.012	.012	4.20	3.50
297-98XX	9C0603	5	9C06031A-JL	1/16	10Ω-1M	C	.062	.031	.018	.012	.012	3.00	2.50

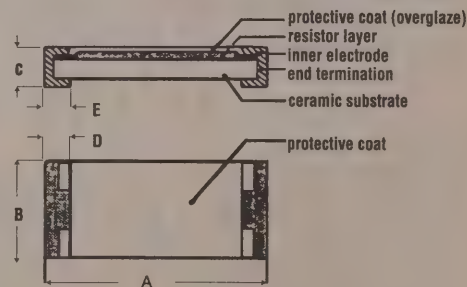
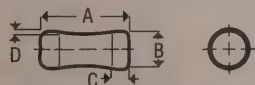


Chart C 5% Values

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	10	39	18	200	26	470	34	2700	42	5600	50	30K	58	100K	66	390K	74
20	12	47	20	270	28	560	36	3000	44	10K	52	39K	60	200K	68	470K	76
27	14	56	22	300	30	1000	38	3900	46	20K	54	47K	62	270K	70	560K	78
30	16	100	24	390	32	2000	40	4700	48	27K	56	56K	64	300K	72	1Meg	80



Series 9B Precision MELF Surface Mount Resistors

The MELF resistor consists of a high alumina core on which metal film is deposited. A cap is applied at each end and the resistor is spiraled to value. The resistor is then coated, color coded, and end caps treated to facilitate soldering. Zero ohm jumper available as custom order in full reels only.

Stock No.	Mfr.'s Type	Philips No.	Tol. %	Wattage @70°C	Value Range	Value Chart	Dimensions (Inches)				PER PK./1000	
							A	B	C	D	1-9	10-49
297-85XX	9B0805	9B08052A-FC	1	1/8	10Ω-1M	D	.087	.039	.014	.002	130.00	120.00
297-81XX	9B1406	9B14064A-FC	1	1/4	10Ω-1M	D	.136	.055	.023	.006	65.00	55.00

Chart D 1% Values

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	03	49.9	15	200	27	1K	39	4.99K	51	20K	63	100K	75	499K	87	—	—
15	06	75	18	301	30	1.5K	42	7.5K	54	30.1K	66	150K	78	750K	90	—	—
20	09	100	21	499	33	2K	45	10K	57	49.9K	69	200K	81	1Meg	93	—	—
30.1	12	150	24	750	36	3.01K	48	15K	60	75K	72	301K	84	—	—	—	—

Silicone Coated Series 100 Wirewound Resistors

The RCD 100 Series of precision silicone coated power wirewound resistors is manufactured to provide highly reliable continuous operation under MIL-R-26 and MIL-R-39007. Load life stability after 1000 hrs. is typically below $\pm 0.25\%$ ΔR at full rated power. Improved performance results from single layer, tension free windings of premium grade resistance wire. Special ceramic cores feature optimum thermal conductivity, resulting in a reduced temperature rise over conventional wirewounds. The coating is resistant to most solvents but should not be brushed while wet. **125 Terminal Strength:** Pull test 7 lb. max., approx. weight: .33 Grams. **135 Terminal Strength:** Pull test is 15 lb. max., approx. weight: 1.3 grams. **160 Terminal Strength:** Pull test 15 lb. max., approx. weight 4 grams. All resistors have tinned leads and solderability conforms to MIL-R-26E. Non-inductive, extended resistance range, and radial leads available on special order. Call for price quote and availability.

5% Tolerance

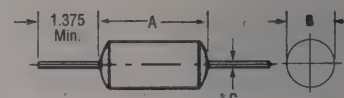
Stock No.	Mfr.'s Type	MIL Type	Watts	Ohms/Range	EACH				
					1-9	10-24	25-49	50-99	100-249
840-37XX	125	RW70	1.5	1.0-1.0K	1.01	.84	.77	.55	.46
840-38XX	135	RW69	3.0	1.0-1.0K	1.01	.84	.77	.50	.43
				1.1K-5K	1.01	.84	.77	.54	.45
				6.8K-10K	1.01	.84	.77	.61	.49
840-39XX	160	RW74	5.0	1.0-1.0K	1.01	.84	.77	.54	.45
				1.1K-5K	1.01	.84	.77	.59	.49
				6.8K-10K	1.01	.84	.77	.64	.53

1% Tolerance

840-77XX	125	RW70	1.5	10.50,100,500,1K	1.05	.88	.81	.69	.60
840-78XX	135	RW69	3.0	10.50,100,500,1K	1.04	.86	.80	.66	.58
				5K	1.14	.95	.88	.70	.60
				10K	1.20	1.00	.92	.78	.63
840-79XX	160	RW74	5.0	10.50,100,500,1K	1.11	.90	.88	.54	.50
				5K	1.30	.92	.74	.59	.54
				10K	1.58	1.02	.85	.70	.65

Performance max ΔR

Load Life	$\pm .5\% + .05 \text{ ohm}$
Short Time Overload	$\pm .2\% + .05 \text{ ohm}$
Thermal Shock	$\pm .2\% + .05 \text{ ohm}$
Moisture Resistance	$\pm .2\% + .05 \text{ ohm}$
Shock and Vibration	$\pm .1\% + .05 \text{ ohm}$



Rated up to 350°C
MIL-Grade Performance

Mechanical Specifications

Series	A	B	C
125	.406 $\pm$.062	.093 $\pm$.032	.020 $\pm$.0015
135	.500 $\pm$.062	.188 $\pm$.032	.032 $\pm$.0020
160	.875 $\pm$.062	.312 $\pm$.032	.040 $\pm$.0020

Table of Resistance Value Codes

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1.0	01	10	17	68	30	500.0*	45	4.7K	61
1.5	03	15	19	100	33	680.0	47	5.0K*	62
2.2	06	22	22	150	35	1.0K	50	6.8K	64
3.3	09	33	25	220	38	1.5K	52	10.0K	67
4.7	11	47	27	330	42	2.2K	55	—	—
6.8	14	50*	28	470	44	3.3K	59	—	—

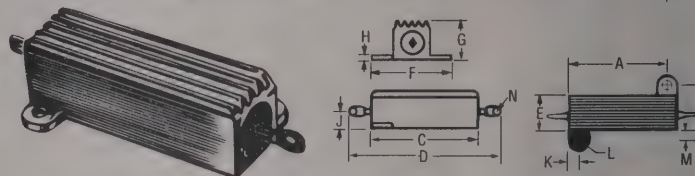
*1% only

Series 600 High Power Resistors – Highest Quality

RCD Series 600. Compact power wirewound resistors offer continuous high-power dissipation. These devices are molded in high density aluminum heat sink for a maximum heat dissipation. Maximum environmental protection provided by a hard anodized housing (per MIL-A-8625 Type 2). Inside the rugged housing, accurate concentricity of the resistive element allows a high level of voltage protection. Other features include complete welded construction (terminal to terminal), oxide-free premium grade resistance wire windings, low noise and thermal EMF. Meets or exceeds MIL-R-18546 requirements.

Dimensions

Mfr.'s Type	A $\pm .005$	B $\pm .005$	C $\pm .062$	D $\pm .062$	E $\pm .015$	F $\pm .015$	G $\pm .030$	H $\pm .010$	J $\pm .031$	K $\pm .031$	L $\pm .005$	M $\pm .015$	N $\pm .005$
605	.444" (11.3mm)	.490" (12.5mm)	.600" (15.2mm)	1.125" (28.6mm)	.334" (8.5mm)	.646" (16.4mm)	.320" (8.2mm)	.065" (1.6mm)	.140" (3.6mm)	.078" (2.0mm)	.093" (2.4mm)	.078" (2.0mm)	.050" (1.3mm)
610	.562" (14.3mm)	.625" (15.9mm)	.750" (19.0mm)	1.375" (35.0mm)	.420" (10.8mm)	.800" (20.3mm)	.405" (10.3mm)	.075" (1.9mm)	.164" (4.2mm)	.094" (2.4mm)	.093" (2.4mm)	.102" (2.6mm)	.086" (2.2mm)
615	.719" (18.3mm)	.781" (19.8mm)	1.062" (27.0mm)	1.938" (49.3mm)	.531" (13.5mm)	1.080" (27.4mm)	.546" (13.9mm)	.088" (2.2mm)	.235" (7.0mm)	.172" (4.4mm)	.125" (3.2mm)	.125" (3.2mm)	.086" (2.2mm)
620	1.563" (39.7mm)	.844" (21.5mm)	1.968" (50.0mm)	2.781" (70.6mm)	.609" (15.6mm)	1.140" (28.8mm)	.610" (15.5mm)	.088" (2.2mm)	.265" (7.2mm)	.188" (4.8mm)	.125" (3.2mm)	.117" (3.0mm)	.086" (2.2mm)



Ohms Resistance Value Chart

Important Ordering Information: Complete the Stock No. shown by placing the designated Resistance code for Ohms Value where XXX appears in the Stock No. Each particular listing shows what ohm values are available for that type.

Other values available as special order items.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	450	75	465	470	480	1.0K	505	2.7K	525	4.7K	540	7.5K	570	12K	605	27K	635	47K	660	75K	690
27	455	100	470	510	485	1.8K	515	3.3K	530	5.1K	545	8.2K	580	18K	615	33K	645	56K	670	82K	700
47	460	270	475	750	490	2.2K	520	3.9K	535	6.8K	560	10.0K	590	22K	625	39K	650	68K	680	100K	715
																					120K
																					180K
																					200K
																					725
																					740
																					760

Electrical Specifications And Pricing

Tolerance: $\pm 5\%$. *Chassis mounted. †Refer to Ohms Resistance Value Chart to complete Stock No.

Stock No.†	Mfr.'s Type	MIL Type	Dielectric Strength	Watt Rating*		Max. Resis.	Max. Volt		Ohm Value	EACH				
				STD	MIL		STD	B		1-9	10-24	25-49	50-99	100-249
840-0XXX	605	RE60	1000V	7	5	20K	160	220	10 to 1K	2.42	1.94	1.49	1.73	1.49
									1.8K to 4.7K	2.49	2.00	1.53	1.77	1.53
									5.1K to 10K	2.57	2.06	1.58	1.83	1.59
									12K	3.66	2.93	2.25	2.61	2.22
									18K to 22K	4.11	3.29	2.53	2.99	2.46
840-3XXX	610	RE65	1000V	12	10	45K	265	340	10 to 1K	2.42	1.94	1.49	1.73	1.49
									1.8K to 4.7K	2.49	2.00	1.53	1.77	1.53
									5.1K to 10K	2.57	2.06	1.58	1.83	1.59
									12K	3.66	2.93	2.25	2.61	2.22
									18K to 22K	4.11	3.29	2.53	2.99	2.46
840-6XXX	615	RE70	2000V	25	20	90K	550	650	10 to 1K	2.96	2.37	1.82	1.94	1.68
									1.8K to 4.7K	3.17	2.54	1.95	2.09	1.83
									5.1K to 10K	3.54	2.84	2.18	2.34	2.06
									12K	3.92	3.14	2.41	2.63	2.25
									18K, 22K	4.24	3.39	2.61	2.84	2.43
									27K to 47K	4.61	3.69	2.84	3.09	2.69
									56K	6.13	4.91	3.77	4.23	3.60
									75K	6.84	5.48	4.21	4.73	4.02
									82K	7.14	5.72	4.40	4.92	4.19
840-9XXX	620	RE75	2000V	50	30	200K	1250	1400	10 to 1K	3.54	2.84	2.18	2.52	2.13
									1.8K to 4.7K	3.73	2.99	2.30	2.61	2.25
									5.1K to 10K	4.05	3.24	2.49	2.85	2.49
									12K	4.41	3.53	2.71	3.09	2.70
									18K, 22K	4.86	3.89	2.99	3.41	2.97
									27K to 47K	5.16	4.13	3.17	3.62	3.15
									56K to 75K	5.79	4.64	3.57	4.08	3.56
									82K, 100K	6.24	5.00	3.84	4.40	3.83
									120K	6.86	5.49	4.22	4.83	4.20
									180K, 200K	7.54	6.03	4.64	5.31	4.62

Power Oxide and Bulk/Tape and Reel Carbon Film Resistors



Carbon Film Resistors — Industry's Finest!

▶ Rated up to 155°C with Mil-Grade Performance

Mfr.'s Type	"L"	"D"	"d"	"H"
	±.032" (.8mm)	±.020" (.5mm)	±.003" (.05mm)	Min.
CF25	.250" (6.4)	.090" (2.3)	.024" (.60)	1.0" (25)
CF50S	.354" (9.0)	.125" (3.2)	.025" (.63)	1.0" (25)
CF200S	.630" ±.08	.21" ±0.5	.031" (.80)	1.06" (27)

▶ Outperforms Carbon-Comp MIL-R-11

▶ Flame Retardant Coating And Color-Banding

▶ Excellent Long-Term Stability

▶ Resistant To Industrial Solvents

Series CF resistors provide improved performance over industry standards without increasing costs. Load life stability at a typical 1000 hrs. is less than 0.5%ΔR. These quality standards are achieved through strict process controls and highest grade materials. Cores are high thermally conductive ceramic, creating superior heat dissipation and overload capability which allows reduced sizes unavailable until now. Specially electroplated leads for faultless soldering, even after lengthy storage times. Industrial solvent-resistant multilayer epoxy coating and color-banding. **Note:** 1/8, 1 and 3 Watt sizes available from factory in 1000 pc. multiples as custom order.

Stock No.	Mfr.'s Type	Watts	Tolerance	Maximum Working Voltage	Maximum Overload Voltage	Values (See Table Below)	PER PACK/1000†	
							1-9	10-49
840-1XXX	CF25	1/4	±5%	250	500	1 Ohm-10M	8.50	7.25
840-2XXX	CF50S	1/2	±5%	350	700	1 Ohm-10M	13.25	12.00
840-8XXX	CF200S	2	±5%	600	1100	1 Ohm-10M	14.75	13.50

* Large Production Quantity Pricing Available. †CF200S sold in packs of 200.

Tape and Reel Resistors

Stock No.	Mfr.'s Type	Watts *	Tol. %	Max. Volts	Max. Overload	Stocked Values*	Reel Size	PER REEL	
								1-9	10-49
849-1XXX	CF25	1/4	5	250	500	10, 22, 47, 100, 150, 220, 330	5000	45.00	37.00
849-2XXX	CF50S	1/2	5	350	700	470, 1K, 2K, 3.3K, 4.7K, 10K, 22K, 33K, 47K, 100K, 220K, 470K, 1M, 10M	4000	46.00	38.00

* Other wattages and values available from factory as custom order in full reels only.

Standard Resistance Values

To Complete Allied Stock Number, Insert 3-Digit Number Shown in XXX Column After Value Desired In Place Of XXX In Stock Number.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
.10	995	.68	013	3.6	044	18	066	91	191	470	302	2.4K	412	12K	533	62K	677	510K	830	3.9M	914
.12	996	.75	014	3.9	046	20	098	100	202	510	308	2.7K	421	13K	543	68K	685	560K	836	4.3M	915
.15	997	.82	016	4.3	047	22	102	110	206	560	315	3.0K	427	15K	550	75K	698	680K	850	4.7M	916
.18	998	.91	017	4.7	049	24	114	120	212	620	324	3.3K	433	16K	563	82K	703	910K	871	5.1M	917
.20	999	1.0	020	5.1	051	27	117	130	218	680	330	3.6K	441	18K	565	91K	712	1.0M	877	5.6M	918
.22	001	1.1	021	5.6	053	30	123	150	226	750	338	3.9K	446	20K	575	100K	717	1.1M	881	6.2M	919
.24	002	1.2	022	6.2	054	33	130	160	230	820	343	4.3K	453	22K	585	110K	718	1.2M	886	6.8M	920
.27	003	1.3	023	6.8	055	36	135	180	237	910	351	4.7K	461	24K	592	120K	727	1.3M	890	7.5M	921
.30	004	1.5	024	7.5	056	39	140	200	243	1.0K	356	5.1K	467	27K	603	150K	740	1.5M	900	8.2M	922
.33	005	1.6	025	8.2	057	43	143	220	248	1.1K	361	5.6K	473	30K	611	180K	751	1.8M	903	9.1M	923
.36	006	1.8	026	9.1	058	47	153	240	255	1.2K	366	6.2K	482	33K	617	200K	759	2.0M	905	10M	924
.39	007	2.0	028	10	060	51	160	270	263	1.3K	373	6.8K	489	36K	621	220K	765	2.2M	907	—	—
.43	008	2.2	032	11	061	56	166	300	270	1.5K	380	7.5K	498	39K	636	270K	783	2.4M	908	—	—
.47	009	2.4	035	12	062	62	172	330	276	1.6K	383	8.2K	504	43K	643	300K	790	2.7M	909	—	—
.51	010	2.7	041	13	063	68	178	360	278	1.8K	393	9.1K	511	47K	650	330K	796	3.0M	911	—	—
.56	011	3.0	042	15	064	75	185	390	288	2.0K	400	10K	522	51K	657	390K	811	3.3M	912	—	—
.62	012	3.3	043	16	065	82	190	430	296	2.2K	405	11K	528	56K	666	470K	825	3.6M	913	—	—

Types PW5/5-Watt and PW10/10-Watt Resistors

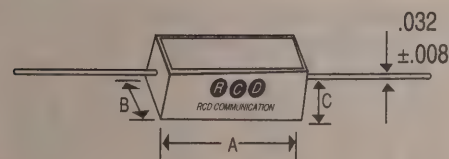
Axial lead resistors. Welded cap to lead for improved noise levels and long term stability. Precisely wound element with glass fiber core and sealed in rectangular ceramic case. **Tolerance:** ±5%. **Wide resistance range:** 1Ω to 5K. **Improved TCR:** ±200 PPM Typ. (Values above 1Ω). **Power rating:** 25°C ambient. **Maximum operating temperature:** 275°C. Other values available in 100-piece multiples as custom order. 2, 3, 7, 15, 20, 22, and 25 watt sizes available in 100 piece multiples as custom order. PW series utilizes either wire-wound or film elements. Specific type may be requested at time of order as special order item with 1000 piece multiples. If not specified, either may be shipped.

Type PW5 – 5 Watt

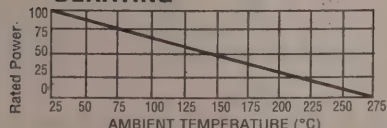
Stock No.	Mfr.'s Type	Ohms	PK/10			
			1-9	10-19	20-49	50-Up
840-0356	PW5	.10	3.40	2.50	2.00	1.70
840-0021	PW5	.50	3.40	2.50	2.00	1.70
840-0025	PW5	.68	3.40	2.50	2.00	1.70
840-0029	PW5	1	3.00	2.30	1.70	1.40
840-0038	PW5	2	3.00	2.30	1.70	1.40
840-0042	PW5	3	3.00	2.30	1.70	1.40
840-0047	PW5	4	3.00	2.30	1.70	1.40
840-0050	PW5	5	3.00	2.30	1.70	1.40
840-0056	PW5	7.5	3.00	2.30	1.70	1.40
840-0060	PW5	10	3.00	2.30	1.70	1.40
840-0061	PW5	15	3.00	2.30	1.70	1.40
840-0112	PW5	25	3.00	2.30	1.70	1.40
840-0158	PW5	50	3.00	2.30	1.70	1.40
840-0202	PW5	100	3.00	2.30	1.70	1.40
840-0226	PW5	150	3.00	2.30	1.70	1.40
840-0243	PW5	200	3.00	2.30	1.70	1.40
840-0258	PW5	250	3.00	2.30	1.70	1.40
840-0307	PW5	500	3.00	2.30	1.70	1.40
840-0028	PW5	1K	3.00	2.30	1.70	1.40

Type PW10 – 10 Watt

Stock No.	Mfr.'s Type	Ohms	PK/10			
			1-9	10-19	20-49	50-Up
840-7021	PW10	.10	3.40	2.70	2.40	1.80
840-7025	PW10	.50	3.40	2.70	2.40	1.80
840-7026	PW10	.68	3.40	2.70	2.40	1.80
840-7029	PW10	1	3.20	2.50	2.20	1.60
840-7038	PW10	2	3.20	2.50	2.20	1.60
840-7050	PW10	5	3.20	2.50	2.20	1.60
840-7056	PW10	7.5	3.20	2.50	2.20	1.60
840-7060	PW10	10	3.20	2.50	2.20	1.60
840-7081	PW10	15	3.20	2.50	2.20	1.60
840-7098	PW10	20	3.20	2.50	2.20	1.60
840-7112	PW10	25	3.20	2.50	2.20	1.60
840-7158	PW10	50	3.20	2.50	2.20	1.60
840-7185	PW10	75	3.20	2.50	2.20	1.60
840-7202	PW10	100	3.20	2.50	2.20	1.60
840-7226	PW10	150	3.20	2.50	2.20	1.60
840-7243	PW10	200	3.20	2.50	2.20	1.60
840-7270	PW10	300	3.20	2.50	2.20	1.60
840-7307	PW10	500	3.20	2.50	2.20	1.60
840-7356	PW10	1K	3.20	2.50	2.20	1.60
840-7400	PW10	2K	3.40	2.70	2.40	1.80
840-7427	PW10	3K	3.40	2.70	2.40	1.80
840-7428	PW10	5K	3.40	2.70	2.40	1.80



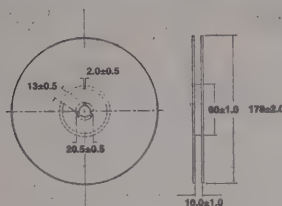
DERATING



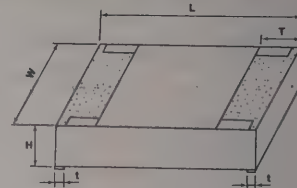
Mfr.'s Type	Dimensions—Inches (mm)		
	A±.04" (1.0 mm)	B±.032" (.81 mm)	C±.05" (1.3 mm)
PW5	0.88" (22.4)	.38" (9.7)	.35" (8.9)
PW10	1.88" (47.8)	.38" (9.7)	.38" (9.7)

Chip Resistors

- ▶ Uniform Quality and High Performance
- ▶ Excellent Mechanical Strength
- ▶ Equivalent Specification: EIAJ-RC-2690
- ▶ Supplied in Tape/Reel: 5,000 Pcs/Reel
- ▶ Resistance Range: 10 Ohm – 1Meg
- ▶ Zero Ohm and Other Values Available by Special Request

Reel
Dimensions
(mm)

Chip Resistor



Stock No.	Mfr.'s Type	Style	Watts	Max Volts (Working)	Tol.	PER MULT./100 PIECES		
						1-9	10-24	25-49
210-93XX	CFC-12	1206	1/4W	200V	5%	5.00	4.00	3.00
210-95XX	CFC-10	0805	1/4W	150V	5%	5.00	4.00	3.00

See Chart for XX Code. Large Quantity Pricing Available.

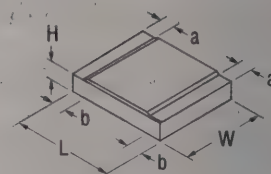
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	39	18	200	26	470	34	2700	42	5600	50	30K	58	100K	66	390K	74
20	12	47	20	270	28	560	36	3000	44	10K	52	39K	60	200K	68	470K	76
27	14	56	22	300	30	1000	38	3900	46	20K	54	47K	62	270K	70	560K	78
30	16	100	24	390	32	2000	40	4700	48	27K	56	56K	64	300K	72	1M	80

Thick Film Chip Resistors

SEI Type RMC

- ▶ Surface Mount Devices (SMD)
- ▶ Tolerances of $\pm 1\%$ and $\pm 5\%$
- ▶ Temperature Coefficients as Low as $\pm 100 \text{ ppm}/^\circ\text{C}$
- ▶ Precision Performance — Space Saving Construction
- ▶ Available from 10 ohm to 1 megohm

Dim.	RMC 1/10	RMC 1/8
L	078±008 (2.00±0.20)	122±004 (3.10±0.10)
W	049±008 (1.25±0.20)	061±004 (1.55±0.10)
H	018±004 (0.45±0.10)	021+004/-002 (0.55+0.10/-0.05)
a	016±008 (0.40±0.20)	018±008 (0.45±0.20)
b	012±008/-004 (0.30+0.20/-0.10)	012±008/-004 (0.30+0.20/-0.10)

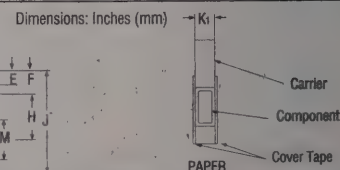
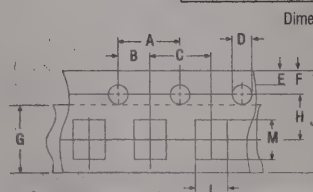
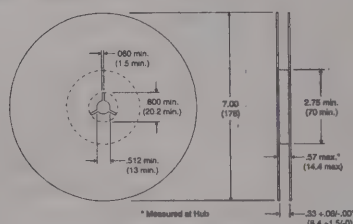


Performance Characteristics (Tested Per MIL-STD-202). Electrical. Operating Temperature Range: -55°C to +125°C.

Stock No.	Mfr.'s Type	Package Size	Power Rating (watts)	Maximum Working Voltage	Maximum Overload Voltage	Resistance Temperature Coefficient	Resistance Range	Tolerance	PER MULT./100 PIECES		
									1-9	10-24	25-49
211-3XXX	RMC-1/10	0805	1/10 @ 70°C	150V	300V	±200ppm/°C	10Ω - 1M	±5%	5.00	4.00	3.00
211-4XXX	RMC-1/10	0805	1/10 @ 70°C	150V	300V	±100ppm/°C	10Ω - 1M	±5%	7.50	6.00	4.50
211-5XXX	RMC-1/8	1206	1/8 @ 70°C	200V	400V	±200ppm/°C	10Ω - 1M	±5%	5.00	4.00	3.00
211-6XXX	RMC-1/8	1206	1/8 @ 70°C	200V	400V	±100ppm/°C	10Ω - 1M	±1%	7.50	6.00	4.50

Packaging: Chips Per EIA Standard RS481

A	B	C	D	E	F	G	H	J		K1	L	M
.16 ± .01 (4.0 ± 0.1)	.08 ± .01 (2.0 ± 0.1)	.16 ± .01 (4.0 ± 0.1)	.06 ± .01/0 (1.5 ± 0.1/-0)	.04 (1.0)	.069 (1.75)	.20 (5.0)	.138 ± .002 (3.50 ± 0.05)	.32 ± .01 (8.0 ± 0.1)	RMC 1/10	.04 max. (1.1 max.)	.065 ± .008 (1.65 ± 0.20)	.09 ± .01 (2.4 ± 0.2)
									RMC 1/0	.04 max. (1.1 max.)	.08 ± .01 (2.0 ± 0.1)	.138 ± .002 (3.50 ± 0.05)



Standard 5% Resistance Value Chart To Complete Allied Stock No., Insert 3 Digit No. Shown In XXX Column After Value Desired, In Place of XXX In Stock No.

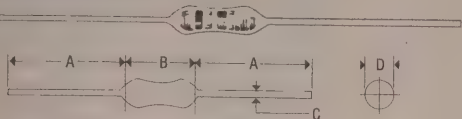
Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	060	68	178	240	255	750	338	2400	412	7500	498	30K	611	120K	727	560K	836
15	081	75	185	270	263	820	343	2700	421	8200	504	33K	617	150K	740	680K	850
20	098	82	190	300	270	910	351	3000	427	10K	522	39K	636	180K	751	910K	871
22	102	100	202	330	276	1000	356	3300	433	11K	528	47K	650	200K	759	1M	877
27	117	110	206	390	288	1100	361	3600	441	12K	533	51K	657	220K	765	—	—
30	123	120	212	430	296	1200	366	3900	446	15K	550	56K	666	270K	783	—	—
33	130	150	226	470	302	1500	380	4700	461	18K	565	62K	677	300K	790	—	—
39	140	160	230	510	308	1600	383	5100	467	20K	575	68K	685	330K	796	—	—
47	153	180	237	560	315	1800	393	5600	473	22K	585	82K	703	390K	811	—	—
51	160	200	243	620	324	2000	400	6200	482	24K	592	91K	712	470K	825	—	—
56	166	220	248	680	330	2200	405	6800	489	27K	603	100K	717	510K	830	—	—

Standard 1% Resistance Value Chart

Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX
10	100	147	223	432	295	1.1K	359	3.01K	428	4.53K	456	7.32K	495	13.3K	540	22.6K	589	49.9K	655	110K	720	590K	836K
15	113	150	226	475	303	1.21K	367	3.09K	430	4.64K	458	7.5K	498	13.7K	543	27.4K	604	51.1K	658	130K	735	619K	841K
49.9	157	162	230	487	305	1.5K	380	3.32K	435	4.75K	462	8.25K	505	15.5K	550	30.1K	612	56.2K	664	143K	738	715K	858K
51.1	161	200	243	499	306	1.82K	385	3.48K	437	4.99K	465	9.09K	513	16.9K	555	33.2K	618	68.1K	686	150K	740	909K	881K
100	202	221	250	511	310	2K	400	3.65K	443	5.11K	468	9.53K	518	17.8K	563	34.8K	621	73.2K	690	200K	759	1 Meg	—
110	206	249	257	590	320	2.21K	406	3.83K	445	5.62K	470	10K	522	18.2K	566	36.5K	624	75K	694	267K	780	—	—
121	213	301	271	604	322	2.37K	409	3.92K	447	6.04K	475	11K	528	20K	575	39.2K	635	90.9K	711	301K	781	—	—
130	217	332	275	750	338	2.43K	412	4.02K	450	6.19K	481	12.1K	535	21.5K	580	40.2K	638	93.1K	714	499K	828	—	—
133	221	402	292	1K	356	2.49K	415	4.42K	453	6.81K	490	12.7K	538	22.1K	586	47.5K	651	100K	717	511K	830	—	—

Carbon-Composition, Carbon Film and Metal Film Resistors

Allied 5% Carbon Film Resistors Below 10% Carbon Prices



Mfr.'s Type	Dimensions - Inches			
	A	B	C	D
CF1/8	1.00 min.	.13 ± .01	.018 ± .001	.07 ± .01
CF1/4	1.00 min.	.24 ± .01	.022 ± .001	.09 ± .01
CF1/2	1.00 min.	.33 ± .02	.026 ± .002	.12 ± .01

Extremely low noise. Epoxy coating with color code marking.

Temperature Characteristics (PPM/°C)

Operating Temperature Range -25°C to +125°C.

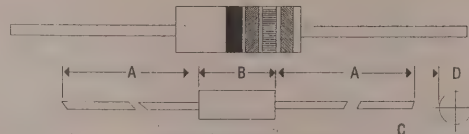
Mfr.'s Type	(0 to -500)	(0 to -700)	(0 to -1000)	Test Method
CF1/8	Under 100 kohm	110 kohm-1 Megohm	Over 110 kohm	EIA RS-196A
CF1/4	Under 100 kohm	110 kohm-1 Megohm	Over 680 kohm	5.2.4
CF1/2	Under 100 kohm	110 kohm-1 Megohm	—	—

Stock No.	Mfr.'s Type	Watts	Stocked Values See Table Below	PER PKG./200		
				1-5	6-10	11-20
526-0XXX	CF1/8	1/8	4.7 - 680K	10.40	8.84	7.96
526-1XXX	CF1/4	1/4	4.7 - 10M	4.40	3.74	3.36
526-2XXX	CF1/2	1/2	4.7 - 10M	5.90	5.02	4.52

Note: Tape and reel and large quantity pricing available.

See the Wide Selection of Value-Priced Resistor Kits for Prototyping, Repair or Maintenance Uses in the Kits Section.

Carbon Composition Resistors



These 1/4 and 1/2 watt composition resistors meet or exceed all requirements specified by MIL-R-11 and RS-172. Operation at full wattage rating at 70°C without derating. ±5% tolerance. 1/8 watt available in 1000 piece minimum and multiple only.

Mfr.'s Type	Dimensions - Inches			
	A	B	C	D
RC1/4W	1.102 ± .032	.248 ± .028	.0240 ± .002	.094 ± .004
RC1/2W	1.024 ± .032	.374 ± .032/-.028	.0275 ± .002	.142 ± .008

Stock No.	MIL Equiv.	Watts	Stocked Values See Table Below	Pkg. Qty.	PER PKG		
					1-24	25-49	50-99
823-2XXX	RC07	1/4	2.7 - 5.6M	200	16.00	14.25	12.50
823-4XXX*	RC20	1/2	2.7 - 20M	100	10.00	8.75	7.70

* 910K and larger are a higher price.

Note: Tape and reel and large quantity pricing available.

Standard 5% Resistance Values To Complete Allied Stock No., Insert 3 Digit No. Shown In XXX Column After Value Desired, In Place of XXX In Stock No.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Megs	XXX	Megs	XXX
2.7	041	30	123	160	230	750	338	3600	441	22K	585	150K	740	1M	877	4.7M	916
3	042	33	130	180	237	820	343	3900	446	24K	592	180K	751	1.1M	881	5.1M	917
3.3	043	36*	135	200	243	910	351	4700	461	27K	603	200K	759	1.2M	886	5.6M	918
3.9	046	39	140	220	248	1000	356	5100	467	30K	611	220K	765	1.3M	890	6.2M	919
4.7	049	47	153	240	255	1100	361	5600	473	33K	617	270K	783	1.5M	900	6.8M	920
5.1	051	51	160	270	263	1200	366	6200	482	39K	636	300K	790	1.8M	903	7.5M	921
5.6	053	56	166	300	270	1500	380	6800	489	47K	650	330K	796	2.0M	905	8.2M	922
6.8	055	68	178	330	276	1600	383	7500	498	51K	657	390K	811	2.2M	907	9.1M	923
8.2	057	75	185	390	288	1800	393	8200	504	56K	666	470K	825	2.4M	908	10M	924
9.1	058	82	190	430	296	2000	400	10K	522	62K	677	510K	830	2.7M	909	12M	927
10	060	100	202	470	302	2200	405	11K	528	68K	685	560K	836	3.0M	911	15M	929
15	081	110	206	510	308	2400	412	12K	533	82K	703	680K	850	3.3M	912	18M	933
20	098	120	212	560	315	2700	421	15K	550	91K	712	910K	871	3.6M	913	20M	935
22	102	130*	218	620	324	3000	427	18K	565	100K	717	—	—	3.9M	914	—	—
27	117	150	226	680	330	3300	433	20K	575	120K	727	—	—	4.3M	915	—	—

*Available in 526-1XXX (1/4-Watt) Only.

Metal Film 1% Tolerance Resistors For Commercial Applications

- ▶ Voltage Coefficient, 1/10-Full, 0.5 ppm
- ▶ For Precision Instrumentation.
- ▶ Color Band Marking

- ▶ Low Noise Levels: -20 Db on Standard Values, 0.1µV per Volt; -30 Db on Low-Med Values, 0.5µV per Volt
- ▶ Offer Low Electrical Noise

- ▶ High Stability Under Load
- ▶ Other Values Available in Packages of 1000 Pieces Only

Replace XXX In Stock No. With Appropriate 3 Digit Number From Values Table (Below). Sold Per Package of 100.

Stock No.	Mfr.'s Type	Stocked Range	Coeff. PPM	Watts at 70°C	Max. Size Inches*		PER PKG./100		
					L	D	1-10	11-50	51-99
832-7XXX	RN1/4T1	10-1M	100	1/4	.25	.10	3.60	2.70	1.80
832-6XXX	RN1/4T2	10-1M	50	1/4	.25	.10	5.00	3.88	3.25
832-3XXX	RN1/2T1	10-1M	100	1/2	.36	.12	6.20	4.50	3.10
832-2XXX	RN1/2T2	10-1M	50	1/2	.36	.12	7.00	5.00	4.00

*C=RN1/4—.022 ± .001 (0.60 ± 0.03); RN1/2—.026 ± .002 (0.70 ± 0.05). Note: Tape and reel and large quantity pricing available.



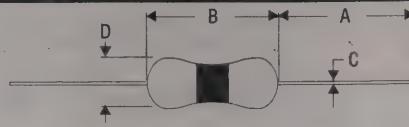
Standard 1% Resistance Values

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	100	51.1	161	348	280	2K	400	4.75K	462	11K	528	27.4K	604	82.5K	705	464K	791
12.1	107	56.2	167	402	292	2.15K	403	4.87K	463	12.1K	535	30.1K	612	84.5K	706	475K	796
15	113	75	185	475	303	2.21K	406	4.99K	465	12.4K	536	33.2K	618	90.9K	711	499K	828
20	121	90.9	196	499	306	2.49K	415	5.11K	468	13K	538	40.2K	638	100K	717	511K	831
22.1	125	100	202	604	322	2.74K	422	6.19K	481	15K	550	46.4K	649	121K	728	619K	841
24.9	128	121	213	750	338	3.01K	428	6.81K	490	15.8K	552	47.5K	651	150K	740	681K	853
30.1	135	150	226	825	345	3.32K	435	7.5K	498	17.4K	561	49.9K	655	200K	759	750K	862
34.8	140	200	243	909	350	3.48K	437	8.25K	505	18.2K	566	51.1K	658	221K	766	825K	875
40.2	146	221	250	1K	356	3.57K	440	9.09K	513	20K	575	61.9K	675	249K	777	909K	881
47.5	152	249	257	1.21K	367	3.83K	445	9.53K	518	22.1K	586	68.1K	686	301K	781	953K	885
49.9	157	301	271	1.5K	380	4.02K	450	10K	522	24.9K	594	75K	694	402K	788	1M	891

Zero-Ohm Resistors

SEI Type CD

► "Crossover" or "Jumper" Applications



Stock No.	Mfr.'s Type	Amps	PER 5000 PC. REEL		
			1-5	6-9	10-20
526-0001	CD1/8W	2	62.50	55.50	50.00
526-0002	CD1/4W	3	45.00	40.00	36.00

Type	CD 1/8Z	CD 1/4Z
Size	1/8W	1/4W
Resistance	0.01Ω or less	0.01Ω or less
Dielectric Withstand Voltage	300V RMS min.	500V RMS min.
Operating Temperature	-55°C to +155°C	-55°C to +155°C
Marking	Single Black Band	Single Black Band
Current Rating	20A @ 25°C	25A @ 25°C

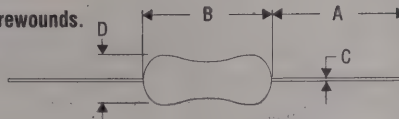
Feature	CD 1/8Z	CD 1/4Z
A - Lead Length (typ.)	1.10 ± .08	1.10 ± .08
B - Body Length	.12 ± .01	.24 ± .01
C - Lead Diameter	.018 ± .001	.022 ± .001
D - Body Diameter	.07 ± .01	.09 ± .01

Dimensions: Inches (mm)

Metal Oxide Mini Series Resistors

SEI Type RSM

- Ideal Substitute Where Size Restraints Apply.
- Low Cost Alternative for Power Carbon Composition and Wirewounds.
- Flameproof - Meets Overload Test of UL #1412.
- Meets Solvent Test of Method 215 of MIL-STD 202.
- Temperature Coefficient of $\pm 200\text{ppm}/^\circ\text{C}$.
- Performance Tested Per MIL-R-22684 Rev. C.
- Available on 2500 Piece Tape & Reel as Special Order Item.
- Available From .1 ohm to 9.1 ohm as Special Order Item.



Stock No.	Mfr.'s Type	Watts	Tolerance	Values	PER PACK OF 1000 PCS.		
					1-5	6-9	10-20
894-1XXX	RSM-1	1	5%	10 Ohm-75K	55.50	49.35	44.50
894-2XXX	RSM-2	2	5%	10 Ohm-100K	75.00	60.00	54.55

Electrical	RSM 1	RSM 2
Power Rating (Watts)	1 @ 70°C	2 @ 70°C
Derated to 0 Load at	200°C	200°C
Maximum Working Voltage	350V	350V
Operating Temperature Range	-55°C to +200°C	-55°C to +200°C
Resistance Range	0.1Ω-75K	0.1Ω-100K
Tolerance	±5%	±5%
Dielectric Withstand Voltage	600 volts RMS	600 volts RMS
Maximum Pulse Voltage	750V	750V
Insulation Resistance	10,000 meg min.	10,000 meg min.

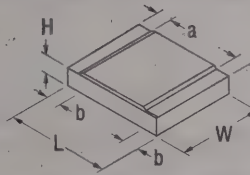
Feature	RSM 1	RSM 2
A - Lead Length (typ.)	1.10 ± .08 (28.0 ± 2.0)	1.10 ± .08 (28.0 ± 2.0)
B - Body Length	.35 ± .04 (9.0 ± 1.0)	.43 ± .04 (11.0 ± 1.0)
C - Lead Diameter	.028 ± .002 (0.7 ± 0.05)	.031 ± .002 (0.8 ± 0.05)
D - Body Diameter	.11 ± .02 (2.6 ± 0.5)	.16 ± .02 (4.0 ± 0.5)

Dimensions: Inches (mm)

Thick Film Chip Resistors

SEI Type RMC

- Surface Mount Devices (SMD).
- Tolerances of $\pm 1\%$ and $\pm 5\%$.
- Temperature Coefficients as Low as $\pm 100\text{ppm}/^\circ\text{C}$.
- Precision Performance - Space Saving Construction.
- Available from 10 ohm to 1 megohm.



Dim.	RMC 1/10	RMC 1/8
L	.078 ± .008 (2.00 ± 0.20)	.122 ± .004 (3.10 ± 0.10)
W	.049 ± .008 (1.25 ± 0.20)	.061 ± .004 (1.55 ± 0.10)
H	.018 ± .004 (0.45 ± 0.10)	.021 ± .004 (0.55 ± 0.10/0.05)
a	.016 ± .003 (0.40 ± 0.20)	.018 ± .008 (0.45 ± 0.20)
b	.012 ± .008/-0.004 (0.30 ± 0.20/-0.10)	.012 ± .008/-0.004 (0.30 ± 0.20/-0.10)

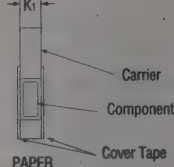
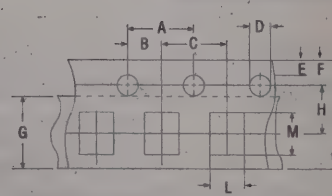
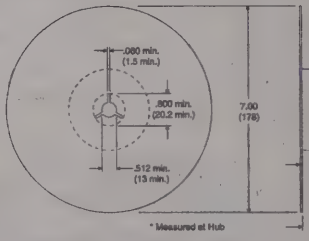
Performance Characteristics (Tested Per MIL-STD-202). Electrical. Operating Temperature Range: -55°C to $\pm 125^\circ\text{C}$

Stock No.	Mfr.'s Type	Package Size	Power Rating (watts)	Maximum Working Voltage	Maximum Overload Voltage	Resistance Temperature Coefficient	Resistance Range	Tolerance	PER 5000 PC. REEL		
									1-5	6-9	10-20
894-3XXX	RMC-1/10	0805	1/10 @ 70°C	150V	300V	$\pm 200\text{ppm}/^\circ\text{C}$	10Ω - 1M	±5%	68.75	61.25	55.00
894-4XXX	RMC-1/10	0805	1/10 @ 70°C	150V	300V	$\pm 100\text{ppm}/^\circ\text{C}$	10Ω - 1M	±1%	120.00	106.75	96.00
894-5XXX	RMC-1/8	1206	1/8 @ 70°C	200V	400V	$\pm 200\text{ppm}/^\circ\text{C}$	10Ω - 1M	±5%	68.75	61.25	55.00
894-6XXX	RMC-1/8	1206	1/8 @ 70°C	200V	400V	$\pm 100\text{ppm}/^\circ\text{C}$	10Ω - 1M	±1%	120.00	106.75	96.00

Packaging: Chips Per EIA Standard RS481

A	B	C	D	E	F	G	H	J	K1	L	M
.16 ± .01 (4.0 ± 0.1)	.08 ± .01 (2.0 ± 0.1)	.16 ± .01 (4.0 ± 0.1)	.06 ± .01/0 (1.5 ± 0.1/-0)	.04 (1.0)	.069 (1.75)	.20 (5.0)	.138 ± .002 (3.50 ± 0.05)	.32 ± .01 (8.0 ± 0.1)	RMC 1/10 .04 max. (1.1 max.)	.065 ± .008 (1.65 ± 0.20)	.09 ± .01 (2.4 ± 0.2)
									RMC 1/8 .04 max. (1.1 max.)	.08 ± .01 (2.0 ± 0.1)	.138 ± .002 (3.50 ± 0.05)

Dimensions: Inches (mm)



Standard 5% Resistance Values

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	060	68	178	240	255	750	338	2400	412	7500	498	30K	611	120K	727	560K	836
15	081	75	185	270	263	820	343	2700	421	8200	504	33K	617	150K	740	680K	850
20	098	82	190	300	270	910	351	3000	427	10K	522	39K	636	180K	751	910K	871
22	102	100	202	330	276	1000	356	3300	433	11K	528	47K	650	200K	759	1M	877
27	117	110	206	390	288	1100	361	3600	441	12K	533	51K	657	220K	765	—	—
30	123	120	212	430	296	1200	366	3900	446	15K	550	56K	666	270K	783	—	—
33	130	150	226	470	302	1500	380	4700	461	18K	565	62K	677	300K	790	—	—
39	140	160	230	510	308	1600	383	5100	467	20K	575	68K	685	330K	796	—	—
47	153	180	237	560	315	1800	393	5600	473	22K	585	82K	703	390K	811	—	—
51	160	200	243	620	324	2000	400	6200	482	24K	592	91K	712	470K	825	—	—
56	166	220	248	680	330	2200	405	6800	489	27K	603	100K	717	510K	830	—	—

Standard 1% Resistance Values

Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX
10	100	147	223	432	295	1.1K	359	3.01K	428	4.53K	456	7.32K	495	13.3K	540	22.6K	589
15	113	150	226	475	303	1.21K	367	3.09K	430	4.64K	458	7.5K	498	13.7K	543	27.4K	604
49.9	157	162	230	487	305	1.5K	380	3.32K	435	4.75K	462	8.25K	505	15K	550	30.1K	612
51.1	161	200	243	499	306	1.82K	385	3.48K	437	4.99K	465	9.09K	513	16.9K	555	33.2K	618
100	202	221	250	511	310	2K	400	3.65K	443	5.11K	468	9.53K	518	17.8K	563	34.8K	621
110	206	249	257	590	320	2.21K	406	3.83K	445	5.62K	470	10K	522	18.2K	566	36.5K	624
121	213	301	271	604	322	2.37K	409	3.92K	447	6.04K	475	11K	528	20K	575	39.2K	635
130	217	332	275	750	338	2.43K	412	4.02K	450	6.19K	481	12.1K	535	21.5K	580	40.2K	638
133	221	402	292	1K	356	2.49K	415	4.42K	453	6.81K	490	12.7K	538	22.1K	586	47.5K	651

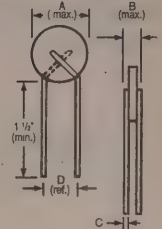
NTC, PTC, Cryogenic Thermistors and Inrush Current Limiters



Precision Thermistors $\pm 0.2^{\circ}\text{C}$ from 0°C to 75°C

Keystone precision units are the designers' choice for low cost, close-tolerance temperature measurement. These ultra-stable thermistors are accurate to $\pm 0.2^{\circ}\text{C}$ from 0°C to 75°C . They are widely used in OEM applications because they offer close-tolerance temperature measurement without requiring individual calibration. A protective coating is standard for all precision thermistors listed in the table below.

Stock No.	Mfr.'s Type	Ro @ 25°C Ω	α @ 25°C (%/°C)	Material	A		B		C	D		δ (mW/°C)	τ (sec.)	EACH	
					In.	mm	In.	mm	AWG	In.	mm			1-99	100-249
837-5110	RL1003-1746-97-SP	3K	-4.4	P97	0.160	4.06	0.160	4.06	26	0.100	2.54	1.0	10	8.75	7.00
837-5115	RL1005-2910-97-SP	5K	-4.4	P97	0.160	4.06	0.180	4.57	26	0.100	2.54	1.0	10	8.75	7.00
837-5126	RL1008-5820-97-SP	10K	-4.4	P97	0.160	4.06	0.200	5.08	26	0.100	2.54	1.0	10	8.75	7.00



NTC Thermistors

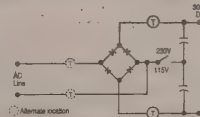
Negative temperature coefficient thermistors decrease in resistance as temperature increases. Temp. coefficients range from $-2\%/^{\circ}\text{C}$ to $-5\%/^{\circ}\text{C}$ at 25°C . Max. oper. temp.: 150°C + Max. temp.: 125°C .

Stock No.	Mfr.'s Type	Ro @ 25°C (Ω)	Tol. (%)	Resist. Ratio*	Max. Dia. In.	EACH	
						1-99	100-249
837-1000	RL1004-65.6-59-D1 +	100	20	5.6	0.11	2.08	1.67
837-1005	RL1003-312-73-D1	500	10	6.9	0.11	2.06	1.65
837-1010	RL1007-624-73-D1	1000	10	6.9	0.11	2.06	1.65
837-1046	RL1003-1157-95-D1	2000	10	9.2	0.11	2.06	1.65
837-1015	RL1003-1746-97-D1	3000	10	9.1	0.11	2.06	1.65
837-1020	RL1004-2910-97-D1	5000	10	9.1	0.11	2.06	1.65
837-1025	RL1009-5820-97-D1	10K	10	9.1	0.11	2.06	1.65
837-1047	RL1005-5744-103-D1	10K	10	9.6	0.11	2.06	1.65
837-1048	RL1007-13.8K-120-D1	25K	10	11.4	0.11	2.15	1.72
837-1035	RL1003-26.7K-140-D1	50K	10	12.9	0.11	2.15	1.72
837-1035	RL1006-53.4K-140-D1	100K	10	12.9	0.11	2.15	1.72
837-1040	RL1004-104.7K-155-D1	200K	10	13.8	0.11	2.15	1.72
837-1048	RL1006-135.2K-138-D1	250K	10	12.1	0.11	2.15	1.72
837-2000	RL2004-16.4-59-D1 +	25	20	5.6	0.22	1.79	1.43
837-2045	RL2007-32.8-59-D1 +	50	20	5.6	0.22	1.79	1.43
837-2005	RL2003-62.4-73-D1	100	10	6.9	0.22	1.77	1.42
837-2010	RL2006-125-73-D1	200	10	6.9	0.22	1.77	1.42
837-2015	RL2008-187-73-D1	300	10	6.9	0.22	1.77	1.42
837-2020	RL2003-289-95-D1	500	10	9.2	0.22	1.77	1.42
837-2050	RL2004-582-97-D1	1K	10	9.2	0.22	1.77	1.42
837-2055	RL2007-1164-97-D1	2K	10	9.1	0.22	1.77	1.42
837-2011	RL2006-1600-103-D1	2786	10	9.6	0.22	1.77	1.42
837-2012	RL2005-2203-120-D1	4K	10	11.4	0.22	1.88	1.50
837-2065	RL2006-2753-120-D1	5K	10	11.4	0.22	1.88	1.50
837-2035	RL2012-5506-120-D1	10K	10	11.4	0.22	1.92	1.54
837-2070	RL2006-13.3K-140-D1	25K	10	12.9	0.22	1.88	1.50
837-2013	RL2005-27K-138-D1	50K	10	12.1	0.22	1.88	1.50
837-2040	RL2008-52.3K-155-D1	100K	10	13.8	0.22	1.88	1.50
837-3060	RL3004-6.56-59-D1 +	10	20	5.6	0.32	1.82	1.45
837-3065	RL3504-31.2-73-D1	50	10	6.9	0.37	1.80	1.44
837-3051	RL3006-59.4-85-D1	100	10	8.4	0.32	1.80	1.44
837-3046	RL3004-144-95-D1	250	10	9.2	0.32	1.80	1.44
837-3078	RL3004-291-97-D1	500	10	9.1	0.32	1.80	1.44
837-3066	RL3005-574-103-D1	1000	10	9.6	0.32	1.80	1.44

*Resistance Ratio—ratio of zero power resistance @ 0°C to zero power resistance @ 50°C .

Inrush Current Limiters

- Protect against high peak inrush current, especially in AC/DC switching power supplies.
- All resistances $\pm 2\%$ at 25°C .
- All parts are insulated with a protective coating.



Stock No.	Mfr.'s Type	Ro @ 25°C $\pm 2\%$ (ohms)	Max. Steady State Current (amps)	Approx. Resist. @ Max. In. (Ω)	Max. Dia. In.	EACH	
						1-99	100-249
837-0010	CL-10	0.7	12.0	.03	0.770	1.97	1.58
837-0020	CL-20	1.3	8.0	.04	0.550	1.87	1.50
837-0030	CL-30	2.5	8.0	.06	0.770	1.97	1.58
837-0040	CL-40	5.0	6.0	.11	0.770	1.97	1.58
837-0050	CL-50	7.0	5.0	.16	0.770	1.97	1.58
837-0060	CL-60	10.0	5.0	.18	0.770	1.97	1.58
837-0070	CL-70	16.0	4.0	.27	0.770	1.97	1.58
837-0080	CL-80	47.0	3.0	.49	0.770	1.97	1.58
837-0090	CL-90	120.0	2.0	1.18	0.930	2.14	1.71
837-0100	CL-100	0.5	16.0	.02	0.930	2.14	1.71
837-0105	CL-110	10.0	3.2	.18	0.400	1.85	1.48
837-0120	CL-120	10.0	1.7	.34	0.400	1.85	1.48
837-0125	CL-130	50.0	1.6	.76	0.450	1.85	1.48
837-0140	CL-140	50.0	1.1	.89	0.450	1.85	1.48
837-0145	CL-150	5.0	4.7	.11	0.550	1.87	1.50
837-0160	CL-160	5.0	2.8	.20	0.550	1.87	1.50
837-0165	CL-170	16.0	2.7	.33	0.550	1.87	1.50
837-0180	CL-180	16.0	1.7	.49	0.550	1.87	1.50
837-0185	CL-190	25.0	2.4	.41	0.550	1.87	1.50
837-0200	CL-200	25.0	1.7	.49	0.550	1.87	1.50
837-0710	CL-210	30.0	1.5	.60	0.400	1.85	1.48

Cryogenic Thermistors

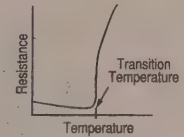
Keystone cryogenic thermistors are extremely useful for liquid level detection in various cryogenic liquids. In this application, the thermistor is slightly self-heated by passing a small current through the unit. The heat generated in the unit is more easily dissipated when the thermistor is immersed in cryogenic fluid than when the fluid level falls below the thermistor. The resulting change in thermistor temperature is easily detected by the change in resistance.

Dissipation Constant
in mW/°K

Electrical Input (mW)	O ₂	N ₂
1.0	2-4	2-7
10.0	5-15	4-14

PTC Thermistors

Positive temperature coefficient thermistors are characterized by an extremely large resistance change in a small temperature span. Temperature at which resistance begins to increase rapidly is referred to as the transition temperature ($^{\circ}\text{C}$).



Stock No.	Mfr.'s Type	Oper. Volt Vop	Ro @ 25°C $\pm 30\%$ (Ω)	Transition Temp. T _{TR} ($^{\circ}\text{C}$)	Max. Dia. In.	EACH	
						1-99	100-249
837-4015	RL5305-1-120-12-PTO	12	1	120	0.60	2.30	1.84
837-4016	RL5305-2-120-12-PTO	12	2	120	0.60	2.30	1.84
837-2074	RL3005-10-110-12-PTO	12	10	110	0.35	2.07	1.66
837-2075	RL3005-25-110-12-PTO	12	25	110	0.35	2.07	1.66
837-3000	RL3006-50-30-25-PTO	25	50	30	0.35	2.07	1.66
837-3005	RL3006-50-40-25-PTO	25	50	40	0.35	2.07	1.66
837-3010	RL3006-50-50-25-PTO	25	50	50	0.35	2.07	1.66
837-3015	RL3006-50-60-25-PTO	25	50	60	0.35	2.07	1.66
837-3020	RL3006-50-70-25-PTO	25	50	70	0.35	2.07	1.66
837-3025	RL3006-50-80-25-PTO	25	50	80	0.35	2.07	1.66
837-3030	RL3006-50-90-25-PTO	25	50	90	0.35	2.07	1.66
837-3035	RL3006-50-100-25-PTO	25	50	100	0.35	2.07	1.66
837-3040	RL3006-50-110-25-PTO	25	50	110	0.35	2.07	1.66
837-3050	RL3006-50-120-25-PTO	25	50	120	0.35	2.07	1.66
837-3052	RL5506-5-65-50-PTO	50	5	65	0.60	2.30	1.84
837-3054	RL4006-10-110-50-PTO	50	10	110	0.45	2.44	1.95
837-4001	RL4010-50-110-50-PTO	50	50	110	0.45	2.30	1.84
837-4005	RL3312-200-110-50-PTO	50	200	110	0.40	2.44	1.95
837-6500	RL7510-10-120-120-PTO	120	10	120	0.80	2.72	2.18
837-6505	RL6010-20-120-120-PTO	120	20	120	0.65	2.33	1.87
837-6510	RL5510-25-60-120-PTO	120	25	60	0.60	2.33	1.87
837-4002	RL4510-50-120-120-PTO	120	50	120	0.50	2.30	1.84
837-4006	RL6315-40-110-240-PTO	240	40	110	0.65	2.44	1.95
837-5021	RL5515-50-65-240-PTO	240	50	65	0.60	2.44	1.95
837-5024	RL6315-50-110-240-PTO	240	50	110	0.65	2.44	1.95
837-5026	RL6015-100-120-240-PTO	240	100	120	0.65	2.44	1.95
837-2078	RL3020-1500-100-240-PTO	240	1500	100	0.35	2.44	1.95
837-2082	RL7020-1K-100-480-PTO	480	1000	100	0.75	2.72	2.18
837-2084	RL5020-2K-100-480-PTO	480	2000	100	0.55	2.30	1.84
837-2086	RL3020-5K-100-480-PTO	480	5000	100	0.35	2.44	1.95

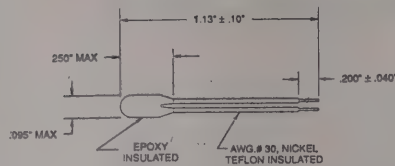
PTC Resettable Fuses

Minimum Limit Current: The minimum amount of current required by the PTC to guarantee switching at the minimum ambient temperature. **Maximum Limit Current:** The maximum amount of current the PTC must be able to pass without switching at the maximum ambient temperature.

Stock No.	Mfr.'s Type	Oper. Volt Vop	No Load Resist. @ 25°C (±20%) (Ω)	Min. Limit Current (amps)				Max. Limit Current (amps)	Max. Dia. In.	EACH	
				0°C	20°C	30°C	55°C			1-99	100-249
837-4025	RL5305-1.0-110-12-PTF	12	1.0	1.45	1.32	0.84	0.64	0.60	2.34	1.87	
837-4030	RL5305-2.5-110-12-PTF	12	2.5	0.92	0.84	0.53	0.40	0.60	2.34	1.87	
837-4003	RL4005-5.0-110-12-PTF	12	5.0	0.55	0.50	0.32	0.24	0.45	2.44	1.95	
837-2079	RL3005-10-110-12-PTF	12	10.0	0.32	0.30	0.19	0.14	0.35	2.11	1.69	
837-2085	RL3005-25-110-12-PTF	12	25.0	0.20	0.19	0.12	0.09	0.35	2.11	1.69	
837-2090	RL7008-1.5-110-25-PTF	25	1.5	1.34	1.22	0.77	0.59	0.75	2.73	2.18	
837-2095	RL5008-3.0-110-25-PTF	25	3.0	0.84	0.76	0.48	0.37	0.55	2.40	1.92	
837-5001	RL5506-5.0-110-50-PTF	50	5.0	0.65	0.59	0.37	0.29	0.60	2.34	1.87	
837-4004	RL4006-10-110-50-PTF	50	10.0	0.39	0.35	0.22	0.17	0.45	2.21	1.77	
837-4007	RL4508-25-110-50-PTF	50	25.0	0.27	0.24	0.15	0.12	0.50	2.40	1.92	
837-4008	RL4010-10-110-50-PTF	50	50.0	0.19	0.17	0.11	0.08	0.45	2.21	1.77	
837-4010	RL3810-100-110-50-PTF	50	100.0	0.13	0.12	0.08	0.06	0.42	2.29	1.83	
837-6001	RL7510-10-110-120-PTF	120	10.0	0.55	0.50	0.32	0.24	0.80	2.73	2.18	
837-6005	RL6010-20-110-120-PTF	120	20.0	0.37	0.34	0.21	0.16	0.65	2.34	1.87	
837-4020	RL4510-50-110-120-PTF	120	50.0	0.19	0.17	0.11	0.08	0.50	2.40	1.92	
837-3067	RL3510-100-110-120-PTF	120	100.0	0.13	0.12	0.07	0.06	0.40	2.29	1.83	
837-3070	RL6315-50-110-240-PTF	240	50.0	0.23	0.21	0.13	0.10	0.65	2.73	2.18	
837-3072	RL6315-100-110-240-PTF	240	100.0	0.16	0.15	0.09	0.07	0.65	2.73	2.18	
837-3074	RL6315-250-110-240-PTF	240	250.0	0.10	0.09	0.06	0.05	0.65	2.73	2.18	

**Miniature Sensors
1°C Accuracy**

- Temperature Accuracy: $\pm 1^\circ\text{C}$ @ 25°C
- Dissipation Constant: 1.4 mW/ $^\circ\text{C}$
- Time Constant: 15 sec.
- Operating Range: -50°C to $+150^\circ\text{C}$



Stock No.	Mfr.'s Type	R ₂₅ °C	Temp. Coef. %/°C @ 25°C	Material	EACH
837-7006	RL0503-5820-97-MS	10K	-4.40	MS97	2.06
837-7008	RL0503-27.53K-120-MS	50K	-4.84	MS120	2.06
837-7010	RL0503-55.36K-122-MS	100K	-4.78	MS122	2.06

Glass Encapsulated Thermistors

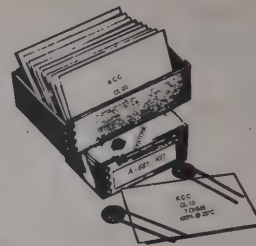
- Temperature Range: -50°C to $+204^\circ\text{C}$
- Time Constant: 3 sec.
- Dissipation Constant: 2.0mW/ $^\circ\text{C}$
- Tolerance: $\pm 10\%$ @ 25°C

Keystone glass encapsulated NTC thermistors are tiny pellets of thermistor material hermetically sealed in glass bodies. The hermetic seal makes these parts extremely stable in applications up to 204°C (400°F).

Stock No.	Mfr.'s Type	Resistance (Ω)								Temp. Coef. @ 25°C (%/°C)	EACH	
		-25°C	0°C	25°C	50°C	75°C	100°C	150°C	204°C		1-99	100-249
837-5170	AL03006-165.9-55-G1*	1829	619.8	250	115.4	59.48	33.40	13.00	N/A	-3.34	2.03	1.63
837-5175	AL03006-331.8-55-G1*	3658	1239	500	230.8	118.0	66.80	26.01	N/A	-3.34	2.03	1.63
837-5185	AL03006-524.79-G1	10.11K	2888.00	1K	403.9	185.60	94.40	31.00	12.10	-3.83	2.03	1.63
837-5190	AL03006-1248-73-G1	20.22K	5776.00	2K	807.8	371.20	188.80	62.00	24.20	-3.83	2.03	1.63
837-5180	AL03006-1576-101-G1	46.75K	10.17K	2786	959.8	385.00	176.90	49.32	15.67	-4.68	2.03	1.63
837-5191	AL03006-1847-76-G1	30.54K	8697.00	3K	1201.0	543.30	272.00	86.25	32.46	-3.85	2.03	1.63
837-5192	AL03006-2463-76-G1	40.72K	11.60K	4K	1602.0	724.40	362.70	115.00	43.30	-3.85	2.03	1.63
837-5193	AL03006-3079-76-G1	50.90K	14.50K	5K	2002.0	905.50	453.40	143.80	54.10	-3.85	2.03	1.63
837-5195	AL03006-5818-97-G1	133.30K	32.96K	10K	3577.0	1469.00	671.20	182.00	59.90	-4.41	2.03	1.63
837-5200	AL03006-11.7K-98-G1	253.00K	64.16K	20K	7234.0	2988.00	1356.00	361.20	115.90	-4.34	2.03	1.63
837-5202	AL03006-17.53K-98-G1	379.50K	96.20K	30K	10.8K	4449.00	2034.00	541.80	173.80	-4.32	2.03	1.63
837-5205	AL03006-29.1K-97-G1	625.00K	160.00K	50K	18.2K	7510.00	3431.00	918.50	293.20	-4.32	2.03	1.63
837-5210	AL03006-58.2K-97-G1	1.25M	319.90K	100K	36.4K	15.02K	6862.00	1837.00	566.40	-4.32	2.03	1.63
837-5215	AL03006-111.3K-123-G1	3.32M	694.6K	200K	65.32K	24.58K	10.42K	2492.00	725.20	-4.71	2.03	1.63
837-5220	AL03006-269.8K-138-G1	8.91M	1.92M	500K	155.7K	55.85K	22.64K	4943.00	1329.00	-4.99	2.03	1.63
837-5225	AL03006-535K-145-G1	18.72M	3.90M	1Meg	305.3K	106.90	42.47K	8946.00	2329.00	-5.07	2.03	1.63

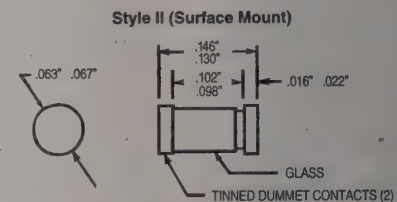
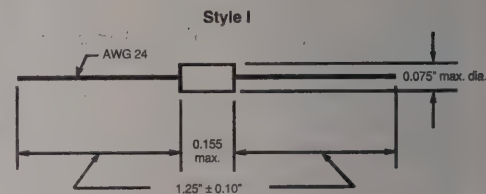
Note: For KCC type for Style II Delete AL prefix and add G100 suffix. Not stocked at Allied. *Max. Application Temp. is 150°C .

Kits

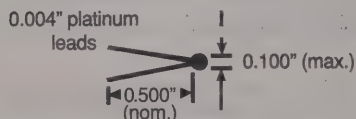


Type A-681. Inrush Limiter Kit. Contains one each of 20 different types of current inrush limiters. 837-0681. A-681.....EACH 42.00

Type A-973. Contains two each of 12 different types of surface mount glass encapsulated thermistors. Surface Mount Encapsulated NTC Kit 837-9901. A-973.....EACH 45.75

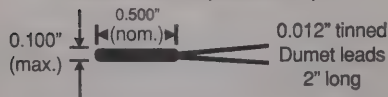


GLASS BEAD (Model G1)



Time Constant: 16 sec.
Dissipation Constant: 0.75 mW/ $^\circ\text{C}$

GLASS PROBE (Model G15)



Maximum Operating Temperature = 260°C
Time Constant: 17 sec.
Dissipation Constant: 1.20 mW/ $^\circ\text{C}$

Glass Beads and Glass Probes

Glass bead thermistors are exceptionally stable because the glass seal protects the thermistor from hostile environments.

Stock No.	Mfr.'s Type	Resistance (Ω)								Temp. Coef. @ 25°C (%/°C)	EACH	
		-25°C	0°C	25°C	50°C	75°C	100°C	150°C	204°C		1-99	100-249
837-5325	RL0504-8783-95-G1	189.30K	48.48K	15K	5484.000	1049.00	290.30	104.0	38.6	-4.33	7.88	6.30
837-5330	RL0504-11.64K-97-G1	268.60K	65.76K	20K	7206.000	1364.00	370.40	130.3	47.4	-4.39	7.88	6.30
837-5335	RL0504-16.92K-112-G1	462.60K	105.30K	30K	10.180K	1735.00	427.20	115.9	26.9	-4.64	7.88	6.30
837-5340	RL0504-27.76K-120-G1	803.50K	182.20K	50K	16.500K	2658.00	642.50	204.7	67.2	-4.77	7.88	6.30
837-5345	RL0504-55.53K-120-G1	1.61M	364.50K	100K	33.000K	5317.00	1285.00	409.4	134.4	-4.77	7.88	6.30
837-5350	RL0504-111.3K-125-G1	3.38M	743.40K	200K	65.800K	10.22K	2416.00	762.2	249.2	-4.82	7.88	6.30
837-5355	RL0504-272.6K-148-G1	9.31M	1.97M	500K	158.600K	22.20K	4700.00	1345.0	389.0	-5.00	5.39	4.62
837-5360	RL0504-530.5K-148-G1	18.99M	3.94M	1Meg	301.700K	41.74K	8780.00	2494.0	729.0	-5.11	7.88	6.30
837-5370	RL0504-2.588M-176-G1	106.10M	20.68M	5Meg	1.434M	173.60K	31.92K	7910.0	1965.0	-5.31	7.88	6.30
837-5375	RL0504-11.64K-97-G15	268.60K	65.76K	20K	7206.000	1364.00	370.40	130.3	47.4	-4.39	11.63	9.30
837-5380	RL0504-16.92K-112-G15	462.60K	105.30K	30K	10.180K	1735.00	427.20	115.9	26.9	-4.64	11.63	9.30
837-5385	RL0504-27.76K-120-G15	803.50K	182.20K	50K	16.500K	2658.00	642.50	204.7	67.2	-4.77	11.63	9.30
837-5390	RL0504-55.53K-120-G15	1.61M	364.50K	100K	33.000K	5317.00	1285.00	409.4	134.4	-4.77	11.63	9.30
837-5395	RL0504-111.3K-125-G15	3.38M	743.40K	200K	65.800K	10.22K	2416.00	762.2	249.2	-4.82	11.63	9.30
837-5400	RL0504-272.6K-142-G15	9.31M	1.97M	500K	158.600K	22.20K	4700.00	1345.0	389.0	-5.00	11.63	9.30
837-5405	RL0504-530.5K-148-G15	18.99	3.94M	1Meg	301.700K	41.74K	8780.00	2494.0	729.0	-5.11	11.63	9.30
837-5415	RL0504-2.588M-176-G15	106.10M	20.68M	5Meg	1.434M	173.60K	31.92K	7910.0	1965.0	-5.31	11.63	9.30

Tolerance on resistance values $\pm 20\%$ @ 25°C . Closer tolerances available. Beads have a maximum operating temperature of 260°C .

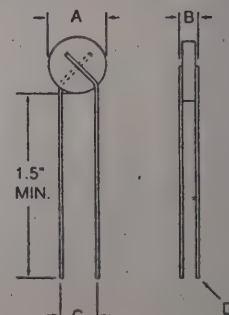
Standard Thermistors for Temperature Measurement

Accuracy $\pm 1^\circ\text{C}$ (0°C - 120°C)

- Operating Range: -50°C to $+150^\circ\text{C}$
- D.C.: Dissipation Constant (mW/ $^\circ\text{C}$)
- T.C.: Time Constant (Seconds)

Stock No.	Mfr.'s Type	R ₂₅ °C	A Max. (In.)	B Max. (In.)	C Ref. (In.)	D AWG. (Dia.)	D.C. mW/°C	T.C. Sec.	EACH
837-7020	RL3005-574.0-103-SA	1000	.32	.14	.25	24 (.020)	3.5	30	1.89
837-7022	RL2005-1148-103-SA	2000	.22	.14	.15	24 (.020)	2.5	20	1.85
837-7024	RL2006-1600-103-SA	2786	.22	.15	.15	24 (.020)	2.5	20	1.85
837-7026	RL2007-1723-103-SA	3000	.22	.16	.15	24 (.020)	2.5	20	1.85
837-7028	RL1003-2871-103-SA	5000	.11	.11	.10	26 (.016)	1.0	10	2.15
837-7030	RL1005-5744-103-SA	10000	.11	.13	.10	26 (.016)	1.0	10	2.15

*Optional temperature accuracies are available upon request.



Section Index

Internal and External Power Supplies, DC/DC Converters, Line Conditioners, UPS, SPS and Battery Systems, AC Receptacles, Outlet Strips, Surge and Noise Protection, Electrical Cord Ducting, Cords, Fused Power Outlets, Electrical Connectors, Line Filters

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How to Select a Power Supply

There are times when you need a power supply but you don't have a part number to reference. You know the end application but you have many power supplies to choose

from. How do you determine what type of supply to purchase. Here are some hints to make your search/selection easier.

Linear???

8-750 Watts
Larger
Heavier
<5 mV
Runs Warm
115/230 VAC
40% Typical

Or

Power Level
Size
Weight
Output Ripple
Temperature
AC Input
Efficiency

Switcher???

30-400 Watts
Smaller
Lighter
<50 mV
Runs Cool
85-264 VAC
75% Typical

SPW Series Regulated Linear Power Supplies

- ▶ World-Wide AC Input Range
- ▶ World-Wide Safety Standards
- ▶ UL, CSA, and TUV Approved
- ▶ Industry Standard Package
- ▶ Built-In OVP on 5 V Output
- ▶ Optional OVP for Other Outputs
- ▶ Overload Protection with Automatic Recovery
- ▶ 100% Burn-In

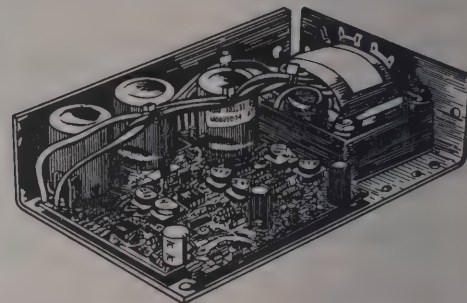
Specifications

AC Input Voltage: 100/120/220/230/240 selectable. **Frequency Range:** 47-63 Hz typical, 60 Hz; 10% derated output current for 50 Hz. **Transient Response:** 50 msec at 50% load changes. **DC Output. DC Output Adjustment Range:** $\pm 5\%$, min. **Line Regulation:** $\pm 0.05\%$ for 10% line change. **Load Regulation:** $\pm 0.05\%$ for 50% load change. **Ripple:** 3.0 mV P-P, max. **Overvoltage Protection:** standard on all 5 V output; factory set at 6.2 V ± 0.4 V; other outputs use optional OVP. **Remote Sensing:** provided on main outputs; refer to output rating chart. **General. Stability:** $\pm 0.05\%$ for 24 hours after warm-up. **Operating Temperature:** 0° to 50°C derate to 40% at +70°C. **Temperature Coefficient:** $\pm 0.01\%/^{\circ}\text{C}$, typical. **EMI/RFI:** inherently low conducted and radiated noise levels; meet requirements of FCC Class B and VDE 0871 Class B. **Overload Protection:** automatic current limit/foldback. **Safety Specification:** recognized to UL, CSA and TUV.

Dimensions

Case	Inches L x W x H	MM L x W x H	Weight Lbs.
A	3.99 x 4.84 x 2.37	101.35 x 122.94 x 60.20	2.43
B	5.62 x 4.87 x 3.33	142.75 x 123.70 x 84.59	4.00
C	7.00 x 4.87 x 3.81	177.80 x 123.70 x 96.78	7.28
D	7.00 x 4.87 x 3.13	177.80 x 123.70 x 79.51	4.41
F	10.25 x 4.00 x 3.09	260.35 x 101.60 x 78.49	5.07

Case	Inches L x W x H	MM L x W x H	Weight Lbs.
G	11.00 x 4.87 x 3.46	279.40 x 123.70 x 87.89	8.82
G1	11.00 x 4.87 x 3.71	279.40 x 123.70 x 94.24	8.82
H	6.50 x 4.00 x 2.07	165.10 x 101.60 x 52.58	2.20
I	9.00 x 4.87 x 3.72	228.60 x 123.70 x 94.49	7.50
J	14.00 x 4.87 x 3.53	355.60 x 123.70 x 89.67	10.00



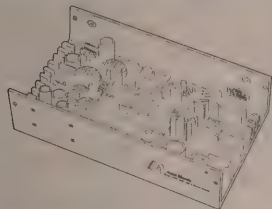
Stock No.	Mfr.'s Type	Watts	Output 1		Output 2		Output 3		Case	EACH	
			VDC	Amps	VDC	Amps	VDC	Amps		1-9	10-24
923-9640	SPWS-53-OV	15	5	3.0*					A	41.00	38.70
923-9641	SPWS-56-OV	30	5	6.0*					B	61.00	57.40
923-9642	SPWS-59-OV	45	5	9.0*					C	96.00	89.40
923-9643	SPWS-512-OV	60	5	12.0*					I	111.00	104.00
923-9644	SPWD-30	30	+5	3.0*†	+12	1.5†			C	73.00	68.00
923-9645	SPWD-80	80	+5	6.0*†	+12	3.4*†			I	103.00	96.00
923-9646	SPWT-20	20	+5	2.0*†	+12	0.4† Or	-12	0.4† Or	H	61.00	57.40
					+15	0.4†	-15	0.4†			
923-9647	SPWT-40	40	+5	3.0*†	+12	1.0 Or	-12	1.0 Or	F	81.00	76.00
					+15	0.8	-15	0.8			
923-9648	SPWT-60	60	+5	6.0*	+12	1.0* Or	-12	1.0* Or	I	103.00	96.00
					+15	0.8*	-15	0.8*			
923-9649	SPWT-75	75	+5	6.0*†	+12	1.8 Or	-12	1.8 Or	G	111.00	104.00
					+15	1.5	-15	1.5			
923-9650	SPWT-80	80	+5	9.0*†	+12	1.8 Or	-12	1.8 Or	G1	127.00	119.00
					+15	1.5	-15	1.5			
923-9651	SPWT-90	90	+5	3.0*	-5	0.5	+24	3.0†	G	139.00	129.00
923-9652	SPWS-1217	20	12	1.7* Or					A	41.00	38.70
			15	1.5*							
923-9653	SPWS-1234	40	12	3.4*					B	57.00	53.40
923-9654	SPWS-1251	60	12	5.1*					C	84.00	78.70
923-9655	SPWS-1268	80	12	6.8*					I	123.00	115.00
923-9656	SPWD-1210	24	+12	1.0* Or	-12	1.0 Or			H	50.00	46.70
			+15	0.8*	-15	0.8					
923-9657	SPWD-1218	43	+12	1.8* Or	-12	1.8 Or			D	69.00	64.00
			+15	1.5*	-15	1.5					
923-9658	SPWD-1234	91	+12	3.4*†	-12	3.4*†			I	96.00	89.40
923-9659	SPWS-1530	45	15	3.0*					B	57.00	53.40
923-9660	SPWS-1545	67	15	4.5*					C	84.00	78.70
923-9661	SPWS-1560	90	15	6.0*					I	119.00	111.00
923-9662	SPWD-1530	90	+15	3.0*	-15	3.0*			I	96.00	89.40
923-9663	SPWS-2412	28	24	1.2*					A	41.00	38.70
923-9664	SPWS-2424	57	24	2.4*					B	57.00	53.40
923-9665	SPWS-2436	86	24	3.6*					C	84.00	78.70
923-9666	SPWS-2448	115	24	4.8*					I	123.00	115.00
923-9667	SPWS-2472	172	24	7.2*					J	153.00	143.00
923-9668	OVP-21		OVP Module for all SPW Series Power Supply							10.00	9.20

*With Remote Sense. †Isolated Output.

Switching Power Supplies



LSW200 Series 200 Watt Output Switchmode Power Supplies



Input Specifications

- ▶ Input Voltage: 90-30 or 180-260 VAC (Autorangeing)
- ▶ Input Frequency: 47-440 Hz
- ▶ Input Current: 4.5A (rms) for 115 VAC; 2.6A (rms) for 230 VAC

Output Specifications

- ▶ Total Output Power: 25-200 Watts

Standard Features

- ▶ Autorangeing Universal Input
- ▶ Built-In EMI Filter
- ▶ Short Circuit Protection with Auto Recovery

Power Failure Detection

- ▶ 100% Burn-In at Full Rated Load
- ▶ Quantity Pricing Always Available

The LSW200 Series is comprised of single and multiple output models for 200 watts of continuous output power. The Autorangeing input allows the units to operate from any line voltage throughout the world without a selector strap. All Auxiliary outputs are equipped with magnetic amplifiers or linear regulators for maintaining regulation. The units are constructed on a printed circuit board with a U-bracket for mechanical support and heat sinking.

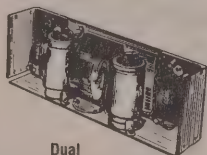
Stock No.	Mfr.'s Type	Output 1				Output 2 (1)				Output 3				Output 4				EACH
		Vnom	Imin.	Imax.	Tol.	Vnom	Imin.	Imax.	Tol.	Vnom	Imin.	Imax.	Tol.	Vnom	Imin.	Imax.	Tol.	
923-9065	LSWS20010	5 V	3.0 A	40.0 A	2%	—	—	—	—	—	—	—	—	—	—	—	—	259.00
923-9070	LSWS20012	12 V	1.2 A	16.7 A	2%	—	—	—	—	—	—	—	—	—	—	—	—	259.00
923-9075	LSWS20013	15 V	1.0 A	13.4 A	2%	—	—	—	—	—	—	—	—	—	—	—	—	259.00
923-9080	LSWS20016	24 V	0.6 A	8.4 A	2%	—	—	—	—	—	—	—	—	—	—	—	—	259.00
923-9085	LSWQ20040	±5 V	3.0 A	30.0 A	2%	±12 V	0 A	8 A	4%	-12 V	0 A	4 A	4%	5 V	0 A	6 A	4%	259.00
923-9090	LSWQ20041	±5 V	3.0 A	30.0 A	2%	±15 V	0 A	6 A	4%	-15 V	0 A	4 A	4%	24 V	0 A	4 A	4%	259.00
923-9095	LSWQ20042	±5 V	3.0 A	30.0 A	2%	±12 V	0 A	8 A	4%	-12 V	0 A	4 A	4%	12 V	0 A	4 A	4%	259.00
923-9100	LSWQ20044	±5 V	3.0 A	30.0 A	2%	±12 V	0 A	8 A	4%	-15 V	0 A	4 A	4%	15 V	0 A	4 A	4%	259.00
923-9105	LSWQ20045	±5 V	3.0 A	30.0 A	2%	±12 V	0 A	8 A	4%	-12 V	0 A	4 A	4%	24 V	0 A	4 A	4%	259.00

Notes: 1) Peak current is 12 A on +12, 9 A on +15, and 6 A on +24. 2) Output 1 — single output; Output 4 — floating, they can be connected externally for a positive or negative output. 3) 200 watt requires 350 LFM of moving air, 150 watts for convection (maximum current of Output 1 and 2 to 70%).

SPS "Blue-Line" Series 15 to 350 Watts of DC Power

Standard Features

- ▶ Adjustable Output Voltage
- ▶ Selectable Input 115/230 VAC, 47-440 Hz
- ▶ Temperature Compensated Circuitry
- ▶ Floating Outputs on Most Models
- ▶ UL Recognized
- ▶ Remote Sense on High-Output Current Units
- ▶ Safety Shielding for Logic Level (5 VDC) Single Output Power Supplies
- ▶ Computer-Grade Capacitors
- ▶ 24 Month Warranty
- ▶ Quantity Pricing Always Available



Dual

Optional Features

- ▶ Overvoltage Protection Available

The SPS "Blue-Line" Series offers a total of 17 models to choose from. Single, dual, and triple outputs satisfy virtually any voltage current requirement for your system application. AC input voltage capabilities are 115/230 VAC at 47-440 Hz. (Fan cooled units operate 47-63 Hz only.) The SPS Series is a time proven, durably designed open-frame power supply with industry standard voltages and currents.

Single Output

Stock No.	Mfr.'s Type	Output		EACH
		VDC	Amp	
923-5005	SPS 15-5	5	1.5	42.00
923-5010	SPS 30-5	5	3.0	46.00
923-5075	SPS 15-12	12	0.8	42.00
923-5080	SPS 30-12	12	1.8	46.30
923-9820	SPS 60-12	12	5.0	124.00
923-9710	SPS 120-12	12	10.0	195.00
923-6015	SPS 30-15	15	1.6	61.00
923-9830	SPS 60-15	15	4.0	124.00
923-9835	SPS 120-15	15	8.0	184.00
923-6055	SPS 30-24/28	24/28	1.2	44.00
923-6065	SPS 60-24/28	24/28	2.5	115.00
923-6070	SPS 120-24/28	24/28	6.0	168.00
923-6075	SPS 220-24/28	24/28	12.0	297.00

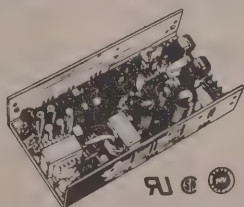
Dual and Triple Output

Stock No.	Mfr.'s Type	5 VDC	12-15 VDC	12-15 VDC	EACH
		Amp	Amp	Amp	
923-7030	SPS 30DA-12/15*	—	0.70	0.70	74.30
923-8010	SPS 40T-5/15/15	2.5	0.75	0.75	103.00

*Output is PDT adjustable 12-15 VDC (shipped with 12 V output).

High Reliability 250 Watt Switcher

- ▶ MTBF 200,000 Hrs. Calculated Per MIL-217E
- ▶ Meets FCC and VDE Levels A Emission Standards
- ▶ Meets UL 1459 and 1950, CSA 22.2-220, IEC 950, EN60950 Licensed
- ▶ Automatic Input Voltage Range Selection (90-132/180-264)
- ▶ Power Fail/Remote Inhibit
- ▶ All Outputs Floating
- ▶ High Temperature Burn-In
- ▶ 20 Millisecond Minimum Hold-Up Time at Low Line, Full-Load
- ▶ In-rush Current Limiting
- ▶ Remote Sense and Built-In OVP On Main 5 V Output
- ▶ Covers Optional
- ▶ Chassis Dimensions: Multiple Output — 2.5" x 5.0" x 10.5", 3 Lb., 12 Oz.; Single Output — 2.5" x 5.0" x 9.5", 3 Lb., 1 Oz.
- ▶ Quantity Pricing Always Available



Stock No.	Mfr.'s Type	Output 1 (VDC/Amp)	Output 2 (VDC/Amp)	Output 3 (VDC/Amp)	Output 4 (VDC/Amp)	EACH
923-1910	25A1-9100002	5 V @ 50 A	—	—	—	305.00
923-1920	25A1-9200002	12 V @ 21 A	—	—	—	305.00
923-1930	25A1-9300002	15 V @ 17 A	—	—	—	301.35
923-1940	25A1-9400002	24 V @ 11 A	—	—	—	305.00
923-1950	25A1-9500002	48 V @ 6 A	—	—	—	301.35
923-3912	25A3-9122002	5 V @ 35 A	12 V @ 5 A ³	12 V @ 5 A ³	12 V @ 1.5 A ²	399.10
923-4912	25A4-9122102 ⁴	5 V @ 35 A	12 V @ 5 A ³	12 V @ 5 A ³	5 V @ 3.0 A ²	371.70
923-4914	25A4-9122402	5 V @ 35 A	12 V @ 5 A ³	12 V @ 5 A ³	24 V @ 2.0 A ¹	371.70

¹Quasi-regulated. ²Fixed output (±4%). ³8 APK for 50 ms. ⁴OUP on all outputs.

CPS "Blue-Line" Series Enclosed 30 to 500 Watts of DC Power

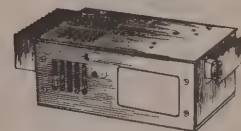
Electrical Specifications

AC Input

- ▶ Input Voltage: 115/230 VAC±10%
- ▶ Frequency: 47-440 Hz (CPS 500 Series: 47-63 Hz only)

DC Output

- ▶ Output Voltage/Current: See Selection Chart
- ▶ Voltage Adjustment Range: ±10% Nominal
- ▶ Floating Outputs: All Models Have Floating, Independent Outputs
- ▶ Regulation (Line): ±0.1% Over Line
- ▶ Regulation (Load): ±0.1% No Load to Full Load
- ▶ Ripple and Noise: 0.1% Pk-Pk (20 MHz Bandwidth)
- ▶ Transient Response: Recovers in 50 Microseconds for 50% Load Change
- ▶ Short-Circuit Protection: Fold-Back Type Current Limiting, Factory Set for 120% Rated Load Maximum
- ▶ Remote Sense Connections Used in Both Local and Remote Mode Assure All Specifications
- ▶ Quantity Pricing Always Available

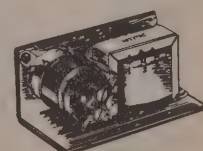


The CPS "Blue-Line" Series offers a total of 6 models in an enclosed design for maximum personal safety AC input voltage capabilities are 115/230 VAC at 47-440 Hz. (Fan cooled units operate 47-63 Hz only).

Stock No.	Mfr.'s Type	Output		EACH
		VDC	Amp	
923-8110	CPS 30-12	12	1.8	93.00
923-8120	CPS 30-24/48 ¹	24/48	1.2	84.00
923-8125	CPS 60-24/48 ¹	24/48	2.5	197.00
923-8130	CPS 120-24/48 ¹	24/48	6.0	238.00
923-8135	CPS 220-24/48 ²	24/48	12.0	334.00
923-9950	CPS 500-24/48 ²	24/48	20.0	620.00

¹PDT adjustable 24-28 VDC (shipped with 24 V output). ²Transformer tapped for 24 and 28 VDC Operation (shipped with 24 V output).

"Black-Line" Series Bulk Power DC Supplies



High Reliability — Efficient Bulk Power

- ▶ High Surge-Current Capabilities
- ▶ MTBF to 500,000 Hrs. Per MIL 271E
- ▶ Maximum Efficiency to 90%
- ▶ UL Recognized to UL 478
- ▶ FCC Level B EMI
- ▶ Floating Output
- ▶ Quantity Pricing Always Available

The "Black-Line" Series is a low-cost alternative for many DC power applications where regulation is not needed ... "raw power" without the bells and whistles but retaining high-quality components assures reliable performance in unregulated applications such as powering solenoids, DC motors, relays, lamps, and signal systems.

Stock No.	Mfr.'s Type	Full Load (VDC)	Full Load (Amps)	EACH
923-7690	15B7H	7.5	1.8	46.00
923-7691	30B7H	7.5	3.0	57.00
923-0910	60B7H	7.5	6.0	83.00
923-6000	100B7H	8.5	10.0	96.00
923-9815	200B7H	9.0	20.0	114.00
923-9025	15B12H	11.0	1.2	40.00
923-0930	30B12H	12.0	2.4	49.35
923-0935	60B12H	12.0	4.8	83.00
923-0940	100B12H	12.5	7.0	80.40
923-0945	200B12H	12.5	15.0	112.00
923-0950	15B16H	17.0	0.9	39.90
923-9805	30B20H	19.8	1.5	57.00
923-0970	60B20H	19.8	3.0	82.00
923-0975	100B20H	19.4	5.0	98.00
923-0980	200B20H	20.0	10.0	123.00
923-9800	15B24H	25.0	0.6	46.00
923-0990	30B24H	26.5	1.2	45.00
923-0995	60B24H	26.5	2.4	70.00
923-1000	100B24H	25.5	3.5	81.00
923-1005	200B24H	27.5	7.5	112.00
923-9924	750B24H	26.7	30.0	323.00
923-1075	500B24H	24.6	20.0	177.00
923-9997	100B48H	48.0	1.8	97.00
923-9000	200B48H	47.0	4.0	119.70
923-1100	500B48H	48.4	10.0	181.00
923-9925	750B48H	53.0	15.9	312.00

LSW Series — Low Profile Switchers

- Compact Size
- Universal Input Range: 85 to 264 VAC
- High Efficiency
- Up to Four Outputs
- Input RFI Filter to VDE Standards

- Current Mode, MOSFET Topology
- Overcurrent and Overvoltage Protection Main Output
- 100% Burn-In
- Open PCB Construction
- UL Listed, CSA Certified, TUV Approved

Specifications

AC Input. Input Voltage: 85-264 VAC. **Frequency:** 47-440 Hz. **Current:** LSW30 — 0.8 A at 115 VAC, 0.5 A at 230 VAC; LSW40 — 1.2 A at 115 VAC, 0.7 A at 230 VAC; LSW65 — 1.6 A at 115 VAC, 1.0 A at 230 VAC; LSW110 — 3 A at 115 VAC, 1.8 A at 230 VAC. **Inrush Current:** LSW30, LSW40, LSW110 — 15 A at 115 VAC - cold start, 30 A at 230 VAC - cold start; LSW65 — 30 A at 115 VAC - cold start, 60 A at 230 VAC - cold start. **Leakage Current:** to EN60950. **DC Output. Output Range:** $\pm 5\%$ on main output. **Line Regulation:** $\pm 0.5\%$. **Load Regulation:** 1% single output, 3% main output (50 to 100% load change). **Cross Regulation:** 5% typical. **Ripple and Noise:** 1% peak to peak typical. **Overload Protection:** overload and short circuit protected. **Overvoltage Protection:** 5.6-6.6 V on +5 V. **Minimum Load:** approximately 10% on main output. **Power Failure:** on LSW110 series only. **Efficiency:** 65% min. at full load. **Holdup Time:** LSW30, LSW110 — 12 msec; LSW40, LSW65 — 10 msec. **General. Operating Temperature:** 0° to 50°C. MTBF: 100,000 hours minimum. **RFI Performance:** VDE 0871A (some units to "B"). **Cooling:** some units require forced air for maximum output power.

Input Connection Details

Mfr.'s Type	Connector Type
LSWX-30XX LSWX-40XX	Molex 0950-3031 Molex 0950-3031

Mfr.'s Type	Connector Type
LSWX-65XX LSWX-110XX	Molex 0950-3031 Molex 0950-3051

Output Connection Details

LSWS-301X LSWT-303X LSWS-401X LSWT-403X LSWS-651X	Molex 0950-3061, 2878 Crimps Molex 0950-3061, 2878 Crimps Molex 0950-3061, 2878 Crimps Molex 0950-3061, 2878 Crimps Molex 0950-3081, 2878 Crimps
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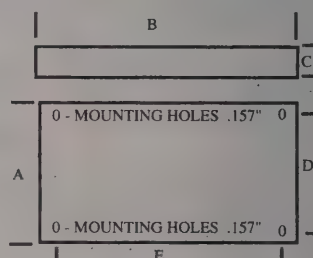
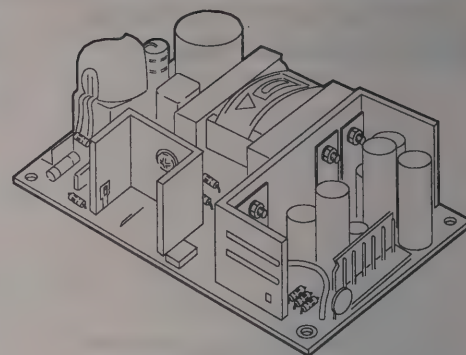
LSWT-653X LSWQ-654X LSWS-1101X LSWQ-1104X	Molex 0950-3081, 2878 Crimps Molex 0950-3081, 2878 Crimps Molex 0950-3139, 2878 Crimps Molex 0950-3139, 2878 Crimps
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Dimensions

Tolerance of Size Measurement: .02"

Mfr.'s Type	Dimensions — Inches					Weight oz.
	A	B	C	D	E	
LSWX-30XX LSWX-40XX	2.76 3.00	5.12 5.00	1.20 1.20	2.36 2.55	4.72 4.55	9.9 10.6

Mfr.'s Type	Dimensions — Inches					Weight oz.
	A	B	C	D	E	
LSWX-65XX LSWX-110XX	3.50 4.25	6.00 7.00	1.77 1.85	3.15 3.75	4.80 6.50	13.4 21.2



Stock No.	Mfr.'s Type	Watts	Output 1		Output 2		Output 3		Output 4		EACH	
			VDC	Amps	VDC	Amps	VDC	Amps	VDC	Amps	1-9	10-24
923-9600	LSWS-3010	25	5	5.0							46.00	42.70
923-9601	LSWS-3012	30	12	2.5							46.00	42.70
923-9602	LSWS-3013	30	15	2.0							46.00	42.70
923-9603	LSWS-3014	30	24	1.3							46.00	42.70
923-9604	LSWT-3030	30	5	3.0	12	1.5	-5	0.2			46.00	42.70
923-9605	LSWT-3031	30	5	3.0	12	1.5	-12	0.2			46.00	42.70
923-9606	LSWT-3032	30	5	3.0	15	1.5	-15	0.2			46.00	42.70
923-9607	LSWT-3033	30	5	3.0	15	1.5	-12	0.2			46.00	42.70
923-9608	LSWS-4010	40	5	8.0							55.00	52.00
923-9609	LSWS-4012	40	12	3.5							55.00	52.00
923-9610	LSWS-4013	40	15	3.0							55.00	52.00
923-9611	LSWS-4014	40	24	2.0							55.00	52.00
923-9612	LSWT-4030	40	5	3.0	12	2.0	-5	0.3			55.00	52.00
923-9613	LSWT-4031	40	5	3.0	12	2.0	-12	0.3			55.00	52.00
923-9614	LSWT-4032	40	5	3.0	15	2.0	-15	0.3			55.00	52.00
923-9615	LSWT-4033	40	5	3.0	15	2.0	-12	0.3			55.00	52.00
923-9616	LSWT-4039	40	5	3.0	24	1.0	-12	0.3			55.00	52.00
923-9617	LSWS-6510	50	5	10.0							65.00	61.40
923-9618	LSWS-6512	65	12	5.5							65.00	61.40
923-9619	LSWS-6513	65	15	4.5							65.00	61.40
923-9620	LSWS-6514	65	24	3.0							65.00	61.40
923-9621	LSWT-6530	65	5	6.0	12	3.0	-5	0.5			65.00	61.40
923-9622	LSWT-6531	65	5	6.0	12	3.0	-12	0.5			65.00	61.40
923-9623	LSWT-6532	65	5	6.0	15	3.0	-15	0.5			65.00	61.40
923-9624	LSWT-6533	65	5	6.0	15	3.0	-12	0.5			65.00	61.40
923-9625	LSWT-6539	65	5	6.0	24	2.0	-12	0.5			65.00	61.40
923-9626	LSWQ-6540	65	5	6.0	12	3.0	-12	0.5	-5	0.5	65.00	61.40
923-9627	LSWS-11010*	110	5	22.0							131.00	123.00
923-9628	LSWS-11012*	110	12	9.0							131.00	123.00
923-9629	LSWS-11013*	110	15	7.5							131.00	123.00
923-9630	LSWS-11014*	110	24	4.5							131.00	123.00
923-9631	LSWQ-11040*	110	5	10.0	12	5.0	-12	1.0	-5	1.0	131.00	123.00
923-9632	LSWQ-11042*	110	5	10.0	12	5.0	-12	1.0	12	1.0	131.00	123.00
923-9633	LSWQ-11045*	110	5	10.0	12	5.0	-12	1.0	24	1.0	131.00	123.00
923-9634	LSWQ-11046*	110	5	10.0	15	4.0	-15	1.0	-5	1.0	131.00	123.00

*Needs 25 CFM Air Flow. 80 W if Convection Cooled.

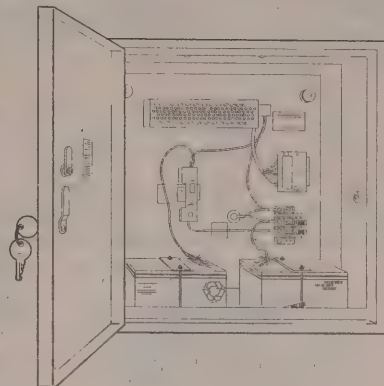
DC BOSS Power Support System

— NEW —

DCBoss
pss

MADE IN USA

- ▶ NEMA Type 1 Enclosure
- ▶ Wall Mount
- ▶ Fused Output
- ▶ AC/DC Rectifier/Charger
- ▶ Pre-Connected, Maintenance-Free Batteries
- ▶ Security Key Lock
- ▶ GFI, AC Convenience Outlet
- ▶ 220/240 V, 50 Hz and 120 V, 60 Hz Models
- ▶ 1 Amp to 19 Amps
- ▶ 12, 24 or 48 Volt Outputs
- ▶ 1 Hour to 8 Hours Battery Backup
- ▶ Options Available: Audible Alarm and Redundant Charger



The DC BOSS PSS provides DC battery backup for DC meters, instruments and controls. Supporting both domestic (120 VAC) input and international (220/240 VAC) input requirements with 1 amp to 19 amp DC loads.

Used in a wide range of applications such as security systems, detention centers, geophysical, chemical and other processing plants, and hazardous gas detection equipment.

Ampere Available for the DC BOSS PSS

Stock No.	Mfr.'s Type*	1 Hr.	2 Hrs.	4 Hrs.	8 Hrs.	Ship Wt. (Lbs.)	Overall Dim.			EACH
							D	W	H	
230Q2000	PSS12-1G31CK6	6.0 A	6.0 A	5.0 A	3.0 A	43	9.5"	24"	24"	1197.00
230Q2005	PSS12-1G55CK11	10.0 A	9.0 A	8.0 A	6.0 A	70	9.5"	24"	24"	1395.00
230Q2010	PSS12-2G55CK20	19.0 A	18.0 A	17.0 A	12.0 A	111	9.5"	24"	24"	1733.00
230Q2015	PSS24-1G31CK6	6.0 A	6.0 A	5.0 A	3.0 A	77	9.5"	24"	24"	1436.00
230Q2020	PSS24-1G55CK10	10.0 A	9.0 A	8.0 A	6.0 A	111	9.5"	24"	24"	1718.00

*Model numbers shown are for 120 VAC input applications. Consult factory for 220/240 VAC input, as well as other 12 VDC, 24 VDC and 48 VDC output models.

DC BOSS MICRO Backup Battery System

DCBoss
micro

MADE IN USA

- ▶ NEMA 1 Enclosure
- ▶ Welded Steel Frame
- ▶ Designed to Meet Seismic Zone 4 Rating of 1992 UBC Code
- ▶ Frame Protected by ABS Plastic Battery Trays
- ▶ Base Will Accommodate Pallet Jack

The DC BOSS MICRO system provides a cost effective solution for UPS extended run times.

Designed to meet standard DC bus voltages of most UPS manufacturers, the DC BOSS MICRO power system houses our standard 10-year prorated warranty batteries. Battery systems come complete with battery terminals to connect the UPS for easy, on-site installation.

UPS Extended Battery Operating Times for the DC BOSS MICRO

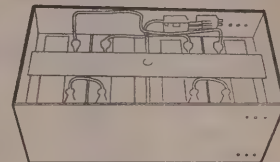
Stock No.	Mfr.'s Type	UPS (VA/W)	DC Voltage	30 Min.	1 Hr.	Ship Wt. (Lbs.)	Overall Dim.			EACH
							D	W	H	
230Q1090	DCU72-1U140	3000VA/2400W	72V	✓	✓	266	21"	24"	37"	1315.00
230Q1100	DCU72-1U270	4800VA/4000W	72V	✓	✓	476	21"	24"	37"	1522.00
230Q1110	DCU120-1U140	5000VA/4000W	120V	✓	✓	342	21"	24"	37"	1839.00

DC BOSS MINI The Complete Battery System

MADE IN USA

DCBoss
mini

- ▶ NEMA Type 1 Enclosure
- ▶ Pre-Connected Batteries
- ▶ Johnson Controls AGM, Valve Regulated, Sealed, Maintenance-Free Batteries
- ▶ Enclosure Protected by ABS Plastic Battery Trays
- ▶ Fused Output

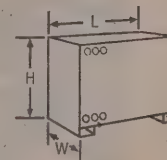


All steel construction.

Available in 12, 24, 48, 72 and 96 volt models, the DC MINI BOSS is a complete battery system housed in a NEMA 1 enclosure and is a simplified version of the DC Boss for users with smaller VA requirements. It provides back-up battery power with only two connections to be made on-site.

DC mini BOSS Enclosure Information and Outline Dimensions
The enclosure is a NEMA Type 1 steel enclosure with internal fuse.

Enclosure	L	W	H
A	14"	10"	12"
B	17"	14"	14"
C	28"	14"	14"



Ampere Available for the DC mini BOSS

Stock No.	Mfr.'s Type*	30 Min.	1 Hr.	2 Hrs.	4 Hrs.	6 Hrs.	48 Volt Enclosure	Ship Wt. (Lbs.)	Overall Dim.			EACH
									D	W	H	
230Q1130	RB48-1U140	38.9A	23.5A	13.0A	7.0A	4.9A	B	108	17"	14"	14"	726.00
230Q1140	RB48-1U170	54.8A	30.0A	18.0A	10.3A	7.3A	C	206	28"	14"	14"	840.00
230Q1150	RB48-1U270	85.0A	49.0A	28.0A	15.7A	11.7A	C	262	28"	14"	14"	912.00
230Q1170	RB48-1U370	109.7A	60.0A	34.0A	19.5A	14.0A	C	330	28"	14"	14"	1078.00

*Model numbers shown are for 48 volts. Call for 12, 24, 72 and 96 volt model numbers and ratings.

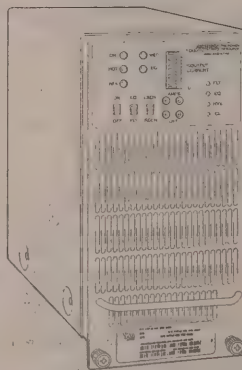
DCBoss

DC BOSS Flex Power

— NEW —

MADE IN USA

- ▶ 19" or 23" Rack Mount
- ▶ Panel Mount for OEM Use
- ▶ 12, 24 and 48 VDC Models
- ▶ High Power Density
- ▶ Light Weight
- ▶ Surge Protected
- ▶ Ruggedized Design
- ▶ UL Recognized



The DC BOSS FLEX POWER Battery Charger/Rectifier utilizes high frequency switchmode technology. Panel Mount units accept 120 VAC, 50/60 Hz input and 12 V, 24 V or 48 V DC outputs. Rack mount units can accept 120 VAC, 208 VAC or 240 VAC inputs with 24 V or 48 V DC outputs. Battery back-up can be easily added. Smaller units can be panel mounted for OEM internal designs while larger applications are adapted to 19" or 23" rack mounted shelves. Rack mount units are hot swappable.

Suitable for power flow meters, control systems, radio equipment, lab instruments, microwave systems, telephones, communications, modems, gas monitoring instruments, alarms and other security systems.

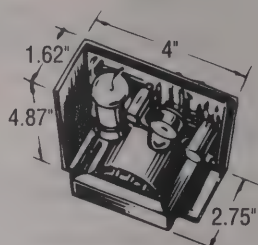
Flex Power Panel Mount Models — 120 VAC, 50/60 Hz

Stock No.	Mfr.'s Type	DC Volts	DC Amps	Ship Wt. (Lbs.)	Overall Dim.			EACH
					L	W	H	
230Q2040	24CM3	24	3.0	4	7"	4.75"	3.0"	258.00
230Q2045	24RM12.5	24	12.5	7	10"	4.90"	4.9"	498.00
230Q2050	48CM1.5	48	1.5	4	7"	4.75"	3.0"	258.00
230Q2055	48RM6.25	48	6.2	7	10"	4.90"	4.9"	498.00

Consult factory for panel sizes to fit your requirements.

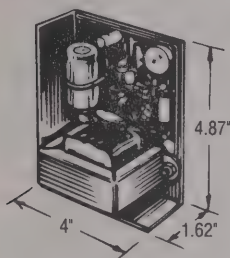
15-24 Watt Series

Single output. U.L. recognized, CSA certified. **Ripple:** (PK/PK) 3 mV on 5, 12, 15 V models; 5 mV on 24 V model. **Universal Input:** 115/230V, $\pm 10\%$, 47-63 Hz, 1 phase. **Temperature:** Operating — 0 to 65°C; Storage — -20 to +80°C. 50,000 hour MTBF. **Weight:** 2 lbs.



Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-9	10-99
983-2000	APS 5-3	5	3.0	$\pm 0.05\%$	$\pm 0.1\%$	76.00	70.00
983-3000	APS 12-1.6	12	1.6	$\pm 0.05\%$	$\pm 0.1\%$	76.00	70.00
983-3001	APS 15-1.5	15	1.5	$\pm 0.05\%$	$\pm 0.1\%$	76.00	70.00
983-2030	APS 24-1	24	1.0	$\pm 0.05\%$	$\pm 0.1\%$	76.00	70.00

25 Watt High Voltage Series

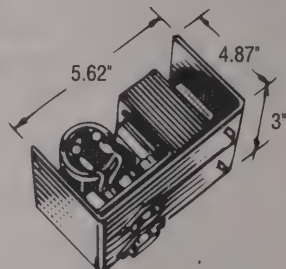


Single output. U.L. recognized and CSA certified. **Universal Input:** 115/230 V, $\pm 10\%$, 47-63 Hz, 1 phase. **Ripple:** 0.02% PK/PK. **Operating Temperature:** 0 to 65°C, (derate 2%/°C above 40°C). **Storage Temperature:** -20° to +80°C. 50,000 hour MTBF.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-9	10-99
983-3005	APS 60-250	60	250.000	$\pm 0.05\%$	$\pm 0.1\%$	106.00	96.00
983-3006	APS 150-150	150	0.150	$\pm 0.05\%$	$\pm 0.1\%$	106.00	96.00

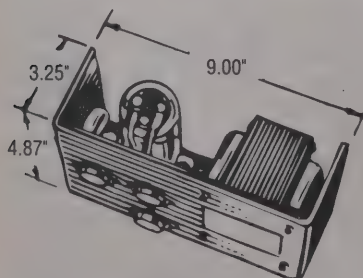
30-60 Watt Series

Single output. U.L. recognized. All models except APS 48-1 are CSA certified. **Ripple (PK/PK):** 3mV on 5, 12, 15V models; 5 mV on all others. **Universal Input:** 115/230V, $\pm 10\%$, 47-63 Hz, 1 phase. Remote sense provided. **Temperature, Storage:** -20 to +80°C; **Operate:** 0 to 65°C. 50,000 hour MTBF. **Weight:** 5.25 lbs.



Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-9	10-99
983-3002	APS 5-6	5	6.0	$\pm 0.05\%$	$\pm 0.1\%$	99.00	91.00
983-2040	APS 12-4	12	4.0	$\pm 0.05\%$	$\pm 0.1\%$	99.00	91.00
983-2060	APS 24-2.2	24	2.2	$\pm 0.05\%$	$\pm 0.1\%$	99.00	91.00
983-3004	APS 48-1	48	1.0	$\pm 0.05\%$	$\pm 0.1\%$	132.00	122.00

50-120 Watt Series



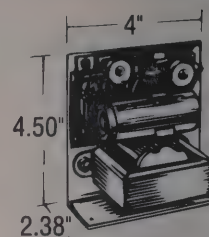
Single output. Remote Sense provided. **Universal Input:** 115/230 V, $\pm 10\%$, 47-63 Hz, 1 phase. **Ripple:** 5-15 V models, 3 mV PK/PK. 24V model, 5 mV PK/PK. **Operating Temperature:** 0 to 65°C. **Storage Temperature:** -20 to +80°C. Aluminum chassis with 20% more heat sink area. 50,000 hour MTBF. **Weight:** 8.5 lbs.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-9	10-99
983-3012	APS 5-10*	5	10	$\pm 0.05\%$	$\pm 0.1\%$	151.00	139.00
983-2090	APS 24-5*	24	5	$\pm 0.05\%$	$\pm 0.1\%$	151.00	139.00

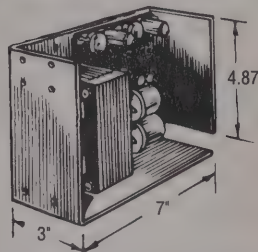
*U.L. Recognized.

Single Output 20 Watt DPS Series

U.L. recognized. Provides 1 watt of power per cubic inch. **AC Input:** 105-125 volts AC, 47-63 Hz, 1 phase. **DC Voltage:** 5, 12, and 24 volts, floating. **Regulation:** Line — 0.25%; Load — 0.25%. **Ripple:** 0.3% +10 mV rms maximum. **Temperature:** 0 to 40°C (derate current 2%/°C over 40°C). **Weight:** 1.9 lbs.



Stock No.	Mfr.'s Type	Input Voltage	DC Output	EACH	
				1-9	10-99
983-1106	DPS-2	115VAC, 60 Hz	12V-1.5A or 15V-1.2A	78.00	71.00
983-1107	DPS-3	115VAC, 60 Hz	24V-0.8A	78.00	71.00



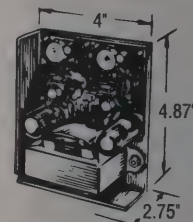
Single Output 50-84 Watt in HN Case Series

Meets U.L. and CSA requirements. **Universal Input:** 115/230 V, $\pm 10\%$, 47-63 Hz, 1 phase. **Ripple (PK/PK):** 5 mV. **Stability:** $\pm 0.2\%$ for 24-hour period after 30 min. warmup. **Operating Temperature:** 0 to 65°C. **Storage Temperature:** -20°C to +80°C. 50,000 hour MTBF. **Weight:** 6.5 lbs.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-9	10-99
983-3011	APS 24-3.5	24	3.5	$\pm 0.05\%$	$\pm 0.10\%$	128.00	118.00

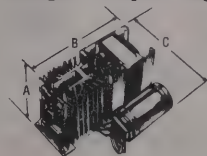
Dual Output Series

Microprocessor power supplies are U.L. recognized and CSA certified. **AC Input:** 115/230 V $\pm 10\%$, 50-60 Hz. **Transient Response:** less than 50 micro-seconds. **Ripple (PK/PK):** 3 mV. **Overshoot:** none on turn-on/turn-off or power failure. **Operating Temperature:** 0 to 65°C. **Storage Temperature:** -20 to +85°C. **Protection:** automatic foldback current limiting overload and short circuit protection; reverse polarity protection; inductive load protection. **Weight:** 2.25 lbs.



Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-9	10-99
983-3025	DAPS 15-.6	± 15	0.60	$\pm 0.05\%$	$\pm 0.1\%$	99.00	90.00

Single Output High Power Brute Series



Size Chart (Inch/mm)

Model	A	B	C
Brute I	6.75/171.5	11.00/279.4	7.66/194.5
Brute II	6.75/171.5	12.00/304.8	7.66/194.5
Brute III	10.00/254.0	14.00/355.6	11.12/282.6

The Brute series with remote sensing provides well regulated high current DC that is continuously adjustable over either a 2 to 25 or 5 to 50 volt range. They can be set for either constant voltage or constant current operation. Brute can be used as a battery charger. Adjustable damping for inductive loads makes Brute attractive for driving relays, solenoids, and motors. Reliable SCR regulators are used to provide precision regulation ($\pm 0.1\%$) with maximum efficiency (75%). A series inductance and a capacitor filter circuit provide low noise operation over all load and line conditions. **AC Input:** 105-130/210-260 volts AC, 1 phase, 47-63 Hz. **Regulation (Line and Load):** $\pm 0.1\%$ or 50 mV. **Ripple:** 1% or 500 mV rms max. **Overload Protection:** by adjustable current limiting. **Controls:** current limit adjust 0 to 100%; output voltage adjust 10 to 100%.

Stock No.	Mfr.'s Type	DC Output	Weight Lbs.	EACH	
				1-9	10-99
983-1101	Brute I	2-25V, 12A, 5-50V, 6A	20	471.00	432.00
983-1102	Brute II	2-25V, 24A, 5-50V, 12A	30	600.00	550.00
983-1103	Brute III	2-25V, 50A, 5-50V, 25V	40	1011.00	926.00

Class and Type Designations

Cords on this page are UL listed. The type designations of the National Electrical Code are as follows: **SJ** — junior hard-service cord. Rubber insulation, ethylene propylene rubber or other rubber jacket. 300 V. **SJO** — junior hard-service oil-resistant cord. Rubber insulation, PVC jacket or neoprene jacket. 300 V. **SJT** — junior hard-service cord. Polyvinyl chloride insulation and jacket. 300 V. **SPT-1** — all plastic parallel cord. 30 mils polyvinyl chloride insulation/jacket. 300 V. **SV** — rubber insulation, rubber jacket, 300 V. **SVT** — all plastic cord. Polyvinyl chloride insulation/jacket. 300 V.

3 Conductor Electronic Line Cords, Unshielded



Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V		Fig.	EACH	
						Watts	Amps		1-24	25-Up*
663-7087	523	Black	18	SVT	7' 6"	1250	10	A	5.39	4.90

*Contact the closest sales office for quantity pricing.

3 Conductor Extension Cords



Type SJ cord is rubber. Adapter is rated for 15 amps. 125 V service and is UL listed.

Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V		Fig.	EACH	
						Watts	Amps		1-24	25-Up*
663-7046	633	Black	16	SJ	10'	1625	13	B	12.30	11.24

*Contact the closest sales office for quantity pricing.

3 Conductor Power Supply Cords



Type SJT Vinyl, SJ Rubber and SJO Neoprene. Hard service cord sets with molded vinyl plug rated for 15 amps, 125 volt service. UL listed, CSA certified.

Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V		Fig.	EACH	
						Watts	Amps		1-24	25-Up*
663-7020	615	Black	18	SJ	6'	1250	10	C	7.20	6.55
663-7023	780	Gray	18	SJT	6'	1250	10	C	4.66	4.19
663-7021	778	Black	18	SJ	8'	1250	10	C	7.87	7.16
663-7083	779	Gray	18	SJT	8'	1250	10	C	5.63	5.12
663-7026	781	Black	18	SJO	8'	1250	10	C	8.10	7.36
663-7022	782	Black	18	SJ	12'	1250	10	C	9.89	8.99
663-7029	783	Black	16	SJ	9'	1625	13	C	9.67	8.79
663-7030	784	Black	16	SJ	12'	1625	13	C	12.14	11.03

Type SV Rubber and SVT Vinyl. Flexible, medium service, 3-wire cord sets. Vinyl plug rated for 15 amps. 125 V. UL listed, CSA certified.

Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V		Fig.	EACH	
						Watts	Amps		1-24	25-Up*
663-7016	775	Black	18	SV	6'	1250	10	C	6.51	5.92
663-7017	776	Black	18	SV	8'	1250	10	C	7.41	6.73
663-7018	777	Gray	18	SVT	6'	1250	10	C	4.24	3.82
663-7019	787	Gray	18	SVT	8'	1250	10	C	4.66	4.19

Type SJ Rubber. UL listed, CSA certified.

Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V	Fig.	EACH
663-7086	788	Black	14	SJ	9'	1875	15	C
								14.63 13.30

*Contact the closest sales office for quantity pricing.

3 Conductor Detachable Power Supply Cords



Plug and connector rated 15 amps, 125 V.

Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V		Fig.	EACH	
						Watts	Amps		1-24	25-Up*
663-7047	547F†	Black	18	SVT†	6' 7"	1250	10	D	10.57	9.61
663-7048	548F†	Black	18	SVT†	9' 10"	1250	10	D	12.81	11.65
663-7063	531	Black	18	SJT	6' 7"	1250	10	D	3.14	2.53
663-7088	535	Black	18	SVT	7' 7"	1250	10	D	5.92	5.33
663-7089	545	Black	18	SVT	7' 6"	1250	10	D	5.92	5.33
663-7089	546	Black	16	SJT	7' 6"	1625	13	D	8.08	7.34
663-7037	537	Black	18	SJT	6' 7"	1250	10	E	6.98	6.34
663-7038	538	Black	18	SJT	9' 10"	1250	10	E	8.32	7.57
663-7040	540	Black	16	SJT	9' 10"	1625	13	E	9.67	8.79

Type SVT Vinyl

Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V	Fig.	EACH
663-7082	543	Gray	18	SVT	7' 6"	875	7	F
								6.96 6.32

*Contact the closest sales office for quantity pricing. †Shielded.

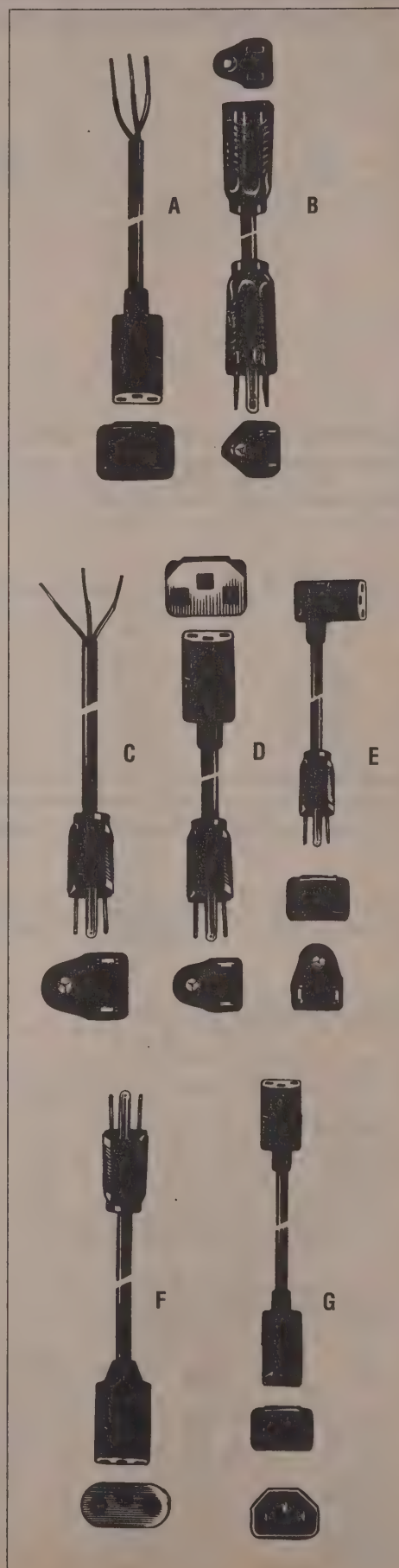
3 Conductor Electronic Jumper Cords



Plug and connector rated 15 amps, 125 V. UL listed, CSA certified. Plug mates with Switchcraft receptacles EAC-305 and -306 or equivalent. Connector mates with Switchcraft receptacles EAC-301, -302 and -303 or equivalent.

Stock No.	Mfr.'s Type	Color	AWG	UL Type	Length	Rating @ 125V		Fig.	EACH	
						Watts	Amps		1-24	25-Up*
663-7051	551	Black	18	SJT	3' 3"	1250	10	G	6.08	5.53
663-7052	552	Black	16	SJT	3' 3"	1625	13	G	6.51	5.92

*Contact the closest sales office for quantity pricing.



International Power Supply Cords and Cordsets



A



B



C



D

International Cords and Cordsets — 10 Amp Rated Cordsets

Fig. A — Continental European. For use in Germany, Austria, Netherlands, Belgium, France, Norway, Sweden, Finland, Spain and Denmark

Fig. B — Australian. For use in Australia, New Zealand, People's Republic of China.

Fig. C — Eurocord. For use in Germany, Sweden, Austria, Denmark, Netherlands, Finland, Spain, Belgium, France, and Norway.

Fig. D — Universal Jumpercord. Use to connect peripherals and accessories almost anywhere in the world. UL/CSA cordage with International IEC 320 Connector.

Alpha Wire offers a complete line of international cords and cordsets for use anywhere in the world. The correct approvals for the countries in which they may be used are molded

on each individual plug. Each cord is individually tested to assure the highest quality levels.

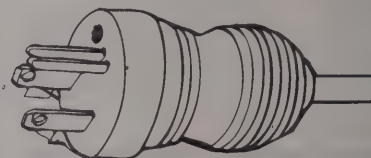
Stock No.	Mfr.'s Type	Fig.	Colors	Description	Amps/Volts	EACH
663-5002	920	A	Black	Continental European	10.0/250	11.04
663-5008	910	B	Black	Australian	10.0/250	12.73
663-5010	911	B	Black	Stripped Ends	10.0/250	10.18
663-5018	952	C	Black	Eurocord	2.5/250	6.63
663-5024	953	D	Black	Universal Jumpercord	10.0/250	14.42

Jacket Colors: Stocked in black; gray and white also available.

3 Conductor Medical Grade Cords/Cordsets



Stranded bare copper conductors color coded PVC insulation. PVC-black, gray and white jacket. 125 volts -20°C to 60°C. UL standard 62, type SJT, UL standard 817, CSA C22.2 No 49, CSA C22.2 No 21, OSHA acceptable, UL VW-1, CSA FT2.



3 Conductor Medical Grade Cords Unshielded, NEMA 5-15P, Stripped End

Stock No.	Mfr.'s Type	Length		Conductor				Diameter		Power Rating		UL Type	Jacket Color	Plug Color	EACH
		Ft.-In.	mm	AWG		Strand		In.	mm	Watts	Amps				
				AWG	mm	Strand	mm								
663-5026	801	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	Black	Clear	14.18
663-5028	802	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	Gray	Gray	14.18
663-5030	803	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	Gray	Clear	14.18
663-5032	804	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	White	White	14.18
663-5040	813	10-0	3.0	16	1.50	68/34	68 × 0.16	0.33	8.5	1625	13	SJT	White	White	14.36

Cord Color Code: Black, White and Green; available in 25 pc. carton.

3 Conductor Medical Grade Cordsets Unshielded, NEMA 5-15P, C13 Connector

Stock No.	Mfr.'s Type	Length		Conductor				Diameter		Power Rating		UL Type	Jacket Color	Plug Color	Connector Color	EACH
				AWG		Strand		In.	mm	Watts	Amps					
		Ft.-In.	mm	AWG	mm	Strand	mm									
663-5042	820	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	Black	Clear	Black	15.08
663-5044	821	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	Gray	Gray	Gray	15.08
663-5046	822	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	Gray	Clear	Clear	15.08
663-5048	823	10-0	3.0	18	1.20	43/34	43 × 0.16	0.31	7.8	1250	10	SJT	White	White	White	15.08
663-5050	830	10-0	3.0	16	1.50	68/34	68 × 0.16	0.33	8.5	1625	13	SJT	Black	Clear	Black	16.87
663-5052	831	10-0	3.0	16	1.50	68/34	68 × 0.16	0.33	8.5	1625	13	SJT	Gray	Gray	Gray	16.87
663-5054	832	10-0	3.0	16	1.50	68/34	68 × 0.16	0.33	8.5	1625	13	SJT	Gray	Clear	Clear	16.87

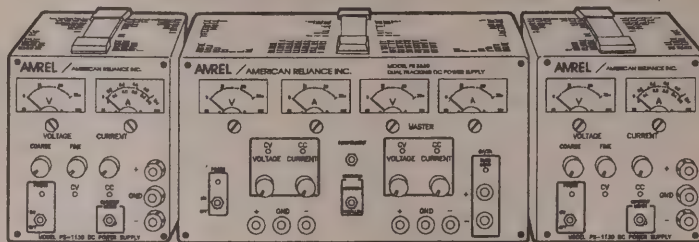
Cord Color Code: Black, White and Green; available in 25 pc. carton.

LPS-100 Series Programmable Power Supplies

LPS-100 series is the newest addition to AMREL's family of high quality power supplies. This series features the tightest line/load regulation in its class, a mere 0.01% +1mV. The very low 0.3 mVrms in our LPS means your circuit is well protected from unwanted overshoot and noise. Furthermore, our LPS-100 series is the best in its class with a temperature coefficient of 200 ppm.

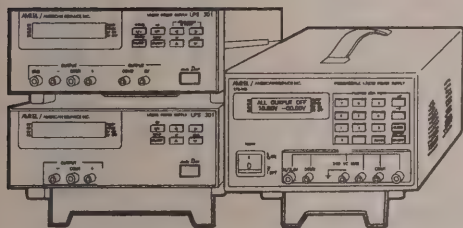
Specifications

Configuration: LPS-101, LPS-102, LPS-103, LPS-106 — Single Output; LPS-104, LPS-105 — Triple Output. **Output Power:** LPS-101 — 30 W; LPS-102 — 60 W; LPS-103 — 90 W; LPS-104 — 80 W; LPS-105 — 200 W; LPS-106 — 60 W. **Voltage:** **Output Voltage:** LPS-101, LPS-102, LPS-103, LPS-104, LPS-105 — 30 V; LPS-106 — 60 V. **Setting Resolution:** 2.5%. **Line/Load Regulation:** 0.01% +1 mV. **Noise (RMS):** 0.3 mV; **Ripple (Peak) (B.W. — 10 Hz - 20 MHz):** 5 mV. **Transient Response:** 50 μ s/<100 mV. **Temperature Coefficient:** 200 ppm. **Current:** **Output Current:** LPS-101, LPS-104, LPS-106 — 1 A; LPS-102 — 2 A; LPS-103, LPS-105 — 3 A. **Setting Resolution:** 2.5%. **Line/Load Regulation:** 0.1% +2 mA. **Noise (RMS):** 2 mA. **Ripple (Peak):** 5 mA. **Temperature Coefficient:** 0.1%. **Fixed Output Voltage (Partial Adjustment):** LPS-101, LPS-102, LPS-103 — N/A; LPS-104, LPS-105, LPS-106 — 3 V - 6.5 V. **Fixed Output Current:** LPS-101, LPS-102, LPS-103 — N/A; LPS-104, LPS-105, LPS-106 — 3 A. **Transient Response:** LPS-101, LPS-102, LPS-103 — N/A; LPS-104, LPS-105, LPS-106 — 50 μ s. **Display:** Analog. **Common Mode Voltage:** +240 Vdc. **Temperature Rating:** 0-40°C. **Relative Humidity:** 29%-90% max. **Dimensions (H x W x D):** LPS-101, LPS-102, LPS-103, LPS-106 — 6 1/2" x 5 1/8" x 13"; LPS-104, LPS-105 — 6 1/2" x 10 1/4" x 13". **Weight:** LPS-101 — 7.5 lbs.; LPS-102, LPS-106 — 8.5 lbs.; LPS-103 — 9 lbs.; LPS-104 — 15 lbs.; LPS-105 — 19 lbs. **Cooling Fan:** Convection. **Warranty:** 3 Years.



952-1101. Model LPS-101.....	EACH 149.00
952-1102. Model LPS-102.....	EACH 179.00
952-1103. Model LPS-103.....	EACH 199.00
952-1104. Model LPS-104.....	EACH 349.00
952-1105. Model LPS-105.....	EACH 499.00
952-1106. Model LPS-106.....	EACH 219.00

Ultra-Low Cost Linear Programmable Power Supplies



User-Friendly with LCD Readouts at Analog Prices

- ▶ Microprocessor Controlled
- ▶ Digital Programming and Readback
- ▶ Keypad Data Entry
- ▶ Power-off Memory
- ▶ Voltage and Current Slew Function
- ▶ Low PARD/Noise and Ripple
- ▶ Superior Line and Load Regulation
- ▶ Output Enable/Disable
- ▶ Three Year Warranty

Each LPS includes many user-friendly features to simplify operations. Power-off memory retains both voltage and current settings and an output enable/disable function allows the user to safely disable the output without changing the voltage or current settings. Status annunciators on the LCD panel are updated continuously to inform the user of the power supply's status at all times. Today's testing demands the latest technology and the highest accuracy. The AMREL LPS series DC power supplies offer the ease of keypad data entry and four digit LCD readout accuracy. Far outclassing analog power supplies and other units in its class, AMREL DC power supplies have no equal for accuracy and ease. All this at analog prices.

Specifications	LPS-301	LPS-302	LPS-303
Configuration	Single Output • Dual Range		Single Output
Output Power	30 Watts	60 Watts	90 Watts
Output Voltage	0 to 15 V (HI) 0 to 30 V (LO)	0 to 15 V (HI) 0 to 30 V (LO)	0 to 30 V
Voltage Accuracy	± (0.2% of reading + 2 digits)		
Setting Resolution	10 mV		
Line Regulation	1 mV		
Load Regulation	2 mV		
Noise (RMS)	1 mV rms		
Ripple (Peak)	10 mVp-p		
Temperature Coefficient	100 ppm/°C typical		
Output Current	0 to 2 A (HI) 0 to 1 A (LO)	0 to 4 A (HI) 0 to 2 A (LO)	0 to 3A
Current Accuracy	±(0.5% of reading + 5 digits)		
Setting Resolution	1 mA		
Line Regulation	15 mA		
Load Regulation	5 mA		
Noise (RMS)	1 mA rms		
Ripple (Peak)	5 mAp-p		
Temperature Coefficient	200 ppm/°C typical		
Transient Response	100μs typical		
Display	16 × 2 LCD with backlight		
Common Mode Voltage	±240 V		
Temperature Rating	0°C to 40°C (operating) -40°C to 70°C (storage)		
Relative Humidity:	<80%		
Dimensions (W × H × L)	8.7" × 3.4" × 11.8"		
Weight	10 lbs.	12 lbs.	
Cooling	Convection	Forced Air	
RS-232C Interface	Optional		

952-0301. Model LPS-301.....	EACH 249.00
952-0302. Model LPS-302.....	EACH 299.00
952-0303. Model LPS-303.....	EACH 369.00



External AC/DC Switching Power Supplies

Standard Features

- ▶ 90-264 VAC Input
- ▶ Efficient typically 72-82%
- ▶ Internal EMI filter to meet VDE and FCC class B emission range
- ▶ 25-48 watts output
- ▶ Complies with UL Class II requirements
- ▶ IEC 320 inlet connector mates with interchangeable cords for worldwide use
- ▶ Output loading may be removed and reapplied without cycling the input power
- ▶ UL, CSA, TUV approved
- ▶ Internally fused

Stock No.	Mfr.'s Type	Case Size	Output VDC	Amp	Max Power	Output Conn.	Agency UL/CSA/TUV	EACH		
								1-9	10-24	25-49
298-7050	SW108MA0003F01	LP7	+5	5.0	25W	#3	Y/Y/Y	74.85	64.24	59.85
298-7055	SW109MA0003F01	LP7	+9	2.78	25W	#3	Y/Y/Y	74.85	64.24	59.85
298-7060	SW110MA0003F01	LP7	+12	2.08	25W	#3	Y/Y/Y	74.85	64.24	59.85
298-9550	SW101MA0021F01	LP8	+12	3.50	42W	#21	Y/Y/Y	83.34	74.22	66.90
298-7065	SW111MA0003F01	LP7	+15	1.67	25W	#3	Y/Y/Y	74.85	64.34	59.85
298-7070	SW112MA0003F01	LP7	+16	1.56	25W	#3	Y/Y/Y	74.85	64.34	59.85
298-9555	SW103MA0021F01	LP8	+16	2.81	45W	#21	Y/Y/Y	83.34	74.22	66.90
298-7095	SW113MA0003F01	LP7	+24	1.05	25W	#3	Y/Y/Y	83.34	74.22	66.90
298-9560	SW105MA0021F01	LP8	+24	2.00	48W	#21	Y/Y/Y	83.34	74.22	66.90
298-7080	SW201MA0012F01	LP7	+5, +12	4.0, 1.0	25W	#12	Y/Y/Y	73.84	66.70	61.13
298-7085	SW301MA0012F01	LP7	+5, +12, -12	4.0, 1.0, 0.6	25W	#12	Y/Y/Y	85.14	79.52	70.86
298-3012	SW300MA0012F01	LP8	+5, +12, -12	4.0, 1.0, 0.6	25W	#12	Y/Y/Y	83.05	75.39	69.02
298-7090	SW300MF0012F01	LP8	+5, +12, -12	4.0, 1.0, 0.6	25W	#12	Y+Y+Y+	88.12	75.76	68.05

+ BAPT and Semko approvals also.

External Regulated Linear Power Supplies

- ▶ Modems
- ▶ Telecommunications Products
- ▶ Computer Peripherals
- ▶ Data Communications Products
- ▶ Notebook Palmtop Computers
- ▶ Microprocessor Controlled Systems
- ▶ Test Equipment
- ▶ Multiplexers

Regulated models single or multiple outputs for up to 15 watts.

Stock No.	Mfr.'s Type	Case Size	Output VDC	Amps	Output Conn.	Agency UL/CSA	EACH		
							1-9	10-24	25-49
298-9800	3305-000-401	3	+5	.30	Screw Terminal	Y/Y	31.88	28.94	26.49
298-9805	5305-000-401	PS5	+5	.50	Screw Terminal	Y/N	36.20	32.86	30.08
298-9810	7305-000-401A	7	+5	1.25	Screw Terminal	Y/N	61.60	55.91	51.19
298-9815	3312-000-401	3	+12	.12	Screw Terminal	Y/N	32.31	29.33	26.85
298-9820	5312-000-401	PS5	+12	.40	Screw Terminal	Y/N	37.63	35.63	33.13
298-9520	7312-000-401A	7	+12	.80	Screw Terminal	Y/N	53.49	48.55	44.45
298-0225	5324-000-401A	PS5	+24	.25	Screw Terminal	Y/Y	36.31	32.95	30.17
298-9825	7324-000-401A	7	+24	.50	Screw Terminal	Y/N	51.76	46.98	43.01
298-9830	7000-348-401B	7	+48	.25	Screw Terminal	Y/N	51.92	47.12	43.14
298-9835	5712-305-401A	PS5	+5, +12, -12	.50, .13, .13	Screw Terminal	Y/Y	36.41	33.41	30.59
298-9840	5712-305-403A12	PS5	+5, +12, -12	.50, .13, .13	#12	Y/Y	45.38	41.19	37.71
298-9845	7612-305-401F	7	+5, +12, -12	1.00, 25, 25	Screw Terminal	Y/Y	75.43	68.47	62.68
298-9850	7612-305-403F12	7	+5, +12, -12	1.00, 25, 25	#12	Y/Y	71.21	64.64	59.17

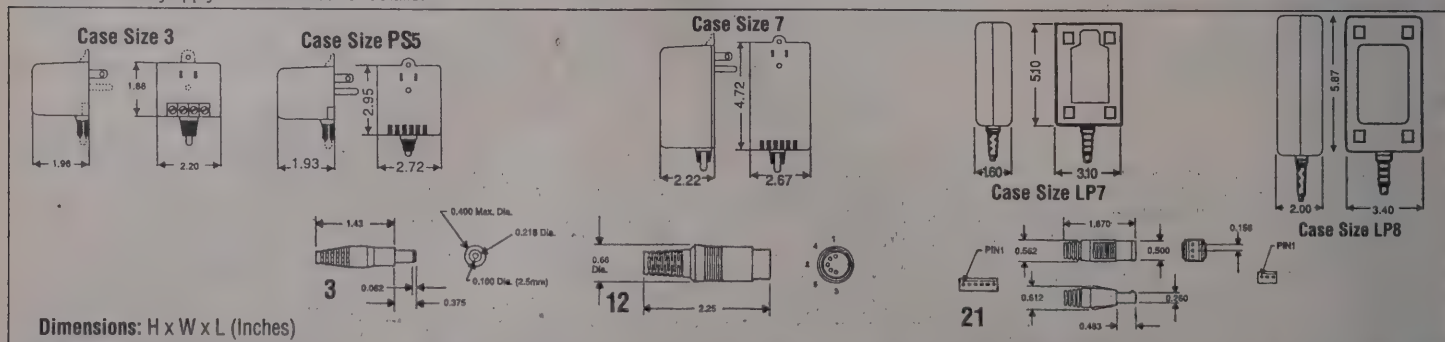
Note: 300 additional standard product solutions available with cord/connection combinations. Specific minimum quantity orders and additional lead times may apply. Input 120 VAC/60 Hz.

External Unregulated AC/DC Linear Power Supplies

Ault's line of unregulated DC offer the best combination of cost, power density and reliability. Filtered -20% Ripple typical. Input 120 VAC/60 Hz. With ground.

Stock No.	Mfr.'s Type	Case Size	Output VDC	Amp	Output Conn.	Agency UL/CSA	EACH		
							1-9	10-24	25-49
298-9905	3312-000-001	3	+12	.35	Screw term.	Y/Y	27.42	25.31	23.17
298-9910	5312-000-001	PS5	+12	1.30	Screw term.	Y/N	25.04	21.18	19.39
298-9915	5316-000-001	PS5	+16	.80	Screw term.	Y/N	30.75	27.46	25.14
298-9921	7323-000-001	7	+23	1.00	Screw term.	Y/N	44.05	37.27	34.12

Note: 1. Over 50 additional standard product solutions available with cord and connector combinations from factory on special order. Specific minimum quantity orders and additional lead time may apply. Consult Allied for details.



Connections: Model No. 3. Pinout Code — center contact — positive. Description — Switchcraft 760 plug or equivalent. Suggested Mating — Switchcraft #712A jack. **Model No. 12.** Pinout Code — (1) Com, (2) Gnd, (3) +5V, (4) -12V, (5) +12V. Description — 5-pin DIN 180 ° male connector. Suggested Mating Connector — Various styles of straight or right angle panel or p.c. mounted DIN connectors.

Model No. 21. Pinout Code — Transformer — (1) AC, (2) Gnd, (3) AC, Power Supply — (1) DC, (2) Com, (3) Gnd. Description — 3-pin overmolded Molex connector (Housing 26-03-4030 — Terminals 08-50-0187). Suggested Mating Connector — 0.045 square pin on 0.156 centers (Ref: Molex Series 2220, 5273, 5274).

AC/AC Transformers and AC/DC Battery Chargers



WE POWER INNOVATION.

External AC/AC Transformers

Ault's standard line of wall-plug transformers is UL and CSA approved. Input 120 VAC/60 Hz. Use of an external transformer reduces weight and size of the system being powered. Hazardous voltages within the end product are

eliminated. Safety agency approval costs are minimized. Products are used in data communications, telecommunications, security, and computer applications such as modems, LANs, and security systems. Units are grounded and center tap.

Stock No.	Mfr.'s Type	Case Size	Output AC Volts	VA	Output Config.	Agency UL/CSA	EACH		
							1-9	10-24	25-49
298-9855	318-2012-T00A	3	12 V	20	Screw term.	Y/N	16.18	15.29	13.59
298-9860	318-2014-T00A	3	14 V	20	Screw term.	Y/N	18.39	17.37	15.44
298-9865	318-2016-T00A	3	16 V	20	Screw term.	Y/N	18.39	17.39	15.44
298-9870	318-2018-T00A	3	18 V	20	Screw term.	Y/N	18.39	17.37	15.44
298-9875	318-2024-T00A	3	24 V	20	Screw term.	Y/N	18.39	17.37	15.44
298-9880	316-4012-T00B	TR5	12 V	40	Screw term.	Y/N	28.63	26.19	23.98
298-9885	316-4014-T00B	TR5	14 V	40	Screw term.	Y/N	28.63	26.19	23.98
298-9890	316-4016-T00B	TR5	16 V	40	Screw term.	Y/N	28.63	26.19	23.98
298-9895	316-4018-T00B	TR5	18 V	40	Screw term.	Y/N	28.63	26.19	23.98
298-9900	316-4024-T00B	TR5	24 V	40	Screw term.	Y/N	34.36	32.40	28.89

Note: 1. CSA versions available. 2. Over 500 standard product solutions available with cord and connector options from factory on special order items. Specific minimum quantity orders or additional lead time may apply.

External AC/DC Battery Chargers

Ault Battery Chargers Are Suitable for a Wide Variety of Applications Including:

- ▶ Portable Medical Devices. Everything from Blood Analyzers to Electrocardiographs
- ▶ Mobile Telecom Devices. Portable Cellular Telephones to Rechargeable Transceivers
- ▶ Industrial Products. From Portable Lighting to Radio-Controlled Equipment

- ▶ Portable Computers. Laptops, Notebook and Related Peripheral Products
- ▶ Commercial Applications. Mobile Ticket Dispensing to Portable Dictation Equipment
- ▶ Consumer Products. Everything from Cordless Tools to Security Systems

NiCd Fast Chargers

Stock No.	Mfr.'s Type	Case Size	No. of Cells	Output Volts	Output Current (A)		Max. Time	Output Config.	Agency UL/CSA	EACH
					Fast	Float				
298-2003	7CA-204-100-2003A	7	4	6.0	1.0	.03	3 Hr.	#3	YY	82.33
298-2005	7CA-205-100-2003A	7	5	7.5	1.0	.03	3 Hr.	#3	YY	82.33
298-2007	7CA-206-100-2003A	7	6	9.0	1.0	.03	3 Hr.	#3	YY	82.33
298-2009	7CA-208-100-2003A	7	8	12.0	1.0	.03	3 Hr.	#3	YY	82.33
298-2011	7CA-210-100-2003A	7	10	15.0	1.0	.03	3 Hr.	#3	YY	82.33

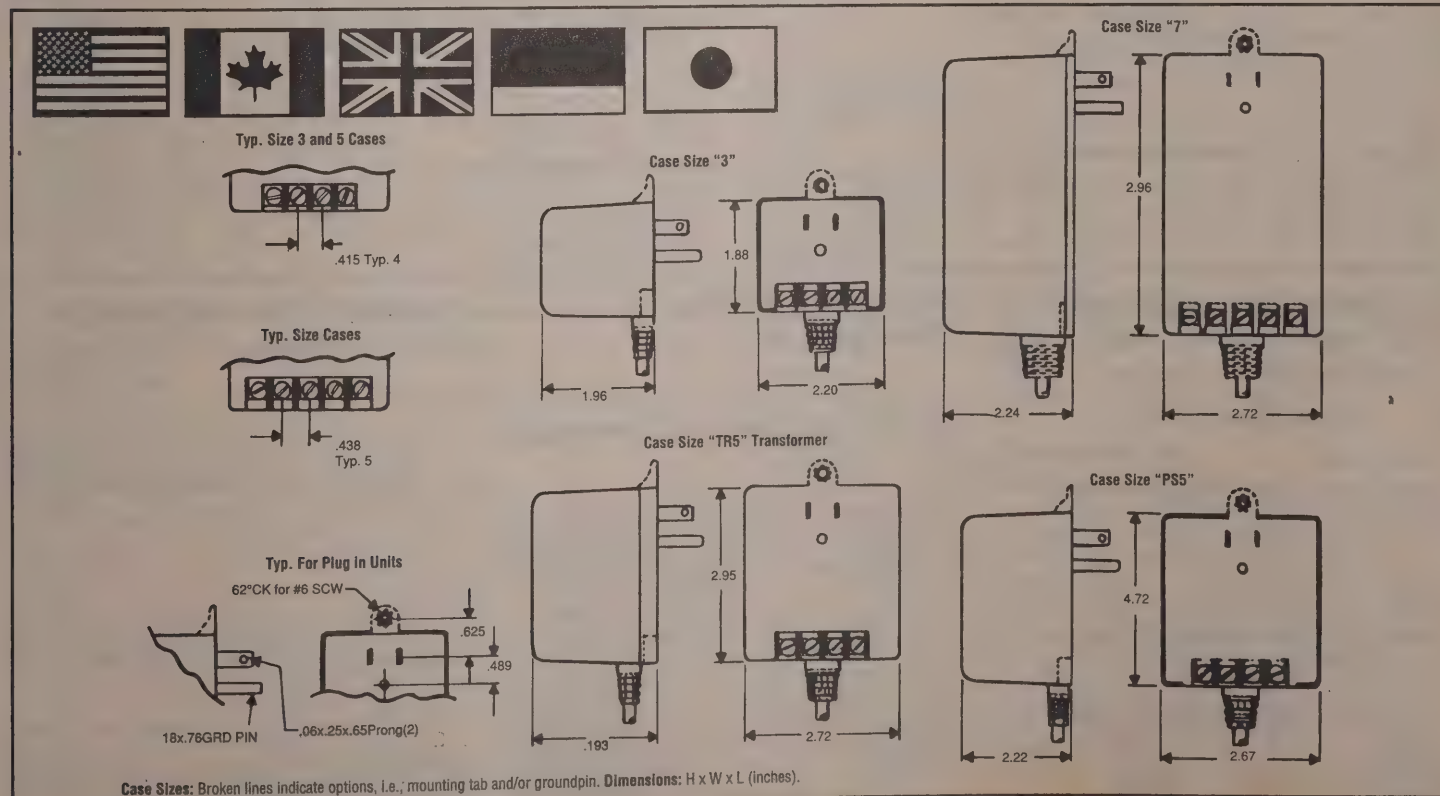
NiMH Fast Chargers

298-2013	7CA-604-100-2012A	7	4	6.0	1.0	.03	3 Hr.	#12	YY	84.00
298-2015	7CA-605-100-2012A	7	5	7.5	1.0	.03	3 Hr.	#12	YY	84.00
298-2017	7CA-606-100-2012A	7	6	9.0	1.0	.03	3 Hr.	#12	YY	84.00
298-2019	7CA-608-100-2012A	7	8	12.0	1.0	.03	3 Hr.	#12	YY	84.00
298-2021	7CA-610-100-2012A	7	10	15.0	1.0	.03	3 Hr.	#12	YY	84.00

Sealed Lead Acid Chargers

Stock No.	Mfr.'s Type	Case Size	Bat. Volt	Output I At 2 V/Cell	Output Voltage		Output Config.	Agency UL/CSA	EACH		
					Fast	End			1-9	10-24	25-49
298-8010	5VA-0606007	3	6	.600	7.45	6.9	Screw term.	Y/N	36.88	31.63	29.51
298-8015	5VF-0606000	3	6	.600	—	6.9	Screw term.	Y/N	29.50	25.38	23.68
298-8030	5VA-1205007	PS5	12	.500	14.90	13.8	Screw term.	Y/N	36.88	31.63	29.51
298-8035	5VF-1205000	PS5	12	.500	—	13.8	Screw term.	Y/N	28.75	25.38	23.68

Other models at various power levels available.



3-Conductor Detachable Power Supply Cords



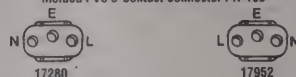
NEMA 5-15P Molded Vinyl Grounding Plug
PH-290B, PH-185, or PH-173



NEMA 5-15P Molded Vinyl Grounding Plug
PH-290B, PH-200K, or PH-185



NEMA 5-15P Molded PVC Grounding Plug PH-290B
Molded PVC 3-Contact Connector PH-163



- ▶ Rated 60°C; 125V
- ▶ UL Listed, CSA Certified
- ▶ European Color Coded

Beldfoil® Shielded, PVC Jacketed

- ▶ NEMA 5-15P Molded Vinyl Grounding Plug PH-290B, PH-185, or PH-173

Stock No.	Mfr.'s Type	AWG (Stranding)	Length	Rating	Plug	Conn.	Cord	EACH
214-3501	17600	18 (42 x 34)	6' 7"	1250W/10A	185	386A	SJT	7.96
214-3504	17601	18 (42 x 34)	9' 10"	1250W/10A	185	386A	SJT	10.57
214-3506	17602	16 (65 x 34)	6' 7"	1625W/13A	185	386E	SJT	9.71
214-3508	17603	16 (65 x 34)	9' 10"	1625W/13A	185	386E	SJT	11.61
214-3509	17604	14 (41 x 30)	6' 7"	1875W/15A	173	386E	SJT	10.57
214-3511	17605	14 (41 x 30)	9' 10"	1875W/15A	173	386E	SJT	13.53
214-3513	17725	18 (42 x 34)	6' 7"	1250W/10A	290B	386A	SVT	7.85
214-3515	17742	18 (42 x 34)	6' 7"	1250W/10A	290B	386A	SVT	6.67
214-3517	17743	18 (42 x 34)	9' 10"	1250W/10A	290B	386A	SVT	9.18

Beldfoil® and Braid Shielded, PVC Jacketed

214-3519	17660	18 (41 x 34)	6' 7"	1250W/10A	290B	386A	SVT	12.48
214-3521	17661	18 (41 x 34)	9' 10"	1250W/10A	290B	386A	SVT	17.75

Right Angle, Beldfoil® Shielded, PVC Jacketed

- ▶ NEMA 5-15P Molded Vinyl Grounding Plug PH-290B, PH-290K, or PH-185

214-3548	17606	18 (42 x 34)	6' 7"	1250W/10A	185	390A	SJT	8.63
214-3551	17607	18 (42 x 34)	9' 10"	1250W/10A	185	390A	SJT	10.57
214-3553	17608	16 (65 x 34)	6' 7"	1625W/13A	185	390B	SJT	9.87
214-3555	17609	16 (65 x 34)	9' 10"	1625W/13A	185	390B	SJT	11.95
214-3557	17745	18 (42 x 34)	6' 7"	1250W/10A	290B	390A	SVT	9.24
214-3559	17746	18 (42 x 34)	9' 10"	1250W/10A	290B	390A	SVT	9.71

SVT Cord Unshielded, Gray PVC Jacketed

- ▶ NEMA 5-15P Molded PVC Grounding Plug PH-290B
- ▶ Molded PVC 3-Contact Connector PH-163
- ▶ 179528 North American Color Coding

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Length	Rating	EACH
214-3569	17952	18 (42 x 34)	.246"	8'	875W/7A	5.55
214-3577	17280	18 (42 x 34)	.246"	7 1/2'	875W/7A	4.96

Add-A-Line — SJT Cord Unshielded, Black PVC Jacketed

- ▶ Add-A-Line Outlet in NEMA 5-15P Plug PH-745
- ▶ NEMA 5-15R Molded PVC Grounding Connector PH-108
- ▶ North American Color Coding

214-3573	17462	16 (26 x 30)	.340"	8'	1625W/13A	8.63
214-3575	17463	16 (26 x 30)	.340"	15'	1625W/13A	11.95

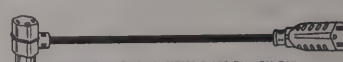
Add-A-Line — Beldfoil® Shielded, PVC Jacketed

- ▶ PVC Add-A-Line Plug PH-745
- ▶ Molded PVC Grounding Connector PH-386A

214-5515	17666	18 (42 x 34)	.270"	6' 7"	1250W/10A	12.24
214-5516	17667	18 (42 x 34)	.270"	9' 10"	1250W/10A	13.06
214-5517	17669	18 (42 x 34)	.340"	9' 10"	1250W/10A	13.87



NEMA 5-15P Ground PH-185
NEMA 5-15R Molded PVC Grounding Connector PH-108



Add-A-Line Outlet in NEMA 5-15P Plug PH-745
NEMA 5-15R Molded PVC Grounding Connector PH-108



Molded PVC Grounding Plug PH-388, IEC-320-C-14
Molded PVC Grounding Connector PH-386, IEC-320-C-13

Unshielded, PVC Jacketed

- ▶ Molded PVC Grounding Connector PH-386, IEC 320-C-13

North American Color Coding Rated 105°C; Passes VW-1 Vertical Wire Flame Test.

Stock No.	Mfr.'s Type	AWG (Stranding)	Length	Rating	Plug	Conn.	Cord	EACH
214-3523	17250	18 (42 x 34)	7' 6"	1250W/10A	290B	386	SVT	4.71
214-3525	17251	18 (42 x 34)	7' 6"	1250W/10A	290B	386	SVT	4.71
214-3528	17500	18 (42 x 34)	6' 7"	1250W/10A	290B	386A	SJT	4.30
214-3530	17501	18 (42 x 34)	9' 10"	1250W/10A	290B	386A	SJT	5.34
214-5520	17000A	18 (42 x 34)	3'	1250W/10A	290B	386	SVT	3.26
214-5521	17002A	18 (42 x 34)	1' 6"	1250W/10A	290B	386	SVT	2.98
214-5522	17001A	16 (65 x 34)	6' 7"	1625W/13A	185	386E	SJT	4.28
214-3531	17502	16 (65 x 34)	6' 7"	1625W/13A	185	386E	SJT	5.02
214-3533	17255	16 (65 x 34)	7' 6"	1625W/13A	185	386E	SJT	5.55
214-3535	17503	16 (65 x 34)	9' 10"	1625W/13A	185	386E	SJT	6.67
214-3537	17504	14 (42 x 30)	6' 7"	1875W/15A	173	386E	SJT	5.69
214-3541	17505	14 (42 x 30)	9' 10"	1875W/15A	173	386E	SJT	8.22
214-3543	17757	18 (42 x 34)	7' 6"	1250W/10A	290B	386	SVT	4.75
214-3545	17758	18 (42 x 34)	6' 7"	1250W/10A	290B	386A	SJT	5.34

Right Angle, Unshielded, PVC Jacketed

- ▶ Molded PVC Right Angle Grounding Connector PH-390 IEC 320-C-13

214-3561	17506	18 (42 x 34)	6' 7"	1250W/10A	290K	390A	SJT	4.79
214-3563	17507	18 (42 x 34)	9' 10"	1250W/10A	290K	390A	SJT	5.94
214-3565	17508	16 (65 x 34)	6' 7"	1625W/13A	290K	390A	SJT	5.71
214-3567	17509	16 (65 x 34)	9' 10"	1625W/13A	290K	390A	SJT	7.06

SJ Cord Unshielded, Black PVC Jacketed

- ▶ NEMA 5-15P Ground PH-185
- ▶ NEMA 5-15R Molded PVC Grounding Connector PH-108
- ▶ North American Color Coding

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Length	Rating	EACH
214-3571	17461	16 (26 x 30)	.340"	10'	1250W/10A	11.62

Jumper Cords, Beldfoil® Shielded-Rated 60°C, 125V*

- ▶ Molded PVC Grounding Plug PH-388, IEC-320-C-14
- ▶ Molded PVC Grounding Connector PH-386, IEC-320-C-13

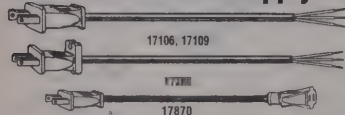
Stock No.	Mfr.'s Type	AWG (Stranding)	Length	Rating	Plug	Conn.	Cord	EACH
214-3579	17625	18 (65 x 34)	3' 3"	1625W/13A	388B	386E	SJT	7.47
214-3581	17753	18 (42 x 34)	3' 3"	1250W/10A	388A	386A	SVT	6.49

Jumper Cords, Unshielded-Rated 60°C, 125V*

214-3583	17524	18 (42 x 34)	3' 3"	1250W/10A	388A	386A	SJT	4.18
214-3585	17525	16 (65 x 34)	3' 3"	1625W/13A	388B	386E	SJT	4.75

*Dual-rated at 10A-250V.

2-Conductor Power Supply Cords



- ▶ Rated 60°C; 125V
- ▶ UL Listed, CSA Certified

Type SPT-1 Parallel Cords, Molded PVC Polarized Plug PH-S-289-S, NEMA 1-15P Conductors split 1', stripped and twisted 5/8".

Stock No.	Mfr.'s Type	O.D.	Length	Jacket Color	EACH
214-3697	17106*	.110" x .207"	6'	Gray	1.91
214-3699	17109*	.110" x .207"	9'	Brown	2.42

Type SVT Cord, Molded PVC Cord-Holder Plug PH-289-SN-N, NEMA 1-15P Outer jacket stripped 1 1/2", conductors stripped and twisted 5/8".

214-3700	17205*	.232"	6'	Black	2.63
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Type HPN Heater Cord, Molded PVC Polarized Plug PH-S-289-S

214-5510	17870†	.164" x .312"	8'	Black	4.20
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*AWG (Stranding) — 18 (42 x 34), Rating — 1250W/10A.
†AWG (Stranding) — 16 (64 x 34), Rating — 1875W/15A.

Bright Orange 3-Conductor Extension Cords



Bright orange vinyl reduces risk of accidentally cutting cord. Type 15197 designed for tool benches and other tight areas. Longer lengths recommended for industrial equipment, electric lawnmowers, snowblowers and other outdoor applications with three-conductor power supply cords. All cords UL listed.

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Length	Rating	EACH
214-3549	15132	16 (10 x 26)	.340"	100'	1250W/10A	31.40
214-3587	15197	16 (10 x 26)	.340"	10'	1625W/13A	14.75
214-3589	15157	16 (10 x 26)	.340"	25'	1625W/13A	15.44
214-3592	15158	16 (10 x 26)	.340"	50'	1625W/13A	18.03
214-3594	15172	14 (16 x 26)	.380"	25'	1875W/15A	15.61
214-3596	15173	14 (16 x 26)	.380"	50'	1875W/15A	23.42
214-3598	15175	12 (26 x 26)	.445"	25'	1875W/15A	22.89
214-3599	15176	12 (26 x 26)	.445"	50'	1875W/15A	40.41

3-Conductor Extension Cords With Duplex Connector



Duplex connector can add two lines at the end of one cord. For use with power tools and other appliances requiring grounding. Type 17475 is SJO neoprene. Types 17675 and 17676 are SJT vinyl. All cords UL listed; rated 60°C, 125V.

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Length	Rating	EACH
214-3602	17475	16 (26 x 30)	.340"	25'	1625W/13A	23.24
214-3604	17675	14 (41 x 30)	.380"	25'	1875W/15A	39.88
214-3606	17676	14 (41 x 30)	.380"	50'	1875W/15A	71.95

3-Conductor Power Supply Cords

Right Angle, Unshielded, PVC Jacketed Beldfoil Shielded

- ▶ Molded PVC Grounding Connector PH-390 IEC 320-C13
- ▶ Outer Jacket Stripped 2'
- ▶ Conductors Stripped and Twisted 5/8"
- ▶ 22 AWG Drain Wire

Stock No.	Mfr.'s Type	AWG (Stranding)	O.D.	Length	Rating	Cord	EACH
214-5530	17751	18 (42 x 34)	.270"	6' 7"	1250W/10A	SVT	7.28
214-5531	17752	18 (42 x 34)	.270"	9' 10"	1250W/10A	SVT	8.61
214-5532	17636	18 (42 x 34)	.340"	6' 7"	1250W/10A	SJT	7.85
214-5533	17637	18 (42 x 34)	.340"	9' 10"	1250W/10A	SJT	10.40

Right Angle, Unshielded, PVC Jacketed

- ▶ Rated 60°C; 125V — Dual-Rated at 10A-250V
- ▶ European Color Coding

Stock No.	Mfr.'s Type	AWG (Stranding)	O.D.	Length	Rating	Recep.	Cord	EACH
214-3695	17536	18 (42 x 34)	.315"	6' 7"	1250W/10A	390A	SJT	4.18
214-3691	17537	18 (42 x 34)	.315"	9' 10"	1250W/10A	390A	SJT	5.34
214-3693	17539	16 (65 x 34)	.340"	9' 10"	1625W/13A	390A	SJT	6.12

Beldfoil® Shielded, PVC Jacketed

- ▶ Molded Vinyl Grounding Connector PH-386, or PH-390A, IEC-320-C-13
- ▶ European Color Coding

214-5525	17749	18 (42 x 34)	.270"	6' 7"	1250W/10A	386A	SVT	6.69
214-5526	17750	18 (42 x 34)	.270"	9' 10"	1250W/10A	386A	SVT	8.24
214-5527	17618	18 (42 x 34)	.340"	6' 7"	1250W/10A	386A	SJT	7.45
214-5527	17619	18 (42 x 34)	.340"	9' 10"	1250W/10A	386A	SJT	9.89
214-5528	17620	18 (42 x 34)	.365"	6' 7"	1625W/13A	386E	SJT	8.22
214-5529	17621	16 (65 x 34)	.365"	9' 10"	1625W/13A	386E	SJT	11.10

Unshielded, PVC Jacketed

214-3658	17518	18 (42 x 34)	.315"	6' 7"	1250W/10A	386A	SJT	4.02
214-3660	17519	16 (65 x 34)	.315"	9' 10"	1250W/10A	386A	SJT	4.96
214-3662	17520	16 (65 x 34)	.340"	6' 7"	1625W/10A	386E	SJT	4.39
214-3664	17521	16 (65 x 34)	.340"	9' 10"	1625W/10A	386E	SJT	5.71
214-3666	17254	18 (42 x 34)	.246"	7' 6"	1250W/10A	386	SVT	3.73

Retractable Test Prod Wire



- ▶ Tinned Copper Conductors, Rubber Insulated.
- ▶ Working Voltage: 5000VAC/RMS.
- ▶ For Intermittent Duty Only.

Stock No.	Mfr.'s Type	AWG (Stranding)	No. Of Conductors	Retracted Length	Extended Length	Nominal O.D.	EACH
214-5506	8879	20 (42 x 36)	2 Unshielded	8"	5'	0.173"	12.85

Hospital Grade Power Supply Cords

The Belden® Medicord™ Hospital Grade Power Supply Cord product line has been expanded to include these longer length, aesthetically appealing cords which meet the rigorous performance demands of hospital use and critical medical applications. Length: 10 ft. (3.05 m) 60°C.

Stock No.	Mfr.'s Type	Plug Conn.	Fig.	AWG Stranding (Dia. — mm)	Nom. O.D. In. mm	Rating	Type of Cordage	Jacket Color	1-4	5-10
214-5102	17022A*	813	—	A 18 (42 x 34) (1.19)	.315 8.00	1250 Watts 10 A-125 V	SJT†	Matte Gray (Clear Plug)	11.61	10.55
214-5104	17023A*	813	—	A 18 (42 x 34) (1.19)	.315 8.00	1250 Watts 10 A-125 V	SJT†	Matte Gray (Gray Plug)	11.61	10.55
214-5106	17020A*	813	386A	B 18 (42 x 34) (1.19)	.315 8.00	1250 Watts 10 A-125 V	SJT†	Matte Gray (Clear Plug)	13.18	11.98
214-5108	17021A*	813	386A	B 18 (42 x 34) (1.19)	.315 8.00	1250 Watts 10 A-125 V	SJT†	Matte Gray (Gray Plug)	13.18	11.98
214-5110	17024A	814	—	C 18 (65 x 34) (1.47)	.475 12.06	1625 Watts 13 A-125 V	SJT†, Low Leakage	Gray (Clear Plug)	24.97	22.70

*CSA Certified. †Regular SJT cords are UL listed and CSA certified. CSA does not recognize SJT low leakage cords. ‡Belden SJT Type low-leakage 60 Hz power cord reduces the hazards of shock due to current leakage between the two conductors and from the conductors out through the jacket. Maximum leakage at 120 VAC is 7 microamps from each circuit conductor to the grounding conductor, and 15 microamps from each circuit conductor through the cord jacket. Designed for the hospital use and critical medical applications. Helps equipment meet the requirements of UL 554.



Beldfoil® Shielded, PVC Jacketed

- ▶ NEMA 5-15P Molded Vinyl Grounding Plug PH-290B, PH-185, or PH-173
- ▶ European Color Coding

Stock No.	Mfr.'s Type	AWG (Stranding)	O.D.	Length	Rating	Plug	Cord	EACH
214-3608	17612	18 (42 x 34)	.340"	6' 7"	1250W/10A	185	SJT	6.12
214-3610	17613	18 (42 x 34)	.340"	9' 10"	1250W/10A	185	SJT	8.04
214-3612	17614	16 (65 x 34)	.365"	6' 7"	1625W/13A	185	SJT	7.28
214-3614	17615	16 (65 x 34)	.365"	9' 10"	1625W/13A	185	SJT	9.71
214-3616	17616	14 (41 x 30)	.402"	6' 7"	1875W/15A	173	SJT	8.04
214-3618	17617	14 (41 x 30)	.402"	9' 10"	1875W/15A	173	SJT	11.44
214-3620	17720*	18 (42 x 34)	.270"	6' 7"	1250W/10A	290B	SVT	5.71
214-3622	17740	18 (42 x 34)	.270"	6' 7"	1250W/10A	290B	SVT	5.55
214-3624	17741	18 (42 x 34)	.270"	9' 10"	1250W/10A	290B	SVT	7.06

Duofoil® and Braid Shielded, PVC Jacketed

214-3626	17650	18 (41 x 34)	.307"	6' 7"	1250W/10A	290B	SVT	10.40
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Unshielded, PVC Jacketed

214-3628	17512	18 (42 x 34)	.315"	6' 7"	1250W/10A	290B	SJT	3.22
214-3630	17513	18 (42 x 34)	.315"	9' 10"	1250W/10A	290B	SJT	4.02
214-3632	17514	16 (65 x 34)	.340"	6' 7"	1625W/13A	185	SJT	4.02
214-3634	17515	16 (65 x 34)	.340"	9' 10"	1625W/13A	185	SJT	5.14
214-3636	17516	14 (41 x 30)	.380"	6' 7"	1875W/15A	173	SJT	5.14
214-3638	17517	14 (41 x 30)	.380"	9' 10"	1875W/15A	173	SJT	6.87
214-3640	17534	18 (42 x 34)	.246"	6' 7"	1250W/10A	290B	SVT	2.75
214-3642	17535	18 (42 x 34)	.246"	9' 10"	1250W/10A	290B	SVT	3.35
214-3644	17747*	18 (42 x 34)	.246"	6' 7"	1250W/10A	290B	SVT	2.92

* Rated 105°C; Passes VW-1 Vertical Wire Flame Test.

Retractable, Rubber Insulated, Neoprene Jacketed

- ▶ Allows Free Movement; Helps Prevent Accidents
- ▶ North American Color Coding

214-3646	17447	18 (42 x 34)	.360"	1 to 6'	1250W/10A	185	SJO	9.53
214-3648	17448	16 (65 x 34)	.370"	1 to 6'	1250W/10A	173	SJO	13.87
214-3650	17449	16 (65 x 34)	.370"	2 to 12'	1250W/10A	173	SJO	13.87

Unshielded, Gray PVC Jacketed

- ▶ NEMA 5-15P Molded PVC Grounding Plug PH-290B, PH-185, or PH-173
- ▶ North American Color Coding

214-3668	17237	18 (42 x 34)	.246"	6'	1250/10	290B	SVT	2.78
214-3670	17239	18 (42 x 34)	.246"	8'	1250/10	290B	SVT	3.17
214-3672	17405	18 (16 x 30)	.315"	6'	1250/10	290B	SJT	2.98
214-3674	17407	18 (16 x 30)	.315"	8'	1250/10	290B	SJT	3.52
214-3676	17276	16 (26 x 30)	.340"	20'	1625/13	185	SJT	9.71

Unshielded, Black Rubber or Neoprene* Jacketed

214-3678	17236	18 (42 x 34)	.246"	6'	1250/10	290B	SV	4.18
214-3680	17238	18 (42 x 34)	.246"	8'	1250/10	290B	SV	4.96
214-3682	17406	18 (16 x 30)	.315"	6'	1250/10	185	SJ	4.77
214-3684	17408	18 (16 x 30)	.315"	8'	1250/10	185	SJ	5.34
214-3686	17409	18 (16 x 30)	.315"	8'	1250/10	185	SJO	5.55
214-3688	17412	18 (16 x 30)	.315"	12'	1250/10	185	SJ	9.20
214-3690	17419	16 (26 x 30)	.340"	9'	1625/13	185	SJ	7.06
214-3692	17422	16 (26 x 30)	.340"	12'	1625/13	185	SJ	9.02
214-3694	17425	16 (26 x 30)	.340"	15'	1625/13	185	SJ	12.48
214-3696	17629	14 (41 x 30)	.380"	9'	1875/15	173	SJ	11.63
214-3698	17635	14 (41 x 30)	.380"	15'	1875/15	173	SJ	20.11

Medicord™ Hospital Grade (Green Dot) Power Supply Cords

- ▶ Rated 60°C; 125V
- ▶ North American Color Coding
- ▶ UL Listed
- ▶ NEMA 5-15P Molded PVC Clear Hospital Grade Plugs



8' SJT Type Cord With Plug PH-813

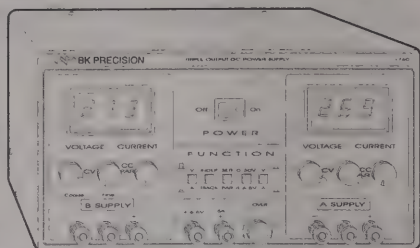
Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Rating	EACH
214-3710	17010	18 (42 x 34)	.430"	1250W/10A	17.69
214-3712	17011	16 (65 x 34)	.475"	1625W/13A	18.73
214-3714	17030	18 (42 x 34)	.315"	1250W/10A	11.10

8' SJT Type Cord With Plug PH-813 and Grounding Connector PH-386

214-3716	17015	18 (42 x 34)	.430"	1250W/10A	19.58
214-3718	17016	16 (65 x 34)	.475"	1625W/13A	20.46
214-3720	17031	18 (42 x 34)	.315"	1250W/10A	12.65

Model 1760 Triple Output DC Power Supply

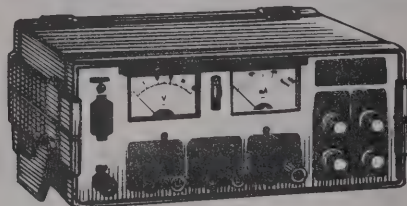
- ▶ Two 0-30 VDC, 2 A Section Capable of Independent, Series or Parallel Operation
- ▶ One 4-6.5 VDC, 5 A Section
- ▶ Switchable Series/Parallel Operation — 30 V Sections
- ▶ Adjustable Current Limit Controls — 30 V Sections
- ▶ Two 3-Digit LED Displays — One Reads Volts or Amps of "B" Supply — One Reads Volts or Amps of "A" Supply or 4 V-6.5 V Supply
- ▶ Unique Variable Tracking, 8 Track A at 5% to 100%



— NEW —

731-1760. Model 1760 EACH 649.00

Model 1651 Compact Triple Output DC Power Supply

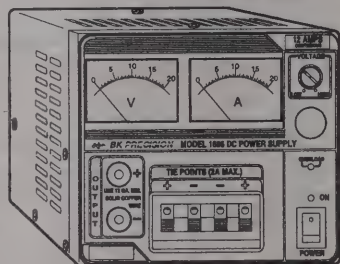


- ▶ Two 0 to 24 VDC Outputs (0.5 A)
- ▶ One Fixed 5 V Output (4 A)
- ▶ Independent or Tracking Operation
- ▶ Adjustable Current Limiting
- ▶ Designed to Operate Continuously at Rated Output
- ▶ Short Circuit Protection, Overload Protection, Reverse Polarity Protection
- ▶ Connect Outputs in Series for Higher Voltage Output or in Parallel for Higher Current Output (Switch Selectable)

731-1651. Model 1651 EACH 429.00

Models 1686/1688 High Current DC Power Supplies

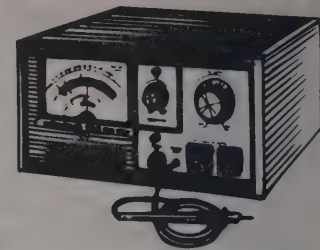
- ▶ 3 to 14 Volts DC Output
- ▶ 25 Amps Typical at 13.8 V, Model 1688
- ▶ 12 Amps Typical at 13.8 V, Model 1686
- ▶ Current Limiting Overload Protection
- ▶ Over Voltage Protection
- ▶ Short Circuit Protection
- ▶ Reverse Polarity Protection
- ▶ Thermostatically Controlled Cooling Fan
- ▶ Thermal Protection (Model 1688)
- ▶ Operates Continuously at Full Load Without Overheating
- ▶ Connect Two in Parallel for More Current
- ▶ Connect Two in Series for Higher Voltage



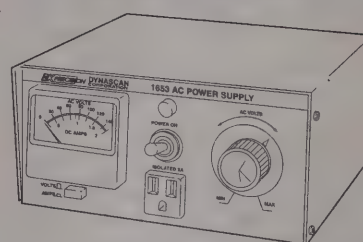
731-1688. Model 1688 EACH 299.00
731-1686. Model 1686 EACH 199.00

Model 1655 Isolated — Variable AC Power Supply

- ▶ Power Line Leakage Tester
- ▶ Variable-Isolated Output — 0-150 VAC
- ▶ 3 A Continuous, 4 A Intermittent Output
- ▶ Built-In Solid State Soldering Iron Temperature Control
- ▶ Expanded Leakage Scale
- ▶ Circuit Breaker Overload Protection
- ▶ Display Volts, Amps, VA, Leakage



731-1655. Model 1655 EACH 499.00



Model 1653 — NEW — Isolated — Variable AC Power Supply

- ▶ Variable Isolated 0-150 VAC, 2 A Continuous Output
- ▶ Displays Voltage or Current Readings
- ▶ Isolation Transformer to Eliminate Shock Hazard While Servicing "Hot Chassis" Equipment
- ▶ Compact, Rugged

731-1653. Model 1653 EACH 319.00

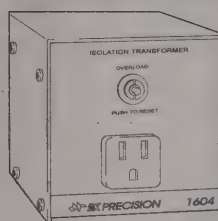
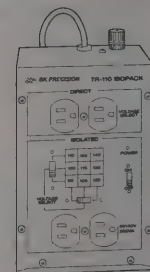
Model TR-110 Dual Output Isolation

- ▶ Direct and Isolated Outputs
- ▶ UL Listed

— NEW —

Specifications. Input Requirements: 105-130 VAC, 60 Hz. Output Power Rating. Direct: 500 VA continuous. Isolated: 350 VA continuous, 500 VA intermittent. Connections. Direct: Duplex outlet (3-conductor). Isolated: Duplex outlet (3-conductor). Selection. Direct: Convenience duplex outlet provides line voltage for auxiliary equipment up to 500 VA. Isolated: Two 3-position slide switches provide 9 combinations of voltage selection from 90 to 140 volts, up to 350 VA continuous or 500 VA intermittent. Self-contained power switch with pilot lamp. General Specifications. Regulation: No load to full load (350 VA), voltage change <4%. Isolation: Complies with UL standard 1012, May 1977. Dimensions (H x W x D): 14 x 13 x 20 cm (5 1/2 x 5 1/8 x 8"). Weight: 5 kg (11 lbs.).

731-0110. Model TR-110 EACH 219.00



Model 1604 Isolation Transformer

— NEW —

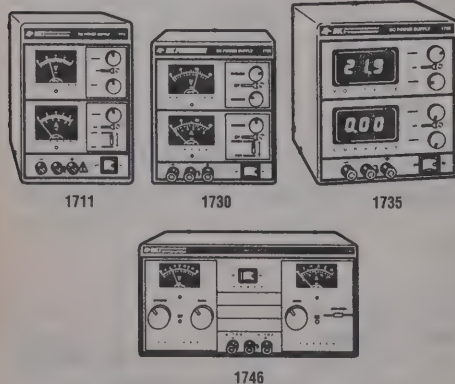
- ▶ For Safe Testing of Transformerless Equipment

Specifications. Isolation: Leakage less than 0.1 mA. Output Voltage: 117-124 V nominal (120 V input). Output Current: 1.25 A continuous (2 A intermittent). Power Requirements: 120 VAC, 60 Hz, 175 W. Operating Temperature: 0°C to +40°C. Dimensions (H x W x D): 10 x 10 x 14 cm (4 x 4 x 5 1/4"). Weight: 2.7 kg (6 lbs.).

731-1604. Model 1604 EACH 114.00

DC Power Supplies

— NEW —



- ▶ Fully Overload Protected
- ▶ New Compact Style
- ▶ Coarse and Fine Voltage Controls
- ▶ Operate Continuously at Full Load without Overheating
- ▶ Constant Voltage or Constant Current Operation
- ▶ Continuously Monitor Voltage and Current Output on Two Meters
- ▶ Biggest Selection of Voltage and Current Ratings Ever Offered
- ▶ Connect Two Supplies in Parallel to Double the Current Output
- ▶ Connect Two Supplies in Series to Double the Voltage Output
- ▶ Overload Protection: Current, Limiting, Reverse Polarity, Overvoltage, Short Circuit
- ▶ Power Requirements: 120 VAC $\pm$ 10%, 60 Hz Only (120/220/230/240 VAC $\pm$ 10%, 50/60 Hz Version Available)
- ▶ Operating Temperature: 0° to 40°C, <75% R.H.
- ▶ Storage Temperature: -15° to +70°C, <85% R.H.
- ▶ Reliable, Durable
- ▶ Excellent Regulation
- ▶ Very Low Ripple
- ▶ Made in USA

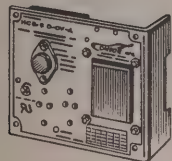
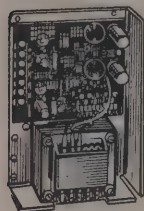
Model	1705	1710	1711	1715	1730	1735	1740	1743	1746
Output Voltage	0-30 V	0-30 V	0-60 V	0-80 V	0-30 V	0-30 V	0-60 V	0-35 V	0-16 V
Output Current	0-1 A	0-1 A	0-2 A	0-2 A	0-3 A	0-3 A	0-4 A	0-6 A	0-10 A
Constant Voltage Operation									
Voltage Regulation									
Line ($\pm$ 10%)									$\leq$ 0.2% +2 mV
Load (no load-full load)									$\leq$ 0.04% +2 mV
Recovery Time									$\leq$ 100 μ s
Ripple and Noise									$\leq$ 1 mV rms
Temperature Coefficient									$\leq$ 300 ppm/°C
Constant Current Operation									
Adjustable Current Range									5% to 100%
Current Regulation									5% to 100%
Line ($\pm$ 10%)									$\leq$ 0.4% +5 mA
Load									$\leq$ 0.4% +5 mA
Current Ripple									$\leq$ 3 mA
Metering									
Type	3-digit LED	Analog	Analog	3-digit LED	Analog	3-digit LED	Analog	3-digit LED	Analog
Voltmeter Range	0-99.9 V (green)	0-32 V	0-54 V	0-99.9 V (green)	0-32 V	0-99.9 V (green)	0-64 V	0-99.9 V (green)	0-18 V
Voltmeter Accuracy	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%	$\pm$ 2.5%	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%
Ammeter Range	0-99.9 A (red)	0-1.04 A	0-2.20 A	0-9.99 A (red)	0-3.20 A	0-9.99 A (red)	0-4.40 A	0-9.99 A (red)	0-11.0 A
Low Range		0-0.28 A	0-0.55 A		0-0.53 A		0-1.10 A		0-2.20 A
Ammeter Accuracy	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%	$\pm$ 2.5%	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%	$\pm$ (0.5% rdg + 2 digits)	$\pm$ 2.5%
Power Consumption	70 W	70 W	210 W	210 W	180 W	180 W	450 W	420 W	380 W
Dimensions (H x W x D)	8.2" x 5.5" x 12.5" (158 x 140 x 318 mm)						5.7" x 10.5" x 15" (145 x 267 x 381 mm)		
Weight	8 lbs. 3.8 kg	8 lbs. 3.8 kg	12 lbs. 5.4 kg	12 lbs. 5.4 kg	10.5 lbs. 4.7 kg	10.5 lbs. 4.7 kg	23 lbs. 10.4 kg	24 lbs. 10.8 kg	20 lbs. 9 kg

731-1705. Model 1705 EACH 299.00
731-1710. Model 1710 EACH 229.00
731-1711. Model 1711 EACH 309.00

731-1715. Model 1715 EACH 379.00
731-1730. Model 1730 EACH 315.00
731-1735. Model 1735 EACH 380.00

731-1740. Model 1740 EACH 499.00
731-1743. Model 1743 EACH 499.00
731-1746. Model 1746 EACH 499.00

International II Linears



- ▶ UL1950 Approved without D3 Deviation
- ▶ World-Wide AC Input Ranges
- ▶ World-Wide Safety Standards
- ▶ Industry Standard Packages
- ▶ VDE/IEC Transformer Construction
- ▶ TUV Approved, IEC 950
- ▶ CSA Approved, 22.2, 234
- ▶ 2-Hour Burn-In with Cycling
- ▶ 3 Year Warranty
- ▶ Capacitors Have Highest C/V and Ripple Current Ratings in Industry
- ▶ Anti-Latchup Circuit on Duals and Triples
- ▶ MTBF of Over 200,000 Hours per MIL Handbook 217D on Most Units

Specifications: AC Input: 100/120/220/240 VAC +10%, -13%. 47-63 Hz. Tolerance for 230 VAC operation is +15%, -10%. Derate output current 10% for 50 Hz operation. **DC Output:** See charts. **Adjustment Range:** ±5% minimum. **Line Regulation:** ±0.5% for a 10% change. **Load Regulation:** ±0.5% for a 50% load change. **Output Ripple:** 2 to 15 V unit — 5.0 mV PK-PK maximum; 20 to 200 V unit — .02% PK-PK maximum. **Transient Response:** 50 microseconds for 50% load change. **Short Circuit and Overload Protection:** Automatic current limit/foldback. **Overvoltage Protection:** Built-in on 5 V models, set at 6.2 V ± .4 V. Other models use optional overvoltage protection. **Remote Sensing:** On all models 3 Amps and above; open sense lead protection built-in. **Stability:** ±0.5% for 24 hours after warm up. **Temperature Rating:** 0°C to 50°C, full rated, derated linearly to 40% at 70°C. **Temperature Coefficient:** ±0.1%/°C maximum. **Efficiency:** 5 V units — 45%; 12 V and 15 V units — 55%; 20 V and 24 V units — 60%. **Vibration:** Per MIL-STD-810B, Method 514, Procedure 1, curve AB (to 50 Hz). **Shock:** Per MIL-STD-810B, Method 516, Procedure V.

OverVoltage Protection Modules

Optional OVP modules are available to protect your load from an overvoltage condition. These modules are adjustable from 6.2V to 34 VDC and mount directly on your power supply chassis. The OVP-12 is available for outputs which will not exceed 12 Amps and for loads up to 30 Amps. One OVP-12 protects both outputs on the dual output ±12 VDC and the ±15 VDC power supplies. Note that models with factory built OVP are indicated in the table above.

744-0511. OVP-12EACH 8.00
744-0524. OVP-24EACH 14.45

Single Output

Stock No.	Mfr.'s Type	5 V	12 V	15 V	24 V	28 V	48 V	Dimensions			Weight (Lbs.)	EACH	
								H"	W"	D"		1-9	10-24
744-5001	HA5-1.5/OVP-A+	1.5A	—	—	—	—	—	4.88	4.00	1.63	2.0	29.07	28.20
744-5003	HA15-0.9-A+(12V)	—	0.9A	—	—	—	—	4.88	4.00	1.63	2.0	29.07	28.20
744-5005	HA15-0.9-A+	—	—	0.9A	—	—	—	4.88	4.00	1.63	2.0	29.07	28.20
744-5007	HA24-0.5-A+	—	—	—	0.5A	—	—	4.88	4.00	1.63	2.0	29.07	28.20
744-5009	HA24-0.5-A+(28V)	—	—	—	—	0.5A	—	4.88	4.00	1.63	2.0	29.07	28.20
744-5011	HB5-3/OVP-A+	3.0A	—	—	—	—	—	4.88	4.00	1.63	2.0	34.27	33.24
744-5012	HB12-1.7-A+	—	1.7A	—	—	—	—	4.88	4.00	1.63	2.0	34.27	33.24
744-5013	HB15-1.5-A+	—	—	1.5A	—	—	—	4.88	4.00	1.63	2.0	34.27	33.24
744-5014	HB24-1.2-A+	—	—	—	1.2A	—	—	4.88	4.00	1.63	2.0	34.27	33.24
744-5015	HB28-1-A+	—	—	—	—	1.0A	—	4.88	4.00	1.63	2.0	34.27	33.24
744-5016	HC5-6/OVP-A+	6.0A	—	—	—	—	—	5.63	4.88	2.50	4.0	56.11	54.43
744-5017	HC12-3.4-A+	—	3.4A	—	—	—	—	5.63	4.88	2.50	4.0	50.91	49.38
744-5018	HC15-3-A+	—	—	3.0A	—	—	—	5.63	4.88	2.50	4.0	50.91	49.38
744-5019	HC24-2.4-A+	—	—	—	2.4A	—	—	5.63	4.88	2.50	4.0	50.91	49.38
744-5020	HC28-2-A+	—	—	—	—	2.0A	—	5.63	4.88	2.50	4.0	50.91	49.38
744-5021	HN5-9/OVP-A+	9.0A	—	—	—	—	—	4.88	7.00	2.75	7.0	76.91	74.60
744-5022	HN12-5.1-A+	—	5.1A	—	—	—	—	4.88	7.00	2.75	7.0	71.71	69.56
744-5023	HN15-4.5-A+	—	—	4.5A	—	—	—	4.88	7.00	2.75	7.0	71.71	69.56
744-5024	HN24-3.6-A+	—	—	—	3.6A	—	—	4.88	7.00	2.75	7.0	71.71	69.56
744-5025	HN28-3-A+	—	—	—	—	3.0A	—	4.88	7.00	2.75	7.0	71.71	69.56
744-5026	HD5-12/OVP-A+	12.0A	—	—	—	—	—	4.88	9.00	2.75	7.5	87.31	84.69
744-5027	HD12-6.8-A+	—	6.8A	—	—	—	—	4.88	9.00	2.75	7.5	82.11	79.65
744-5028	HD15-6-A+	—	—	6.0A	—	—	—	4.88	9.00	2.75	7.5	82.11	79.65
744-5029	HD24-4.8-A+	—	—	—	4.8A	—	—	4.88	9.00	2.75	7.5	82.11	79.65
744-5030	HD28-4-A+	—	—	—	—	4.0A	—	4.88	9.00	2.75	7.5	82.11	79.65
744-5031†	HE5-18/OVP-A+	18.0A	—	—	—	—	—	4.88	14.00	2.75	10.0	123.19	119.49
744-5032†	HE12-10.2-A+	—	10.2A	—	—	—	—	4.88	14.00	2.75	10.0	112.79	109.41
744-5033†	HE15-9-A+	—	—	9.0A	—	—	—	4.88	14.00	2.75	10.0	112.79	109.41
744-5034†	HE24-7.2-A+	—	—	—	7.2A	—	—	4.88	14.00	2.75	10.0	112.79	109.41
744-5035†	HE28-6-A+	—	—	—	—	6.0A	—	4.88	14.00	2.75	10.0	112.79	109.41
744-9960†	F5-25-OV-A+	25.0A	—	—	—	—	—	4.88	16.75	3.50	14.00	159.59	154.80
744-9961†	G5-35-OV-A	35.0A	—	—	—	—	—	4.88	16.75	3.50	19.00	206.39	200.20
744-9970†	CP197-A+	50.0A	—	—	—	—	—	4.88	16.75	3.50	19.00	238.11	230.97
744-9996	F15-15-A+	—	16.0A*	15.0A*	—	—	—	4.88	16.75	3.50	18.00	161.15	156.32
744-2412	F24-12-A+	—	—	—	12.0A**	10.0A**	—	4.88	16.75	3.50	18.00	161.15	156.32
744-9950	HB48-0.5-A+	—	—	—	—	—	0.5A	4.88	4.00	1.63	2.00	36.35	35.26
744-5801	HC48-1-A+	—	—	—	—	—	1.00A	5.63	4.88	2.50	4.00	56.11	54.43
744-5803†	HD48-3-A+	—	—	—	—	—	3.00A	4.88	9.00	2.75	7.50	87.31	84.69
744-5804†	HE48-4-A+	—	—	—	—	—	4.00A	4.88	14.00	2.75	10.00	123.19	119.49
744-9955†	F48-6-A+	—	—	—	—	—	6.00A	4.88	16.75	3.50	18.00	180.39	174.98

* Capable of either 12 VDC or 15 VDC operation with adjustment of potentiometer. ** Capable of 28 V @ 10 A operation with adjustment of potentiometer. † Requires fan cooling. Please consult factory.

Dual Output

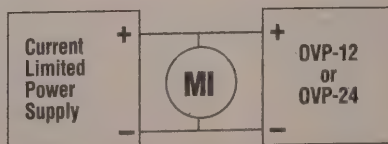
Stock No.	Mfr.'s Type	Output 1	Output 2	Dimensions			Weight (Lbs.)	EACH	
				H"	W"	D"		1-9	10-24
744-5039	HAA5-1.5/OVP-A+	5V @ 1.5 A	5V @ 1.5A	6.50	4.00	1.42	2.0	50.91	49.38
744-5040	HBB5-3/OVP-A+	5V @ 3A	5V @ 3A	7.00	4.88	2.50	4.0	66.51	64.51
744-5051	HCC5-6/OVP-A+	5V @ 6A	5V @ 6A	4.88	9.38	2.75	7.0	99.79	96.80
744-5041	HAA512-A+	5V @ 2A	9-15V @ 0.5A	6.50	4.00	1.62	2.0	50.91	49.38
744-5042	HBB512-A+	5V @ 3A	9-15V @ 1.25A	7.00	4.88	2.50	4.0	62.35	60.48
744-5043†	HCC512-A+	5V @ 6A	9-15V @ 2.50A	4.88	9.38	2.75	7.0	97.71	94.78
744-9850	HAA524-A+	5V @ 2A	18-24V @ 0.3A	6.50	4.00	1.62	2.0	50.91	49.38
744-9851	HBB524-A+	5V @ 3A	+18 to 24 V @ 0.8A	7.00	4.88	2.50	4.0	61.31	59.47
744-9852	HCC524-A+	5V @ 6A	+18 to 24 V @ 2A	9.38	4.88	2.75	7.0	97.71	94.78
744-9855	HAD12-0.4-A+	+12V @ 0.4A	-12V @ 0.4A	4.88	4.00	1.63	2.0	37.91	36.77
744-9850	HAD15-0.4-A+	+15V @ 0.4A	-15V @ 0.4A	4.88	4.00	1.63	2.0	41.55	40.30
744-5036	HAA15-0.8-A+	+12V to 15V @ 1A/0.8A	-12V to -15V @ 1.7A/1.5A	6.50	4.00	1.62	2.0	44.67	43.33
744-5037	HBB15-1.5-A+	+12V to 15V @ 1.7A/1.5A	-12V to -15V @ 1.7A/1.5A	7.00	4.88	2.50	4.0	57.15	55.44
744-5038	HCC15-3-A+	+12V to 15V @ 3.4A/3A	-12V to -15V @ 3.4A/3A	4.88	9.38	2.75	7.0	90.43	87.72
744-9565†	HDD15-5-A+	+12V to 15V @ 5A	-12V to -15V @ 5A	4.88	14.00	2.75	10.0	133.59	129.58

† Requires fan cooling. Please consult factory.

Triple Output

Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Dimensions			Weight (Lbs.)	EACH	
					H"	W"	D"		1-9	10-24
744-5044	HTAA-16W-A+	5V @ 2A	+12 to 15V @ 0.4/0.4A	-12 to 15V @ 0.4/0.4A†	6.50	4.00	1.62	2.0	56.11	54.43
744-5045	HBAA-40W-A+	5V @ 3A	+12 to 15V @ 1/0.8A	-12 to 15V @ 1/0.8A†	4.00	10.20	2.50	5.0	77.95	75.61
744-9860†	HCBB-105W-A+	5V @ 3A	+12 to 15V @ 3.4/3.0A	-12 to 15V @ 3.4/3.0A†	4.88	11.00	2.75	8.0	102.91	99.82
744-5046	HCAA60W-A+	5V @ 6A	+12 to 15V @ 1/0.8A	-12 to 15V @ 1/0.8A†	4.88	9.00	2.75	7.5	92.51	89.73
744-5047	HCBB-75W-A+	5V @ 6A	+12 to 15V @ 1.7/1.5A	-12 to 15V @ 1.7/1.5A†	4.88	11.00	2.75	8.0	102.91	99.82
744-5048	CP131-A+	5V @ 9A	+12 to 15V @ 1.7/1.5A	-12 to 15V @ 1.7/1.5A†	4.88	11.00	2.75	9.0	123.71	120.00
744-5049†	HDBB-105W-A+	5V @ 12A	+12 to 15V @ 1.7/1.5A	-12 to 15V @ 1.7/1.5A†	4.88	14.25	2.75	11.0	139.31	135.13
744-5050†	HDDC-150W-A+	5V @ 12A	+12 to 15V @ 3.4/3A	-12 to 15V @ 3.4/3A†	4.88	15.00	3.75	12.0	160.11	155.31

† No. 3 Output Usable at -5V. Rate at 1/2 15V Current Rating. Requires jumper on PCB for -5V. † Requires fan cooling. Please consult factory.

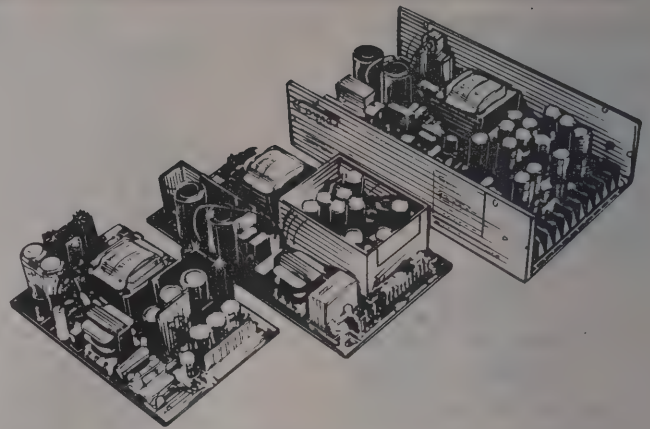


Power Supply Output Voltage	Suggested OVP Trigger Voltage
5 VDC	6.2 ± .4V
6 VDC	7V
12 VDC	14V
15 VDC	17V
18 VDC	21V
20 VDC	23V
24 VDC	27V
Dual ±12 VDC	27V
Dual ±15 VDC	33V

World Class Medical Switchers

CONDOR'S international medical multi-output switchers – approved to UL 544/IEC 601/CSA 22.2, 234. CONDOR'S medical switchers are designed to meet full international specifications, as well as European EMI specifications.

- **Features**
- 17 Models, 5 Power Levels, 30 to 110 Watts
- Multi-Output (Up to 5 Outputs)
- AC Input: 90-132 VAC/180-264 VAC, 47-63 Hz
- Designed to Meet the Toughest Domestic and International Medical Safety Specifications
- Proprietary Low Leakage – High Attenuation EMI Filter (Patent Pending)
- Less Than 30µA Leakage Current
- Meets Stringent FCC and VDE 0871 Class B EMI Specs
- Power Fail Available on 110-Watt Units
- Versatile Output Configurations for Wide Variety of Applications
- Industry Standard Packages
- 24-Hour Full Load Burn-In and 2-Year Warranty
- Covers Available for All Units



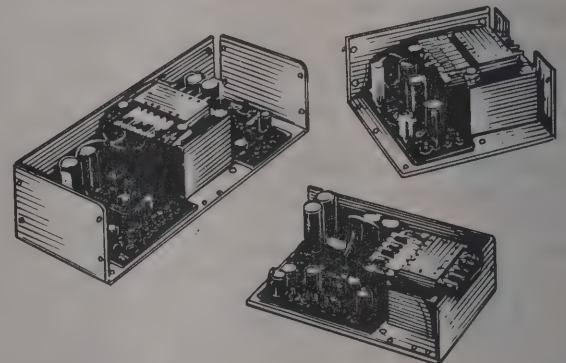
Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Output 4	Output 5	Total Power, Watts	Size (Inches)	EACH	
									1-9	10-24
744-3000	MS 30A	+5V@3A	+12V@0.5A	-12V@0.5A	—	—	30	5.00 × 3.00 × 1.35	88.40	83.98
744-3005	MS 30B	+5V@3A	+15V@0.5A	-15V@0.5A	—	—	30	5.00 × 3.00 × 1.35	88.40	83.98
744-3010	MS 45A	+5V@4A	+12V@3A (3.5A PK)	-12V@0.8A	-5V@0.2A	—	45	6.30 × 3.90 × 1.65	98.80	93.86
744-3015	MS 45B	+5V@4A	+15V@2A (2.5A PK)	-15V@0.7A	-5V@0.15A	—	45	6.30 × 3.90 × 1.65	98.80	93.86
744-3020	MS 65A	+5V@6A	+15V@2A (3.5A PK)	-15V@0.7A	-5V@0.5A	—	65	7.75 × 4.25 × 1.90	119.60	113.62
744-3025	MS 65B	+5V@6A	+15V@2A (3.5A PK)	-15V@0.7A	+24V@1.2A (2A PK)	—	65	7.75 × 4.25 × 1.90	119.60	113.62
744-3030	MS 65C	+5V@6A	+12V@2.5A (4A PK)	-12V@1A	-5V@0.5A	—	65	7.75 × 4.25 × 1.90	119.60	113.62
744-3035	MS 65D	+5V@6A	+12V@2.5A (4A PK)	-12V@1A	+12V@0.7A	—	65	7.75 × 4.25 × 1.90	119.60	113.62
744-3040	MS 65E	+5V@6A	+12V@2A (3.5A PK)	-12V@0.7A	+24V@1.2A (2A PK)	—	65	7.75 × 4.25 × 1.90	119.60	113.62
744-3045	MS 80A	+5V@9A	+12V@3A (5A PK)	-12V@2A	-5V@0.6A	—	80	7.75 × 4.25 × 1.90	135.20	128.44
744-3050	MS 80B	+5V@9A	+12V@3A (5A PK)	-12V@1A	-5V@0.6A	—	80	7.75 × 4.25 × 1.90	135.20	128.44
744-3055	MS 80C	+5V@9A	+15V@1A	-15V@1A	-5V@0.6A	—	80	7.75 × 4.25 × 1.90	135.20	128.44
744-3060	MS 110A	+5V@12A	+12V@3A (5A PK)	-12V@3A (5A PK)*	-12V@3A	-5V@0.6A	110	8.80 × 4.95 × 2.45	171.60	163.02
744-3065	MS 110B	+5V@12A	+12V@3A (5A PK)	+12V@3A (5A PK)*	-12V@1A	-5V@0.6A	110	8.80 × 4.95 × 2.45	171.60	163.02
744-3070	MS 110C	+5V@12A	+12V@3A (5A PK)	+15V@1A	-15V@1A	-5V@0.6A	110	8.80 × 4.95 × 2.45	171.60	163.02
744-3075	MS 110D	+5V@12A	+12V@3A (5A PK)	+24V@1.5A (3A PK)*	-12V@3A	-5V@0.6A	110	8.80 × 4.95 × 2.45	171.60	163.02
744-3080	MS 110H	+5V@12A	+15V@1A	-15V@1A	+24V@2A (3A PK)	-5V@0.6A	110	8.80 × 4.95 × 2.45	171.60	163.02

*Isolated outputs.

World Class Medical Linears

CONDOR'S international medical linears, approved to meet UL 544/IEC 601/CSA 22.2, 234. CONDOR'S medical linear power supplies offer innovative yet cost-effective design solutions for both high- and low volume users.

- **Features**
- 34 Models (Single, Dual and Triple Output)
- 3 Power Levels (5 to 92Watts)
- AC Input: 110/120/220/240 VAC, 47-63 Hz
- OVP On All 5V Outputs
- Meets EMI Per FCC/VDE B
- Hermetically Sealed Power Transistors and ICs
- MTFB 200,000+ Hours Per Mil Handbook 217D
- 8-Hour Burn-in With Cycling
- Full 3-Year Warranty



Single Output

Stock No.	Mfr.'s Type	Output	Size (Inches)	EACH	
				1-9	10-24
744-3085	ML5-1/OVP-A	5V@1.0A	4.25 × 3.25 × 1.80	40.56	39.34
744-3090	MB5-3/OVP-A	5V@3.0A	4.88 × 4.00 × 2.25	48.88	47.41
744-3095	MC5-6/OVP-A	5V@6.0A	5.63 × 4.86 × 2.95	62.40	60.53
744-3100	MD5-12/OVP-A	5V@12.0A	9.00 × 4.86 × 3.30	96.72	93.82
744-3105	ML12-0.5-A	12V@0.5A	4.25 × 3.25 × 1.80	40.56	39.34
744-3110	MB12-1.7-A	12V@1.7A	4.88 × 4.00 × 2.25	48.88	47.41
744-3115	MC12-3.4-A	12V@3.4A	5.63 × 4.86 × 2.95	62.40	60.53
744-3120	MD12-6.8-A	12V@6.8A	9.00 × 4.86 × 3.30	96.72	93.82
744-3125	ML15-0.4-A	15V@0.4A	4.25 × 3.25 × 1.80	40.56	39.34

Stock No.	Mfr.'s Type	Output	Size (Inches)	EACH	
				1-9	10-24
744-3130	MB15-1.5A	15V@1.0A	4.86 × 4.00 × 2.25	48.88	47.41
744-3230	MC15-3-A	15V@3.0A	5.63 × 4.86 × 2.95	62.40	60.53
744-3235	MD15-6-A	15V@6.0A	9.00 × 4.86 × 3.30	96.72	93.82
744-3245	MB24-1.2-A	24V@1.2A	4.86 × 4.00 × 2.25	48.88	47.41
744-3250	MC24-2.4-A	24V@2.4A	5.63 × 4.86 × 2.95	62.40	60.53
744-3255	MD24-4.8-A	24V@4.8A	9.00 × 4.86 × 3.30	96.72	93.82
744-3260	MB28-1-A	28V@1.0A	4.86 × 4.00 × 2.25	48.88	47.41
744-3265	MC28-2-A	28V@2.0A	5.63 × 4.86 × 2.95	62.40	60.53
744-3270	MD28-4-A	28V@4.0A	9.00 × 4.86 × 3.30	96.72	93.82

Multiple Output

Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Type	Case	Size (Inches)	EACH	
								1-9	10-24
744-3135	MLL12-0.25-A	+12V@0.25A	-12V@0.25A	—	Dual Output	L	4.25 × 3.25 × 1.80	47.84	46.40
744-3140	MLL15-0.2-A	+15V@0.20A	-15V@0.20A	—	Dual Output	L	4.25 × 3.25 × 1.80	47.84	46.40
744-3145	MAA15-0.8-A	+12/15V@1.0/0.8A	-12/15V@1.0/0.8A	—	Dual Output	AA	6.50 × 4.00 × 2.25	55.12	53.47
744-3150	MBB15-1.5-A	+12/15V@1.7/1.5A	-12/15V@1.7/1.5A	—	Dual Output	BB	7.00 × 4.88 × 2.95	70.72	68.60
744-3155	MCC15-3-A	+12/15V@3.4/3.0A	-12/15V@3.4/3.0A	—	Dual Output	CC	9.38 × 4.88 × 3.30	106.08	102.90
744-3160	MAA512-A	5V@2.0A	9/15V@0.5A	—	Dual Output	AA	6.50 × 4.00 × 2.25	63.44	61.54
744-3165	MBB512-A	5V@3.0A	9/15V@1.25A	—	Dual Output	BB	7.00 × 4.88 × 2.95	76.96	74.65
744-3170	MCC512-A	5V@6.0A	9/15V@2.5A	—	Dual Output	CC	9.38 × 4.88 × 3.30	114.40	110.97
744-3175	MAA524-A	5V@2.0A	18/24V@0.3A	—	Dual Output	AA	6.50 × 4.00 × 2.25	63.44	61.54
744-3180	MBB524-A	5V@3.0A	18/24V@0.8A	—	Dual Output	BB	7.00 × 4.88 × 2.95	76.96	74.65
744-3185	MCC524-A	5V@6.0A	18/24V@2.0A	—	Dual Output	CC	9.38 × 4.88 × 3.30	114.40	110.97
744-3200	MTLL-5W-A	+5V@0.5A	+12/15V@0.1A	-12/15V@0.1A	Triple Output	L	4.25 × 3.25 × 1.80	55.12	53.47
744-3205	MTAA-16W-A	5V@2.0A	+12/15V@0.4A	-12/15V@0.4A	Triple Output	AA	6.50 × 4.00 × 2.25	68.64	66.58
744-3210	MBAA-40W-A	5V@3.0A	+12/15V@1.0/0.8A	-12/15V@1.0/0.8A	Triple Output	BAA	10.25 × 4.00 × 2.95	91.52	88.77
744-3215	MCAA-60W-A	5V@6.0A	+12/15V@1.0/0.8A	-12/15V@1.0/0.8A	Triple Output	D	9.00 × 4.88 × 3.30	111.28	107.94
744-3220	MGBB-75W-A	5V@6.0A	+12/15V@1.7/1.5A	-12/15V@1.7/1.5A	Triple Output	CBB	11.00 × 4.88 × 3.30	122.72	119.04

SDM/SDS International Specifications

SAFETY SPECIFICATIONS: SDM and SDS Series Safety Design Parameters. **Safety Spacings:** Primary to secondary circuitry 8.0 MM; primary to ground circuitry 4.0MM; Secondary to ground circuitry 4.0MM. **Leakage Current:** input to ground 0.5 MA RMS. **Dielectric Withstanding Voltage:** Input to output 4000VAC RMS; output to ground 500VAC RMS. These safety design parameters meet or exceed the requirements of the following international safety specifications: IEC 435, Class 1 and 2; VDE 0730 Part 2P, Class 1 and 2; VDE 0806, Class 1 and 2; UL 478; UL 1012; BPO STD #26; CEE-10 Part 2, Class 1 and 2; CSA 22.2, No's 143 and 154; ECMA-57, Class 1 and 2; and IEC 380, Class 1 and 2.

EMI Specifications: SMD and SDS Series EMI Design Parameters. All Condor International Series Switching Supplies are designed with built-in EMI filters on the output line to reduce conducted emissions to the following maximum levels: 150 KHz to 450 KHz, 54 DB V; 450 KHz to 30 MHz, 48 DB V. These EMI design parameters meet or exceed the requirements of the following EMI specifications down to 150 KHz, FCC 20870, Class A and B (V Series Class A only); VDE 0871, Class A and B. The level B specifications are the most stringent in the industry.

A-suffix models with quasi-regulated secondary outputs for high peak current capability are ideal for powering multiple floppy disk and Winchester systems. B-suffix units have tightly regulated secondary outputs—perfect for applications such as video display units and other linear applications. Versatility is unsurpassed on several models, since their isolated +12V can be stacked with their existing +12V to provide 24V. For very high +12V peak loading applications, the floating 12V can be paralleled with the dedicated +12V on several models.

SDM Output Rating Chart

48 Watts (58W PK)								
Stock No.	Mfr.'s Type	Out-put	Volt	Current	Notes	EACH		
						1-9	10-24	
744-5405	SDM45A	1 2 3	+ 5V +12V -12V	5.0A 2.0A (4A PK) 1.0A	B B C	98.80	93.86	
744-5410	SDM45B	1 2 3	+ 5V +12V -12V	5.0A 1.0A 1.0A	A C C	98.80	93.86	
80Watts (100W PK)								
744-5415	SDM80A	1 2 3 4	+ 5V +12V -12V -5V	9.0A 3.0A (5A PK) 2.0A 0.6A	A D D C	109.20	103.74	
744-5420	SDM80B	1 2 3 4	+ 5V +12V -12V -5V	9.0A 3.0A (5A PK) 2.0A 0.6A	B,F B,F C C	109.20	103.74	
110Watts (138W PK)								
744-5425	SDM110A	1 2 3 4 5	+ 5V +12V +12V -12V -5V	12.0A 3.0A (5A PK) 3.0A (5A PK) 3.0A 0.6A	A D D D C	135.20	128.44	
744-5430	SDM110B	1 2 3 4 5	+ 5V +12V +12V -12V -5V	12.0A 3.0A (5A PK) 3.0A (5A PK) 1.0A 0.6A	B,G B,G D,E C C	135.20	128.44	
744-5435	SDM110G	1 2 3 4 5	+ 5V +12V +24V -12V -5V	12.0A 3.0A (5A PK) 1.5A (3A PK) 3.0A 0.6A	A D D D C	135.20	128.44	

140 Watts (175W PK)								
Stock No.	Mfr.'s Type	Out-put	Volt	Current	Notes	EACH		
						1-9	10-24	
744-5440	SDM140A	1 2 3 4 5	+ 5V +12V +12V -12V -5V	15.0A 3.0A (5A PK) 3.0A (5A PK) 3.0A 0.6A	A D D D C	176.80	167.96	
744-5445	SDM140B	1 2 3 4 5	+ 5V +12V +12V -12V -5V	15.0A 3.0A (5A PK) 3.0A (5A PK) 1.0A 0.6A	B,H B,H D,E C C	176.80	167.96	
744-5450	SDM140G	1 2 3 4 5	+ 5V +12V +24V -12V -5V	15.0A 3.0A (5A PK) 2.5A (4A PK) 3.0A 0.6A	A D D D C	176.80	167.96	

200Watts (250W PK)								
Stock No.	Mfr.'s Type	Out-put	Volt	Current	Notes	EACH		
						1-9	10-24	
744-5455	SDM200A	1 2 3 4 5	+ 5V +12V +12V -12V -5V	20.0A 5.0A (8A PK) 5.0A (8A PK) 3.0A 0.6A	A D D D C	208.00	197.60	
744-5460	SDM200B	1 2 3 4 5	+ 5V +12V +12V -12V -5V	20.0A 5.0A (8A PK) 5.0A (8A PK) 1.2A 0.6A	B,J B,J D,E C C	208.00	197.60	
744-5465	SDM200G	1 2 3 4 5	+ 5V +12V +24V -12V -5V	20.0A 5.0A (8A PK) 4.0A (6A PK) 5.0A 0.6A	A D D D C	208.00	197.60	

*Isolated

Connector Kit for SDS45/SDM45 and SDS80/SDM80 Units Only

744-2019. Type 18-30234-2019 (Amp connector and pins).....EACH 8.32

PAC Series: Encloses Switching Power Supplies

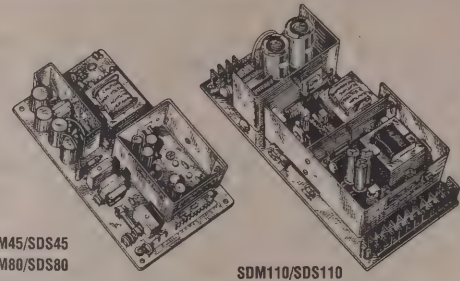
- FCC Class B and VDE 0871 Class B Conducted and Radiated EMI Filtering ► VDE, IEC, U.L. and CSA Approved
 ► Worldwide AC Input Ranges 90-132/180-264VAC with Auto-Switchover - No taps or Switches

These fully enclosed switching power supplies have a safe, ultra-compact design. Their extremely versatile output configurations are made for your tough and varied applications. The IEC AC output connector and VDE approved On/Off switch mean that no additional AC system wiring is required. Other features include an internal fan for full system cooling, high peak current disk drive outputs (as well as 3 terminal type closely regulated outputs), full load burn-in and a 2-year warranty. Plus, with the PAC Series, agency approvals are very easy since all critical parameters are controlled within the supply. There is an additional remote turn-on for add-on applications such as hard disk sub-systems. AC power line signal is provided on 150 and 185 watt units. **Dimensions.** 85/105 Models: 5.75 x 3.70 x 4.20; 2.1 lbs. 150/185 Models: 10.00 x 4.00 x 4.10; 3.0 lbs. **Specifications.** AC Input: 90-132/180-264VAC with fully automated switch-over (no switches or taps required), 47-63 Hz, single phase. Input connections are made through standard IEC320/CEE-22 international type input connector. **AC Switch:** The input AC is controlled by a standard VDE approved DPST rocker switch. In addition, a remote turn-on option is available which allows the unit to be switched on by the application of a +5V logic signal. It is particularly useful for add-on systems (hard disks, etc.) where the remote turn-on line is simply connected to the +5V of the main computer.

Stock No.	Mfr.'s Type	Watts	Out-put	Volt-age	Current	Notes	EACH	
							1-9	10-24
744-0200	PAC 85-01	85 (130W PK)	1 2 3 4	+ 5V +12V -5V -12V	7.0A 7.0A (7.0A PK) 0.5A 1.5A	A B C B	182.00	172.90
744-0205	PAC 85-03	85 (130W PK)	1 2 3 4	+ 5V +12V -5V -15V	6.0A 3.5A (6.0A PK) 0.5A 1.5A	A B C B	182.00	172.90
744-0210	PAC 85-05	85 (130W PK)	1 2 3 4	+ 5V +12V -5V -12V	7.0A 2.5A (4.0A PK) 0.5A 1.5A	A B C B	182.00	172.90
744-0215	PAC 105-01	105 (140W PK)	1 2 3 4	+ 5V +12V -5V -12V	10.0A 5.0A (8.0A PK) 0.6A 2.0A	A B C B	197.60	187.72
744-0220	PAC 105-03	105 (140W PK)	1 2 3 4	+ 5V +12V -5V -15V	8.0A 5.0A (7.0A PK) 0.6A 2.0A	A B C B	197.60	187.72
744-0225	PAC 105-05	105 (140W PK)	1 2 3 4	+ 5V +12V -5V -12V	10.0A 2.5A (4.5A PK) 0.6A 2.0A	A B C B	194.03	184.33

Stock No.	Mfr.'s Type	Watts	Out-put	Volt-age	Current	Notes	EACH	
							1-9	10-24
744-0230	PAC 150-01	150 (180W PK)	1 2 3 4 5	+ 5V +12V 12V -12V -5V	16.0A 5.0A (8.0A PK) 6.0A (4.5 PK) 3.0A 0.5A	A B B,D B C	228.80	217.36
744-0250	PAC 150-05	150 (180W PK)	1 2 3 4 5	+ 5V +12V 24V -12V -5V	16.0A 5.0A (6.0A PK) 2.5A (4.0 PK) 3.0A 0.5A	A B B,D B C	228.80	217.36
744-0275	PAC 185-05	185 (225W PK)	1 2 3 4 5	+ 5V +12V 24V -12V -5V	20.0A 5.0A (8.0A PK) 2.5A (4.0 PK) 3.0A 0.5A	A B B,D B C	249.60	237.12
744-0280	PAC 185-06	185 (225W PK)	1 2 3 4 5	+ 5V +12V 24V -12V -5V	24.0A 5.0A (8.0A PK) 2.5A (4.0 PK) 3.0A 0.5A	A B B B C	249.60	237.12

*Isolated. †Not Used.

SDM45/SDS45
SDM80/SDS80

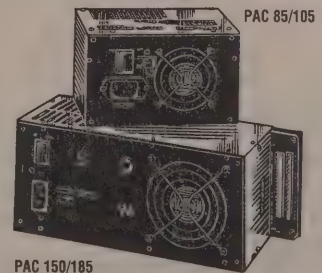
SDM110/SDS110

Notes

- A.** Full regulated output. Voltage adjustable from 4.5V to OVP trip point. Initial setting of +5.0V is ±1.0%.
- B.** Dual sensed reg. output. +5V and +12V outputs (") are sensed in combination to provide tighter reg. of +12V output. Additional cross reg. factor +2.0% must be added in applications where the main +5V output varies ±25%. Initial setting of +5V output is ±1.0%.
- C.** Fully regulated output utilizing fixed 3-terminal regulator.
- D.** Quasi-regulated output requires 20% min. load to meet regulation specs. Additional cross regulation factor of +3% must be added in applications where the main +5V output varies 25%.
- E.** Fully isolated output. May be connected in series with any output, and may be connected for 3 output. May be paralleled with the same output voltage and reg type. (Quasi-Reg and 3-pin outputs will not share loads if connected together).
- F.** The total current for +5V and +12V outputs must not exceed 10A (14A PK).
- G.** The total current for +5V and +12V outputs must not exceed 13A (17A PK).
- H.** The total current for +5V and +12V outputs must not exceed 15A (20A PK).
- J.** The total current for +5V and +12V outputs must not exceed 20A (28A PK).

SDS Output Rating Chart

Stock No.	Mfr.'s Type	Volt	Nominal/Peak Current	Watts	EACH	
					1-9	10-24
744-5205	SDS45-5	5V	9.0A/11.3A	45 W	93.80	88.92
744-5210	SDS45-12	12V	3.8A/4.8A	58W (PK)	93.80	88.92
744-5215	SDS45-24	24V	1.9A/2.4A		93.80	88.92
744-5220	SDS80-5	5V	16.0A/20.0A	80 W	104.00	98.80
744-5225	SDS80-12	12V	6.7A/8.4A	100W (PK)	104.00	98.80
744-5230	SDS80-24	15V	5.3A/6.6A		104.00	98.80
744-5235	SDS110-5	5V	22.0A/27.5A	110 W	130.00	123.50
744-5240	SDS110-12	12V	9.2A/11.5A	138W (PK)	130.00	123.50
744-5245	SDS110-24	24V	4.6A/5.8A		130.00	123.50
744-5250	SDS140-5	5V	28.0A/35.0A	140 W	161.20	153.14
744-5255	SDS140-12	12V	11.7A/14.6A	175W (PK)	161.20	153.14
744-7500	SDS140-15	15V	9.4A/11.8A		161.20	153.14
744-7505	SDS140-24	24V	5.9A/7.4A		161.20	153.14
744-5260	SDS200-5	5V	40.0A/50.0A	200 W	187.20	177.84
744-7510	SDS200-12	12V	16.7A/20.9A	250W (PK)	187.20	177.84
744-7515	SDS200-15	15V	13.4A/16.8A		187.20	177.84
744-5265	SDS200-24	24V	8.4A/10.5A		187.20	177.84



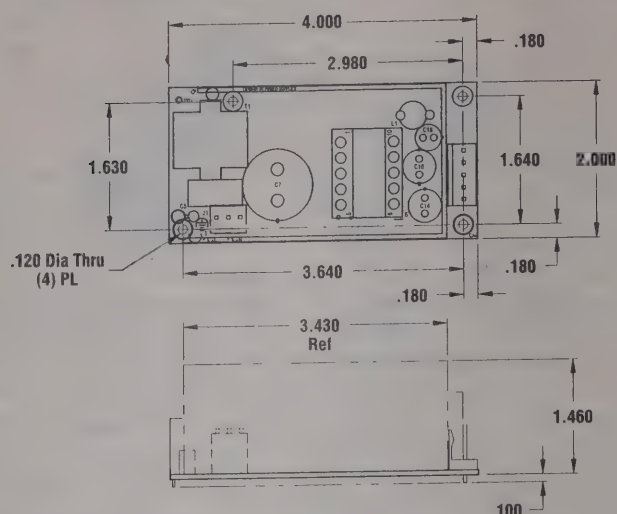
PAC 150/185

Notes:

- A:** Full regulated output. Voltage adjustable from 4.5V to OVP trip point. Initial setting of +5.0V is ±1.0%.
- B.** Quasi-Regulated output requires 20% minimum load to regulation specs. An additional cross regulation factor of ±3.0% must be added in those applications where the main +5V output varies ±25%.
- C:** Fully regulated output utilizing fixed, 3 terminal regulator.
- D:** Fully isolated output. May be connected in series with other outputs for higher voltage applications. May be connected in parallel with another output if both outputs are the same voltage and quasi-regulated.

Options:

- 1.** Mating AMP output connectors with pins are available.
Model 18-30234-0013. For PAC 85 and PAC 105.
744-0002.....EACH 7.28
Model 18-30234-0016. For PAC 150 and PAC 185 (these power supplies require 2 output connector kits).
744-0003.....EACH 10.40
- 2.** A mating IEC 320/CEE-22 type AC input plug and cord set is available. This 6 ft. cord set comes with a standard 3-prong ground plug.
744-0004. Model 20-30793-0001.....EACH 6.24
- 3.** Remote turn-on: This remote turn-on option allows the unit to be switched on by the application of a +5VDC logic signal. 'ON' = 2.4 to 5.5VDC @ 25mA (5V). 'OFF' = 0 to 0.8VDC. This feature is particularly useful in add-on disk systems where the remote turn-on line is simply connected to the +5V of the main computer. Add suffix 'R' to the mfr.'s part number for this non-stock



2" x 4", 40 W, Single Output

General Specifications. **AC Input:** 85-264 VAC, 47-63 Hz single phase. **Input Current:** Maximum input current at minimum 120 VAC, 60 Hz with full rated output load not to exceed 1.3 A. **Output Noise:** 0.5% RMS, 1.5% PK-PK, 20 MHz bandwidth, differential mode. Measured with noise probe directly across output terminals of the power supply. **Reverse Voltage Protection:** All outputs protected against inadvertent application of reverse voltage up to 1 times rated current of the reversed output. **Overload Protection:** Factory set to power limiting at 55 W $\pm$ 6 W. **Efficiency:** 70% minimum at full rated load, nominal input voltage. **Input Protection:** Fuse to be provided by customer. **Inrush Current:** Inrush is limited by internal thermistors. The inrush at 240 VAC, averaged over the first AC half-cycle under cold start conditions, will not exceed 37 A. **Overvoltage Protection:** A latching overvoltage protection provided.

Stock No.*	Mfr.'s Type*	Vout (VDC)	Iout (Amps)	Line Regulation (%)	Load Regulation (%)	EACH	
						1-9	
						Commercial	Medical
744-002X	GPX41-5	5 V	5.0 A	±1%	±5%	50.00	60.00
744-003X	GPX41-12	12 V	3.3 A	±1%	±5%	50.00	60.00
744-004X	GPX41-15	15 V	2.6 A	±1%	±5%	50.00	60.00
744-005X	GPX41-24	24 V	1.6 A	±1%	±5%	50.00	60.00
744-006X	GPX41-48	48 V	0.8 A	±1%	±5%	50.00	60.00

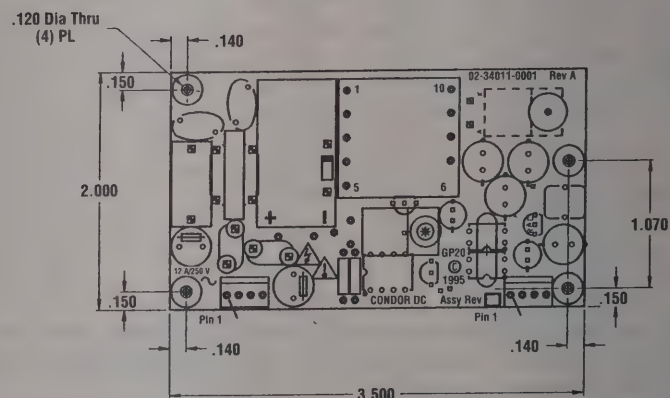
*GPM = Medical. GPC = Commercial. Replace X in Stock No. with 1 for medical, 2 for commercial.

20 W. Wide Range

General Specifications. AC Input: 90-264 VAC, 47-63 Hz single phase. **Input Current:** Maximum input current at minimum 120 VAC, 60 Hz with full rated output load is .65 A. **DC Outputs. Hold-Up Time:** 15 mSec minimum from loss of AC input at full load, nominal line (115 VAC). **Output Power:** Normal continuous output power is 20 W, 24 W peak for 60 seconds max. duration. Factory set to begin limiting at 28 W. **Output Regulation:** Regulation measured by $\pm 40\%$ load change from 60% rated load with all other outputs at 60% full rated load and a line voltage change from low line to high line. Initial set tolerance is measured with all outputs at 60% of full rated load. **Overload Protection:** Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit. **No Load Turn-On/Standby:** No degradation of reliability will occur however regulation could be affected. **Output Noise:** 0.5% RMS, 1" PK-PK, 20 MHz bandwidth, differential mode. Measured using a 12" twisted pair harness with 47 μ F capacitance at terminating end. Fundamental switching frequency ripple and noise may be substantially improved by placing a 100 μ F low ESR capacitor at load. **Transient Response:** 750 μ Sec. typical response time for return to within 0.5% of final value for a 50% load step change, $Di/Dt < 0.2$ A/ μ Sec. Maximum voltage deviation is 3.5%. **Overvoltage Protection:** Built in with firing point set per table below. OVP firing reduces output voltage to less than 75% of nominal voltage in 50 msec.

Output V	Trip Point
5 V	6.2 V ± 0.6
12 V	14.0 V ± 1.0
15 V	19.0 V ± 1.5
24 V	28.0 V ± 2.0
28 V	34.0 V ± 2.8

Voltage Adjustment: Factory set with fixed resistors to maximize reliability. **Efficiency:** 72% minimum for 5 V model and improves as output voltage increases. **Overshoot:** Less than 3% overshoot at turn-on under nominal conditions, inversely proportional to input voltage and temperature. Less than 2% overshoot at turn-off under all conditions. **Turn-On Time:** Less than 1 second at 110 VAC, 25°C (inversely proportionate to input voltage and thermistor temperature). **Input Protection:** 2 internal AC fuses provided on all Medical units. 1 internal AC fuse provided on all Commercial units. Designed to blow only if a catastrophic failure occurs in the unit — Fuses do not blow on overload or short circuit. **Inrush Current:** Inrush is limited by internal thermistors. The inrush at 240 VAC, averaged over the first AC half-cycle under cold start conditions will not exceed 25 A. **Temperature Coefficient:** 0.03%/°C typical on all outputs. **Temperature Range:** 0 to 50°C at full rated output power. See Operating Temperature Table for additional details on each model. For operation in a confined space, moving air may be required. Under all conditions, the cooling vs. load profile should be such that heatsinks and/or chassis temperatures do not exceed 95°C for extended periods. **Storage:** -40 to -85°C. Units should be allowed to warm-up under non-condensing conditions before application of power. **Altitude:** -500 to 10000'. **EMI Compliance:** All models include built-in EMI filtering to meet or exceed the emissions requirements of FCC Class B, CISPR 11-Class B, CISPR 11-Class B, and VDE 0871 Class B to 150 kHz. Typical margins -3 dB at all frequencies and line/load conditions. **Safety:** All GSC models are approved to UL 1950 (with no D3 deviations), CSA22.2 No. 23, Level 3, IEC950, EN60950 and VDE 0805 (contact factory for approval status). Leakage current not to exceed 300 µA. All GSM models are approved to UL 2601, CSA C22.2 No. 234 Level 3 and CSA C22.2 601.1, IEC601-1, EN60601-1 (contact factory for approval status). Leakage current not to exceed 30 µA. **Packaging:** Units are shipped in 50 piece multiples, a 50 piece minimum order is required. **Shock and Vibration:** All models are designed to meet MIL-STD 810E, Method 514.4 Category I. This test consists of random vibration at 0.015 g²/Hz from 5 to 50 Hz, declining linearly to 0.0015 g²/Hz at 500 Hz in each axis for 1 Hr. All models designed to meet MIL-STD 810E, Method 516.4. Unpackaged units shall meet the bench handling requirements of Procedure VI for 4 drops per face.



INPUT 4 PIN .1 centers Molex 22-035045	Pin 1 AC Line
	Pin 4 AC Neu
OUTPUT 4 PIN .1 centers Molex 22-035045	Pin 1,2 RTN
	Pin 3,4 OUT

Connector Mates Molex TYPE 50-375043

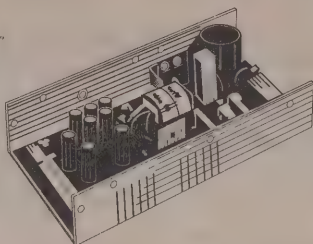
Packaged units shall meet the requirements of Procedure IV for transit/shipping drops comprised of 4 drops on each face of the standard container from 30" onto a plywood base. Unless otherwise noted, all parameters are measured at 115 VAC @ 25°C and represent the nominal values. For limits at unusual operating conditions, consult factory.

Stock No.*	Mfr.'s Type	Output	Output (V)	Current (I)	Set Tolerance	Line/Load Regulation	Ripple and Noise	EACH	
								1-9	
								Commercial	Medical
744-007X	GSX20-5	1	5.1 V	4.00 A	1.5%	1%	1%	48.00	52.00
744-008X	GSX20-12	1	12.0 V	1.70 A	1.5%	1%	1%	48.00	52.00
744-009X	GSX20-15	1	15.0 V	1.40 A	1.5%	1%	1%	48.00	52.00
744-010X	GSX02-24	1	24.0 V	0.85 A	1.5%	1%	1%	48.00	52.00
744-011X	GSX20-28	1	28.0 V	0.70 A	1.5%	1%	1%	48.00	52.00

*GSM = Medical. GSC = Commercial. Replace X in Stock No. with 1 for medical, 2 for commercial.

Switching Power Supplies

Global Performance switching power supplies with the agency approvals you need. **Features:** Wide range input (85-264V) and are approved to UL1950, IEC950, VDE0805, CSA, FCC and VDE Class B for EMI. All models also are available in medical configurations, approved to UL 544 and IEC 601. **Input Protection:** Internal A.C. fuse provided on all units. This fuse only blows if a catastrophic failure occurs in the unit — it does not blow on overload or short circuit. A.C. input protected against line transients by metal oxide varistors on all medical units. **Output Noise and Ripple:** 0.5% RMS, 1% PK-PK maximum on all outputs. **Overload Protection:** Fully protected against short circuit and output overload on all outputs. Short circuit protection is cycling type on most outputs; foldback on outputs with 3 terminals regulator post regulation. Overload protection recovery after removal of fault is automatic. **Temperature Coefficient:** 0.03% per degree C typical for all outputs. All medical models are built-to-order, non-cancelable, non-returnable.



Fully protected against short circuit and output overload on all outputs. Short circuit protection is cycling type on most outputs; foldback on outputs with 3-terminal regulator post regulation. Overload protection recovery after removal of fault is automatic. **Minimum Load:** Turn-On/Standby. No minimum load required for proper operation. **Normal Operation:** Output #1 and/or #2 combined load current must meet the minimums listed below for proper regulation as other outputs are loaded (GPX55 1.0A GP × 130 2.0A/GPX80 1.0A Single output — Not Required). **Transient Response:** +5V main output — 500 mS typical response time for a 50 to 100% or 100 to 50% load change; maximum voltage deviation — 3.5%. **Voltage Adjustment:** Built-in potentiometer adjusts voltage from 4.5V to OVP trip point (6.2V nominal) on the +5V output. A separate potentiometer adjusts output #2 ±5% minimum. **Reverse Voltage Protection:** All outputs protected against inadvertent application of reverse voltage up to 1 times the rated current of the reversed output. **Temperature Rating:** 0 to 50°C at full rated output power with natural convection cooling in a non-restricted environment. For operation in a confined space, moving air may be required. For operation above 50°C, it is important that the cooling vs. load profile is such that the heatsinks do not operate above 90°C for extended periods. **EMI Specifications:** All models include built-in EMI filters to meet or exceed the conducted emissions requirements of FCC 20870 Class B and VDE 0871 Class B. **Safety Specifications:** All commercial models are designed to meet UL 1950, CSA 1402C Level 3, IEC 950, VDE EN60950 and VDE 0750. All medical models are approved to UL 544 and IEC 601-1. All commercial models are approved to UL 1950 without D3 deviation, CSA 22.2.234, IEC 950, VDE EN60950 and VDE0750.

GP Models

AC Input: 85-264 VAC, 47-63 Hz single phase. **DC Outputs:** See output rating chart. **Hold-up Time:** 20 mS minimum at full load and nominal line (115 VAC). **Overload Protection:**

Global Performance Series Output Ratings

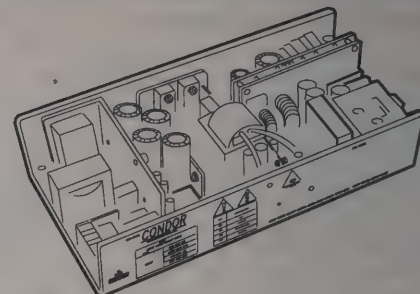
Stock No.*	Mfr.'s Type	Output 1	Output 2	Output 3	Output 4	Output 5	Total Power Watts	Size (Inches)	EACH			
									Commercial		Medical	
									1-9	10-24	1-9	10-24
744-X000	GPX40A	+5V @ 4.0A	+12V @ 2.0A (3PK)	-12V @ 0.4A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X005	GPX40B	+5V @ 4.0A	+15V @ 2.0A (3PK)	-15V @ 0.4A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X200	GPX40D	+5V @ 4.0A	+24V @ 1.0A (1.5APK)	-12V @ 0.4	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X101	GPX40-3.3	3.3V @ 8.0A (10PK)	N/A	N/A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X205	GPX40-5	5V @ 8.0A	N/A	N/A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X206	GPX40-9	9V @ 4.5A (6PK)	N/A	N/A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X210	GPX40-12	12V @ 3.3A	N/A	N/A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X215	GPX40-15	15V @ 2.7A	N/A	N/A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X216	GPX40-24	24V @ 1.7A (2.1PK)	N/A	N/A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-X102	GPX40-28	28V @ 1.4A (1.8PK)	N/A	N/A	N/A	N/A	40	3.00 × 5.00 × 1.28	62.40	59.28	74.88	71.14
744-7700‡	GPC50A	+5V @ 5.0A (7PK)	+12V @ 2.0A (3PK)	-12V @ 0.5A (1PK)	N/A	N/A	50	6.30 × 3.92 × 1.57	64.48	61.26	N/A	N/A
744-7710	GPC50F	+5V @ 5.0A (7PK)	+12V @ 1.2A (1.5PK)	-12V @ 0.5A (1PK)	N/A	N/A	50	6.30 × 3.92 × 1.57	64.48	61.26	N/A	N/A
744-X010	GPX55A	+5V @ 6.0A	+12V @ 3.0A (5PK)	+12V @ 1.0A	-12V @ 1.0A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X015	GPX55B	+5V @ 6.0A	+12V @ 3.0A (5PK)	-12V @ 1.0A	-5V @ 1.0A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X225	GPX55C	+5V @ 6.0A	+15V @ 3.0A (5APK)	-15V @ 1.0A	-5V @ 1.0A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X020	GPX55D	+5V @ 6.0A	+24V @ 1.5A (2PK)	+12V @ 1.0A	-12V @ 1.0A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X025	GPX55E	+5V @ 6.0A	+24V @ 1.5A (2PK)	+15V @ 1.0A	-15V @ 1.0A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X026	GPX55F	+5V @ 6.0A	+12V @ 3.0A (5PK)	+15V @ 1.0A	-15V @ 1.0A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X030	GPX55-5	5V @ 11.0A	N/A	N/A	N/A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X035	GPX55-12	12V @ 4.7A	N/A	N/A	N/A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X040	GPX55-15	15V @ 3.7A	N/A	N/A	N/A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-X045	GPX55-24	24V @ 2.3A	N/A	N/A	N/A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	99.84	94.85
744-7705‡	GPC55-48	48V @ 1.5A	N/A	N/A	N/A	N/A	55	6.30 × 3.94 × 1.68	83.20	79.04	N/A	N/A
744-X050	GPX80A	+5V @ 12.0A	+12V @ 3.0A (5PK)	-12V @ 1.0A	+12V @ 1.0A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X055	GPX80B	+5V @ 12.0A	+12V @ 3.0A (5PK)	-12V @ 1.0A	-5V @ 1.0A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X060	GPX80C	+5V @ 12.0A	+12V @ 3.0A (5PK)	-15V @ 1.0A	+15V @ 1.0A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X065	GPX80D	+5V @ 12.0A	+24V @ 2.0A (4PK)	-12V @ 1.0A	+12V @ 1.0A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X070	GPX80E	+5V @ 12.0A	+24V @ 2.0A (4PK)	-15V @ 1.0A	+15V @ 1.0A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X230	GPX80P	+5V @ 12.0A	+24V @ 3.5A (4.5APK)	-12V @ 1.0A	+12V @ 2.0A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X075	GPX80-5	5V @ 16.0A	N/A	N/A	N/A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X080	GPX80-12	12V @ 6.7A	N/A	N/A	N/A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X085	GPX80-15	15V @ 5.3A	N/A	N/A	N/A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X090	GPX80-24	24V @ 3.4A	N/A	N/A	N/A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	137.28	130.42
744-X096	GPC80-48	48V @ 2.3A	N/A	N/A	N/A	N/A	80	7.00 × 4.25 × 1.86	114.40	108.68	N/A	N/A
744-X095	GPX130A	+5V @ 16.0A	+12V @ 5.0A (8PK)	-12V @ 1.2A	+12V @ 1.2A	N/A	130	8.50 × 4.50 × 2.00	166.40	158.08	199.68	189.70
744-X100	GPX130B	+5V @ 16.0A	+12V @ 5.0A (8PK)	-5V @ 1.2A	-12V @ 1.2A	N/A	130	8.50 × 4.50 × 2.00	166.40	158.08	199.68	189.70
744-X235	GPX130C	+5V @ 16.0A	+12V @ 5.0A (8APK)	-15V @ 1.2A	+15V @ 1.2A	N/A	130	8.50 × 4.50 × 2.00	166.40	158.08	199.68	189.70
744-X105	GPX130D	+5V @ 16.0A	+24V @ 3.5A (5PK)	-12V @ 1.2A	+12V @ 1.2A	N/A	130	8.50 × 4.50 × 2.00	166.40	158.08	199.68	189.70
744-X110	GPX130E	+5V @ 16.0A	+24V @ 3.5A (5PK)	-15V @ 1.2A	+15V @ 1.2A	N/A	130	8.50 × 4.50 × 2.00	166.40	158.08	199.68	189.70
744-X115	GPX140-5	5V @ 26.0A	N/A	N/A	N/A	N/A	140	8.50 × 4.50 × 2.12	158.08	150.18	182.00	172.90
744-X120	GPX140-12	12V @ 11.7A	N/A	N/A	N/A	N/A	140	8.50 × 4.50 × 2.12	158.08	150.18	182.00	172.90
744-X125	GPX140-15	15V @ 9.3A	N/A	N/A	N/A	N/A	140	8.50 × 4.50 × 2.12	158.08	150.18	182.00	172.90
744-X130	GPX140-24	24V @ 6.0A	N/A	N/A	N/A	N/A	140	8.50 × 4.50 × 2.12	158.08	150.18	182.00	172.90
744-X103	GPX140-28	28V @ 5.7A	N/A	N/A	N/A	N/A	140	8.50 × 4.50 × 2.12	158.08	150.18	182.00	172.90
744-X135	GPX200A**	+5V @ 26.0A (32PK)	+12V @ 8.0A (12PK)	-12V @ 1.2A (1.5PK)	12V @ 4.0A (4.5PK)	†	200	9.00 × 5.00 × 2.50	239.20	227.24	287.04	272.69
744-X138	GPX200B**	+5V @ 26.0A (32PK)	+12V @ 8.0A (12PK)	-5V @ 1.2A (1.5PK)	12V @ 4.0A (4.5PK)	†	200	9.00 × 5.00 × 2.50	239.20	227.24	287.04	272.69
744-X145	GPX200D**	+5V @ 26.0A (32PK)	+24V @ 5.0A (6.5PK)	-12V @ 1.2A (1.5PK)	12V @ 4.0A (4.5PK)	†	200	9.00 × 5.00 × 2.50	239.20	227.24	287.04	272.69
744-X150	GPX200E**	+24V @ 5.0A (6 PK)	-15V @ 1.2A (1.5PK)	15V @ 4.0A (4.5PK)	N/A	†	200	9.00 × 5.00 × 2.50	239.20	227.24	287.04	272.69
744-X155	GPX200F**	+5V @ 26.0A (32 PK)	+12V @ 8.0A (12 PK)	-12V @ 1.2A (1.5PK)	5V @ 4.0A (4.5PK)	†	200	9.00 × 5.00 × 2.50	239.20	227.24	287.04	272.69
744-X240	GPX225-5**	5V @ 40.0A (45PK)	N/A	N/A	N/A	N/A	225	9.00 × 5.00 × 2.50	226.72	215.38	276.00	262.08
744-X245	GPX225-12**	12V @ 19.0A (20PK)	N/A	N/A	N/A	N/A	225	9.00 × 5.00 × 2.50	226.72	215.38	276.00	262.08
744-X250	GPX225-15**	15V @ 15.0A (16PK)	N/A	N/A	N/A	N/A	225	9.00 × 5.00 × 2.50	226.72	215.38	276.00	262.08
744-X255	GPX225-24**	24V @ 9.0A (10PK)	N/A	N/A	N/A	N/A	225	9.00 × 5.00 × 2.50	226.72	215.38	276.00	262.08
744-X260	GPX225-28**	28V @ 8.0A (8.4PK)	N/A	N/A	N/A	N/A	225	9.00 × 5.00 × 2.50	226.72	215.38	276.00	262.08

*Replace X in Stock No. as follows: 7 = Commercial version for data processing, control, etc., applications; 8 = Medical version. †Optional 5th output up to 2 amps @ ±5, 12 or 15V; consult factory. ‡Not available in Medical. For optional enclosure information, consult factory. **26 CFM forced air cooling required.

350 W Switching Power Supplies — Rainbow Series

- Automatic Line Range Selection
- Fully Regulated and Floating Outputs
- 5.00" × 9.50" × 2.50"
- Modular Output Configurations
- 2 Year Warranty
- FCC/VDE Level B

- Commercial and Medical Safety Approvals
- AC Power Fail Signal
- Remote Inhibit
- Optional Fan/Cover Package
- "SMART LOAD" Eliminates Minimum Load Requirements



Electrical Specifications — Input

- RSx = 90-135 and 180-264 VAC
- AC Frequency Range: 47-63 Hz
- Conducted Emissions: FCC/VDE Class B
- Input Current: 8/4 A
- Inrush Current: 40 A Max.

Electrical Specifications — Safety Agencies

- Commercial Units: UL 1950 (No D3 Deviations), IEC950, CSA 22.2 No. 234, EN60950
- Medical Units: UL 544, IEC601-1, CSA 22.2 No. 601.1 for Patient Vicinity (Non-Invasive) Applications, Consult Allied for Approval Status

Electrical Specifications — Output

- Adjustment Range: $\pm 5\%$
- Power: 350 W with 12 CFM (390 W peak)
- Minimum Load: "SMART LOAD" Eliminates Minimum Load Requirement
- Output Noise: 0.5% RMS, 1% pk-pk
- Line Regulation: $\pm 0.2\%$ All Outputs
- Total Regulation: Main — $\pm 1\%$; Aux. — $\pm 2\%$
- Remote Sense: Standard on Main Output
- Hold-Up Time: 20 mSec
- Overcurrent Protection: Automatic Recovery, Set at 415 W
- Efficiency: 74% Minimum at Full Load
- Overvoltage Protection: Included on All Outputs

Electrical Specifications — Environmental

- Operating Temperature: 0-50°C
- Storage Temperature: -40-85°C
- Thermal Shutdown: Automatic

Output Configurations

- "A" Auxiliary Output Adjusts From 4.7 to 5.3 VDC
- "B" Auxiliary Output Adjusts From 11.5 to 15.5 VDC
- "C" Same as "B"; Factory Set at 15 VDC
- "D" Auxiliary Output Adjusts From 23 to 29 VDC
- Specifications Subject to Change

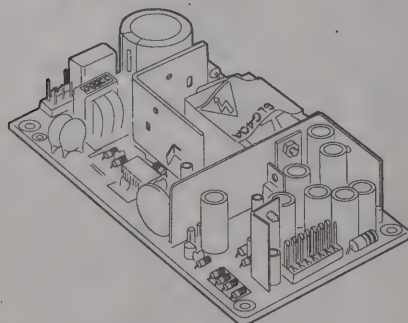
Commercial Models

Stock No.	Mfr.'s Type	Output DC				EACH
		Main	AUX 1	AUX 2	AUX 3	
744-9100	RSC350BBB	5 V @ 40 A	12 V @ 14 A	12 V @ 4 A	12 V @ 4 A	489.00
744-9101	RSC350DBB	5 V @ 40 A	24 V @ 7 A	12 V @ 4 A	12 V @ 4 A	489.00
744-9102	RSC350DAC	5 V @ 40 A	24 V @ 7 A	5 V @ 4 A	15 V @ 4 A	489.00
744-9103	RSC350BAB	5 V @ 40 A	12 V @ 14 A	5 V @ 4 A	12 V @ 4 A	489.00

Medical Models

Stock No.	Mfr.'s Type	Output DC				EACH
		Main	AUX 1	AUX 2	AUX 3	
744-9104	RSM350BBB	5 V @ 40 A	12 V @ 14 A	12 V @ 4 A	12 V @ 4 A	536.00
744-9105	RSM350DBB	5 V @ 40 A	24 V @ 7 A	12 V @ 4 A	12 V @ 4 A	536.00
744-9106	RSM350DAC	5 V @ 40 A	24 V @ 7 A	5 V @ 4 A	15 V @ 4 A	536.00
744-9107	RSM350BAB	5 V @ 40 A	12 V @ 14 A	5 V @ 4 A	12 V @ 4 A	536.00

40 W Wide-Input, GLC Series



- AC Input: 90-264 VAC, 47-63 Hz Single Phase
- Input Current: Maximum Input Current at Minimum 120 VAC, 60 Hz with Full Rated Output Load Is 1.3 A
- Hold-Up Time: 20 mSec Minimum from Loss of AC Input At Full Load, Nominal Line (115 VAC)
- Output Power: 40 W
- Output Regulation: Regulation Measured by $\pm 40\%$ Load Change from 60% Rated Load with All Other Outputs at 60% Full Rated Load and a Line Voltage Change from Low Line to High Line. Initial Set Tolerance Is Measured with All Outputs at 60% of Full Rated Load
- Overload Protection: Fully Protected Against Short Circuit and Output Overload; Short Circuit Protection Is Cycling Type Power Limit on Output #1 and #2; Foldback Type on Output #3; Factory Set to Begin Power Limiting at 55 W
- No Load Turn-On/Standby: No Degradation of Reliability Will Occur However Regulation Will Be Affected
- Output Noise: 0.5% RMS, 1% Pk-Pk, 20 MHz Bandwidth, Differential Mode; Measured with Scope Probe Directly Across Output Terminals of the Power Supply with Load Terminated with 0.1 μ F Capacitor
- Transient Response: Main Output — 500 μ Sec Typical Response Time for Return to Within 0.5% of Final Value for a 50% Load Step Change, Di/Dt < 0.2 A/ μ Sec; Maximum Voltage Deviation Is 3.5%

- Overvoltage Protection: Built In On +5 V Output with Firing Point Set at 6.2 V ± 0.6 V; OVP Firing Reduces +5 V and Output #2 to Less Than 50% of Nominal Voltage in 50 mSec
- Voltage Adjustment: Factory Set on Standard Unit; However, Optional Potentiometer Adjusts Voltage from 4.7 V to OVP Point (6.2 V Nominal) on the +5 V Output; Note: Output #1 Must Not Be More Than 1% Below Nominal to Achieve Full Output Voltage Range on Output #2; Output Regulation Limits in Some Models May Be Exceeded When the Main Output Is Adjusted Beyond $\pm 1\%$ of Nominal Voltage; High Voltage Settings May Degrade the Reliability of the Unit Due to Excessive Power Dissipation in Some Outputs, Consult Factory for Application Assistance
- Efficiency: 65% Minimum at Full Rated Load, Nominal Input Voltage, Depending on Model and Load Distribution
- Overshoot: Less Than 3% Overshoot at Turn-On Under Nominal Conditions, Inversely Proportional to Input Voltage and Temperature; Less Than 2% Overshoot at Turn-Off Under All Conditions
- Turn-On Time: Less Than 1 Second at 110 VAC, 25°C (Inversely Proportionate to Input Voltage and Thermistor Temperature)
- Input Protection: Internal AC Fuse Provided on All Units; Designed to Blow Only if a Catastrophic Failure Occurs in the Unit; Fuse Does Not Blow on Overload or Short Circuit
- Inrush Current: Inrush Is Limited by Internal Thermistors; The Inrush at 240 VAC, Averaged Over the First AC Half-Cycle Under Cold Start Conditions Will Not Exceed 37 A
- Storage: -40 to +85°C; Units Should Be Allowed to Warm-Up Under Non-Condensing Conditions Before Application of Power

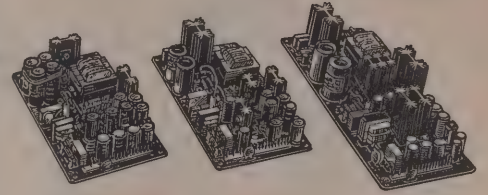
- Temperature Coefficient: 0.03%/°C Typical On All Outputs
- Temperature Range: 0 to 50°C at Full Rated Output Power for 40; For Operation in a Confined Space, Moving Air May Be Required; Under All Conditions, the Cooling Vs. Load Profile Should Be Such that Heatsinks and/or Chassis Temperatures Do Not Exceed 90°C for Extended Periods
- Altitude: -500 to 10,000 Feet
- EMI Compliance: All Models Include Built-In EMI Filtering to Meet or Exceed the Emissions Requirements of FCC Class B, CISPR 11-Class A and VDE 0871 Class A to 10 kHz; Typical Margins > 3 dB at all Frequencies and Line/Load Conditions
- Safety: All GLC Models Are Approved to UL 1950 (With No D3 Deviations), CSA 22.2 No. 234 Level 3, IEC950, EN60950 and VDE 0805 (Consult Allied for Approval Status)
- Shock and Vibration: All Models Are Designed to Meet MIL-STD 810E, Method 514.4 Category I; This Test Consists of Random Vibration at 0.015g²/Hz at 500 Hz from 5 to 50 Hz Declining Linearly to 0.0015g²/Hz at 500 Hz in Each Axis for One Hour; All Models Designed to Meet MIL-STD 810E, Method 516.4; Unpackaged Units Shall Meet the Bench Handling Requirements of Procedure VI for Four Drops Per Face; Packaged Units Shall Meet the Requirements of Procedure IV for Transit/Shipping Drops Comprised of Four Drops on Each Face of the Standard Container from 30 inches onto a Plywood Base
- Packaging: Each Unit Individually Wrapped in Anti-Static Bag
- Unless Otherwise Noted, All Parameters Are Measured at 115 VAC at 25°C and Represent the Nominal Values; Consult Allied for Limits at Unusual Operating Conditions

Stock No.	Mfr.'s Type	Output (V)	Current (I)	Set Tolerance	Line/Load Regulation	Ripple and Noise	EACH	
							1-9	10-24
744-9108	GLC40A	+ 5 V +12 V -12 V	3.00 A 2.00 A 0.35 A	1% 5% 5%	6% 6% 6%	1% 1% 1%	50.00	47.00
744-9109	GLC40B	+ 5 V +15 V -15 V	3.00 A 1.50 A 0.35 A	1% 5% 5%	6% 6% 6%	1% 1% 1%	50.00	47.00
744-9110	GLC40D	+ 5 V +24 V -12 V	3.00 A 1.00 A 0.40 A	1% 5% 5%	6% 6% 6%	1% 1% 1%	50.00	47.00

Value Line Switching Power Supplies

These VDE, IEC, UL and CSA approved switching power supplies feature full load burn-in and a 2-year warranty. V-Series types have high peak current disk drive outputs, as well as 3 terminal type closely regulated outputs. An internal AC fuse is provided on all units for input protection. All outputs are protected against the Class A conducted EMI filtering.

SPECIFICATIONS. AC Input: 90-132/180-264VAC user selectable, 47-63 Hz single phase. **Overload Protection:** Fully protected against output overload and short circuit. Automatic recovery after removal of fault. **Reverse Voltage Protection:** All outputs protected against inadvertent application of reverse voltage. **Input Protection:** Internal AC fuse provided on all units. **Current Limit Adjustment:** Built in potentiometer factory set to begin current limiting at the following peak power output minimum under nominal line conditions. **Efficiency:** 70% $\pm$ 5% depending on model and load distribution. Measured at 100% of rated power. **Over voltage Protection:** Built in on+5V outputs with firing point set at 6.2V $\pm$ 0.6V. **Output Noise and Ripple:** 0.5% rms, 1.5% p-p maximum on all outputs.



Type	Dimensions—Inches			Weight
	L	H	W	
VBA	5.00	1.30	3.00	12 oz.
VCA	6.30	1.65	3.90	14 oz.
VEA	7.75	1.90	4.25	1.5 lbs.
VFA	7.75	1.90	4.25	1.5 lbs.
VHA	8.40	2.20	4.60	1.6 lbs.
VKA	10.40	2.20	4.60	1.9 lbs.

Stock No.	Mfr.'s Type	Watts	Output	Voltage	Current	Notes	EACH	
							1-9	10-24
744-6000	VBA326	30W (35 PK)	1	+ 5V	3.0A	A	78.00	74.10
			2	+12V	0.5A	C		
			3	-12V	0.5A	C		
744-6010	VBA323	30W (35 PK)	1	+ 5V	3.0A	A	78.00	74.10
			2	+15V	0.5A	C		
			3	-15V	0.5A	C		
744-0480	VCA326	30W (35 PK)	1	+ 5V	4.00A	E	78.00	74.10
			2	+12V	3.00A (3.5 PK)	E		
			3	-12V	0.80A	C		
744-0485	VCA426	45W (55 PK)	1	+ 5V	4.00A	E	64.48	61.26
			2	+12V	3.00A (3.5 PK)	E		
			3	-12V	0.80A*	C		
		45W (55 PK)	4	- 5V	0.20A*	C		
744-0490	VCA423		1	+ 5V	4.00A	E	64.48	61.26
			2	+15V	2.00A (2.5 PK)	E		
			3	-15V	0.70A*	C		
		45W (55 PK)	4	- 5V	0.15A*	C		
744-0495	VCA420		1	+ 5V	4.00A	E	64.48	61.26
			2	+12V	3.00A (3.5 PK)	E		
			3	-12V	1.80A	C		
		45W (55 PK)	4	- 5V	0.25A	C		
744-6020	VEA405	60W (80 PK)	1	+ 5V	6.0A	E	83.20	79.04
			2	+15V	2.0A (3.5A PK)	E		
			3	-15V	0.7A	C		
		60W (80 PK)	4	- 5V	0.5A	C		
744-6025	VEA424		1	+ 5V	6.0A	E	83.20	79.04
			2	+15V	2.0A (3.5A PK)	E		
			3	-15V	0.7A	C		
		60W (80 PK)	4	+24V	1.2A (2.0A PK)	B		
744-6030	VEA417		1	+ 5V	6.0A	E	83.20	79.04
			2	+12V	2.5A (4.0A PK)	E		
			3	-12V	1.0A	B		
		60W (80 PK)	4	- 5V	0.5A	C		
744-6035	VEA412		1	+ 5V	6.0A	E	83.20	79.04
			2	+12V	2.5A (4.0A PK)	E		
			3	-12V	1.0A	B		
		60W (80 PK)	4	+12V	0.7A	C		
744-6040	VEA436		1	+ 5V	6.0A	E	83.20	79.04
			2	+12V	2.0A (3.5A PK)	E		
			3	-12V	0.7A	C		
		60W (80 PK)	4	+24V	1.2A (2.0A PK)	B		
744-0405	VFA420	85W (130 PK)	1	+ 5V	8.0A	A	98.80	93.86
			2	+12V	2.5A (4.5A PK)	B		
			3	12V Isolated	2.5A (4.5A PK)	B,D		
		85W (130 PK)	4	-12V	2.5A	B		
744-0410	VFA421		1	+ 5V	8.0A	A	98.80	93.86
			2	+12V	2.5A (4.5A PK)	B		
			3	12V Isolated	2.5A (4.5A PK)	B,D		
		85W (130 PK)	4	- 5V	2.5A	B		
744-0415	VFA423		1	+ 5V	6.0A	A	98.80	93.86
			2	+15V	2.5A (3.5A PK)	B		
			3	15V Isolated	2.5A (3.5A PK)	B,D		
		85W (130 PK)	4	- 5V	2.5A	B		
744-0420	VFA430		1	+ 5V	8.0A	A	98.80	93.86
			2	+12V	2.5A (4.5)	B		
			3	24V Isolated	2.0A (4.0)	B,D		
		85W (130 PK)	4	-12V	2.5A	B		
744-0425	VHA420		1	+ 5V	10.0A	A	119.60	113.62
			2	+12V	3.0A (4.5A PK)	B		
			3	12V Isolated	3.0A (4.5A PK)	B,D		
		85W (130 PK)	4	-12V	2.0A	B		
			5	- 5V	0.5A	C		

Stock No.	Mfr.'s Type	Watts	Output	Voltage	Current	Notes	EACH	
							1-9	10-24
744-0430	VHA426	100W (140 PK)	1	+ 5V	10.0A	A	119.60	113.62
			2	+12V	3.0A (4.5A PK)	B		
			3	12V Isolated	1.0A	C,D		
		100W (140 PK)	4	-12V	1.0A	C	119.60	113.62
			5	- 5V	0.2A	C		
744-0435	VHA427		1	+ 5V	10.0A	A	119.60	113.62
			2	+12V	3.0A (4.5A PK)	B		
			3	15V Isolated	1.0A	C,D		
		100W (140 PK)	4	-15V	1.0A	C	119.60	113.62
			5	- 5V	0.2A	C		
744-0440	VHA423		1	+ 5V	7.0A	A	119.60	113.62
			2	+15V	2.5A (4.0A PK)	B		
			3	-15V	2.5A (4.0A PK)	B		
		100W (140 PK)	4	- 5V	0.2A	C	119.60	113.62
744-0445	VHA428		1	+ 5V	13.0A	A		
			3	12V Isolated	3.0A (4.5A PK)	B,D		
		100W (140 PK)	4	-12V	3.0A (4.5A PK)	B	119.60	113.62
			5	- 5V	0.5A	C		
744-0450	VHA430		1	+ 5V	10.0A	A	119.60	113.62
			2	+12V	3.0A (4.5)	B		
			3	24V Isolated	2.5A (4.0)	B,D		
		100W (140 PK)	4	-12V	2.0A	B	119.60	113.62
			5	- 5V	0.5A	C		
744-0455	VKA420	125W (155 PK)	1	+ 5V	15.0A	A	130.00	123.50
			2	+12V	4.0A (6.0A PK)	B		
			3	12V Isolated	3.0A	B,D		
		125W (155 PK)	4	-12V	3.0A	B	130.00	123.50
			5	- 5V	0.5A	C		
744-0460	VKA426		1	+ 5V	15.0A	A	130.00	123.50
			2	+12V	4.0A (6.0A PK)	B		
			3	12V Isolated	1.0A	C,D		
		125W (155 PK)	4	-12V	1.0A	C	130.00	123.50
			5	- 5V	0.2A	C		
744-0465	VKA427		1	+ 5V	15.0A	A	130.00	123.50
			2	+12V	4.0A (6.0A PK)	B		
			3	15V Isolated	1.0A	C,D		
		125W (155 PK)	4	-15V	1.0A	C	130.00	123.50
			5	- 5V	0.2A	C		
744-0470	VKA423		1	+ 5V	10.0A	A	130.00	123.50
			2	+15V	3.0A (4.0A PK)	B		
			3	-15V	3.0A (4.0A PK)	B		
		125W (155 PK)	4	- 5V	0.4A	C	130.00	123.50
744-0475	VKA430		1	+ 5V	15.0A	A		
			2	+12V	4.0A (6.0A)	B		
			3	24V Isolated	3.0A (4.5)	B,D		
		125W (155 PK)	4	-12V	3.0A	B	130.00	123.50
			5	- 5V	0.5A	C		

*Ratings of these negative outputs assume that other negative output is at no load. Total combined loading cannot exceed 100%; that is, if one negative output was running at 70% of rated load, then the other negative output cannot exceed 30% of rated load.

Notes:

A: Fully regulated output. Voltage adjustable from 4.5V to OVP trip point. Initial setting of +5.0V is $\pm$ 1.0%.

B: Quasi-Regulated output requires 20% minimum load to meet regulation specs. An additional cross-regulation factor of $\pm$ 3% must be added in those applications where the main +5V output varies $\pm$ 25%.

C: Fully regulated output utilizing fixed, 3-terminal regulator.

D: Fully isolated output. May be connected in series with any output, and may be connected for (-) or (+) output. May be paralleled when same output voltage and reg. type. (Quasi-Reg. and 3-pin outputs will not share loads if connected together.)

E: Dual-sensed, regulated output. +5V and +12V outputs are sensed in combination to provide tighter regulation of the +12V output. An additional cross-regulation factor of $\pm$ 2.0% must be added in those applications where the +5V output varies $\pm$ 25%. Initial setting of +5V output is $\pm$ 1.0%.

MATING CONNECTOR WITH PINS

For Value Line Switching power supplies, Series VFA, VHA, VKA only.

744-0001. Type 18-30234-2020.....EACH 8.32

ENCLOSURES

744-9800. Type 08-30466-1030. VBA Series.....EACH 10.40

744-9805. Type 08-30466-1045. VCA Series.....EACH 12.48

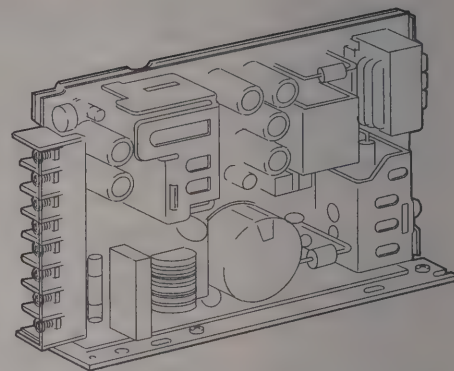
744-9810. Type 08-30466-1080. VEA Series.....EACH 14.56

Dual Output Switchers

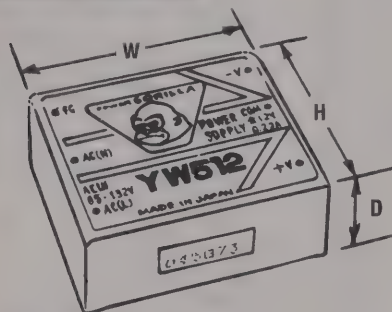
- Inrush Current and Overcurrent Protection Circuits
- UL Recognized, CSA Certified
- MMB Series: Two Year Warranty

- RMB Series: Three Year Warranty
- Covered Models Available
- Quantity Pricing Always Available

Stock No.	Mfr.'s Type	Input Voltage	Output Volts/Amps		Size W x H x D (In.)	Weight (Lbs.)	EACH
			V1	V2			1-9
800-0045	MMB50U-1	AC 85-132 V	5 V/3 A	12 V/3 A (3.6)	1.41 x 3.66 x 6.10	0.88	105.39
800-0050	MMB50U-2	DC 110-170 V	5 V/5 A	12 V/2.1 A	1.41 x 3.66 x 6.10	0.88	105.39
800-0055	MMB50U-3		5 V/3 A	24 V/1.5 A (1.8)	1.41 x 3.66 x 6.10	0.88	105.39
800-0060	MMB50U-4		12 V/2.1 A	12 V/2.1 A	1.41 x 3.66 x 6.10	0.88	105.39
800-0065	MMB50U-5		12 V/3 A	12 V/1.5 A	1.41 x 3.66 x 6.10	0.88	105.39
800-0070	MMB50U-6		15 V/1.7 A	15 V/1.7 A	1.41 x 3.66 x 6.10	0.88	105.39
800-0080	MMB75U-1		5 V/5 A	12 V/4 A	1.65 x 3.66 x 6.88	1.10	139.95
800-0085	MMB75U-2		5 V/6 A	24 V/2 A	1.65 x 3.66 x 6.88	1.10	139.95
800-0090	RMB15U-1	AC 85-132 V	5 V/0.8 A	12 V/1 A (1.3)	1.26 x 3.15 x 3.94	0.55	51.72
800-0095	RMB15U-2	DC 110-170 V	5 V/0.8 A	24 V/0.5 A (0.65)	1.26 x 3.15 x 3.94	0.55	51.72
800-1015	RMB30U-1		5 V/1.5 A	12 V/2 A (2.8)	1.38 x 3.15 x 5.31	0.77	60.05
800-1025	RMB30U-2		5 V/1.5 A	24 V/1 A (1.4)	1.38 x 3.15 x 5.31	0.77	60.05
800-1035	RMB50U-1		5 V/1.5 A	12 V/3.6 A (4.0)	1.38 x 3.66 x 6.10	0.77	81.37
800-1045	RMB50U-2		5 V/1.5 A	24 V/1.8 A (2.0)	1.38 x 3.66 x 6.10	0.77	81.37



AC/DC Encapsulated On Board Switchers



- PC Board Mount AC/DC Converter
- Small, Compact Footprint
- Inrush Current and Overcurrent Protection
- UL and TÜV Approved, CSA Certified
- Two Year Warranty
- Quantity Pricing Always Available

On Board Type Switchers — Single Output

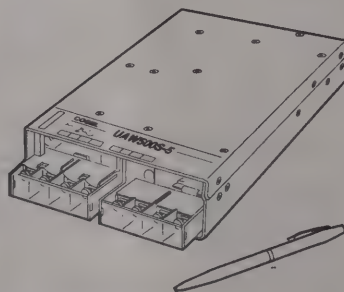
Stock No.	Mfr.'s Type	Watts	Input Voltage	Output Volts/Amps	Size W x H x D (In.)	EACH
800-1300	YS505	5	AC 85-132 V	5 V/1.0 A	1.97 x 1.69 x 0.73	41.42
800-1310	YS512	5	DC 110-170 V	12 V/0.45 A	1.97 x 1.69 x 0.73	41.42
800-1330	YS1005	10		5 V/2.0 A	2.28 x 1.77 x 0.73	49.26
800-1340	YS1012	10		12 V/0.9 A	2.28 x 1.77 x 0.73	49.26
800-1350	YS1505	15		5 V/3.0 A	2.56 x 1.77 x 0.81	60.05
800-1360	YS1512	15		12 V/1.3 A	2.56 x 1.77 x 0.81	60.05
800-1895	YAS505	5	Wide Input	5 V/1.0 A	2.28 x 1.77 x 0.73	53.68
800-1900	YAS512	5	AC 85-264 V	12 V/0.45 A	2.28 x 1.77 x 0.73	53.68
800-1905	YAS1005	10	DC 110-340 V	5 V/2.0 A	2.56 x 1.77 x 0.81	62.75
800-1910	YAS1012	10		12 V/0.9 A	2.56 x 1.77 x 0.81	62.75

On Board Type Switchers — Dual Output

800-1370	YW512	5	AC 85-132 V	±12 (24) V/0.22 A	1.97 x 1.69 x 0.73	44.12
800-1380	YW515	5	DC 110-170 V	±15 (30) V/0.17 A	1.97 x 1.69 x 0.73	44.12
800-1390	YW1012	10		±12 (24) V/0.45 A	2.28 x 1.77 x 0.73	49.26
800-1400	YW1015	10		±15 (30) V/0.35 A	2.28 x 1.77 x 0.73	49.26
800-1410	YW1512	15		±12 (24) V/0.65 A	2.56 x 1.77 x 0.81	61.27
800-1420	YW1515	15		±15 (30) V/0.50 A	2.56 x 1.77 x 0.81	61.27
800-1915	YAW512	5	Wide Input	±12 (24) V/0.22 A	2.28 x 1.77 x 0.73	56.37
800-1920	YAW515	5	AC 85-264 V	±15 (30) V/0.17 A	2.28 x 1.77 x 0.73	56.37
800-1925	YAW1012	10	DC 110-340 V	±12 (24) V/0.45 A	2.56 x 1.77 x 0.81	65.20
800-1930	YAW1015	10		±15 (30) V/0.35 A	2.56 x 1.77 x 0.81	65.20

UA Series Power Supply

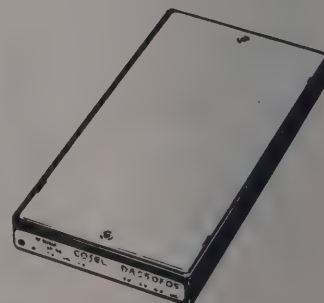
- Output Wattage 500
- Ultra Thin Profile (1.77")
- Automatic AC Input Switch (85-132/130-264 VAC)
- Parallel and Master-Slave Operation
- Inrush Current, Overcurrent and Overvoltage Protection
- Remote Sensing
- UL and TÜV Approved, CSA Certified
- Three Year Warranty



Stock No.	Mfr.'s Type	Watts	Output Voltage				EACH
			+3 V	+5 V	+12 V	+24 V	1-9
800-9800	UAW125S-3	125	25 A	—	—	—	188.52
800-9805	UAW125S-5	125	—	25 A	—	—	188.52
800-9810	UAW125S-12	125	—	—	10.5 A	—	188.52
800-9815	UAW125S-24	125	—	—	—	5.2 A	188.52
800-9700	UAW500S-3	500	100 A	—	—	—	540.65
800-9702	UAW500S-5	500	—	100 A	—	—	540.65
800-9704	UAW500S-12	500	—	—	43.0 A	—	540.65
800-9706	UAW500S-24	500	—	—	—	22.0 A	540.65

DA Series DC-DC Converter

- Wide Input Voltage Range (DC 88-370 V)
- Thin and Small SMT Construction
- Can Be Connected In Parallel
- Built-In Overcurrent, Overvoltage Protection Circuits
- UL and TÜV Approved, CSA Certified



Single Output

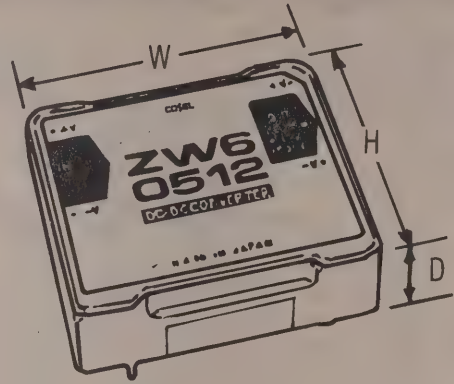
Stock No.	Mfr.'s Type	Watts	Input Voltage	Output Volts/Amps	Size W x H x D (In.)	EACH
800-9781	DAS50F05	50	DC 88-370 V	5 V/10 A	2.28 x 0.5 x 4.53	130.88
800-9782	DAS50F12	50	DC 88-370 V	12 V/4.2 A	2.28 x 0.5 x 4.53	130.88
800-9783	DAS50F24	50	DC 88-370 V	24 V/2.1 A	2.28 x 0.5 x 4.53	130.88
800-9784	DAS100F05	100	DC 88-370 V	5 V/20 A	2.28 x 0.5 x 5.12	161.76
800-9785	DAS100F12	100	DC 88-370 V	12 V/8.5 A	2.28 x 0.5 x 5.12	161.76
800-9786	DAS100F24	100	DC 88-370 V	24 V/4.2 A	2.28 x 0.5 x 5.12	161.76

DC-DC Converters: Designed for Small Size and High Reliability

- Isolated Output
- Overcurrent Protection
- Small, Compact Footprint
- Two Year Warranty
- Quantity Pricing Always Available

Single Output

Stock No.	Mfr.'s Type	Wattage	Input Voltage	Output Volts/Amps	Size (Inches) W × H × D	EACH
800-1700	ZS1R50505	1.5	5 (4.5-6.0)	5/0.25	1.30 × 0.83 × 0.39	23.85
800-1705	ZS1R50512	1.5	5 (4.5-6.0)	12/0.12	1.30 × 0.83 × 0.39	23.85
800-1710	ZS1R50515	1.5	5 (4.5-6.0)	15/0.10	1.30 × 0.83 × 0.39	23.85
800-1715	ZS1R51205	1.5	12 (10-15)	5/0.25	1.30 × 0.83 × 0.39	23.85
800-1720	ZS1R51212	1.5	12 (10-15)	12/0.12	1.30 × 0.83 × 0.39	23.85
800-1725	ZS1R51215	1.5	12 (10-15)	15/0.10	1.30 × 0.83 × 0.39	23.85
800-1730	ZS1R52405	1.5	24 (20-30)	5/0.25	1.30 × 0.83 × 0.39	23.85
800-1735	ZS1R52412	1.5	24 (20-30)	12/0.12	1.30 × 0.83 × 0.39	23.85
800-1740	ZS1R52415	1.5	24 (20-30)	15/0.10	1.30 × 0.83 × 0.39	23.85
800-1980	ZS1R54805	1.5	48 (35-63)	5/0.25	1.30 × 0.83 × 0.39	23.85
800-1985	ZS1R54812	1.5	48 (35-63)	12/0.12	1.30 × 0.83 × 0.39	23.85
800-1990	ZS1R54815	1.5	48 (35-63)	15/0.10	1.30 × 0.83 × 0.39	23.85
800-1995	ZS30505	3.0	5 (4.5-6.0)	5/0.50	1.85 × 1.18 × 0.39	23.85
800-2031	ZS30512	3.0	5 (4.5-6.0)	12/0.25	1.85 × 1.18 × 0.39	23.85
800-2032	ZS30515	3.0	5 (4.5-6.0)	15/0.20	1.85 × 1.18 × 0.39	23.85
800-2033	ZS31205	3.0	12 (10-15)	5/0.50	1.85 × 1.18 × 0.39	23.85
800-2035	ZS31212	3.0	12 (10-15)	12/0.25	1.85 × 1.18 × 0.39	23.85
800-2036	ZS31215	3.0	12 (10-15)	15/0.20	1.85 × 1.18 × 0.39	23.85
800-2037	ZS32405	3.0	24 (20-30)	5/0.50	1.85 × 1.18 × 0.39	23.85
800-2038	ZS32412	3.0	24 (20-30)	12/0.25	1.85 × 1.18 × 0.39	23.85
800-2039	ZS32415	3.0	24 (20-30)	15/0.20	1.85 × 1.18 × 0.39	23.85
800-2040	ZS34805	3.0	48 (35-63)	5/0.50	1.85 × 1.18 × 0.39	23.85
800-2050	ZS34812	3.0	48 (35-63)	12/0.25	1.85 × 1.18 × 0.39	23.85
800-2055	ZS34815	3.0	48 (35-63)	15/0.20	1.85 × 1.18 × 0.39	23.85
800-1745	ZS60505	6.0	5 (4.5-6.0)	5/1	1.65 × 1.85 × 0.55	41.79
800-1750	ZS60512	6.0	5 (4.5-6.0)	12/0.5	1.65 × 1.85 × 0.55	41.79
800-1755	ZS60515	6.0	5 (4.5-6.0)	15/0.4	1.65 × 1.85 × 0.55	41.79
800-1760	ZS61205	6.0	12 (10-15)	5/1	1.65 × 1.85 × 0.55	41.79
800-1765	ZS61212	6.0	12 (10-15)	12/0.5	1.65 × 1.85 × 0.55	41.79
800-1770	ZS61215	6.0	12 (10-15)	15/0.4	1.65 × 1.85 × 0.55	41.79
800-1775	ZS62405	6.0	24 (20-30)	5/1	1.65 × 1.85 × 0.55	41.79
800-1780	ZS62412	6.0	24 (20-30)	12/0.5	1.65 × 1.85 × 0.55	41.79
800-1785	ZS62415	6.0	24 (20-30)	15/0.4	1.65 × 1.85 × 0.55	41.79
800-2060	ZS64805	6.0	48 (35-63)	5/1	1.65 × 1.85 × 0.55	41.79
800-2065	ZS64812	6.0	48 (35-63)	12/0.5	1.65 × 1.85 × 0.55	41.79
800-2070	ZS64815	6.0	48 (35-63)	15/0.4	1.65 × 1.85 × 0.55	41.79
800-2075	ZS100505	10.0	5 (4.5-6.0)	5/1.60	1.65 × 1.85 × 0.55	61.28
800-2080	ZS100512	10.0	5 (4.5-6.0)	12/0.70	1.65 × 1.85 × 0.55	61.28
800-2085	ZS100515	10.0	5 (4.5-6.0)	15/0.60	1.65 × 1.85 × 0.55	61.28
800-2090	ZS101205	10.0	12 (10-15)	5/2.00	1.65 × 1.85 × 0.55	61.28
800-2095	ZS101212	10.0	12 (10-15)	12/0.90	1.65 × 1.85 × 0.55	61.28
800-2100	ZS101215	10.0	12 (10-15)	15/0.70	1.65 × 1.85 × 0.55	61.28
800-2105	ZS102405	10.0	24 (20-30)	5/2.00	1.65 × 1.85 × 0.55	61.28
800-2110	ZS102412	10.0	24 (20-30)	12/0.90	1.65 × 1.85 × 0.55	61.28
800-2115	ZS102415	10.0	24 (20-30)	15/0.70	1.65 × 1.85 × 0.55	61.28
800-2120	ZS104805	10.0	48 (35-63)	5/2.00	1.65 × 1.85 × 0.55	61.28
800-2125	ZS104812	10.0	48 (35-63)	12/0.90	1.65 × 1.85 × 0.55	61.28
800-2130	ZS104815	10.0	48 (35-63)	15/0.70	1.65 × 1.85 × 0.55	61.28



Multiple Output

Stock No.	Mfr.'s Type	Wattage	Input Voltage	Output Volts/Amps	Size W × H × D	EACH
800-1500	ZW1R50512	1.5	5 (4.5-6.0)	±12%/06	1.30 × 0.83 × 0.39	26.41
800-1505	ZW1R50515	1.5	5 (4.5-6.0)	±15/05	1.30 × 0.83 × 0.39	26.41
800-1510	ZW1R51212	1.5	12 (10-15)	±12%/06	1.30 × 0.83 × 0.39	26.41
800-1515	ZW1R51215	1.5	12 (10-15)	±15/05	1.30 × 0.83 × 0.39	26.41
800-1520	ZW1R52412	1.5	24 (20-30)	±12%/06	1.30 × 0.83 × 0.39	26.41
800-1525	ZW1R52415	1.5	24 (20-30)	±15/05	1.30 × 0.83 × 0.39	26.41
800-2135	ZW1R54812	1.5	48 (35-63)	±12%/06	1.30 × 0.83 × 0.39	26.41
800-2140	ZW1R54815	1.5	48 (35-63)	±15/05	1.30 × 0.83 × 0.39	26.41
800-1530	ZW30512	3.0	5 (4.5-6.0)	±12%/12	1.85 × 1.18 × 0.39	30.77
800-1535	ZW30515	3.0	5 (4.5-6.0)	±15/10	1.85 × 1.18 × 0.39	30.77
800-1540	ZW31212	3.0	12 (10-15)	±12%/12	1.85 × 1.18 × 0.39	30.77
800-1545	ZW31215	3.0	12 (10-15)	±15/10	1.85 × 1.18 × 0.39	30.77
800-1550	ZW32412	3.0	24 (20-30)	±12%/12	1.85 × 1.18 × 0.39	30.77
800-1555	ZW32415	3.0	24 (20-30)	±15/10	1.85 × 1.18 × 0.39	30.77
800-2145	ZW34812	3.0	48 (35-63)	±12%/12	1.85 × 1.18 × 0.39	30.77
800-2150	ZW34815	3.0	48 (35-63)	±15/10	1.85 × 1.18 × 0.39	30.77
800-1560	ZW60512	6.0	5 (4.5-6.0)	±12%/25	1.65 × 1.85 × 0.55	46.15
800-1565	ZW60515	6.0	5 (4.5-6.0)	±15/20	1.65 × 1.85 × 0.55	46.15
800-1566	ZW61212	6.0	12 (10-15)	±12%/25	1.65 × 1.85 × 0.55	46.15
800-1570	ZW61215	6.0	12 (10-15)	±15/20	1.65 × 1.85 × 0.55	46.15
800-1575	ZW62412	6.0	24 (20-30)	±12%/25	1.65 × 1.85 × 0.55	46.15
800-1580	ZW62415	6.0	24 (20-30)	±15/20	1.65 × 1.85 × 0.55	46.15
800-2155	ZW64812	6.0	48 (35-63)	±12%/25	1.65 × 1.85 × 0.55	46.15
800-2160	ZW64815	6.0	48 (35-63)	±15/20	1.65 × 1.85 × 0.55	46.15
800-1585	ZW100512	10.0	5 (4.5-6.0)	±12%/35	1.65 × 1.85 × 0.55	62.82
800-1590	ZW100515	10.0	5 (4.5-6.0)	±15/30	1.65 × 1.85 × 0.55	62.82
800-1595	ZW101212	10.0	12 (10-15)	±12%/45	1.65 × 1.85 × 0.55	62.82
800-1600	ZW101215	10.0	12 (10-15)	±15/35	1.65 × 1.85 × 0.55	62.82
800-1605	ZW102412	10.0	24 (20-30)	±12%/45	1.65 × 1.85 × 0.55	62.82
800-1610	ZW102415	10.0	24 (20-30)	±15/35	1.65 × 1.85 × 0.55	62.82
800-2165	ZW104812	10.0	48 (35-63)	±12%/45	1.65 × 1.85 × 0.55	62.82
800-2170	ZW104815	10.0	48 (35-63)	±15/35	1.65 × 1.85 × 0.55	62.82

*Output pins can be connected in series to make a 24 V output or 30 V output.

DC-DC Converters: Designed for Small Size and High Reliability

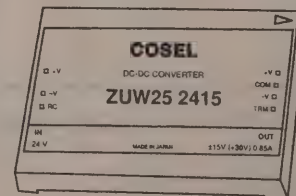
- Overcurrent, Overvoltage Protection
- Aluminum Die-Cast Housing Allows for Low EMI Noise
- Power Inhibit Control
- Output Voltage can be Controlled by Additional External Circuits
- With Dual Outputs, Connected in Series, Single 24 V and 30 V Are Possible

Single Output

Stock No.	Mfr.'s Type	Wattage	DC Input Voltage	DC Output Volts/Amps	Size W × H × D	EACH
800-9708	ZUS151205	15	12 (9-18)	5/2.4	1.78 × 0.34 × 1.97	68.38
800-9710	ZUS151212	15	12 (9-18)	12/1.3	1.78 × 0.34 × 1.97	68.38
800-9712	ZUS152405	15	24 (18-36)	5/2.4	1.78 × 0.34 × 1.97	68.38
800-9714	ZUS152412	15	24 (18-36)	12/1.3	1.78 × 0.34 × 1.97	68.38
800-9716	ZUS154805	15	48 (36-72)	5/2.4	1.78 × 0.34 × 1.97	68.38
800-9718	ZUS154812	15	48 (36-72)	12/1.3	1.78 × 0.34 × 1.97	68.38
800-9720	ZUS251205	25	12 (9-18)	5/4.0	2.56 × 0.33 × 1.97	82.11
800-9722	ZUS251212	25	12 (9-18)	12/2.1	2.56 × 0.33 × 1.97	82.11
800-9724	ZUS252405	25	24 (18-36)	5/4.0	2.56 × 0.33 × 1.97	82.11
800-9726	ZUS252412	25	24 (18-36)	12/2.1	2.56 × 0.33 × 1.97	82.11
800-9728	ZUS254805	25	48 (36-72)	5/4.0	2.56 × 0.33 × 1.97	82.11
800-9730	ZUS254812	25	48 (36-72)	12/2.1	2.56 × 0.33 × 1.97	82.11

Multiple Output

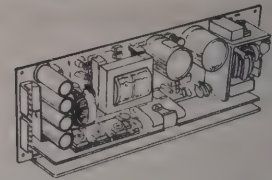
Stock No.	Mfr.'s Type	Wattage	DC Input Voltage	DC Output Volts/Amps	Size W × H × D	EACH
800-9732	ZUW151212	15	12 (9-18)	±12/0.65	2.56 × 0.33 × 1.97	70.83
800-9734	ZUW151215	15	12 (9-18)	±15/0.5	2.56 × 0.33 × 1.97	70.83
800-9736	ZUW152412	15	24 (18-36)	±12/0.65	2.56 × 0.33 × 1.97	70.83
800-9738	ZUW152415	15	24 (18-36)	±15/0.5	2.56 × 0.33 × 1.97	70.83
800-9740	ZUW154812	15	48 (36-72)	±12/0.65	2.56 × 0.33 × 1.97	70.83
800-9742	ZUW154815	15	48 (36-72)	±15/0.5	2.56 × 0.33 × 1.97	70.83
800-9744	ZUW251212	25	12 (9-18)	±12/1.05	2.56 × 0.33 × 1.97	84.56
800-9746	ZUW251215	25	12 (9-18)	±15/0.85	2.56 × 0.33 × 1.97	84.56
800-9748	ZUW252412	25	24 (18-36)	±12/1.05	2.56 × 0.33 × 1.97	84.56
800-9750	ZUW252415	25	24 (18-36)	±15/0.85	2.56 × 0.33 × 1.97	84.56
800-9752	ZUW254812	25	48 (36-72)	±12/1.05	2.56 × 0.33 × 1.97	84.56
800-9754	ZUW254815	25	48 (36-72)	±15/0.85	2.56 × 0.33 × 1.97	84.56



LCA Series: Designed for Low Cost, Small Size and High Reliability

- ▶ Input AC 85-132 V
- ▶ Overcurrent, Overvoltage Protection
- ▶ PC Board Open Frame Construction
- ▶ Noise Regulation: Complies with FCC-B, VCC1-2

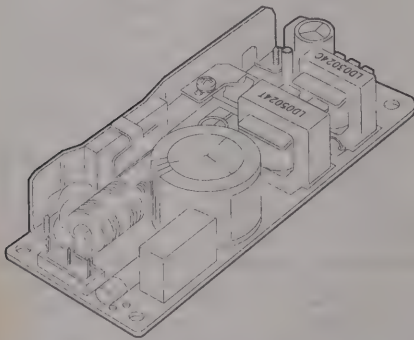
- ▶ Two Year Warranty
- ▶ Quantity Pricing Always Available
- ▶ UL Recognized, CSA Certified


Single Output

Stock No.	Mfr.'s Type	Wattage	DC Output Volts	Output Amps	Size (In.) W × H × D	EACH 1-9
800-9756	LCA10S-5	10	5.0	2.0	1.93 × 0.67 × 3.70	24.51
800-9757	LCA10S-12	10	12.0	0.9	1.93 × 0.67 × 3.70	24.51
800-9758	LCA10S-15	10	15.0	0.7	1.93 × 0.67 × 3.70	24.51
800-9760	LCA10S-24	10	24.0	0.5	1.93 × 0.67 × 3.70	24.51
800-9761	LCA15S-5	15	5.0	3.0	1.97 × 0.67 × 4.53	30.39
800-9762	LCA15S-12	15	12.0	1.3	1.97 × 0.67 × 4.53	30.39
800-9763	LCA15S-15	15	15.0	1.0	1.97 × 0.67 × 4.53	30.39
800-9764	LCA15S-24	15	24.0	0.7	1.97 × 0.67 × 4.53	30.39
800-9765	LCA30S-5	30	5.0	6.0	1.97 × 0.98 × 5.22	39.71
800-9766	LCA30S-12	30	12.0	2.5	1.97 × 0.98 × 5.22	39.71
800-9767	LCA30S-15	30	15.0	2.0	1.97 × 0.98 × 5.22	39.71
800-9768	LCA30S-24	30	24.0	1.3	1.97 × 0.98 × 5.22	39.71
800-9769	LCA50S-5	50	5.0	10.0	1.97 × 0.98 × 5.22	49.02
800-9770	LCA50S-12	50	12.0	4.3	1.97 × 0.98 × 7.68	49.02
800-9771	LCA50S-15	50	15.0	3.5	1.97 × 0.98 × 7.68	49.02
800-9772	LCA50S-24	50	24.0	2.5	1.97 × 0.98 × 7.68	49.02
800-0005	LCA75S-5	75	5.0	15.0	2.00 × 1.50 × 8.66	64.95
800-0010	LCA75S-12	75	12.0	6.3	2.00 × 1.50 × 8.66	64.95
800-0015	LCA75S-15	75	15.0	5.0	2.00 × 1.50 × 8.66	64.95
800-0020	LCA75S-24	75	24.0	3.2	2.00 × 1.50 × 8.66	64.95
800-9773	LCA100S-5	100	5.0	20.0	2.44 × 1.26 × 8.74	83.82
800-9774	LCA100S-12	100	12.0	8.5	2.44 × 1.26 × 8.74	83.82
800-9775	LCA100S-15	100	15.0	7.0	2.44 × 1.26 × 8.74	83.82
800-9776	LCA100S-24	100	24.0	4.3	2.44 × 1.26 × 8.74	83.82
800-9777	LCA150S-5	150	5.0	30.0	2.95 × 1.42 × 8.74	118.87
800-9778	LCA150S-12	150	12.0	12.5	2.95 × 1.42 × 8.74	118.87
800-9779	LCA150S-15	150	15.0	10.0	2.95 × 1.42 × 8.74	118.87
800-9780	LCA150S-24	150	24.0	6.3	2.95 × 1.42 × 8.74	118.87

LDA Series: World-Wide Input, Single Output

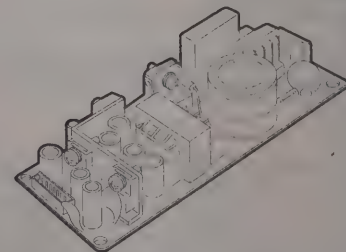
- ▶ Low Cost
- ▶ Small, Lightweight Open Frame PC Board Type
- ▶ Universal Input (85 ~ 264 VAC)
- ▶ Inrush Current, Overcurrent, and Overvoltage Protection Circuits
- ▶ Noise Regulation: Complies with FCC-B, VCCI-2, and Vlg 243/91
- ▶ UL Approved, CSA, TÜV
- ▶ 2 Year Warranty
- ▶ Quantity Pricing Always Available



Stock No.	Mfr.'s Type	DC Output Voltage				Size (In.) W × H × D	Weight Lbs.	EACH 1-9
		5	12	15	24			
800-9200	LDA10F-5	2.0 A	—	—	—	1.96 × 0.82 × 4.90	.17	34.52
800-9205	LDA10F-12	—	0.9 A	—	—	1.96 × 0.82 × 4.90	.17	34.52
800-9210	LDA10F-15	—	—	0.7 A	—	1.96 × 0.82 × 4.90	.17	34.52
800-9215	LDA10F-24	—	—	—	0.5 A	1.96 × 0.82 × 4.90	.17	34.52
800-9220	LDA15F-5	3.0 A	—	—	—	1.96 × 0.82 × 4.90	.21	45.71
800-9225	LDA15F-12	—	1.3 A	—	—	1.96 × 0.82 × 4.90	.21	45.71
800-9230	LDA15F-15	—	—	1.0 A	—	1.96 × 0.82 × 4.90	.21	45.71
800-9235	LDA15F-24	—	—	—	0.7 A	1.96 × 0.82 × 4.90	.21	45.71
800-9240	LDA30F-5	6.0 A	—	—	—	2.12 × 1.00 × 5.12	.44	57.14
800-9245	LDA30F-12	—	2.5 A	—	—	2.12 × 1.00 × 5.12	.44	57.14
800-9250	LDA30F-15	—	—	2.0 A	—	2.12 × 1.00 × 5.12	.44	57.14
800-9255	LDA30F-24	—	—	—	1.3 A	2.12 × 1.00 × 5.12	.44	57.14
800-9260	LDA50F-5	10.0 A	—	—	—	2.20 × 1.04 × 7.80	.55	72.38
800-9265	LDA50F-12	—	4.3 A	—	—	2.20 × 1.04 × 7.80	.55	72.38
800-9270	LDA50F-15	—	—	3.5 A	—	2.20 × 1.04 × 7.80	.55	72.38
800-9275	LDA50F-24	—	—	—	2.1 A	2.20 × 1.04 × 7.80	.55	72.38
800-0025	LDA75F-5	15.0 A	—	—	—	2.15 × 1.13 × 8.66	.66	90.00
800-0030	LDA75F-12	—	6.3 A	—	—	2.15 × 1.13 × 8.66	.66	90.00
800-0035	LDA75F-15	—	—	5.0 A	—	2.15 × 1.13 × 8.66	.66	90.00
800-0040	LDA75F-24	—	—	—	3.2 A	2.15 × 1.13 × 8.66	.66	90.00
800-0100	LDA100W-5	20.0 A	—	—	—	2.48 × 1.4 × 8.88	.79	116.67
800-0110	LDA100W-12	—	8.5 A	—	—	2.48 × 1.4 × 8.88	.79	116.67
800-0120	LDA100W-15	—	—	6.7 A	—	2.48 × 1.4 × 8.88	.79	116.67
800-0130	LDA100W-24	—	—	—	4.3 A	2.48 × 1.4 × 8.88	.79	116.67
800-0140	LDA150W-5	30.0 A	—	—	—	3.00 × 1.48 × 8.88	1.12	152.14
800-0150	LDA150W-12	—	12.5 A	—	—	3.00 × 1.48 × 8.88	1.12	152.14
800-0160	LDA150W-15	—	—	10.0	—	3.00 × 1.48 × 8.88	1.12	152.14
800-0170	LDA150W-24	—	—	—	6.3 A	3.00 × 1.48 × 8.88	1.12	152.14

LDC Series: World-Wide Input, Triple Output

- ▶ Cost Effective
- ▶ Small, Lightweight Open Frame PC Board Type
- ▶ Universal Input (85 ~ 264 VAC)
- ▶ UL, CSA, TÜV
- ▶ Inrush Current, Overcurrent, and Overvoltage Protection Circuits
- ▶ V1 Isolated from V2, V3
- ▶ 2 Year Warranty
- ▶ Quantity Pricing Always Available

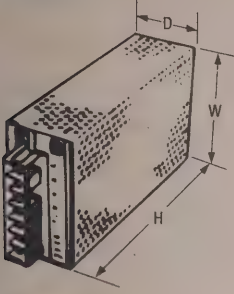


Stock No.	Mfr.'s Type	DC Output (V)/Current (A)			Size (In.) W × H × D	Weight Lbs.	EACH 1-9
		V1	V2	V3			
800-9280	LDC15F-1	+5 V/2.0 A (Pk 3.0)	+12 V/0.3 A (Pk 0.6)	-12 V/0.2 A (Pk 0.30)	1.96 × 1.00 × 4.95	.33	49.29
800-9285	LDC15F-2	+5 V/2.0 A (Pk 3.0)	+15 V/0.3 A (Pk 0.6)	-15 V/0.2 A (Pk 0.30)	1.96 × 1.00 × 4.95	.33	49.29
800-9290	LDC30F-1	+5 V/3.0 A (Pk 4.5)	+12 V/1.2 A (Pk 2.0)	-12 V/0.3 A (Pk 0.45)	2.53 × 1.01 × 5.46	.48	69.76
800-9295	LDC30F-2	+5 V/3.0 A (Pk 4.5)	+15 V/1.0 A (Pk 2.0)	-15 V/0.3 A (Pk 0.45)	2.53 × 1.01 × 5.46	.48	69.76

AC/DC Switching Power Supplies

COSEL U.S.A. inc.

Single Output Switchers: 10 to 150 Watts



- ▶ Two and three year warranty
- ▶ Protective cover
- ▶ UL and TUV approved, CSA Certified
- ▶ Small size
- ▶ Adjustable output voltage range: $\pm 10\%$

Size Chart

	W	H	D
A	2.91	2.68	1.06
B	3.82	3.91	1.38
C	3.82	4.90	1.38
D	3.82	6.30	1.46
E	3.66	6.63	1.97
F	3.66	7.05	2.56
G	3.66	7.44	1.97
H	3.66	7.83	2.56
I	2.71	3.30	1.18
J	2.71	4.09	1.22
K	3.35	4.68	1.30
L	1.74	3.60	6.80
M	1.52	3.66	7.00

Input Range AC 85-132VDC 110-170V

Stock No.*	Mfr.'s Type	Watts	Output Voltage				Size	EACH
			+5V	+12V	+15V	+24V		
800-5000	K10AU-5-N	10.0	2.0A	—	—	—	A	41.42
800-5005	K10AU-12-N	10.8	—	0.9A	—	—	A	41.42
800-5010	K10AU-15-N	10.5	—	—	0.7A	—	A	41.42
800-5015	K10AU-24-N	12.0	—	—	—	0.5A	A	41.42
800-5020	K15AU-5-N	15.0	3.0A	—	—	—	B	51.96
800-5025	K15AU-12-N	15.6	—	1.3A	—	—	B	51.96
800-5030	K15AU-15-N	15.0	—	—	1.0A	—	B	51.96
800-5035	K15AU-24-N	16.8	—	—	—	0.7A	B	51.96
800-8000	R15U-5-N	15.0	3.0A	—	—	—	I	41.42
800-8005	R15U-12-N	15.6	—	1.3A	—	—	I	41.42
800-8010	R15U-15-N	15.0	—	—	1.0A	—	I	41.42
800-8015	R15U-24-N	16.8	—	—	—	0.7A	I	41.42
800-5040	K25AU-5-N	25.0	5.0A	—	—	—	C	63.24
800-5045	K25AU-12-N	25.2	—	2.1A	—	—	C	63.24
800-5050	K25AU-15-N	25.5	—	—	1.7A	—	C	63.24
800-5055	K25AU-24-N	26.4	—	—	—	1.1A	C	63.24
800-8020	R25U-5-N	25.0	5.0A	—	—	—	J	49.26
800-8025	R25U-12-N	25.2	—	2.1A	—	—	J	49.26
800-8030	R25U-15-N	25.5	—	—	1.7A	—	J	49.26
800-8035	R25U-24-N	26.4	—	—	—	1.1A	J	49.26
800-5060	K50AU-5-N	50.0	10.0A	—	—	—	D	87.99
800-5065	K50AU-12-N	50.4	—	4.2A	—	—	D	87.99

*Also available without cover.

Wide Input Range: 15-30 Watt—AC 85-264V, DC 110-340V; 100-150 Watt—AC 85-132V.

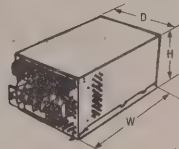
Stock No.*	Mfr.'s Type	Watts	Output Voltage				Size	EACH
			+5V	+12V	+15V	+24V		
800-1000	P15E-5-N	15.0	3.0A	—	—	—	B	60.05
800-1010	P15E-12-N	15.6	—	1.3A	—	—	B	60.05
800-1020	P15E-15-N	15.0	—	—	1.0A	—	B	60.05
800-1030	P15E-24-N	16.8	—	—	—	0.7A	B	60.05
800-1040	P30E-5-N	30.0	6.0A	—	—	—	C	75.25
800-1050	P30E-12-N	30.0	—	2.5A	—	—	C	75.25
800-1060	P30E-15-N	30.0	—	—	2.0A	—	C	75.25
800-1070	P30E-24-N	31.2	—	—	—	1.3A	C	75.25
800-1080	P50E-5-N	50.0	10.0A	—	—	—	D	91.91
800-1090	P50E-12-N	50.4	—	4.2A	—	—	D	91.91

*Other available wattages: 300, 600, and 1500. Also available without cover.

Stock No.*	Mfr.'s Type	Watts	Output Voltage				Size	EACH
			+5V	+12V	+15V	+24V		
800-5070	K50AU-15-N	51.0	—	—	3.4A	—	D	87.99
800-5075	K50AU-24-N	50.4	—	—	—	2.1A	D	87.99
800-8040	R50U-5-N	50.0	10.0A	—	—	—	K	73.28
800-8045	R50U-12-N	50.4	—	4.2A	—	—	K	73.28
800-8050	R50U-15-N	51.0	—	—	3.4A	—	K	73.28
800-8055	R50U-24-N	52.8	—	—	—	2.2A	K	73.28
800-7000	R100U-5-N	100.0	20.0A	—	—	—	M	120.10
800-7005	R100U-12-N	100.0	—	8.5A	—	—	M	120.10
800-7010	R100U-15-N	100.0	—	—	7.0A	—	M	120.10
800-7015	R100U-24-N	100.0	—	—	—	4.5A	M	120.10
800-7020	R150U-5-N	150.0	30.0A	—	—	—	L	168.63
800-7025	R150U-12-N	150.0	—	13.0A	—	—	L	168.63
800-7030	R150U-15-N	150.0	—	—	10.0A	—	L	168.63
800-7035	R150U-24-N	150.0	—	—	—	6.5A	L	168.63
800-5090	K100AU-5-N	100.0	20.0A	—	—	—	E	131.62
800-5095	K100AU-12-N	102.0	—	8.5A	—	—	E	131.62
800-5100	K100AU-15-N	105.0	—	—	7.0A	—	E	131.62
800-5105	K100AU-24-N	108.0	—	—	—	4.5A	E	131.62
800-5110	K150AU-5-N	150.0	30.0A	—	—	—	F	187.75
800-5115	K150AU-12-N	156.0	—	13.0A	—	—	F	187.75
800-5120	K150AU-15-N	150.0	—	—	10.0A	—	F	187.75
800-5125	K150AU-24-N	156.0	—	—	—	6.5A	F	187.75

Single Output Switchers: 300-1500 Watts

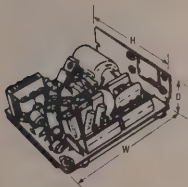
- ▶ Dual Autoranging Input: 300-600 Watt—AC 85-264V
- ▶ 1500 Watt—AC 85-132V/AV 170-264V
- ▶ 1500W—load variable fan
- ▶ Adjustable output voltage range: $\pm 10\%$
- ▶ UL1459, TUV approved, CSA certified
- ▶ Master/Slave parallel operation
- ▶ Remote On/Off-TTL compatible
- ▶ Three year warranty



Stock No.	Mfr.'s Type	Wattage	Output Voltage-Amps (A)				Dimensions-Inches			EACH
			5V	12V	15V	24V	D	H	W	
800-6000	P300E-5	300W	60.0A	—	—	—	4.72	3.66	7.48	482.84
800-6010	P300E-12	324W	—	27.0A	—	—	4.72	3.66	7.48	482.84
800-6020	P300E-15	330W	—	—	22.0A	—	4.72	3.66	7.48	482.84
800-6030	P300E-24	336W	—	—	—	14.0A	4.72	3.66	7.48	482.84
800-6040	P600E-5	600W	120.0A	—	—	—	7.48	3.66	7.87	745.59
800-6050	P600E-12	636W	—	53.0A	—	—	7.48	3.66	7.87	745.59
800-6060	P600E-15	645W	—	—	43.0A	—	7.48	3.66	7.87	745.59
800-6070	P600E-24	648W	—	—	—	27.0A	7.48	3.66	7.87	745.59
800-6080	P1500E-5	1500W	300.0A	—	—	—	7.87	3.82	11.81	1771.57
800-6090	P1500E-12	1500W	—	125.0A	—	—	7.87	3.82	11.81	1771.57
800-6100	P1500E-15	1500W	—	—	100.0A	—	7.87	3.82	11.81	1771.57
800-6110	P1500E-24	1560W	—	—	—	65.0A	7.87	3.82	11.81	1771.57

Multiple Output Switchers: 8-100 Watts

- ▶ Input range: AC 85-132V, DC 110-170V
- ▶ Adjustable output voltage range: $\pm 10\%$ on V1
- ▶ Output #1 is isolated from output #2 and #3
- ▶ UL approved, CSA certified
- ▶ Protective cover
- ▶ Two year warranty



Size Chart

	W	H	D
A	2.91	2.68	1.06
B	4.74	3.62	1.32
C	6.36	3.82	1.59
D	6.10	3.66	1.92
E	6.89	3.66	1.65

	W	H	D
F	7.48	3.66	1.97
G	3.93	3.14	1.10
H	5.31	3.14	1.22
I	6.10	3.66	1.37

Stock No.*	Mfr.'s Type	Watts	Output (V)/Current (A)			Size	EACH
			V1	V2	V3		
800-1800	MMC8U-1-N	8	+5V/1.2A	+12V/0.1A	+12V/0.1A	A	44.12
800-1805	MMC8U-2-N	8	+5V/1.1A	+15V/0.1A	+15V/0.1A	A	44.12
800-1810	MMC8U-3-N	8	+5V/1.2A	+12V/0.1A	+5V/0.1A	A	44.12
800-1815	KMC15U-1-N	15	+5V/2.0A	+12V/0.3A	+12V/0.2A	B	63.97
800-1820	KMC15U-2-N	15	+5V/2.0A	+15V/0.2A	+12V/0.2A	B	63.97
800-8060	RMC15U-1-N	15	+5V/2.0A	+12V/0.3A	+12V/0.2A	G	54.66
800-8065	RMC15U-2-N	15	+5V/2.0A	+15V/0.2A	+12V/0.2A	G	54.66
800-1825	KMC30U-1-N	30	+5V/3.0A	+12V/1.2A	+12V/0.5A	C	84.80
800-1830	KMC30U-2-N	30	+5V/3.0A	+15V/0.5A	+12V/0.5A	C	84.80
800-8070	RMC30U-1-N	30	+5V/3.0A	+12V/1.2A	+12V/0.5A	H	73.28
800-8075	RMC30U-2-N	30	+5V/3.0A	+15V/0.5A	+12V/0.5A	H	73.28
800-1835	MMC50U-1-N	50	+5V/5.0A	+12V/1.5A	+12V/0.5A	D	106.62
800-1840	MMC50U-2-N	50	+5V/5.0A	+15V/1.2A	+15V/0.5A	D	106.62
800-1845	MMC50U-3-N	50	+5V/5.0A	+12V/1.5A	+5V/0.5A	D	106.62
800-1850	MMC50U-4-N	50	+5V/7.0A	+12V/1.0A	+12V/0.3A	D	106.62
800-1260	RMC50U-1-N	50	+5V/5.0A	+12V/1.5A	+12V/0.5A	I	96.08
800-1265	RMC50U-2-N	50	+5V/5.0A	+15V/1.2A	+15V/0.5A	I	96.08
800-1855	MMC75U-1-N	75	+5V/8.0A	+12V/2.5A	+12V/0.5A	E	154.66
800-1860	MMC75U-2-N	75	+5V/8.0A	+15V/1.8A	+15V/0.5A	E	154.66
800-1865	MMC75U-3-N	75	+5V/8.0A	+12V/2.5A	+5V/0.5A	E	154.66
800-1870	MMC75U-4-N	75	+5V/6.0A	+12V/3.2A	+12V/0.5A	E	154.66
800-1875	MMC100U-1-N	100	+5V/13.0A	+12V/2.0A	+12V/1.0A	F	178.68
800-1880	MMC100U-2-N	100	+5V/13.0A	+15V/1.5A	+15V/1.0A	F	178.68
800-1885	MMC100U-3-N	100	+5V/13.0A	+12V/2.0A	+5V/1.0A	F	178.68
800-1890	MMC100U-4-N	100	+5V/8.0A	+12V/4.0A	+12V/1.0A	F	178.68

Multiple Output Switchers: 15-100 Watts

- ▶ Protective cover on 50-100 Watts
- ▶ UL1459 and TUV approved, CSA certified
- ▶ EMI: FCC-B
- ▶ Three year warranty
- ▶ Adjustable output voltage range: $\pm 10\%$ on V1
- ▶ Output #1 is isolated from Output #2 and #3
- ▶ Wide Input Range: 15-30 Watts—AC 85-264V, DC 110-340V; 50-100 Watts—AC 85-132V, AC 170-264V

Size Chart

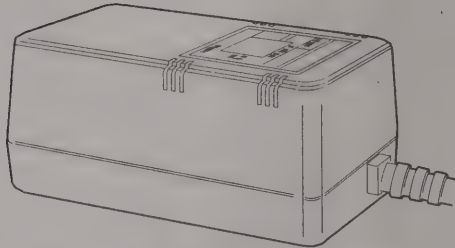
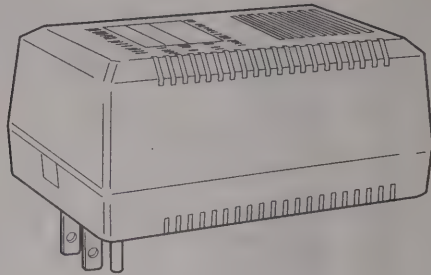
	W	H	D
A	1.46	2.36	4.33
B	1.52	2.36	5.71
C	1.18	3.66	7.28

	W	H	D
D	1.49	3.66	8.07
E	1.89	3.66	8.66

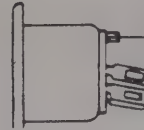
Stock No.*	Mfr.'s Type	Watts	Output (V)/Current (A)			Size	EACH
			V1	V2	V3		
800-1160	PMC15E-1	15	5V/2.0A	12V/0.3A	-12V/0.2A	A	66.67
800-1170	PMC15E-2	15	5V/2.0A	15V/0.3A	-15V/0.3A	A	66.67
800-1180	PMC15E-3	15	5V/2.0A	12V/0.3A	-5V/0.2A	A	66.67
800-1190	PMC30E-1	30	5V/3.0A	12V/1.2A	-12V/0.3A	B	89.46
800-1200	PMC30E-2	30	5V/3.0A	15V/0.7A	-15V/0.5A	B	89.46
800-1210	PMCS0E-1-XULA-N	50	5V/5.0A	12V/1.5A	-12V/0.5A	C	127.70
800-1220	PMCS0E-2-XULA-N	50	5V/5.0A	15V/1.2A	-15V/0.5A	C	127.70
800-1230	PMCS0E-4-XULA-N	50	5V/7.0A	12V/1.0A	-12V/0.3A	C	127.70
800-1240	PMC75E-1-N	75	5V/8.0A	12V/2.5A	-12V/0.5A	D	175.74
800-1250	PMC75E-2-N	75	5V/8.0A	15V/1.8A	-15V/0.5A	D	175.74
800-1260	PMC75E-4-N	75	5V/6.0A	12V/2.3A	-12V/0.5A	D	175.74
800-1270	PMCT00E-1-N	100	5V/13.0A	12V/2.0A	-12V/1.0A	E	204.90
800-1280	PMCT00E-2-N	100	5V/13.0A	15V/1.5A	-15V/1.0A	E	204.90
800-1290	PMCT00E-4-N	100	5V/8.0A	12V/1.0A	-12V/1.0A	E	204.90

1950 Series

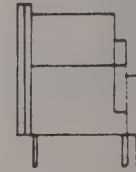
— NEW —



5 Pin DIN — Mating Connectors Available



Panel Mount
WMPNLB



Board Mount
WMPNBA

DC Output Connections



D5
5 Pin DIN

760 Standard — Output Connector Female

Inside V+
Outside V-



ID = 2.5 mm
OD = 5.5 mm
Barrel Length = 10.0 mm

Wallmount Features

- ▶ Single and Multiple Output
- ▶ 4 Watts to 22 Watts
- ▶ UL 1950 Listed — CSA Certified 22.2 No. 220
- ▶ One Year Warranty

Specifications. Input Voltage: 120 VAC, 60 Hz. Output Ripple: 20 millivolts (p-p). Operating Temperature: 0°C to 40°C. Combined Regulation: ±5%. Fusing: Internal, non-replaceable. Thermal Current Limited. Dielectric Withstand Voltage: 1500 VAC, RMS. Options. Connectors. Shielded Output Cable — S Option: Shielded cable with EMI ground tied to outer ring of DIN connector (not to be used as safety ground).

Tabletop Features

- ▶ Single and Multiple Output
- ▶ 4 Watts to 22 Watts
- ▶ UL 1950 Listed — CSA Certified 22.2 No. 220
- ▶ One Year Warranty

Specifications. Input Voltage: 120 VAC, 60 Hz. Output Ripple: 20 millivolts (p-p). Operating Temperature: 0°C to 40°C. Combined Regulation: ±5%. Fusing: Internal, non-replaceable. Thermal Current Limited. Dielectric Withstand Voltage: 1500 VAC, RMS. Options. Connectors. Shielded Output Cable — S Option: Shielded cable with EMI ground tied to outer ring of DIN connector (not to be used as safety ground).

DIN Pinout Matrix

P/N	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
WM 063	COM	N/C	+5 V	-12 V	+12 V
WM 070	COM	N/C	+5 V	COM	+12 V
WM 072	COM	N/C	+12 V	COM	-12 V
WM 090	COM	N/C	+5 V	COM	-5 V
WM 071	COM	N/C	+15 V	COM	-15 V
WM 220	COM	N/C	+5 V	-12 V	+12 V

Regulated Wallmounts (Single and Multiple Output)

Stock No.	Mfr.'s Type	Output 1		Output 2		Output 3		Standard Connector	Size H × W × L (In.)	EACH			
		Volts	Amps	Volts	Amps	Volts	Amps			1-4	5-9	10-24	25
879-1063	WM063-1950-D5	+5	0.60	+12	0.16	-12	0.16	5 Pin DIN	4.33 × 2.44 × 2.00	46.00	41.00	37.00	34.00
879-1070	WM070-1950-D5	+5	0.60	+12	0.33	—	—	5 Pin DIN	3.21 × 2.18 × 1.57	40.00	36.00	33.00	30.00
879-1090	WM090-1950-D5	+5	0.70	-5	0.70	—	—	5 Pin DIN	3.21 × 2.18 × 1.57	47.00	42.00	38.00	35.00
879-2050	WM050-1950-760	+5	1.00	—	—	—	—	760 Type	3.21 × 2.18 × 1.89	26.00	23.00	21.00	19.00
879-2075	WM075-1950-760*	+5	1.50	—	—	—	—	760 Type	4.33 × 2.44 × 2.00	42.00	38.00	35.00	32.00
879-2101	WM101-1950-760	+5	2.00	—	—	—	—	760 Type	5.00 × 3.07 × 2.24	42.00	38.00	35.00	32.00
879-1072	WM072-1950-D5	+12	0.30	+12	0.30	—	—	5 Pin DIN	5.00 × 3.07 × 2.24	43.00	39.00	35.00	33.00
879-1060	WM060-1950-760	+12	0.50	—	—	—	—	760 Type	3.21 × 2.18 × 1.57	33.00	30.00	27.00	25.00
879-2144	WM144-1950-760*	+12	1.20	—	—	—	—	760 Type	3.35 × 2.68 × 2.18	44.00	40.00	36.00	33.00
879-1071	WM071-1950-D5	+15	0.24	-15	0.24	—	—	5 Pin DIN	3.21 × 2.18 × 1.57	42.00	38.00	35.00	32.00
879-1061	WM061-1950-760	+15	0.40	—	—	—	—	760 Type	3.21 × 2.18 × 1.57	33.00	30.00	27.00	25.00
879-1080	WM080-1950-760	+24	0.33	—	—	—	—	760 Type	3.21 × 2.18 × 1.57	31.00	28.00	25.00	23.00

Regulated Tabletop

879-1220	WM220-1950-D5**	+5	2.00	+12	500 mA	-12	500 mA	5 Pin DIN	2.66 × 3.82 × 6.30	107.00	96.00	87.00	80.00
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*UL only. **UL only and has a shielded cable.

MIADA II Series

Designed Primarily for the Portable Systems Market

- Specially Designed Case
- Foldable AC Input Plug
- Approved to UL and CSA Requirements
- Meet Class B Emission Standards
- 12-24 Volt DC, 25-35 Watt Range
- Single Output Terminated in a 2.5 mm Barrel Connector
- 3-5 Watts Per Cubic Inch Power Density

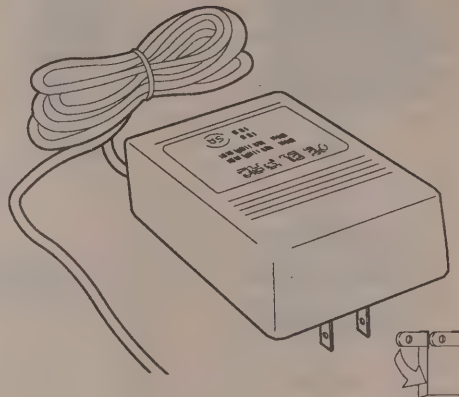
Physical Specifications

- Type: Wall-Mount
- Size: 1.2" × 3.6" × 2.3"
- Weight: 5.7 oz.
- Output Cable: 6 Foot Zip Cord
- Output Connector: 2.5 mm Barrel Center Positive
- Safety Agency Approvals: UL 1310, CSA 950

Electrical Specifications

- AC Input: 120 VAC ±10% 60 Hz (U.S.A and Canada)
- DC Output: 12, 15, 18 and 24 VDC
- Line Regulation: ±1%
- Load Regulation: ±5%
- Minimum Load: Zero Watts
- Emissions: FCC Class B
- Set Point: ±3% of Nominal at 60% Load
- Ripple and Noise: ±1% PK-PK Maximum

- Overload Protection: Automatic Recovery
- OVP: Primarily Clamped to 115-135%
- Overshoot: None Above Normal Regulation
- Transient Response: 2% of Nominal Output Within 1 MS After 50% Load Swing
- Hold-Up Time: 16 MS
- Operating Temperature: 0 to 40°C
- Storage Temperature: -55 to 85°C



Fold-Up Plug Models, 120 V Input

Stock No.	Mfr.'s Type	Output Volts	Output Amps	EACH	
				1-4	5-9
879-9860	M23012-760	12 VDC	2.50 A	65.00	63.00
879-9865	M23215-760	15 VDC	2.13 A	65.00	63.00
879-9870	M23318-760	18 VDC	1.83 A	65.00	63.00
879-9875	M23424-760	24 VDC	1.42 A	65.00	63.00

Fixed, Standard Three Prong Plug, 120 V Input

Stock No.	Mfr.'s Type	Output Volts	Output Amps	EACH	
				1-4	5-9
879-9880	M33012-760	12 VDC	2.50 A	72.00	65.00
879-9885	M33215-760	15 VDC	2.13 A	72.00	65.00
879-9890	M33318-760	18 VDC	1.83 A	72.00	65.00
879-9895	M33424-760	24 VDC	1.42 A	72.00	65.00

MIADA Series

Low Profile External Power Supply

Features

- 95-250 VAC, 47/63 Hz Via Input Connector
- FCC B/VDE Class B
- IEC 320 Series Input Connector
- 26 Models
- Single Output
- International Approvals
- One Year Warranty
- 3" × 5" × 1.31", 13 Oz.

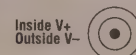
Application

- Notebook Computers and Small Systems



760
Phone Plug

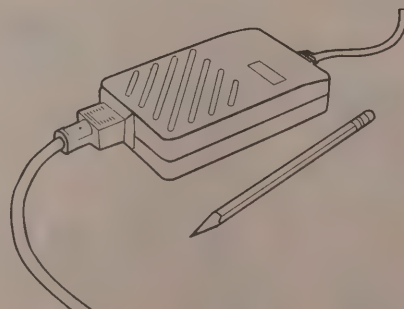
Output Connector Female



ID = 2.5 mm
OD = 5.5 mm
Barrel Length = 10.0 mm

Optional Output Cable/Connectors available on special order.
760 Switchcraft is standard.

Stock No.	Mfr.'s Type	Volts	Amps Max.	Power	EACH	
					1-4	5-9
879-9620	MI 2005-760	5 V	3.00 A	15 W	90.00	82.00
879-9625	MI 2006-760	6 V	3.00 A	18 W	90.00	82.00
879-9630	MI 2007-760	7 V	2.90 A	20 W	90.00	82.00
879-9635	MI 2008-760	8 V	2.70 A	22 W	90.00	82.00
879-9640	MI 2009-760	9 V	2.40 A	22 W	90.00	82.00
879-9645	MI 2010-760	10 V	2.40 A	24 W	90.00	82.00
879-9600	MI 2612-760	12 V	2.17 A	26 W	90.00	82.00
879-9650	MI 2613-760	13 V	2.00 A	26 W	90.00	82.00
879-9655	MI 2614-760	14 V	1.86 A	26 W	90.00	82.00
879-9605	MI 2815-760	15 V	1.90 A	28 W	90.00	82.00
879-9660	MI 2816-760	16 V	1.78 A	28 W	90.00	82.00
879-9665	MI 2817-760	17 V	1.67 A	28 W	90.00	82.00
879-9610	MI 2818-760	18 V	1.56 A	28 W	90.00	82.00
879-9670	MI 2819-760	19 V	1.47 A	28 W	90.00	82.00
879-9675	MI 2820-760	20 V	1.40 A	28 W	90.00	82.00
879-9680	MI 2821-760	21 V	1.34 A	28 W	90.00	82.00
879-9685	MI 2822-760	22 V	1.27 A	28 W	90.00	82.00
879-9690	MI 2823-760	23 V	1.22 A	28 W	90.00	82.00
879-9615	MI 2824-760	24 V	1.17 A	28 W	90.00	82.00



WRI Series

Optional Output Cable Connectors
Available on special order.



D15
15Pin Sub "D"



M44
4Pin Molex



M6
6 Pin Molex



D9
9 Pin Sub "D"



760
Phone Plug



Output Pin Outs

View A-A



Outside ring on all units
is an EMI earth ground
(not to be used as a
safety ground.)



Features

- ▶ 90-250 VAC, 47-440 Hz or 110-350 VDC
- ▶ FCC/VDE Class B Models Available
- ▶ IEC Input Connector
- ▶ 13 Standard Tabletop Models
- ▶ Single, Dual or Triple Outputs
- ▶ Optional Output Cables/Connectors
- ▶ One Year Warranty
- ▶ Wide Range Input
- ▶ Approved by Major Regulatory Agencies

General Specifications. Storage Temperature: -55°C to +85°C. Operating Temperature: 0-40°C. Size: 6.3" x 3.82" x 2.66". Weight: 13 oz. Input Cable: 6' standard domestic 3 prong. Output Cable: 6' shielded with barrel connector. Output Specifications. Line Regulation: ±2% over 90-132 or 180-250. Maximum Load Regulation: ±5% for 40% load variation (60% nominal). Set Point: ±3% at 60% load. Ripple and Noise: ±1% Pk-PK maximum. Overload Protection: Automatic recovery. Overvoltage Protection: 115-140%. Overshoot: None above normal regulation. Transient Response: Recovery to within 1% of nominal output within 1 ms for a 50% to 100% load step. Maximum excursion is 6% from initial voltage set point.

Input Specifications: 90-250 VAC, 47-440 Hz, or 10-350 VDC. Inrush Current: 35 A PK at 230 VAC. Input Protection: Internal input line fuse.

Single Output

Stock No.	Mfr.'s Type	Output 1		Max. Power	Min. Load	EACH			
		Volts	Amps			1-4	5-9	10-24	25
879-7502	WRI 2011-D5	5	4.00	20 W	0 W	106.00	96.00	88.00	82.81
879-7500	WRI 2012-D5	12	2.00	20 W	0 W	106.00	96.00	88.00	82.81
879-0005	WRI 3012-D5	12	2.50	30 W	8 W	110.00	100.00	92.00	85.74
879-0010	WRI 3014-D5	24	1.25	30 W	8 W	114.00	104.00	95.00	89.00
879-0015	WRI 4212-D5	12	3.50	42 W	8 W	112.00	102.00	93.00	87.50
879-0020	WRI 4214-D5	24	1.75	42 W	8 W	112.00	102.00	93.00	87.50
879-0030	WRI 5215-D5	30	1.75	52 W	8 W	136.00	124.00	113.00	106.00

Dual Output

Stock No.	Mfr.'s Type	Output 1		Output 2		Max. Power	Min. Load	EACH			
		Volts	Amps	Volts	Amps			1-4	5-9	10-24	25
879-0035	WRI 2721-D5	5	4.0	12	1.5	27 W	2 W	120.00	109.00	100.00	94.00
879-0040	WRI 3021-D5	5	2.0	12	1.5/2.5	30 W	8 W	118.00	107.00	98.00	92.00
879-0045	WRI 3025-D5	5	3.0	5	3.0	30 W	8 W	120.00	109.00	100.00	93.00
879-0050	WRI 4221-D5	5	3.0	12	2.5/4.0	42 W	8 W	118.00	107.00	98.00	87.00

Triple Output

Stock No.	Mfr.'s Type	Output 1		Output 2		Output 3		Max. Power	Min. Load	EACH			
		Volts	Amps	Volts	Amps	Volts	Amps			1-4	5-9	10-24	25
879-0055	WRI 2731-D5	5	3.0	12	1.5	-12	0.5	27 W	2 W	124.00	113.00	103.00	93.00
879-0060	WRI 3031-D5	5	2.0	12	1.5/2.5	-12	0.5	30 W	8 W	120.00	109.00	100.00	94.00
879-0065	WRI 4231-D5	5	3.0	12	2.5/4.0	-12	0.5	42 W	8 W	120.00	109.00	100.00	94.00
879-0070	WRI 4232-D5	5	4.8	12	1.5/2.5	-12	0.5	42 W	8 W	124.00	113.00	103.00	96.00

Output Pin Configuration — 5 Pin Din

Single Output Model

Model	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
WRI 2011-D5	COM	+5V	+5V	COM	+5V
WRI 2012-D5	COM	+12V	+12V	COM	+12V
WRI 3012-D5	COM	COM	+12V	COM	+12V
WRI 3014-D5	COM	COM	+24V	COM	+24V
WRI 4212-D5	COM	COM	+12V	COM	+12V
WRI 4214-D5	COM	COM	+24V	COM	+24V
WRI 4515-D5	COM	COM	+30V	COM	+30V
WRI 5215-D5	COM	COM	+30V	COM	+30V

Dual Output Models

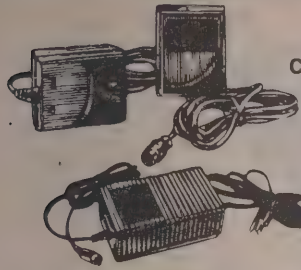
WRI 2721-D5*	COM	COM	+5V	COM	+12V
WRI 3021-D5	COM	COM	+5V	COM	+12V
WRI 3025-D5	COM	COM	+5V	COM	+5V
WRI 4221-D5	COM	COM	+5V	COM	+12V

Triple Output Models

WRI 2731-D5*	COM	COM	+5V	-12V	+12V
WRI 3031-D5	COM	COM	+5V	-12V	+12V
WRI 4231-D5	COM	COM	+5V	-12V	+12V
WRI 4232-D5	COM	COM	+5V	-12V	+12V

Minimum load all models = 8 watts. *Minimum load WRI27XX = 2 watts.

Regulated Wallmounts and Tabletops



DC Output Connections
1 2 3
4 5
D5
5 Pin DIN

► UL and CSA Approved

Features

- Single and multiple output
- 2.5 watts to 23 watts
- UL 1310 listed CSA approved
- One year warranty

Options

- Cords
- Connectors
- Shielded Output Cable — S Option: Shielded cable with EMI ground tied to outer ring of DIN connector (not to be used as safety ground)
- Custom configurations available

Specifications. Input Voltage: 115 VAC, 60 Hz. Output Ripple: 20 millivolts (p-p). Operating Temperature: 0-40°C. Standard 5 pin DIN connector. Combined Regulation: $\pm 5\%$. Fusing internal non-replaceable. Thermal current limited. Dielectric Withstand Voltage: 1500 VAC, RMS.

Wallmounts – Single and Multiple Output

Stock No.	Mfr.'s Type	Outputs			Connector Type*	Size H x W x L	EACH			
		1	2	3			1-4	5-9	10-24	25
879-0075	WM025	+ 5V, 500mA	—	—	760	2.20 x 2.75 x 3.50	33.00	30.00	27.00	25.00
879-0080	WM053	+ 5V, 380mA	-5V, 180mA	+ 12V, 180mA	DIN	2.20 x 2.75 x 3.50	48.00	43.00	39.00	36.00
879-0085	WM063	+ 5V, 380mA	-12V, 180mA	+ 12V, 180mA	DIN	2.20 x 2.75 x 3.50	46.00	41.00	37.00	34.00
879-0090	WM075	+ 5V, 1.5A	—	—	DIN	2.28 x 3.10 x 4.36	49.00	44.00	40.00	37.00
879-0095	WM093	+ 5V, 860mA	-5V, 300mA	+ 12V, 300mA	DIN	2.28 x 3.10 x 4.36	60.00	54.00	49.00	45.00
879-0100	WM112	+ 5V, 800mA	—	+ 12V, 600mA	DIN	2.28 x 3.10 x 4.36	60.00	54.00	49.00	45.00
879-0105	WM113	+ 5V, 860mA	-12V, 300mA	+ 12V, 300mA	DIN	2.28 x 3.10 x 4.36	46.00	41.00	37.00	34.00
879-9999	WM113-S	+ 5V, 860mA	-12V, 300mA	+ 12V, 300mA	DIN	2.28 x 3.10 x 4.36	60.00	54.00	50.00	49.00
879-0110	WM144-S	+ 12V, 1.2A	—	—	DIN	2.28 x 3.10 x 4.36	60.00	54.00	49.00	45.00

Tabletops – Single and Multiple Output

879-0115	WM100-S	+ 5V, 1.0A	-5V, 1.0A	—	DIN	2.28 x 3.10 x 4.36	58.00	52.00	47.00	43.00
879-0125	WM113TT	+ 5V, 860mA	-12V, 300mA	+ 12V, 300mA	DIN	2.28 x 3.10 x 4.36	58.00	52.00	47.00	43.00
879-0130	WM217	+ 5V, 2.0A	-12V, 900mA/2.5A	—	DIN	2.66 x 3.82 x 6.30	91.00	82.00	75.00	68.00
879-0135	WM220-1	+ 5V, 2.0A	+ 12V, 500mA	-12V, 500mA	DIN	2.66 x 3.82 x 6.30	96.00	86.00	78.00	72.00
879-0140	WM230-S	+ 5V, 1.0A	-12V, 1/52/5A	—	DIN	2.66 x 3.82 x 6.30	96.00	86.00	78.00	72.00

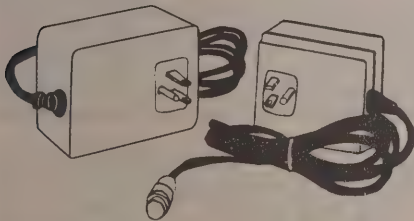
*Mating connectors available on special order.

DIN Output Matrix

P/N	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5
WM025	COM	N/C	+ 5V	com	+ 5V
WM053	COM	N/C	+ 5V	-5V	+ 12V
WM063	COM	N/C	+ 5V	-12V	+ 12V
WM075	COM	N/C	+ 5V	COM	+ 5V
WM093	COM	N/C	+ 5V	-5V	+ 12V
WM112	COM	N/C	+ 5V	COM	+ 12V
WM113	COM	N/C	+ 5V	-12V	+ 12V
WM144	COM	N/C	+ 12V	COM	+ 12V

P/N	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5
WM100	-5V	N/C	+ 5V	COM	COM
WM150	COM	N/C	+ 5V	COM	+ 5V
WM113TT	COM	N/C	+ 5V	-12V	+ 12V
WM217	COM	N/C	+ 5V	COM	+ 5V
WM220-1	COM	N/C	+ 5V	-12V	+ 12V
WM230	+ 12V	N/C	+ 5V	COM	COM
—	—	—	-5V	—	—
—	—	—	—	—	—

MED Series — Regulated Medical Instrumentation Power Supply



Approvals

- UL approved to Medical Standard UL544
- CSA approved to Standard C22.2 No. 22D, CSA evaluated to C22.2 No. 125 (Medical Applications)
- FCC Class B and VDE Class B Emissions

Features

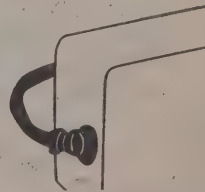
- Medical Agency Approved
- Tabletops and Wallmounts
- All outputs fully regulated
- Output connector options
- Off-the-shelf availability

General Specifications

- A/C Input: 120VAC, $\pm 10\%$, 60 Hz (all models except MED 220)
- AC input MED 220: 115VAC, $\pm 10\%$, 60 Hz
- AC input cable 6 foot hospital grade cord (Tabletops)
- DC output cable 6 foot
- Load Regulation $\pm 5\%$
- Line Regulation $\pm 0.5\%$
- Ripple and Noise: 20 millivolts P-P
- Minimum Load: 0 watts
- No overshoot on turn-on/turn-off
- Short circuit protected
- Thermally fused primary
- Standard 5 pin DIN connector
- Operating temperature 0-40°C
- Storage temperature -25°C to +85°C
- Size: Models MED 075, 112, 113, 113TT, 144 = 2.3 x 3.1 x 4.4 inches; Model MED 220 = 2.7 x 3.8 x 6.3 inches

DIN Pinout Matrix

P/N	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5
MED 075	COM	N/C	+ 5V	COM	+ 5V
MED 112	COM	N/C	+ 5V	COM	+ 12V
MED 113	COM	N/C	+ 5V	-12V	+ 12V
MED 113TT	COM	N/C	+ 5V	-12V	+ 12V
MED 144	COM	N/C	+ 12V	COM	+ 12V
MED 220	COM	N/C	+ 5V	-12V	+ 12V



Stock No.	Mfr.'s Type	Input AC	Output VDC/Amps			EACH			
			1	2	3	1-4	5-9	10-24	25
879-9100	MED 075*	120V, 60 Hz	5V@ 1.25A	—	—	116.00	100.00	96.00	90.00
879-9005	MED 112	120V, 60 Hz	5V@ .75A	12V@ .65A	—	116.00	100.00	96.00	90.00
879-9010	MED 113TT*	120V, 60 Hz	5V@ .86A	12V@ .3A	-12V@ .3A	116.00	100.00	96.00	90.00
879-9015	MED 113	120V, 60 Hz	5V@ .86A	12V@ .3A	-12V@ .3A	116.00	100.00	96.00	90.00
879-9020	MED 144	120V, 60 Hz	12V@ 1.2A	—	—	116.00	100.00	96.00	90.00
879-9025	MED 220*	115V, 60 Hz	5V@ 2.0A	12V@ 700mA	-12V, 300mA	136.00	110.00	105.00	99.00

*Table Top Model.

Regulated Tabletops—European Models

Features

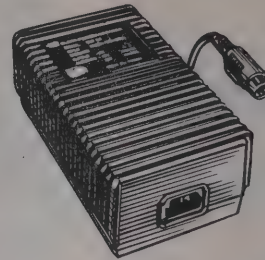
- ▶ TUV approved to IEC 950
- ▶ VDE Class B Emission
- ▶ CMIs have IEC approved input connector

- ▶ WMs have 2 prong Euro plug
- ▶ All outputs fully regulated
- ▶ Output connector options
- ▶ Off-the-Shelf Availability

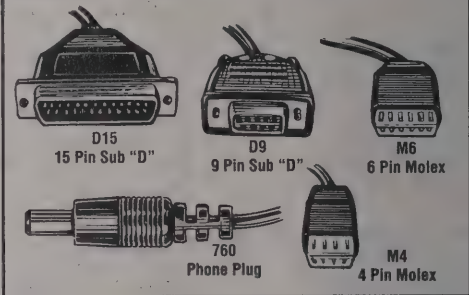
Specifications. Input: CMI 200-250 VAC 50Hz, WMI 212-240 VAC 50Hz. Ripple: 1% Pk-Pk for all outputs. **Combined Regulation:** $\pm 5\%$ max. **Minimum Load:** 0 Watts. No Overshoot to turn-on or turn-off. Current limited. Internally Fused. **Operating Temperature:** 0-45°C. **Size:** 6.3 x 3.82 x 2.66 inches.

DIN Pinout Matrix

P/N	PIN1	PIN2	PIN3	PIN4	PIN5
CMI 1231	COM	N/C	+5v	-12v	+12v
CMI 0531	COM	N/C	+5v	-12v	+12v
CMI 0811	COM	N/C	+5v	COM	+5v
CMI 1511	COM	N/C	+5v	COM	+5v
CMI 1411	COM	N/C	+12v	COM	+12v
CMI 2431	COM	N/C	+24v	COM	+24v
WM217-EURO	COM	N/C	+5v	COM	+12v
WM220-1 EURO	COM	N/C	+5v	-12v	+12v



Alternative Output Connectors and Other Output Connectors Available on Special Order.



Stock No.	Mfr.'s Type	Outputs			Connector Type*	EACH			
		1	2	3		1-4	5-9	10-24	25
879-0150	CMI 0531-D5	5v, 380mA	+12v, 180mA	-12v, 180mA	DIN	93.00	84.00	76.00	70.00
879-0155	CMI 0811-D5	5v, 1.5A	—	—	DIN	87.00	78.00	71.00	65.00
879-0160	CMI 1231-D5	5v, 1A	+12v, 300mA	-12v, 300mA	DIN	93.00	84.00	76.00	70.00
879-0165	CMI 1411-D5	12v, 1.2A	—	—	DIN	100.00	90.00	82.00	75.00
879-0170	CMI 1511-D5	5v, 3A	—	—	DIN	122.00	110.00	100.00	92.00
879-0175	CMI 2411-D5	24v, 1A	—	—	DIN	93.00	84.00	76.00	70.00
879-0180	WM 217-EURO	5v, 2A	+12v, 900mA	—	DIN	107.00	96.00	87.00	80.00
879-0185	WM 220-1 EURO	5v, 2A	+12v, 500mA	-12v, 500mA	DIN	189.00	98.00	89.00	82.00

*Mating connectors available on special order.

Regulated Wallmounts - European Models

Features

- ▶ TUV approved to IEC 950, Class II
- ▶ VDE Class B Emission
- ▶ BS Models have 3 prong UK plug

- ▶ GR models have 2 prong Euro plug
- ▶ All outputs fully regulated
- ▶ Output connector options
- ▶ Off-the-Shelf Availability

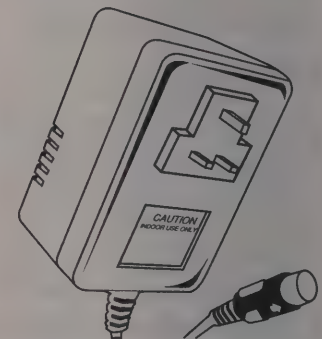
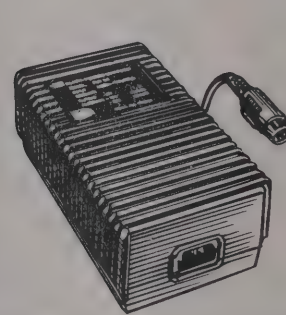
Specifications. Input: BS240 VAC 50Hz, GR220 VAC 50Hz. Ripple: 1% Pk-Pk for all outputs. **Combined Regulations:** $\pm 5\%$ max. **Minimum Load:** 0 Watts. No Overshoot to turn-on/turn-off. Current limited. Internally Fused. **Operating Temperature:** 0-40°C. **Size:** 3.07 x .33 x 2.16 inches.

DIN Pinout Matrix

P/N	PIN1	PIN2	PIN3	PIN4	PIN5
GR 063	COM	N/C	+5v	-12v	+12v
GR 075	COM	N/C	+5v	—	—
GR 114	COM	N/C	+5v	-12v	+12v
BS 063	COM	N/C	+5v	-12v	+12v
BS 075	COM	N/C	+5v	—	—
BS 114	COM	N/C	+5v	-12v	+12v

BS Series Regulated Wallmounts (240 VAC Input - UK Plug)

Stock No.	Mfr.'s Type	Outputs			Connector Type	EACH
		1	2	3		
879-9500	BS 063	+5v, 380mA	-12v, 180mA	-12v, 180mA	DIN	50.00
879-9505	BS 075	+5v, 1.5A	—	—	DIN	54.00
879-9510	BS 114	+5v, 1A	12v, 250mA	-12v, 250mA	DIN	58.00



GR Series Regulated Wallmounts (220 VAC - Euro Plug)

Stock No.	Mfr.'s Type	Outputs			Connector Type	EACH
		1	2	3		
879-9515	GR 063	5v, 380mA	12v, 180mA	-12v, 180mA	DIN	49.00
879-9520	GR 075	5v, 1.5A	—	—	DIN	56.00
879-9525	GR 114	5v, 1A	12v, 250mA	-12v, 250mA	DIN	58.00

Unregulated Wallmounts - North American Models

Features

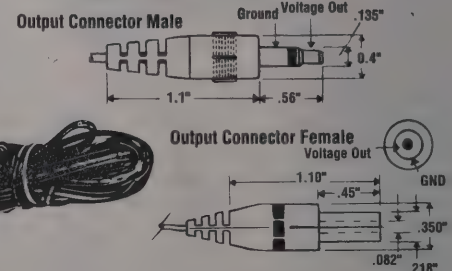
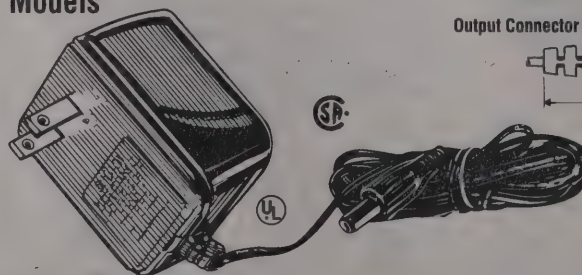
- ▶ Single Output
- ▶ 1.5 watts to 8 watts
- ▶ UL 1310 Listed
- ▶ One year warranty

Specifications. Input Voltage: 120 VAC, 60Hz. Output Connector: Output jack on a 6 ft. two-conductor cable. **Operating Temperature:** 0-30°C Thermal currently limited. Input to Output Isolation: 1250 volts.

PS Series Unregulated Single Output Wallmounts

Stock No.	Mfr.'s Type	Output Volts/Amps	Connector Type	Maximum No Load Voltage	Minimum Full Load Voltage	Size L x W x H	EACH			
							1-4	5-9	10-24	25
879-0190	PS025	7.5V/0.3A	Male*	12.0	7.5 $\pm 5\%$	1.65 x 2.00 x 2.44	13.00	10.00	9.00	8.00
879-0195*	PS027	9.0V/0.3A	Female	14.0	9.0 $\pm 5\%$	1.40 x 1.72 x 2.24	13.00	10.00	9.00	8.00
879-0200*	PS045	9.0V/0.5A	Male	14.0	9.0 $\pm 5\%$	1.65 x 2.00 x 2.44	15.00	12.00	11.00	10.00
879-0205*	PS033	12.0V/0.5A	Female	16.0	12.0 $\pm 5\%$	1.65 x 2.00 x 2.44	13.00	10.00	9.00	8.00
879-0210*	PS072	12.0V/0.5A	Male	16.0	12.0 $\pm 5\%$	1.98 x 2.43 x 2.57	15.00	12.00	11.00	10.00
879-0215	PS096	12.0V/0.8A	Female	19.0	12.0 $\pm 10\%$	1.90 x 2.40 x 3.00	19.00	15.00	14.00	13.00

*UL and CSA Approved.

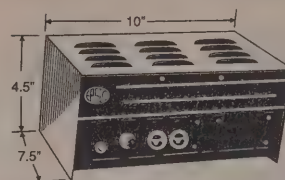


DC Power Supplies

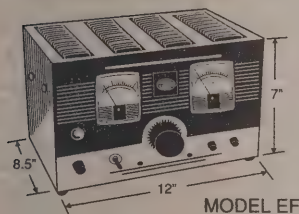


Transistorized Inverter

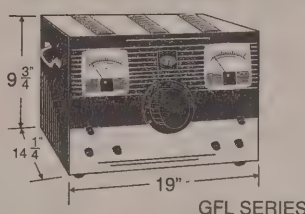
A dependable source of power to operate standard 117V, 60 Hz AC equipment. Its 250 VA output is ample for portable TV sets, radios, soldering irons, portable electric tools, CB equipment, PA systems and many other appliances. Features automatic electronic overload protection. When output is accidentally shorted or overloaded, inverter turns off instantly; turns back on when short is removed. Relay in circuit assures 100% reverse polarity protection, unit and battery. Indicator light gives low battery charge warning; warns when output is shorted or overloaded. **Input Voltage:** 12 VDC. **Output Voltage:** nominal 117 V, 60 Hz. **Voltage Regulation:** 15% max., no load to full load constant battery voltage. **Frequency Regulation:** 4 Hz max., no load to full load. **Input Terminals:** for connecting 12 VDC source (battery) to inverter (connecting leads included). **Fuse:** 30 amps. **ON-OFF Switch:** controls DC voltage to inverter. **Output Receptacle:** for appliance plugs. **Size:** 4 1/2"H x 10"W x 7 1/2"D. **Weight:** 13 lbs. **780-6312. Model TI-250B**.....EACH 229.50



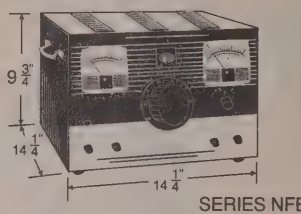
Power Supplies



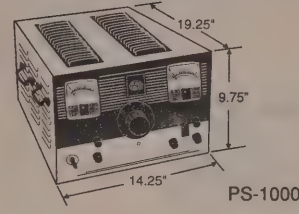
MODEL EF



GFL SERIES



SERIES NFB



PS-1000

Model EF Medium Duty Power Supply

Features continuously variable 2 DC Output: 0-28 VDC or 0-14 VDC up to 5 amps, continuous duty. Up to 10 amps at intermittent loads. **Ripple:** less than 1% at 5 amps. **Load Regulation:** 0.9 V/A (1 to 5A) for 0-28 V range. 0.6 V/A (1 to 5A) for 0-14 V range. **DC Impedance:** 0.9 (1 to 5A), 0-28 V range; 0.6 (1 to 5A) for 0-14 V range. **Overload Protection:** primary fuse. **AC Input:** 117 V, 60 Hz. 6' heavy duty line cord with three prong molded plug. **Panel Components:** two 2% D'Arsonval meters—output 0-50 VDC; 0-6 ADC. Off-on switch. Variable voltage control knob; 0-14/0-28 VDC range selector switch. Primary fuse. 5-way binding posts. **Cabinet:** 7"H x 12"W x 8 1/2"D. Heavy steel, blue hammerloid finish. **Weight:** 21 lbs. **780-2200. Model EF**.....EACH 353.50

Model EFB and EFBF Power Supplies

DC Output: 0-32 VDC continuously variable, up to 4 ADC. 0-16 VDC continuously variable, up to 8 ADC. **Ripple:** less than 0.1% rms. **Load Regulation:** 32 V range—output voltage varies 1.25 volts for each ampere of load current change between 0 and 4 amps; 16V range—output voltage varies 1 volt for each ampere of load current change between 0 and 8 amps. **DC Impedance:** 1.25 ohms for 32 VDC range. 1.0 ohms for 16 VDC range (no load to full load). **AC Input:** 117 V, 60 Hz. 6' cord. **Overload Protection:** primary fuse. **Panel Components:** variable voltage control knob. Two 2% D'Arsonval meters, voltmeter has two scales for easy reading, 0-40 and 0-20 VDC; Ammeter 0-10 ADC, 0-32/0-16 VDC selector switch. On-off switch. "5-way" binding posts. **Cabinet:** 7"H x 12"W x 8 1/2"D. **Model EFB** has 8 3/4" high x 19" wide rack panel to fit Western Electric and EIA racks. 18 gauge steel, blue hammerloid finish. **Weight:** Model EFB—26 lbs. Model EFBF—34 lbs. **780-2300. Model EFB**.....EACH 399.50
780-6301. Model EFBF.....EACH 463.50

GFL Series Power Supplies

GFL Series delivers up to 625 watts of well filtered DC power. **DC Output:** 0-125 VDC continuously variable, up to 5 ADC. **Ripple:** less than 0.5% rms with continuous 5 A, 125 V load. **Load Regulation:** output voltage varies 1.5 volts for each ampere of load current from 0 to 5 A. **DC Impedance:** 1.5 ohms, no load to full load. **AC Input:** 117 V, 60 Hz. 8' cord. **Overload Protection:** both primary and secondary circuit fuses. **Panel Components:** pilot light. Variable output voltage control knob. Two 2% D'Arsonval meters. 0-150 VDC, 0-5 ADC. On-off switch. 5-way binding posts. **Cabinet:** 14 1/4"H x 19"W x 9 3/4"D. **Model GFLR** has 10 1/2"H x 19" wide rack panel to fit Western Electric and EIA racks. Blue hammerloid finish. **Weight:** GFL—88 lbs. GFLR—100 lbs. **780-6302. Model GFL**.....EACH 861.50
780-6303. Model GFLR.....EACH 936.50

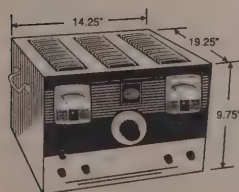
Model D-612T Heavy Duty Power Supply

Two continuously variable ranges: 0-8 VDC, 10 ADC and 0-16 VDC, 10 ADC; up to 20 volts for milliampere loads. **Extremely low ripple:** less than 0.5% rms up to 5 A; less than 2% at 10 A. **Load Regulation:** on 16 V range—output voltage varies 3.1 volts with load change from 3 A to 10 A. On 8 V range—output voltage varies 2.1 volts with load change from 3 A to 10 A. **AC Input:** 117 V, 60 CPS. 6' heavy-duty line cord with three prong molded plug. **Overload Protection:** secondary circuit fuse. **Panel Components:** continuous variable voltage control knob. 2 meters: output voltage—0-20 VDC and output current—0-10 ADC. 0-8, 0-16 VDC selector switch. On-off switch. Secondary fuse. Output terminals. **Cabinet:** 7"H x 12"W x 8 1/2"D. 18-gauge steel; blue hammerloid finish. Rubber feet. **Weight:** 22 lbs. **780-1000. D-612T**.....EACH 269.50

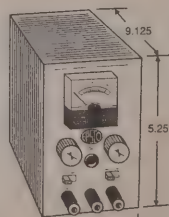
Model H Dual Range Power Supply

DC Output: 6 VDC up to 20 ADC continuous duty; 12 VDC up to 10 ADC continuous duty. Up to 50% overload for short periods. **Ripple:** less than 5% rms at maximum rated current. **Load Regulation:** on 12 V range—output voltage varies 1.6 V with load change from 3 A to 10 A. On 6 V range—output voltage varies 2.1 V with load change from 3 A to 10 A. **AC Input:** 117 V, 60 Hz. 6' heavy-duty line cord with three prong molded plug. **Overload Protection:** primary fuse. **Panel Components:** 8-position voltage control knob. 2 meters: output voltage—0-20 VDC and output current—0-30 ADC. On-off switch. Primary fuse. "Five-way" binding post terminals. 6/12 VDC selector switch. **Cabinet:** 7"H x 12"W x 8 1/2"D. 18-gauge steel; blue hammerloid finish. Rubber feet. **Weight:** 30 lbs. **780-6308. Model H**.....EACH 299.50

Models PS-30, PS-50

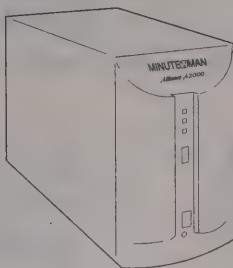
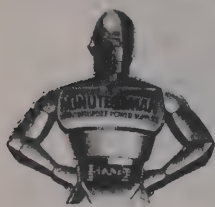


General purpose power supplies feature primary fuse overload protection and an 8-position tap switch for flexible voltage adjustment. **DC Output:** PS-30—12 VDC up to 30 A continuous duty. PS-50—12 VDC up to 50 A continuous duty. **Ripple:** PS-30—less than 1% rms at max. rated current; PS-50—0.5% rms at max. rated current. **Load Regulation:** PS-30—output varies 0.12 volts/ampere with load change from 6 A to 30 A; PS-50—output varies 0.17 volts/ampere no-load to full load. **DC Impedance:** PS-30—0.27 ohms, no load to full load; PS-50—0.17 ohms, no load to full load. **AC Input (both models):** 117 V, 60 Hz. 8' heavy-duty line cord with 3-prong molded plug. Cabinet is 18-gauge steel with blue hammerloid finish. Solid carrying handles. Rubber feet. **Size:** PS-30—9 3/4"H x 14 1/4"W x 14 1/4"D, 68 lbs.; PS-50—9 3/4"H x 14 1/4"W x 19 1/4"D, 106 lbs. **780-6200. Model PS-30. 68 lbs.**.....EACH 652.50



Models PSR-12-25 and PSR-12-50

Regulated transistorized 0.01% load regulation and only .0001 volts ripple. Solid state circuitry throughout including IC Op Amp. **DC Output:** PSR-12-25—0-25 VDC at 0-500 mA; PSR-12-50—0-50 VDC at 0-250 mA. **Impedance:** DC-1 kHz. 0.05 ohms; 1kHz-50kHz, 0.5 ohms; 50 kHz-500kHz, 3 ohms. **AC Input:** 105-125 V, 50/60 Hz. 6' heavy-duty line cord with 3-prong molded plug. **Panel Components:** voltage control knobs, 2% accuracy D'Arsonval meter calibrated for two ranges; output voltage and output current. Meter range switch. DC output terminals and chassis terminal. Neon pilot light. On-off switch. Fuse on rear panel. **Overload Protection:** primary fuse, current-limiting. **Cabinet:** 5 1/4"H x 3 1/4"W x 9 1/4"D. Recessed panel. 18-gauge steel. Black textured finish. **Weight:** 6 lbs. **780-6300. Model PSR-12-25**.....EACH 282.50
780-2400. Model PSR-12-50.....EACH 282.50



Alliance Series

- Self-Diagnostic Turn On Test
- Automatic Power Boost During Brownouts Without Use of Batteries
- 2 Year Product Warranty

- Site Wiring Fault Indicators
- Visual and Audible Indicators of All Power Conditions
- \$25,000 Connected Equipment Coverage

Minuteman's Alliance Series packs a lot of power protection in a small package at an excellent price. Designed to back up desktop PCs, fax machines, telephone systems, cash registers and file servers, the Alliance Series incorporates more features than competitive UPSs, yet these units are priced below their competition. The Alliance Series provides total protection from surges, spikes, brownouts and blackouts. The A500 and above are line-interactive UPSs providing automatic voltage regulation without accessing the batteries, along with a communications port allowing communications with Minuteman's optional power monitoring and shutdown software.

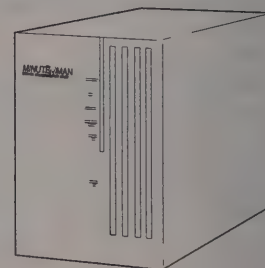
Stock No.	Mfr.'s Type	Applications	VA/Watts	Dimensions L x W x H (In.)	Ship Weight (Lbs.)	Comm Port	EACH
775-0100	A300	Desktop PC, LAN node	300/190	13.5 x 3.3 x 6	17.5	N/A	139.00
775-0200	A425	Desktop PC, LAN node	425/275	13.5 x 3.3 x 6	17.5	DB9	199.00
775-0300	A500	Desktop PC, LAN Server	500/325	13 x 4.6 x 6.6	25.0	DB9	259.00
775-0400	A750	2-3 PCs, Servers, Workstations	750/500	16 x 3.3 x 6.6	31.0	DB9	359.00
775-0500	A900	2-3 PCs, Servers, Workstations	900/630	18.4 x 6.5 x 9.8	49.0	DB9	529.00
775-0600	A1250	3-4 PCs, Servers, Workstations	1250/900	18.4 x 6.5 x 9.8	52.0	DB9	689.00
775-0700	A2000	4-6 PCs, Servers, Workstations	2000/1400	18.4 x 6.5 x 9.8	75.0	DB9	1059.00

PowerMind Series

- Automatic Frequency Selection (50 or 60 Hz)
- Automatic Power Boost During Brownouts Without Using Battery
- True Sine-Wave Output

- \$25,000 Connected Equipment Coverage and 2 Year Warranty
- Self-Diagnostic Test on Turn On
- Site Wiring Fault Indicators

The PowerMind (PML) Series from Minuteman are microprocessor-based intelligent UPSs that provide a true sinewave output. Designed for desktop PCs, telephone systems, critical file servers and LAN workgroups, the PMLs also incorporate extensive status indicators and audible alarms. The unique line-interactive technology built into the PMLs provides protection from brownout conditions without using the batteries. In addition, the PML Series provides complete protection from surges, spikes and blackout conditions.



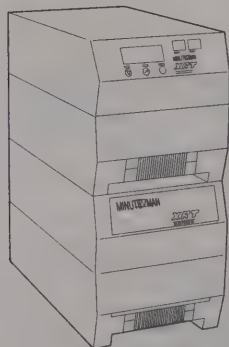
Stock No.	Mfr.'s Type	Applications	VA/Watts	Dimensions L x W x H (In.)	Ship Weight (Lbs.)	Comm Port	EACH
775-0800	PML600	Desktop PCs, Servers	600/400	13.75 x 4.75 x 8	30.0	DB9	499.00
775-0900	PML900	2-3 Desktop PCs, Servers	900/630	18 x 6.5 x 9.5	53.0	DB9	699.00
775-0950	PML1250	4-6 PCs, Multiple File Servers	1250/900	18 x 6.5 x 9.5	53.0	DB9	879.00
775Q0960	PML2000	6-10 PCs, Multiple File Servers	2000/1600	19.1 x 7.5 x 14.5	122.0	DB9	1499.00

XRT Series

- Regulates Voltage From 88 to 140 V Without Battery Use
- Isolation Transformer Provides Superior Noise/Surge Filtering
- Extended Back-up Times With Stackable External Battery Packs
- True Sinewave Output
- \$25,000 Connected Equipment Coverage and 2 Year Warranty

XRT
 SERIES

Minuteman XRT Series provides the best surge, spike and EMI/RFI filtering available. The series also incorporates a true automatic voltage regulator, a programmable LCD display (available on XRT1000 and above), and a built-in microprocessor that performs advanced battery management utilities. Minuteman's optional LanMaster monitoring and shutdown software is used for power and event management. **NOTE:** XRT600 includes batteries, all other units require external battery packs. Any number of additional battery packs can be added for increased run time. Each added pack will provide 20 to 30 minutes additional time. Perfect for critical servers and telecommunication equipment.

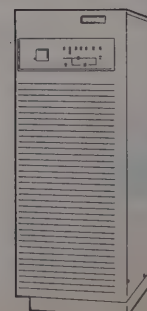


Stock No.	Mfr.'s Type	Applications	VA/Watts	Dimensions L x W x H (In.)	Ship Weight (Lbs.)	Comm Port	EACH
775-0970	XRT600	Desktop PCs, Critical Servers	600/400	19.25 x 8.75 x 10	57	DB9	999.00
775-0980	XRT1000	Multiple Servers, Phone Systems	1000/700	19.25 x 8.75 x 10	59	DB9	1159.00
775Q0990	XRT1500	Multiple Servers, Phone Systems	1500/1050	19.25 x 8.75 x 10	72	DB9	1499.00
775Q0995	XRT2000	Multiple Servers, Phone Systems	2000/1400	19.25 x 8.75 x 10	83	DB9	1799.00
775-1000	XRTBP1	External Battery Pack	—	19.25 x 8.75 x 10	62	—	429.00

CP Series

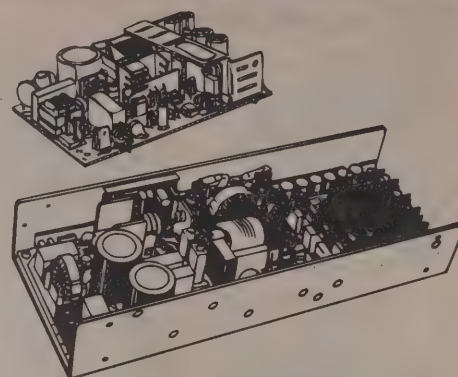
Minuteman's Continuous Power Series features true on-line double-conversion UPS technology that provide unsurpassed power protection for mission-critical applications. With extensive status indicators, synchronized sinewave output and a two-stage alarm, the CP Series represents the finest power protection money can buy. 208 and 240 volt units are available.

Stock No.	Mfr.'s Type	Applications	VA/Watts	Dimensions L x W x H (In.)	Ship Weight (Lbs.)	Comm Port	EACH
775-1000	CP500	Desktop PCs, Voice Mail, Phone Systems	500/350	17.5 x 3.6 x 7.5	28	DB9	799.00
775-1010	CP1K	Servers, AS-400, Work Stations, Voice Mail, Phone Systems	1000/700	17.7 x 7.5 x 10.4	56	DB9	1399.00
775Q1020	CP3K	8-10 PCs, Multiple File Servers, AS-400, Minicomputers, PBX	3000/2100	20.7 x 7.5 x 19.8	124	DB9	3699.00



30-400 Watt AC/DC Switching Power Supplies

- Universal Input/User-Selectable
- Over 1,000,000 User-Adjustable Voltage Settings (ZPS-150A-400A Series)
- Fully Featured
- 90-265 VAC (All Models)
- 120-364 VDC (30-45 Watt Series)
- Compact Design
- Quad Outputs (150-400 Watt Series)
- Single and Triple Outputs (30-60 Watt Series)
- Complete Unit Protection
- U-Channel Aluminum Construction
- Open Frame or Enclosed
- 100% Cycled Burn-In
- 100,000-500,000 Hours MTBF
- 1-2 Year Warranty
- Standard, Off-the-Shelf Delivery
- Enclosed Units End In "C"



Approvals/Compliance To

- UL 1950
- CSA 22.2
- IEC 950
- VDE 0806, VDE EN 60950
- VDE 0871/B, VFG 243/B
- FCC Part 15J, Class B
- BABT 340
- BS6301

Low Power Series

Stock No.	Mfr.'s Type	Max. Output Power (Watts)	Main Output		2nd Output		3rd Output		4th Output		Size (Inches) L x W x H	EACH 1-9
			Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.		
941-8000	ZPS-30-5	30	5	0.5/6	—	—	—	—	—	—	5 x 3 x 1.35	51.00
941-8010	ZPS-30-5C	30	5	0.5/6	—	—	—	—	—	—	5.4 x 3.4 x 1.85	56.00
941-8020	ZPS-30-12	30	12	0.2/2.5 PK 3	—	—	—	—	—	—	5 x 3 x 1.35	51.00
941-5030	ZPS-30-12C	30	12	0.2/2.5 PK 3	—	—	—	—	—	—	5.4 x 3.4 x 1.85	56.00
941-5040	ZPS-30-15-1	30	15	0.2/2	—	—	—	—	—	—	5 x 3 x 1.35	51.00
941-5050	ZPS-30-15-1C	30	15	0.2/2	—	—	—	—	—	—	5.4 x 3.4 x 1.85	56.00
941-1000	ZPS-30	30	5	0.1/3 PK 4	+12	0.1/2 PK 3	-12	0.7 PK 7	—	—	5 x 3 x 1.35	53.00
941-1010	ZPS-30C	30	5	0.1/3 PK 4	+12	0.1/2 PK 3	-12	0.7 PK 7	—	—	5.4 x 3.4 x 1.85	58.00
941-5140	ZPS-30-1	30	5	0.1/3 PK 4	+12	0.1/2 PK 3	-5	0.1 PK 2	—	—	5 x 3 x 1.35	53.00
941-5150	ZPS-30-1C	30	5	0.1/3 PK 4	+12	0.1/2 PK 3	-5	0.1 PK 2	—	—	5.4 x 3.4 x 1.85	58.00
941-2000	ZPS-30-15	30	5	0.1/3 PK 4	+15	0.1/1.5 PK 2	-15	0.7 PK 7	—	—	5 x 3 x 1.35	53.00
941-3010	ZPS-30-15C	30	5	0.1/3 PK 4	+15	0.1/1.5 PK 2	-15	0.7 PK 7	—	—	5.4 x 3.4 x 1.85	58.00
941-5060	ZPS-45-5	45	5	0.5/9	—	—	—	—	—	—	5 x 3 x 1.35	57.00
941-5070	ZPS-45-5C	45	5	0.5/9	—	—	—	—	—	—	5.4 x 3.4 x 1.85	62.00
941-5080	ZPS-45-12	45	12	0.2/4 PK 5	—	—	—	—	—	—	5 x 3 x 1.35	57.00
941-5090	ZPS-45-12C	45	12	0.2/4 PK 5	—	—	—	—	—	—	5.4 x 3.4 x 1.85	62.00
941-5100	ZPS-45-15-1	45	15	0.2/3	—	—	—	—	—	—	5 x 3 x 1.35	57.00
941-5110	ZPS-45-15-1C	45	15	0.2/3	—	—	—	—	—	—	5.4 x 3.4 x 1.85	62.00
941-0045	ZPS-45*	45	5	0.1/5 PK 7	+12	0.1/2 PK 3	-12	0.7 PK 7	—	—	5 x 3 x 1.35	59.00
941-1040	ZPS-45C	45	5	0.1/5 PK 7	+12	0.1/2 PK 3	-12	0.7 PK 7	—	—	5.4 x 3.4 x 1.85	65.00
941-5120	ZPS-45-1	45	5	0.1/5 PK 7	+12	0.1/2 PK 3	-5	0.1 PK 2	—	—	5 x 3 x 1.35	59.00
941-5130	ZPS-45-1C	45	5	0.1/5 PK 7	+12	0.1/2 PK 3	-5	0.1 PK 2	—	—	5.4 x 3.4 x 1.85	65.00
941-1030	ZPS-45-15	45	5	0.1/5 PK 7	+15	0.1/1.5 PK 2	-15	0.7 PK 7	—	—	5 x 3 x 1.35	59.00
941-1035	ZPS-45-15C	45	5	0.1/5 PK 7	+15	0.1/1.5 PK 2	-15	0.7 PK 7	—	—	5.4 x 3.4 x 1.85	65.00
941-5160	ZPS-60**	60	5	1/6 PK 10	+12	0.3/2.2 PK 6	-12	0.3 PK 1.5	—	—	5 x 3 x 1.58	66.00

*BS6301. **Available in open frame only. Other models available upon request. Please call for details. **Note:** Model numbers ending with a "C" are enclosed units. All others are open frame units.

Mid Power Series

Stock No.	Mfr.'s Type	Max. Output Power (Watts)	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Size (Inches) L x W x H	EACH 1-9
941-0150	ZPS-150	150	4.75/5.25	2.0/20.0	10.0-15.0	0.3/3.0 PK 4.5	10.0-15.0	0.3/3.0 PK 4.5	4.75/5.25	0.2/2.0	11 x 5.0 x 2.5	213.00
941-0175	ZPS-175	175	4.75/5.25	2.5/25.0	10.0-15.0	0.3/3.5 PK 5.3	10.0-15.0	0.3/3.5 PK 5.3	4.75/5.25	0.2/2.0	11 x 5.0 x 2.5	233.00
941-0200	ZPS-200	200	4.75/5.25	3.0/30.0	10.0-15.0	0.4/4.0 PK 6.0	10.0-15.0	0.4/4.0 PK 6.0	4.75/5.25	0.2/2.0	11 x 5.0 x 2.5	265.00
941-0250	ZPS-250	250	4.75/5.25	3.5/35.0	10.0-15.0	0.4/4.0 PK 6.0	10.0-15.0	0.4/4.0 PK 6.0	4.75/5.25	0.3/3.0	13 x 5.0 x 2.5	346.00
941-0300	ZPS-300	300	4.75/5.25	4.5/45.0	10.0-15.0	0.8/8.0 PK 12	10.0-15.0	0.8/8.0 PK 12	4.75/5.25	0.4/4.0	13 x 5.0 x 2.5	384.00
941-0400	ZPS-400	400	4.75/5.25	5.5/55.0	10.0-15.0	1.0/10.0 PK 15	10.0-15.0	1.0/10.0 PK 15	4.75/5.25	0.6/6.0	13 x 6.0 x 2.5	435.00

Note: Above models can be ordered with covers at additional charge of \$10.00 per unit.

Adjustable Series

Stock No.	Mfr.'s Type	Max. Output Power (Watts)	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Size (Inches) L x W x H	EACH 1-9
941-5000	ZPS-150A*	150	4.75/5.25	2.0/20.0	11.5-25.2	0.3/3.0 PK 4.5	9.5-15.8	0.3/4.0 PK 5.0	4.75/12.6	0.2/2.0	11 x 5.0 x 2.5	227.00
941-5010	ZPS-175A*	175	4.75/5.25	2.5/25.0	11.5-25.2	0.35/3.5 PK 5.25	9.5-15.8	0.35/4.5 PK 5.5	4.75/12.6	0.2/2.0	11 x 5.0 x 2.5	249.00
941-5020	ZPS-200A*	200	4.75/5.25	3.0/30.0	11.5-25.2	0.4/4.0 PK 6.0	9.5-15.8	0.4/5.0 PK 6.0	4.75/12.6	0.2/2.0	11 x 5.0 x 2.5	281.00
941-0251	ZPS-250A*	250	4.75/5.25	3.5/35.0	11.5-26.0	0.4/4.0 PK 6.0	4.75-16.0	0.4/4.0 PK 6.0	4.75/16.0	0.3/3.0 PK 4.5	13 x 5.0 x 2.5	368.00
941-0301	ZPS-300A*	300	4.75/5.25	4.5/45.0	11.5-26.0	0.6/6.0 PK 9.0	4.75-16.0	0.8/8.0 PK 12	4.75/16.0	0.4/4.0 PK 6.0	13 x 5.0 x 2.5	418.00
941-0401	ZPS-400A*	400	4.75/5.25	5.5/55.0	11.5-26.0	0.7/7.0 PK 10.5	4.75-16.0	1.0/10.0 PK 15	4.75/16.0	0.6/6.0 PK 9.0	13 x 6.0 x 2.5	464.00

*BS6301. **Note:** Above models can be ordered with covers at additional charge of \$10.00 per unit.

Medical Series (UL 544 & IEC 601)

Stock No.	Mfr.'s Type	Max. Output Power (Watts)	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Size (Inches) L x W x H	EACH 1-9
941-6000	ZPS-30M†	30	5	0.1/3 PK 4	+12	0.1/2 PK 3	-12	0.7 PK 7	—	—	5 x 3 x 1.35	58.00
941-6005	ZPS-30-15M†	30	5	0.1/3 PK 4	+15	0.1/1.5 PK 2	-15	0.7 PK 7	—	—	5 x 3 x 1.35	58.00
941-6010	ZPS-45M†	45	5	0.1/5 PK 7	+12	0.1/2 PK 3	-12	0.7 PK 7	—	—	5 x 3 x 1.35	65.00
941-6015	ZPS-45-15M†	45	5	0.1/5 PK 7	+15	0.1/1.5 PK 2	-15	0.7 PK 7	—	—	5 x 3 x 1.35	65.00
941-2000	ZPS-150AM‡	150	4.75/5.25	2.0/20.0	11.5-25.2	0.3/3.0 PK 4.5	9.5-15.8	0.3/4.0 PK 5.0	4.75-12.6	0.2/2.0	11 x 5.0 x 2.5	250.00
941-2010	ZPS-175AM‡	175	4.75/5.25	2.5/25.0	11.5-25.2	0.35/3.5 PK 5.25	9.5-15.8	0.35/4.5 PK 5.5	4.75-12.6	0.2/2.0	11 x 5.0 x 2.5	274.00
941-2020	ZPS-200AM‡	200	4.75/5.25	3.0/30.0	11.5-25.2	0.4/4.0 PK 6.0	9.5-15.8	0.4/5.0 PK 6.0	4.75-12.6	0.2/2.0	11 x 5.0 x 2.5	309.00
941-2030	ZPS-250AM‡	250	4.75/5.25	3.5/35.0	11.5-26.0	0.4/4.0 PK 6.0	4.75-16.0	0.4/4.0 PK 6.0	4.75/16.0	0.3/3.0 PK 4.5	13 x 5.0 x 2.5	405.00
941-2040	ZPS-300AM‡	300	4.75/5.25	4.5/45.0	11.5-26.0	0.6/6.0 PK 9.0	4.75-16.0	0.8/8.0 PK 12	4.75/16.0	0.4/4.0 PK 6.0	13 x 5.0 x 2.5	460.00
941-2050	ZPS-400AM‡	400	4.75/5.25	5.5/55.0	11.5-26.0	0.7/7.0 PK 10.5	4.75-16.0	1.0/10.0 PK 15	4.75/16.0	0.6/6.0 PK 9.0	13 x 6.0 x 2.5	511.00

†UL544. ‡UL544, IEC601. Complete specifications available upon request. **Notes:** Models ZPS-30M through ZPS-45-15M can be ordered as enclosed units for an additional charge of \$5.00 per unit. Models ZPS-150AM through ZPS-400AM can be ordered with covers at an additional charge of \$10.00 per unit.

Power Factor Correction Series (PFC of >0.98)

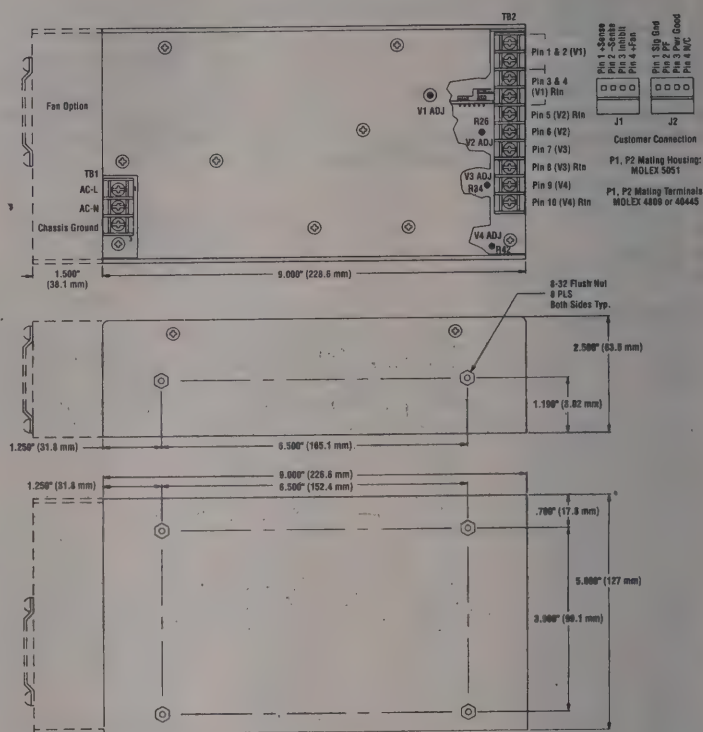
Stock No.	Mfr.'s Type	Max. Output Power (Watts)	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Volts DC Nominal	Amps Min./Max.	Size (Inches) L x W x H	EACH 1-9
941-6020	ZPS-250AP	250	4.75/5.25	3.5/35.0	11.5-26.0	0.4/4.0 PK 6.0	4.75-16.0	0.4/4.0 PK 6.0	4.75/16.0	0.3/3.0 PK 4.5	13 x 5.0 x 2.5	405.00
941-6025	ZPS-300AP	300	4.75/5.25	4.5/45.0	11.5-26.0	0.6/6.0 PK 9.0	4.75-16.0	0.8/8.0 PK 12	4.75/16.0	0.4/4.0 PK 6.0	13 x 5.0 x 2.5	460.00
941-6030	ZPS-400AP	400	4.75/5.25	5.5/55.0	11.5-26.0	0.7/7.0 PK 10.5	4.75-16.0	1.0/10.0 PK 15	4.75/16.0	0.6/6.0 PK 9.0	13 x 6.0 x 2.5	511.00

Note: Above models can be ordered with covers at additional charge of \$10.00 per unit.

NRG275 and NRG350 Series

- ▶ Automatic Selecting AC Input: 85-132/170-264 VAC, 47-63 Hz
- ▶ Terminal Block Connectors
- ▶ All Outputs Fully Regulated
- ▶ MOSFET Switching Technology
- ▶ Rugged Wrap-Around Chassis With Standard Cover
- ▶ 75% Typical Efficiency
- ▶ High Power Density, Up to 3.1 Watts/Cubic Inch
- ▶ Optional Fan
- ▶ Extra Output Voltage to Power External Fan
- ▶ Thermal Shutdown
- ▶ UL Recognized, CSA Certified
- ▶ TÜV Certified to: EN 60950
- ▶ Meets Domestic and International Safety: 3750 VAC Isolation; VDE Safety Spacings
- ▶ Meets Domestic and International EMI: FCC 47CFR, Part 15, Level B; VFG 243 Level B
- ▶ Internal Input Line Filter
- ▶ Power-Fail Warning Signal
- ▶ Output Good Signal
- ▶ Full Load Burn-In and Thermal Cycling
- ▶ 2 Year Warranty

General Specifications. AC Input: Automatic selecting dual range 85-132 VAC or 170-264 VAC. 47-63 Hz single phase. NOTE: AC input range selection is fully automatic. No manual switchover is required. **DC Outputs:** See voltage/current rating chart. **Output Power:** See voltage/current rating chart. **Brown-Out Protection:** Regulation is maintained down to 85/170 VAC, at full rated load, with no compromise in performance. **Hold-Up Time:** 20 msec minimum at full rated load and nominal AC input voltage. **Power-Fail Warning Signal:** TTL compatible signal goes low 4 msec before the main output drops to 95% of its steady state value at full rated load. **Efficiency:** Measured at full rated load and nominal AC input voltage. 75% $\pm$ 5% depending on how the load is distributed among the outputs. **Regulation Characteristics:** See voltage/current rating charts for individual module ratings; Line — Measured over an 85-132 VAC or 170-264 VAC line change; Load — Measured over a min. to max. load change; Multiple output model regulation is subject to the minimum load requirements mentioned below. **Initial Setting Tolerance:** Measured at 50% of full rated load on all outputs. **Minimum Loads:** 10% minimum load on the main output is required to maintain regulation. **Remote Sensing:** Provided on the main output. **Transient Response:** All output — Less than 1 msec typical for a 50-100% load change and recovery to within 1% of initial voltage set point; Maximum excursion — 3% from initial voltage set point. **Overload Protection:** Entire unit hiccups if V1-V3 is overloaded; V4 is self limiting. **Overvoltage Protection:** Provided on the main output; Hiccups over AC operating range. **Output Noise and Ripple:** 1% PK-PK maximum on any output (20 MHz BW). **Overtemperature Protection:** Initiates shutdown in the event of an overtemperature condition; Automatic reset. **Power-Up Initialization Period:** 2.0 sec. maximum turn-on delay assures orderly ramp-up and stabilization of all output voltages during power-up. **Input Protection:** AC input line fuse provided; Internally located. **Inrush Current:** Internally limited at 80 A PK, cold start. **Temperature Rating:** Operating — 0°C to 50°C at full rated output power; Consult factory for operating information between 50°C to 70°C; Storage — -55°C to +85°C. **External Cooling:** External cooling air velocity measured $\frac{1}{4}$ " above and at the middle of chassis, input to output — NRG275, NRG350 — 300 LFM. EMI: VDE and FCC level B EMI. **Vibration:** Operating: 5-32 Hz and 32-5 Hz, Sinusoidal, 0.02 in (DA); 32-2000 Hz and 2000-32 Hz, Sinusoidal, 1 g (PK). Non-Operating: 10-350 Hz, 0.04 g/Hz; 350-2000 Hz, 0.007 g/Hz, 6.15 g (RMS) overall. **Shock:** Operating — 10 $\pm$ 3 msec, 3 axes, Half Sine, 20 g (PK); Non-Operating — 10 $\pm$ 3 msec, 3 axes, Half Sine, 40 g (PK). **Dielectric Withstand Voltage (min):** Input to Ground — 1500 VAC; Input to Outputs — 1500 VAC; Outputs to Ground — 500 VAC. **Leakage Current:** Line to ground (max.) — 3 mA. **Altitude:** Operating — 10,000'; Non-Operating — 40,000'. **Relative Humidity:** Non-condensing, 95% Maximum. **Dimensions:** 9.0" $\times$ 5.0" $\times$ 2.5". **Weight:** 3 lbs., 9 oz.



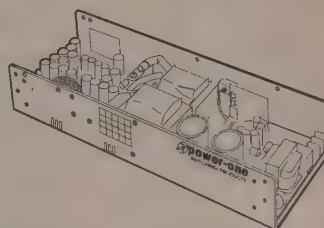
Outputs #1 and #2 are positive polarity. Outputs #3 and #4 are floating and can be referenced as either + or -.

Stock No.	Mfr.'s Type	Forced Air Power (Watts)	Voltage	Current	Line Regulation	Load Regulation	Adjustment Range	EACH
								1-9
218-0100	NRG275-3000	275	+5 V +12 V 12 V	3.5-25 A 10 A/16 A PK 6 A	0.5% 0.5% 0.5%	±1% ±1% ±1%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V	343.75 343.75 343.75
218-6000	NRG275-4000	275	+5 V +12 V 12 V 5 V	3.5-25 A 10 A/16 A PK 6 A 2 A	0.5% 0.5% 0.5% 0.5%	±1% ±1% ±1% ±1%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V 5-6 V	343.75 343.75 343.75 343.75
218-6010	NRG275-4001	275	+5 V +12 V 12 V 12 V	3.5-25 A 10 A/16 A PK 6 A 2 A	0.5% 0.5% 0.5% 0.5%	±1% ±1% ±1% ±1%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V 11.8-15.5 V	343.75 343.75 343.75 343.75
218-6020	NRG275-4002	275	+5 V +12 V 12 V 24 V	3.5-25 A 10 A/16 A PK 6 A 2 A	0.5% 0.5% 0.5% 0.5%	±1% ±1% ±1% ±1%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V 19-25 V	343.75 343.75 343.75 343.75
218-0110	NRG275-4003	275	+5 V +12 V 12 V 48 V	3.5-25 A 10 A/16 A PK 6 A 1 A	0.5% 0.5% 0.5% 5.0%	±1% ±1% ±1% ±10%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V 47-49 V	343.75 343.75 343.75 343.75
218-0120	NRG350-3000	350	+5 V +12 V 12 V	3.5-35 A 10 A/16 A PK 6 A	0.5% 0.5% 0.5%	±1% ±1% ±1%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V	420.00 420.00 420.00
218-6050	NRG350-4000	350	+5 V +12 V 12 V 5 V	3.5-35 A 10 A/16 A PK 6 A 3 A	0.5% 0.5% 0.5% 0.5%	±1% ±1% ±1% ±1%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V 5-6 V	420.00 420.00 420.00 420.00
218-6040	NRG350-4001	350	+5 V +12 V 12 V 12 V	3.5-35 A 10 A/16 A PK 6 A 3 A	0.5% 0.5% 0.5% 0.5%	±1% ±1% ±1% ±1%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V 11.8-15.5 V	420.00 420.00 420.00 420.00
218-6030	NRG350-4002	350	+5 V +12 V 12 V 24 V	3.5-35 A 10 A/16 A PK 6 A 3 A	0.5% 0.5% 0.5% 0.5%	±1% ±1% ±1% ±1%	4.75-5.3 V 11-13 V 11-13 V 19-25 V	420.00 420.00 420.00 420.00
218-0130	NRG350-4003	350	+5 V +12 V 12 V 48 V	3.5-35 A 10 A/16 A PK 6 A 1 A	0.5% 0.5% 0.5% 5.0%	±1% ±1% ±1% ±10%	4.75-5.3 V 11.4-12.6 V 11.4-12.6 V 47-49 V	420.00 420.00 420.00 420.00
218-0140	NRG350-4201	350	+24 V +5 V 15 V 15 V	1-10 A 10 A/16 A PK 4 A 4 A	0.5% 0.5% 0.5% 0.5%	±1% ±1% ±1% ±1%	22.8-25.2 V 4.75-5.3 V 14.25-15.75 V 14.25-15.75 V	420.00 420.00 420.00 420.00

SPL Switching Power Supplies

AC Input: Standard dual range — 90-132 VAC or 180-264 VAC, user selectable; 47-63 Hz, single phase. Consult Allied for 400 Hz operation. **Brown-Out Protection:** Regulation is maintained down to 90/180 VAC, at full load, with no compromise in performance. **Hold-Up Time:** 20 msec minimum at full rated load and nominal AC input voltage. Hold-up time increases to 40 msec at 50% load. **Power-Fail Warning Signal:** Single Output Models — Provided on SPL250 models only. TTL compatible signal goes low 10 msec minimum before the output voltage drops 5%, at a 100% load condition. Multiple Output Models — Provided on models with a "P" suffix. Signal goes low 5 msec minimum before +5V main output drops 5%, at a 100% load condition. Warning time increases at reduced load levels. **Efficiency:** Measured at full rated output power and nominal AC input voltage. 70% $\pm$ 5% depending on how the load is distributed among the outputs. **Regulation Characteristics:** Line — Measured over a 90-132 VAC or 180-264 VAC line change; Load — Measured by varying the load current from 60% to either 20% or 100% of full rated. **Cross Regulation:** Multiple Output Models — Where indicated, cross regulation specifies the maximum voltage change on an auxiliary output when the +5V main output load current is varied from 75% of full rated to either 50% or 100% of full rated. **NOTE:** The effect of load and cross regulation are generally not cumulative, and may actually act to cancel each other in an operating system environment. **Minimum Load:** Single Output Models — 5% of full rated output current; Multiple Output Models — Minimum load required on the +5V main output for full load capability on auxiliary outputs: SPL40, SPL50 - 1A, SPL53 - 2A, SPL175 - 3A, SPL200 - 6A, SPL130 - 5A. **Remote Sensing:** Single Output Models — Provided on SPL53, SPL130, and SPL250 series models; Multiple Output Models — Provided on the +5V main output of SPL130, SPL200, and SPL400 series models. **Output Noise and Ripple:** 0.3% RMS, 1: PK-PK maximum. **Output Overshoot:** No overshoot on turn-on or turn-off. **Transient Response:** Recovery Time — 500 msec typical for a 50-100% load change and recovery to within 1% of initial voltage set point; Maximum Excursion — 3% from initial voltage set point; Multiple Output Models — Above applies to +5V main output only. **Output Overload Protection:** Fully protected against output overload and short circuit. Automatic recovery upon removal of overload condition. **Overvoltage Protection:** Set at 6.2V $\pm$ 0.6V; Single Output Models — Provided on all 5V models; Multiple Output Models — Provided on +5V main output. **Reverse Voltage Protection:** Inherently protected from damage due to application of reverse polarity voltage across DC output terminals. **Input Protection:** AC input line fuse provided. Internally located. **Inrush Current:** Internally limited by thermistor. Cold start, peak current at 230 VAC input. SPL40 through SPL53 — 9A maximum; SPL130 through SPL250 — 17A maximum; **Operating Temperature Rating:** 0°C to +50°C at full rated

output power. Consult Allied for operating information between +50°C to +70°C. **Storage Temperature Rating:** -55°C to +85°C. **Temperature Coefficient:** $\pm$ 0.03%/°C typical, $\pm$ 0.05%/°C maximum over entire operating temperature range of 0°C to +70°C. **Cooling:** Convection cooling is adequate where non-restricted air flow is available. When operating in a confined area, forced air cooling is recommended. **Vibration:** Per MIL-STD-810D, Method 514.3, Category 1, Procedure I. **Shock:** Per MIL-STD-810D, Method 516.3, Procedure III. **Options:** **Overvoltage Protection:** Available on all single output models. **Input/Output Connectors:** Quick-disconnect terminals are available for all models except SPL50 and SPL175. Amp or Molex wafer style connectors (.312 centers) are available for SPL40 and SPL53 series models. **Safety Covers:** Available for SPL130, SPL200, and SPL250.



Safety Specifications. All models exceed the following safety standards. **Leakage Current:** Line to Ground (max.) — 0.75 mA. **Safety Spacings:** 8.0 mm minimum between primary and secondary circuitry; 4.0 mm minimum between primary and grounded circuitry. **Dielectric Withstand Voltage (min.):** Input to Ground — 3750 VRMS; Input to Outputs — 3750 VRMS; Outputs to Ground — 700 VDC. **UL Recognized:** UL File Number E55974. **CSA Certified:** CSA File Number LR38879. **TUV License Numbers:** Tested and certified by TUV to VDE 0806 and IEC 380. SPL40 — R30059; SPL53 — R30060; SPL175 — R50177; SPL250 — R50174; SPL50 — R50006; SPL130 — R30062; SPL200 — R30063. **EMI Specifications.** All International Series models are equipped with internal line filtering which allows compliance to the conducted emission limits of FCC Docket 20780 Part 15 Class A, and VDE 0871/6.78 Class A. **Agency Limits — Class A. Frequency Range 150 KHz - 450 KHz:** VDE 0871 Level A — 66 dB μ V; FCC 20780 Part 15 — Not specified by FCC; SP Series Design Standards: <63 dB μ V. **Frequency Range 450 KHz - 30 MHz:** 60 dB μ V; FCC 20780 Part 15 — Consult Allied; SPL Series Design Standards — <57 dB μ V. Models may be brought into compliance with Class B limits by the addition of an optional single stage line filter. Please consult Power-One for more information.

Single Output Models

Stock No.	Mfr.'s Type	Power (Watts)†		Voltage*	Current	Line Regulation	Load Regulation	Configuration	EACH
		Continuous	Peak						
218-1080	SPL40-100S	40	N/A	5V	8.0A	$\pm$ 0.3%	$\pm$ 1%	Board Only; 5.75" $\times$ 3.93" $\times$ 1.68" (146.05mm) $\times$ (99.822mm) $\times$ (42.672mm)	118.39
218-1081	SPL53-100S†	80	N/A	5V	16.0A	$\pm$ 0.3%	$\pm$ 1%	Board Only; 8.25" $\times$ 4.25" $\times$ 2.10" (209.55mm) $\times$ (107.95mm) $\times$ (53.34mm)	149.92
218-1082	SPL130-100S	140	N/A	5V	26.0A	$\pm$ 0.3%	$\pm$ 1%	U-Channel Chassis; 8.90" $\times$ 5.00" $\times$ 2.45" (226.06mm) $\times$ (127mm) $\times$ (62.23mm)	272.61
218-1083	SPL250-100S	250	N/A	5V	50.0A	$\pm$ 0.3%	$\pm$ 1%	U-Channel Chassis; 12.00" $\times$ 4.94" $\times$ 2.45" (304.8mm) $\times$ (125.476mm) $\times$ (62.23mm)	362.43
218-1085	SPL53-1012†	80	N/A	12-15V Adjustable	6.7A/5.3A	$\pm$ 0.3%	$\pm$ 1%	Board Only; 8.25" $\times$ 4.25" $\times$ 2.10" (209.55mm) $\times$ (107.95mm) $\times$ (53.34mm)	149.92
218-1086	SPL130-1012	130	N/A	12-15V Adjustable	11.0A/9.0A	$\pm$ 0.3%	$\pm$ 1%	U-Channel Chassis; 8.90" $\times$ 5.00" $\times$ 2.45" (226.06mm) $\times$ (127mm) $\times$ (62.23mm)	272.61
218-1087	SPL250-1012	250	N/A	12-15V Adjustable	21.0A/17.0A	$\pm$ 0.3%	$\pm$ 1%	U-Channel Chassis; 12.00" $\times$ 4.94" $\times$ 2.45" (304.8mm) $\times$ (125.476mm) $\times$ (62.23mm)	362.43
218-1089	SPL53-1024†	80	N/A	24-28V Adjustable	3.3A/2.8A	$\pm$ 0.3%	$\pm$ 1%	Board Only; 8.25" $\times$ 4.25" $\times$ 2.10" (209.55mm) $\times$ (107.95mm) $\times$ (53.34mm)	149.92
218-1090	SPL130-1024	140	N/A	24-28V Adjustable	5.5A/4.5A	$\pm$ 0.3%	$\pm$ 1%	U-Channel Chassis; 8.90" $\times$ 5.00" $\times$ 2.45" (226.06mm) $\times$ (127mm) $\times$ (62.23mm)	301.61
218-2010	SPL250-1024	250	N/A	24-28V Adjustable	10.0A/7.0A	$\pm$ 0.3%	$\pm$ 1%	U-Channel Chassis; 12.00" $\times$ 4.94" $\times$ 2.45" (304.8mm) $\times$ (125.476mm) $\times$ (62.23mm)	362.43

*Models with adjustable voltages have current ratings expressed as current at lowest voltage/current at highest voltage. †The SPL53 may require a rubber snubber mounted under it in some applications to prevent board deflection. Consult factory. ‡Convection Cooled Power.

Multiple Output Models

Stock No.	Mfr.'s Type	Wattage/30 CFM‡		Voltage*	Current	Initial Setting Tolerance	Line Regulation	Load Regulation	Cross Regulation	Configuration	EACH
		Continuous	Peak								
218-1091	SPL40-4000	40	N/A	+ 5V +12V -12V - 5V	5.0A 0.5A 0.5A 0.5A	Adjustable, Note A $\pm$ 4%, Note B $\pm$ 4%, Note B $\pm$ 4%, Note B	$\pm$ 0.3% $\pm$ 0.1% $\pm$ 0.1% $\pm$ 0.1%	$\pm$ 1% $\pm$ 1% $\pm$ 1% $\pm$ 1%	N/A N/A N/A N/A	Board Only 6.30" $\times$ 3.92" $\times$ 2.00" (160.02mm) $\times$ (99.568mm) $\times$ (50.8mm)	133.65
218-1093	SPL53-4000	80	N/A	+ 5V, Note G +12V, Note G -12V - 5V	8.0A 2.5A/5.0A PK 0.6A 0.6A	Adjustable, Note A Adjustable, Note D $\pm$ 4%, Note B $\pm$ 4%, Note B	$\pm$ 0.3% $\pm$ 0.1% $\pm$ 0.1% $\pm$ 0.1%	$\pm$ 1% $\pm$ 1% $\pm$ 1% $\pm$ 1%	N/A N/A N/A N/A	Board Only 8.25" $\times$ 4.25" $\times$ 2.10" (209.55mm) $\times$ (107.95mm) $\times$ (129.032mm)	153.73
218-1094	SPL53-4101	80	N/A	+ 5V +12V -12V +24V	8.0A 1.2A 0.6A 1.5A/3.0A PK	Adjustable, Note A $\pm$ 4%, Note B $\pm$ 4%, Note B $\pm$ 5%, Note C	$\pm$ 0.3% $\pm$ 0.1% $\pm$ 0.1% $\pm$ 0.5%	$\pm$ 1% $\pm$ 1% $\pm$ 1% $\pm$ 5%	N/A N/A N/A $\pm$ 5%	Board Only 8.25" $\times$ 4.25" $\times$ 2.10" (209.55mm) $\times$ (107.95mm) $\times$ (129.032mm)	158.73
218-1096	SPL130-4000	120	135	+ 5V +12V -12V - 5V	22.0A 3.0A 1.5A 1.5A	Adjustable, Note A Adjustable, Note D $\pm$ 4%, Note B $\pm$ 4%, Note B	$\pm$ 0.3% $\pm$ 0.1% $\pm$ 0.1% $\pm$ 0.1%	$\pm$ 1% $\pm$ 1% $\pm$ 1% $\pm$ 1%	N/A N/A N/A N/A	U-Channel Chassis 10.50" $\times$ 5.00" $\times$ 2.45" (266.7mm) $\times$ (127mm) $\times$ (62.23mm)	320.99
218-1098	SPL130-4100P	130	150	+ 5V +12V, AUX 1 +12V -12V	20.0A, Note E 4.0A/6.0A PK 1.5A 1.5A	Adjustable, Note A $\pm$ 5%, Note C $\pm$ 4%, Note B $\pm$ 4%, Note B	$\pm$ 0.3% $\pm$ 0.5% $\pm$ 0.1% $\pm$ 0.1%	$\pm$ 1% $\pm$ 5% $\pm$ 1% $\pm$ 1%	N/A $\pm$ 5% N/A N/A	U-Channel Chassis 10.50" $\times$ 5.00" $\times$ 2.45" (266.7mm) $\times$ (127mm) $\times$ (62.23mm)	320.99
218-1099	SPL130-4101P	130	150	+ 5V +12V -12V +24V, AUX 1	20.0A, Note E 1.5A 1.5A 2.0A/4.0A PK	Adjustable, Note A $\pm$ 4%, Note B $\pm$ 4%, Note B $\pm$ 5%, Note C	$\pm$ 0.3% $\pm$ 0.1% $\pm$ 0.1% $\pm$ 0.5%	$\pm$ 1% $\pm$ 1% $\pm$ 1% $\pm$ 5%	N/A N/A N/A $\pm$ 5%	U-Channel Chassis 10.50" $\times$ 5.00" $\times$ 2.45" (266.7mm) $\times$ (127mm) $\times$ (62.23mm)	320.99
218-1100	SPL130-4102P	130	150	+ 5V +12V, AUX 1 -12V - 5V	20.0A, Note E 4.0A/6.0A PK 1.5A 1.5A	Adjustable, Note A $\pm$ 5%, Note C $\pm$ 4%, Note B $\pm$ 4%, Note B	$\pm$ 0.3% $\pm$ 0.5% $\pm$ 0.1% $\pm$ 0.1%	$\pm$ 1% $\pm$ 5% $\pm$ 1% $\pm$ 1%	N/A $\pm$ 5% N/A N/A	U-Channel Chassis 10.50" $\times$ 5.00" $\times$ 2.45" (266.7mm) $\times$ (127mm) $\times$ (62.23mm)	320.99
218-1106	SPL200-4100P	200	250	+ 5V +12V, AUX 1 -12V - 5V	35.0A, Note F 4.0A/7.0A PK 1.5A 1.5A	Adjustable, Note A $\pm$ 5%, Note C $\pm$ 4%, Note B $\pm$ 4%, Note B	$\pm$ 0.3% $\pm$ 0.5% $\pm$ 0.1% $\pm$ 0.1%	$\pm$ 1% $\pm$ 3% $\pm$ 1% $\pm$ 1%	N/A $\pm$ 3% N/A N/A	U-Channel Chassis 13.00" $\times$ 5.00" $\times$ 2.45" (330.2mm) $\times$ (127mm) $\times$ (62.23mm)	381.75
218-1107	SPL200-5100P	200	250	+ 5V +12V, AUX 1 +12V -12V - 5V	35.0A, Note F 4.0A/8.0A PK 1.5A 1.5A 1.5A	Adjustable, Note A $\pm$ 5%, Note C $\pm$ 4%, Note B $\pm$ 4%, Note B $\pm$ 4%, Note B	$\pm$ 0.3% $\pm$ 0.5% $\pm$ 0.1% $\pm$ 0.1% $\pm$ 0.1%	$\pm$ 1% $\pm$ 3% $\pm$ 1% $\pm$ 1% $\pm$ 1%	N/A $\pm$ 3% N/A N/A N/A	U-Channel Chassis 13.00" $\times$ 5.00" $\times$ 2.45" (330.2mm) $\times$ (127mm) $\times$ (62.23mm)	381.75

Notes: A = Voltage level adjustable from 4.75V to 0Vp trip point. Factory set to $\pm$ 1% of nominal.

B = Fully regulated output, voltage fixed (3 terminal regulator).

C = Quasi-regulated output.

D = Fully regulated output, voltage adjustable, $\pm$ 5% minimum. Factory set to $\pm$ 1% of nominal.

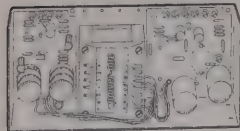
E = The sum of the main +5V and AUX 1 load currents must not exceed 30A.

F = The sum of the main +5V and AUX 1 load currents must not exceed the main +5V current rating.

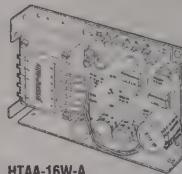
G = Maximum load is 10A or 120W.

‡Convection Cooled Wattage/30 CFM.

International Series Linears



HBAA-40W-A



HTAA-16W-A

- ▶ Worldwide AC Input Capabilities:
100/120/220/240 VAC
- ▶ ±0.05% Regulation
- ▶ Low Output Ripple
- ▶ UL Recognized: 1950 with D3
- ▶ CSA Certified: 1402
- ▶ TÜV Certified: EN 60950
- ▶ Industry Standard Packages
- ▶ 77 Models: 6 to 280 Watts
- ▶ Up To 4 Regulated Outputs
- ▶ VDE Construction
- ▶ 2 Hour Burn-in
- ▶ 2 Year Warranty
- ▶ Made In U.S.A.

General Specifications. AC Input: 100/120/220/240 VAC +10%, -13%, 47-63Hz. Tolerance for 230 VAC operation is +15%, -10%. Derate output current 10% for 50 Hz operation. Factory wired for 120V operation. **DC Output:** Adjustment range ±5% minimum. Voltage nonadjustable on "3 terminal regulator" outputs of models HAD12, HAD15. **Line Regulation:** ±0.05% for a 10% line change. Exceptions — ±0.01% for F, G case models and CP197-A; ±1% for HAD12 and HAD15; ±0.5% for all other outputs using "3 terminal regulators." **Load Regulation:** ±0.05% for 50% load change. Exceptions — ±0.02% for F, G case models and CP197-A; ±1% for HAD12 and HAD15; ±0.5% for all other outputs using "3 terminal regulators." **Output Ripple:** 5V through 15V models — 5.0 mV PK-PK maximum (3.0 mV PK-PK maximum for F, G case models and CP197-A); 24V through 250V models — 3.0 mV PK-PK plus .02% of output voltage, maximum; All "3 terminal regulator" outputs — 0.2% PK-PK maximum. **Transient Response:** Less than 50 µsec for a 50% load change. **Short Circuit and Overload Protection:** Automatic current limit/foldback. **Overvoltage Protection:** Provided on 5V outputs where indicated. Set at 6.2V ±0.4V. Other outputs use optional overvoltage protectors OVP12 and OVP14. **Remote Sensing:** See Voltage/Current Rating Charts. Provided on output where indicated. **Stability:** ±0.3% for 24 hours after warm-up. **Operating Temperature Ratings:** 0°C to 50°C full rated, derated linearly to 40% at 70°C (CP197-A requires 50 CFM forced air over heatsink area for full 50A output). **Storage Temperature Ratings:** -40°C to 85°C. **Temperature Coefficient:** 0.1%/°C typical, 0.3%/°C maximum. **Efficiency (Typical):** 5V outputs — 45%; 12V and 15V outputs — 55%; 24V through 250V outputs — 60%. **Master/Slave Operation:** Provided on F, G and CP197-A models only. For parallel operation of up to 6 units. **Vibration:** Random vibration from 10 Hz to 2 KHz, 6.15 grms (3 axis). **Shock:** Operating 20G peak acceleration. **EMI/RFI:** These linear power supplies have inherently low conducted and radiated noise levels. For most system application they will meet the requirements of FCC Docket 20780 for Class B equipment and VDE 0871 for Class B. **Safety Specifications.** All models exceed the following safety standards. **Leakage Current:** Line to Ground (Max.) — 0.05 mA. **Creepage Distance:** Live Parts to Dead Metal (Min.) — .345" (9.0mm). **Dielectric Withstand Voltage (Min.):** Input to Ground — 3750 Vrms; Input to Outputs — 3750 Vrms; Outputs to Ground — 500 VDC. **UL Recognized:** UL File Number E55974/E131905. **CSA Certified:** CSA File Number LR38879. **TÜV Licensed:** TÜV to VDE 0806 and EN 60950. Consult Allied for current TÜV license numbers. **Corcom VS&F (Voltage Selecting and Fuse Connector) Compatibility.** All International Series models interface directly with Corcom's VS&F power entry module. The VS&F is an internationally approved AC line connector, a fuseholder, and a means of externally changing AC line voltages with a unique voltage selector card. With the VS&F, your equipment can be operated anywhere in the world, without modification at time of installation. Developed for the manufacturer who markets his products worldwide, the VS&F eliminates the need for internal transformer wiring changes and for stocking different line cords. The VS&F is also available with a built-in RFI filter for protection of your equipment. Contact Allied for further details.

Single Output Models

Stock No.	Mfr.'s Type	Voltage/Current	Case Size	Overall Size (Inches)	EACH	
					1-9	
218-1001	HA5-1.5/OVP-A*	5V @ 1.5A	B	4.87 × 4.00 × 2.10	34.66	
218-1002	HB5-3/OVP-A*	5V @ 3A†	B	4.87 × 4.00 × 2.10	36.56	
218-1003	HC5-6/OVP-A*	5V @ 6A†	C	5.62 × 4.87 × 2.95	57.42	
218-1004	HN5-9/OVP-A*	5V @ 9A†	N	7.00 × 4.87 × 3.20	78.32	
218-1005	HD5-12/OVP-A*	5V @ 12A†	D	9.00 × 4.87 × 3.28	88.77	
218-1006	HE5-18/OVP-A*	5V @ 18A†	E	14.00 × 4.87 × 3.53	131.00	
218-1007	F5-25/OVP-A*	5V @ 25A†	F	16.75 × 4.88 × 5.00	184.51	
218-1008	G5-35/OVP-A*	5V @ 35A†	F	16.75 × 4.88 × 5.00	215.49	
218-1009	CP197-A*	5V @ 50A†	F	16.75 × 4.88 × 5.00	250.71	
218-1010	HA15-0.9-A (Adj)**	12V @ 0.9A	B	4.87 × 4.00 × 2.10	32.13	
218-1011	HB12-1.7-A	12V @ 1.7A†	B	4.87 × 4.00 × 2.10	34.43	
218-1012	HC12-3.4-A	12V @ 3.4A†	C	5.62 × 4.87 × 2.95	52.20	
218-1013	HN12-5.1-A	12V @ 5.1A†	N	7.00 × 4.87 × 3.20	73.10	
218-1014	HD12-6.8-A	12V @ 6.8A†	D	9.00 × 4.87 × 3.20	83.55	
218-1015	HE12-10.2-A	12V @ 10.2A†	E	14.00 × 4.87 × 3.53	114.90	
218-1016	F15-1.5-A (Adj)**	12V @ 1.5A†	B	4.87 × 4.00 × 2.10	32.13	
218-1017	HB15-1.5-A	15V @ 1.5A†	B	4.87 × 4.00 × 2.10	35.64	
218-1018	HC15-3-A	15V @ 3A†	C	5.62 × 4.87 × 2.95	52.20	
218-1019	HN15-4.5-A	15V @ 4.5A†	N	7.00 × 4.87 × 3.20	73.10	
218-1020	HD15-6-A	15V @ 6A†	D	9.00 × 4.87 × 3.28	83.55	
218-1021	HE15-9-A	15V @ 9A†	E	14.00 × 4.87 × 3.53	114.90	

Stock No.	Mfr.'s Type	Voltage/Current	Case Size	Overall Size (Inches)	EACH	
					1-9	
218-1023	F15-15-A**	15V @ 15A†	F	16.75 × 4.88 × 5.00	184.51	
218-1024	HA24-0.5-A**	24V @ 0.5A	B	4.87 × 4.00 × 2.10	34.66	
218-1025	HB24-1.2-A	24V @ 1.2A†	B	4.87 × 4.00 × 2.10	36.35	
218-1026	HC24-2.4-A	24V @ 2.4A†	C	5.62 × 4.87 × 2.95	52.20	
218-1027	HN24-3.6-A	24V @ 3.6A†	N	7.00 × 4.87 × 3.20	73.10	
218-1028	HD24-4.8-A	24V @ 4.8A†	D	9.00 × 4.87 × 3.28	83.55	
218-1029	HE24-7.2-A	24V @ 7.2A†	E	14.00 × 4.87 × 3.53	114.90	
218-1030	F24-12-A**	24V @ 12A†	F	16.75 × 4.88 × 5.00	184.51	
218-1031	HA24-0.5-A (Adj)**	28V @ 0.5A	B	4.87 × 4.00 × 2.10	34.66	
218-1032	HB28-1-A†	28V @ 1A†	B	4.87 × 4.00 × 2.10	36.35	
218-1033	HC28-2-A†	28V @ 2A†	C	5.62 × 4.87 × 2.95	52.20	
218-1034	HN28-3-A†	28V @ 3A†	N	7.00 × 4.87 × 3.20	73.10	
218-1035	HD28-4-A†	28V @ 4A†	D	9.00 × 4.87 × 3.28	83.55	
218-1036	HE28-6-A†	28V @ 6A†	E	14.00 × 4.87 × 3.53	114.90	
218-1037	F24-12-A (Adj)**	28V @ 10A†	F	16.75 × 4.88 × 5.00	184.51	
218-1038	HB48-0.5-A	48V @ 0.5A	B	4.87 × 4.00 × 2.10	41.63	
218-1039	HC48-1-A	48V @ 1A	C	5.62 × 4.87 × 2.95	57.42	
218-1040	HD48-3-A	48V @ 3A†	D	9.00 × 4.87 × 3.28	88.77	
218-1041	HE48-4-A†	48V @ 4A†	E	14.00 × 4.87 × 3.53	125.35	
218-1042	HB120-0.2-A	120V @ 0.2A	B	4.87 × 4.00 × 2.10	46.97	
218-1043	HB200-0.12-A	175-210V @ 0.12A	B	4.87 × 4.00 × 2.10	46.97	
218-1044	HB250-0.1-A	250V @ 0.1A	B	4.87 × 4.00 × 2.10	45.93	

Dual Output Models

Stock No.	Mfr.'s Type	Output #1	Output #2	Case Size	Overall Size (Inches)	EACH	
						1-9	
218-3000	HAA5-1.5/OVP-A	+5V @ 1.5A*	-5V @ 1.5A*	AA	6.50 × 4.00 × 2.10	52.20	
218-3001	HBBS-3/OVP-A	+5V @ 3A†	-5V @ 3A†	BB	7.00 × 4.88 × 2.95	76.23	
218-3002	HCCS-6/OVP-A	+5V @ 6A†	-5V @ 6A†	CC	9.38 × 4.87 × 3.28	101.31	
218-3003	HAD12-0.4-A	+12V @ 0.4A‡	-12V @ 0.4A‡	B	4.87 × 4.00 × 2.10	38.61	
218-3004	HAD15-0.4-A	+15V @ 0.4A‡	-15V @ 0.4A‡	B	4.87 × 4.00 × 2.10	38.61	
218-3005	HAA15-0.8-A	+12V @ 1A or +15V @ 0.8A†	-12V @ 1A or -15V @ 0.8A†	AA	6.50 × 4.00 × 2.10	44.88	
218-3006	HBB15-1.5-A	+12V @ 1.7A or +15V @ 1.5A†	-12V @ 1.7A or -15V @ 1.5A†	BB	7.00 × 4.88 × 2.95	57.42	

Stock No.	Mfr.'s Type	Output #1	Output #2	Case Size	Overall Size (Inches)	EACH	
						1-9	
218-3007	HCC15-3-A	+12V @ 3.4A or +15V @ 3A†	-12V @ 3.4A or -15V @ 3A†	CC	9.38 × 4.87 × 3.28	91.91	
218-3008	HDD15-5-A	+12V or 15V @ 5A†	-12V or 15V @ 5A†	E	14.00 × 4.87 × 3.53	135.80	
218-3009	HAA24-0.6A	+18-20V @ 0.4A or +24V @ 0.6A	-18-20V @ 0.4A or -24V @ 0.6A	AA	6.50 × 4.00 × 2.10	44.88	
218-3010	HBB24-1.2-A	+18-20V @ 0.9A or +24V @ 1.2A	-18-20V @ 0.9A or -24V @ 1.2A	BB	7.00 × 4.88 × 2.95	57.42	
218-3012	HCC24-2.4-A	+18-20V @ 1.8A or +24V @ 2.4A†	-18-20V @ 1.8A or -24V @ 2.4A†	CC	9.38 × 4.87 × 3.28	91.91	
218-3013	HAA512-A	5V @ 2A*†	12-15V @ 0.5A	AA	6.50 × 4.00 × 2.10	52.20	
218-3011	HBB512-A	5V @ 3A*†	12-15V @ 1.25A*	BB	7.00 × 4.88 × 2.95	62.65	
218-3014	HCC512-A	5V @ 6A*†	12-15V @ 2.5A†	CC	9.38 × 4.87 × 3.28	99.22	

Triple Output Models

Stock No.	Mfr.'s Type	Output #1	Output #2	Output #3	Output #4	Case Size	Overall Size (Inches)	EACH	
								1-9	
218-3015	HTAA-16W-A	5V @ 2A*†	+12 to 15V @ 0.4A	(-)12 to 15V @ 0.4A or -5V @ 0.4A	—	AA	6.50 × 4.00 × 2.10	57.42	
218-3016	HBAA-40W-A	5V @ 3A*†	+12V @ 1A or +15V @ 0.8A†	-12V @ 1A or -15V @ 0.8A or -5V @ 0.4A†	—	BAA	10.25 × 4.00 × 2.95	79.37	
218-3017	HCAA-60W-A	5V @ 6A*†	+12 to 15V @ 1A	(-)12 to 15V @ 1A or -5V @ 0.4A	—	D	9.00 × 4.87 × 3.28	94.00	
218-3018	HCBB-75W-A	5V @ 8A*†	+12V @ 1.7A or +15V @ 1.5A†	-12V @ 1.7A or -15V @ 1.5A or -5V @ 0.7A†	—	CBB	11.00 × 4.87 × 3.28	104.45	
218-3019	CP131-A	5V @ 8A*†	+12V @ 1.7A or +15V @ 1.5A†	-12V @ 1.7A or -15V @ 1.5A or -5V @ 0.7A†	—	131	11.00 × 4.87 × 3.20	125.35	
218-3020	HDBB-105W-A	5V @ 12A*†	+12V @ 1.7A or +15V @ 1.5A†	-12V @ 1.7A or -15V @ 1.5A or -5V @ 0.7A†	—	DBB	14.25 × 4.87 × 3.38	141.02	
218-3021	HDCC-150W-A	5V @ 12A*†	+12V @ 3.4A or +15V @ 3A†	-12V @ 3.4A or -15V @ 3A†	—	DCC	15.00 × 4.88 × 4.55	161.92	

High Peak Current Models

Stock No.	Mfr.'s Type	Output #1	Output #2	Output #3	Output #4	Case Size	Overall Size (Inches)	EACH	
								1-9	
218-3022	CP323-A	+5V @ 2A*	+12V @ 4A	—	—	—	7.00 × 4.87 × 3.20	83.55	
218-3023	CP162-A	+5V @ 3A*†	-5V @ 0.6A*	—	—	—	11.00 × 4.87 × 3.20	151.47	
218-3024	CP510-A	+5V @ 6A*	+12V @ 2.5A/7.5A PK	—	—	—	8.25 × 4.87 × 3.28	83.55	
218-3025	CP379-A	+5V @ 6A*†	-5V @ 1.2A or -12V @ 1.2A‡	—	—	—	11.00 × 4.87 × 3.20	135.80	
218-3026	CP498-A	+5V @ 6A*†	+12V @ 5A/10A PK†	-12V @ 0.5A or -5V @ 0.25A*	—	—	11.00 × 4.87 × 3.20	135.80	
218-3027	CP503-A	+5V @ 6A*	+12V @ 1A	-12V @ 1A or -5V @ 0.5A	+24V @ 2.4A/4A PK*	—	11.00 × 4.87 × 3.20	135.80	

*Overvoltage protection provided. Set at 6.2V ±0.4V.

**Adjustable Outputs: F15-15-A — 12-15V; F24-12-A — 24-28V;

HA15-0.9-A — 12-15V; HA24-0.5-A — 24-28V.

†Remote sense provided.

‡Isolated output, can be referenced as + or -.

*Nonadjustable 3 terminal regulator.

‡Adjustable 3 terminal regulator.

*Can be made into an isolated output by removing jumper W1.

Overvoltage Protection Options

These optional overvoltage protection modules are offered for use with Power-One's International Series Linear power supplies. Each is user adjustable from 6.4V to 34V.

NOTE: Outputs with factory built-in OVP are indicated in the Voltage/Current Rating Chart for each model. OVP is not available for 48V through 250V models.

OVP Selection Guide

Model	Case Size	OVP Modules Required
Single Output	B	1 — OVP-12
Single Output	C	1 — OVP-12
Single Output	N	1 — OVP-12
Single Output	D	1 — OVP-12
Single Output	E	1 — OVP-24
Single Output	F	1 — OVP-24
Dual Output	AA	1 — OVP-12 protects both outputs
Dual Output	B	1 — OVP-12 protects both outputs
Dual Output	BB	1 — OVP-12 protects both outputs
Dual Output	CC	1 — OVP-12 protects both outputs
Dual Output	E	1 — OVP-24 protects both outputs
Dual Output	F	1 — OVP-24 protects both outputs
Triple Output	AA, BAA, BAA, D, CBB, 131, DBB, DCC	1 — OVP-12 protects both 12V through 15V outputs
High Peak Current	N, BAA, CBB, 131, CP340-A, CP510-A	1 — OVP-12 protects any output not provided with built-in OVP

218-3028. OVP-12.....EACH 8.31

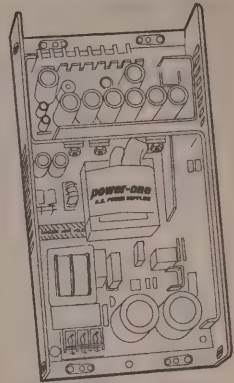
218-3029. OVP-24.....EACH 15.62

MAP Series — International Series DC Power Supplies

- ▶ Automatic Selecting AC Input: 90-132/175-264 VAC, 47-63 Hz
- ▶ Universal Terminal Block Connectors
- ▶ All Outputs Fully Regulated
- ▶ MOSFET Switching Technology
- ▶ Universal Mounting System
- ▶ Rugged Wrap-Around Chassis
- ▶ 75% Typical Efficiency
- ▶ High Power Density, Up to 2.2 Watts/Cubic Inch
- ▶ Platinum Barrier Schottky Rectifiers
- ▶ Convection Cooled
- ▶ Thermal Shutdown with Warning
- ▶ UL Recognized, CSA Certified (Map130)
- ▶ TÜV Certified to: IEC 380, VDE 0805; IEC 950, VDE 0806; EN 60950
- ▶ Meets Domestic and International Safety: 1500 VAC Isolation; VDE Safety Spacings
- ▶ Meets Domestic and International EMI: FCC 47CFR, Part 15, Level B; VDE 0871 Level B
- ▶ Internal Input Line Filter
- ▶ Power-Fail Warning Signal (Mapsc0, Map130)
- ▶ Full Load Burn-In and Thermal Cycling
- ▶ 2 Year Warranty

AC Input: Automatic selecting dual range — 90-132 VAC or 175-264 VAC, 47-63 Hz single phase. **NOTE:** AC input range selection is fully automatic. No manual switchover is required. **Peak Output Power:** Peak power capability is recommended for short term operation only. Contact Power-One for technical assistance on specific applications. **Brown-Out Protection:** Regulation is maintained down to 90/175 VAC, at full rated load, with no compromise in performance. **Hold-Up Time:** 20 msec minimum at full rated load and nominal AC input voltage. Hold-up time increases to 40 msec at 50% load. **Power-Fail Warning Signal:** TTL compatible signal goes low before the main +5V output drops 5%, at full rated load on MAP80 and MAP130. **Minimum Warning Time:** MAP80 — 5 msec; MAP130 — 2.5 msec. Warning time increases at reduced load levels. **Efficiency:** Measured at full rated load and nominal AC input voltage. 75% ±5% depending on how the load is distributed among the outputs. **Initial Setting Tolerance:** Measured at 50% of full rated load on all outputs. **Minimum Loads:** The following minimum loads are required to maintain regulation. Multiple output model ratings are expressed as current on the main 5V output. **Chassis Models Only (Multiple Output):** MAP130 — 3A; MAP80 — 1A; MAP55/MAP40 — 0.5A. **Chassis Models Only (Single Output):** MAP130 — 15 watts; MAP80 — 5 watts; MAP55/MAP40 — 3 watts. **Remote Sensing:** Provided on MAP130 multiple output models on the main +5V output and on MAP130 single output models. **Output Noise and Ripple:** 0.3% RMS, 1% PK-PK maximum on main +5V output. **Transient Response:** Main +5V output —

500 µsec typical for a 50-100% load change and recovery to within 1% of initial voltage set point. Maximum Excursion — 4% from initial voltage set point. **Overload Protection:** Fully protected against output overload and short circuit. Automatic recovery upon removal of overload condition. Delayed-foldback current limiting characteristics assure reliable turn-on into reactive and non-linear loads. Provided on MAP130 series models. **Overvoltage Protection:** Provided on the main +5V output. Set at 6.2V ±0.6V. **Overtemperature Protection:** Initiates shutdown in the event of an overtemperature condition. Automatic reset. Power-Fail Warning Signal is initiated prior to shutdown. Provided on MAP130 series models. **Power-Up Initialization Period:** Typical 2.0 sec turn-on delay assures orderly ramp-up and stabilization of all output voltages during power-up. **Input Protection:** AC input line fuse provided. Internally located. **Inrush Current:** Internally limited by thermistor. **Operating Temperature Rating:** 0°C to +50°C at full rated output power. Consult factory for operating information between +50°C to +70°C. **Storage Operating Temperature Rating:** -55°C to +85°C. **Temperature Coefficient:** ±0.03%/°C typical, ±0.05%/°C maximum over entire operating temperature range of 0°C to +70°C. **Cooling:** Convection Cooling is adequate where non-restricted air flow is available. When operating in a confined area, forced air cooling is recommended. **Vibration:** Random vibration from 10 Hz to 2 KHz, 6.15 grms (3 axis). **Shock:** Operating — 20G peak acceleration. For initial setting tolerance, line and load regulation, and output adjustment range, consult Allied. **Safety Specifications.** All models exceed the following safety standards. **Leakage Current:** Line to Ground (Max.) — 500 µA. **Safety Spacings:** Meets IEC 950. **Dielectric Withstand Voltage (Min.):** Input to Ground — 1500 VRMS; Input to Outputs — 1500 VRMS; Outputs to Ground — 500 VDC. **UL Recognized:** UL File Number E131905. **CSA Certified:** CSA File Number LR38879. **TÜV Essen Certified:** TÜV certified to meet the requirements of VDE 0805, VDE 0806, and EN60950. **EMI Specifications.** Chassis mounted models and the MAP40-3100 are equipped with internal line filtering which allows compliance to the conducted emission limits of FCC 47CFR, Part 15, Level B; and VDE 0871 Level B. The MAP40-3000 and 3003 meets FCC Level B and VDE 0871 Level A.



Single Output Models

Stock No.	Mfr.'s Type	Nominal Voltage	Power		Current	Overall Size (Inches)	EACH
			Continuous	Peak			
218-1060*	MAP40-1005	5V	40	55	8.0A/11.0Apk	6.00 × 3.27 × 1.60	99.28
218-1060*	MAP80-1005	5V	80	100	16.0A/18.0Apk	7.20 × 4.20 × 1.80	125.40
218-1061*	MAP55-1012	12V-15V Adjustable†	60	70	5.0A/5.8Apk	6.00 × 3.27 × 1.60	99.28
218-2020*	MAP80-1012	12-15V Adjustable†	90	110	4.0A/4.7Apk	7.20 × 4.20 × 1.80	125.40
218-2025*	MAP130-1012	12-15V Adjustable†	150	165	7.5A/9.2Apk 6.0A/7.3Apk 12.0A/13.8Apk 10.0A/11.0Apk	8.50 × 4.50 × 2.00	204.75

*Configuration: U-Channel Chassis. †12V adjustable models have currents expressed as 12/15V operation. 24 adjustable models have currents expressed as 24V/28V operation.

Multiple Output Models

Stock No.	Mfr.'s Type	Power (Watts)‡		Voltage	Current	Overall Size (Inches)	EACH
		Continuous	Peak				
218-1063**	MAP40-3000	40	50	+ 5V +12V -12V	3.0A/5.0A PK 2.0A/3.5A PK 0.3A/0.5A PK	5.00 × 3.00 × 1.16	69.95
218-1075**	MAP40-3100†	40	50	+ 5V +12V -12V	3.0A/5.0A PK 2.0A/3.5A PK 0.3A/0.5A PK	5.00 × 3.00 × 1.45	71.94
218-1064**	MAP40-3003	40	50	+ 5V +15V -15V	3.0A/5.0A PK 1.5A/3.0A PK 0.2A	5.00 × 3.00 × 1.16	65.95
218-1065*	MAP55-4000	55	65	+ 5V +12V - 5V -12V	6.0A 3.0A/4.0A PK 0.5A, Note A 0.5A, Note A	6.00 × 3.27 × 1.60	109.72
218-1066*	MAP55-4001	55	65	+ 5V +24V -12V +12V	6.0A 1.5A/2.5A PK 0.5A, Note A 0.5A, Note A	6.00 × 3.27 × 1.60	109.72
218-1067*	MAP55-4002	55	65	+ 5V +12V -12V +12V	6.0A 3.0A/4.0A PK 0.5A, Note A 0.5A, Note A	6.00 × 3.27 × 1.60	109.72
218-1068*	MAP55-4003	55	65	+ 5V +15V - 5V -15V	6.0A 2.5A/3.5A PK 0.5A, Note A 0.5A, Note A	6.00 × 3.27 × 1.60	114.17
218-1069*	MAP80-4000	80	90	+ 5V +12V - 5V -12V	14.0A 4.0A/7.0A PK 1.0A 1.0A	7.20 × 4.20 × 1.80	130.62
218-1070*	MAP80-4001	80	90	+ 5V +24V -12V +12V	14.0A 2.0A/3.5A 1.0A 1.0A	7.20 × 4.20 × 1.80	130.62

*Configuration: U-Channel Chassis. **Configuration: Board Only. †MAP40-3100 meets VDE level B. MAP40-3000 meets VDE level A. **NOTE A:** Maximum load on V3 or V4 can be 1 amp if either V3 or V4 is unloaded.

Covers

Optional covers are available for MAP Products. Covers are not available for board-only configured products. MAP products can be ordered with the cover installed by adding a "C" to the

Stock No.	Mfr.'s Type	Nominal Voltage	Power		Current	Overall Size (Inches)	EACH
			Continuous	Peak			
218-1062*	MAP55-1024	24V-28V Adjustable†	60	70	2.5A/3.0Apk 2.2A/2.5Apk 3.8A/4.6Apk 3.2A/3.9Apk 6.2A/6.8Apk 5.4A/5.9Apk	6.00 × 3.27 × 1.60	99.28
218-2030*	MAP80-1024	24V-28V Adjustable†	90	110		7.20 × 4.20 × 1.80	204.75
218-2035*	MAP130-1024	24V-28V Adjustable†	150	165		8.50 × 4.50 × 2.00	177.65
—	—	—	—	—	—	—	—

Stock No.	Mfr.'s Type	Power (Watts)‡		Voltage	Current	Overall Size (Inches)	EACH
		Continuous	Peak				
218-1071*	MAP80-4002	80	90	+ 5V +12V -12V +12V	14.0A 4.0A/7.0A PK 1.0A 1.0A	7.20 × 4.20 × 1.80	130.62
218-1072*	MAP80-4003	80	90	+ 5V +15V - 5V -15V	14.0A 3.5A/6.0A PK 1.0A 1.0A	7.20 × 4.20 × 1.80	134.70
218-1073*	MAP80-4010	80	90	+ 5V +12V - 5V -12V	14.0A 4.0A/7.0A PK 1.0A 3.0A	7.20 × 4.20 × 1.80	141.81
218-1050*	MAP130-4000	130	165	+ 5V +12V - 5V -12V	20.0A 5.0A/10.0A PK 1.0A 1.0A	8.50 × 4.50 × 2.00	212.59
218-1051*	MAP130-4001	130	165	+ 5V +24V -12V +12V	20.0A 3.5A/5.0A PK 1.0A 1.0A	8.50 × 4.50 × 2.00	212.59
218-1052*	MAP130-4002	130	165	+ 5V +12V -12V +12V	20.0A 5.0A/10.0A PK 1.0A 1.0A	8.50 × 4.50 × 2.00	212.59
218-1053*	MAP130-4003	130	165	+ 5V +15V - 5V -15V	20.0A 4.0A/8.0A PK 1.0A 1.0A	8.50 × 4.50 × 2.00	216.33
218-1054*	MAP130-4010	130	165	+ 5V +12V - 5V -12V	20.0A 5.0A/10.0A PK 1.0A 3.0A	8.50 × 4.50 × 2.00	218.03

end of the part number, i.e., MAP55-4000C.

North American

2 Conductor Power Cords

Stock No.	Mfr.'s Type ¹	Fig.	Length Inches	Cordage	# Cond. AWG ²	Amps 125V	Plug No.	Conn. No.	EACH	
									1-24	25-99
689-2000	221001-01	A	6'0"	SPT-1	2×18	10	002	—	.94	.81
689-2021	221002-01	A	9'0"	SPT-1	2×18	10	002	—	1.20	1.04

3 Conductor Power Cords — Unshielded

689-2116	211012-06	B	8'0"	SVT†	3×18	10	004	—	2.75	2.37
689-2136	211018-06	B	8'0"	SJT†	3×18	10	004	—	2.92	2.52
689-2161	311010-01	B	9'10"	SVT	3×18	10	004	—	3.03	2.61
689-2181	311016-01	B	9'10"	SJT	3×18	10	004	—	3.28	2.83
689-2221	311027-01	B	9'10"	SJT	3×14	15	004	—	5.12	4.41
689-2251	212004-01	C	7'6"	SVT†	3×18	10	004	005	3.39	2.93
689-2261	212013-01	C	7'6"	SJT†	3×16	13	004	005	4.17	3.59
689-2271	312003-01	C	7'6"	SVT	3×18	10	004	005	3.39	2.93
689-2283	312008-01	C	7'6"	SJT	3×18	10	004	005	4.14	3.57
689-2291	312010-01	C	9'10"	SJT	3×18	10	004	005	4.38	3.78
689-2311	312014-01	C	9'10"	SJT	3×16	13	004	005	6.00	5.00
689-2331	312019-01	C	9'10"	SJT	3×14	15	004	005	6.12	5.28
689-2341	312021-01	C	7'6"	SVT†	3×18	10	004	005	3.48	3.00
689-2353	313001-01	D	7'6"	SVT	3×18	10	004	006	4.15	3.58
689-2355	313011-01	D	7'6"	SJT	3×16	13	004	006	4.94	4.20
689-2358	318002-01	E	3'3"	SVT	3×18	10	009	005	3.62	3.12
689-2371	318005-01	E	3'3"	SJT	3×18	10	009	005	2.92	2.52
689-2381	318007-01	E	3'3"	SJT	3×16	13	009	005	3.16	2.73
689-2411	315008-01	F	9'10"	SJT	3×18	10	—	005	3.68	3.40

Hospital Grade — Unshielded with North American color code

689-2506	232002-06	G	8'0"	SJT†	3×18	10*	019	—	6.29	5.42
689-2516	232003-06	G	10'0"	SJT†	3×18	10*	019	—	7.25	6.25
689-2520	232010-06	G	8'0"	SJT†	3×18	10**	019	—	6.29	5.42
689-2526	232011-06	G	10'0"	SJT†	3×18	10**	019	—	7.25	6.25
689-2546	233002-06	H	8'0"	SJT†	3×18	10*	019	005	7.34	6.33
689-2556	233003-06	H	10'0"	SJT†	3×18	10*	019	005	7.80	6.72
689-2566	233008-06	H	8'0"	SJT†	3×18	10**	019	005	7.34	6.33
689-2576	233009-06	H	10'0"	SJT†	3×18	10**	019	005	7.80	6.72

Foot Notes

- Black color is designated by suffix (-01). Other colors available with suffix: -03 Brown, -06 Gray, -08 White, -12 Ivory.
- Stranding: SPT-1 18/2 (41×34), SVT 18/3 (41×34), SJT 18/3 (16×30), SJT 16/3 (26×30), SJT 14/3 (41×30).
- CEE Color Code except North American Color Code as marked.
- † Temperature rating is 60°C except 105°C VW-1 as marked.
- * Hospital Grade Clear Plug.
- ** Hospital Grade Gray Plug.

International

Continental Europe

Stock No.	Mfr.'s Type ¹	Fig.	Length Meters	Cordage	# Cond. (MM ²)	Amps 250V	Plug No.	Conn. No.	EACH	
									1-24	25-99
689-5012	361020-D01	I	2.5M	H03VV-F	2×0.75	2.5	1427	—	3.34	2.88
689-5022	362001-E01	J	2.5M	H03VVH2-F	2×0.75	6	1264	—	2.35	2.02
689-5032	393012-D01	K	2.5M	H05VV-F	3×1.00	10	13641	—	2.92	2.52
689-5042	364002-D01	L	2.5M	H05VV-F	3×1.00	10	13641	2348	4.35	3.75
689-5052	366042-D01	M	2.5M	H05VV-F	3×1.00	10	1410	—	3.59	3.09
689-5062	367003-D01	N	2.5M	H05VV-F	3×1.00	10	1410	2348	4.35	3.75
689-5072	319004-T01	O	2.5M	H05VV-F	3×1.00	10	1591	2348	3.11	2.68

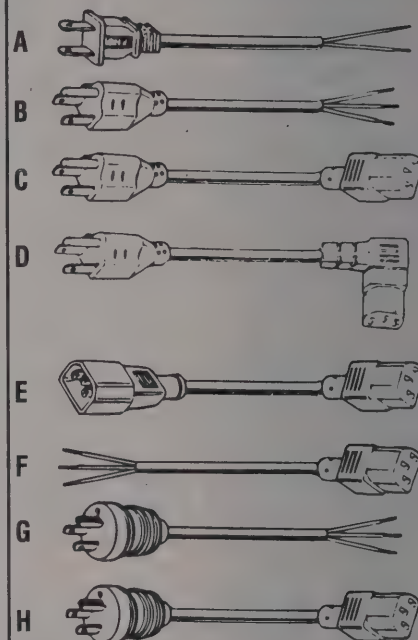
United Kingdom

689-5102	369003-E01	P	2.5M	H05VV-F	3×1.00	10	1620	—	8.74	7.54
689-5112	370002-D01	Q	2.5M	H05VV-F	3×1.00	10	1620	2348	11.46	9.88

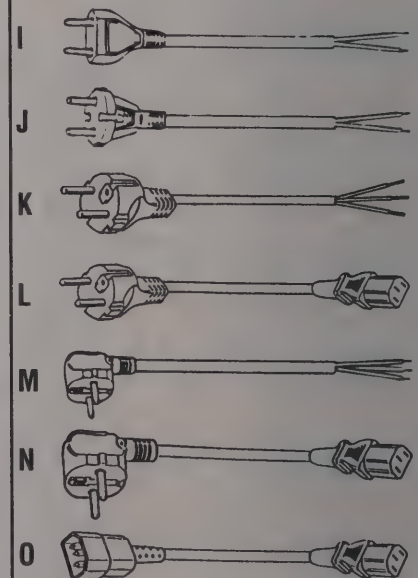
Foot Notes

- Black color is designated by suffix (-01). Other colors available with suffix: -03 Brown, -06 Gray, -08 White, -12 Ivory.
- Stranding: SPT-1 18/2 (41×34), SVT 18/3 (41×34), SJT 18/3 (16×30), SJT 16/3 (26×30), SJT 14/3 (41×30).

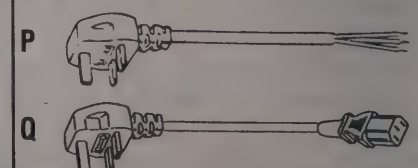
North American



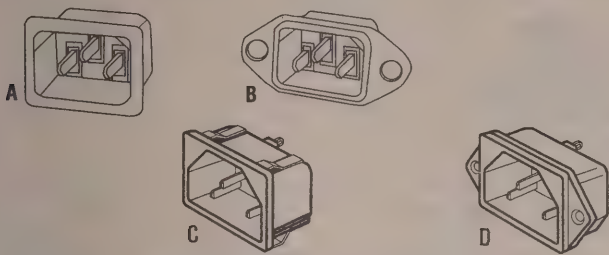
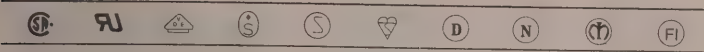
Continental Europe



United Kingdom



AC Power Inlets



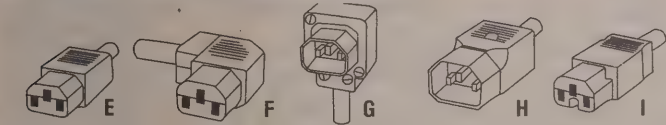
► Max. Rating: UL and CSA 15 A/250 VAC — VDE 10 A/250 VAC

AC Power Inlets. Male power inlets produced with UL94-VO material includes snap-in and screw mount types with solder tab, .187 Q.D. solder tab or .250 faston.

Stock No.	Mfr.'s Type	Description	Terminals	Fig.	EACH	
					1-24	25-99
689-3001	701-15/28*	Snap-In Mount	Solder Tab	A	1.16	.94
689-3470	701-15/48*	Snap-In Mount	.187 Q.D. Solder Tab	A	1.06	.94
689-3011	701-15/63*	Snap-In Mount	.250 Faston	A	1.09	.94
689-3021	703-00/28	Screw Mount	Solder Tab	B	1.01	.91
689-3475	703-00/48	Screw Mount	.187 Q.D. Solder Tab	B	1.01	.91
689-3031	703-00/63	Screw Mount	.250 Faston	B	1.05	.94
689-3480	701W-X2/02**	Snap-In Mount	Solder Tab	C	.77	.67
689-3485	701W-X2/03**	Snap-In Mount	.187 Q.D. Solder Tab	C	.77	.67
689-3490	701W-X2/04**	Snap-In Mount	.250 Faston	C	.83	.72
689-3495	703W-00/02	Screw Mount	Solder Tab	D	.77	.67
689-3500	703W-00/03	Screw Mount	.187 Q.D. Solder Tab	D	.77	.67
689-3505	703W-00/04	Screw Mount	.250 Faston	D	.83	.72

*For Panel Thickness of 1.5 mm (1.0 mm, 2.0 mm and 3.0 mm available upon request).
**Universal Snap-In Feature. Fits panel thickness 0.8 mm -2.0 mm.

AC Power Cord Plug Assemblies



► Max. Rating: UL and CSA 10 A/250 VAC — VDE 10 A/250 VAC

AC Power Cord Plug Assemblies. Male and female rewirable plug connectors utilizing UL94-VO mold material with straight and 90° angle cable entry. Easily converts a power cord into a detachable power cordset.

Stock No.	Mfr.'s Type	Description	Terminals	Fig.	EACH	
					1-24	25-99
689-3121	704-00/00	Straight Entry	Screw	E	2.65	2.39
689-3131	705-00/00	Angled Entry	Screw	F	3.43	3.09
689-3141	711-00/00	Adjust Entry	Screw	G	4.35	3.92
689-3151	712-00/00	Straight Entry	Screw	H	4.26	3.84
689-3161	709-00/00	Straight Entry	Screw	I	3.31	2.98

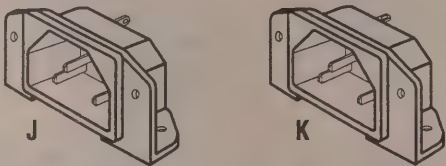
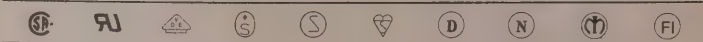
Connector Retaining Clips



Connector Retaining Clips. A retaining clip used in conjunction with our AC power cord plug assemblies and AC power inlets that help prevent accidental removal of the cord.

Stock No.	Mfr.'s Type	Description	EACH	
			1-24	25-99
689-3171	730-00/00	Clip Kit for use with Series 703 and 716	2.42	2.18
689-3181	731-00/00	Clip Kit for use with Series 707	2.23	2.06
689-3191	732-00/00	Clip Kit for use with Series 719	2.42	2.18

Angled Inlet PCB Mount



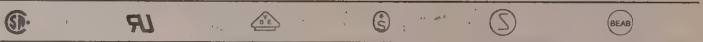
► Max. Rating: UL and CSA 15 A/250 VAC — VDE 10 A/250 VAC

Angled Inlet PCB Mount. Male right angled PCB mount power inlet offered with 7 mm or 9 mm terminal centers.

Stock No.	Mfr.'s Type	Description	Terminal Centers	Fig.	EACH	
					1-24	25-99
689-3450	703W-00/52*	PCB Mount	7 mm	J	1.09	.85
689-3455	703W-00/53**	PCB Mount	7 mm	K	1.14	.88
689-3460	703W-00/54**	PCB Mount	9 mm	K	1.14	.88

*Round PCB Pins. **Flat PCB Pins.

AC Power Outlets



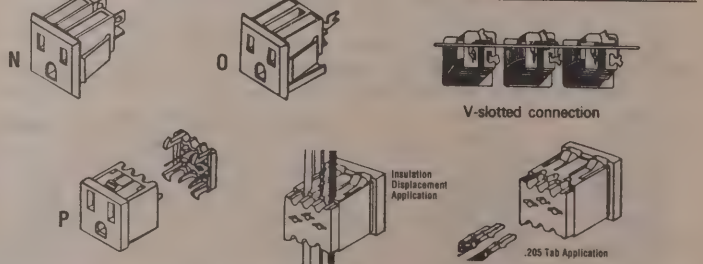
► Max. Rating: UL and CSA 15 A/250 VAC — VDE 10 A/250 VAC

AC Power Outlets. Female power outlets with one snap-in version with a specific panel thickness or a universal snap-in unit that fits 0.8 to 2.0 mm panel thickness and a screw mount type.

Stock No.	Mfr.'s Type	Description	Terminals	Fig.	EACH	
					1-24	25-99
689-4051	716-15/28*	Snap-In Mount	Solder Tab	L	1.34	1.19
689-3410	716-15/48*	Snap-In Mount	.187 Q.C. Solder Tab	L	1.34	1.19
689-4061	716-15/63*	Snap-In Mount	.250 Faston	L	1.34	1.19
689-3415	716W-X2/01**	Universal Snap-In	Solder Tab	L	.83	.72
689-3420	716W-X2/02**	Universal Snap-In	.187 Q.C. Solder Tab	L	.83	.72
689-3425	716W-X2/03**	Universal Snap-In	.250 Faston	L	.83	.72
689-3430	710W-00/01	Screw Mount	Solder Tab	M	.83	.72
689-3435	710W-00/02	Screw Mount	.187 Q.C. Solder Tab	M	.83	.72
689-3440	710W-00/03	Screw Mount	.250 Faston	M	.83	.72

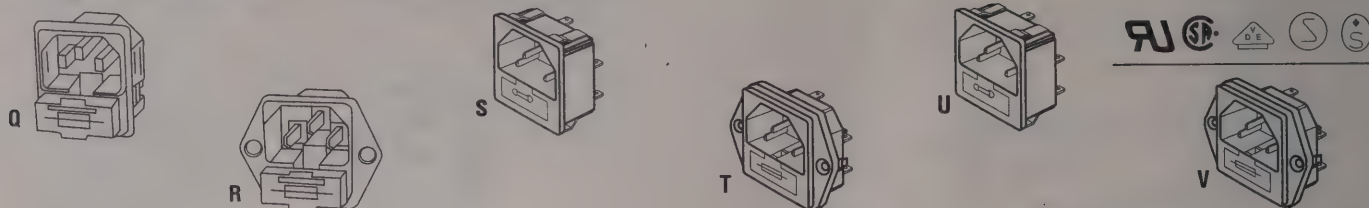
*Panel thickness = 1.5 mm. Also available are 1.0 mm, 2.0 mm, and 3.0 mm. **Universal snap-in feature to fit 0.8 mm -2.0 mm panel thickness.

NEMA 5-15R Receptacles



Stock No.	Mfr.'s Type	Description	Terminals	Fig.	EACH	
					1-24	25-99
689-3343	738W-X2/03	Snap-In Mount	Quick/Solder Terminal	N	.81	.63
689-3344	738-16/59	Snap-In Mount	V Slotted Terminals	O	.87	.71
689-3347	739W-X2/03	Snap-In Mount	Quick/Solder Terminal or Solid Wire	P	.81	.63

Power Inlets with Fuseholder

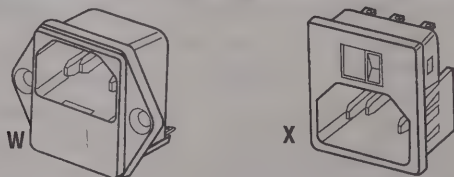


Power Inlets with Fuseholder. IEC 320 male power inlets with a fuseholder for single or double fusing.

Stock No.	Mfr.'s Type	Description	Terminals	Fuseholder Type	Fig.	EACH	
						1-24	25-99
689-4091	723-15/28*	Snap-In Mount	Solder Tab	Single 5 × 20 mm	Q	2.54	2.03
689-3510	723-15/48*	Snap-In Mount	.187 Q.D. Solder Tab	Single 5 × 20 mm	Q	2.54	2.03
689-4101	723-15/63*	Snap-In Mount	.250 Faston	Single 5 × 20 mm	Q	2.54	2.03
689-4111	719-00/28	Screw Mount	Solder Tab	Single 5 × 20 mm	R	2.54	2.03
689-3512	719-00/48	Screw Mount	.187 Q.D. Solder Tab	Single 5 × 20 mm	R	2.54	2.03
689-4121	719-00/63	Screw Mount	.250 Faston	Single 5 × 20 mm	R	2.54	2.03
689-3514	723W-X2/02**	Snap-In Mount	Solder Tab	Single 5 × 20 mm	S	2.15	1.72
689-3516	723W-X2/03**	Snap-In Mount	.187 Q.D. Solder Tab	Single 5 × 20 mm	S	2.15	1.72
689-3518	723W-X2/04**	Snap-In Mount	.250 Faston	Single 5 × 20 mm	S	2.15	1.72
689-3520	719W-00/02	Screw Mount	Solder Tab	Single 5 × 20 mm	T	2.15	1.72
689-3522	719W-00/03	Screw Mount	.187 Q.D. Solder Tab	Single 5 × 20 mm	T	2.15	1.72
689-3524	719W-00/04	Screw Mount	.250 Faston	Single 5 × 20 mm	T	2.15	1.72
689-3526	723A-15/28*	Snap-In Mount	Solder Tab	Double 5 × 20 mm	U	3.68	3.14
689-3530	723A-15/63*	Snap-In Mount	.250 Faston	Double 5 × 20 mm	U	3.68	3.14
689-3532	719A-00/28	Screw Mount	Solder Tab	Double 5 × 20 mm	V	3.68	3.14
689-3536	719A-00/63	Screw Mount	.250 Faston	Double 5 × 20 mm	V	3.68	3.14

*Snap-In Mount for 1.5 mm panel thickness. Also available are 1.0, 2.0, 3.0 mm. **Universal Snap-In fits panel thickness 0.8 mm-2.0 mm.

IEC Connectors With Voltage Selector



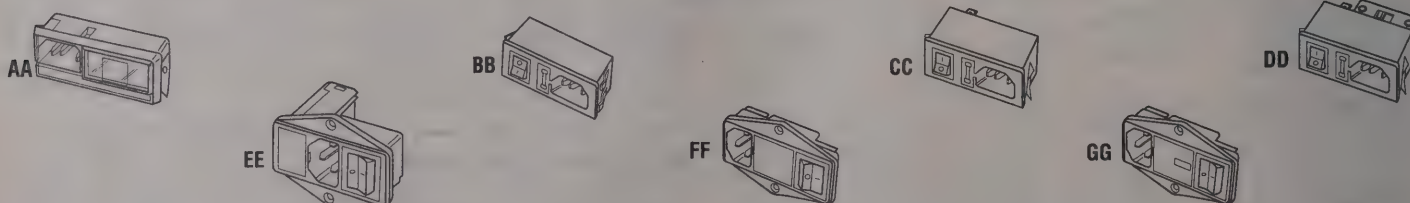
► **Max. Rating: UL and CSA 10 A/250 VAC — VDE 10A/250 VAC**

IEC Connectors. Male power inlet produced in UL94-V0 material containing fuseholder and voltage selector switch with snap-in and screw mount types available.

Stock No.	Mfr.'s Type	Description	Terminals	Fig.	EACH	
					1-24	25-99
689-3350	755-00/28*	Screw Mount	Solder Tab†	W	3.11	2.70
689-3348	756-10/28	Snap-In Mount	Solder Tab‡	X	2.80	2.44

*Panel thickness = 1.0 mm. †Voltage Selector Switch adapts to 110 V or 240 V. ‡Voltage Selector Switch adapts to 115 V or 230 V.

Power Entry Modules



► **Max. Rating: UL and CSA 6 A/250 VAC — VDE 10 A/250 VAC**

Power Entry Modules — Screw Mount. Both snap-in and screw mount incorporates an IEC male power inlet, fuseholder power switch and optional voltage selector.

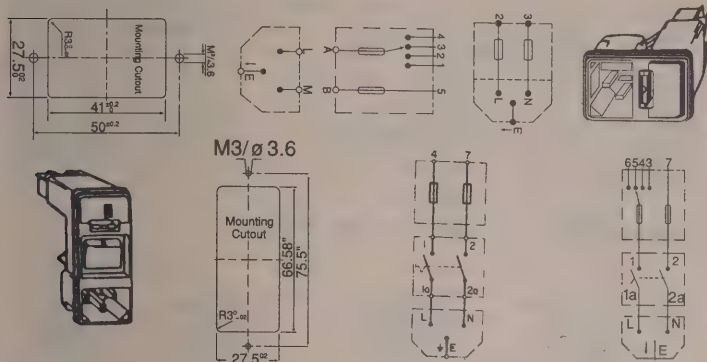
Stock No.	Mfr.'s Type	Description	Housing Type	Terminals	Fuseholder Type	Power Switch	Voltage Selector	Fig.	EACH	
									1-24	25-99
689-3352	760-16/001*	Snap-In Mount	Plastic	Solder Tab	Single	—	Front	AA	8.18	7.12
689-4214	761-18/003**	Snap-In Mount	Plastic	Solder Tab	Single	SPST	—	BB	6.48	5.63
689-4215	761-18/004**	Snap-In Mount	Plastic	Solder Tab	Single	DPST	—	BB	9.02	7.84
689-4217	762-18/002**	Snap-In Mount	Metal	.250 Faston	Single	SPST	—	CC	8.68	7.54
689-4218	762-18/003**	Snap-In Mount	Metal	.250 Faston	Single	DPST	—	CC	13.64	11.86
689-4219	762-18/004**	Snap-In Mount	Metal	.250 Faston	Single	SPST	Rear	DD	13.52	11.76
689-4220	762-18/005**	Snap-In Mount	Metal	.250 Faston	Single	DPST	Rear	DD	17.12	14.89
689-3354	763-00/001**	Screw Mount	Plastic	Solder Tab	Double‡	DPST	Front	EE	8.18	7.12
689-4223	764-00/002**	Screw Mount	Plastic	Solder Tab	Double	DPST	Front	FF	8.11	7.05
689-4224	764-00/003**	Screw Mount	Plastic	Solder Tab	Double	DPST	Front	GG	9.36	8.14

*Panel Thickness: 1.0-1.6 mm. **Panel Thickness: 1.0-1.8 mm. ‡Fuseholder composed of 2 compartments with either single or double fusing.

Power Entry Modules

The Schurter IEC 320 power entry modules come in many variations combining AC connector, on/off switch, 1- or 2-pole fuseholder and voltage selector. These units are approved at 250 V by a multitude of international agencies including: UL, CSA, VDE, SEMKO and SEV. Fuses sold separately.

AC Inlet and 2-Pole Fuseholder/Switch



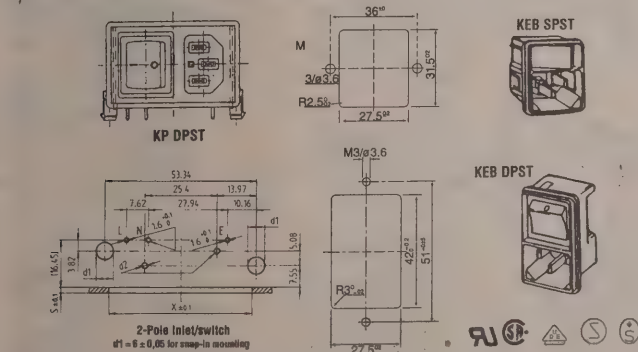
Series **KEC 4303/KD** with or without series voltage selection. DPST, 35 A switch in-rush current. Terminals are 4.8 mm x 0.8 mm quick-connect. Order fingergrasp fuse drawers separately below.

Stock No.	Mfr.'s Type	Voltage Selector	Mounting	D x H x W (mm)	EACH	
					1-24	25-Up
509-3140	4303.0001	None	Flange	55 x 58 x 30	4.58	3.34
509-3145	4303.0002	None	Snap-In 1.5 mm	55 x 43.5 x 30	4.58	3.34
509-3150	4303.1061	Yes	Flange	55 x 58 x 30	5.88	4.28
509-3155	4303.1062	Yes	Snap-In 1.5 mm	55 x 43.5 x 30	5.88	4.28
509-3100	KD14.4101.151	Yes	Flange	55 x 83.5 x 30	16.26	14.63
509-3105	KD14.4101.105	Yes	Snap-In 1.5 mm	55 x 69 x 30	16.26	14.63

Fuse Drawers (must be ordered separately)

Stock No.	Mfr.'s Type	Voltage Selector	Color	Fuses	EACH	
					1-24	25-Up
509-3011	4303.2401	None	Black	2-Pole, 5 x 20 mm	2.66	1.94
509-3012	4303.2902	None	Grey	2-Pole, 1/4" x 1/4"	2.66	1.94
509-3013	4303.2411	None	Black	1-Pole, 5 x 20 mm	5.63	4.72
509-3014	4303.2912	None	Grey	1-Pole, 1/4" x 1/4"	6.16	5.27
509-3015	4303.2014.01	100, 120, 220, 240	Black	2-Pole, 5 x 20 mm	4.71	3.43
509-3016	4303.2714.01	100, 120, 220, 240	Grey	2-Pole, 1/4" x 1/4"	4.71	3.43
509-3017	4303.2036.01	100, 120, 220, 240	Black	1-Pole, 5 x 20 mm	6.34	5.43
509-3018	4303.2736.01	100, 120, 220, 240	Grey	1-Pole, 1/4" x 1/4"	6.86	5.88

AC Inlet with On/Off Switch, 1- and 2-Pole

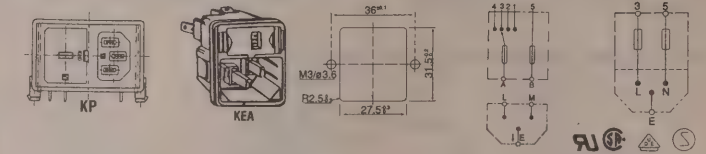


Series **KP** for PCB mounting and **KEB** for panel mounting have switch in-rush ratings of 60 A for SPST and 35 A for DPST. Terminals are 4.8 mm x 0.8 mm quick-connect.

Stock No.	Mfr.'s Type	Mounting	D x H x W (mm)	EACH	
				1-24	25-Up
509-4130	KP01.1212.11	SPST, PCB Mnt. 1.6 mm, 1.5 mm Pnl.	31.2 x 36 x 56.1	6.96	6.27
509-4132	KP01.1252.11	DPST, PCB Mnt. Screws, 1.5 mm Pnl.	31.2 x 36 x 56.1	7.28	6.56
509-4134	KP01.1112.11	DPST, PCB Mnt. 1.6 mm, 1.5 mm Pnl.	31.2 x 36 x 56.1	7.16	6.45
509-4136	KP01.1152.11	DPST, PCB Mnt Screws, 1.5 mm Pnl.	31.2 x 36 x 56.1	7.75	6.98
509-3110	4302.0001	SPST, Screw-On, Front or Rear	35.5 x 34 x 30	7.66	5.58
509-3115	4302.0002	SPST, Snap-In, 1.5 mm Panel Thick	35.5 x 34 x 44	7.66	5.58
509-3120	4302.2001	DPST, Screw-On, Front or Rear	31.7 x 44.5 x 30	7.51	6.85
509-3125	4302.2002	DPST, Snap-In, 1.5 mm Panel Thick	31.7 x 59 x 30	7.51	6.85

KP/KEA Series

AC Inlet with 1- and 2-pole Fuseholder and Optional Voltage Selector



Series **KEA 4301.2041** and **.2042** include voltage selector for series connection. See KP inlet/switch mounting cutout. Order fusedrawers separately below.

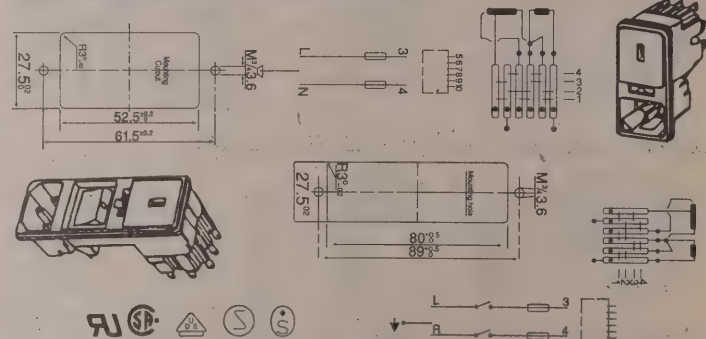
Stock No.	Mfr.'s Type	Mounting	D x H x W (mm)	EACH	
				1-24	25-Up
509-4098	KP01.1412.01	1-Pole, PCB Mnt. 1.6 mm, 1.5 mm Pnl.	31.2 x 36 x 56.1	4.01	3.61
509-4100	KP01.1452.01	1-Pole, PCB Mnt. Screws, 1.5 mm Pnl.	31.2 x 36 x 56.1	4.24	3.82
509-4102	KP01.1312.01	2-Pole, PCB Mnt. 1.6 mm, 1.5 mm Pnl.	31.2 x 36 x 56.1	6.08	5.48
509-4103	KP01.1352.01	2-Pole, PCB Mnt. Screws, 1.5 mm Pnl.	31.2 x 36 x 56.1	6.27	5.65

Stock No.	Mfr.'s Type	Voltage Selector	Mounting	D x H x W (mm)	Terminals	EACH	
						1-24	25-Up
509-3160	4301.0501	None	Flange	40.5 x 34 x 44	4.8 x 0.8	3.59	3.08
509-3165	4301.0502	None	Snap-In 1.5 mm	40.5 x 34 x 30	4.8 x 0.8	3.59	3.08
509-3170	4301.2041	Yes	Flange	41.4 x 34 x 44	4.8 x 0.8	4.53	3.84
509-3175	4301.2042	Yes	Snap-In 1.5 mm	41.4 x 34 x 30	4.8 x 0.8	4.53	3.84

KEA Fuse Drawers (must be ordered separately)

Stock No.	Mfr.'s Type	Voltage Selector	Color	Fuses	EACH	
					1-24	25-Up
509-3019	4301.1401	None	Black	2-Pole, 5 x 20 mm	2.65	1.94
509-3020	4301.1413	None	Black	1-Pole, 5 x 20 mm	3.50	2.94
509-3021	4301.1014.08	100, 120, 220, 240	Black	2-Pole, 5 x 20 mm	3.50	2.94
509-3022	4301.3536.08	100, 120, 220, 240	Black	1-Pole, 5 x 20 mm	5.79	4.85

KE/KG Series AC Inlet and 2-pole Fuseholder/Switch



Series **KE/KG** with series-parallel voltage selection. DPST, 35 A switch in-rush current. Terminals are 4.8 mm x 0.8 mm quick-connect. Order voltage selector and fusedrawers separately below.

Stock No.	Mfr.'s Type	Mounting	D x H x W (mm)	EACH	
				1-24	25-Up
509-3180	KE10.6100.151	Flange	55 x 69.5 x 30	11.23	10.11
509-3185	KE10.6100.105	Snap-In 1.5 mm	55 x 55 x 30	11.23	10.11
509-3130	KG10.6101.151	Flange	55 x 97 x 30	13.39	12.22
509-3135	KG10.6101.105	Snap-In 1.5 mm	55 x 82.5 x 30	13.39	12.22

Voltage Selector (must be ordered separately)

Stock No.	Mfr.'s Type	Markings	EACH	
			1-24	25-Up
509-3027	4305.0048.01	100, 120, 220, 240	4.30	3.40

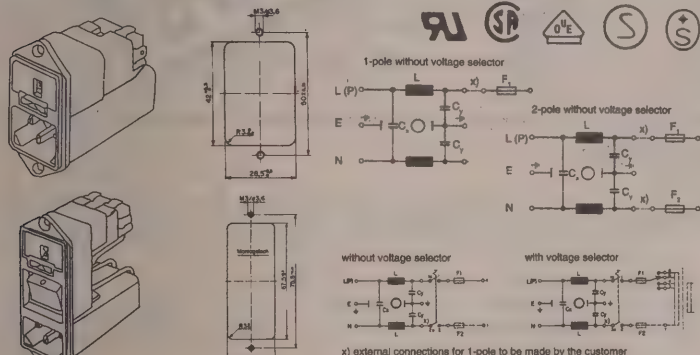
Fuse Drawers (must be ordered separately)

Stock No.	Mfr.'s Type	Color	Fuses	EACH	
				1-24	25-Up
509-3023	4305.0001	Black	2-Pole, 5 x 20 mm	3.79	3.46
509-3024	4305.0012	Grey	2-Pole, 1/4" x 1/4"	3.79	3.46
509-3025	4305.0021	Black	1-Pole, 5 x 20 mm	4.87	4.44
509-3026	4305.0027	Grey	1-Pole, 1/4" x 1/4"	4.87	4.44

Power Entry Modules With Filters

The Schurter power entry modules with filters come in many variations: connector, on/off switch, 1- or 2-pole fuseholder, voltage selector, standard or medical RFI filter. These units are approved at 250 V by a multitude of international agencies including UL, CSA, VDE, SEMKO and SEV.

AC Inlet with Line Filter, 2-Pole Fuseholder, Switch and Interchangeable Fusedrawers for 1/4" x 1/4" or 5 x 20 mm Fuses



Series 4303 and CD with single or double pole shocksafe fuseholder. Inlets available with or without series voltage selection. Series CD with DPST integral switch. Terminals are 4.8 mm x .8 mm quick-connect. Order fusedrawers separately below.

Stock No.	Mfr.'s Type	Filter (Amps)	Leakage Current	D x H x W (mm)	EACH	
					1-24	25-Up
509-4000	4303.5021	1 A, Standard	<0.5 mA	69.5 x 58 x 30	19.71	17.74
509-4002	4303.5022	2 A, Standard	<0.5 mA	69.5 x 58 x 30	19.71	17.74
509-4004	4303.5023	4 A, Standard	<0.5 mA	69.5 x 58 x 30	19.71	17.74
509-4006	4303.5024	6 A, Standard	<0.5 mA	69.5 x 58 x 30	19.71	17.74
509-4008	4303.5225	4 A, Medical	<5.0 µA	69.5 x 58 x 30	25.82	23.24
509-4010	4303.5227	6 A, Medical	<5.0 µA	69.5 x 58 x 30	25.82	23.24
509-4012	CD14.4101.151	1 A, Standard	<0.5 mA	69.5 x 83.5 x 30	28.56	25.71
509-4014	CD24.4101.151	2 A, Standard	<0.5 mA	69.5 x 83.5 x 30	28.56	25.71
509-4016	CDG4.4101.151	1 A, Medical	<0.5 mA	69.5 x 83.5 x 30	37.40	33.66
509-4018	CDA4.4101.151	2 A, Medical	<0.5 mA	69.5 x 83.5 x 30	37.40	33.66

Fusedrawers

Stock No.	Mfr.'s Type	Voltage Selector	Color	Fuses	EACH	
					1-24	25-Up
509-3011	4303.2401	None	Black	2-Pole, 5 x 20 mm	3.21	2.89
509-3012	4303.2902	None	Grey	2-Pole, 1/4 x 1/4"	3.21	2.89
509-4022	4303.2406	None	Black	1-Pole, 5 x 20 mm	1.83	1.65
509-3014	4303.2912	None	Grey	1-Pole, 1/4 x 1/4"	7.39	6.66
509-3015	4303.2014.01	100, 120, 220, 240	Black	2-Pole, 5 x 20 mm	5.67	5.11
509-3016	4303.2714.01	100, 120, 220, 240	Grey	2-Pole, 1/4 x 1/4"	5.67	5.11
509-4030	4303.2114.01	100, 120, 220, 240	Black	1-Pole, 5 x 20 mm	3.97	3.58
509-3017	4303.2736.01	100, 120, 220, 240	Grey	1-Pole, 1/4 x 1/4"	8.24	7.42
509-4034	4303.2403*	None	Black	2-Pole, 5 x 20 mm	5.10	4.59
509-4036	4303.2904*	None	Grey	2-Pole, 1/4 x 1/4"	5.10	4.59
509-4038	4303.2024.01*	100, 120, 220, 240	Black	2-Pole, 5 x 20 mm	6.30	5.67
509-4040	4303.2724.01*	100, 120, 220, 240	Grey	2-Pole, 1/4 x 1/4"	6.30	5.67

*Tool accessible only. Note: Fusedrawers Must Be Ordered Separately.

FilterFit Module

Series KP for PCB mounting for 1.5 mm panel (rear or "sandwich" mounting) available in inlet/switch, inlet/outlet and inlet/fuseholder configurations. Dimensions (D x H x W): 31.2 x 36 x 56.1 mm.

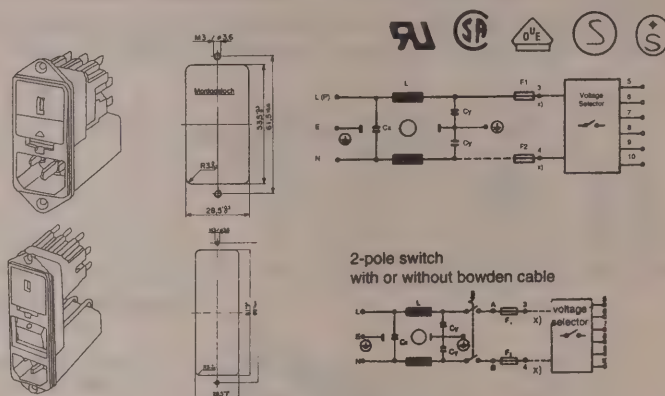
Stock No.	Mfr.'s Type	Mounting	Fig.	EACH	
				1-24	25-Up
509-4086	KP01.1012.01	PCB mnt. 1.6 mm	1	4.20	3.78
509-4088	KP01.1052.01	PCB mnt. screws	1	4.47	4.03
509-4130	KP01.1212.11	SPST, PCB mnt. 1.6 mm	2	6.96	6.27
509-4132	KP01.1252.11	SPST, PCB mnt. screws	2	7.28	6.56
509-4134	KP01.1112.11	DPST, PCB mnt. 1.6 mm	2	7.16	6.45
509-4136	KP01.1152.11	DPST, PCB mnt. screws	2	7.75	6.98
509-4098	KP01.1412.01	1-Pole, PCB mnt. 1.6 mm	3	4.01	3.61
509-4100	KP01.1452.01	1-Pole, PCB mnt. screws	3	4.24	3.82
509-4102	KP01.1312.01	2-Pole, PCB mnt. 1.6 mm	3	6.08	5.48
509-4103	KP01.1352.01	2-Pole, PCB mnt. screws	3	6.27	5.65

Line Filter

Stock No.	Mfr.'s Type	I (A) 48°C	U (V)	Max Leakage Curr. (mA) 250 V/50 Hz	C (nF)	C (nF)	C (mH)	Test Voltage		EACH	
								L, N E	LN	1-24	25-Up
509-4104	KPF1.1	1	Up to 250 V	<0.5	100	2.2	10	2700 V DC 2 sec.	1075	18.05	16.25
509-4106	KPF2.1	2	250 V	<0.5	100	2.2	2	sec.	18.05	16.25	16.25
509-4108	KPF4.1	4	max. 50/60 Hz	<0.5	100	2.2	2	sec.	18.05	16.25	16.25
509-4110	KPF6.1	6		<0.5	100	2.2	1	sec.	18.05	16.25	16.25

Note: "Backpack" Line Filter Must Be Ordered Separately.

Line Filter with AC Connector, Series Parallel Voltage Selection and Interchangeable FuseDrawers for 1/4" x 1/4" or 5 x 20 mm Fuses



Series CE/CG with single or double pole shocksafe fuseholder and series parallel voltage selection. Terminals are 4.8 x 8 mm quick connect. Series CG with DPST integral switch, 35 A in-rush current.

Stock No.	Mfr.'s Type	Filter (Amps)	Leakage Current	D x H x W (mm)	EACH	
					1-24	25-Up
509-4042	CE10.6100.151	1 A, Standard	<0.5 mA	69 x 69.5 x 30	26.56	23.91
509-4044	CE20.6100.151	2 A, Standard	<0.5 mA	69 x 69.5 x 30	26.56	23.91
509-4046	CE30.6100.151	4 A, Standard	<0.5 mA	69 x 69.5 x 30	26.56	23.91
509-4048	CE40.6100.151	6 A, Standard	<0.5 mA	69 x 69.5 x 30	26.56	23.91
509-4050	CEA0.6100.151	1 A, Medical	<5.0 µA	69 x 69.5 x 30	34.79	31.31
509-4052	CEA0.6100.151	2 A, Medical	<5.0 µA	69 x 69.5 x 30	34.79	31.31
509-4054	CEC0.6100.151	4 A, Medical	<5.0 µA	69 x 69.5 x 30	34.79	31.31
509-4056	CEE0.6100.151	6 A, Medical	<5.0 µA	69 x 69.5 x 30	34.79	31.31
509-4058	CG10.6101.151	1 A, Standard	<0.5 mA	69 x 97 x 30	37.71	33.94
509-4060	CG20.6101.151	2 A, Standard	<0.5 mA	69 x 97 x 30	37.71	33.94
509-4062	CG30.6101.151	4 A, Standard	<0.5 mA	69 x 97 x 30	37.71	33.94
509-4064	CG40.6101.151	6 A, Standard	<0.5 mA	69 x 97 x 30	37.71	33.94
509-4066	CGA0.6101.151	1 A, Medical	<5.0 µA	69 x 97 x 30	49.39	44.36
509-4070	CGA0.6101.151	2 A, Medical	<5.0 µA	69 x 97 x 30	49.39	44.36
509-9993	CGC0.6101.151	4 A, Medical	<5.0 µA	69 x 97 x 30	49.39	44.36
509-4074	CGC0.6101.151	6 A, Medical	<5.0 µA	69 x 97 x 30	49.39	44.36

Voltage Selector

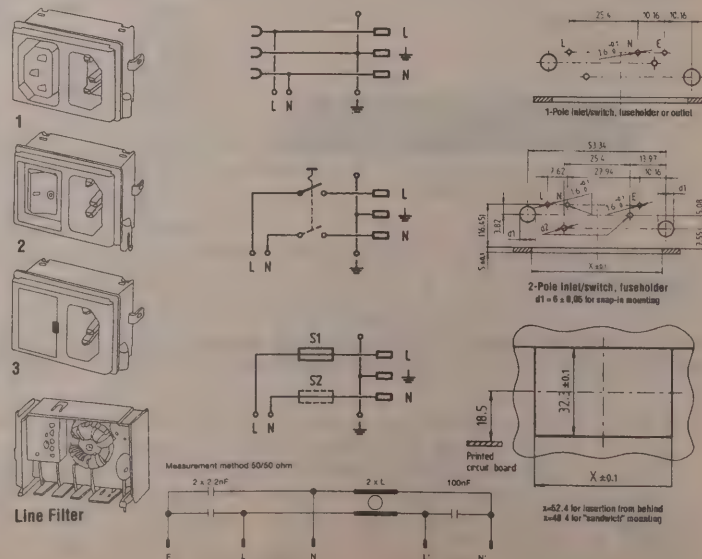
Stock No.	Mfr.'s Type	Markings	EACH	
			1-24	25-Up
509-3027	4305.0048.01	100, 120, 220, 240	4.30	3.40

Note: Voltage Selector Must Be Ordered Separately.

Fusedrawers

Stock No.	Mfr.'s Type	Mounting	Color	EACH	
				1-24	25-Up
509-3023	4305.0001	2-Pole, 5 x 20 mm	Black	3.79	3.46
509-3024	4305.0012	2-Pole, 1/4 x 1/4"	Grey	3.79	3.42
509-3025	4305.0021	1-Pole, 5 x 20 mm	Black	4.87	4.44
509-3026	4305.0027	1-Pole, 1/4 x 1/4"	Grey	4.87	4.44

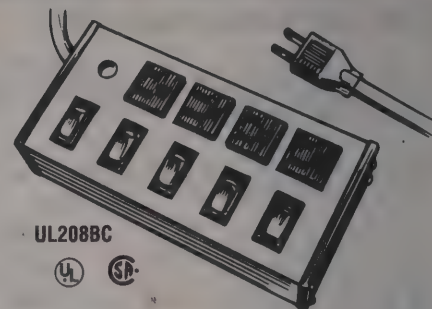
Note: Fusedrawers Must Be Ordered Separately.



Deluxe Control Outlet Strips

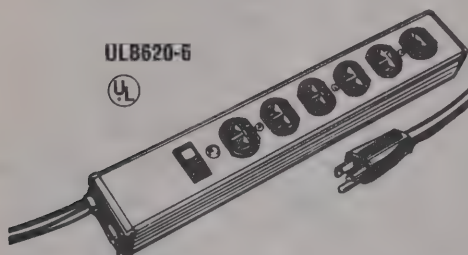
Each receptacle features an independent on/off switch plus a master on/off switch that controls the power to all receptacles. Also features a circuit breaker, keyhole mounting, aluminum housing and has a maximum rating of 15 Amps-125 Volts.

Stock No.	Mfr.'s Type	No. of Outlets	Individual Switch/Pilot Light	Dimensions L x W x H	Cord Length	Ship Wt. (Lbs.)	EACH
							1-9
533-7194	UL208BC	4	4	7 1/2 x 3 1/2 x 2"	6'	1 3/4	48.47
533-7195	UL208BD	4	4	7 1/2 x 3 1/2 x 2"	15'	2 3/4	23.41
533-7196	UL209BC	8	8	7 3/4 x 3 1/2 x 2"	6'	2 1/4	68.63
533-7197	UL209BD	8	8	7 3/4 x 3 1/2 x 2"	15'	3 1/4	73.57



Heavy Duty 20 Amp Outlet Strip

Provides power where industrial equipment may draw heavy amperage. Units feature a 20 Amp rated, master on/off switch, a circuit breaker, beige aluminum housing, snap-on mounting clips and a 20 Amp-125 VAC, 60 Hz, 2500 continuous rating.

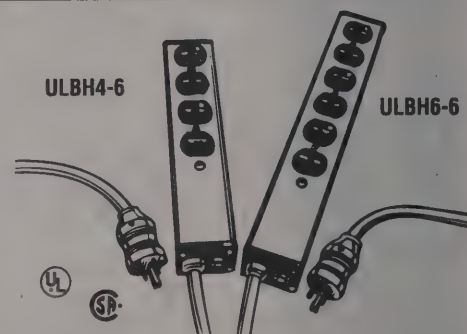


Stock No.	Mfr.'s Type	No. of Outlets	Master On/Off Switch/Pilot Light	Dimensions L x W x H	Cord Length	Ship Wt. (Lbs.)	EACH
							1-9
533-7200	ULB420-6	4	Yes	9 3/16 x 2 x 1 3/4"	6'	2	73.01
533-7209	ULB420-15	4	Yes	9 3/16 x 2 x 1 3/4"	15'	3	78.96
533-7201	ULB620-6	6	Yes	12 3/16 x 2 x 1 3/4"	6'	2 1/4	75.30
533-7210	ULB620-15	6	Yes	12 3/16 x 2 x 1 3/4"	15'	3 1/2	81.25

Medical Group

Outlets are designated by a green dot. Features a circuit breaker, white aluminum housing, snap-on clips, impact resistant end caps and a maximum rating of 15 Amps-125 Volts. Note: When used in hospital environments, grounding can only be achieved when plugged into a "Hospital Grade" or a "Hospital Only" receptacle.

Stock No.	Mfr.'s Type	No. of Outlets	Master On/Off Switch/Pilot Light	Dimensions L x W x H	Cord Length	Ship Wt. (Lbs.)	EACH
							1-9
533-7202	ULBH4-6	4	No	9 7/8 x 2 x 1 3/4"	6'	5	48.09
533-9865	ULBH4-15	4	No	9 7/8 x 2 x 1 3/4"	15'	6	53.16
533-7203	ULBH6-6	6	No	12 7/8 x 2 x 1 3/4"	6'	3 1/4	59.06
533-8615	ULBH6-15	6	No	12 7/8 x 2 x 1 3/4"	15'	4 1/4	64.13



Rackmount

Designed for all types of electronic enclosures. Power is available from front or back, or a combination of both. Features a combination ON/OFF switch pilot light, 15 Amp, 125 Volt, and black steel construction. Also available with surge and noise suppression.



J60B (Front)



J60B (Back)

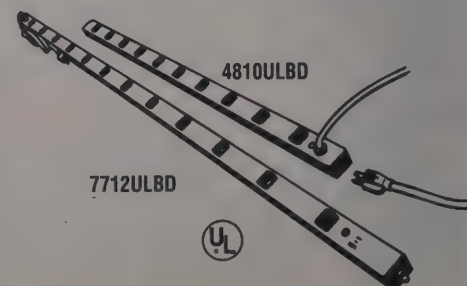
Stock No.	Mfr.'s Type	No. of Outlets†	Master On/Off Switch/Pilot Light	Dimensions L x W x H	Back Cover L x W	Cord Length	Ship Wt. (Lbs.)	EACH
								1-9
533-7245	J60B0B	6/0	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	6'	3	48.26
533-7246	J60B2B	6/0	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	15'	3 3/4	53.26
533-7247	J06B0B	0/6	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	6'	3	48.26
533-7248	J06B2B	0/6	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	15'	3 3/4	53.26
533-7244	J24B0B	2/4	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	6'	3	48.26
533-7243	J24B2B	2/4	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	15'	3 3/4	53.26
533-7249	R5BZ*	0/6	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	6'	3	71.72
533-7250	R5BZ-15*	0/6	Yes	19 x 1 3/4 x 2 3/8"	17 x 1 3/4"	15'	3 3/4	77.81

*Features Computer Grade surge and noise suppression. Also meets UL Standards 1449. †Front /Back.

CabinetMate®

These units mount to the crossplaces on cabinet frames. Heavy-duty, ready to use, just screw the mounting clips to the rail support and snap the unit into place. Features silver gray aluminum housing, with a 15 Amp, 130 Volt maximum rating.

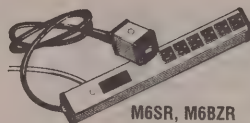
Stock No.	Mfr.'s Type	No. of Outlets	Master On/Off Switch/Pilot Light	Dimensions L x W x H	Cord Length	Ship Wt. (Lbs.)	EACH
							1-9
533-9901	4810ULBD	10	No	48 x 1 1/2 x 1 3/16"	15'	4	56.57
533-9905	7011ULBD	11	No	70 x 1 1/2 x 1 3/16"	15'	5 1/2	64.35
533-9910	7712ULBD	12	No	77 x 1 1/2 x 1 3/16"	15'	5 1/2	70.69



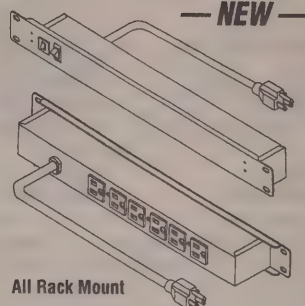
Surge and Noise Protectors



M5S, M5BZ



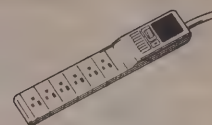
M6SR, M6BZR



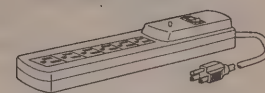
All Rack Mount



RXD410



SR10



PR610

M6S, M6BZ, RS610, RT610

► Quantity Pricing Always Available

Sentrex® High Performance Series

Plug in surge suppressors for maximum protection of critical computer network and electronic equipment. High performance units provide four stages of protection and clamp at 260 V with a 330 V UL 1449 rating and surge indicator light. Capable of up to 33,000 A maximum surge current. Rated at 15 A/120 V with circuit breaker. Units available with Fail-Safe™ shut down feature to cut off all power to equipment if surge protection fails. LIFETIME product and \$30,000 connected equipment warranty.

Perma Power® Computer Grade Series

Plug in surge suppressors offer substantial performance to protect stand alone PCs and electronic equipment in the office environment. Computer Grade units provide one stage of protection and clamp at 340 V with a 400 V UL 1449 rating and surge indicator light (SR10 and SRD10 include audible alarm). Capable of up to 13,000 A maximum surge current. Rated at 15 A/120 V with circuit breaker. Units available with Fail-Safe™ shut down feature to cut off all power to equipment if surge protection fails. Five year product and \$10,000 connected equipment warranty.

Perma Power® Electronic Grade Series

Plug in surge suppressors offer economical surge protection for home and office equipment that is not mission critical. Electronic Grade units provide one stage of protection and clamp at 350 V with a 400 V UL 1449 rating (500 V for PR609) and surge indicator light. Capable of up to 4,500 A maximum surge current. Rated at 15 A/120 V with circuit breaker (PR609 has no circuit breaker). Two year product warranty.

High Performance

Stock No.	Mfr.'s Type	Outlets	Size L x W x D (In.)	Cord Length (Ft.)	Fail-Safe™	EACH 1-9
533-1005	M4S	4	14 x 2 x 2	6	—	80.73
533-7850	M5S*	5	16 x 2 x 2	6	—	81.55
533-1015	M6S	6	16 x 2 x 2	6	—	81.72
533-1020	M6S-15	6	16 x 2 x 2	15	—	90.19
533-7855	M6SR**	6	16 x 2 x 2	6	—	108.91
533-9608	RS410	4	13 x 2 x 2	6	Yes	76.85
533-7860	RS412	4	13 x 2 x 2	15	Yes	79.91
533-9628	RS610	6	15 x 2 x 2	6	Yes	79.91
533-7865	RS612	6	15 x 2 x 2	15	Yes	81.69
533-7870	LS812	8	10 x 4 x 2	15	Yes	85.09

High Performance — Rack Mount

533-7875	R5S	6	19 x 1.75 x 3	6	—	100.83
533-7880	R5S-15	6	19 x 1.75 x 3	15	—	103.95
533-7885	JS06B0B	6	19 x 1.75 x 3	6	Yes	86.42
533-7890	JS06B2B	6	19 x 1.75 x 3	15	Yes	89.63

Computer Grade

533-9750	M4BZ	4	11 x 2 x 2	6	—	35.25
533-1001	M5BZ*	5	13 x 2 x 2	6	—	41.60
533-9752	M6BZ	6	13 x 2 x 2	6	—	42.30
533-9753	M6BZ-15	6	13 x 2 x 2	15	—	50.71
533-9754	M6BZR**	6	13 x 2 x 2	6	—	59.56
533-7895	SR10†	6	13 x 3 x 2	6	—	27.99
533-7900	SRD10††	6	13 x 3 x 2	6	—	40.65
533-9617	RXD410‡	4	14 x 2 x 2	6	Yes	66.03
533-9606	RT410	4	13 x 2 x 2	6	Yes	45.87
533-7905	RT412	4	13 x 2 x 2	15	Yes	48.50
533-9607	RT610	6	15 x 2 x 2	6	Yes	48.50
533-7910	RT612	6	15 x 2 x 2	15	Yes	50.98

Computer Grade — Rack Mount

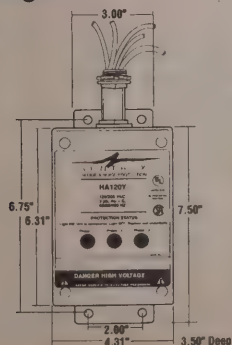
533-7249	R5BZ	6	19 x 1.75 x 3	6	—	75.94
533-7250	R5BZ-15	6	19 x 1.75 x 3	15	—	82.40
533-7915	JT06B0B	6	19 x 1.75 x 3	6	Yes	62.63
533-7920	JT06B2B	6	19 x 1.75 x 3	15	Yes	66.03

Electronic Grade

533-7925	PR609†	6	5 x 4 x 2	Wall Plug	—	19.57
533-7930	PR610†	6	14 x 3 x 2	6	—	25.11

*Outlets rotated 90° to accommodate small power supplies. **Includes remote switch with 44" switch cord. †Plastic case. ‡SRD10 and RXD410 include phone line protection to protect fax machines and modems from surges on the phone line.

Industrial Surge®



Residential and Commercial Panel Protection

Panel Protection for home and commercial applications to be mounted at the breaker panel to provide surge suppression for all equipment fed from panel. Or mount at larger permanently wired equipment to provide suppression as close to these systems as possible. Single Phase protect a home or small office, and Three Phase units guard against surges generated by Three Phase manufacturing equipment. UL 1449 and CSA certified. **Clamping Voltage:** 480 V peak. EMI/RFI noise filtering. **Max. Surge Current:** 60,000 A per phase. Suppressor indicator light per phase. **Operating Temperature:** -40°C to +55°C. Compact NEMA 12 enclosure. 3/4" Conduit connection and 36" 14 AWG wire leads. Wall mounting bracket standard. Five year warranty.

Stock No.	Mfr.'s Type	Voltage	Size L x W x D (In.)	Shipping Weight (Lbs.)	EACH
533-7500	HA120T	120/240 (1 PH)	6.5 x 4.5 x 3.5	4	195.00
533-7505	HA120Y	120/208 (3 PH)	6.5 x 4.5 x 3.5	4	212.00
533-7510	HA240DCT	120/240/120 (3 PH High Leg Delta)	6.5 x 4.5 x 3.5	4	250.00

Sentrex™ Personal Computer Line Conditioners (PCLC)

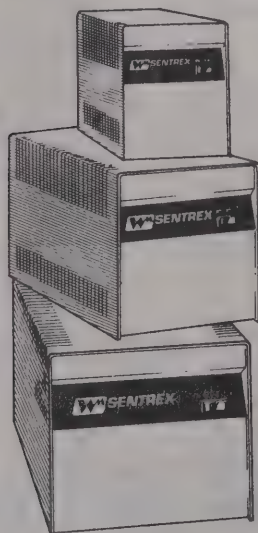
Sentrex™ ferroresonant PCLC, CLC and CLT Line Conditioners provide completely regulated, computer compatible sinewave power to sensitive electronic equipment. They protect against brownouts, spikes, surges, harmonic distortion, noise...everything short of a complete blackout.

- ▶ Workstations
- ▶ Remote Computer Peripherals
- ▶ Micro Computers
- ▶ LANs
- ▶ FAX Machines
- ▶ Input Voltage: 96-132 VAC
- ▶ Output Voltage: 120 VAC, $\pm 5\%$
- ▶ 6 Foot Line Cord
- ▶ Output Waveform: Sinewave, Approx. 5% THD
- ▶ Response Time: Instantaneous (No Measurable Delay)
- ▶ Safety: UL Listed and CSA Certified
- ▶ Three Year Warranty
- ▶ 50 Hz Units also Available
- ▶ Protection Against all Powerline Problems Short of a Blackout, Including: Brownouts, Harmonic Distortion, Noise, Voltage Spikes and Transients
- ▶ Protects against Power Interruptions up to 3 Milliseconds

Stock No.	Mfr.'s Type	VA Rating*	Plug Type	Output Receptacles	Shipping Wt. (lbs.)	EACH
533-8110	PCLC-110	110	5-15P	(2) 5-15R	12	158.00
533-8115	PCLC-210	210	5-15P	(4) 5-15R	17	210.94
533-8120	PCLC-420	420	5-15P	(4) 5-15R	23	263.00
533-8125	PCLC-650	650	5-15P	(6) 5-15R	28	338.00
533-8130	PCLC-850	850	5-15P	(6) 5-15R	31	391.00
533-8135	PCLC-1100	1100	5-15P	(6) 5-15R	47	571.00
533-8140	PCLC-1400	1400	5-15P	(6) 5-15R	52	634.00
533-8145	PCLC-1800	1800	5-20P	(6) 5-15R	64	730.00

On-off switch standard, except PCLC-110.

*Based on load power factor of 0.7 leading.



Sentrex™ Computer Line Conditioners (CLC)

- ▶ Medical Equipment
- ▶ Factory Automation Equipment
- ▶ Mini-computers
- ▶ Large LANs
- ▶ Process Control
- ▶ Input Voltage: 90-132 VAC
- ▶ Response Time: Instantaneous (No Measurable Delay)
- ▶ Safety: UL Listed
- ▶ Output Waveform: Sinewave, Approx. 3% THD
- ▶ Output Voltage: 120 VAC, $\pm 3\%$
- ▶ 6 Foot Line Cord
- ▶ Super Isolation and Tight Regulation for Sensitive Microprocessors
- ▶ Multi-Stage MOV Surge Suppression
- ▶ 50 Hz Units also Available
- ▶ Five Year Warranty

Stock No.	Mfr.'s Type	VA Rating*	Plug Type	Output Receptacles	Shipping Wt. (lbs.)	EACH
533-8150	CLC-0100-AAA	100	5-15P	(2) 5-15R	15	215.00
533-8155	CLC-0200-AAA	200	5-15P	(2) 5-15R	18	281.00
533-8160	CLC-0350-AAA	350	5-15P	(2) 5-15R	26	348.00
533-8165	CLC-0500-AAA	500	5-15P	(4) 5-15R	36	471.00
533-8170	CLC-0750-AAA	750	5-15P	(4) 5-15R	42	601.00
533-8175	CLC-1050-AAA	1050	5-15P	(4) 5-15R	50	695.00
533-8180	CLC-1500-AAA	1500	5-15P	(4) 5-15R	62	825.00
533Q8185	CLC-2100-AAA	2100	L5-30P	(4) 5-15R, (1) L5-30R	88	1178.00
533Q8190	CLC-3100-AAA	3100	L5-30P	(4) 5-15R, (1) L5-30R	114	1691.00

*Based on load power factor of 0.7 leading

Sentrex™ Computer Line Conditioners (CLT)

- ▶ Telephone Systems
- ▶ Medical Equipment
- ▶ Mini-/Mainframe Computers
- ▶ Typesetters
- ▶ Security Systems
- ▶ Process Control
- ▶ Multiple Voltages in One Unit: 90-132 VAC
- ▶ Input Voltage: 120/208/240/480 (140VA thru 5kVA)
- ▶ Output Voltage: 120/208/240, $\pm 3\%$
- ▶ Response Time: Instantaneous (No Measurable Delay)
- ▶ Safety: UL Listed
- ▶ Warranty: 5 Years

How To Determine The Size You Need:

1. List all equipment to be protected, including terminals, printer and other peripherals.
 2. Determine the VA (Volt Amp) required for each device by multiplying the amperes drawn (the number is usually found on the nameplate and/or in the owner's manual) by 120 volts, i.e. 120V X 2.0 amps = 240VA.
 3. Consider an allowance for future system expansion.
 4. Choose the appropriate Sentrex™ for the VA required.
- For further assistance, contact the factory directly at 1-800-367-5811.

60 HZ Hardwired Wall Mount

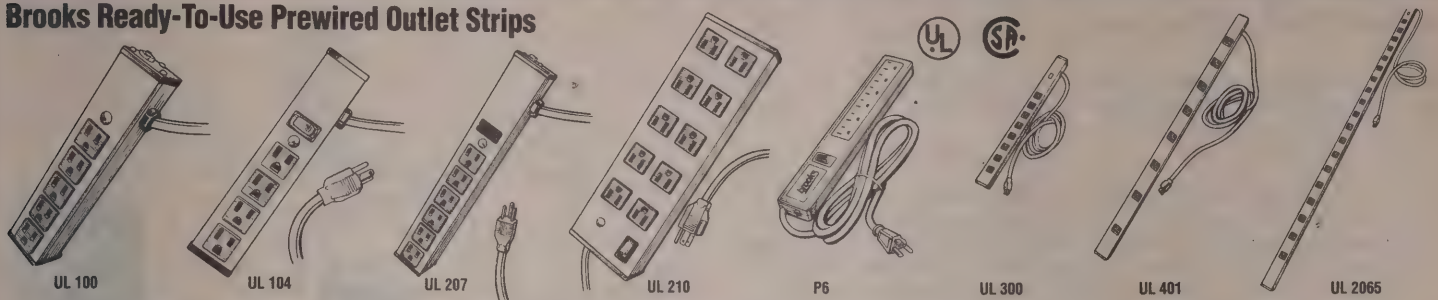
Stock No.	Mfr.'s Type	VA Rating*	Approx. Dim. (inches)	Shipping Wt. (lbs.)	EACH
533Q8195	CLT-0140-GTB	140	6 x 4.4 x 8.5	15	231.00
533Q8200	CLT-0250-GTB	250	6 x 4.4 x 9.6	23	302.00
533Q8205	CLT-0500-GTB	500	6.2 x 6.5 x 12.2	30	459.00
533Q8210	CLT-0750-GTB	750	6.2 x 6.5 x 13.2	41	584.00
533Q8215	CLT-1000-GTB	1,000	6.2 x 6.5 x 14.2	47	697.00
533Q8220	CLT-1500-GTB	1,500	9.3 x 9.9 x 17.1	79	938.00
533Q8225	CLT-2000-GTB	2,000	9.3 x 9.9 x 18.2	96	1187.00
533Q8230	CLT-3000-GTB	3,000	9.3 x 9.9 x 19.9	132	1701.00
533Q8235	CLT-5000-GTW	5,000	14 x 14.5 x 27	254	2660.00
533Q8240	CLT-7500-RTW	7,500	14 x 14.5 x 28.2	318	3270.00
533Q8245	CLT-1001-RTW	10,000	14 x 14.5 x 29.2	391	5327.00
533Q8250	CLT-1501-RTW	15,000	15 x 32.5 x 28.2	648	6551.00

60 HZ Hardwired CLT, Floor Mount

Stock No.	Mfr.'s Type	VA Rating*	Approx. Dim. (inches)	Shipping Wt. (lbs.)	EACH
533Q8255	CLT-5000-GTO	5,000	40 x 19 x 27.7	353	2932.00
533Q8260	CLT-7500-RTO	7,500	40 x 19 x 21.7	422	3407.00
533Q8265	CLT-1001-RTO	10,000	40 x 19 x 21.7	496	5475.00
533Q8270	CLT-1501-RTO	15,000	40 x 19 x 21.7	635	6699.00

VA Ratings are available up to 75KVA single and three phase.

Brooks Ready-To-Use Prewired Outlet Strips



- ▶ Snap-On Adjustable Mounting Clips
- ▶ Built-In Circuit Breakers
- ▶ Grounded Outlets
- ▶ Maximum Rating of 15 Amps-125 Volts
- ▶ Grounded Electrically and Mechanically

Compact Models

Designed to provide power where space is limited. Aluminum housing in beige and gray, except for P6 which is plastic.

Industrial Models: 2 ft., 4 ft., and 6 ft.

Ideal for situations where many receptacles are needed. **Suggested applications include:** workbenches, electronic cabinets, computer rooms, POP displays, and exhibits. Silver gray aluminum housing. Outlet strips with "mounting ears" use "UL listed" or "UL recognized" components. Models are available with or without a circuit breaker, and has a maximum rating of 15 Amps-125 Volts. Features silver gray aluminum housing.

Compact Models BC=6ft.cord, BD=15 ft.

Stock No.	Mfr.'s Type	No. of Outlets	Master Switch/Pilot Light	Dimensions L x W x H	Cord Length	Ship Wt.(Lbs.)	EACH	
							1-9	10-49
533-1106	UL100BC	5	No	9 3/16" x 1 3/4" x 1 5/8"	6'	1 1/2	20.39	18.98
533-1107	UL100BD	5	No	9 3/16" x 1 3/4" x 1 5/8"	15'	2 1/2	25.31	23.57
533-1146	UL104BC	4	Yes	9 3/16" x 1 3/4" x 1 5/8"	6'	1 1/2	23.44	21.83
533-1147	UL104BD	4	Yes	9 3/16" x 1 3/4" x 1 5/8"	15'	2 1/2	29.06	27.05
533-1246	UL204BC	7	Yes	12 1/4" x 1 3/4" x 1 5/8"	6'	1 3/4	30.44	26.52
533-1247	UL204BD	7	Yes	12 1/4" x 1 3/4" x 1 5/8"	15'	2 3/4	35.26	32.83
533-1254	UL205BC	8	No	12 1/4" x 1 3/4" x 1 5/8"	6'	1 3/4	28.96	26.97
533-1255	UL205BD	8	No	12 1/4" x 1 3/4" x 1 5/8"	15'	2 3/4	33.69	31.36
533-1256	UL207BC	6	Yes	12 1/4" x 1 3/4" x 1 5/8"	6'	1 3/4	28.96	26.97
533-1257	UL207BD	6	Yes	12 1/4" x 1 3/4" x 1 5/8"	15'	2 3/4	32.91	30.64
533-9210	UL218BC	8	Yes	15" x 1 3/4" x 1 5/8"	6'	2	32.10	29.87
533-9215	UL218BD	8	Yes	15" x 1 3/4" x 1 5/8"	15'	3	37.10	34.50
533-9515	P6**	6	Yes	12 1/4" x 2 1/4" x 1 5/8"	15'	2	12.11	9.98
533-7940	P6-15	6	Yes	12 1/4" x 2 1/4" x 1 5/8"	15'	3	17.00	13.98
533-7198	UL210BC*	10	Yes	12 1/4" x 3 1/2" x 2"	6'	2 1/4	38.91	36.22
533-9992	UL210BD*	10	Yes	12" x 3 1/2" x 2"	15'	3 1/4	43.63	40.62
533-9850	IEC5***	5	No	11" x 2" x 1 3/4"	***	1 1/4	35.91	34.15

Industrial Models: 2 ft., 4 ft., and 6 ft.

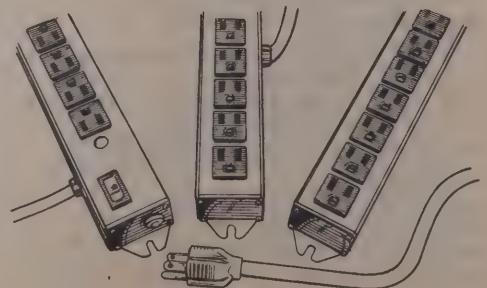
533-0300	UL300BC	8	Yes	24" x 1 3/4" x 1 5/8"	6'	2 1/2	44.63	41.55
533-0301	UL300BD	8	Yes	24" x 1 3/4" x 1 5/8"	15'	3 1/4	50.24	46.78
533-2400	UL401BC	8	Yes	48" x 1 3/4" x 1 5/8"	6'	3 3/4	48.46	45.12
533-2401	UL401BD	8	Yes	48" x 1 3/4" x 1 5/8"	15'	4 1/2	52.30	48.69
533-9835	UL402BC	16	Yes	48" x 1 3/4" x 1 5/8"	6'	4	58.52	54.48
533-9840	UL402BD	16	Yes	48" x 1 3/4" x 1 5/8"	15'	4 3/4	62.26	57.97
533-0403	UL403BC	8	No	48" x 1 3/4" x 1 5/8"	6'	3 3/4	43.63	40.62
533-5500	UL403BD	8	Yes	48" x 1 3/4" x 1 5/8"	15'	4	48.22	37.00
533-9845	UL404BC	15	No	48" x 1 3/4" x 1 5/8"	6'	4	58.52	54.48
533-9550	UL404BD	15	No	48" x 1 3/4" x 1 5/8"	15'	4 3/4	62.44	58.14
533-9855	UL2063BC	20	No	72" x 1 3/4" x 1 5/8"	6'	5 3/4	68.35	63.64
533-9860	UL2063BD	20	No	72" x 1 3/4" x 1 5/8"	15'	6 1/2	72.50	67.50
533-2064	UL2064BC	12	Yes	72" x 1 3/4" x 1 5/8"	6'	5 1/2	49.94	46.50
533-2065	UL2064BD	12	Yes	72" x 1 3/4" x 1 5/8"	15'	6 1/4	54.07	50.34
533-2066	UL2065BC	24	Yes	72" x 1 3/4" x 1 5/8"	6'	5 3/4	70.93	66.03
533-2067	UL2065BD	24	Yes	72" x 1 3/4" x 1 5/8"	15'	6 1/2	74.67	69.52

*Model UL210BC, BD Beige, features keyhole mounting (mounting center-9 7/16"). **Model P6 has plastic housing, features keyhole mounting (mounting center-9 11/16"). ***IEC5 is equipped with IEC 320 plug and receptacles. User must provide appropriate international adapter power cord equipped with IEC 320 connector.

Mounting Ear Models

Available with or without circuit breakers. Each unit is 100% quality inspected to meet electrical codes, OSHA and industrial standards. **Maximum Rating:** 15 Amps, 125V. Aluminum silver gray housing.

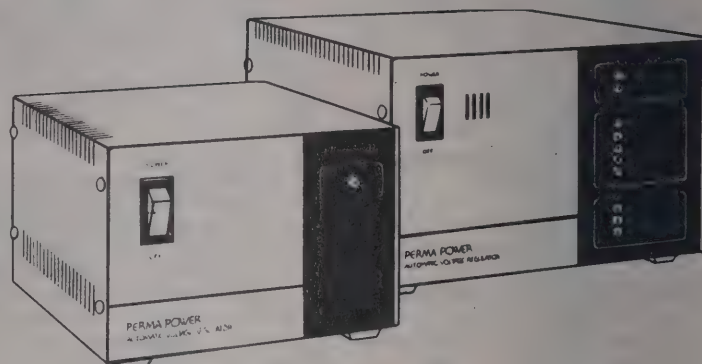
Stock No.	Mfr.'s Type	No. of Outlets	Master On/Off Switch/Pilot Light	Circuit Breaker	Dimensions L x W x H	Cord Length	Ship Wt.(Lbs.)	EACH	
								1-9	10-49
533-9800	L10316	4	No	No	8 5/8" x 2" x 1 3/4"	6'	1 1/2	19.20	17.88
533-7935	L10317	4	No	No	8 5/8" x 2" x 1 3/4"	15'	2	24.33	22.66
533-7070	L10318	7	Yes	Yes	13 1/8" x 2" x 1 3/4"	6'	2	28.57	26.60
533-9810	L10319	7	Yes	Yes	13 1/8" x 2" x 1 3/4"	15'	2 1/2	33.00	30.72
533-7110	L10309	6	Yes	Yes	13 1/8" x 2" x 1 3/4"	6'	2	27.19	25.31
533-7115	L10323	6	Yes	Yes	13 1/8" x 2" x 1 3/4"	15'	2 1/2	31.61	29.43
533-9815	C10221	12	Yes	Yes	48" x 1 1/2" x 1 3/16"	6'	5 1/2	49.44	46.03
533-9820	C10222	12	Yes	Yes	48" x 1 1/2" x 1 3/16"	15'	6	53.19	49.52



Automatic Voltage Regulators

- Covers 95.3% of Power Problems
- Conditions Hi/Low Voltage, In 2 Cycles, RFI/EMI Noise, Surges
- Rack Mount With Accessory Bracket
- Two Year Warranty

Perma Power Automatic Voltage Regulators protect your system from 95.3% of the problems that power lines encounter . . . transient surges, overvoltages, undervoltages and FR/EMI noise. The Perma Power AVR responds instantly to voltage changes in the power line . . . whether created in the utility or in your facility. It supplies constant, safe 117 VAC (ANSI C84.1) power to your computer, even if the incoming voltage sags as low as 85 V or rises as high as 150 V. **Maintenance Free:** With its tap changer design, it costs less than other types and operates more quietly and efficiently. **Indicator Lights:** Model AVR-600 has surge suppressor failure light. Models AVR-1200 and AVR-1800 have LED indicator for AC voltage, reverse polarity, improper grounding and surge suppression status, and a warning buzzer sound for extremely high or low voltage or surge suppressor failure. **Appearance:** Heavy duty 18 gauge beige enclosure, 6' line cord from back panel; molded-on plug (NEMA 5-15P). **Response Time:** Approx. 2 cycles. **Noise Reduction:** Normal mode 15 dB, common mode 12 dB. **Short Circuit Protection:** Circuit breaker, manually reset. **Warranty:** 2 years.



Stock No.	Mfr.'s Type	Capacity (VA)	Circuit Breaker	Weight (Lbs.)	Output Recept.	EACH
533-9620	AVR600	600	5 Amps	7	4	147.00
533-9621	AVR1200	1200	10 Amps	12	6	249.00
533-9623	AVR1800	1800	15 Amps	13	6	325.00

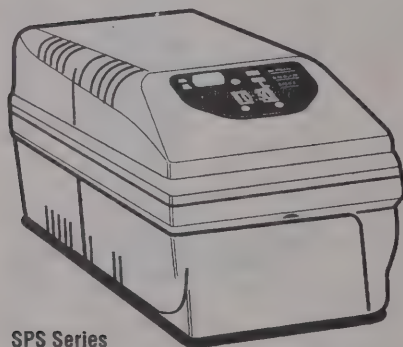
891-9820. K1820. Rack mount brackets for AVR1200/1800.....EACH 49.95

Stand-By Power Systems

Features

- Back-Up Power When The Utility Power Fails; Gives You Time To Save Valuable Data Before Your Computer Shuts Down
- Ultra Fast Assured Transfer Time
- Output Voltage 120 VAC $\pm 5\%$ (On Battery)
- Receptacles On Rear
- Input Voltage Range 97-187 VAC
- Surge Suppression To Protect Equipment From Damaging Spikes On The Power Line and Reduces Data Errors
- Audible Alarms and LED Indicators
- UL Listed
- Two Year Warranty

Standby Power Systems provide Blackout protection for many applications such as personal computers, terminals, work stations, small phone systems and point of sale terminals. These SPS systems offer the maximum performance at the lowest possible cost with many standard features.



SPS Series

Stock No.	Mfr.'s Type	Capacity (VA/Watts)	Run Time Full/Half Load	Dimensions W x H x D (In.)	Weight (Lbs.)	Output Recept.		EACH
						Qty.	Type	
533-9960	SPS280-A	280/175	9/27 Min.	4.7 x 4.7 x 11.4	13	2	5-15R	153.00
533-9940	SPS420-A	420/260	5/15 Min.	4.7 x 4.7 x 11.4	13	2	5-15R	254.00
533-9950	SPS600-A	600/400	5/17 Min.	6.5 x 5.0 x 12.5	22	4	5-15R	411.00

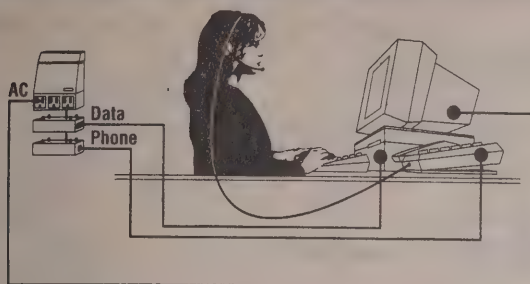
Sentrex® 2.1-10 KVA Uninterruptible Power Systems

- Advanced Battery Management For Prolonged Battery Life
- Dual Conversion On-Line Technology, Quiet Operation (8 and 10 KVA Are Parallel On-Line)
- Advanced Power Isolation
- Power Management Software Capability
- Microprocessor Controlled Interface
- UL and CSA Listed
- Plug In and Hard Wired Units Available (Consult Factory For Distribution Options)
- 2.1-6 KVA Come Standard With Four 5-15R Receptacles (10 On Plug In Units)
- Automatic By-Pass Transfer For Added Reliability
- Remote Power Off (REPO) Standard (2.1-6 KVA), Optional (8-10 KVA)
- 50/60 Hz Auto-Sensing (2.1-6 KVA)
- Output Voltage Regulation $\pm 2\%$
- Extended Battery Time Available
- One Year Warranty

Sentrex Uninterruptible Power Systems offer outstanding **No-Break Power** protection with plenty of power in a small package. Units are packed with features and deliver clean, computer-grade, uninterruptible power using advanced Parallel on-line technology. A variety of options are available offering flexibility to meet your specific application. **Applications Include:** IBM AS/400™, DEC VAX 3000, 11/750, MicroVAX II, HP 3000 and 9000 series, telecommunications and more.

Stock No.	Mfr.'s Type	KVA	Voltage		Run Time Full Load	Dimensions W x H x D (In.)	Weight (Lbs.)	EACH
			In	Out				
533Q7800	WUPS2100T	2.1	120	120	10 Min.	16 x 7 x 23	125	3156.25
533Q7805	WUPS2100P*	2.1	120	120	10 Min.	16 x 7 x 23	135	3312.50
533Q7810	WUPS3100T	3.1	120	120	10 Min.	16 x 7 x 23	125	3618.75
533Q7815	WUPS3100P†	3.1	120	120	10 Min.	16 x 7 x 23	135	3775.00
533Q7820	WUPS3102T	3.1	†	†	10 Min.	16 x 7 x 23	125	3618.75
533Q7825	WUPS5002T	5.0	†	†	10 Min.	24 x 7 x 23	180	5368.75
533Q7830	WUPS6002T	6.0	†	†	10 Min.	24 x 7 x 23	180	6118.75
533-6045	WUPS8KT-2	8.0	120/208	120/208	10 Min.	31 x 12 x 34	570	8583.00
533Q6050	WUPS8KT-3	8.0	120/240	120/240	10 Min.	31 x 12 x 34	570	8583.00
533Q6055	WUPS8KT-4	8.0	120/208	120/120	10 Min.	31 x 12 x 34	570	8583.00
533Q6060	WUPS10KT-2	10.0	120/208	120/208	7 Min.	31 x 12 x 34	595	11037.00
533Q6065	WUPS10KT-3	10.0	120/240	120/240	7 Min.	31 x 12 x 34	595	11037.00
533Q6070	WUPS10KT-4	10.0	120/208	120/120	7 Min.	31 x 12 x 34	595	11037.00

*Equipped with input 5-20P plug and 10 NEMA 5-15R outlets. †Equipped with input 5-30P plug and 10 NEMA 5-15R outlets. ‡Input and output voltage of 120/208 or 120/240 VAC.



Sentrex® ZoneGuardian

Protect your Electronics from damaging Power and Data surges with one modular system!

- ▶ Premier 5 Stage Hybrid Power Protector
- ▶ UL 1449 Listed, L-G, N-G, L-N All 330 Vp 6 KV (1.2/50 µs), 500 A (8/20 µs)
- ▶ CSA Certified
- ▶ Data Modules Snap Easily Into Place (Up To 4 Modules Can Be Used With WP3G and Up To 7 Can Be Used With P3G and P7G)
- ▶ Telecom Modules Are UL 497A Listed
- ▶ All Plastics Are UL 94-5V, UL's Highest Flame Retardant Material
- ▶ Thermal Overload/High Capacity Fusing
- ▶ Data/LAN Modules Comply With Appropriate IEEE/EIA Operating Standards

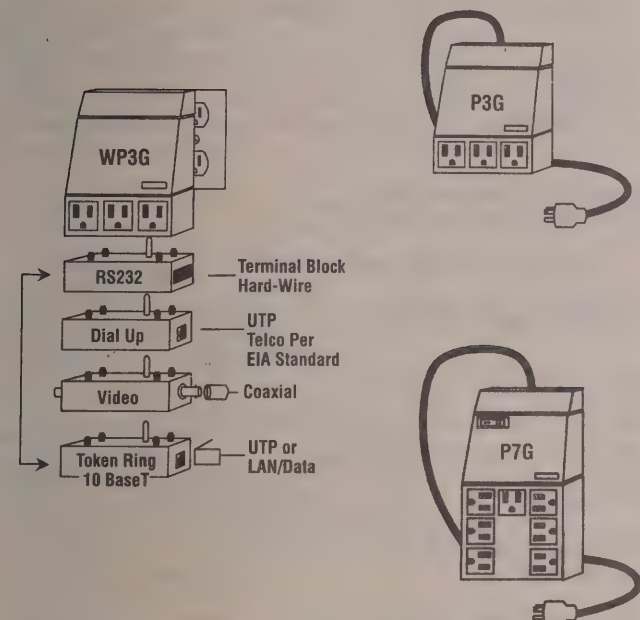
Sentrex® ZoneGuardian is the first 100% customer configurable combination power line and data line surge suppressor offering state of the art power surge protection with add-on data protection modules.

ZoneGuardian Series (AC Receptacle Suppressors)

Stock No.	Mfr.'s Type	Description	EACH
533-9560	WP3G	3 Outlet Wall Plug-In	92.56
533-9665	P3G	3 Outlet Corded Power Strip	102.96
533-9670	P7G	7 Outlet Corded Power Strip	134.16

Data Protection Modules For Use With ZoneGuardian

533-9675	ZS02-DU	Secondary 2 wire dial up	46.80
533-9680	ZS04-LL	Secondary 4 wire lease line	61.36
533-9685	ZS04-DDS	Secondary 4 wire DDS	71.76
533-9690	ZS04-DU	Secondary 4 wire dial up	71.76
533-9703	ZS04-T1	Secondary 4 wire T1	78.00
533-9705	ZP08-232	Primary 8 wire RS232	92.56
533-9710	ZP1S-V	Primary 2 wire Video/IBM3270	57.20
533-9730	ZP05-232	Primary 5 wire RS232 Terminal Strip	82.16
533-9720	ZS04-EN	Secondary 4 wire 10 BaseT Ethernet	98.80
533-9725	ZS04-TR	Secondary 4 wire Token Ring	98.80



Sentrex® Communications/Data Surge Suppressors

Today's electrical and data communication networks are extremely susceptible to transient overvoltages not only on the power line but on the data cables as well. All too often Band-Aid solutions are implemented without considering their impact on the balance of the communication system or Network. A partial solution, such as only power protection, leaves many system components more vulnerable than before. Therefore it is imperative to protect all data and communications cables with a Sentrex® communication protection device.

DIN Rail Series

DIN Rail Mounted modular surge protection units offer tremendous flexibility. They are designed with snap-on DIN rail mounts, assuring fast and easy installation. All telecommunications protection circuits are UL 497A Listed secondary protectors.

Interface Surge Protectors

DB9, DB15 and DB25

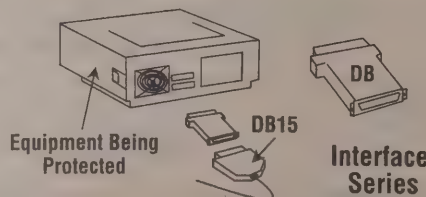
Interface Surge Protectors provide in-line protection between incoming data cables and equipment I/O ports operating under EIA Standards. These bipolar units plug directly into the I/O ports and their respective cable connectors.

Interface Series

Stock No.	Mfr.'s Type	Description	EACH
533-7748	S04-TR	DB9 4 wire Token Ring (pins 1, 5, 6, 9)	61.36
533-7750	S08-232	DB9 8 wire RS232 (pins 1-8)	61.36
533-7752	S08B-423	DB15 8 wire RS423 (pins 1-4, 9-12)	67.60
533-7754	S08B-232	DB15 8 wire RS232 (pins 1-4, 9-12)	61.36
533-7756	S12C-232	DB25 12 wire RS232 (pins 2-8, 11, 20, 22, 24, 25)	67.60
533-7758	S12C-423	DB25 12 wire RS423 (pins 2-8, 11, 20, 22, 24, 25)	71.76
533-7760	S14B-AUI	DB15 14 wire (pins 1-10, 11-14)	98.80



DIN Rail Series



Equipment Being Protected

Interface Series

DIN Rail Series

Stock No.	Mfr.'s Type	Description	EACH
533-7726	ZDRM	19" DIN Rail Kit (no modules)	134.16
533-7728	ZDS02-DU	RJ45 2 wire dial up	67.60
533-7730	ZDS04-DU	RJ45 4 wire dial up	82.16
533-7732	ZDS04-DDS	RJ45 4 wire DDS leased line	82.16
533-7734	ZDS04-T1	RJ45 4 wire Telco T1	92.15
533-7736	ZDP08-232	RJ45 8 wire RS232*	102.96
533-7738	ZDS04-EN	RJ45 4 wire Ethernet (10 BaseT)	102.96
533-7740	ZDS04-TR	RJ45 4 wire Token Ring	102.96
533-7742	ZDP1S-V	BNC 2 wire Video/IBM3270*	67.60
533-7744	ZDP2S-AS	TWIXAX 3 wire AS400*	109.20

*Primary protectors — others are secondary protectors.

Medgard® Series of Multiple Outlet Strips and Surge Suppressors

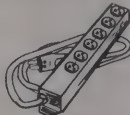
UL544 Leakage Requirements

- ▶ General Use Equipment: 500 Microamps Max.
- ▶ Patient Care Equipment: 100 Microamps Max.
- ▶ Patient Connections: 10 Microamps Max.

All Medgard® products are UL listed. These models feature heavy duty hospital grade plug and cord, HD hospital grade receptacle, durable steel housing and circuit breaker for extra safety. All electrical components used in Medgard® are

Multiple Outlet Strips

- ▶ 15 A, 125 V, 60 Hz, 1875 Watts Continuous Duty
- ▶ Lifetime Warranty



ULHC6

Stock No.	Mfr.'s Type	Cord Length	No. of Outlets	EACH
				1-9
893-1080	ULHC4-6	6'	4	47.77
893-1085	ULHC4-15	15'	4	52.80
893-1090	ULHC6-6	6'	6	58.83
893-1095	ULHC6-15	15'	6	63.87

SL Waber Leakage Specifications

- ▶ Surge Suppressors: 30 Microamps Max.
- ▶ Multiple Outlet Strips: 10 Microamps Max.

listed as "Hospital Grade." In addition, these products have been tested to the leakage requirements of UL544.

Surge Suppressors



MGS6

- ▶ Patented 3 Stage Surge Filter
- ▶ Visual Surge Indication
- ▶ Lifetime With \$5,000 Connected Equipment Warranty
- ▶ UL1449 Rating 400 V

Stock No.	Mfr.'s Type	Cord Length	No. of Outlets	EACH
				1-9
893-9935	MGS4-6	6'	4	83.95
893-9940	MGS4-15	15'	4	88.95
893-9945	MGS6-6	6'	6	95.95
893-9950	MGS6-15	15'	6	99.95

Datagard® Basic Surge Series

Datagard units meet UL standard 1449 with 400 V rating. Units have visual or audible surge indicators except (DG204, DG206) and push-to-reset circuit breakers. **Electrical Ratings:** 15 A, 60 Hz, 1875 Watts. UL Listed. Both Lifetime and \$1,000 Connected Equipment Warranty.



DG204



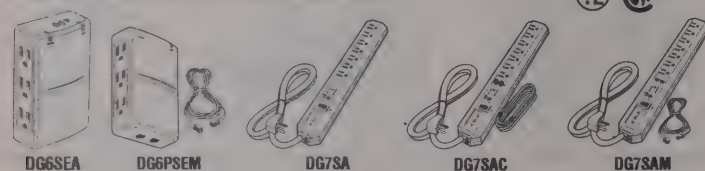
DG206

DataGuard® Basic Surge Suppressors

Provides basic surge protection for general office equipment such as typewriters, word processors, and calculators.

Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	Description	EACH
893-9860	DG204	4	6'	strip, mounting centers: 8.25" (209.55)	21.94
893-9865	DG206	4	6'	strip, mounting centers: 10.938" (277.83)	26.35

DataGuard® Basic Surge and Noise Suppressors



DG6SEA

DG6PSEM

DG7SA

DG7SAC

DG7SAM

Provides basic surge and noise suppression in strip and side entry form for office equipment. Includes phone line as well as coax cable protection for use with telephones, modems, fax machines, stereos, TVs and VCRs. Audible/Visual surge.

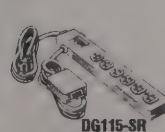
893-9970	DG6PSEA	6	—	side entry wall tap, audible/visual surge	34.95
893-9971	DG6PSEM	6	—	side entry wall tap, phone line protection	39.95
893-9972	DG7SA	7	6'	strip, rt. angle plug, audible/visual surge	39.95
893-9973	DG7SAC	7	6'	strip, rt. angle plug, coax protection	44.95
893-9974	DG7SAM	7	6'	strip, rt. angle plug, modem protection	44.95

Datagard® Standard Surge and Noise Suppressors

Protects computers, P.O.S. terminals, sensitive instrumentation and other electronic equipment containing sensitive micro-processors. **Mounting Centers:** 10 1/2". **Cord Set:** 14/3 SJT.



DG115-SI



DG115-SR

893-9855	DG115-PI	2	—	plug in, 1.313 x 3.25 x 4.844" visual surge	30.74
893-9880	DG115-SI*	6	6'	strip, mounting centers: 10.5" visual surge	43.94
893-9976	DG115-SR	6	6'	same as DG115-SI, with remote switch on 4 1/2" cord, audible surge indication	61.56

*CSA Certified.

DataGuard® Standard Surge and Noise Suppressors With Phone Line Protection

Same as Datagard Standard Series, with the addition of 2 RJ11 Phone Jacks, and Visual Surge indication.



FG2



DG415S

Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	Description	EACH
893-9977	FG2	2	—	plug in, 1.313 x 3.25 x 4.844" visual surge	43.94
893-9870	DG415S	6	6'	strip, mounting centers: 14"	57.12

DataGuard® Premium Surge and Noise Suppressors



DG315-R



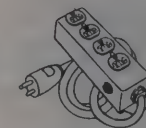
DG315-SA

Designed for large office and industrial applications where noise is a critical factor. **Mounting Center:** 14". **Cord Set:** 14/3 SJT. Audible surge except DG315R).

893-9885	DG315-SA	6	6'	strip, type III mounting	61.53
893-9875	DG315-R	6	6'	19" rack mount	96.76

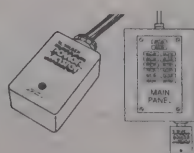
Datagard® 20 Amp Surge Suppressor

Designed specifically to protect 20 amp heavy duty office equipment such as print shop copiers and 2 types of industrial grade machinery. Lifetime Connected Equipment Warranty. UL1449, 400 V rating, 3 lines protected, 6" double insulated 12/3 SJT cord with molded 3 prong, 20 amp NEMA 5-20P insulated grounding plug.



893-9520	DG420A	4	6'	20 amp circuit breaker	79.16
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Power Master® Whole House Surge Arrestor



Protects household electrical and electronic equipment from transient voltage surges entering via the main power line. Designed to be hardwired into house circuitry; mounts on breaker box. Absorbs maximum surge current of 26,500 amps. Clamping response time of less than 1 sec. **Electrical rating:** 15 A, 120/240 VAC, 60 Hz. Includes filter integrity indicator light. 3 1/8" L x 2 1/4" W x 1 1/8" H. UL listed. Three Year Limited Warranty.

Stock No.	Mfr.'s Type	Description	EACH
893-9955	WH1	panel mount surge arrestor	64.72

Power Master® Surge and Noise Suppressor

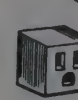
Protects sensitive electronic equipment from voltage surges and electromagnetic interference. UL listed and tested to UL1449. Visual surge indicator. **Electrical Rating:** 400 V, 15 A, 125 V, 60 Hz, 1875 watts, continuous duty. **Cord Set:** 14/3 SJT. **Mounting Centers:** 10.313" for types PM6-S, PM6-NS, 5 Year Warranty.



PM6-NS



PM6-NP

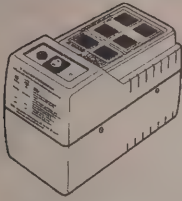


PM1-N

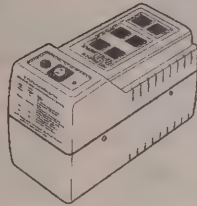
Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	Description	EACH
893-9910	PM6-NS	6	6'	strip, with circuit breaker	23.95
893-9928	PM6-NP	6	—	wall mount	17.95
893-9905	PM6-S*	6	6'	strip, with circuit breaker	19.95
893-9915	PM6-P*	6	—	wall mount	16.95
893-9930	PM1-N	1	—	wall mount	14.95
893-9925	PM1*	1	—	wall mount	9.95

*Surge Suppression Only.

The Powerhouse 250 and 500 UPS Systems



Powerhouse 250



Powerhouse 500

Have on-board computers provisioned to supply clean power to your systems instantly during blackouts and brownouts.

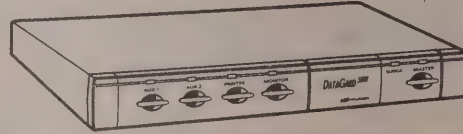
- ▶ 25,000 Connected Equipment Warranty
- ▶ True Step-Sine Wave
- ▶ UL1778 and 1449 Listed
- ▶ Powerhouse 250 — 4 Outlets
- ▶ Powerhouse 500 — 6 Outlets
- ▶ Automatic Self Testing
- ▶ Back Up Time: Approximately 15 minutes for 1/2 Load (Both Units)
- ▶ Electrical Rating: 120 V, 12 A, 60 Hz
- ▶ Weight: 250 — 7 Lbs.; 500 — 12 Lbs.

893-5400. Powerhouse 250. 250 VA, 170 Watt Rating.....EACH 119.00
893-5410. Powerhouse 500. 500 VA, 340 Watt Rating.....EACH 229.00

DataGuard® 5000

DataGuard Surge and Noise Power Center with Modem/Line Protection and Surge Loss Indication

— NEW —



Power Center provides power for up to five devices! An attractive way to keep power cables untangled and safely out of the way.

- ▶ \$5,000 Connected Equipment Guarantee
- ▶ UL1449
- ▶ 330 V Rating, 15 Amp, 125 V
- ▶ Cord Length: 6'
- ▶ Outlets: 5 Plus Phone/Fax

893-5420. DGPCEACH 89.00

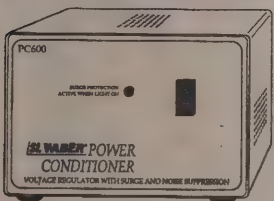
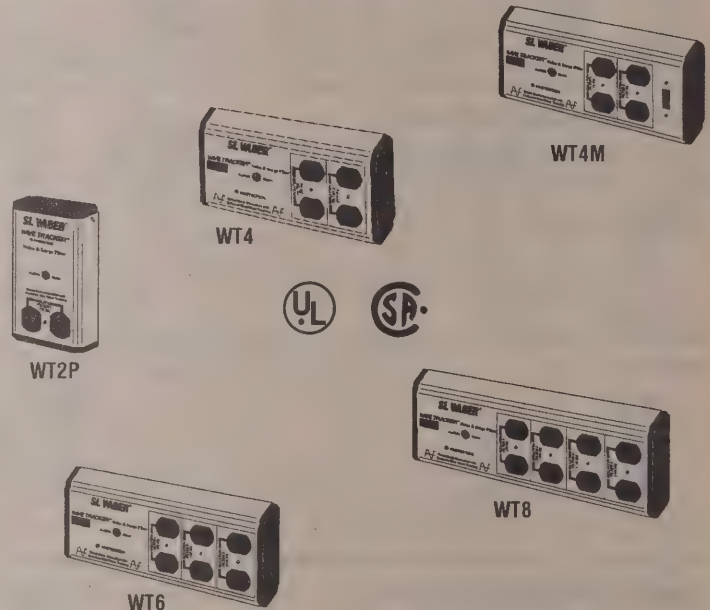
Wave Tracker™ The Ultimate Noise and Surge Filter

The ultimate in surge and noise protection, these products have the highest proven levels of noise attenuation available and are backed by an Unlimited Lifetime Connected Equipment Warranty.

- ▶ Patented 3 Stage, 3 Line Surge Protection (MOV, Gas Tube, Silicon Avalanche Diode)
- ▶ Highest Level of Series Noise Filtering Available (75 dB to 125 dB)
- ▶ Sine Wave Tracking
- ▶ Audible/Visual Surge Indication
- ▶ Isolated Surge and Noise Protection
- ▶ Lifetime Unlimited Connected Equipment Warranty
- ▶ UL1449 Suppressed Voltage Rating of 330 V (UL's best rating)
- ▶ Maximum Surge up to 72,025 Amps
- ▶ 1 Pico Second Response Time
- ▶ CSA Certified

Stock No.	Mfr.'s Type	Outlets	Maximum Level of Noise Filtration	Max. Energy Dissipation (H-N)	EACH
893-9995	WT2P	2	75 dB	485J	59.95
893-9700	WT4	4	100 dB	555J	94.95
893-9710	WT4M*	4	100 dB	555J	114.95
893-9715	WT6	6	110 dB	625J	114.95
893-9720	WT6SS	6	110 dB	625J	124.95
893-9725	WT8	8	125 dB	695J	129.95

*WT4M offers telecommunication line protection (RJ11).



PC600



PC1200

Power Line Conditioners — Select Power Conditioning with the Industry's Best Connected Equipment Warranty

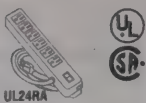
If your equipment suffers from power problems — your company suffers too.

- ▶ Complete Brownout and Surge Protection
- ▶ 50/60 Hz, 120 VAC +5%-8% Regulated Output
- ▶ Both UL1012 and UL1449 (330 V Rating) Approved
- ▶ CSA Certified (Except 1800 VA, 2400 VA Units)
- ▶ Meets ANSI Standard C84.1 - 1989
- ▶ 2 Year Unlimited Connected Equipment Warranty — The Industry's Best
- ▶ Patented 3 Stage Surge Protection and Visual Surge Indication
- ▶ Maximum Surge Current up to 72,025 Amps
- ▶ Maximum Energy Dissipation up to 890J
- ▶ 1 Pico Second Response Time (Except 300 Model)

Stock No.	Mfr.'s Type	Output Rating	Outlets	Input Current	EACH
893-9740	PC300	300 VA	2	3.5 A Max.	119.00
893-9745	PC600	600 VA	4	7.0 A Max.	159.00
893-9960	PC1200	1200 VA	4	12.0 A Max.	249.00
893-9965	PC1800	1800 VA	6	15.0 A Max.	339.00
893-9845	PC2400	2400 VA	6	20.0 A Max.	399.00

90° Design Mid-Length

For applications where right angle cords are used. 15 A, 125 VAC, 60 Hz, 1875 watts, continuous duty. Outlets "U" ground, black. Circuit breaker protection. Master switch with pilot light. Power supply cord 14/3 SJT molded plug black. 13.25" L x 2.375" W x 1.5" H. Mounting: Type III, 10.313" centers. Steel case with baked-on finish.



Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH
				1-9
893-5150	UL24RA-6	6	6'	29.74
893-5160	UL24RA-15	6	15'	33.99

*Mounting Type III has key-hole slot flush mounting on back.

20 Amp Line

20 amp, 125 VAC, 60 Hz, 2500 watts continuous duty. Power Supply Cord: 12/3 SJT with molded plug. Master switch with pilot light, circuit breaker protection. Mounting: Type III, 10.313" centers. Outlets: "U" ground duplex, seamless steel case with baked on finish.



Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH
				1-9
893-2040	UL620-6	6	6'	73.49
893-2045	UL620-15	6	15'	78.56

*Mounting Type III has key-hole slot flush mounting on back.

Cordgard® Electrical Cord Ducting

3" wide cord ducting provides safety from tripping and protection for cord. Made of beige vinyl and featuring a pre-slit channel, it accepts cord up to 7/8" in diameter (14/3 SJT). Double-faced adhesive and ribbed slots prevent slippage indoors or out.



Stock No.	Mfr.'s Type	Cord Length	Weight (lbs.)	EACH
				1-4
983-5270	G-6-BE	6'	3	13.95
983-5280	G-15-BE	15'	6	30.85
983-5290	G-50-BE	50'	19	95.95

Power Master® Residential Line

Feature circuit breaker protection, steel case, "U" grounded outlets, heavy duty type cord with plug. 15 A, 125 VAC, 1875 watts continuous duty. On-off rocker switch, pilot light, except type 4NQ. UL listed.



Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH
				1-9
893-5060	4NQ	4	6'	15.95
893-9890	4SPDX	4	4'	13.95
893-5080	4SPDX-15	4	15'	17.90
893-9850	6SPDX	6	6'	15.95
893-5100	6SPDX-15	6	15'	19.75

Power Master® Industrial Line

Heavy Duty Industrial Line Units Maximum Rating: 15 A of 125 VAC, 60 Hz, 1875 watts continuous duty. Outlets individual "U" ground. Mounting: Type III*. All have circuit breakers. Power supply cord 6' 14/3 SJT molded plug. UL listed CSA certified.



Stock No.	Mfr.'s Type	No. of Outlets	Master Switch	Pilot Light	EACH
					1-9
893-5000	3SP	3	Yes	Yes	16.60
893-5010	4S	4	Yes	No	16.60
893-5020	5	5	No	No	16.60
893-5030	6SP	6	Yes	Yes	19.95
893-5040	7S	7	Yes	No	19.95
893-5050	8	8	No	No	19.95

*Mounting Type III has key-hole slot flush mounting on back.

Deluxe Heavy Duty Line

13.438" L x 4.25" W x 1.5" H, 15 A, 125 VAC, 60 Hz, 1875 watts continuous duty. All have circuit breaker protection and master switch with pilot light; 25 series individual outlet built in pilot lights. Steel case with baked on finish. UL listed.



Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH
				1-9
893-1005	UL25PCB-6	7	6'	70.75
893-1010	UL25PCB-15	7	15'	75.00
893-1015	UL800CB-6*	10	6'	43.80
893-1020	UL800CB-15*	10	15'	48.05

*Not CSA Certified.

Heavy Duty Compact Line

15 A, 125 VAC, 60 Hz, 1875 watts, continuous duty. 8.75" L x 2.375" W x 1.5" H. Outlets "U" ground. UL and CSA Model Specifications. Mounting Type III, 5.813" centers. Circuit breaker protection excluding 602 series. Standard Model Specifications. Mounting Type IV 8.25" centers.



Without Circuit Breaker

Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH
				1-9
893-3005	602*	5	6'	14.46
893-3010	602-15*	5	15'	18.70

With Circuit Breaker

Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH
				1-9
893-3025	603CB*	4	6'	18.63
893-3030	603CB-15*	4	15'	22.85
893-3015	UL602CB-6	5	6'	21.82
893-3020	UL602CB-15	5	15'	26.02
893-3035	UL603CB-6	4	6'	20.66
893-3040	UL603CB-15	4	15'	24.85
893-5140	UL605CB-6	3	6'	23.50
893-9907	UL605CB-15	3	15'	27.75

*Not UL Listed, CSA Certified, permanent mounting.

Permanent Installation Series

Designed for fixed installation, this series has maximum ratings of 15 A, 125 VAC, 60 Hz, 1875 watts continuous duty. Outlets "U" ground beige. Internal wiring. Insulated 14AWG, TW. Sizes: 3, 4, 5, 6' lengths x 1.594" W x 1.375" H (40.39 x 34.93).



Stock No.	Mfr.'s Type	Centers	No. of Outlets	Case Length	EACH
					1-9
983-5200	4305	7.0" (177.80)	5	3'	31.55
983-5210	4309	3.5" (88.90)	9	3'	34.40
983-5220	4407	7.0" (177.80)	7	4'	39.28
983-5230	4413	3.5" (88.90)	13	4'	43.00
983-5240	4515	3.5" (88.90)	15	5'	47.00
983-5250	4610	7.0" (177.80)	10	6'	45.22
983-9705	4619	3.5" (88.90)	19	6'	56.32

Rack Mount Series

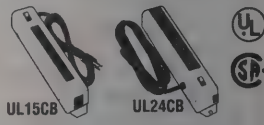
900, 903, 904 and 911CB Series. Maximum Ratings: 15 A, 125 VAC, 60 Hz, 1875 watts continuous duty. Outlets 6 "U" grounded. Case: fabricated steel with master switch pilot light on front panel. 900, 904 Series: front plate — 19" L x 3 1/2" W; back cover — 17" x 3 1/2" W x 2 3/8" D. Mounting Centers: 18 1/4" x 3". 903, 911 Series: front plate — 19" L x 2 3/2" W; back cover — 17" x 1 1/2" W x 2 3/8" D. Mounting Centers: 18 1/4" x 1 1/4". UL recognized.



Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH
				1-9
983-3170	900CB	6 Front	6'	46.08
983-3175	900CB-15	6 Front	15'	50.88
983-5185	904CB	2 Fr. 4 Back	6'	48.36
983-5190	904CB-15	2 Fr. 4 Back	15'	52.62
983-3180	903CB	6 Front	8'	43.65
983-3185	903CB-15	6 Front	15'	47.88
983-3200	911CB	6 Back	6'	46.08
983-3205	911CB-15	6 Back	15'	50.33

Heavy Duty Mid-Length Line

15 A, 125 VAC, 60 Hz, 1875 watts, continuous duty. 13.25" L x 2.375" W x 1.5" H. "U" Ground UL and CSA Model Specifications. Mounting Type III 10.313" centers. Circuit breaker protection. Power Supply Cords: 14/3 SJT, molded plug. Standard Model Specifications. Permanent mounting, 12.75" centers. Power Supply Cords: 14/3 SJT, molded plug.



Stock No.	Mfr.'s Type	No. of Outlets	Master Switch	Cord Length	EACH
					1-9
893-3080	UL15CB-6	7	Yes	6'	32.02
893-3085	UL15CB-15	7	Yes	15'	36.27
893-3090	UL17CB-6	9	No	6'	30.20
893-3095	UL17CB-15	9	No	15'	34.40
893-3110	24CB*	6	Yes	6'	27.91
893-3115	24CB-15*	6	Yes	15'	32.15
893-3120	UL24CB-6	6	Yes	6'	28.57
893-3125	UL24CB-15	6	Yes	15'	32.82

*Not UL Listed, CSA Certified, permanent mounting.

Trim-Line Series

Maximum Rating: 15 A, 125 VAC, 60 Hz, 1875 watts continuous duty. Outlets are "U" ground. All models feature master switch with built in pilot light and circuit breaker protection.



Stock No.	Mfr.'s Type	Case Length	No. of Outlets	Cord Length	EACH
					1-9
983-1030	UL7208-6*	2'	8	6'	43.14
983-1035	UL7208-15*	2'	8	15'	47.34
983-1040	UL7408-6	4'	8	6'	50.90
983-1045	UL7408-15	4'	8	15'	55.15
983-1050	UL7415-6*	4'	15	6'	59.78
983-1055	UL7415-15*	4'	15	15'	64.03
983-1060	UL7610-6*	6'	10	6'	60.85
983-5120	UL7610-15*	6'	10	15'	65.10
983-5130	UL7619-6*	6'	19	6'	70.95
983-1075	UL7619-15*	6'	19	15'	75.15

*Not CSA Certified.

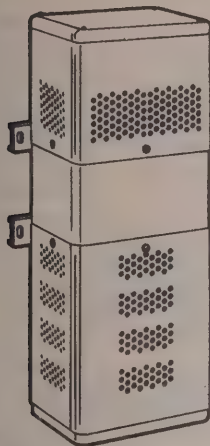
Premier Series Outlet Strips

Feature low profile (1" high) contoured shape. Circuit breaker protection. Maximum Rating: 15 A, 125 VAC, 60 Hz, 1875 watts. Outlets "U" ground duplex, beige color. Steel housing with baked-on beige finish. Types ULA6TMR-6 and ULA6TMR-15 have remote switch on 4 1/2" cord.



Stock No.	Mfr.'s Type	No. of Outlets	Master Switch with Pilot Light	Cord Length	EACH
					1-9
893-2000	ULA4E-6	4	—	6'	15.95
893-2005	ULA4E-15	4	—	15'	19.95
893-2010	ULA4TME-6	4	Yes	6'	18.95
893-2015	ULA4TME-15	4	Yes	15'	22.95
893-2020	ULA6E-6	6	—	6'	21.95
893-2025	ULA6E-15	6	—	15'	24.95
893-2030	ULA6TME-6	6	Yes	6'	24.95
893-2035	ULA6TME-15	6	Yes	15'	28.95
893-5170	ULA6TMR-6	6	Yes/Remote	6'	39.95
893-5180	ULA6TMR-15	6	Yes/Remote	15'	43.95

Sola Hardwired CVS 30 VA to 7.5 kVA



Features and Benefits

- Applications Requiring Precise Voltage Regulation Can Expect to Receive $\pm 1\%$ Output Regulation for Input Variation of $+10$ to -20%
- Protects Premise Wiring Since Non-Linear Loads are Reflected Back to the Utility as Near Sinusoidal
- Safety Agency Approved: All CVSs are UL Listed and CSA Certified
- Dual Function. Can Act as a Stepup or Stepdown Transformer in Addition to Providing Regulation
- Sinewave Output Even With a Distorted Source; Input Harmonics Are Eliminated
- Half Load Input Voltage Range of $+15$ to -50% Input for $+5$, -10% Regulation

Precise Voltage Regulation for Industrial Applications

The Sola CVS Series voltage regulators provide highly regulated sinewave voltage output with less than 3% harmonic distortion. CVS transformers are commonly used in industrial applications where voltage regulation is of primary importance. This unit is only available in the hardwired form and is recommended for installation at the distribution panel.

Specifications

Input

VA Ratings: 30 to 7,500 VA. Input Voltage Range: $+10/-20\%$ of nominal.

Output

Voltage Regulation: $\pm 1\%$ for an input line variation of $+10/-20\%$. No loss of output for line loss of 3 mSec. **Overload:** Output collapses with overload; limits output current to a maximum of 2x rated current. **Output Harmonic Distortion:** 3% total RMS content at full load. **Harmonic Rejection:** Rejects severe waveform harmonics. **Noise Isolation:** 40 dB common and normal mode. **Surge Suppression:** UP to 6,000 Volt surges are suppressed to safe levels per ANSI/IEEE C62.41-1980 Class A and B waveforms. **Efficiency:** Up to 92% at full load.

Environmental

Operating Temperature: -20°C to $+50^{\circ}\text{C}$. Audible Noise: 34 dB to 65 dB.

Approvals

Listed to UL 1012; Certified to CSA C22.2, No. 66.

Warranty

10 year limited warranty.

60 Hz

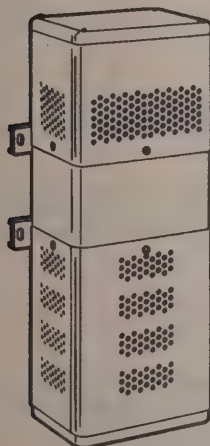
Stock No.	Mfr.'s Type	Output Capacity (VA)	Voltage		Dimensions H x W x D (Inches)	Shipping Weight (Lbs.)	EACH 1-4
			Output	Input			
921-3150	23-13-030-2	30	120	120	6.03 x 3.31 x 5.18	7	155.00
921-3200	23-13-060-2	60	120	120	6.88 x 3.31 x 5.18	9	180.00
921-3300	23-22-112-2	120	120	120, 240	7.94 x 3.31 x 5.18	13	244.00
921-3350	23-23-125-8	250	120	120, 240, 480	9.86 x 4.50 x 7.44	29	333.00
921-3400	23-23-150-8	500	120, 240	120, 208, 240, 480	12.69 x 7.78 x 6.44	42	508.00
921Q3850	23-23-210-8	1000	120, 240	120, 208, 240, 480	16.75 x 7.78 x 6.78	65	788.00
921Q3950	23-23-220-8	2000	120, 240	120, 208, 240, 480	17.31 x 10.56 x 9.34	111	1342.00
921Q4000	23-23-230-8	3000	120, 240	120, 208, 240, 480	18.69 x 10.56 x 9.34	142	1855.00
921Q9965	23-23-250-8	5000	120, 240	120, 208, 240, 480	28.19 x 10.59 x 9.28	222	2897.00
921Q2130	23-28-275-6	7500	120, 240	240, 480	29.06 x 24.82 x 8.97	365	3426.00

Applications

- Marine Navigation Equipment
- Analytical Laboratory Equipment
- Photographic Enlargers
- Photo Processing Equipment
- Closed Circuit TV Transmission
- Sound/Recording Systems



Sola Hardwired MCR 120 VA to 15 kVA



Features and Benefits

- Protects Facility Wiring From Odd-Order Harmonics (Excessive Currents in Building Wiring) Caused by Switchmode Power Supplies (Computer Loads); Non-Linear Load Currents are Reflected Back to the Utility as Near Sinewave
- Regulates Voltage, Provides Surge Suppression, Isolation and Harmonic Filtering
- Acts as a Stepup or Stepdown Transformer
- Rugged Design Handles Hostile Industrial Environments
- Smooth $\pm 3\%$ Voltage Regulation for Input Variation of $+10$ to -20%
- 10-Year Warranty; 25-Year Typical Life

Permanent Protection Against Surges, Sags, Spikes, Brownouts, Harmonics and EMI/RFI Noise

The Sola Hardwired MCR Series protects equipment from nearly all power problems short of a total power failure. Hardwired MCR models are designed to be permanently wired into the user's system and are available in sizes from 120 VA to 15 kVA.

Specifications

Input

VA Ratings: 120 to 15,000 VA. Input Voltage Range: $+10/-20\%$ of nominal.

Output

Voltage Regulation: $\pm 3\%$ for an input line variation of $+10/-20\%$ (50 Hz units $\pm 5\%$). No loss of output for complete line loss of 3 mSec. **Overload:** Output collapses with overload; limits output current to a maximum of 2x rated current. **Output Harmonic Distortion:** 3% total RMS content at full load. **Harmonic Rejection:** Rejects severe waveform harmonics. **Noise Isolation:** 120 dB common mode; 60 dB normal mode. **Surge Suppression:** UP to 6,000 Volt surges are suppressed to safe levels per ANSI/IEEE C62.41-1980 Class A and B waveforms. **Efficiency:** Up to 92% at full load.

Environmental

Operating Temperature: -20°C to $+50^{\circ}\text{C}$. Audible Noise: 35 dB to 65 dB.

Approvals

60 Hz: Listed to UL 1012; Certified to CSA C22.2, No. 66. 50 Hz: Models comply to VDE 0805, 0806, and 0550.

Warranty

10 year limited warranty.

60 Hz

Stock No.	Mfr.'s Type	Output Capacity (VA)	Voltage		Dimensions H x W x D (Inches)	Shipping Weight (Lbs.)	EACH 1-4
			Output	Input			
921-5091	63-23-112-4	120	120	120, 208, 240, 480	8.62 x 3.31 x 5.18	15	262.00
921-5092	63-23-125-4	250	120	120, 208, 240, 480	9.88 x 4.50 x 7.44	27	343.00
921-5093	63-23-150-8	500	120, 208, 240	120, 208, 240, 480	12.69 x 7.78 x 6.44	37	520.00
921Q5094	63-23-175-8	750	120, 208, 240	120, 208, 240, 480	13.69 x 7.78 x 6.44	52	661.00
921Q5095	63-23-210-8	1000	120, 208, 240	120, 208, 240, 480	16.75 x 7.78 x 6.44	62	790.00
921Q5096	63-23-215-8	1500	120, 208, 240	120, 208, 240, 480	16.44 x 10.56 x 9.03	95	1007.00
921Q5097	63-23-220-8	2000	120, 208, 240	120, 208, 240, 480	17.31 x 10.56 x 9.03	109	1345.00
921Q5103	63-23-230-8	3000	120, 208, 240	120, 208, 240, 480	18.69 x 10.56 x 9.03	142	1925.00
921Q5105	63-23-250-8	5000	120, 208, 240	120, 208, 240, 480	28.19 x 10.59 x 8.97	222	2852.00
921Q5106	63-28-275-8	7500	120, 208, 240	208, 240, 480	26.56 x 24.82 x 8.97	362	3505.00
921Q5107	63-28-310-8	10000	120, 208, 240	208, 240, 480	28.19 x 24.82 x 8.97	446	5710.00
921Q5108	63-28-315-8	15000	120, 208, 240	208, 240, 480	28.19 x 37.23 x 9.34	710	7023.00

Also Available: 60 V input models and 50 Hz models.

Applications

- Programmable Logic Controllers (PLCs)
- Machine Tools
- Computer Loads
- Robotics
- Industrial Panels
- Electronic Equipment



Sola Portable MCR — 70 VA to 3 kVA

Applications
 ► PC-Type Computers
 ► POS Terminals

► Telephone Systems
 ► Facsimile Machines
 ► Small Printers

► Lab Equipment
 ► Security Systems
 ► PCs, LAN, WAN

Features and Benefits

- Portable, Quiet and Easy to Use, The MCR is Ideal for Office and Home Use
- Sinewave Output Even With a Distorted Source; Input Harmonics Are Eliminated
- Smooth $\pm 3\%$ Voltage Regulation for Input Variation of +10 to -20%
- Lower Output Impedance Easily Powers Computers
- Reduces Wear on Components for Longer MTBF on Your Electronic Equipment
- 10-Year Warranty; 25-Year Typical Life

Cost-Effective Power Protection for the Office or Home

The Sola MCR Portable Series power conditioners provide excellent protection from surges, sags, spikes, brownouts, harmonics and EMI/RFI noise. Data-sensitive and microprocessor-based systems are susceptible to errors, damaged components and lost operating time caused by these voltage disturbances. These power-related problems vanish and your system's performance improves when it receives clean, regulated noise-free power from the Sola MCR.

Specifications

Input

VA Ratings: 70 to 3,000 VA. Input Voltage Range: +10/-20% of nominal.

Output

Voltage Regulation: $\pm 3\%$ for an input line variation of +10/-20% (50 Hz units $\pm 5\%$). No loss of output for complete line loss of 3 mSec. **Overload:** Output collapses with overload; limits output current to a maximum of 2x rated current. **Output Harmonic Distortion:** 3% total RMS content at full load. **Harmonic Rejection:** Rejects severe waveform harmonics. **Noise Isolation:** 120 dB common mode; 60 dB normal mode. **Surge Suppression:** UP to 6,000 Volt surges are suppressed to safe levels per ANSI/IEEE C62.41-1980 Class A and B waveforms. **Efficiency:** Up to 90% at full load.

Environmental

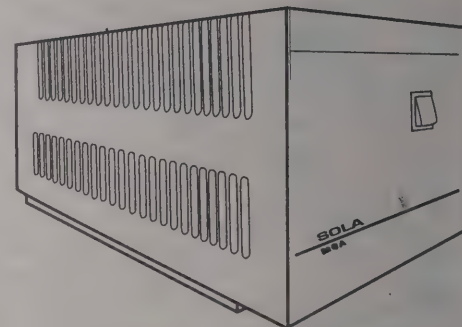
Operating Temperature: -20°C to +40°C. Audible Noise: 34 dB to 49 dB.

Approvals

Listed to UL 1012 and designed to meet UL 478. Certified to CSA C22.2, No. 66 (all models except 3000 VA).

Warranty

10 year limited warranty.



Stock No.	Mfr.'s Type	VA Rating	Input/Output Voltage	NEMA		Dimensions H x W x D (Inches)	Shipping Weight (Lbs.)	EACH 1-4
				Plug	Receptacle			
921-4950	63-13-070-6	70	120	5-15 P	(4) 5-15 R	6.2 x 6.7 x 9.2	18	180.00
921-4960	63-13-115-6	150	120	5-15 P	(4) 5-15 R	6.2 x 6.7 x 9.2	21	287.00
921-4980	63-13-125-6	250	120	5-15 P	(4) 5-15 R	6.2 x 6.7 x 9.2	26	397.00
921-5000	63-13-150-6	500	120	5-15 P	(4) 5-15 R	8.5 x 8.5 x 16.0	32	550.00
921Q5010	63-13-175-6	750	120	5-15 P	(4) 5-15 R	8.5 x 8.5 x 16.0	64	701.00
921Q5020	63-13-210-6	1000	120	5-15 P	(4) 5-15 R	8.5 x 8.5 x 16.0	69	810.00
921Q5040	63-13-220-6	2000	120	L5-30 P	(4) 5-15 R, (1) L5-30 R	10.6 x 11.3 x 16.8	115	1373.00
921Q5050	63-13-230-6	3000	120	5-50 P	(4) 5-15 R, (1) L5-30 R	10.6 x 11.3 x 16.8	143	1920.00

Sola Portable MPC — 70 VA to 1 kVA

Applications
 ► Monitors
 ► Diagnostic Equipment

► Imaging Systems
 ► Any Data Sensitive Patient Care Equipment
 ► Medical Carts

Features and Benefits

- Exceptionally Low Leakage Current Exceeds the Requirement of UL 544
- Safe to Use; Units are UL Listed to 1012 and 544, Also Certified to CSA 22.2 and 100.66
- Orange Output Receptacles With Green Triangles Indicate the MPC has Isolated Ground Outputs and Is Safe for Hospital Grade Use
- Quiet, Portable and Easy-To-Use; Just Plug It In

Reliable Power Protection for Critical Medical Applications

The Sola MPC Series medical power conditioner is your prescription for effective protection from surges, sags, spikes, brownouts and noise. Imaging systems, monitors, diagnostic and patient-care equipment are prone to loss of data integrity, poor performance and increased downtime caused by electrical disturbances. Safely protect your vital equipment from power-related problems and increase performance with regulated, noise-free power from the MPC.

Specifications

Input

VA Ratings: 250, 500, 1,000 VA. Input Voltage Range: +10/-20% of nominal.

Output

Voltage Regulation: $\pm 3\%$ for an input line variation of +10/-20%. No loss of output for complete line loss of 3 mSec. **Overload:** Output collapses with overload; limits output current to a maximum of 2x rated current. **Output Harmonic Distortion:** 3% total RMS content at full load. **Harmonic Rejection:** Rejects severe waveform harmonics. **Noise Isolation:** 120 dB common mode; 60 dB normal mode. **Surge Suppression:** UP to 6,000 Volt surges are suppressed to safe levels per ANSI/IEEE C62.41-1980 Class A and B waveforms. **Efficiency:** Up to 87% at full load.

Environmental

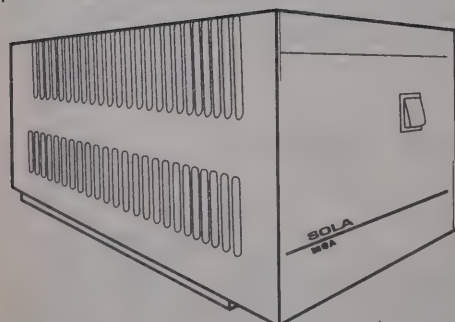
Operating Temperature: -20°C to +40°C. Audible Noise: 43 dB.

Approvals

Listed to UL 1012 and UL 544. Less than 50 μ A leakage current for indirect patient care products per UL 544. Designed to meet UL 478. Certified to CSA C22.2, No. 66.

Warranty

10 year limited warranty.



Stock No.	Mfr.'s Type	VA Rating	Input/Output Voltage	NEMA		Dimensions H x W x D (Inches)	Shipping Weight (Lbs.)	EACH 1-4
				Plug	Receptacle			
921-2131	63-13-125-7	250	120	5-15 P	(4) 5-15 R	6.25 x 6.75 x 9.25	26	402.00
921-2132	63-13-150-7	500	120	5-15 P	(4) 5-15 R	8.50 x 8.50 x 16.0	32	556.00
921Q2133	63-13-210-7	1000	120	5-15 P	(4) 5-15 R	8.50 x 8.50 x 16.0	69	820.00

SOLA 310

300, 400, 750 and 1000 VA, 50/60 Hz, Single Phase UPS

Applications

- Personal Computers
- File Servers
- LAN Equipment
- Retail/POS Equipment

- Telecommunications
- Industrial Controllers
- Modems

Features and Benefits

- Critical Protection When Power Fails** — When A Blackout Occurs, The SOLA 310 Instantly Transfers To Internal Battery Without Interrupting Your Critical Load
- Voltage Regulation** — If Incoming Voltage Is Low, The SOLA 310 Boosts Output Voltage Without Draining The Internal Battery. If Line Voltage Is Too High, The SOLA 310 Automatically Provides Power From Its Battery
- Cold Start Feature** — Allows Smooth UPS Start Up Without AC Input (Mains) or Generator Power

- System Communications** — SOLA 310 Communicates Critical Information To Your Computer or Network Through The DB-9 Port On The Rear Panel Of The Unit
- Diagnostics** — Functionality and Battery Status Are Automatically Tested Upon System Start Up. A Test Button Allows You To Confirm Proper UPS Operation At Any Other Time
- Internal, Maintenance-Free Battery** — SOLA 310 Is Equipped With A High-Quality, Long-Life, Rechargeable Battery

Specifications

Input

Voltage Range: 93-137 V; $\pm 3\%$. **Frequency:** 50/60 Hz auto-sensing.

Output

Waveform: Modified sine wave. **Line Mode Regulation:** For input voltage between +15% and -15% of nominal, $V_{out} = V_{in}$; for input voltage between -15% or -22.5% of nominal, $V_{out} = V_{in} \times 1.12$. **Battery Mode Regulation:** For input voltage beyond +15% or -22.5% of nominal, $V_{out} = V_{nom} \pm 10\%$. **Battery Recharge Time:** 8 hours to rated runtime at $V_{in} = V_{nom}$. **Transfer Time:** <10 ms (typical in blackout condition). **Frequency:** Line Mode or Boost Mode, same as input frequency; Battery Mode — 50 Hz/60Hz, ± 1 Hz, auto-select.

Status Indicators and Controls

Front Panel: Normal — Green LED; Back-up (on battery) — Steady yellow LED; Battery Low — Blinking yellow LED; Fault — Red LED; Test/Silence Pushbutton. **Rear Panel:** ON/OFF — Switch; Input Receptacle — Fused IEC; Contact Closure Interface — DB-9 Connector compatible with all major networks and operating systems (signals include AC utility fail, low battery and remote shut down). **Audible (Alarm):** Line Loss — One beep every four seconds; Battery Low — One beep every second; UPS Fault — Continuous tone; Overload — Continuous tone.

Environmental

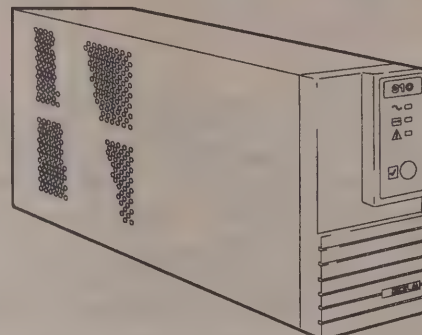
Operating Temperature: 0° to 40°C (32° to 104°F). **Storage Temperature:** -20° to 50°C (-4° to 122°F). **Humidity:** 0 to 95%, non-condensing. **Acoustic Noise Level:** <45 dB (on battery back-up). **Cooling:** Convection cooled.

Approvals

Listed to UL 1778, CSA 22.2 No. 107. TÜV EN50091-1 (1993.05). Compatible with all major network operating systems.

Warranty

Full two-year warranty. Extended Warranty and Service Plans are available.



Stock No.	Mfr.'s Type	VA/ Watts	Nominal Input/ Output†	Quantity and Type Output Receptacles	Runtime Full Load/ Half Load	Input Fuse Rating	Dimensions W x H x D (in.)	Shipping Weight (Lbs.)	EACH
921-9860	310-300-U	300/190	120 V	2 NEMA 5-15	8 min./20 min.	4 A fuse	3.3 x 6.0 x 14.0	15.4	169.00
921-9861	310-400-U	400/250	120 V	2 NEMA 5-15	4 min./15 min.	4 A fuse	3.3 x 6.0 x 14.0	15.4	239.00
921-9862	310-750-U	750/470	120 V	2 NEMA 5-15	5 min./18 min.	8 A fuse	4.8 x 7.8 x 13.9	28.7	469.00
921-9863	310-1000-U	1000/625	120 V	4 NEMA 5-15	5 min./18 min.	15 A fuse	4.8 x 7.8 x 15.2	32.0	629.00

†Also available for international voltages. Call Allied for more information.

SOLA 510

600, 900, 1250, 1650 and 2000 VA, 50/60 Hz, Single Phase, Sine Wave UPS

Applications

- Personal Computers
- File Servers
- LAN Equipment
- Retail POS Systems

- Telecommunications
- Industrial Controllers
- Modems

Features and Benefits

- Sine Wave Output** — Sine Wave Inverter Technology Is Compatible With The Widest Variety Of Loads, Including Switch-Mode Power Supplies
- Critical Protection When Power Fails** — When A Blackout Occurs, The SOLA 510 Instantly Transfers To Internal Battery Without Interrupting Your Critical Load
- Voltage Regulation** — If Incoming Voltage Is Low, The SOLA 510 Boosts Output Voltage Without Draining The Internal Battery. If Line Voltage Is Too High, The SOLA 510 Automatically Provides Power From Its Battery

- System Communications** — SOLA 510 Communicates Critical Information To Your Computer or Network Via RS-232 Through The DB-9 Port On The Rear Panel Of The Unit — SNMP Ready.
- Diagnostics** — Functionality and Battery Status Are Automatically Tested Upon System Start Up — Front Panel Buttons Confirm Proper UPS Operation and Display Size Of Supported Load
- Internal, Maintenance-Free Battery** — SOLA 510 Is Equipped With A High-Quality, Long-Life, Rechargeable Battery
- Add-On Battery Capability** — Optional Battery Packs Providing Extended Back-Up Time Are Available For 1650 VA and 2000 VA Units

Specifications

Input

Voltage Range: 97-137 V; $\pm 2\%$. **Frequency:** 50/60 ± 3 Hz auto-sensing.

Output

Waveform: Sine wave. **Line Mode Regulation:** For input voltage between +15% and -15% of nominal, $V_{out} = V_{in}$. For input voltage between -15% or -20% of nominal, $V_{out} = V_{in} \times 1.12$. **Battery Mode Regulation:** For input voltage beyond +15% or -20% of nominal, $V_{out} = V_{nom} \pm 10\%$. **Battery Recharge Time:** 8 hours to rated runtime at $V_{in} = V_{nom}$. **Transfer Time:** 4 ms typical. **Frequency:** Line Mode or Boost Mode, same as input frequency; Battery Mode — 50 Hz/60Hz, ± 0.1 Hz, auto-select.

Environmental

Operating Temperature: 0° to 40°C (32° to 104°F). **Storage Temperature:** -20° to 50°C (-4° to 122°F). **Humidity:** 0 to 95%, non-condensing. **Acoustic Noise Level:** <45 dB (on battery back-up). **Cooling:** Convection cooled, 600 VA. All others fan cooled in back-up mode.

Status Indicators and Controls

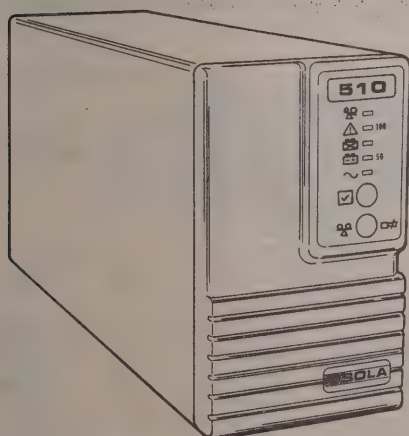
Front Panel: Test Switch/Alarm Silence Switch; LED Indicators — Power on/AC present; Battery mode; Battery low/weak (steady/flashing); Fault; Overload; Load level in 25% increments. **Rear Panel:** ON/OFF — Switch; Fuse/Circuit Breaker; DB-9 Connector — RS-232/Contact Closure Interface compatible with all major networks and operating systems (signals include AC utility fail, low battery and remote shut down). **Audible (Alarm):** Line Loss — One beep every four seconds; Battery Low — One beep every second; UPS Fault — Continuous tone; Overload — Continuous tone.

Approvals

Listed to UL 1778, CSA 22.2 No. 107. Compatible with all major network operating systems.

Warranty

Full two-year warranty. Extended Warranty and Service Plans are available.



Stock No.	Mfr.'s Type	VA/ Watts	Nominal Input/ Output†	Quantity and Type Output Receptacles	Input Line Cord*	Runtime Full Load/ Half Load	Input Protection Rating	Dimensions W x H x D (in.)	Shipping Weight (Lbs.)	EACH
921-1200	510-600-U	600/400	120 V	4 NEMA 5-15	Note 1	5 min./17 min.	8 A fuse	7.9 x 4.8 x 13.8	30.8	460.00
921Q1205	510-900-U	900/630	120 V	6 NEMA 5-15	Note 1	8 min./25 min.	15 A fuse	9.7 x 6.5 x 17.8	50.6	645.00
921Q1210	510-1250-U	1250/900	120 V	6 NEMA 5-15	Note 1	5 min./18 min.	15 A fuse	9.7 x 6.5 x 17.8	50.6	920.00
921Q1215	510-1650-U	1650/1320	120 V	4 NEMA 5-15 +1 L5-20 R	Note 2	12 min./46 min.	20 C.B.	14.6 x 7.5 x 19.1	123.3	1380.00
921Q1220	510-2000-U	2000/1600	120 V	4 NEMA 5-15 +1 L5-30 R	Note 3	8 min./29 min.	25 C.B.	14.6 x 7.5 x 19.1	123.3	1520.00

Notes: *Input Line Cord: 1. NEMA 5-15 P. 2. NEMA L5-20 P (equipped with captive line cord). 3. NEMA L5-30 P (equipped with captive line cord). †Also available for international voltages. Call Allied for more information.

SOLA 700

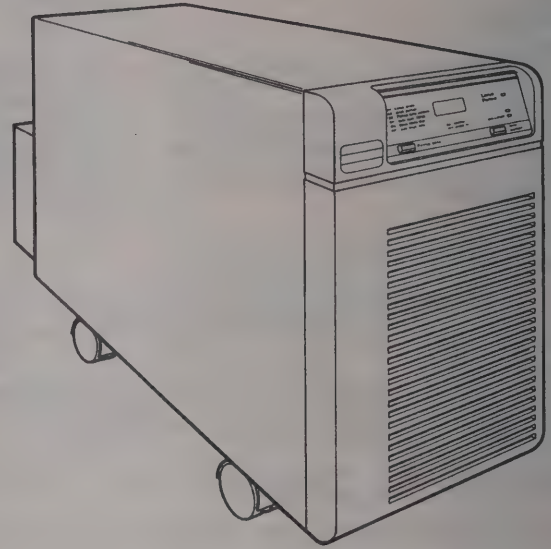
The Ultimate In Power Protection For Mission-Critical Applications
1.0-3.0 kVA, 50/60 Hz, Single Phase, On-Line UPS

Applications

- Midrange Computer Systems
- Computer Aided Design/Manufacturing Workstations
- File Servers
- Retail POS Systems
- Industrial Controls and Automation
- Telecommunications Systems
- Medical Diagnostics
- Robotics

Features and Benefits

- **True On-Line UPS** — When A Blackout Occurs, The SOLA 700 On-Line Inverter Provides Continuous, No Break, Transferless Power To Your Critical Load
- **Magnetically Isolated, Low Impedance** — SOLA 700 Provides Exceptional Noise and Spike Attenuation While Supplying, Undistorted, The Peak Current That Your Load Needs
- **Active Power Factor Corrected Input** — The SOLA 700 Eliminates Excessive Harmonic Currents In Building Wiring Because The Input Current Is Sinusoidal, Even With Non-Linear, High Harmonic Current Loads. SOLA 700 Input Is Exceptionally High Power Factor and Low Current Distortion, Regardless Of Load
- **Unity Power Factor (Watts=VA) Inverter** — Designed To Run Modern, Active Power Factor Corrected Loads With No Derating. SOLA 700 Provides More True Power
- **Sophisticated Battery Management** — SOLA 700 Assures The Longest Battery Life With A Microprocessor-Controlled Charger That Temperature Compensates, and Auto-Equalizes The Battery
- **SNMP Ready, Advanced RS-232 Interface** — System Operating Modes, Metering Functions, Alarm Messages, and Programmable Threshold Levels Are Automatically Provided
- **Compatible With Novell®, 3-Com®, Banyan®, and Microsoft® Networks**
- **Add-On Battery Capability** — Optional Battery Packs Protect From Extended Power Failures
- **Cold Start Capability** — Smooth Start-Up Even If There Is No AC Line or Generator Available Prior To Blackout; Unlike Most UPS Systems
- **Two Year Warranty** (On-site for 2.2 KVA and 3.0 KVA Models)



Specifications

Input

Voltage Range: +12 to -20% of set nominal input voltage. **Frequency Range:** ±5 Hz of Nominal; 1 Hz/sec. without loss of phase lock. User programmable for narrower window to ±1 Hz. **Power Factor:** Typically 0.98 or greater, regardless of load. **Input Current Distortion:** Typically 5% or less, regardless of load. **Protection (Input Circuit Breaker):** 1.0 kVA/220-240 V_{IN} — 10 A; 1.2 kVA/110-120 V_{IN} — 15 A; 2.2 kVA/110-120 V_{IN} — 30 A; 2.2 kVA/200-240 V_{IN} — 20 A; 3.0 kVA/110-120 V_{IN} — 50 A; 3.0 kVA/200-240 V_{IN} — 30 A. **DC Input (Breaker Protected):** 1.0/1.2 kVA — 48 VDC; 2.2/3.0 kVA — 60 VDC × 2 (120 VDC). **DC Input (Amps Max. With Full Computer Load):** 1.0 kVA — 18.25 A @ 40 VDC; 1.2 kVA — 21.9 A @ 40 VDC; 2.2 kVA — 15.5 A @ 100 VDC; 3.0 kVA — 21.2 A @ 100 VDC.

Output

Waveform: Low impedance, pure sine wave with typically less than 3% THD. **Voltage Regulation:** Smooth and stepless, typically ±2%. **Frequency:** ±0.1% during AC fail. **Transfer Time:** None. True on-line inverter always runs the load whether AC is present or during AC fail. **Noise Attenuation:** >120 dB Common Mode and >60 dB Normal Mode. **Surge Attenuation/Lightning Protection:** IEEE 587 (ANSI C62.45-1991) Category B 6 kV, 3 kA spikes to less than 15 V. Category A 6 kV, 200 A spikes to less than 0.5 V common mode and less than 10 V normal mode. **Leakage Current:** 110/120 V input models have less than 500 µA to meet the leakage current requirement of UL 544. High voltage models when hardwired meet IEC 601 medical leakage current requirements. **Overload Protection:** Fused inverter is current limited, overload protected, and short circuit proof. **Available Peak Current:** AC Present — 1400% for 1/2 cycle, 700% for 1 cycle, 500% for 1 second; AC Fail — 300% peak, 150% 10 seconds, 130% 5 minutes, 110% continuous.

Battery

Type: Sealed maintenance-free, 3-5 years typical life. **Recharge Time:** Typically 8 hours.

Status Indicators and Controls

Front Panel: Output, AC Fail, and Overload LEDs 3-digit, 7-segment LED display indicates — output voltage, input voltage, output current, battery voltage, battery current, % load, line frequency, and alarm codes. Alarm silence and meter select pushbuttons. **Rear Panel:** Output enable switch, Dip switches to set voltage/frequency configurations, circuit breaker(s), and DB-9 connector for Interface. **Network Interface:** The SOLA UPS Interface provides normally open and closed contacts for AC fail and low battery. Remote off is included. Compatible with all major network and operating systems. When queried by an RS-232 signal, the network interface converts to a full-featured RS-232 interface that is ready for advanced communications and diagnostics with your system or a SOLA SNMP Remote Interface Unit. **EPO Contacts:** Normally closed contacts for Remote Emergency Power Off.

Environmental

Operating Temperature: 32° to 104°F (0° to 40°C). **Storage Temperature:** -4° to 122°F (-20° to 50°C). **Relative Humidity:** 5 to 95%, non-condensing. **Altitude:** 5000 ft. without deration. **Cooling:** Fan cooled, speed controlled. **Audible Noise:** Typically 45 dB or less.

Mechanical

Weight: 1.0/1.2 kVA — 95 lbs., Optional casters; 2.2 kVA — 210 lbs., Standard casters and leveling feet; 3.0 kVA — 240 lbs., Standard casters and leveling feet.

Approvals

110/120 V and 208 V Models: UL 1778 and 1449, CSA 107.1, and CE Mark. **200/240 V Models:** UL 1778 and 1449, CSA 107.1, TUV, and CE Mark.

Stock No.	Mfr.'s Type	KVA KW	Nominal Input Voltage	Output Voltage	Frequency (Hz)	Runtime Full Load/Half Load	Standard Back Panel Configuration		Weight (Lbs.)	EACH
							Input	Output		
92106600	700-1000-9901	1.0	220/230/240	220/230/240	50/60 ³	20/50	IEC 320-C14	Note 4	95	1799.00
92109886	700-1200-U001	1.2	110/120	110/120	50/60 ²	16/40	5-15 P	(4) 5-15 R	95	1799.00
92109887	700-2200-9901	2.2	110/120	110/120	50/60 ²	17/43	Hardwired ⁵	Hardwired ⁵	200	2799.00
92106603	700-2200-9902	2.2	200/208/220/230/240	Note 1	50/60 ³	17/43	Hardwired ⁵	Hardwired ⁵	200	2799.00
92106604	700-2200-9903	2.2	208	120-0-120	60	17/43	Hardwired ⁵	Hardwired ⁵	200	2799.00
92109888	700-3000-9901	3.0	110/120	110/120	50/60 ²	20/50	Hardwired ⁵	Hardwired ⁵	230	3499.00
92106606	700-3000-9902	3.0	200/208/220/230/240	Note 1	50/60 ³	20/50	Hardwired ⁵	Hardwired ⁵	230	3499.00
92106607	700-3000-9903	3.0	208	120-0-120	60	20/50	Hardwired ⁵	Hardwired ⁵	230	3499.00

Notes: 1. Output voltage same as input voltage, except that a low voltage output that is half the high voltage output is available. For example: When set for 230 V input, the low voltage output tap will be 115 V. For USA applications of 208 V input/output, the low voltage tap becomes 120 V. The low voltage tap is limited to 75% of the UPS kVA/kW rating. 2. UPS is easily user settable for 110 V, 50 Hz operation. UPS kVA/kW rating is derated to 83%. 3. These are true world models,

bearing the CE mark, full safety agency approvals (UL/CSA/TUV) and conformance to European normalized standards. 4. Unit requires optional receptacle panel, see options listed below. 5. Hardwired Input/Output: standard, includes conduit knock-outs. Optional output receptacle panels and optional input line cord are available.

Optional Battery Pack Runtimes In Minutes (Full Load/Half Load)

Stock No.	Mfr.'s Type	1.0 KVA	1.2 KVA	2.2 KVA	3.0 KVA	Dimensions H x W x D inches (mm)	Weight (Lbs.)	EACH
921Q1000	912-4814-01	70/165	50/135	—	—	6.8 x 9.0 x 15.6 (172 x 229 x 397)	63	449.00
921Q1005	912-4833-31	130/300	110/250	—	—	10.5 x 11.8 x 23.3 (265 x 298 x 591)	135	899.00
921Q1010	912-12014-01	—	—	90/220	60/145	9.1 x 9.0 x 30.6 (231 x 229 x 778)	144	899.00
921Q1015	912-12033-31	—	—	165/360	120/275	10.5 x 9.5 x 33.5 (265 x 239 x 851) x 2	342	1599.00

Notes: 1. Runtimes: Full load/half load in minutes. All packs are UL/CSA/TUV; and bear CE Mark. 2. 912-4833-31 and 912-12033-31 battery packs include an internal charger. 3. Charger packs are 90-137 and 160-269 V, 45-65 Hz auto-ranging input. 4. 912-12033-31: 2 boxes; total weight 342 lbs.; 21"H (534 mm) when stacked. SOLA 700 UPS is

designed for unlimited runtime. SOLA 700 battery packs can be daisy-chained for additional runtime, or custom systems can be designed for extra long runtime needs. For larger applications, SOLA Interact 5 kVA UPS (56-503-99) is available.

Advanced Network Plus UPS

400, 600 and 1000 VA; 120 V, 60 Hz, Single Phase, Isolated and Regulated, Line-Interactive UPS

Applications

- Retail/POS Terminals and Equipment
- Industrial Computers and PLCs
- LAN Equipment

- CAD/CAM Workstations
- Telecom/Datacom Equipment

Features and Benefits

- Generous Internal Battery For Extended Runtime. Over 90 Minutes For A Typical PC
- Hot Swappable Batteries. User Replaceable, Without Powering Down Critical Loads
- Low-Impedance Isolation Transformer With Neutral-Ground Bond On Output For Superior Protection Against Surges, Spikes, and EMI/RFI

- Add-On Battery Packs For Additional Protection During Extended Power Failures
- Battery Monitoring Shows Runtime Remaining and Alerts You When The Battery Is Marginal and Should Be Replaced
- "Upward Compatible" Network Interface; Communicates With All Major Networks and Operating Systems; SNMP Ready
- Standard 2 Year Warranty

Extended Runtime Power Protection For Industrial and Retail Electrical Environments

Sola's Advanced Network Plus is a patented, line-interactive, microprocessor-based UPS with an internal battery backup capacity two to three times as long as competitive units.

Specifications

Status Indicators and Controls

Controls: On/Off, Output Enable, Load Test and Alarm Silence. **Status Indicators, Visible:** Power On — Green LED; AC Fail — Yellow LED; Alarm — Red LED; Alphanumeric LED Display Indicates — Low AC Volts, % Load, Battery Time Remaining, Voltage Input, and Voltage Output. The display also provides alarm codes that indicate — Low Battery, Battery Not Present, Replace Battery, System Fail, Inverter Fail, Charger Fault, Overload Shutdown, and High Temperature Shutdown. **Audible:** Coincides with alarm code.

Mechanical

Dimensions (H x W x D) Inches (mm): Portable — 10.2 x 8.2 x 18.9 (259 x 208 x 480); Hardwired — 10.2 x 8.2 x 21 (259 x 208 x 533). **Color:** Computer white.

Output Panel

Portable: Contains 6 NEMA 5-15R receptacles. **Hardwired:** 5-position input/outputs terminal block accessible through rear junction box with knock-outs.

Environmental

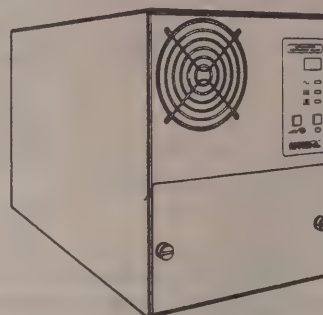
Operating Temperature: 32° to 104°F (0° to 40°C). **Storage Temperature:** -4° to 104°F (-20° to 40°C). **Humidity:** 0 to 95%, non-condensing. **Altitude:** 8000 feet. **Cooling:** Convection cooled inverter (400 VA and 600 VA). Fan cooled inverter (1000 VA).

Approvals

UL 1778 and CSA STD 107.1.FCC Class A, Canadian DOC Class A, NOVELL approved.

Warranty

Full two-year warranty. Extended warranty and service plans available.



Portable Models 120 V/60 Hz, Input and Output

Stock No.	Mfr.'s Type	VA Watts	Runtime Full Load/Half Load	Shipping Weight (Lbs.)	EACH
92109260	54-208-1-19	400/280	20 min./56 min.	63	649.00
92109265	54-210-1-19	600/400	21 min./60 min.	65	798.00
92109275	54-216-1-19	1000/600	12 min./33 min.	69	898.00

Hardwired Models 120 V/60 Hz, Input and Output

Stock No.	Mfr.'s Type	VA Watts	Runtime Full Load/Half Load	Shipping Weight (Lbs.)	EACH
92109270	54-215-1-19	600/400	21 min./60 min.	65	823.00
92109275	54-216-1-19	1000/600	12 min./33 min.	69	923.00

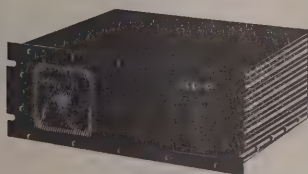
Optional Battery Packs/Runtimes (Full Load/Half Load)^{1,3}

Stock No.	Mfr.'s Type	400 VA	600 VA	1000 VA	Dimensions H x W x D Inches (mm)	Shipping Weight (Lbs.)	EACH
92101000	912-4814-01	135/315	95/215	55/132	6.8 x 9.0 x 15.6 (172 x 229 x 397)	63	449.00
92101005	912-4833-31 ²	330/690	150/426	121/275	10.5 x 11.8 x 23.3 (265 x 298 x 591)	135	899.00

Notes: ¹Runtimes: Full load/half load in minutes. All packs are UL/CSA/TÜV and bear CE Mark. ²912-4833-31 battery pack includes an internal charger. ³Charger packs are 90-137 and 160-269 V, 45-65 Hz auto-ranging input.

Advanced Network Rackmount

900 and 1300 VA Rackmount; 120 V, 60 Hz; Single Phase, Line-Interactive, Sine-Wave UPSs



Applications

- Industrial Controllers
- File Servers
- Workstations
- Telecom/Datacom Equipment

- Minicomputers
- Test Fixtures
- Robotics

Features and Benefits

- Line-Interactive Design Provides Voltage Regulation and Enhanced Surge and Noise Filtering
- Input Voltage Boost Eliminates Battery Depletion During Brownouts
- Easy To Read Display Alerts You To All UPS Functions

- Unity Power Factor Output (VA = W)
- Battery Monitoring Alerts You When The Battery Is Marginal and Should Be Replaced
- "Upward Compatible" Network Interface; Communicates With All Major Networks and Operating Systems; SNMP Ready
- Standard 2 Year Warranty

Sine Wave Power Protection For Industrial Electrical Environments

The Sola Advanced Network UPS provides a sine-wave output compatible with a wide variety of switch-mode, linear and inductive loads.

Specifications

Output

Transfer Time: Typically 2-4 ms. **Noise Suppression:** 60 dB (common and normal mode). **Surge Protection:** ANSI/IEEE C62.41 Class A and B 6000 volt spikes are safely attenuated to a low let-through of 0.3%. **Harmonic Distortion:** Less than 3% THD (from inverter). **Lightning Protection:** Suppresses ANSI/IEEE 6000 volt surges to a let-through of <0.3%.

Battery

Type: Maintenance-free lead-acid battery. **Battery Recharge Time:** 8-12 hrs. typical.

Status Indicators and Controls

Controls: On/Off, Load Test and Alarm Silence switches. **Status Indicators:** Green Output LED, red AC Fail LED and red Alarm LED. Alarm LED also flashes different patterns to indicate Battery Not Properly Charged, No Phase Lock and Inverter Overload. (See Network Interface for additional indicators).

Environmental

Operating Temperature: 0° to +40°C. **Storage Temperature:** -15° to +50°C. **Humidity:** 0 to 95%, non-condensing. **Altitude:** 0 to 8200 feet maximum. **Cooling:** Fan cooled (while operating on battery power).

Mechanical

Dimensions (H x W x D) Inches (mm): Rackmount — 7 x 19.05 x 17.05 (177.8 x 483.87 x 433.07). **Color:** Rackmount — Black.

Approvals

Listed to UL 1778 and CSA approved. Meets FCC and Canadian DOC Class "A".

Warranty

Full two-year warranty. Extended warranty and service plans available.

*900 and 1300 VA only.

120 V/60 Hz, Input and Output

Stock No.	Mfr.'s Type	VA	Runtime Full Load/Half Load	Input/Output		Shipping Weight (Lbs.)	EACH
				Plug	Receptacles		
92109502	56-350-20*	900 Rack	9 min./25 min.	5-15 P	5-15 R (qty. 4)	62	1029.00
92109510	56-352-20*	1300 Rack	9 min./25 min.	5-15 P	5-15 R (qty. 4)	89	1329.00

*Configured for 19" rackmount installation.

Network Interface

The SOLA UPS Interface provides normally open and closed contacts for AC fail and low battery. Remote Off is included. Compatible with all major network and operating systems. When queried by an RS-232 signal, the network interface converts to a full-featured RS-232 interface that is ready for advanced

communications and diagnostics with your system or a SOLA SNMP Remote Interface Unit. Sola Network Interface is standard on UPS products above.

Sola 700 Options

*All 999-XXXX-99 options are SOLA installed. Order with the UPS. Call Allied for pricing.

Required Output Panel For The 1.0 KVA UPS, Select 1*

- 999-908-01-99, French 230 V x 2
- 999-909-01-99, Schuko CEE-7 x 2
- 999-910-01-99, British 230 V/13 A x 2
- 999-911-01-99, Australian 240 V/10 A x 2
- 999-967-02-99, IEC-320-10 A x 4
- 999-978-01-99, NEMA 6-15 R x 4 (For USA 240 V Applications)

Optional Receptacle Panels: 2.2 and 3.0 KVA (Limit 2)*

- 999-1400-99, NEMA 5-15 R x 4
- 999-1401-99, NEMA L5-15 R x 4
- 999-1402-99, NEMA 5-20 R x 4
- 999-1403-99, 120 V/20 A Canada x 4 (Canada only)

Optional Receptacle Panels — Continued

- 999-1404-99, NEMA L5-20 R x 2
- 999-1405-99, NEMA L5-30 R x 2
- 999-1406-99, NEMA 6-15 R x 4
- 999-1407-99, NEMA L6-20 R x 2
- 999-1408-99, NEMA L6-30 R x 2
- 999-1409-99, NEMA L14-20 R x 2
- 999-1410-99, NEMA L14-30 R x 2
- 999-1411-99, IEC-320-10 A x 4
- 999-1412-99, IEC-320-16 A x 2
- 999-1413-99, Australian 240 V/10 A x 2
- 999-1414-99, British 230 V/10 A x 2
- 999-1415-99, Schuko CEE-7 x 2
- 999-1416-99, Blank Plate (Two are standard for hardwired)

Line Cord Options: 2.2 and 3.0 KVA*

- 999-1420-99, Line Cord L5-50 P (3.0 KVA, 120 V)
- 999-1421-99, Line Cord L5-30 P (2.2 KVA, 120 V)

Line Cord Options — Continued

- 999-1422-99, Line Cord L6-20 P (2.2 KVA, High Voltage)
- 999-1423-99, Line Cord L6-30 P (3.0 KVA, High Voltage)
- 999-1424-99, Line Cord L14-20 P (2.2 KVA, High Voltage)
- 999-1425-99, Line Cord L14-30 P (3.0 KVA, High Voltage)

Battery Packs: Optional

- 912-4814-01, 48 V 14 Ah, (For 1.0/1.2 KVA UPSs)
- 912-4833-31, 48 V 33 Ah, (For 1.0/1.2 KVA UPSs)
- 912-12014-01, 120 V 14 Ah, (For 2.2/3.0 KVA UPSs)
- 912-12033-31†, 120 V 33 Ah, (For 2.2/3.0 KVA UPSs)

†Consists of two boxes.

Optional Hardware

- 999-1440, Caster Option (1.0/1.2 KVA UPSs and Battery Packs)
- 999-1460, Maintenance Bypass Switch (2.2/3.0 KVA Hardwired Units Only; 40 A, 3-pole MBS is UL/CSA/TUV)
- 999-1450-99, IBM® AS/400® Interface (2.2/3.0 KVA Only)

UPS Software and Cabling For Computer Interface

Software packages and necessary cabling by Sola. Allows you to maintain control of your system even when your power source fails. Whether you want automatic system shutdown or monitor your systems power status, Sola has the proper UPS connectivity solution for your needs. Contact factory for specific applications for other operating systems.

BANYAN®

LANtastic®

Microsoft®

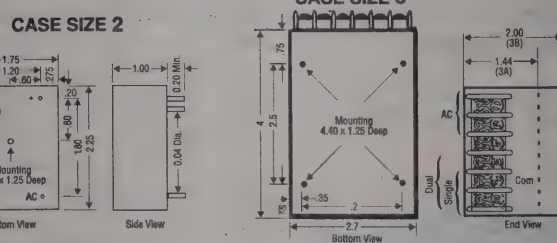
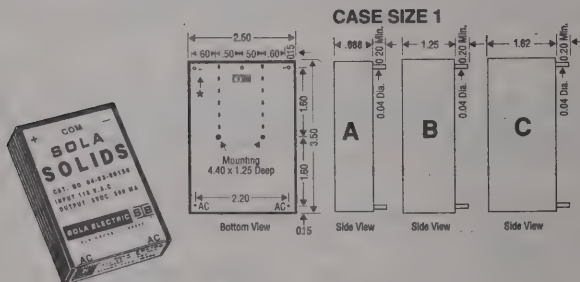
NOVELL®

3Com®

Stock No.	Mfr.'s Type	Description	EACH
921-9829	999-929	3COM cable	45.00
921-1030	999-937-01-99	Network interface option board for Interact 5 KVA	99.00
921-9620	999-938	RS-232 cable for interface with interact units	45.00
921-9733	999-939	Cable for Banyan Vines	45.00
921-1035	999-941	AS400 Cable for Interact (requires 999-937-1).	45.00
921-9735	999-942	Cable for Microsoft LanManager and Lantastic	45.00
921-9990	999-971	PowerMonII Standard UNIX on 3.5" Diskettes	149.00
921-9730	999-972	PowerMonII Standard UNIX on 1/4" Tape	179.00
921-1040	999-972-1	PowerMonII Standard UNIX on 4 mm DAT	179.00
921-1045	999-973	PowerMonII DEC VAX/VMS on TK50	299.00
921-9605	999-998	PowerMonII Novell Netware on 3.5" Diskettes	99.00
921-9901	999-1051	PowerMonII OS/2, LanManager on 3.5" Diskettes	149.00
921-1050	999-1076	SmartMon for Standard UNIX on 3.5" Diskettes	169.00
921-1055	999-1079	PowerMonII Data General-UX on 1/4" Tape	299.00
921-1060	999-1079-1	PowerMonII Data General-UX on 3.5" Diskettes	299.00
921-9903	999-1080	PowerMonII MAC System 7 on 3.5" Diskettes	99.00
921-1065	999-1081	PowerMonII Silicon Graphics IRIS on 1/4" Tape	299.00

Stock No.	Mfr.'s Type	Description	EACH
921-1070	999-1081-1	PowerMonII Silicon Graphics IRIS on 4 mm DAT	299.00
921-1075	999-1081-2	PowerMonII Silicon Graphics IRIS on 3.5" Diskettes	299.00
921-1080	999-1082	PowerMonII DEC ULTRIX on TK50	299.00
921-1090	999-1084	PowerMonII HP-UX on 16-Track tape	239.00
921-1095	999-1084-1	PowerMonII HP-UX on 4 mm DAT	239.00
921-1100	999-1084-2	PowerMonII HP-UX on 3.5" Diskettes	199.00
921-1105	999-1150	Hibernate .x86 for DOS on 3.5" Diskettes	99.00
921-1110	999-1156	PowerMonII DEC OSF/1 on TK50	299.00
921-1115	999-1156-1	PowerMonII DEC OSF/1 on 4 mm DAT	299.00
921-1120	999-1156-2	PowerMonII DEC OSF/1 on 3.5" Diskettes	299.00
921-1125	999-1156-3	PowerMonII DEC OSF/1 on CD-ROM	299.00
921-1130	999-1157	PowerMonII DEC AXP/VMS on TK50	299.00
921-1135	999-1157-1	PowerMonII DEC AXP/VMS on 9-Track tape	299.00
921-1140	999-1157-2	PowerMonII DEC AXP/VMS on CD-ROM	299.00
921-1150	999-1180	PowerMonII Microsoft Windows v3.1+ on 3.5" Diskettes	89.00
921-1195	999-1159	PowerMonII Windows NT	99.00

Solid Power Supplies



Printed Circuit Mounting

Series Regulated Solid Power Supplies are designed for printed wiring board mounting and point of use regulation. Single, dual or triple tracking outputs are available. Solid power supplies feature automatic overload protection. Operation at rated load from -25°C to 50°C ambient. Fully tested and 'burned-in' three times. **Specifications. Source (Input) Voltage:** 115 VAC ±10 VAC (50 to 400 Hz). **Output Voltage Accuracy:** ±1%. **Operating Ambient Temp.:** -25°C to 70°C. **Temp. Effect Coefficient:** 0.02% per °C. **Storage Temp.:** -25°C to 85°C. **Source (Input) Isolation:** 50 megohms. **Source (Line Regulation):** ±.05% or 2.5 mV. U.L. Recognized, CSA certified.

Single Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH	
					1-4	5-9
921-9005	84-05-150	+5 V @ 500 mA	1.0 mV rms	1A	111.00	93.00
921-9012	84-12-110	+12 V @ 100 mA	0.5 mV rms	2	70.00	59.00
921-9024	84-24-050	+24 V @ 50 mA	1.0 mV rms	2	70.00	59.00
921-9010	84-05-210	+5 V @ 1000 mA	1.0 mV rms	1B	154.00	131.00
921-9020	84-05-220	+5 V @ 2000 mA	1.0 mV rms	1C	196.00	167.00
921-9015	84-10-112	+10 V @ 120 mA	1.0 mV rms	2	70.00	59.00
921-9025	84-15-110	+15 V @ 100 mA	1.0 mV rms	2	70.00	59.00

Dual Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH
921-9212	84-12-2112	±12 V @ 120 mA	0.5 mV rms	1A	111.00
921-9213	84-12-2124	±12 V @ 240 mA	0.5 mV rms	1B	154.00
921-9221	84-12-2140	±12 V @ 400 mA	0.5 mV rms	1C	226.00
921-9215	84-15-2110	±15 V @ 100 mA	0.5 mV rms	1A	111.00
921-9216	84-15-2120	±15 V @ 200 mA	0.5 mV rms	1B	154.00
921-9217	84-15-2135	±15 V @ 350 mA	0.5 mV rms	1C	222.00

Triple Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH
921-9305	84-15-3115	±5 V @ 1000 mA ±15 V @ 150 mA	1.0 mV rms	1C	235.00
921-9310	84-15-5110	±5 V @ 500 mA ±15 V @ 100 mA	1.0 mV rms	1B	175.00

Linear Encapsulated Power Modules — Chassis Mount

The 85-Series Direct Chassis Mount Modular Power Supplies are designed for applications where printed circuit mounting is impractical or undesirable. Total epoxy encapsulation is an advantage where high vibration or adverse atmospheric conditions exist. The convenience of threaded insert mounting and terminal strip connections allows easy prototyping and efficient one-shot design work. Single, dual or triple outputs are available. 5 V outputs come with overvoltage protection, set to trip at 6.2 V nominal. Specifications for chassis mount models are the same as those for printed circuit mount models. Quantity pricing always available.

Single Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH
921-9505	85-05-210	5 V @ 1000 mA	2.0 mV	3A	177.00
921-9506	85-05-220	5 V @ 2000 mA	2.0 mV	3B	222.00
921-9500	85-05-150	5 V @ 500 mA	1.0 mV rms	3A	130.00

Dual Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH
921-9512	85-12-2140	±12 V @ 400 mA	1.0 mV	3B	244.00
921-9515	85-15-2120	±15 V @ 200 mA	1.0 mV	3A	150.00
921-9516	85-15-2135	±15 V @ 350 mA	1.0 mV	3B	244.00
921-9517	85-15-2150	±15 V @ 500 mA	1.0 mV	3B	278.00
921-9514	85-12-2124	±12 V @ 240 mA	1.0 mV rms	3A	178.00
921-9525	85-15-2110	±15 V @ 100 mA	1.0 mV rms	3A	144.00

Triple Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH
921-9530	85-15-3115	±5 V @ 300 mA ±15 V @ 150 mA	1.0 mV rms	3A	215.00
921-9535	85-15-13115	±5 V @ 1000 mA ±15 V @ 150 mA	1.0 mV rms	3B	285.00

Low Wattage Multi Output Switchers

- Features**
- High Efficiency
 - Built in EMI Filter
 - UL Recognized
 - CSA Certified
 - VDE Certified
 - Industry Standard Packages
 - Meets FCC and VDC Class A Emissions
 - 100% Burn In
 - Dual Input Voltage 115/230 VAC
 - Over Voltage Protection
 - Short Circuit Protection

- Applications**
- CRT Monitors
 - Disk Drives
 - Terminals
 - Peripheral Equipment
 - Testing Equipment
 - Microprocessor Based Systems

- Specifications Summary**
- All Unit Voltage Selectable 90-130 VAC /180-260 VAC
 - AC Input Frequency 47-63 Hz
 - 65% Efficiency Typical
 - Overcurrent Protection on all Outputs
 - 20 MS Hold Uptime @ Full Load
 - MTBF Greater than 50 k hrs. @ Full Load
 - In Rush Current: 60 Amps @ 115 VAC; 8 Amps @ 230 VAC Typical

Designed to provide the industry with a quality power supply at competitive prices.

40 Watt Models

Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Output 4	Dimensions (In.) Max.	EACH
921-9100	86-30040-41	5 V @ 3.5 A	12 V @ 2 A/3	-12 V @ 1 A	—	6.30L x 3.94W x 2.40H	80.00
921-9110	86-40040-33	5 V @ 3.0 A	12 V @ 1.0 A	-12 V @ 1.0 A	-5 V @ .5 A	5.93L x 3.83W x 2.40H	79.00

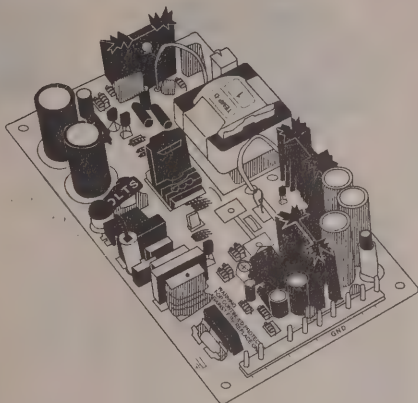
50 Watt Models

921-9145	86-30050-62	5 V @ 6.0 A	12 V @ 1.0 A	-5 V @ .5 A	—	7.75L x 4.25W x 2.40H	81.00
921-9155	86-40050-54*	5 V @ 5.0 A	-5 V @ .25 A	15 V @ 1 A	-15 V @ 1 A	5.93L x 3.83W x 2.40H	84.00

80 Watt Model

924-9175	86-40080-81	5 V @ 8.0 A	12 V @ 1.2 A	12 V @ 2.5 A†	-12 V @ 6 A	8.25L x 4.25W x 2.10H	117.00
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*VDE Certified. †5.0 PK.



40 Watt Single Output Switchers

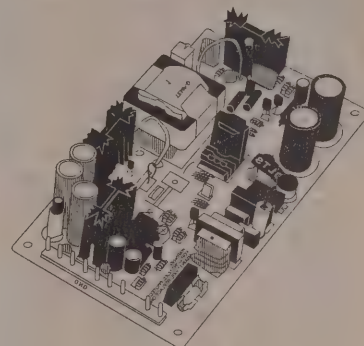
- Features**
- High Efficiency
 - Built in EMI Filter
 - UL Recognized
 - CSA Certified
 - TUV Certified
 - Industry Standard Packages
 - 100% Burn In
 - Universal Input
 - Over Voltage Protection on +5 V Outputs
 - Short Circuit Protection
 - On Board Line Fuse

- Applications**
- CRT Monitors
 - Disk Drives
 - Terminals
 - Peripheral Equipment
 - Testing Equipment
 - Microprocessor Based Systems

- Specifications Summary**
- 85-264 VAC/120-370 VDC
 - Input Frequency DC to 440 Hz
 - 65% Efficiency Typical
 - Overcurrent Protection on all Outputs
 - 16 MS Hold Uptime @ Full Load
 - MTBF Greater than 50 k hrs. @ Full Load
 - In Rush Current: 60 Amps @ 115 VAC; 30 Amps @ 230 VAC Typical

Designed to provide the industry with a quality power supply at competitive prices.

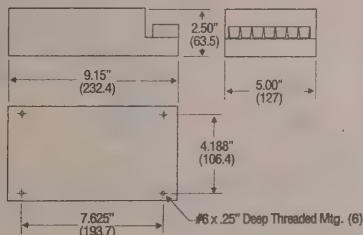
Stock No.	Mfr.'s Type	Output 1	Dimensions (In.) Max.	EACH
921-9971	GLS-05-080	5 V @ 8.0 A	5.00L x 3.00W x 1.20H	91.00
921-9972	GLS-12-036	12 V @ 3.5 A	5.00L x 3.00W x 1.20H	91.00
921-9973	GLS-15-027	5 V @ 3.0 A	5.00L x 3.00W x 1.20H	91.00
921-9974	GLS-24-018	24 V @ 2.0 A	5.00L x 3.00W x 1.20H	91.00



Single Output Switchers



Open Frame Shown



- Overvoltage Protection**
► Automatic Overload Protection
► 10 mS Holdup Time Minimum at 100 VAC Input
► UL Recognized, CSA Certified

- 240 Watt Model Is VDE Certified**
► Remote Sense
► Soft Start
► Warranted for One Full Year

Input
Input Voltage: Limit — 90-132 VAC, 180-264 VAC, User Selectable. **Input Frequency:** Limit — 47-400 Hz, Single Phase.
Input Protection: Limit — External Fuse Required. **Inrush Current:** Condition — 115 VAC; Limit — 16 Amperes Peak.

Output
Regulation Line and Load: Limit — .25%. **Holdup Time:** Condition — 100 VAC/Full Load; Limit — 10 mS Minimum.
Output Overshoot: Condition — Turn On/Off; Limit — 2%. **Overvoltage Protection:** All models. **Output Ripple:** Condition — Full Rated Load; Limit — 0.3% RMS Total.

General
Operating Temp.: Condition — Full Rated Load; Limit — 0 to 40°C. **Storage Temp.:** -40 to 85°C. **Efficiency:** Condition — Full Rated Load; Limit — 65% Minimum. **MTBF:** Condition — Per MIL-HDBK 217D; Limit — 50,000 Hours.
Vibration: Condition — Designed to Meet MIL-STD-810D, Method 514.3, Category 1, Procedure I. **Shock:** Designed to Meet MIL-STD-810D, Method 516.3, Procedure II.

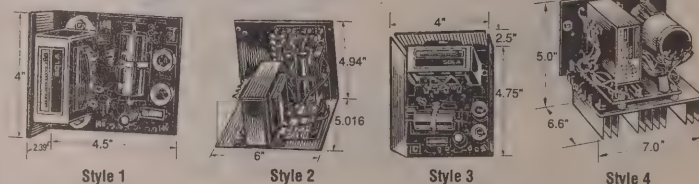
Enclosed Frame

Stock No.	Mfr.'s Type	Output	EACH
921-9802	86-05-325	5 V @ 25 A	194.00
921-9803	86-12-312	12 V @ 12.5 A	181.00
921-9804	86-13-310	13.8 V @ 10 A	204.00
921-9805	86-15-310	15 V @ 10 A	181.00
921-9806	86-24-262	24 V @ 6.25 A	181.00

Open Frame

921-9807	86-24-310*	24 V @ 10 A	259.00
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Regulated Linear Single Output



- Convection Cooled**
► Complete Serviceability

- Constant Voltage**
► Overvoltage Protection Available

Low cost DC power supplies give you a precise integrated circuit regulator with superior drift characteristics. Features short circuit protection, automatic foldback current limiting, automatic reset, and isolated, floating output. Low noise and ripple (part). Designed for both bench and rack use.

Input
Input Voltage: Limit — 104-127 VAC, 208-254 VAC. **Input Frequency:** Limit — 50-400 Hz.*

Output
Source and Load Effect Combined: Limit — Regulation Line and Load; Limit — ±0.1%. **Pard (Ripple and Noise):** Limit — 0.1% pk/pk. **Periodic Deviations (ripple):** Limit — 10 mv RMS. **Output Voltage Adjustment:** Limit — ±5% Minimum. **Overvoltage Protection:** Limit — Available for all models as an option. Provides both transient and power supply malfunction protection. **Transient Recovery time:** Condition — (1/2 L to FL); Limit — Less than 20µ Sec.

General
Storage Ambient Temp.: Limit — -40°C to +85°C. **Operating Ambient Temp.:** Limit — 0°C to +55°C. **Temp. Effect Coefficient:** Limit — 0.03%/°C. **Polarity:** Limit — May be used positive or negative. **Short Circuit Protection:** Limit — Protected with automatic recovery. **Max. Allowable Lead Drop For Remote Sensing:** Limit — 5%. **Max. Output Current:** Limit — 120% rated current. **Max. Short Circuit Current:** Limit — 30% rated current. **Input/Output Isolation:** Limit — 1000 Megohms D.C., 2500 VAC.

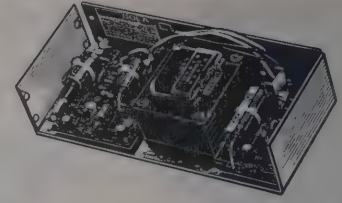
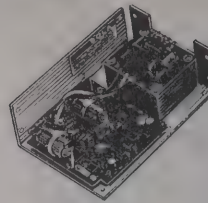
*Derate load to 75% for 400 Hz operation. Specifications are typical, contact factory for more information.

Stock No.	Mfr.'s Type	DC Output		Chassis Style	EACH
		Volts	Amps		
921-6400	81-05-230-2	5	3.0	1	57.00
921-9910	81-12-215-2	12-15	1.5-1.2	1	57.00
921-9421	81-24-180-2	24	0.8	1	54.00
921-9930	83-05-230-3	5	3.0	3	64.00
921-6445	83-12-218-3	12	1.8	3	64.00
921-6450	83-15-216-3	15	1.6	3	64.00
921-6465	83-24-212-3	24	1.2	3	60.00
921-4851	83-05-260-3	5	6.0	2	131.00
921-6511	83-12-250-3	12	5.0	2	131.00
921-8004	83-15-240-3	15	4.0	2	131.00
921-4853	83-24-225-3	24	2.5	2	122.00
921-8002	83-05-312-3	5	12.0	4	194.00
921-8006	83-12-310-3	12	10.0	4	194.00
921-8011	83-15-280-3	15	8.0	4	194.00
921-8020	83-24-260-3	24	6.0	4	194.00

SOLA Silver Line Linears

- Features**
- ▶ Tight Regulation, 0.10% Line and Load Combined
 - ▶ Full Output Ratings to 50C
 - ▶ Built-In OVP on 5V Models (Optional on 12 V, 15 V, 24 V)
 - ▶ Foldback Current Limiting
 - ▶ 100% Four-Hours Burn-In
 - ▶ Warranted for 2 Full Years
 - ▶ UL Recognized, CSA and TÜV Certified
 - ▶ These Models Are Form, Fit and Function Replacement for Most Major Manufacturers

- Specification Summary**
- ▶ Input AC Voltage Selectable 100/120/220/230/240
 - ▶ Input Frequency: 47 to 63 Hz
 - ▶ Ripple: 3.0 mV Maximum p-p
 - ▶ D.C. Output Adjustment: $\pm 5\%$ Minimum
 - ▶ Transient Response Time: 50 μ Sec. for 50% Load Changes
 - ▶ Remote Sensing
 - ▶ Operating Temperature: 0 to $+50^{\circ}\text{C}$
 - ▶ EM/RFI Meets FCC Class B and VDE 0871 for Class B
 - ▶ Shock/Vibration Per MIL-STD-810C



Stock No.	Mfr.'s Type	Output	Dimensions (In.)	EACH
921-9300	SLS-05-030-1	5 V @ 3 A	4.84 x 3.99 x 2.07	42.00
921-9455	SLS-05-060-1	5 V @ 6 A	5.62 x 4.87 x 2.95	64.00
921-9460	SLS-05-090-1	5 V @ 9 A	7.00 x 4.87 x 3.30	99.00
921-9315	SLS-05-120-1	12 V @ 12 A	9.00 x 4.87 x 3.30	116.00
921-9320	SLS-12-017*	12 V @ 1.7 A	4.84 x 3.99 x 2.07	42.00
921-9325	SLS-12-034	12 V @ 3.4 A	5.62 x 4.87 x 2.95	60.00
921-9330	SLS-12-051	12 V @ 5.1 A	7.00 x 4.87 x 3.30	88.00
921-9335	SLS-12-068	12 V @ 6.8 A	9.00 x 4.87 x 3.30	130.00
921-9345	SLS-15-045	15 V @ 4.5 A	7.00 x 4.87 x 3.30	88.00
921-9350	SLS-15-060	15 V @ 6 A	9.00 x 4.87 x 3.30	124.00
921-9355	SLS-24-012	24 V @ 1.2 A	4.84 x 3.99 x 2.07	42.00
921-9360	SLS-24-024	24 V @ 2.4 A	5.62 x 4.87 x 2.95	60.00
921-9365	SLS-24-036	24 V @ 3.6 A	7.00 x 4.87 x 3.30	88.00
921-9961	SLS-24-048	24 V @ 4.8 A	9.00 x 4.87 x 3.30	118.00

*Adjustable to 15 volts.

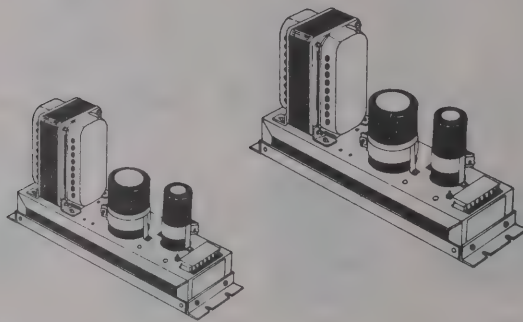
Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Dimensions (In.)	EACH
921-9670	SLD-12-1010-12*	12 V @ 1 A*	-12 V @ 1 A*		6.50 x 4.00 x 2.07	52.00
921-3575	SLD-12-1818-12*	12 V @ 1.8 A*	-12 V @ 1.8 A*		7.00 x 4.87 x 2.95	72.00
921-9380	SLD-12-3434-12	12 V @ 3.4 A	-12 V @ 3.4 A		9.00 x 4.87 x 3.30	101.00
921-9395	SLD-15-3030-15	15 V @ 3 A	-15 V @ 3 A		9.00 x 4.87 x 3.30	101.00
921-9400	SLD-12-6034-05	5 V @ 6 A	12 V @ 3.4 A		9.00 x 4.87 x 3.30	108.00
921-9405	SLD-12-3015-05	5 V @ 3 A	12 V @ 1.5 A		7.00 x 4.87 x 2.95	76.00
921-9410	SLT-12-20404-12	5 V @ 2 A	12 V @ 4 A*	-12 V @ 4 A*	6.50 x 4.00 x 2.07	64.00
921-9415	SLT-12-31010-12	5 V @ 3 A	12 V @ 1 A*	-12 V @ 1 A*	10.25 x 4.00 x 2.95	85.00
921-9420	SLT-12-61010-12	5 V @ 6 A	12 V @ 1 A*	-12 V @ 1 A*	9.00 x 4.87 x 3.30	108.00
921-9425	SLT-12-61818-12	5 V @ 6 A	12 V @ 1.8 A*	-12 V @ 1.8 A*	11.00 x 4.87 x 3.30	116.00
921-9430	SLT-24-30530-05	5 V @ 3 A	-5 V @ 5 A	-24 V @ 3 A	11.00 x 4.87 x 3.30	131.00

Overvoltage Protectors (OVP)

921-9435	SLO-12-000-1†	6.2 V to 34 V†		1.50 x 1.55 x 0.56	10.00
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†Adjustable @ 8 A.

CVDC Series Regulated Constant Voltage Supplies



- Features**
- ▶ Isolated Output
 - ▶ Short Circuit Protected
 - ▶ Operating Temperature at 50°C
 - ▶ MTBF Greater Than 300,000 Hours
 - ▶ High Efficiency
 - ▶ Warranted for One Full Year
 - ▶ UL Recognized, CSA Certified

- Applications**
- ▶ Process Controls
 - ▶ Drives
 - ▶ Telecommunications

Rugged, simple and dependable power supplies in both modular and rack-mount styles. Units contain a constant voltage transformer, rectifier and filter circuit, and provide tight regulation, quick response isolation and current limiting.

Specifications

Input
Input Voltage: 100 to 130 VAC 60 Hz.

Output
Source Frequency Effect: Actual variation is approximately 1.4 percent voltage change for a 1 percent frequency increase or decrease. Line Regulation: $\pm 1\%$. Load Regulation: $\pm 5\%$ ($1/2$ FL to FL). Periodic Deviations (Ripple): 1% RMS of output. Ripple — Telecommunications Models: 35 dBm C (15 mV RMS). Response Time: 25 msec.

General
Efficiency @ Full Load: 80% to 90%. Operating Ambient Temp.: 0°C to 50°C . Current Limit: 250% rated current.

Rack-Mount Style

Single phase. Standard 19" rack mount. PARD is 1% of output voltage.

100-130 VA 60 Hz Input Source

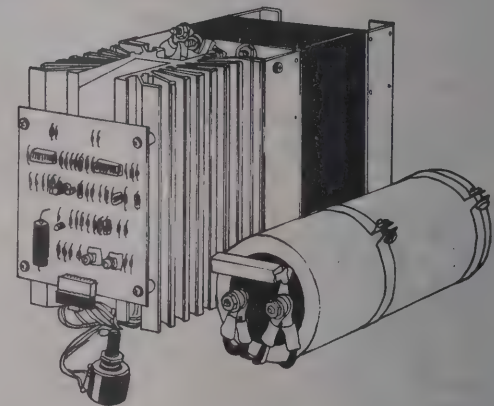
Stock No.	Mfr.'s Type	DC Output			% Load Regulation		Panel Size (In.)		Mtg. Ctrs. (In.)	Approx. Shp. Wt. (Lbs.)	EACH
		V	A	VA	20% f.l.	50% f.l.	Height	Depth			
921-9953	28-1024-1	24	6	144	6	4.0	5 1/4	9 9/4	2 1/4	30	485.00
921-9954	28-2126-1	24	10	240	6	4.0	5 1/4	8 3/4	2 1/4	48	536.00
921Q9955	28-1203-2	24	15	360	7	5.0	7	8	4	64	575.00
921Q9956	28-2127-1	24	25	600	7	5.0	8 3/4	9 9/4	5 3/4	72	746.00

CVDC For Telecommunications Applications

Low Output Noise Level (Ripple): 35 dBmC (15 mV RMS). Input Source: 100-130/200-260 VAC 60 Hz.

921-2142	28-2233	48	10	480	5	3.0	5 1/4	9 3/4	2 1/4	53	545.00
921Q2143	28-2234	48	20	960	5	3.5	8 3/4	9 3/4	5 3/4	100	768.00

Copperline High Power Adjustable DC Power Supply



- Features**
- ▶ Universal 120/240 VAC, 50/60 Hz Input
 - ▶ Single Supply for Multiple Applications
 - ▶ Parallel Operation for Increased Power Output
 - ▶ UL Recognized, CSA Certified
 - ▶ Reliable SCR Design
 - ▶ Warranted for One Full Year
 - ▶ Adjustable Voltage From 2 to 50 Volts
 - ▶ Can Be Paralleled for More Power
 - ▶ Adjustable Constant Current From 0 to 100%

- Applications**
- ▶ Engineering Bench Supply
 - ▶ Slot Power Supply
 - ▶ Telecommunications
 - ▶ Manufacturing Test Applications
 - ▶ Automotive Product Testing
 - ▶ DC Motor Drives
 - ▶ Relay and Solenoid Drives

Copperline supplies can be used in either a constant voltage or constant current mode. The Copperline offers such features as a single supply to be used in applications where separate supplies are required for each output voltage. Three phase operation for high current, low ripple operation may be achieved by connecting three Copperline power supplies to three different phases and connecting the power supply outputs in parallel. Large filter capacitors provide low noise operation over a wide line range. Panel mounted voltage control provided AC.

Specifications

Input
Input Voltage: 105-130/210-260 VAC (user selectable). Input Frequency: 47-63 Hz. Input Protection: Ext. slow-blow fuse required.

Output
Line Regulation: 0.1% or 50 mV. Load Regulation: 0.1% or 50 mV. Output Ripple @ Full Rated Load: 1.0% or 50 mV RMS max.

Controls
Current Limit Adjust: 0-100%. Output Volt Adjust: 10-100% coarse adjust (may be mounted remotely). Fine adjust fine tunes output for no load and full load conditions.

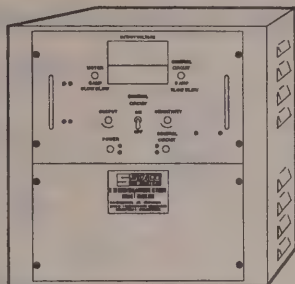
General
Operating Temp. @ Full Rated Load: 0 to 50°C . Storage Temp. @ Full Rated Load: -20 to 70°C . Efficiency @ Full Rated Load: 75%. Vibration: Designed to meet MIL-STD-810D, Method 514.3, Category 1, Procedure 1. Shock: Designed to meet MIL-STD-810D, Method 516.3, Procedure III.

Stock No.	Mfr.'s Type	Power (Watts)	DC Output		Dimensions (In.)				EACH
			Volts	Amps	Length	Width*	Height	Wt	
921-9407	39-407	300	5-50/2-25	6/12	11.00	6.75	7.66	23	549.00
921-9408	39-408	600	5-50/2-25	12/24	12.00	6.75	7.66	30	699.00
921Q9409	39-409	1200	5-50/2-25	24/48	14.00	10.00	11.12	73	1177.00

*Includes capacitor.

Power Line Conditioners

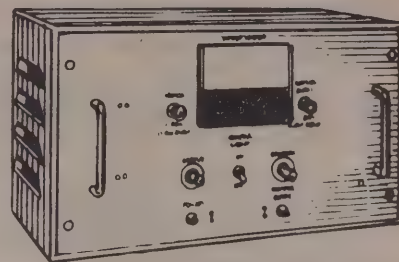
PLC Series Power Line Conditioners utilize the automatic voltage regulator technologies with a double shielded isolation transformer for precise regulation and good clean power. PLC filters common and transverse mode noise along with transient suppression. Single and three phase designs with less than 1% THD and efficiencies of 99%.



Stock No.	Mfr.'s Type	KVA	Input Voltage +10%/-20%	Weight Lbs.	EACH
927Q8000	PLC12020	2.4	120	119	4432.00
927Q8010	PLC12114	13.7	120	299	7103.00
927Q8015	PLC24036	8.6	240	265	7100.00
927Q8020	PLC24130	31.2	240	505	10910.00
927Q8025	PLC20070Y	25.0	208	922	10120.00
927Q8030	PLC20277Y	100.0	208	2004	22962.00
927Q8035	PLC48030Y	25.0	480	922	10450.00

Automatic Voltage Regulators

Precise voltage regulation with no distortion. Single and three phase units from 2.3KVA to 1500KVA with output voltage accurately regulated to $\pm 0.75\%$. For line frequencies 47 through 63Hz. Solid State sensing, voltmeter, pilot light, output level set point. Transient suppressor and isolation transformer are options for power condition and noise suppression.



Stock No.	Mfr.'s Type	Input Range	KVA	Wt.	EACH
927Q0100	AVR12020	95-135	2.3	54	3057.00
927Q0102	AVR12057	95-135	6.6	87	3285.00
927Q0104	AVR12114	105-125	13.0	90	3657.00
927Q0106	AVR12144	95-135	16.6	258	5457.00
927Q9948	AVR24093	195-255	21.4	253	5497.00
927Q0128	AVR48148Y	420-500	118.0	841	10250.00
927Q0107	AVR48230Y	445-495	180.0	1250	12000.00

Rack Mount is available, Individual Three Phase Line Control is available.

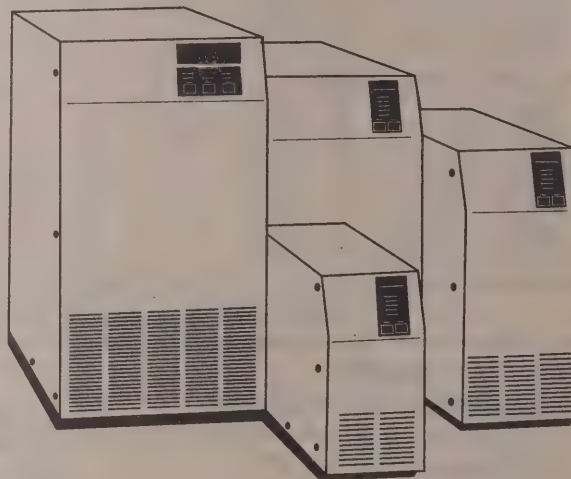
Staco True On-Line Uninterruptible Power Supplies

- On-Line Protection from Sags, Surges, Spikes, Brownouts and Blackouts
- PMW Sinewave
- Static Transfer Switch
- Make-Before-Break Maintenance Bypass Switch
- Dual Voltage Output (5 KVA and 10 KVA only)
- Fully Isolated
- No Switching Time
- Network Communication
- IBM AS400 Interface

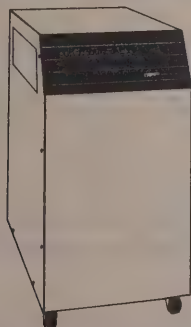
"U" Series are True On-Line, double conversion, regenerated, regulated uninterruptible power supplies. Additional external batteries can be added for extended run times and a Remote Status Panel is available. Standard Run time batteries included in all models. Rack mount available for 1 KVA.

Stock No.	Mfr.'s Type	KVA	Wt.	EACH
927Q9100	U1001	1	120	1810.00
927Q300X	U300X*	3	300	4150.00
927Q900X	U500X*	5	525	5917.00

*X = Input Voltages (2=208, 3=220, 4=230), Output Voltages (120/208/240).



Staco Line Conditioners (Single Phase)



SPP

Used On

- Word Processor
- Electronic Cash Registers
- POS Terminals
- EDP Systems
- CAD Systems
- Medical Equipment
- Mini Computers
- Computer Graphs
- Telecommunications
- Security Systems

"SPP" Series are multi-shielded isolation, tap switching transformer conditioners with zero-current switching technology for optimum performance. These units provide $\pm 4\%$ output voltage regulation, quiet operation EMI filtering, remote emergency power off, bypass switch, circuit breakers, choice of output receptacles and noise attenuation. (140 dB common, 60 dB normal). Three phase is available.

Stock No.	Mfr.'s Type	Input Service	Input Volts	Output Volts	KVA	Input Connection	Wt.	EACH
927Q9952	SPP2052	30A		120/240	5.00	Cord & Plug	190	3277.00
927Q9953	SPP2053	30A		120/208	5.00	Cord & Plug	190	3277.00
927Q2082	SPP2082	50A	208	120/240	8.00	Cord & Plug	240	3404.00
927Q2083	SPP2083	50A	or	120/208	8.00	Cord & Plug	240	3404.00
927Q2102	SPP2102	60A	220	120/240	10.00	Hardwired	265	4094.00
927Q2103	SPP2103	60A	or	120/208	10.00	Hardwired	265	4094.00
927Q2152	SPP2152	90A	240	120/240	15.00	Hardwired	300	4560.00
927Q2153	SPP2153	90A		120/208	15.00	Hardwired	300	4560.00

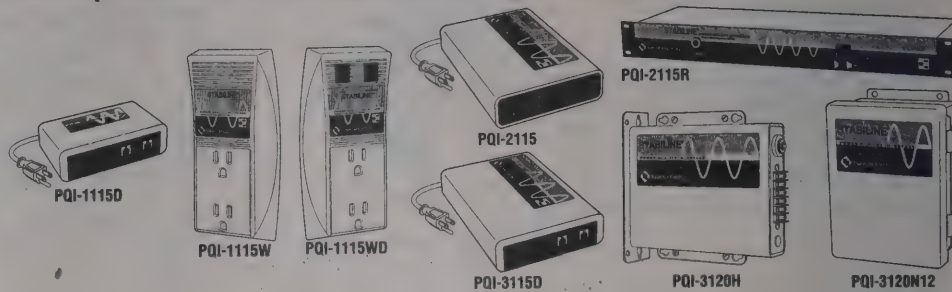
SPP units shown are standard with a 5-20R2 receptacle. Optional receptacles (up to 5 more and in any configuration) are available by special order. Options of systems status monitor/RPO and repo only are also available as specials. Contact your Allied sales office for pricing.

PQI Series STABILINE® Power Quality Interfaces (Transient Voltage Suppressors/RFI Filters)

- ▶ Attractive, Office/Home, Lightweight ABS Plastic Housings
- ▶ Choose from 29 Models
- ▶ Wall Mount, Desktop, 19-Inch Rack Mount, NEMA 12 and Industrial Hardwired Models Available

PQI Series units are transient voltage suppressors/RFI filters that divert and attenuate all modes of power disturbances before they reach the circuitry of sensitive electronic equipment. All North American types are UL 1449 listed (clamping level 330 V) and CSA certified. All types are covered by a 10-year warranty.

The unique, performance-proven, multi-stage suppression and filtration design is state-of-the-art and utilizes MOVs, gas tubes, filter capacitors, inductors and silicon avalanche diodes depending upon the model selected. Users have a choice of "good" Series 1000, "better" Series 2000 and "superior" Series 3000 performance levels. Types with "D" suffixes have two RJ11 modular jacks with telephone line transient suppression for use with fax/modems.



Series 1000 — Good Performance

Stock No.	Mfr.'s Type	UL & CSA	Style	Power System Config.	Nominal Voltage	Max. Amps	Input Plug Style	AC Output Receptacles		Data Line		Circuit Breaker	On/Off Light	Approx. Weight Lbs. (kg)		EACH
								Qty.	Style	Qty.	Style			Net	Shipping	
645Q9800	PQI-1115	Yes	Desktop	1	120	15	5-15P	4	5-15R	—	—	Yes	No	1.50 (0.7)	1.90 (0.9)	55.00
645Q9802	PQI-1115D	Yes	Desktop	1	120	15	5-15P	2	5-15R	2	RJ11	No	No	1.50 (0.7)	1.90 (0.9)	59.00
645Q9804	PQI-1115P6	Yes	Desktop	1	120	15	5-15P	6	5-15R	—	—	Yes	No	1.50 (0.7)	1.90 (0.9)	59.00
645Q9806	PQI-1115W	Yes	Wall Mount	1	120	15	5-15P	2	5-15R	—	—	No	No	1.50 (0.7)	1.90 (0.9)	36.00
645Q9808	PQI-1115WD	Yes	Wall Mount	1	120	15	5-15P	2	5-15R	2	RJ11	No	No	1.50 (0.7)	1.90 (0.9)	38.00

Series 2000 — Better Performance

645Q9810	PQI-2115	Yes	Desktop	1	120	12	5-15P	4	5-15R	—	—	Yes	Yes	3.00 (1.4)	3.60 (1.6)	99.00
645Q9812	PQI-2115D	Yes	Desktop	1	120	15	5-15P	2	5-15R	2	RJ11	No	Yes	3.00 (1.4)	3.60 (1.6)	119.00
645Q9814	PQI-2310	No	Desktop	3	230	10	IEC320	3	IEC320	—	—	Yes	Yes	3.00 (1.4)	3.60 (1.6)	179.00
645Q9816	PQI-2115R	Yes	Rack Mount	1	120	15	5-15P	8	5-15R	—	—	Yes	Yes	2.75 (1.2)	3.35 (1.5)	209.00
645Q9818	PQI-2310R	No	Rack Mount	3	230	10	IEC320	6	IEC320	2	RJ11	Yes	Yes	2.75 (1.2)	3.35 (1.5)	289.00

Series 3000 — Superior Performance

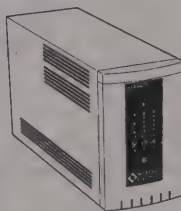
645Q9820	PQI-3115	Yes	Desktop	1	120	12	5-15P	4	5-15R	—	—	Yes	Yes	3.00 (1.4)	3.60 (1.6)	139.00
645Q9822	PQI-3115D	Yes	Desktop	1	120	15	5-15P	2	5-15R	2	RJ11	No	Yes	3.00 (1.4)	3.60 (1.6)	149.00
645Q9824	PQI-3120	Yes	Desktop	1	120	20	5-20P	1	5-20R	—	—	No	Yes	3.40 (1.5)	4.00 (1.8)	159.00
645Q9826	PQI-3120L	Yes	Desktop	1	120	20	L5-20P	1	L5-20R	—	—	No	Yes	3.40 (1.5)	4.00 (1.8)	219.00
645Q9828	PQI-3220	Yes	Desktop	2	240	20	L6-20P	1	L6-20R	—	—	No	Yes	3.40 (1.5)	4.00 (1.8)	199.00
645Q9830	PQI-3220L	Yes	Desktop	2	240	20	L6-20P	1	L6-20R	—	—	No	Yes	3.40 (1.5)	4.00 (1.8)	268.00
645Q9832	PQI-3120H	Yes	Hardwired	1	120	20	Screw Terminal	Yes	Screw Terminal	No	—	Yes	Yes	3.40 (1.5)	4.00 (1.8)	179.00
645Q9834	PQI-3120N12	Yes	NEMA 12	1	120	20	Screw Terminal	Yes	Screw Terminal	No	—	No	No	6.50 (3.0)	7.50 (3.4)	229.00
645Q9836	PQI-3220N12	Yes	NEMA 12	2	240	20	Screw Terminal	Yes	Screw Terminal	No	—	No	No	6.50 (3.0)	7.50 (3.4)	269.00
645Q9838	PQI-3315N12	No	NEMA 12	3	230	15	Screw Terminal	Yes	Screw Terminal	No	—	No	No	6.50 (3.0)	7.50 (3.4)	269.00

Power System Configurations:
 1 — Designed for 120 V Line to Neutral connection. It is intended for use on power systems with 0 V Neutral to Ground and 120 V Line to Ground.
 2 — Designed for 208-240 V Line to Line connection. It is intended for use on power systems with 120-140 V from each Line to Ground.
 3 — Designed for 220-240 V Line to Neutral connection. It is intended for use on power systems with 0 V Neutral to Ground and 220-240 V Line to Ground.

SL Series STABILINE® Uninterruptible Power Supplies

- ▶ Serial Communication Capabilities with Extensive (Optional) Power Monitoring Software
- ▶ UL 1778 Listed and CSA Certified
- ▶ 95% On-Line Efficiency
- ▶ Unique "Battery Sleep" Feature for Prolonged Battery Life

SL Series units are feature-rich, advanced solutions for today's demanding power quality requirements and provide ideal protection for every kind of mission-critical electronic load. They are offered in six models with power ratings between 400 to 2000 VA for user selectable 110, 120 or 127 VAC, 60 Hz operation.

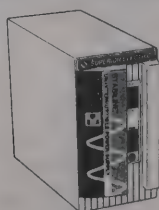


SL Series units are compact and manageable, easy to transport, install and operate. There are no complex instructions and few simple operations to perform. A "boost/buck" tap system is used for tight output regulation control over chronic low or high input voltage conditions. Bidirectional surge diverting/filtering circuitry is used for protection of electrical noise generated from either the AC input or the protected load. Advanced battery management technology is utilized to prolong battery life, speed recharge times and provide advance notice of impending battery service. The ergonomically designed front panel features a self-diagnostic routine of start-up and indicators for site wiring fault, battery service, communication operation, input line condition, battery and percent load levels. Models for 50 Hz operation are also available on request.

Input Voltage Range: ±20% of nominal with a user-selectable extended range of ±25% available. **Nominal Operation:** User selectable, 110, 120 or 127 VAC, via dip-switch selection. No power is drawn from the internal batteries as long as the utility is within the voltage range. **Output Voltage Range:** Utility operation — -10%, +6% of nominal; Battery operation — +5%. In the extended operating input voltage range mode (±25%), the output voltage under utility operation is -15%, +10%.

Stock No.	Mfr.'s Type	AC Input (Single Phase)			Output 120 VAC Operation					Battery Backup†		Approx. Weight Lbs. (kg)		EACH
		AC Voltage	Max. Amps	Hz	Utility Operation	Battery Operation	Max. Amps @ 0.87 P.F.	Max. VA	Max. Watts	Full Load	Half Load	Net	Shipping	
645Q9844	SL 400	96-144	3.7	57-63	108-127	111-123	3.3	400	267	10	30	25 (11.3)	28 (12.7)	395.00
645Q9846	SL 600	96-144	5.5	57-63	108-127	111-123	5.0	600	400	5	20	25 (11.3)	28 (12.7)	495.00
645Q9848	SL 1000	96-144	8.5	57-63	108-127	111-123	8.3	1000	667	10	30	54 (24.5)	59 (26.7)	695.00
645Q9850	SL 1600	96-144	12.0	57-63	108-127	111-123	12.0	1440	960	5	20	54 (24.5)	59 (26.7)	875.00
645Q9852	SL 2000*	96-144	16.0	57-63	108-127	111-123	16.0	1920	1281	10	30	28 (12.7)	33 (15.0)	1495.00
645Q9854	SL 2200*	96-144	19.0	57-63	108-127	111-123	18.3	2200	1467	5	20	28 (12.7)	33 (15.0)	1595.00

*The SL BAT48 External Battery Pack is required and included with SL 2000 and SL 2200 models. SL BAT48 is shipped separately. Approximate Weight Lbs. (kg): Net — 65 (29.5); Shipping — 70 (31.8). †Internal Battery Backup (Min.)



SP Series STABILINE® Standby Power Supplies

SP Series STABILINE® Standby Power Supplies provide the most cost-effective, compact and efficient power quality solution for PCs, workstations, POS systems, cash registers and any other electronic device by instantly switching to battery power when an AC power outage occurs. North American types are UL 1778 listed and CSA certified.

SP Series types utilize economical synthesized sine wave (step wave) output technology and come complete with audible and visual alarms and optional (400 VA model only) computer interface software for Novell, UNIX and other platforms. Like the STABILINE® SL Series, all SP Series units incorporate advanced battery management features to ensure prolonged battery life, speedy recharge time and advance notification of impending battery service requirements. Models for 50 Hz operation are also available on request.

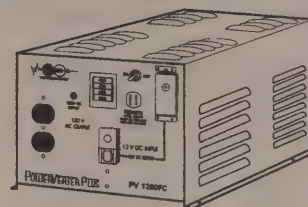
Models are UL 1778 and UL 1449 Listed and CSA Certified. **Transfer Time to Inverter:** 2 ms typical, 4 ms max. **Transfer (Low Line) Voltage to Battery:** User selectable for 88, 93, 95 and 103 VAC operation. Units shipped for 103 VAC operation. †Internal Battery Backup (Min.)

Stock No.	Mfr.'s Type	AC Input (Single Phase)			Output 120 VAC Operation					Battery Backup†		Approx. Weight Lbs. (kg)		EACH
		AC Voltage	Max. Amps	Hz	Battery Operation		Max. Amps	Max. VA	Max. Watts	Full Load	Half Load	Net	Shipping	
645Q9840	SP 250	103-145	2.8	57-63	108-121	58-62	2.1	250	250	5	20	13 (5.9)	15 (6.8)	155.00
645Q9842	SP 400	103-145	4.8	57-63	109-121	58-62	3.3	400	400	5	20	15 (6.8)	17 (7.7)	245.00

PowerVerter Series DC to AC Inverters

Solid state power inverters convert 12 V battery DC into 120 VAC (60 Hz). Simply plug your household appliances into your inverter for convenient power anywhere. **PowerVerter** models operate most household appliances and are an economical solution to your mobile power needs. **PowerVerter Plus** models are frequency-controlled to protect sensitive equipment such as tape recorders, test equipment or computer systems. They also provide 200% of rated output for heavy start up loads.

Stock No.	Mfr.'s Type	Input Volts (DC)	Max. Output Watts (STD/Peak)	Size H x W x D (In.)	Weight (Lbs.)	EACH
575-9925	PV 125	12	125/175	3 1/2 x 3 1/2 x 5 3/4	3	80.00
575-1020	PV 200	12	200/300	3 1/2 x 7 x 5	6	99.00
575-1045	PV 400	12	400/600	3 1/2 x 7 x 8	10	149.00
575-8600	PV 400/24	24	400/600	4 x 4 x 7	10	185.00
575-1070	PV 550	12	550/800	5 x 9 1/2 x 9	17	219.00

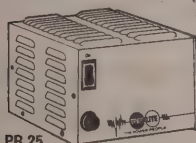


PowerVerter Plus Frequency-Controlled DC to AC Inverters

Stock No.	Mfr.'s Type	Input Volts (DC)	Max. Output Watts (STD/Peak)	Size H x W x D (In.)	Weight (Lbs.)	EACH
575-7905	PV 400FC	12	400/800	7 x 7 x 10	14	230.00
575-9721	PV 750FC	12	750/1500	7 x 7 x 10	19	359.00
575-1080	PV 1200FC	12	1200/2400	6 1/2 x 8 1/2 x 12	38	549.00
575-8800	PV 1800FC/24	24	1800/3600	6 1/2 x 8 1/2 x 12	41	675.00
575-9970	PV INT 1200FC*	12	1200/2400	6 1/2 x 8 1/2 x 12	38	579.00

*INT models are 230 V, 50 Hz Output.

Precision Regulated DC Power Supplies



PR 25

Converts 120 VAC to 13.8 VDC. Features solid state circuitry, high quality filtering and electronic foldback for automatic over-current protection. Perfect for CBs and ham radios. Output voltage maintained up to 95% of no load value. Heavy-duty transformer for complete isolation. Crowbar protection prevents overvoltage damage to connected equipment (available on 15 amp units and larger). Also features indicator light and on/off switch on faceplate. 3-conducted grounded cord on 10 amp and larger models. 230 V models have 220/240 V input and IEC-320 cord plug. PRXXINT models are 230 V input.

Stock No.	Mfr.'s Type	ICS (Amps)	Continuous Duty (Amps)	Fusing	Size H x W x D (In.)	Weight (Lbs.)	EACH
575-5003	PR 3	3	2	Internal	3 x 4 1/2 x 7 1/2	4	33.50
575-5002	PR 3UL	4.5	3	Internal	4 1/4 x 3 x 7 1/2	4	46.00
575-5004	PR 4.5	4.5	3	Internal	3 1/4 x 4 x 8 1/4	5	39.00
575-5007	PR 7	7	5	Chas. Mt.	3 3/4 x 6 1/2 x 7 1/2	7	55.00
575-5010	PR 10	10	7.5	Chas. Mt.	4 1/2 x 6 3/4 x 7 3/4	10	79.00
575-8900	PR 12	12	9	Chas. Mt.	4 1/2 x 6 3/4 x 7 3/4	11	82.50
575-5015	PR 15	15	12	Chas. Mt.	4 1/2 x 6 x 10	13	108.00
575-8905	PR 20	20	16	Chas. Mt.	4 1/2 x 6 x 10	15	120.00
575-5025	PR 25	25	20	Chas. Mt.	6 3/4 x 6 1/4 x 10 1/4	19	165.00
575-8910	PR 30	30	25	Chas. Mt.	6 3/4 x 6 1/4 x 10 1/4	23	167.00
575-5040	PR 40	40	32	Chas. Mt.	6 3/4 x 10 1/2 x 11 1/2	27	201.00
575-8915	PR 50	50	37	Chas. Mt.	6 3/4 x 10 1/2 x 11 1/2	30	253.75
575-5060	PR 60	60	48	Chas. Mt.	6 3/4 x 10 1/2 x 11 1/2	33	299.00
575-8805	PR 10/INT	10	7.5	Chas. Mt.	4 1/2 x 6 x 7	10	83.75
575-8810	PR 15/INT	15	12	Chas. Mt.	4 1/2 x 6 x 7	13	123.50
575-8815	PR 25/INT	25	20	Chas. Mt.	6 1/4 x 6 1/4 x 10 1/4	19	170.20
575-8820	PR 40/INT	40	32	Chas. Mt.	6 1/4 x 10 1/2 x 11 1/2	27	224.50
575-8825	PR 60/INT	60	48	Chas. Mt.	6 3/4 x 10 1/2 x 11 1/2	33	323.00

Line Conditioners

- Regulates Incoming Voltages From 87 to 140 VAC Back to 120 VAC
- Provides Complete Surge/Noise Suppression

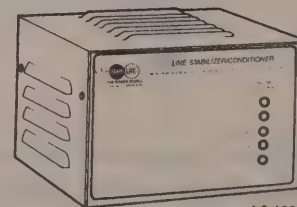
► Rackmount Units Available



Brownout correction and surge and line noise suppression in one low cost unit. Automatically adjusts the widest range of incoming voltage (from 87 to 140 V) back to 120 VAC nominal output within ANSI C84.1 specifications. LC 1200, 1800 and 2400 feature built-in Isobar surge suppression. Up to \$25,000 Ultimate Lifetime Insurance coverage for connected equipment; 2-year product warranty.

Stock No.	Mfr.'s Type	Load Max. (Watts)	Isolation	Outlets	Size H x W x D (In.)	Weight (Lbs.)	EACH
575-0300	LS 600	600	No	4	3 1/2 x 6 1/2 x 7	8	119.00
575-0303	LS 604	600	No	4	3 1/2 x 6 1/2 x 7	8	139.00
575-0305	LC 1200	1200	Yes	4	5 x 5 x 7 1/4	12	229.00
575-0310	LC 1800	1800	Yes	6	5 1/4 x 7 3/4 x 7	13	319.00
575-0314	LC 2400	2400	Yes	6	5 1/4 x 7 3/4 x 7	16	369.00
575-3400	LCR 2400*	2400	Yes	14	5 1/4 x 19 x 5	19	409.00

*19" Rackmount version.



LC 1800

APS Series UPS Systems For Extended Backup Times

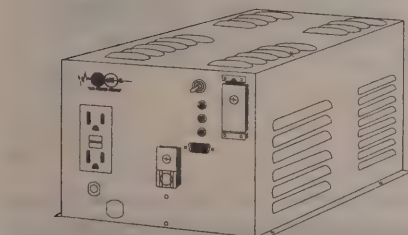
APS units automatically sense and switch AC output between outside AC power and DC battery power. You supply battery packs to provide the backup time you need. Perfect for phone systems, security systems or anywhere extended backup times are needed. A fully regulated battery charger maintains batteries while outside AC power is available. APS models feature a rugged metal case for use as a mobile battery power source. All models are peak power rated and frequency controlled 2-year product warranty.

Stock No.	Mfr.'s Type	Input Volts (DC)	Max. Output Watts (STD/Peak)	Size H x W x D (In.)	Weight (Lbs.)	EACH
575-9724	APS400	12	400/800	7 x 7 x 10	16	319.00
575-7790	APS750	12	750/1500	7 x 7 x 10	20	509.00
575-7702	APS1250	12	1250/2500	6 1/2 x 8 1/2 x 12	39	799.00

Batteries and Accessories for Extended Run UPS Systems

Stock No.	Mfr.'s Type	Description	EACH
575-9875	98-121	55 A.H. Battery. Sealed and maintenance free.	159.00
575-9260	BP260	Battery case. Holds two 98-121 batteries.	115.00
575-9723	BP24V33	24 V battery pack. Includes two 33 A.H. batteries with cables.	349.00

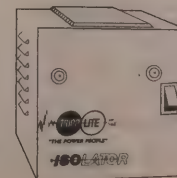
*INT models available with 230 V, 50 Hz output.



Isolation Transformers

The Isolator provides true line isolation to protect sensitive electronics. Clean, portable ground eliminates the need for dedicated lines. Efficient operation generates less heat than ferroresonant devices. Features exceptional, low frequency line noise rejection and external resettable circuit breaker. Comes with 6' cord. Output Voltage: 120 VAC.

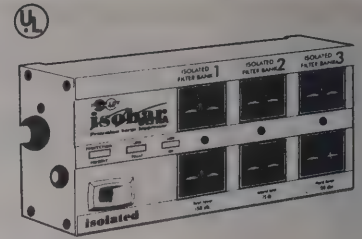
Stock No.	Mfr.'s Type	Load Current (Amps)	Output (Watts)	Shipping Weight (Lbs.)	Load Regulation	Surge Current (Amps)	Size H x W x D (In.)	EACH
575-9200	IS 200	1.7	200	13	RMS +4%	13	4 3/4 x 4 1/2 x 6 3/4	125.00
575-9400	IS 400	3.4	400	21	RMS +4%	28	5 1/2 x 6 1/4 x 8 1/2	169.00
575-9800	IS 800	6.8	800	25	RMS +3%	50	5 1/2 x 6 1/4 x 8 1/2	219.00



ISOBAR® Premium Surge and Noise Suppressors

The world's best known, best-selling surge suppressors. "Cascade" circuitry offers increasing levels of protection for more sensitive equipment. Exclusive isolated filter banks eliminate interference between connected equipment. Instantaneous surge response with suppression to 45,000 amp spikes, 1,080 joules. ULTRA models feature space saving right angle plug, advanced diagnostic indicators to alert you to improper outlet wiring, loss of AC power and damage to protection circuitry. Rugged all-metal housing.

Stock No.	Mfr.'s Type	Outlets	Filter Banks	Cord Length (ft.)	Ultimate Lifetime Insurance	Surge Suppression	Special Features	EACH
575-0020	ISOBLOK 2-0	2	1	—	\$10,000	480 joules	Direct plug in	48.00
575-2400	IBR-12	12	2	12	\$10,000	600 joules	19" rack mount	139.00
575-0200	ISOBAR 2-6	2	1	6	\$10,000	480 joules	RFI/EMI noise suppression	51.95
575-0205	ISOBAR 4	4	2	6	\$10,000	720 joules	Isolated filter banks	79.95
575-0215	ISOBAR 6	6	3	6	\$10,000	840 joules	Isolated filter banks	79.00
575-9972	ISOBAR 6 Coax	6	3	6	\$25,000	960 joules	Isolated filter banks, coax f jacks, diagnostics	109.00
575-9912	ISOBAR 4 Ultra	4	2	6	\$25,000	840 joules	Isolated filter banks, diagnostics	79.95
575-9913	ISOBAR 6 Ultra	6	3	6	\$25,000	960 joules	Isolated filter banks, diagnostic	84.95
575-9914	ISOBAR 8 Ultra	8	4	12	\$25,000	1080 joules	Isolated filter banks, diagnostic	99.95
575-0222	ISOBAR 8RM	8	4	12	\$10,000	960 joules	Desk level, remote on/off switch	91.00
575-9615	UltraCopy	2	1	—	\$10,000	480 joules	LEDs, 20 amp for copiers	64.95
575-9915	CCC4	4	1	8	\$5,000	720 joules	Compact console, diagnostics	67.95
575-0220	CC16	6	1	9	\$10,000	720 joules	Console, metal case	94.95
575-0320	CC16PLUS	6	1	9	\$10,000	720 joules	Console, with modem/fax prot.	125.00
575-9973	MT6	6	1	10	\$25,000	1080 joules	Brownout light, dia. LEDs	134.95
575-9974	MT6PLUS	6	1	10	\$25,000	1080 joules	Brownout light, modem/fax prot., LEDs	149.95
575-9605	UltraBlok 428	2	1	—	\$10,000	480 joules	LEDs, for phone systems	47.95
575-7785	UltraCoax	2	1	—	\$10,000	480 joules	LEDs, F connectors for coax applications	59.95
575-9550	IsoMiser	4	1	6	\$10,000	720 joules	Energy saver, variable monitor shut-down, isolated filter banks	99.00



**ULTIMATE \$25,000
LIFETIME
INSURANCE**



Standard Surge Suppressors

- ▶ Reliable, Economical Surge and Line Noise Suppression
- ▶ Surge Suppression To 36,000 Amps
- ▶ Diagnostic LEDs/Fax Modem Protection Available
- ▶ TR-6 Recently Rated #1 In Protection By A Leading Consumer Publication

Designed to provide economical protection for valuable electronic equipment. Up to 36,000 amps, 720 joules of surge protection is available. Models with diagnostic LEDs alert user to ground faults or damage to protection circuitry. All units are UL listed and provide basic noise suppression. Up to \$10,000 Ultimate Lifetime Insurance.

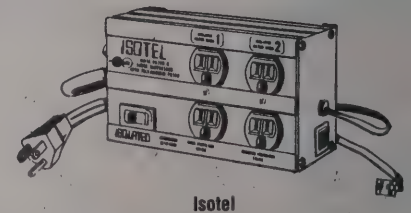


Stock No.	Mfr.'s Type	Outlets	Cord Length (ft.)	Surge Suppression	Ultimate Warranty Coverage	On/Off Switch	Special Features	EACH
575-9901	Super Surge	6	4	65 joules	—	Yes	Economy surge suppressor	13.95
575-9560	Stik	6	6	240 joules	—	Yes	RFI/EMI filtering, general purpose	24.95
575-9920	Super 7	7	7	360 joules	\$5,000	Yes, lighted	Diag. LEDs, Lifetime Warranty	29.90
595-9921	Super 7 Coax	6	7	360 joules	\$5,000	Yes, lighted	Diag. LEDs, Lifetime Warranty, coax F jacks	29.90
575-9816	Spike Blok	6	—	360 joules	—	No	Direct plug in model	24.95
575-9975	Spike Bar Super 8	8	8	600 joules	\$5,000	Yes, lighted	Lifetime product warranty	44.95
575-0060	TR6	6	6	720 joules	\$10,000	Yes, lighted	LEDs, Lifetime product warranty, 720 joules	59.95
575-9555	PowerMiser	4	6	720 joules	—	Yes, lighted	Energy saver, variable monitor shutdown	89.00

Fax/Modem Surge and Noise Suppressors

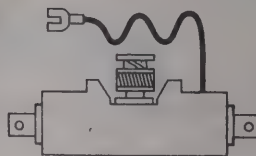
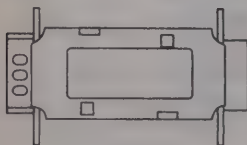
Protect your modem, fax machine or telephone system from spikes, surges and line noise carried along standard telephone lines. ISOTEL models include isolated filter banks and "cascade circuitry" for advance noise reduction.

Stock No.	Mfr.'s Type	Outlets	Cord Length (ft.)	Surge Suppression	Ultimate Warranty Coverage	On/Off Switch	Phone Jacks	Circuit Breaker	Special Features	EACH
575-3100	MP	—	—	90 joules	—	No	RJ11	No	Protects modem/fax, 2-year warranty	15.95
575-3200	SMP	1	—	360 joules	—	No	RJ11	No	Protects 1 AC and 1 modem/fax	29.95
575-3250	SMP GS	1	—	360 joules	\$500	No	RJ11	No	Protects 1 AC and 1 modem/fax	39.95
575-3000	TSB	—	—	490 joules	—	No	RJ11	No	3-stage modem/phone line protection	49.95
575-9630	IsoFax	2	—	280 joules	\$10,000	No	RJ45	No	Protects 2 AC and 2 modem/fax lines	48.95
575-9820	UltraFax	2	—	280 joules	\$10,000	No	RJ11	No	2 AC and 1 modem/fax line with Dia. LEDs	59.95
575-9976	Super 7 + TEL	6	7	360 joules	\$5,000	Yes, lighted	RJ11	Yes	Diag. LEDs, lifetime warranty	35.95
575-9935	TR6 FM	6	6	720 joules	\$10,000	Yes, lighted	RJ11	Yes	Diag. LEDs, RFI and EMI filtering	64.95
575-0224	Isotel	4	6	720 joules	\$10,000	Yes, lighted	RJ11	Yes	Isobar protection	89.95
575-8100	Isotel 4 Ultra	4	6	840 joules	\$25,000	Yes, lighted	RJ11	Yes	Isobar protection	99.95
575-9821	Isotel 6 Ultra	6	6	960 joules	\$25,000	Yes, lighted	RJ11	Yes	Isobar protection	109.95
575-9625	Isotel 8 Multimedia	8	12	1080 joules	\$25,000	Yes, lighted	RJ11	Yes	Isobar protection	104.95



Isotel

— NEW —



DataShield™ Data Communications Line Surge Suppressors

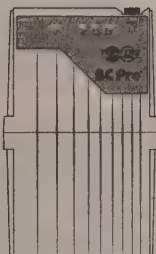
Network file servers, hubs, routers, print servers and workstations are increasingly susceptible to problems from dataline transients as transmission rates continue to rise and vital processing power is decentralized. Tripp Lite's DataShield™ dataline surge suppressors safely divert damaging dataline surges before they reach critical network equipment.

Stock No.	Mfr.'s Type	Interface	Clamping	Lines Protected	EACH
575-9977	D10BT	RJ45	7.5 V	1, 2, 3, 6	42.95
575-9978	D10BT	BNC	7.5 V	Center, Shield and Chassis	42.95
575-9979	D10B2-T	BNC 'T'	7.5 V	Center, Shield and Chassis	47.95
575-9980	DTKNRNG	RJ45	7.5 V	3, 4, 5, 6	42.95
575-9981	DB9	DB9	18 V	1-9, Chassis	37.95
575-9982	DB25-ALL	DB25	18 V	1-25, Chassis	56.95
575-9983	DTEL2	RJ11/45	260 V	2 lines (center 4 wires)	40.95
575-9984	DRS232	RJ45	18 V	1-8	64.95



BC Personal

**ULTIMATE \$25,000
LIFETIME
INSURANCE**



BC Pro

BC Series Standby UPS Systems

- Complete Blackout, Brownout and Surge Protection
- Phase Synchronized 2 ms Switchover To and From Battery
- \$25,000 Ultimate Lifetime Insurance Connected Equipment Coverage
- Full 2-Year Product Warranty

All BC series battery backup systems offer excellent protection from brownouts, blackouts, surges, spikes and line noise. Their phase synchronized 2 ms switching is so fast and smooth your computer will never detect an interruption.

BC Personal Series Standby UPS Systems

BC Personal models are perfect for home or stand-alone use. These units protect your computer from data loss and equipment damage with long lasting battery backup. Up-front LEDs provide information on line status, battery use and (on BC 420 and BC 500) alert you to low battery charge or replacement.

Stock No.	Mfr.'s Type	Output Capacity VA/Watts	Backup Time Half/Full (mins.)	Size H x W x D (in.)	Weight Lbs.	EACH
575-0100	BC PERS 200	200/140	14/5	9 1/2 x 5 x 6 1/2	11.0	109.00
575-0101	BC PERS 280	280/175	15/6	9 1/2 x 5 x 6 1/2	13.0	127.00
575-0102	BC PERS 420	420/295	21/8	9 1/2 x 5 x 6 1/2	13.0	179.00
575-0103	BC PERS 500	500/350	23/9	9 1/2 x 5 x 6 1/2	15.0	224.00

BC Pro Series Standby UPS Series

BC Pro models feature a Db9 LAN port and support the unattended shutdown of virtually any network operating system with PowerAlert software. Larger VA ratings allow protection of multiple file servers. These units also feature up-front, diagnostic LEDs, automatic inverter shutdown and SNMP compatibility.

575-0104	BC PRO 450	450/325	22/8	9 1/2 x 5 x 6 1/2	15.5	199.00
575-0105	BC PRO 550	550/375	22/7	9 1/2 x 5 x 6 1/2	18.0	250.00
575-0106	BC PRO 675	675/425	24/9	9 1/2 x 5 x 6 1/2	20.0	319.00
575-0107	BC PRO 850	850/570	27/10	7 3/4 x 4 3/4 x 13	27.0	419.00
575-0108	BC PRO 1050	1050/735	33/15	10 x 6 x 13 3/4	32.0	469.00
575-0109	BC PRO 1400	1400/980	36/17	10 x 6 x 13 3/4	39.0	629.00

OmniPro® Line Interactive UPS Systems

- Corrects Brownouts Without Using Battery Power
- Total Blackout, Brownout, Surge and Line Noise Protection
- All Models LAN Compatible
- \$50,000 Ultimate Lifetime Insurance Connected Equipment Coverage
- Full 2-Year Product Warranty

OmniPro keeps you working through extended brownouts without using battery power. Voltage correction automatically adjusts a wide range of incoming voltage (from 92 to 150 volts) back to 120 VAC. Advanced microprocessor controlled functions include a special UPS self-test and up front LED displays for voltage correction, UPS load, battery charge and condition. All models (except Pro 280) support unattended shutdown of any network operating system. 2 year product warranty.

**ULTIMATE
LIFETIME
INSURANCE**



OmniPro



Stock No.	Mfr.'s Type	Output Capacity VA/Watts	Backup Time Half/Full (mins.)	Size H x W x D (in.)	Weight Lbs.	EACH
575-0110	OMNIPRO 280	280/175	17/7	9 1/2 x 5 x 6 1/2	13.0	184.00
575-0111	OMNIPRO 450	450/280	17/8	9 1/2 x 5 x 6 1/2	15.5	254.00
575-0112	OMNIPRO 675	675/425	17/8	9 1/2 x 5 x 6 1/2	20.0	343.00
575-0113	OMNIPRO 850	850/570	21/10	7 3/4 x 4 3/4 x 13	27.0	519.00
575-0114	OMNIPRO 1050	1050/705	23/12	10 x 6 x 13 3/4	32.0	589.00
575-0115	OMNIPRO 1400	1400/940	24/14	10 x 6 x 13 3/4	39.0	679.00
575Q0116	OMNIPRO 2000	2000/1600	36/15	14 1/2 x 8 x 13 1/2	83.0	1299.00

Unison® On-line, Sine Wave UPS Systems

- On-Line, True Sine Wave Protection
- Zero Transfer Time
- LAN Compatible
- Remote On/Off Via Modem
- Full 2-Year Product Warranty

**\$100,000
ULTIMATE
LIFETIME
INSURANCE**



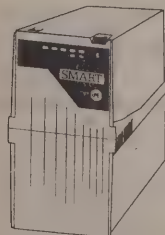
MPS 1500

The ultimate in UPS technology, Unison provides on-line continuous power conditioning and zero transfer time to battery power for your most critical systems. An on-board SMART microprocessor provides extended network control with PowerAlert Plus.

Stock No.	Mfr.'s Type	Output Capacity VA/Watts	Backup Time Half/Full (mins.)	Size H x W x D (in.)	Weight Lbs.	EACH
575-0001	PS 450	450/300	17/5	10 x 6 1/2 x 14	34.0	559.00
575-0002	PS 700	750/500	21/6	10 x 6 1/2 x 14	32.5	703.00
575-0003	PS 1000	1050/700	17/5	10 x 6 1/2 x 14	45.0	875.00
575Q0004	MPS 1400	1200/800	17/5	12 1/4 x 8 x 22	63.5	1250.00
575Q0005	MPS 2000	2000/1300	17/5	12 1/4 x 8 x 22	70.5	1600.00

SMART Series Line-Interactive Intelligent Network UPS Systems

**ULTIMATE
LIFETIME
INSURANCE**



- Microprocessor Control Of All UPS functions
- Complete Protection Against Blackouts, Brownouts, Surges and Line Noise
- Line Interactive Design Adjusts Incoming Voltages From 87 To 140 VAC Back To 120 V
- Multi-Color Front Panel LEDs
- Rackmount and Expandable Run-Time Models Available
- Works with PowerAlert Software To Provide Advanced Network Support and Unattended Shutdown

Microprocessor control and advanced network management make the SMART series the ultimate in network UPS protection. SMART series units feature a line-interactive design to provide clean, 120 volt power during brownout or overvoltage conditions without using battery power. All units provide complete protection against blackouts, brownouts, surges and line noise. Advanced LEDs alert you to battery status and operating conditions, while a built in microprocessor provides high levels of network protection, communications, management and reliability.

Stock No.	Mfr.'s Type	Output Capacity VA/Watts	Backup Time Half/Full (mins.)	Size H x W x D (in.)	Weight Lbs.	EACH
575-0133	SMART 280	280/175	15/5	7 3/4 x 4 3/4 x 13	19.0	285.00
575-0134	SMART 450	450/280	19/5	7 3/4 x 4 3/4 x 13	21.0	369.00
575-0135	SMART 675	675/425	20/6	7 3/4 x 4 3/4 x 13	24.0	449.00
575-0136	SMART 850	850/570	21/7	7 3/4 x 4 3/4 x 13	27.0	579.00
575-0117	SMART 850RM*	850/570	21/7	5 1/4 x 19 x 10 3/4	41.0	709.00
575-0137	SMART 1050	1050/705	23/8	10 x 6 x 13 3/4	32.0	644.00
575Q0118	SMART 1250XL**	1250/900	unlimited	14 1/4 x 8 x 13 1/2	81.0	1279.00
575Q0119	SMART 1400	1400/940	25/10	10 x 6 x 13 3/4	39.0	815.00
575Q0120	SMART 1400RM	1400/940	25/10	10 x 6 x 13 3/4	53.0	979.00
575Q0121	SMART 2000	2000/1600	36/15	14 1/2 x 8 x 13 1/2	83.0	1299.00
575Q0122	SMART 2000RM*	2000/1600	36/15	8 3/4 x 19 x 13 1/2	91.0	1449.00
575Q0123	SMART 2000XL**	2000/1600	unlimited	15 x 8 1/2 x 13 1/2	81.0	1559.00
575Q7784	SMART 2000RML	2000/1600	unlimited	8 3/4 x 19 x 13 1/2	101.0	1699.00
575Q0125	SMART 3000	3000/2350	unlimited	23 x 8 x 22	171.5	2499.00
575Q0126	SMART 5000	5000/3500	unlimited	31 x 8 x 22	249.0	3449.00
575Q9723	BP24V33	Battery Pack with cables and batteries for XL		8 3/4 x 7 3/4 x 13 1/2	55.0	349.00

PowerAlert Plus UPS Management Software

Stock No.	Mfr.'s Type	Description	EACH
575-0128	75-0101	PowerAlert Plus for Novell	97.00
575-0129	75-0102	PowerAlert Plus for UNIX	133.00
575-0130	75-0103	PowerAdvisor for DOS	99.00
575-0131	75-0104	PowerAlert Plus for OS/2	99.00
575-0132	75-0105	PowerAlert Plus for Windows and Windows NT	89.00

*RM models are rackmountable.

**XL models feature expandable run times with external batteries.

Relays

	Page		Page		Page
American Zettler		Input/Output Modules		NTE Relays	
DIP Relays		Series 6, DMP, Mounting Boards	562	General Purpose	
AZ820	537	Reed Relays		R02, R10, R12	583
AZ830, AZ847	538	DAR7, DAT7, HV1	563	R14, R16, R20	584
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AZ696	538	F18, L Series, M50	565	R04	583
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CR, CR10	540	BR, CRD, DRD, EFR, IGT, LR, SSR, TRTP	568	General Purpose	
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Interval-On Relays		Input/Output Modules, Solid State Relays	570	PC Board Relays	
CI	540	Guardian Electric		G6A, G6E, G6B, G5VI, G5L	590
CIR	541	General Purpose		Power Relays	
Recycle Timer		1330, 1335, 1330P, 1335P, 1345, 1345S	571	G8P	589
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Carlo Gavazzi, Inc.		General Purpose		General Purpose	
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156, 157, 158 Series	546	Solid State		Latching Relays	
187, 159, 160, 188, 190 Series	547	RSS	575	S89, S90, KUL	598
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Mercury Wetted		Standard Plug-In		Reed Relays	
MSS2, MSS7	550	SS50, SS51, SS52, SS53	578	JWD, JWS	597
HGJ2MT, HGWM	551	Magnecraft		Solid State	
Solid State Relays		General Purpose		CNS, CNT, CN1, CNM5	600
MRB, 922, PM, PD, PS, OF, MX, JTA	551	Class 388, Class 389	580	SSR, SSRD, SSRQ, SSRT	599
Solid State Switches		Mercury Displacement		Time Delay Relays	
LCA, LCB, LAA, LBA, LCA, LCC	551	WM35, WM60	581	CB, CUB, CLB, CHD, COB, CLF, CS, CHB	598
Crouzet		Miniature Relays		CND	597
Input/Output Modules		Class 67	579	Sockets and Accessories	593, 601
C Series	556	Power Relays		Stancor	
DIN Rail Mount	553	Class 199	581	Contactors	
M Series	552	Printed Circuit Relays		70, 120, 124, 122, 154, 586	602
Quad-Pack	554	Class 76	579	Relays	
Power Relays		Reed Relays		84, 91, 134, 150, 184	603
G Series	555	Class 107, 171, 172	579	Struthers Dunn (See MSD)	
Solid State Relays		Sockets and Accessories	580	Syrelac	
GA3 Series	555	Solid State/Time Delay		Repeat Cycle Timers	
Temperature Controller		W211, W6	581	ODR, OCR	605
CTD46, CTD43	555	W226	579	DR2U	604
Crydom Company		Midtex (See CII Midtex)		Time Delay Relays	
Controllers		MSD		OLR, OAR, OCR, TRM, TR2	605
LPCV, PCV, RPC	563	General Purpose	582	GLR, MAXR, 88901, 814	604
D2W, D061, A0241, CX, Power Fin	557	Latching Relays	582	Teledyn Relays	
DSD, DLD Series 2, Series 3, Soft-Start	564	Power Relays		General Purpose Armature	
Float Switches	563	276, 425	582	172, 712, 722, RF	606
Handbook	564	Reversing Control, A275	582	Solid State	
Heatsinks	560	Sequencing Relay		C15, C60, SC60, C45, 601	607
		Type A311	582	C76	606

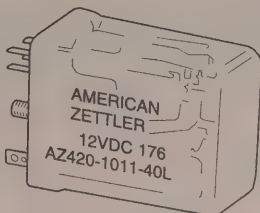
Timers, Controls and Sensors

	Page		Page		Page
Artisan		Elapsed Time Indicators		Elapsed Time Counters	
Digital Countdown Timer — Model 4970	608	EF1333, EF1335, EF2733, EF2735, ED7112	615	10108	623
Programmable Event Controller — Model 4950	608	Time Delay		Up and Down Counters	
Repeat Cycle — 4608, 4972, 4980	608	90, T0AB, TDAF, H, CH, MPB, SF, CSF Series	615	4541, 4542, 7541, 7542, 10108, 13026 Series	623
Carlo Gavazzi		Omron		Veeder-Rood/Dynapar	
Proximity And Photoelectric Sensors	609	Card Readers	619	Counters	
Clarestat		Counters		1667, 7790, 7791	624
Accessories	611	H5CR, H7CR	619	MCJRI	625
Controls	610	H7EC, H7ET	616	Encoders	
Photoelectric Controls	611	Photoelectric Sensors	617	21/22 Gube	624
Reflective Scanners	611	Photomicrosensors	618	Hourmeters	
Thrubeams	610	Proximity Sensors	617	7795	624
Crompton Instruments		Tachometers, H7ER	616	Predetermining Counters	
Current Transformer	613	Timers		MCJRS, SQC Series	625
Digital Switchboard	613	H3BA, H3CA, H3BF	616	Proximity Sensors	
Paladin Transducer	612	Hindling		65 Series	625
Protector Relay Modules	612	Counters		Rate Indicators and Totalizers	
Signal Isolator	613	100, 128, 44, 49, 46, 20, 58 Series	620	7999	625
Electromatic (See Carlo Gavazzi)		Hourmeters		MCJRA	625
ENM Company		711, 710, 731, 5320	621	STD Series	624
Counters	614	Tachometers		Sensors	
Hand Tally	614	5300 Series	620	542	625
Hourmeters	614	Syrelac		7785 Motion Detector	625
Industrial Timer (ITC)		Controls		Tachometer	
Cam Switch Timer		WRL, IRT, JR, FJR, NR, 8489	622	7990	625
RG21 Series	615				



AZ420 Miniature General Purpose Relay

- Rugged Construction for High Reliability
- Life Expectancy Greater Than 100 Million Operations
- DC Coils to 115 V
- High Sensitivity at 25 mW Per Pole Available
- Current Sensitive and Voltage Sensitive Coils Available
- Round Core and Larger Coil Volume Provide Greater Pull Force
- Hydrogen Annealed Iron Magnetic Circuit
- Form A, B, C, and D Contacts Available
- Up to 6 Poles in Less Than One Cubic Inch
- Dry Circuit, 2 Amp, 3 Amp, or 7.5 Amp Contacts
- Printed Circuit or Solder/Plug-in Terminals
- Balanced Spring-Held Armature Allows Dependable Operation in Any Position
- Sealed Version Available (2 and 4 Pole)
- UL and CUR File E43203; VDE 0110 Gr. A



Polycarbonate enclosed general purpose relays. Plug-in terminals are gold plated copper alloy. PC terminals are tin plated copper alloy. **Contacts:** 40LUS and 10LUS, bifurcated crossbar in fine silver/gold plated, 4WLUS and 1WLUS are single crossbar fine silver/gold plated, 4WHUS and 1WHUS are single crossbar, moveable, silver cadmium oxide/gold plated. Available in standard DC voltage, sensitive DC voltage (V), and sensitive DC current (C). Sealed version — AZ2428 and AZ2429 Series.

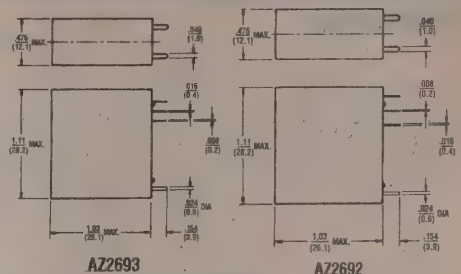
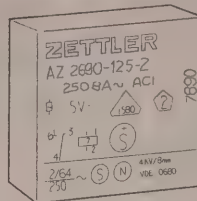
Stock No.	Mfr.'s Type	Voltage	Poles	Amps	Terminals	EACH		
						1-24	25-49	50-99
686-0018	AZ420-70-4WHUS	24 DC	DPDT	7.5	Plug-in/Solder	15.38	10.25	8.20
686-0019	AZ420-70-4WLUS	24 DC	DPDT	3.0	Plug-in/Solder	14.63	9.75	7.80
686-0020	AZ420-70-40LUS	24 DC	DPDT	2.0	Plug-in/Solder	13.50	11.25	9.00
686-0021	AZ420-1011-4WHUS	12 DC	DPDT	7.5	Plug-in/Solder	15.38	10.25	8.20
686-0022	AZ420-1011-4WLUS	12 DC	DPDT	3.0	Plug-in/Solder	14.63	9.75	7.80
686-0023	AZ420-1011-40LUS	12 DC	DPDT	2.0	Plug-in/Solder	13.50	11.25	9.00
686-0024	AZ420-C07-4WHUS	12 DC	DPDT	3.0	Plug-in/Solder	17.81	11.88	9.50
686-0025	AZ420-C07-4WLUS	12 DC	DPDT	7.5	Plug-in/Solder	17.25	11.50	9.20
686-0026	AZ420-C07-40LUS	12 DC	DPDT	2.0	Plug-in/Solder	15.60	13.00	10.40
686-0027	AZ420-C56-4WLUS	18 DC	DPDT	7.5	Plug-in/Solder	17.25	11.50	9.20
686-0028	AZ420-V50-4WHUS	24 DC	DPDT	3.0	Plug-in/Solder	17.81	11.88	9.50
686-0029	AZ420-V70-4WHUS	12 DC	DPDT	3.0	Plug-in/Solder	17.81	11.88	9.50
686-0030	AZ420-V70-4WLUS	24 DC	DPDT	3.0	Plug-in/Solder	16.88	11.25	9.00
686-0031	AZ420-V70-40LUS	24 DC	DPDT	2.0	Plug-in/Solder	15.60	13.00	10.40
686-0032	AZ421-70-1WHUS	24 DC	4PDT	7.5	Plug-in/Solder	20.25	13.50	10.80
686-0033	AZ421-70-1WLUS	24 DC	4PDT	3.0	Plug-in/Solder	18.38	12.25	9.80
686-0034	AZ421-70-10LUS	24 DC	4PDT	2.0	Plug-in/Solder	23.25	15.50	12.40
686-0035	AZ421-1011-1WHUS	12 DC	4PDT	7.5	Plug-in/Solder	20.25	13.50	10.80
686-0036	AZ421-1011-1WLUS	12 DC	4PDT	3.0	Plug-in/Solder	18.38	12.25	9.80
686-0037	AZ421-1011-10LUS	12 DC	4PDT	2.0	Plug-in/Solder	23.25	15.50	12.40
686-0038	AZ421-C56-10LUS	30 DC	4PDT	2.0	Plug-in/Solder	26.06	17.38	13.90
686-0039	AZ421-V80-10LUS	12 DC	4PDT	2.0	Plug-in/Solder	26.06	17.38	13.90
686-0040	AZ428-70-4WHUS	24 DC	DPDT	7.5	PC Terminals	15.38	10.25	8.20
686-0041	AZ428-1011-4WHUS	12 DC	DPDT	7.5	PC Terminals	15.38	10.25	8.20
686-0042	AZ428-1011-40LUS	12 DC	DPDT	2.0	PC Terminals	13.50	11.25	9.00
686-0043	AZ428-C07-4WHUS	12 DC	DPDT	7.5	PC Terminals	17.81	11.88	9.50
686-0044	AZ428-C07-4WLUS	12 DC	DPDT	3.0	PC Terminals	17.25	11.50	9.20
686-0045	AZ428-V50-4WHUS	24 DC	DPDT	7.5	PC Terminals	17.81	11.88	9.50
686-0046	AZ428-V50-4WLUS	24 DC	DPDT	3.0	PC Terminals	16.88	11.25	9.00
686-0047	AZ428-V50-40LUS	24 DC	DPDT	2.0	PC Terminals	15.60	13.00	10.40
686-0048	AZ428-V70-4WHUS	12 DC	DPDT	7.5	PC Terminals	17.81	11.88	9.50
686-0049	AZ428-V70-4WLUS	12 DC	DPDT	3.0	PC Terminals	16.88	11.25	9.00
686-0050	AZ428-V70-40LUS	12 DC	DPDT	2.0	PC Terminals	15.60	13.00	10.40
686-0051	AZ429-70-1WHUS	24 DC	4PDT	7.5	PC Terminals	20.25	13.50	10.80
686-0052	AZ429-70-10LUS	24 DC	4PDT	2.0	PC Terminals	23.25	15.50	12.40
686-0053	AZ429-1011-1WHUS	12 DC	4PDT	7.5	PC Terminals	20.25	13.50	10.80
686-0054	AZ429-1011-1WLUS	12 DC	4PDT	3.0	PC Terminals	18.38	12.25	9.80
686-0055	AZ429-1011-10LUS	12 DC	4PDT	2.0	PC Terminals	23.25	15.50	12.40
686-0056	AZ429-V05-1WHUS	24 DC	4PDT	7.5	PC Terminals	23.25	15.50	12.40
686-0057	AZ429-V05-1WLUS	24 DC	4PDT	3.0	PC Terminals	21.56	14.38	11.50
686-0058	AZ429-V05-10LUS	24 DC	4PDT	2.0	PC Terminals	26.06	17.38	13.90
686-0059	AZ428-56-4WHUS	48 DC	2PDT	7.5	PC Terminals	20.25	13.50	10.80
686-0060	AZ428-56-4WLUS	48 DC	2PDT	3.0	PC Terminals	19.12	12.75	10.20
686-0061	AZ428-56-40LUS	48 DC	2PDT	2.0	PC Terminals	20.62	13.75	11.00
686-0062	AZ428-70-4WHUS	24 DC	DPDT	7.5	PC Terminals	20.25	13.50	10.80
686-0063	AZ428-70-4WLUS	24 DC	DPDT	3.0	PC Terminals	19.12	12.75	10.20
686-0064	AZ428-70-40LUS	24 DC	DPDT	2.0	PC Terminals	20.62	13.75	11.00
686-0065	AZ428-1011-4WHUS	12 DC	DPDT	7.5	PC Terminals	20.25	13.50	10.80
686-0066	AZ428-1011-4WLUS	12 DC	DPDT	3.0	PC Terminals	19.12	12.75	10.20
686-0067	AZ428-C07-4WHUS	12 DC	DPDT	7.5	PC Terminals	22.68	15.13	12.10
686-0068	AZ428-V10-4WLUS	6 DC	DPDT	3.0	PC Terminals	21.75	14.50	11.60
686-0069	AZ428-V50-4WHUS	24 DC	DPDT	7.5	PC Terminals	22.50	15.00	12.00
686-0070	AZ428-V50-4WLUS	24 DC	DPDT	3.0	PC Terminals	21.75	14.50	11.60
686-0071	AZ428-V70-4WHUS	12 DC	DPDT	7.5	PC Terminals	22.50	15.00	12.00
686-0072	AZ428-V70-4WLUS	12 DC	DPDT	3.0	PC Terminals	21.75	14.50	11.60
686-0073	AZ429-56-1WHUS	48 DC	4PDT	7.5	PC Terminals	24.75	16.50	13.20
686-0074	AZ429-70-1WHUS	24 DC	4PDT	7.5	PC Terminals	24.75	16.50	13.20
686-0075	AZ429-70-1WLUS	24 DC	4PDT	3.0	PC Terminals	23.25	15.50	12.40
686-0076	AZ429-70-10LUS	24 DC	4PDT	2.0	PC Terminals	26.43	17.63	14.10
686-0077	AZ429-V05-1WHUS	24 DC	4PDT	7.5	PC Terminals	28.31	18.88	15.10
686-0078	AZ429-V05-10LUS	24 DC	4PDT	2.0	PC Terminals	30.18	20.13	16.10

Sockets and Hardware

- International Standard Spacing — Accommodates Most Cradle-Type Relays
- Unique Knife-Edge Connector Assures Positive Contact
- Unbreakable Fiberglass Filled Polyester Base Material
- Spacing Riser Prevents Flux Contamination
- Low Profile Mounting With Right Angle Sockets
- PC Terminal Spacing for 0.1 or 0.2 Inch Grids
- UL File E 43203; CSA File LR36664; VDE 0110 Gr. A

Stock No.	Mfr.'s Type	Description	EACH		
			1-49	50-99	100-499
686-0079	ST140-A1	2 Pole Socket	1.35	.81	.76
686-0080	ST140-1	Retaining Clip for ST140	.23	.13	.13
686-0081	ST141-A1	4 Pole Socket	1.65	.99	.92
686-0082	ST141-1	Retaining Clip for ST141	.23	.18	.13

AZ2690 Series



- Isolation Spacing Greater Than 8 mm
- Dielectric Strength 4000 Vrms Coil to Contact
- Approvals/Standards Include UL, CSA, VDE, IEC, CEE, and SEMKO
- THINPAK™ Version Less Than .500" Height
- SLIMPAK™ Version Saves Board Space
- 10 Amp Switching
- Life Expectancy to 30 Million Operations
- Epoxy Sealed Version for Automatic Wave Soldering and Cleaning
- UL File E44211; CSA File LR 85091; VDE 4120-4940-4002/A1

Miniature Power Relay in P.B.T. polyester enclosure. **Contacts:** SPDT, silver cadmium oxide, 10 amps. **Terminals:** PC, tinned copper alloy, Sensitive relay coil.

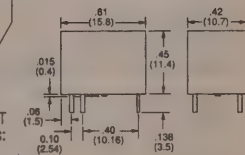
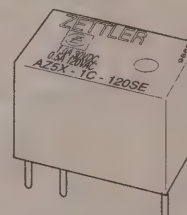
Stock No.	Mfr.'s Type	Voltage	Pin Spacing	EACH		
				1-49	50-99	100-249
686-0083	AZ2692-052-52	24 DC	.138	8.10	5.40	3.78
686-0084	AZ2692-071-52	12 DC	.138	8.10	5.40	3.78
686-0085	AZ2693-052-52	24 DC	.100	8.10	5.40	3.78
686-0086	AZ2693-071-52	12 DC	.100	8.10	5.40	3.78

Sockets and Clip for AZ2690 Series

Stock No.	Mfr.'s Type	Description	EACH		
			1-49	50-99	100-249
686-0087	ST482-2	Retaining Clip	.60	.40	.28
686-0088	ST482-U1	Socket for AZ2692	2.85	1.90	1.33
686-0089	ST483-U1	Socket for AZ2693	2.85	1.90	1.33

AZ5 Subminiature PC Board Relay

- Subminiature Size for High Density Packaging
- Coil Sensitivity to 100 mW
- Extremely Low Cost
- Coil to 24 VDC
- Epoxy Sealed for Automatic Wave Soldering
- 1 Amp Contacts
- Life Expectancy to 10 Million Operations
- Meets FCC Part 68.302 1500 V Lightning Surge
- Meets FCC Part 68.304 1000 V Dielectric
- UL File E43203; CSA File 74120

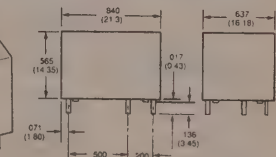
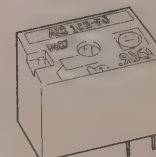


Light Duty PC Board Relay in P.B.T. polyester enclosure. **Contacts:** SPDT (1 form C) welded crossbar construction; silver alloy gold clad. **Terminals:** Tinned copper alloy. **Weight:** 3.5 grams.

Stock No.	Mfr.'s Type	Voltage	EACH		
			1-49	50-99	100-499
686-0001	AZ5X-1C-5DE	5 VDC	4.95	3.30	2.31
686-0002	AZ5X-1C-12DE	12 VDC	4.95	3.30	2.31
686-0003	AZ5X-1C-24DE	24 VDC	5.10	3.40	2.38
686-0004	AZ5Y-1C-5DE	5 VDC	4.95	3.30	2.31
686-0005	AZ5Y-1C-12DE	12 VDC	4.95	3.30	2.31
686-0006	AZ5Y-1C-24DE	24 VDC	5.10	3.40	2.38

AZ8 Miniature PC Board Relay

- Subminiature Size
- High Sensitivity, 110 mW Pick Up
- Epoxy Sealed for Automatic Wave Soldering
- Life Expectancy to 20 Million Operations
- Extremely Low Cost
- Class B Insulation (130°C) Standard
- Class F Insulation (155°C) Version Available
- UL, CUR File E44211
- VDE Approved Versions Available

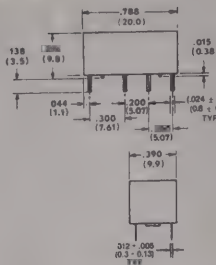
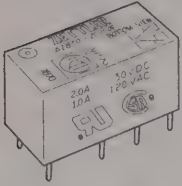


Miniature PC Board Relay available in unsealed or epoxy sealed (E) version. **Contacts:** SPDT (1 form C) in 3 amp (silver) or 6 amp (silver nickel). **Termination:** Tinned copper alloy, PC terminals. **Enclosure:** P.E.T. polyester. Available in sensitive coil (DSE).

Stock No.	Mfr.'s Type	Voltage	Amps	EACH		
				1-49	50-99	100-499
686-0007	AZ8-1C-5DE	5 VDC	3	4.80	3.20	2.24
686-0008	AZ8-1C-12DE	12 VDC	3	4.80	3.20	2.24
686-0009	AZ8-1C-24DE	24 VDC	3	4.95	3.30	2.31
686-0010	AZ8-1C-5DSE	5 VDC	3	5.10	3.40	2.38
686-0011	AZ8-1C-12DSE	12 VDC	3	5.10	3.40	2.38
686-0012	AZ8-1C-5DE	5 VDC	6	5.10	3.40	2.38
686-0013	AZ8-1C-12DE	12 VDC	6	5.10	3.40	2.38
686-0014	AZ8-1C-24DE	24 VDC	6	5.25	3.50	2.45
686-0015	AZ8-1C-5DSE	5 VDC	6	5.40	3.60	2.52
686-0016	AZ8-1C-12DSE	12 VDC	6	5.40	3.60	2.52
686-0017	AZ8-1C-24DSE	24 VDC	6	5.55	3.70	2.59



AZ830 Series

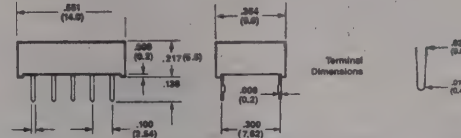
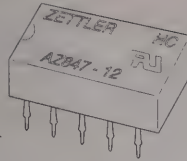


- ▶ Low Profile for Compact Board Spacing
- ▶ DC Coils to 48 VDC
- ▶ High Sensitivity, 100 mW Pick Up
- ▶ High Switching Capacity, 60 W, 125 VA
- ▶ Life Expectancy to 100 Million Operations
- ▶ Fits Standard 16 Pin IC Socket
- ▶ Epoxy Sealed for Automatic Wave Soldering and Cleaning
- ▶ Meets FCC Part 68.302 1500 V Lightning Surge
- ▶ Meets FCC Part 68.304 1000 V Dielectric
- ▶ UL File E43203; CSA File LR 36664

Polarized Dip Relay, single side stable. Contacts: DPDT (2 Form C) bifurcated cross bar contacts in silver alloy, gold clad, 2 amps. P.B.T. enclosure. Tinned copper alloy PC terminals. Available in standard coil and sensitive coil (DSE) relays.

Stock No.	Mfr.'s Type	Voltage	EACH		
			1-49	50-99	100-249
686-0106	AZ830-2C-5DE	5 DC	7.95	5.30	3.71
686-0107	AZ830-2C-12DE	12 DC	7.95	5.30	3.71
686-0108	AZ830-2C-24DE	24 DC	8.40	5.60	3.92
686-0109	AZ830-2C-5DSE	5 DC	8.25	5.50	3.85
686-0110	AZ830-2C-6DSE	12 DC	8.25	5.50	3.85
686-0111	AZ830-2C-12DSE	12 DC	8.25	5.50	3.85
686-0112	AZ830-2C-24DSE	24 DC	8.70	5.80	4.06
686-0113	AZ830-2C-48DSE	48 DC	10.65	7.10	4.97

AZ847 Series

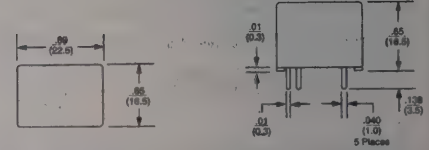
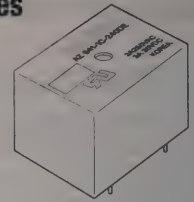


- ▶ Micro Miniature Size: Height — .0217" (5.5 mm); Length — .551" (14 mm); Width — .0354" (9 mm)
- ▶ High Sensitivity, 79 mW Pick Up
- ▶ Meets FCC Part 68.302 1500 V Lightning Surge
- ▶ DIP Terminal Layout, Fits 10 Pin IC Socket
- ▶ Epoxy Sealed for Automatic Wave Soldering and Cleaning
- ▶ UL File E43203; CSA 73363

Micro Miniature Polarized Relay, single side stable. Contacts: DPDT (2 Form C), bifurcated crossbar contacts in silver palladium/gold clad. LCP enclosure. Tinned copper alloy PC terminals.

Stock No.	Mfr.'s Type	Voltage	EACH		
			1-49	50-99	100-249
686-0119	AZ847-5	5 DC	9.30	6.20	4.34
686-0120	AZ847-12	12 DC	9.30	6.20	4.34
686-0121	AZ847-24	24 DC	10.50	7.00	4.90

AZ941 Series

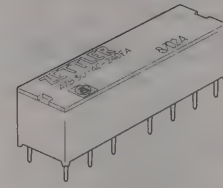
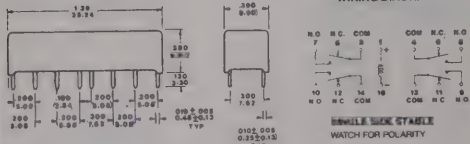


- ▶ Contacts Rated at 5 or 10 Amps
- ▶ Life Expectancy to 10 Million Operations
- ▶ Extremely Low Cost
- ▶ Epoxy Sealed for Automatic Wave Soldering
- ▶ UL, CUR File E43203

Miniature PC Board Relay in SPDT (1 Form C) contact arrangement. Silver alloy contact material. Tinned copper alloy PC terminals. P.B.T. polyester enclosure.

Stock No.	Mfr.'s Type	Voltage	Amps	EACH		
				1-49	50-99	100-249
686-0122	AZ941-1CH-5DE	5 DC	5 Amps	3.75	2.50	1.75
686-0123	AZ941-1CH-12DE	12 DC	5 Amps	3.75	2.50	1.75
686-0124	AZ941-1CH-24DE	24 DC	5 Amps	3.90	2.60	1.82
686-0125	AZ941-1CT-5DE	5 DC	10 Amps	3.90	2.60	1.82
686-0126	AZ941-1CT-12DE	12 DC	10 Amps	3.90	2.60	1.82
686-0127	AZ941-1CT-24DE	24 DC	10 Amps	4.05	2.70	1.89

AZ830 4 Pole Series

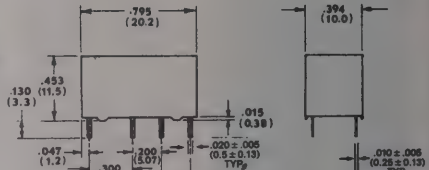
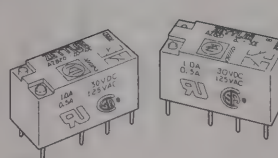


- ▶ Single Side Stable
- ▶ High Sensitivity, 90 mW Pick Up
- ▶ Low Profile DIP Package
- ▶ Life Expectancy to 10 Million Operations
- ▶ Meets FCC Part 68.302 1500 V Lightning Surge
- ▶ Meets FCC Part 68.304 1000 V Dielectric
- ▶ Epoxy Sealed for Automatic Wave Soldering and Cleaning
- ▶ UL File E43203; CSA Approved

4 Pole Polarized Miniature Dip Relay in 4PDT (4 Form C) contact arrangement. Bifurcated crossbar contacts; silver palladium, gold clad. Enclosure: P.B.T. polyester. Tinned copper alloy PC terminals. Available in standard coil and sensitive (SEA) relay version.

Stock No.	Mfr.'s Type	Voltage	EACH		
			1-49	50-99	100-249
686-0114	AZ830-4C-12DEA	12 DC	16.95	11.30	7.91
686-0115	AZ830-4C-24DEA	24 DC	16.95	11.30	7.91
686-0116	AZ830-4C-5DSEA	5 DC	18.15	12.10	8.47
686-0117	AZ830-4C-12DSEA	12 DC	18.15	12.10	8.47
686-0118	AZ830-4C-24DSEA	24 DC	18.15	12.10	8.47

AZ820 Series

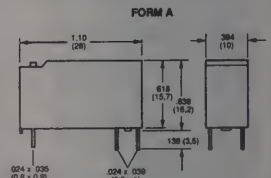
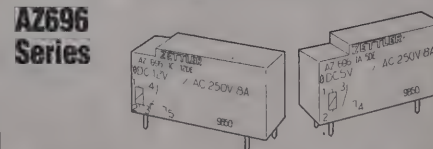


- ▶ Low Profile for Compact Board Spacing
- ▶ DC Coils to 48 VDC
- ▶ Life Expectancy to 10 Million Operations
- ▶ Standard PC 0.1" Grid Terminal Spacing
- ▶ Fits Standard 16 Pin IC Socket
- ▶ Epoxy Sealed for Automatic Wave Soldering and Cleaning
- ▶ Meets FCC Part 68.302 1500 V Lightning Surge
- ▶ Meets FCC Part 68.304 1000 V Dielectric
- ▶ UL File E43203; CSA File LR 36664

Subminiature Dip Relay with DPDT (2 Form C) bifurcated Crossbar Contacts. Contact Material: Silver palladium, gold clad. Enclosure: P.B.T. polyester. Terminals: PC, tinned copper alloy.

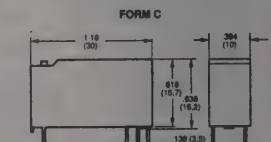
Stock No.	Mfr.'s Type	Voltage	EACH		
			1-49	50-99	100-249
686-0102	AZ820-2C-5DE	5 DC	6.45	4.30	3.01
686-0103	AZ820-2C-12DE	12 DC	6.45	4.30	3.01
686-0104	AZ820-2C-24DE	24 DC	6.75	4.50	3.15
686-0105	AZ820-2C-48DE	48 DC	7.65	5.10	3.57

AZ696 Series



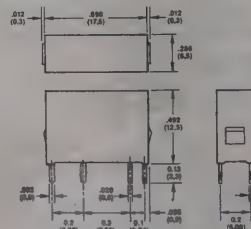
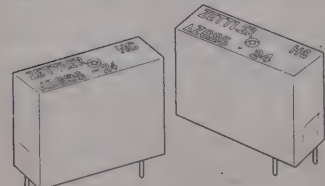
- ▶ Miniature Size: Form A Version — .063" (16 mm) Height, 1.10" (30 mm) Length, 0.39" (10 mm) Width
- ▶ High Sensitivity, 100 mW Pick Up
- ▶ Dielectric Strength 4000 Vrms
- ▶ Isolation Spacing Greater Than 8 mm
- ▶ Single Pole — Forms A and C Available
- ▶ 10 Amp Switching Capability
- ▶ Epoxy Sealed for Automatic Wave Soldering and Cleaning
- ▶ Approvals/Standards Include UL, CSA, VDE, IEC, SEMKO and CEE
- ▶ UL File E44211; CSA File LR 85091

10 Amp Sub-Miniature Power Relay. Silver cadmium oxide contacts. Tinned copper alloy, PC terminals. P.B.T. polyester enclosure.



Stock No.	Mfr.'s Type	Voltage	Contact Arrangement	EACH		
				1-49	50-99	100-249
686-0097	AZ696-1A-12DE	12 DC	SPST-NO	4.94	4.00	3.27
686-0098	AZ696-1A-24DE	24 DC	SPST-NO	4.94	4.00	3.27
686-0099	AZ696-1C-5DE	5 DC	SPDT	5.00	4.07	3.33
686-0100	AZ696-1C-12DE	12 DC	SPDT	5.00	4.07	3.33
686-0101	AZ696-1C-24DE	24 DC	SPDT	5.00	4.07	3.33

AZ695 Series



- ▶ Thin Vertical Profile Only 0.256" Wide
- ▶ 1 Form A Contact with Up to 5 Amp Switching Capability
- ▶ High Sensitivity, 100 mW Pick Up
- ▶ Dielectric Strength 3000 Vrms Contact to Coil
- ▶ Coils to 24 VDC
- ▶ Epoxy Sealed for Automatic Wave Soldering and Cleaning
- ▶ Extremely Small Footprint Utilizing Only 0.18 Square Inch of PCB Area
- ▶ UL File E44211; CSA Approved

Sensitive Subminiature Relay in SPST (1 form A) contact arrangement. Enclosure: P.B.T. polyester. Terminals: Tinned copper alloy, PC.

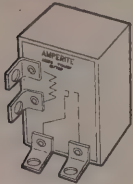
Stock No.	Mfr.'s Type	Voltage	Contact Material	EACH		
				1-49	50-99	100-249
686-0090	AZ695-5	5 DC	Silver Cadmium Oxide	7.20	4.80	3.36
686-0091	AZ695-12	12 DC	Silver Cadmium Oxide	7.20	4.80	3.36
686-0092	AZ695-24	24 DC	Silver Cadmium Oxide	7.95	5.30	3.71
686-0093	AZ695-5G	5 DC	Silver Cadmium Oxide with Gold Plating	7.65	5.10	3.57
686-0094	AZ695-12G	12 DC	Silver Cadmium Oxide with Gold Plating	7.65	5.10	3.57
686-0095	AZ695-24G	24 DC	Silver Cadmium Oxide with Gold Plating	8.25	5.50	3.85

686-0096. ST695. Socket for AZ695 Relays. 1-49.....EACH 1.73
50-99.....EACH 1.04 100-249.....EACH .92

Time Delay Relays



Delay on Operate



C Series

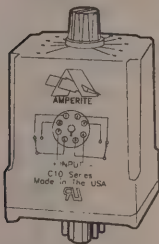
The C Series has solid state analog circuitry with SPST or SPDT relay output. Delay on operate timing mode. Compact Size. **Timing Selection:** Knob adjustable potentiometer or fixed. UL File #E96739(M). CSA File #LR62586. **Contact Rating:** 1/2 Amp @ 110-120V AC, 1 amp @ 32V DC. **Oper. Temp. Range:** -25°C to +60°C. **Mounting:** Single screw or optional 2-screw panel mount.

Ordering Information:

115 A NO .1 -60 S C
A B C D E F G

- A: Denotes nominal input voltage. Voltages available: 12, 24 and 115V AC; 12, 24, 48 and 110V DC. Custom voltages are available.
B: Denotes type of current required for operation: A = AC — Alternating Current. D = DC — Direct Current.
C: Denotes contact form: NO = SPST — 1 form A, C = SPST — 1 form B, SPDT = 1 form C.
D and E: Denotes range of knob adjustability for timing (in seconds) where: D = Minimum time delay, E = Maximum time delay for adjustable TDR's. **Note:** 1.) Ranges available: 0.1 - 60, 60 - 120, 120 - 180, 180 - 240 and 240-300 secs. Custom Timing is available. 2.) Both values (D and E) can be replaced by single value for a factory preset time delay in seconds from 0.1 through 300 secs.
G: Denotes form of termination - Blank = .110 male electro-plate solder terminals, X = .250 male quick connect terminals, S = screw terminals.
H: Denotes use of solid state analog circuitry of C Series.

Stock No.	Mfr.'s Type	Delay Time	Input Voltage	Mode of (1) Operation	EACH
					1-9
892-0001	110DC.1-60C	.1-60	110V DC	N.C.	26.12
892-0002	110NO.1-60C	.1-60	110V DC	N.O.	26.12
892-0003	110SPDT.1-60C	.1-60	110V DC	SPDT	29.45
892-0004	115AC60-120C	60-120	115V AC	N.C.	26.12
892-0005	115AC.1-60C	.1-60	115V AC	N.C.	26.12
892-0006	115ANO60-120C	60-120	115V AC	N.O.	26.12
892-0007	115ANO.1-60C	.1-60	115V AC	N.O.	26.12
892-0008	115ASPD60-120C	60-120	115V AC	SPDT	29.45
892-0009	115ASPD.1-60C	.1-60	115V AC	SPDT	29.45
892-0010	12AC.1-60C	.1-60	12V AC	N.C.	26.12
892-0011	12ANO.1-60C	.1-60	12V AC	N.O.	26.12
892-0012	12ASPD.1-60C	.1-60	12V AC	SPDT	29.45
892-0013	12DC.1-60C	.1-60	12V AC	N.C.	26.12
892-0014	12DNO.1-60C	.1-60	12V DC	N.O.	26.12
892-0015	12DSPDT.1-60C	.1-60	12V DC	SPDT	29.45
892-0016	24AC.1-60C	.1-60	24V AC	N.C.	26.12
892-0017	24ANO.1-60C	.1-60	24V AC	N.O.	26.12
892-0018	24ASPD.1-60C	.1-60	24V AC	SPDT	29.45
892-0019	24DC.1-60C	.1-60	24V DC	N.C.	26.12
892-0020	24DNO.1-60C	.1-60	24V DC	N.O.	26.12
892-0021	24DSPDT.1-60C	.1-60	24V DC	SPDT	29.45
892-0022	48DC.1-60C	.1-60	48V DC	N.C.	26.12
892-0023	48DNO.1-60C	.1-60	48V DC	N.O.	26.12
892-0024	48DSPDT.1-60C	.1-60	48V DC	SPDT	29.45



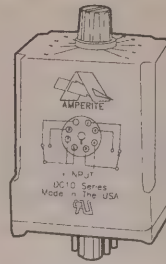
C10 Series (Low Cost 10 Amp TDR)

The C10 Series has solid state analog circuitry with DPDT relay output. Delay on operate timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL File #E96739(M). CSA File #LR62586-3. **Contact Rating:** 10 Amps @240V AC res. **Oper. Temp. Range:** -45° to +70°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A P .1 -60 C
A B C D E F

- A: Denotes nominal input voltage. Voltages available: 12, 24 and 120V AC; 12, 24, 48 and 110V DC. Custom voltages are available.
B: Denotes type of current required for operation: A = AC — Alternating Current. D = DC — Direct Current.
C: Denotes contact form: P = DPDT — 2 form C, S = SPDT — 1 form C.
D and E: Denotes range of knob adjustability for timing (in seconds) where: D = Minimum time delay, E = Maximum time delay for adjustable TDR's. **Note:** 1.) Ranges available: 0.1 - 60, 60 - 120, 120 - 180, 180 - 240, 240 - 300 and 300 - 480 secs. Custom timing is available. 2.) Both values (D and E) can be replaced by a single value for a factory preset time delay in seconds from 0.1 through 480 secs.
F: Denotes use of solid state analog circuitry of C10 Series.



DC10 Series

The DC10 Series has CMOS digital circuitry with DPDT relay output. Delay on operate timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL File #E96739(M). CSA File #LR62586. **Contact Rating:** 10 Amps @ 240V AC res. **Oper. Temp. Range:** -45°C to +70°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A P .1 -60 S DC
A B C D E F G

- A: Denotes nominal input voltage. Voltages available: 12, 24 and 120V AC; 12, 24, 48 and 110V DC. Custom voltages are available.
B: Denotes type of current required for operation: A = AC — Alternating Current. D = DC — Direct Current.
C: Denotes contact form: P = DPDT - 2 form C
D and E: Denotes range of knob adjustability for timing (in seconds, minutes or hours) where: D = Minimum time delay, E = Maximum time delay for adjustable TDR's. **Note:** 1.) Standard ranges are as follows: 1 - 6 seconds, 1 - 10 seconds, 1 - 60 seconds, 1.8 - 180 seconds, 5 - 300 seconds, 1 - 60 minutes, and 1 - 60 hours. Custom timing is available. 2.) Both values (D and E) can be replaced by a single value for a factory preset time delay in seconds, minutes or hours from 0.1 secs. through 1000 hours.
F: Denotes use of seconds, minutes or hours in timing value(s), S = seconds, M = minutes, H = hours.
G: Denotes use of solid state digital circuitry of DC10 Series.

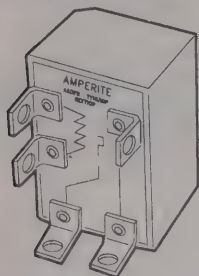
Stock No.	Mfr.'s Type	Delay Time	Input Voltage	Mode of (1) Operation	EACH
					1-9
892-0025	110DP1-60MDC	1-60 MIN.	110V DC	P	43.31
892-0026	110DP1-60SDC	1-60 SEC	110V DC	P	43.31
892-0027	110DP.1-10SDC	.1-10 SEC	110V DC	P	43.31
892-0028	120AP1-60MDC	1-60 MIN.	120V AC	P	43.31
892-0029	120AP1-60SDC	1-60 SEC	120V AC	P	43.31
892-0030	120AP.1-10SDC	.1-10 SEC	120V AC	P	43.31
892-0031	12AP1-60MDC	1-60 MIN.	12V AC	P	43.31
892-0032	12AP1-60SDC	1-60 SEC	12V AC	P	43.31
892-0033	12AP.1-10SDC	.1-10 SEC	12V AC	P	43.31
892-0034	12DP1-60MDC	1-60 MIN.	12V DC	P	43.31
892-0035	12DP1-60SDC	1-60 SEC	12V DC	P	43.31
892-0036	12DP.1-10SDC	.1-10 SEC	12V DC	P	43.31
892-0037	24AP1-60MDC	1-60 MIN.	24V AC	P	43.31
892-0038	24AP1-60SDC	1-60 SEC	24V AC	P	43.31
892-0039	24AP.1-10SDC	.1-10 SEC	24V AC	P	43.31
892-0040	24DP1-60MDC	1-60 MIN.	24V DC	P	43.31
892-0041	24DP1-60SDC	1-60 SEC	24V DC	P	43.31
892-0042	24DP.1-10SDC	.1-10 SEC	24V DC	P	43.31
892-0043	48DP1-60MDC	1-60 MIN.	48V DC	P	43.31
892-0044	48DP1-60SDC	1-60 SEC	48V DC	P	43.31
892-0045	48DP.1-10SDC	.1-10 SEC	48V DC	P	43.31

Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	Mode of (1) Operation	EACH
					1-9
892-0046	110DP60-120C	60-120	110V DC	P	35.46
892-0047	110DP.1-60C	.1-60	110V DC	P	35.46
892-0048	120AP60-120C	60-120	120V AC	P	35.46
892-0049	120AP.1-60C	.1-60	120V AC	P	35.46
892-0050	12AP60-120C	60-120	12V AC	P	35.46
892-0051	12AP.1-60C	.1-60	12V AC	P	35.46
892-0052	12DP60-120C	60-120	12V DC	P	35.46
892-0053	12DP.1-60C	.1-60	12V DC	P	35.46
892-0054	24AP60-120C	60-120	24V AC	P	35.46
892-0055	24AP.1-60C	.1-60	24V AC	P	35.46
892-0056	24DP60-120C	60-120	24V DC	P	35.46
892-0057	24DP.1-60C	.1-60	24V DC	P	35.46
892-0158	48DP60-120C	60-120	48V DC	P	35.46
892-0159	48DP.1-60C	.1-60	48V DC	P	35.46

- 1) N.C. = Normally closed contacts
N.O. = Normally open contacts
SPDT = Single pole double throw contacts
P = Double pole double throw contacts
ON/Off = 2 - SPST normally open contacts

Note: New Amperite products are continuously available. Call Allied for availability and for information on custom termination, voltages and timing, as well as accessories.

Delay on Release



CR Series

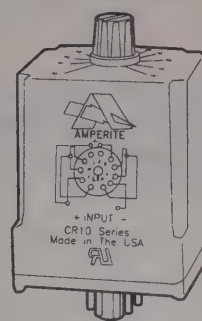
The CR Series has solid state analog circuitry with SPDT relay output. Triggered delay on release timing mode. Compact Size. **Timing Selection:** Knob adjustable potentiometer or fixed. UL file #E96739(M). CSA File #LR62586. **Contact Rating:** 1/2 Amp @ 110-120V AC, 1 amp @ 32V DC. **Oper. Temp. Range:** -25°C to +60°C. **Mounting:** Single screw or optional 2-screw panel mount.

Ordering Information:

115 A NO R 1 -120 X C
A B C D E F G H

A: Denotes nominal input voltage. Voltages available: 12, 24 and 115V AC; 12, 24, 48 and 110V DC. Custom Voltages are available.
B: Denotes type of current required for operation: A=AC — Alternating Current. D = DC — Direct Current.
C: Denotes contact form: NO = SPST — 1 form A, C = SPST — 1 form B, SPDT = 1 form C.
D: Denotes trigger reset function of CR series TDR.
E and F: Denotes range of knob adjustability for timing (in seconds) where: E = Minimum time delay. F = Maximum time delay for adjustable TDR's. **Note:** 1.) Ranges available: 1 -120, 120 - 240, 240 - 480 and 480 - 600 secs. Custom Timing is available. 2.) Both values (E and F) can be replaced by single value for a factory preset time delay in seconds from 1 through 600 secs.
G: Denotes form of termination - Blank = .110 male electro-plate solder terminals, X = .250 male quick connect terminals, S = screw terminals.
H: Denotes use of solid state analog circuitry of CR Series.

Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	Mode of (1) Operation	EACH 1-9
892-0060	110DNOR1-120C	1-120	110V DC	N.O.	26.12
892-0061	110DSPDTR1-120C	1-120	110V DC	SPDT	29.45
892-0062	115ANOR1-120C	1-120	115V AC	N.O.	26.12
892-0063	115ASPDTR1-120C	1-120	115V AC	SPDT	29.45
892-0064	12ANOR1-120C	1-120	12V AC	N.O.	26.12
892-0065	12ASPDTR1-120C	1-120	12V AC	SPDT	29.45
892-0066	12DNOR1-120C	1-120	12V DC	N.O.	26.12
892-0067	12DSPDTR1-120C	1-120	12V DC	SPDT	29.45
892-0068	24ANOR1-120C	1-120	24V AC	N.O.	26.12
892-0069	24ASPDTR1-120C	1-120	24V AC	SPDT	29.45
892-0070	24DNOR1-120C	1-120	24V DC	N.O.	26.12
892-0071	24DSPDTR1-120C	1-120	24V DC	SPDT	29.45
892-0072	48DNOR1-120C	1-120	48V DC	N.O.	26.12
892-0073	48DSPDTR1-120C	1-120	48V DC	SPDT	29.45



CR10 Series (Low Cost 10 Amp TDR)

The CR10 Series has solid state analog circuitry with DPDT relay output. Triggered delay on release timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL file #E96739(M). CSA File #LR62586-3. **Contact Rating:** 10 Amps @ 240V AC res. **Oper. Temp. Range:** -45°C to +70°C. **Mounting:** 11-Pin octal style plug.

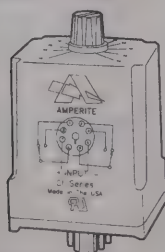
Ordering Information:

120 A P R 1 -120 C
A B C D E F G

A: Denotes nominal input voltage. Voltages available: 12, 24 and 120V AC; 12, 24, 48 and 110V DC. Custom Voltages are available.
B: Denotes type of current required for operation: A=AC — Alternating Current. D = DC — Direct Current.
C: Denotes contact form: P = DPDT — 2 form C.
D: Denotes trigger reset function of CR10 series TDR.
E and F: Denotes range of knob adjustability for timing (in seconds) where: E = Minimum time delay. F = Maximum time delay for adjustable TDR's. **Note:** 1.) Ranges available: 1 -120, 120 - 240, 240 - 480 and 480 - 600 secs. Custom Timing is available. 2.) Both values (E and F) can be replaced by single value for a factory preset time delay in seconds from 1 through 600 secs.
G: Denotes use of solid state analog circuitry of CR10 Series.

Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	Mode of (1) Operation	EACH 1-9
892-0074	110DPR120-240C	120-240	110V DC	P	37.64
892-0075	110DPR1-120C	1-120	110V DC	P	37.64
892-0076	120APR120-240C	120-240	120V AC	P	37.64
892-0077	120APR1-120C	1-120	120V AC	P	37.64
892-0078	12APR120-240C	120-240	12V AC	P	37.64
892-0079	12APR1-120C	1-120	12V AC	P	37.64
892-0080	12DPR120-240C	120-240	12V DC	P	37.64
892-0081	12DPR1-120C	1-120	12V DC	P	37.64
892-0082	24APR120-240C	120-240	24V AC	P	37.64
892-0083	24APR1-120C	1-120	24V AC	P	37.64
892-0084	24DPR120-240C	120-240	24V DC	P	37.64
892-0085	24DPR1-120C	1-120	24V DC	P	37.64
892-0086	48DPR120-2400C	120-240	48V DC	P	37.64
892-0087	48DPR1-120C	1-120	48V DC	P	37.64

Interval — On



CI Series (Low Cost 10 Amp TDR)

The CI Series has solid state analog circuitry with DPDT relay output. One-shot, interval-on timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL file #E96739(M). CSA File #LR62586. **Contact Rating:** 10 Amps @240V AC res. **Oper. Temp. Range:** -45°C to +70°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A P 1 -60 CI
A B C D E F

A: Denotes nominal input voltage. Voltages available: 12, 24 and 120V AC; 12, 24, 48 and 110V DC. Custom Voltages are available.
B: Denotes type of current required for operation: A=AC — Alternating Current. D = DC — Direct Current.
C: Denotes contact form: P = DPDT — 2 form C.
D and E: Denotes range of knob adjustability for timing (in seconds) where: D = Minimum time delay. E = Maximum time delay for adjustable TDR's. **Note:** 1.) Ranges available: 1 -60, 60 - 120, 120 - 180, 180 - 240, 240 - 300 and 300 - 480 secs. Custom Timing is available. 2.) Both values (D and E) can be replaced by single value for a factory preset time delay in seconds from 0.1 through 4800 secs.
F: Denotes use of solid state analog circuitry of CI Series.

Stock No.	Mfr.'s Type	Delay in Seconds	Input Voltage	Mode of (1) Operation	EACH 1-9
892-0088	110DP60-120CI	60-120	110V DC	P	39.25
892-0089	110DP.1-60CI	.1-60	110V DC	P	39.25
892-0090	120AP60-120CI	60-120	120V AC	P	39.25
892-0091	120AP.1-60CI	.1-60	120V AC	P	39.25
892-0092	12AP60-120CI	60-120	12V AC	P	39.25
892-0093	12AP.1-60CI	.1-60	12V AC	P	39.25
892-0094	12DP60-120CI	60-120	12V DC	P	39.25
892-0095	12DP.1-60CI	.1-60	12V DC	P	39.25
892-0096	24AP60-120CI	60-120	24V AC	P	39.25
892-0097	24AP.1-60CI	.1-60	24V AC	P	39.25
892-0098	24DP60-120CI	60-120	24V DC	P	39.25
892-0099	24DP.1-60CI	.1-60	24V DC	P	39.25
892-0100	48DP60-120CI	60-120	48V DC	P	39.25
892-0101	48DP.1-60CI	.1-60	48V DC	P	39.25

1) N.C.= Normally closed contacts

N.O.= Normally open contacts

SPDT= Single pole double throw contacts

P= Double pole double throw contacts

ON/Off= 2 - SPST normally open contacts

Note: New Amperite products are continuously available. Call Allied for availability and for information on custom termination, voltages and timing, as well as accessories.



Interval-On (Low Cost 10 Amp TDR)

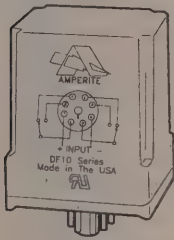
CIR Series

The CIR Series has solid state analog circuitry with DPDT relay output. Triggered one-shot, interval-on timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL File #E96739(M). CSA File #LR62586. **Contact Rating:** 10 amps @ 240V AC res. **Oper. Temp. Range:** -45°C to +70°C. **Mounting:** 11-pin octal style plug.

Ordering Information:

120 A 1 P C 1 D -60 E CIR F

- A: Denotes nominal input voltage. Voltages available: 12, 24 and 120V AC; 12, 24, 48 and 110V DC. Custom voltages are available.
B: Denotes type of current required for operation: A = AC — Alternating Current, D = DC — Direct Current.
C: Denotes contact form: P = DPDT — 2 form C.



Flashers (Low Cost 10 Amp Flasher)

DF10 Series

The DF10 Series has solid state analog circuitry with DPDT relay output. Recycle timer/flasher timing mode. **Timing Selection:** fixed flash rates. **Duty Cycle:** 50% UL File #E96739(M). CSA File #LR62586. **Contact Rating:** 10 Amps @240V AC res. **Oper. Temp. Range:** -45°C to +70°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A 1 F C 60 D DF10 E

- A: Denotes nominal input voltage. Voltages available: 12, 24 and 120V AC; 12, 24, 48 and 110V DC. Custom voltages are available.
B: Denotes type of current required for operation: A = AC — Alternating Current, D = DC — Direct Current.
C: Denotes flasher configuration.
D: Denotes flash rate. Standard rates are 30, 45, 60, 75, 90 and 120 FPM.
E: Denotes 10A DPDT 2 form C flasher — DF10 Series.

Stock No.	Mfr.'s Type	Flash Rate F.P.M.	Input Voltage	Mode of Operation	EACH
					1-9
892-0114	110DF60DF10	60	110V DC	Flasher	37.64
892-0115	110DF90DF10	90	110V DC	Flasher	37.64
892-0116	120AF120DF10	120	120V AC	Flasher	37.64
892-0117	120AF60DF10	60	120V AC	Flasher	37.64
892-0118	120AF90DF10	90	120V AC	Flasher	37.64
892-0119	12AF60DF10	60	12V AC	Flasher	37.64
892-0120	12AF90DF10	90	12V AC	Flasher	37.64
892-0121	12DF60DF10	60	12V DC	Flasher	37.64
892-0122	12DF90DF10	90	12V DC	Flasher	37.64
892-0123	24AF60DF10	60	24V AC	Flasher	37.64
892-0124	24AF90DF10	90	24V AC	Flasher	37.64
892-0125	24DF60DF10	60	24V DC	Flasher	37.64
892-0126	24DF90DF10	90	24V DC	Flasher	37.64

DF Series

The DF Series are totally encapsulated solid state analog flashing devices. **Universal input:** 24V to 120V AC or DC operation in one device. No moving parts to wear out. 2 amp rating. Low cost — compact size. 2 terminal configuration— easy connection to load. Fixed flash rates. **Duty cycle:** 50% UL File #D96739(M). CSA File #LR62586. **Oper. Temp. Range:** -23°C to +60°C. **Mounting:** Single screw or optional 2 screw panel mount.

Ordering Information:

24-120 A 1 F C 60 D DF

- A: Denotes input voltage. Universal input voltage: 24-120V AC or DC. Custom voltages are available.
B: Denotes flasher configuration.
C: Denotes flash rate. Standard rates are 30, 45, 60, 75, 90 and 120 FPM. Custom rates are also available from 2-1000 F.P.M.
D: Denotes solid state 2-terminal DF flasher.

Stock No.	Mfr.'s Type	Flash Rate F.P.M.	Input Voltage	Mode of Operation	EACH
					1-9
892-0144	24-120F30DF	30	24-120V AC/DC	Flasher	17.64
892-0145	24-120F45DF	45	24-120V AC/DC	Flasher	17.64
892-0146	24-120F60DF	60	24-120V AC/DC	Flasher	17.64
892-0147	24-120F90DF	90	24-120V AC/DC	Flasher	17.64
892-0148	24-120F120DF	120	24-120V AC/DC	Flasher	17.64

1. N.C. = Normally closed contacts. N.O. = Normally open contacts. SPDT= Single pole double throw contacts. P = Double pole double throw contacts. On/Off = 2 — SPST normally open contacts.
Note: New Amperite products are continuously available. Call Allied for availability and for information on custom termination, voltages and timing, as well as accessories.

D and E: Denotes range of knob adjustability for timing (in seconds) where: D = Minimum time delay. E = Maximum time delay for adjustable TDRs. **Note:** 1.) Ranges available: 0.1-60, 60-120, 120-180, 180-240, 240-300 and 300-480 secs. Custom timing is available. 2.) Both values (D and E) can be replaced by a single value for a factory preset time delay in seconds from 0.1 through 480 secs.

F: Denotes use of solid state analog circuitry of CIR Series.

Stock No.	Mfr.'s Type	Delay In Seconds	Input Voltage	Mode of (1) Operation	EACH
					1-9
892-0102	110DP60-120CIR	60-120	110V DC	P	41.95
892-0103	110DP.1-60CIR	.1-60	110V DC	P	41.95
892-0104	120AP60-120CIR	60-120	120V AC	P	41.95
892-0105	120AP.1-60CIR	.1-60	120V AC	P	41.95
892-0106	12AP60-120CIR	60-120	12V AC	P	41.95
892-0107	12AP.1-60CIR	.1-60	12V AC	P	41.95
892-0108	12DP60-120CIR	60-120	12V DC	P	41.95
892-0109	12DP.1-60CIR	.1-60	12V DC	P	41.95
892-0110	24AP60-120CIR	60-120	24V AC	P	41.95
892-0111	24AP.1-60CIR	.1-60	24V AC	P	41.95
892-0112	24DP60-120CIR	60-120	24V DC	P	41.95
892-0113	24DP.1-60CIR	.1-60	24V DC	P	41.95

D Series

The D Series are solid state analog flashing devices. No moving parts to wear out. 2 amp rating. Output: AC units — Triac; DC units— transistor. Low cost-compact size. 3 terminal configuration. No current leakage to load. Fixed flash rates. **Duty Cycle:** 50%. UL File #E96739(M). CSA File #LR62586. **Oper. Temp. Range:** -23°C to +60°C. **Mounting:** Single screw or optional 2 screw panel mount.

Ordering Information:

115 A 1 F C 60 D X D F

- A: Denotes nominal input voltage. Voltages available: 6, 12, 24, 48 and 115V AC; 6, 12, 24, 48 and 110V DC. Custom voltages are available.
B: Denotes type of current required for operation: A = AC — Alternating Current, D = DC — Direct Current.
C: Denotes flasher configuration.
D: Denotes flash rate. Standard rates are 30, 45, 60, 75, 90, and 120 FPM. Custom rates are also available from 2 - 1000 F.P.M.
E: Denotes form of termination—blank = .110 male electro-plate solder terminals. X = .250 male quick connect terminals. S = screw terminals.
F: Denotes use of solid state analog circuitry of D Series.

Stock No.	Mfr.'s Type	Flash Rate F.P.M.	Input Voltage	Mode of Operation	EACH
					1-9
892-0130	110DF60D	60	110V DC	Flasher	16.98
892-0131	110DF90D	90	110V DC	Flasher	16.98
892-0132	115AF30D	30	115V AC	Flasher	16.98
892-0133	115AF60D	60	115V AC	Flasher	16.98
892-0134	115AF90D	90	115V AC	Flasher	16.98
892-0135	12AF60D	60	12V AC	Flasher	16.98
892-0136	12AF90D	90	12V AC	Flasher	16.98
892-0137	12DF30D	30	12V DC	Flasher	16.98
892-0138	12DF60D	60	12V DC	Flasher	16.98
892-0139	12DF90D	90	12V DC	Flasher	16.98
892-0140	24AF60D	60	24V AC	Flasher	16.98
892-0141	24AF90D	90	24V AC	Flasher	16.98
892-0142	24DF60D	60	24V DC	Flasher	16.98
892-0143	24DF90D	90	24V DC	Flasher	16.98

DFW Series

The DFW wig-wag series has solid state analog circuitry with alternating SPST relay output. Ideal for emergency or police vehicular use. Small, compact, reliable, and easy to install. 5 terminal or 5 wire lead configuration. **Timing Selection:** fixed flash rate of 110 F.P.M. **Duty Cycle** 50%. **Contact Rating:** 15 amps. **Oper. Temp. Range:** -40°C to +125°C. **Mounting:** Two screw mounted wings.

Ordering Information:

12 A 1 F C 110 D H DFW E

- A: Denotes nominal input voltage. Voltages available: 12V DC.
B: Denotes flasher configuration.
C: Denotes flash rate. Standard rate is 110 F.P.M. Custom rates are also available from 10 to 120 F.P.M.
D: Denotes form of termination: -H = #14 gauge flexible wire. L = quick connect input and load terminals.
E: Denotes DFW Series alternating flasher.

Stock No.	Mfr.'s Type	Input Voltage	Mode of Operation	EACH
				1-9
892-0127	12F110HDFW	12V DC	On/Off	33.38
892-0128	12F110LDFW	12V DC	On/Off	33.38
892-0129	L-WIG-WIRE	N/A	N/A	6.00



— NEW —

Time Delay Relays and Flashers

DCR10 Series Delay On Release TDR

The DCR10 has CMOS digital circuitry with DPDT relay output. Delay on Release timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL File pending. CSA File pending. **Contact Rating:** 10 A at 240 V AC res. **Operating Temperature Range:** -45°C~+70°C. **Mounting:** 11-pin octal style plug.

Ordering Information:

120 A P 6 -60 S DCR10
A B C D E F G

- A: Denotes nominal input voltage. **Voltages Available:** 12, 24 and 120 V AC; 12, 24, 48 and 110 V DC. Custom voltages are available.
B: Denotes type of input current required for operation: A = AC-Alternating Current; D = DC-Direct Current.
C: Denotes contact form: P = DPDT — 2 Form C.
D and E: Denotes range of knob adjustability for timing (in secs., mins., or hrs.) where: D = Minimum time delay. E = Maximum time delay for adjustable TDRs. Note: 1) Standard timing ranges are as follows: 1-10 secs., 3-30 secs., 6-60 secs., 1-8-180 secs., 5-300 secs., 1-10 mins., 1-60 mins., 10-100 mins., and 1-60 hrs. Custom timing is available. 2) Both values (D and E) can be replaced by a single value for a factory preset time delay in secs., mins., or hrs. from .1 secs through 1000 hrs.
F: Denotes use of secs., mins., or hrs. in timing value(s). S = seconds, M = minutes, H = Hours.
G: Denotes use of solid state digital circuitry of DCR10 Series.

Stock No.	Mfr.'s Type	Delay Time	Voltage	EACH
892-1001	120AP-1-10SDCR10	1-10 sec.	120 AC	57.72
892-1002	120AP1-60HDCR10	1-60 hrs.	120 AC	57.72
892-1003	12DP-1-10SDCR10	1-10 sec.	12 DC	57.72
892-1004	12DP1-60HDCR10	1-60 hrs.	12 DC	57.72
892-1005	24DP-1-10SDCR10	1-10 sec.	24 DC	57.72
892-1006	24DP1-60HDCR10	1-60 hrs.	24 DC	57.72

DFA Series Adjustable Recycle Timer

The DFA has CMOS digital circuitry with DPDT relay output. Adjustable Recycle timing mode. **Timing Selection:** Two knob adjustable potentiometers or fixed. UL File No. E96739 (M). CSA File No. LR62586. **Contact Rating:** 10 A at 240 V AC res. **Operating Temperature Range:** -45°C~+70°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A A / A R DFA
A B C D E

- A: Denotes nominal input voltage. **Voltages Available:** 12, 24 and 120 V AC; 12, 24, 48 and 110 V DC. Custom voltages are available.
B: Denotes type of input current required for operation: A = AC-Alternating Current; D = DC-Direct Current.
C: Denotes first timing period. For standard units this is an "off" time delay. Fixed timing is available. If fixed timing is desired please indicate S for secs., M for mins., or H for hrs.
D: Denotes second timing period. For standard units this is an "on" timing period. Fixed timing is also available. For both the first and second timing periods the standard timing ranges are as follows: A = 1-10 secs., B = 25-25 secs., C = 6-60 secs., D = 1-2-120 secs., E = 1-8-180 secs., and F = 1-100 mins. Note: If the "on" time delay period is desired to occur first upon application of input power, place an "R" after the second timing period code letter.
E: Denotes use of solid state digital circuitry of DFA Series.

Stock No.	Mfr.'s Type	Delay Time	Voltage	EACH
892-1007	24AA/ADFA	1-10 sec.	24 AC	62.06
892-1008	24AF/DFDA	1-100 min.	24 AC	62.06
892-1009	120AA/ADFA	1-10 sec.	120 AC	62.06
892-1010	120AF/DFDA	1-100 min.	120 AC	62.06
892-1011	24DA/ADFA	1-10 sec.	24 DC	62.06
892-1012	24DF/DFDA	1-100 min.	24 DC	62.06
892-1013	110DA/ADFA	1-10 sec.	110 DC	62.06
892-1014	110DF/DFDA	1-100 min.	110 DC	62.06

DFV Series Adjustable Flasher

The DFV has solid state analog circuitry with DPDT relay output. Adjustable Flasher Circuitry. **Flash Rate Timing Selection:** Knob adjustable potentiometer. UL File No. E96739 (M). CSA File No. LR62586. **Contact Rating:** 10 A at 240 V AC res. **Operating Temperature Range:** -45°C~+70°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A E 10 -120 DFV
A B C D E F

- A: Denotes nominal input voltage. **Voltages Available:** 12, 24 and 120 V AC; 12, 24, 48 and 110 V DC. Custom voltages are available.
B: Denotes type of input current required for operation: A = AC-Alternating Current; D = DC-Direct Current.
C: Denotes Flasher Configuration.
D and E: Denotes range of knob adjustability for Flash Rate where: D = minimum number of flashes per minute (FPM); E = maximum number of flashes per minute (FPM). Note: Standard rate is from 10-120 FPM. Custom rates are available, within ranges, between 1 and 240 FPM.
F: Denotes use of solid state analog circuitry of DFV Series.

Stock No.	Mfr.'s Type	Flashes Per Min.	Input Voltage	EACH
892-1015	24AF10-120DFV	10-120 FPM	24 AC	39.72
892-1016	120AF10-120DFV	10-120 FPM	120 AC	39.72
892-1017	24DF10-120DFV	10-120 FPM	24 DC	39.72
892-1018	110DF10-120DFV	10-120 FPM	110 DC	39.72

Contact your nearest Allied location for accessories and the latest Amperite products.

DOD Series Delay On Drop-Out TDR

The DOD has analog circuitry with DPDT relay output. True Delay on Dropout timing mode. **Timing Selection:** Knob adjustable potentiometer or fixed. UL File No. E96739 (M). CSA File pending. **Contact Rating:** 4 A at 250 V AC. **Operating Temperature Range:** -40°C~+65°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A 6 -60 S DOD
A B C D E F

- A: Denotes nominal input voltage. **Voltages Available:** 24 and 120 V AC; 24, 48 and 110 V DC. Custom voltages are available.
B: Denotes type of input current required for operation: A = AC-Alternating Current; D = DC-Direct Current.
C and D: Denotes range of knob adjustability for timing (in secs. or mins.) where: C = Minimum time delay. D = Maximum time delay for adjustable TDRs. Note: 1) Standard timing ranges are as follows: 1-10 secs., 6-60 secs., 1-2-120 secs., 3-300 secs. Custom timing is available. 2) Both values (C and D) can be replaced by a single value for a factory preset time delay in secs. or mins. from .1 secs through 300 secs.
E: Denotes use of secs. or mins. in timing value(s). S = seconds, M = minutes.
F: Denotes use of solid state analog circuitry of DOD Series.

Stock No.	Mfr.'s Type	Delay Time	Input Voltage	EACH
892-1019	24A-1-10SDOD	1-10 sec.	24 AC	60.55
892-1020	24A-6-60SDOD	6-60 sec.	24 AC	60.55
892-1021	24A3-300SDOD	3-300 sec.	24 AC	60.55
892-1022	120A-1-10SDOD	1-10 sec.	120 AC	60.55
892-1023	120A-6-60SDOD	6-60 sec.	120 AC	60.55
892-1024	120A3-300SDOD	3-300 sec.	120 AC	60.55
892-1025	24D-6-60SDOD	6-60 sec.	24 DC	60.55
892-1026	24D3-300SDOD	3-300 sec.	24 DC	60.55
892-1027	110D-6-60SDOD	6-60 sec.	110 DC	60.55
892-1028	110D3-300SDOD	3-300 sec.	110 DC	60.55

SWPDC Series Delay On Operate TDR

The SWPDC has CMOS digital circuitry with DPDT relay output. Delay on Operate timing mode. **Timing Selection:** Five position binary coded DIP switch plus vernier knob adjustment. Twenty overlapping timing ranges covering .25 secs to 160 hrs. UL File No. E96739 (M). CSA File pending. **Contact Rating:** 10 A at 240 V AC res. **Operating Temperature Range:** -45°C~+70°C. **Mounting:** 8-pin octal style plug.

Ordering Information:

120 A B C SWPDC

- A: Denotes nominal input voltage. **Voltages Available:** 12 AC or DC; 24 AC or DC; 48 DC; 120 AC or DC, Custom voltages are available.
B: For custom voltages only — denotes input current required for operation: A = AC-Alternating Current; D = DC-Direct Current.
C: Denotes DPDT (2 Form C) 10 A CMOS Delay on Operate SWPDC Series Time Delay Relay with 5 position binary coded DIP Switch and built in potentiometer.

Stock No.	Mfr.'s Type	Delay Time	Input Voltage	EACH
892-1029	12SWPDC	User selectable	12 AC/DC	53.54
892-1030	24SWPDC	User selectable	24 AC/DC	53.54
892-1031	120SWPDC	User selectable	120 AC/DC	53.54

SWUDC Series Four Mode TDR

The SWUDC has CMOS digital circuitry with DPDT relay output. **Four Timing Modes:** Delay on Operate, Delay on Release, Delay on Operate and Release, and Interval or One-Shot all in one unit. **Timing Selection:** Binary coded DIP switch plus vernier knob adjustment. User selectable timing ranges covering 0.1 secs to 77.5 hrs. UL File pending. CSA File pending. **Contact Rating:** 10 A at 240 V AC res. **Operating Temperature Range:** -45°C~+70°C. **Mounting:** 11-pin octal style plug.

Ordering Information:

120 A B C SWUDC

- A: Denotes nominal input voltage. **Voltages Available:** 12 AC or DC; 24 AC or DC; 48 DC; 120 AC or DC, Custom voltages are available.
B: For custom voltages only — denotes input current required for operation: A = AC-Alternating Current; D = DC-Direct Current.
C: Denotes DPDT (2 Form C) 10 A CMOS Four Timing mode SWUDC Series Time Delay Relay with binary coded 9 position DIP Switch and built in potentiometer.

Stock No.	Mfr.'s Type	Delay Time	Input Voltage	EACH
892-1032	12SWUDC	User selectable	12 AC/DC	57.50
892-1033	24SWUDC	User selectable	24 AC/DC	57.50
892-1034	120SWUDC	User selectable	120 AC/DC	57.50

Freedom 10 Time Delay Relay



- ▶ Voltage and Polarity Friendly From 24V to 240; AC or DC; and 50/60 Hertz
- ▶ 2 Calibrated Controls: 1-100 Seconds and 0-15 Minutes
- ▶ DPDT Relay, Rating 5 Amps, Resistive 1/10 HP @ 120/240VAC

- ▶ 1% Repeatability
- ▶ Time Delay Range of 1 Second to 15 Minutes
- ▶ CMOS IC Control Circuitry
- ▶ -20°C to +55°C Ambient
- ▶ Octal or Spade Termination
- ▶ UL Listed

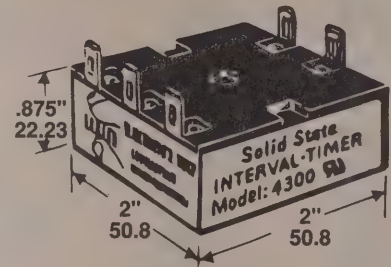
The Freedom 10 Time Delay Relay operates from any supply voltage from 24 to 240 volts AC/DC, 50/60 Hz. DPDT output contacts rated 5 amps resistive or 1/10 HP motor load at 120/240VAC. Timing is adjustable from 1 second to 15 minutes by using the two calibrated controls together in any combination desired. The Freedom 10 is available with either octal or spade termination.

Stock No.	Mfr.'s Type	EACH		
		1-9	10-24	25-49
519-5200	Freedom 10/Octal	58.91	56.59	56.31
519-5205	Freedom 10/Spade	58.91	56.59	56.31

4300 Interval Timer

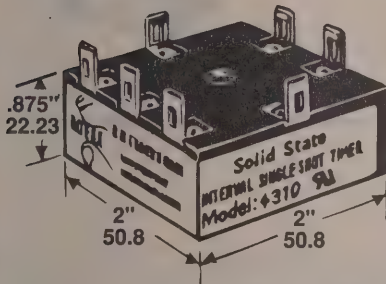
Model 4300 is an interval timer that permits operating voltage to be applied to a load circuit for a preset timing period. The load will operate only once for each application of power for the preset time and then turn off. Should the power be removed during the timing period the load would turn off, and the timing period reset to the start of another cycle. In order for the load circuit to see the full interval of operating voltage, the input voltage must be present for a duration that exceeds the preset timing interval. U.L./CSA listed. Other voltages and times available from factory.

Stock No.	Mfr.'s Type	Voltage	Adjustable Timing Interval	EACH			
				1-9	10-24	25-49	50-99
519-4301	4300A-3-1	24VDC	0.1-30 sec.	23.45	21.78	20.33	19.05
519-4302	4300A-3-2	24VDC	1-300 sec.	23.45	21.78	20.33	19.05
519-4311	4300A-8-1	120VAC	0.1-30 sec.	23.45	21.78	20.33	19.05
519-4312	4300A-8-2	120VAC	1-300 sec.	23.45	21.78	20.33	19.05
519-4313	4300A-8-3	120VAC	2-1000 sec.	23.45	21.78	20.33	19.05



Interval/Single-Shot Timer

Model 4310 can perform as an interval timer, or as a single-shot timer. The difference between interval and single-shot operation is the operation of the initiate switch. If the load is to operate from a continuous closure from the initiate switch, wire the timer with no jumper between terminals 6 and 7. In this mode the Model 4310 will function as an interval timer. If the load circuit is to operate for the entire timing period even if the initiate switch is closed for a short duration, connect terminals 6 and 7 and operate as a single-shot timer. In single-shot operation the power switched to the load cannot be removed with the initiate switch once the cycle has been initiated. **10 amp zero voltage switching.** UL/CSA Listed. Other voltages and times available from factory.

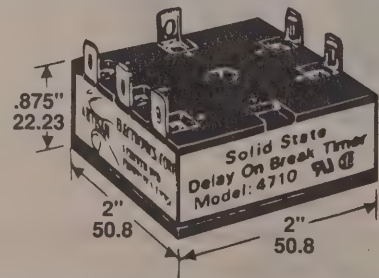


Stock No.	Mfr.'s Type	Operating Voltage	Output Rating	Adjustable Timing Interval	EACH			
					1-9	10-24	25-49	50-99
519-4404	4310A-8-A-4	120VAC	1 Amp	10-4500 sec.	36.20	33.60	31.37	29.40
519-4411	4310A-8-B-1	120VAC	5 Amp	0.1-30 sec.	41.69	38.72	36.13	33.88
519-4412	4310A-8-B-2	120VAC	5 Amp	1-300 sec.	41.69	38.72	36.13	33.88
519-4414	4310A-8-B-4	120VAC	5 Amp	10-4500 sec.	41.69	38.72	36.13	33.88

4710 Delay-On-Dropout Timer

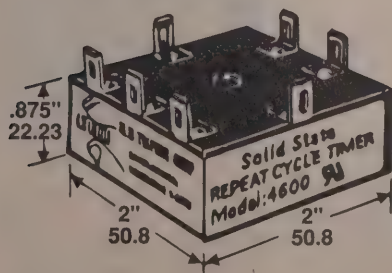
The Model 4710 is a Delay-On-Dropout Timer which can control DC loads to 1 Amp or AC loads to 10 Amps with additional heatsinking. Closure of the initiate switch will energize the load. The timing period begins when the switch opens and resets to the beginning whenever it re-closes. To energize the load or reset the time delay, the switch must close for at least 100 milliseconds. All other specifications are identical to the Model 4310 above. UL/CSA listed. Other voltages and times available from factory.

Stock No.	Mfr.'s Type	Operating Voltage	Output Rating	Adjustable Timing Interval	EACH			
					1-9	10-24	25-49	50-99
519-5175	4710A-8-A-2	120VAC	1 Amp	1-300 sec.	36.20	33.60	31.37	29.40
519-5181	4710A-8-B-2	120VAC	5 Amp	1-300 sec.	41.69	38.72	36.13	33.88
519-5185	4710A-8-B-3	120VAC	5 Amp	2-1000 sec.	41.69	38.72	36.13	33.88



Adjustable Repeat Cycle Timers

Model 4600 can be used in most applications which require a load circuit to "turn-on" for a predetermined period of time, "turn-off" for a period of time, and then repeat the cycle for as long as operating voltage is applied. Can control loads up to one ampere. Controlled by external resistors which establish the "Repeat Cycle Time" and the "Energize Time". Provides a Non-Zero Voltage switching output. UL/CSA listed. Model 4610 is the high power version of the 4600 Repeat Cycle Timer. Can control loads up to 10 amperes and provides zero-voltage switching. Operates from AC voltage only. UL recognized. UL/CSA listed. Other voltages and times available from factory.



Stock No.	Mfr.'s Type	Volts	Time Range	Adjustable Energize Time	EACH			
					1-9	10-24	25-49	50-99
519-4001	4600A-2-1-A	24VDC	0.2-60 sec.	.1 sec. to 50%	30.50	28.34	26.44	24.78
519-4005	4600A-6-1-A	120VAC	0.2-60 sec.	.1 sec. to 50%	30.50	28.34	26.44	24.78
519-4007	4600A-6-2-A	120VAC	2-600 sec.	1 sec. to 50%	30.50	28.34	26.44	24.78
519-4009	4600A-6-3-A	120VAC	4-2000 sec.	2 sec. to 50%	30.50	28.34	26.44	24.78
519-4020	4610A-6-2-A	120VAC	2-600 sec.	1 sec. to 50%	45.61	42.35	39.52	37.05

Universal Delay on Make and Universal Interval Solid State Timers and Universal Flashers

Artisan's Universal Series of Time Capsules is now available in three different timing modes: Delay On Make, Interval and Flasher.

All models are available in voltage ranges from 24 to 240 volts. They differ only in timing ranges and how the times are set. There is no need to observe polarity with any of this series. **Output:** 10 milliamps to 1 ampere inductive. Eight volt maximum drop across. **438, 438UI and 438UF.** The timing period is set by connecting a resistor across the middle two terminals. A jumper across the timing terminal produces a one second delay, add 10K per second to increase time. **438USA, 438USAI, 438USA-INT, 438USAF.** All timing is set by the binary coded DIP switch, which has ten programmable switches enabling the time to be easily set over the entire timing range. **438UP, 438PI, 438UPF.** Timing is controlled by a sealed potentiometer located between the terminals.

Universal Delay on Make

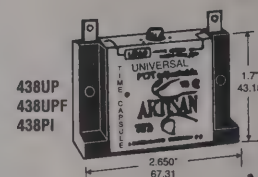
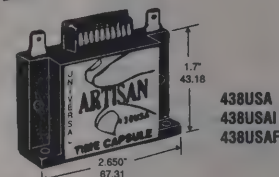
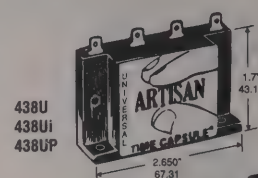
Stock No.	Mfr.'s Type	Voltage	Time Range	EACH
519-1000	438U	19-288 V AC/DC	1-1000 seconds	23.27
519-1001	438U-1	19-288 V AC/DC	2-2000 seconds	27.27
519-2010	438UP	19-288 V AC/DC	1 second-8 minutes	25.01
519-2000	438USA	19-288 V AC/DC	1-1024 seconds	26.76
519-1002	438USA-1	18-50 V AC/DC	0.1-102.4 seconds	26.76
519-1003	438USA-2	30-100 V AC/DC	0.1-102.4 seconds	26.76
519-1004	438USA-3	100-288 V AC/DC	0.1-102.4 seconds	26.76
519-1005	438USA-4	20-288 V AC/DC	2-2024 seconds	26.76

Universal Interval Solid State Timer

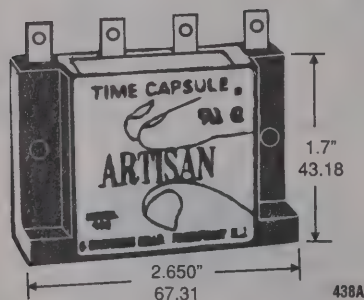
519-1006	438UI	19-288 V AC/DC	1-1000 seconds	27.27
519-1007	438UI-1	19-288 V AC/DC	0.1-100 seconds	27.27
519-1008	438UI-2	19-288 V AC/DC	10-10000 seconds	27.27
519-1009	438USAI	24-240 V AC/DC	1-1024 seconds	32.73
519-1010	438USAI-1	24-240 V AC/DC	0.1-102.4 seconds	32.73
519-1011	438USAI-2	24-240 V AC/DC	10-10240 seconds	32.73
519-2001	438USA-INT	24-240 V AC/DC	1-1024 seconds	32.65
519-1012	438PI-115	105-135 V AC/DC	5-480 seconds	49.09
519-1013	438PI-230	200-277 V AC/DC	5-480 seconds	49.09

Universal Flashers

519-1014	438UF	19-288 V AC/DC	2-2000 seconds	27.27
519-1015	438USAF	19-288 V AC/DC	2-2048 seconds	32.73
519-1016	438PF	19-288 V AC/DC	2 seconds-16 Minutes	30.91



438A Time Capsule



The 438A Time Capsule is an all solid-state timing module for DELAY ON MAKE control of any load device. The timing period is controlled by a fixed or variable resistor connected across the center two terminals of the Time Capsule. Supplied in three timing ranges: (-1) is adjustable from 0.1-30 seconds. (-2) is adjustable from 1-300 seconds. (-5) is adjustable from 30-8000 seconds. To use the 438A over its full timing range, a 10 megohm potentiometer must be connected across the center two terminals. U.L./CSA listed.

Stock No.	Mfr.'s Type	Voltage	Time Range	EACH			
				1-9	10-24	25-49	50-Up
519-3000	438A-24-1	24	0.1-30 seconds	21.12	19.60	18.30	17.16
519-2005	438A-24-5	24	30-8000 seconds	21.12	19.60	18.30	17.16
519-2011	438A-115-1	120	0.1-30 seconds	21.12	19.60	18.30	17.16
519-2012	438A-115-2	120	1-300 seconds	21.12	19.60	18.30	17.16
519-2015	438A-115-5	120	30-8000 seconds	21.12	19.60	18.30	17.16

AC and DC Flashers

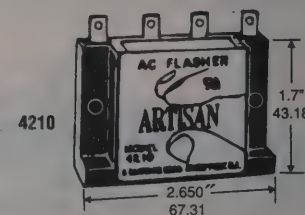
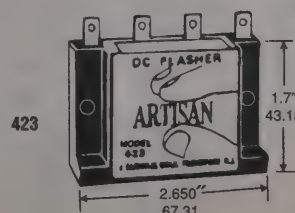
423 DC Flasher. Solid-state device intended for use in electrical and electronic equipment as a flasher for lamp, relay and solenoid circuits and in electronic systems as a power pulser or system clock-driver. Delivers one-half ampere at the operating voltage (24 VDC). (Output is fixed at a 50% duty cycle at 1 pulse per second. (60 flashes per minute).

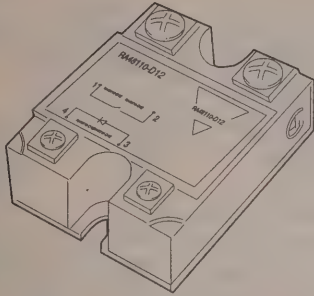
519-5001. Model 423-24-60. 1-9	EACH 22.14
10-24	EACH 20.57
25-49	EACH 19.20
50-Up	EACH 18.00

4210 AC Flasher. Model 4210 is a solid-state device intended for use in electrical and electronic equipment which require a lamp, relay or solenoid to flash at a predetermined rate. Operates with AC line frequencies from 40 to 1200 Hz. 115 VAC. Model 4210-115-60PM has flash rate of 60 flashes per minute. U.L. Listed.

519-5160. Model 4210-115-60FPM. 1-9	EACH 22.33
10-24	EACH 20.73
25-49	EACH 19.36
50-Up	EACH 18.15

Other voltages and flash rates available from factory.



Single Phase/Three Phase Types
and Heat Sinks

- ▶ Single Phase Solid State Relays Available In Five Switching Types
- ▶ Direct Copper Bonding Prolongs Lifetime of Output Semiconductor
- ▶ Unique Raised Back Plate Ensures Optimum Heat Dissipation
- ▶ Up to 90 Amp Switching
- ▶ Up to 530 VAC Switching With ≥ 1200 Vp Non-Repetitive Peak Voltage

Cost effective Zero Switching solid state relays with triac output, ≥ 650 Vp non-repetitive peak voltage. Ideal for resistive loads, such as heating elements.

Stock No.	Mfr.'s Type	Control Voltage	AC Line Voltage	Current Ratings		EACH
				Continuous	≤ 20 mS	
251-1001	RA 2410-D06T	3-32 VDC	24-280 VAC	10 Amps	90 Amps	18.00
251-1002	RA 2425-D06T			25 Amps	200 Amps	19.00
251-1003	RA 2410-HA06T	90-280 VAC/DC	24-280 VAC	10 Amps	90 Amps	20.00
251-1004	RA 2425-HA06T			25 Amps	200 Amps	21.00

Zero Switching solid state relays with SCR output, ≥ 1200 Vp non-repetitive peak voltage (RA 48 Series only). Ideal for resistive loads, such as heating elements.

Stock No.	Mfr.'s Type	Control Voltage	AC Line Voltage	Current Ratings		EACH
				Continuous	≤ 20 mS	
251-1005	RA 2410-D06	3-32 VDC	24-280 VAC	16 Amps	160 Amps	23.00
251-1006	RA 2425-D06			25 Amps	250 Amps	27.00
251-1007	RA 2450-D06			50 Amps	600 Amps	36.00
251-1008	RA 2490-D06			90 Amps	1000 Amps	58.00
251-1009	RA 4810-D12	3-32 VDC	42-530 VAC	16 Amps	160 Amps	36.00
251-1010	RA 4825-D12			25 Amps	250 Amps	38.00
251-1011	RA 4850-D12			50 Amps	600 Amps	44.00
251-1012	RA 4890-D12			90 Amps	1000 Amps	59.00
251-1013	RA 2410-HA06	90-280 VAC/DC	24-280 VAC	16 Amps	160 Amps	26.00
251-1014	RA 2425-HA06			25 Amps	250 Amps	30.00
251-1015	RA 2450-HA06			50 Amps	600 Amps	39.00
251-1016	RA 2490-HA06			90 Amps	1000 Amps	61.00
251-1017	RA 4810-HA12	90-280 VAC/DC	42-530 VAC	16 Amps	160 Amps	39.00
251-1018	RA 4825-HA12			25 Amps	250 Amps	41.00
251-1019	RA 4850-HA12			50 Amps	600 Amps	47.00
251-1020	RA 4890-HA12			90 Amps	1000 Amps	62.00

Instant-on (Random) Switching solid state relays with SCR output, ≥ 1200 Vp non-repetitive peak voltage (RB 48 Series only). Ideal for small inductive loads, such as solenoids.

Stock No.	Mfr.'s Type	Control Voltage	AC Line Voltage	Current Ratings		EACH
				Continuous	≤ 1 Sec.	
251-1021	RB 2410-D06	3-32 VDC	24-280 VAC	16 Amps	160 Amps	28.00
251-1022	RB 2425-D06			25 Amps	250 Amps	32.00
251-1023	RB 2450-D06			50 Amps	600 Amps	41.00
251-1024	RB 2490-D06			90 Amps	1000 Amps	63.00
251-1025	RB 4810-D12	3-32 VDC	42-530 VAC	16 Amps	160 Amps	41.00
251-1026	RB 4825-D12			25 Amps	250 Amps	43.00
251-1027	RB 4850-D12			50 Amps	600 Amps	49.00
251-1028	RB 4890-D12			90 Amps	1000 Amps	64.00
251-1029	RB 2410-HA06	90-280 VAC/DC	24-280 VAC	16 Amps	160 Amps	31.00
251-1030	RB 2425-HA06			25 Amps	250 Amps	35.00
251-1031	RB 2450-HA06			50 Amps	600 Amps	44.00
251-1032	RB 2490-HA06			90 Amps	1000 Amps	66.00
251-1033	RB 4810-HA12	90-280 VAC/DC	42-530 VAC	16 Amps	160 Amps	44.00
251-1034	RB 4825-HA12			25 Amps	250 Amps	46.00
251-1035	RB 4850-HA12			50 Amps	600 Amps	52.00
251-1036	RB 4890-HA12			90 Amps	1000 Amps	67.00

DC Switching solid state relays with transistor output, ≥ 350 VDC off-state blocking voltage (RD 35 Series only). Ideal for small DC loads.

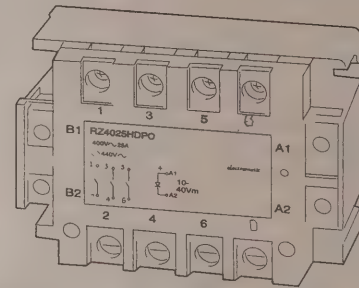
Stock No.	Mfr.'s Type	Control Voltage	AC Line Voltage	Current Ratings		EACH
				Continuous	≤ 1 Sec.	
251-1037	RD 0605-D	3-32 VDC	3-60 VDC	5 Amps	10 Amps	35.00
251-1038	RD 2001-D		3-200 VDC	1 Amp	2 Amps	46.00
251-1039	RD 3501-D		3-350 VDC	1 Amp	2 Amps	59.00

Peak Switching solid state relays with SCR output, ≥ 1200 Vp non-repetitive peak voltage (RC 44 Series only). Ideal for heavy inductive loads, such as transformers.

Stock No.	Mfr.'s Type	Control Voltage	AC Line Voltage	Current Ratings		EACH
				Continuous	≤ 20 mS	
251-1040	RC 2410-D06	3-32 VDC	90-280 VAC	16 Amps	160 Amps	50.00
251-1041	RC 2425-D06			25 Amps	250 Amps	53.00
251-1042	RC 2450-D06			50 Amps	600 Amps	61.00
251-1043	RC 4410-D12	3-32 VDC	180-480 VAC	16 Amps	160 Amps	63.00
251-1044	RC 4425-D12			25 Amps	250 Amps	66.00
251-1045	RC 4450-D12			50 Amps	600 Amps	76.00

Analog Switching solid state relays with proportional SCR output and LED indication, ≥ 1200 Vp non-repetitive peak voltage (RE 48 Series only). Ideal for resistive loads which require a tight control tolerance, such as quartz heaters.

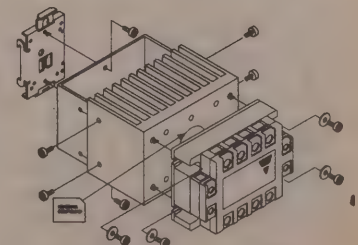
Stock No.	Mfr.'s Type	Control Voltage	AC Line Voltage	Current Ratings		EACH
				Continuous	≤ 20 mS	
251-1046	RE 2410-AA06	4-20 mA signal	90-280 VAC	16 Amps	50 Amps	72.00
251-1047	RE 2425-AA06			25 Amps	80 Amps	81.00
251-1048	RE 2450-AA06			50 Amps	175 Amps	90.00
251-1049	RE 4810-AA12	4-20 mA signal	265-530 VAC	16 Amps	50 Amps	81.00
251-1050	RE 4825-AA12			25 Amps	80 Amps	93.00
251-1051	RE 4850-AA12			50 Amps	175 Amps	105.00



- ▶ Three Phase Zero Switching Solid State Relays
- ▶ Built In MOV Over-Voltage Protection
- ▶ LED Indication for "Control Input ON"
- ▶ Captive Wire Clamps Reduce Wiring Time
- ▶ Direct Copper Bonding Prolongs Lifetime of Output Semiconductor
- ▶ Unique Raised Back Plate Ensures Optimum Heat Dissipation
- ▶ Up to 55 Amp Switching
- ▶ Up to 530 VAC Switching With ≥ 1200 Vp Non-Repetitive Peak Voltage

Stock No.	Mfr.'s Type	Control Voltage	AC Line Voltage	Current Ratings		EACH
				Continuous	≤ 10 mS	
251-1052	RZ 4810-HDPO	10-40 VDC	12-530 VAC	10 Amps	120 Amps	120.00
251-1053	RZ 4825-HDPO			25 Amps	230 Amps	130.00
251-1054	RZ 4840-HDPO			40 Amps	300 Amps	140.00
251-1055	RZ 4855-HDPO			55 Amps	550 Amps	150.00
251-1056	RZ 4810-HAPO	20-265 VAC/DC	12-530 VAC	10 Amps	120 Amps	130.00
251-1057	RZ 4825-HAPO			25 Amps	230 Amps	140.00
251-1058	RZ 4840-HAPO			40 Amps	300 Amps	150.00
251-1059	RZ 4855-HAPO			55 Amps	550 Amps	160.00

- ▶ DIN Rail Mount Black Anodized Aluminum Heat Sinks
- ▶ Complete With All Mounting Hardware and Thermal Compound for SSR(s)



Stock No.	Mfr.'s Type	Description	°C/Watt	EACH
251-1060	RHS 00	DIN rail mounting clip (not a heat sink)	≥ 12.5	5.50
251-1061	RHS 100	Heat sink for one single phase SSR	≥ 3.0	24.00
251-1062	RHS 301	Heat sink for one or two single phase SSRs or one three phase SSR	≥ 0.8	60.00
251-1063	RHS 301F 115C	RHS 301 heat sink with 115 VAC fan to cool heat sink	≥ 0.25	180.00

156 Series 4PDT 3 and 5 Amp Industrial Relays

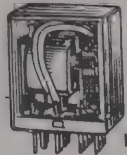


Fig. 1

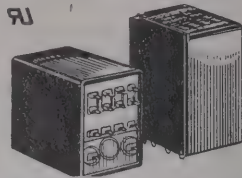


Fig. 2

For use in data processing and industrial control applications requiring 1/10 horsepower, 125VA, 120/240VAC. 4PDT relays are available with either solder-plug-in or printed circuit terminals, and either silver or gold flash or silver cadmium oxide with gold flash contacts. Silver contacts are rated 3 amps, 28 VDC, or 120 VAC, silver cadmium are rated 5 amps, 28 VDC or 120 VAC. All units are dust covered and UL recognized. **Operating Temperature range:** -45°C to +75°C. **Size:** 1.281" L x 0.859" W x 1.109" H.

4PDT 3 Amp Silver Contact, Solder Plug-in Terminal, Lexan® Cover

Fig. 1

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0001	156-14B100	12VDC	160	13.58	12.90	12.22
789-0002	156-14C100	24VDC	650	13.58	12.09	12.22
789-0003	156-14F100	110VDC	11000	14.83	14.09	13.35
789-0004	156-14Q100	24VAC	155	13.53	12.85	12.18
789-0005	156-14T100	120VAC	3900	14.38	13.66	12.94

4PDT 5 Amp Silver Cadmium Oxide Contact, Solder Plug-in Terminals, Lexan® Cover

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0006	156-14B200	12VDC	160	13.68	13.00	12.31
789-0007	156-14C200	24VDC	650	13.68	13.00	12.31
789-0008	156-14F200	110VDC	11000	14.93	14.18	13.44
789-0009	156-14Q200	24VAC	155	13.63	12.95	12.27
789-0010	156-14T200	120VAC	3900	14.48	13.76	13.03
789-0011	156-14U200	240VAC	14900	18.28	17.37	16.45

4PDT 5 Amp Silver Contact .112" Long PC Terminals, Nylon Cover

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0012	156-24C100	24VDC	650	12.50	11.88	11.25
789-0013	156-24T100	120VAC	3900	13.30	12.64	11.97

4PDT 5 Amp Silver Cadmium Oxide .112" Long PC Terminals, Nylon Cover

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0014	156-24B200	12VDC	160	12.60	11.97	11.34
789-0015	156-24C200	24VDC	650	12.60	11.97	11.34
789-0016	156-24T200	120VAC	3900	13.40	12.73	12.06

4PDT 5 Amp Silver Cadmium Oxide Contacts, PC Terminals, Opaque Green Polycarbonate Cover

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0017	156-24B250	12VDC	160	13.60	12.92	12.24
789-0018	156-24C250	24VDC	650	13.60	12.92	12.24
789-0019	156-24D250	48VDC	2600	14.50	13.78	13.05

2PDT 5 Amp Silver Cadmium Oxide Contacts, Solder Plug-in Terminal, Green Transparent Plastic Cover

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0020	156-12B200	12VDC	160	12.60	11.97	11.34
789-0021	156-12C200	24VDC	650	12.60	11.97	11.34
789-0022	156-12Q200	24VAC	155	12.55	11.92	11.30
789-0023	156-12T200	120VAC	3900	13.40	12.73	12.06

4PDT Silver Cadmium Oxide Contacts, PC Terminals, Hermetically Sealed

Fig. 2

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0024	156-44B200	12VDC	160	26.69	26.81	26.22
789-0025	156-44C200	24VDC	650	29.75	26.86	26.27
789-0026	156-44T200	120VAC	3900	30.00	27.12	26.53

Sockets and Hold-down Springs For 156 and 158 Series Relays

S156-4SS10



S156-4PC00



570-0020



139-0021



670-0120

248-6823

248-6832

Sockets For Types 156 and 158 Relays

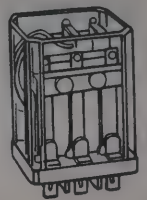
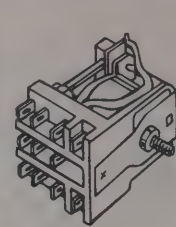
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
789-0500	S156-4SS10	Solder lug, short terminal	1.47	1.40	1.32
789-0501	S156-4PC10	PC, ground lug	1.47	1.40	1.32
789-0502	S156-4PC00	PC, no ground lug	1.16	1.10	1.04
789-0503	670-0020	Solderless	3.10	2.95	2.79
789-0504	670-0120	Screw	9.71	9.22	8.74

Stock No.	Mfr.'s Type	Description	EACH		
			1-99		
789-0505	248-6823	Flat Wire			.47
789-0506	248-6832	Wire Wrap			2.22

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
789-0507	139-0021	Socket Clip	.28	.27	.25

157 Series General Purpose Relays

Industrial design power driver. Cool running coil insures over-voltage and high ambient temperature performance. Maximum contact resistance 0.1 ohms. Coil rated 6 to 240 VAC 50/60 Hz. 6 to 110 VDC, continuous duty. 3/4" silver cadmium oxide contacts rated 10 amps for type numbers with 200 suffix; 15 amps for types with 300 suffix. 28 VDC/120/240 VAC, 80%pf. **Operate Make Time:** 20 MS maximum. **Operate Release Time:** 10 MS maximum. 0.187" quick-connect terminals. UL recognized.



157-1 Open Style with Mounting Stud, 2PDT 10 Amps

Stock No.	Mfr.'s Type	Coil Volts	Ohms	EACH		
				1-24	25-49	50-99
789-0027	157-12C200	24VDC	470	8.15	7.74	7.34
789-0028	157-12Q200	24VDC	75	8.95	8.50	8.06
789-0029	157-12T200	120VDC	2250	8.95	8.50	8.06

157-1 Open Style with Mounting Stud, 3PDT 10 Amps

Stock No.	Mfr.'s Type	Coil Volts	Ohms	EACH		
				1-24	25-49	50-99
789-0030	157-13Q200	24VAC	72	10.95	10.40	9.86
789-0031	157-13T200	120VAC	1700	10.95	10.40	9.86

157-2 Plug-in with Dust Cover, 2PDT 10 Amps

Stock No.	Mfr.'s Type	Coil Volts	Ohms	EACH		
				1-24	25-49	50-99
789-0032	157-22B200	12VDC	120	8.50	8.08	7.65
789-0033	157-22T200	120VAC	2250	9.00	8.55	8.10

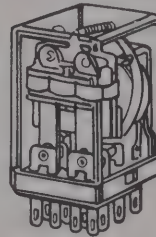
157-2 Plug-in with Dust Cover, 2PDT 15 Amps

Stock No.	Mfr.'s Type	Coil Volts	Ohms	EACH		
				1-24	25-49	50-99
789-0034	157-22B300	12VDC	120	9.30	8.84	8.37
789-0035	157-22T300	120VAC	2250	9.80	9.31	8.82
789-0036	157-22U300	240VAC	9100	11.55	10.97	10.40

157-2 Plug-in with Dust Cover, 3PDT 10 Amps

Stock No.	Mfr.'s Type	Coil Volts	Ohms	EACH		
				1-24	25-49	50-99
789-0037	157-23B200	12VDC	120	9.75	9.26	8.78
789-0038	157-23C200	24VDC	470	9.75	9.26	8.78
789-0039	157-23Q200	24VAC	72	9.95	9.45	8.96
789-0040	157-23T200	120VAC	1700	9.95	9.45	8.96

158 Series General Purpose 10 Amp Industrial Relays



UL Recognized and CSA Certified

Designed for motor controllers through 240VAC, in accordance with UL standard 508, industrial control equipment. Available SPDT PC terminals with nylon cover, or DPDT plug-in terminals with Lexan® cover. Silver cadmium oxide contact rated 10 amp, 28VDC, 120VAC. Coil has nominal power rating of 1.2VA AC and 0.9 watts DC plus a maximum continuous rating of 2VA AC and 2 watts DC. Rated for continuous duty operation. **Size:** 1.28" L x 0.859" W x 1.109" H.

SPDT PC Terminals with Nylon Cover

Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-99
789-0041	158-21B200	12VDC	160	8.82	8.38	7.94
789-0042	158-21C200	24VDC	650	8.82	8.38	7.94
789-0043	158-21T200	120VAC	3900	9.09	8.64	8.18

DPDT Plug-in Terminals with Lexan® Cover

Stock No.	Mfr.'s Type	Coil Volts	Ohms	EACH		
				1-24	25-49	50-99
789-0044	158-12B200	12VDC	160	9.09	8.64	8.18
789-0045	158-12C200	24VDC	650	9.09	8.64	8.18
789-0046	158-12T200	120VAC	3900	9.92	9.42	8.93

SPDT 10A Octal/SIL-CAD Contacts

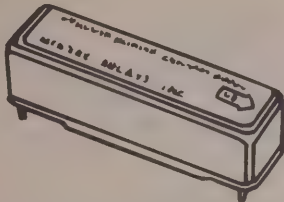
Stock No.	Mfr.'s Type	Coil		Nominal Power	EACH		
		Volts	Ohms		1-24	25-49	50-99
789-0047	158-91C200	24VDC	650	milli-watts	11.50	10.93	10.35
789-0048	158-91D200	48VDC	2600		12.50	11.88	11.25
789-0049	158-91Q200	24VAC	155	1.2VA	11.95	11.35	10.76
789-0050	158-91T200	120VAC	3900		12.98	12.33	11.68

DPDT 10A Octal/SIL-CAD Contacts

Stock No.	Mfr.'s Type	Coil		Nominal Power	EACH		
		Volts	Ohms		1-24	25-49	50-99
789-0051	158-92B200	12VDC	160		12.62	11.99	11.36
789-0052	158-92C200	24VDC	650		12.62	11.99	11.36
789-0053	158-92D200	48VDC	2600		12.62	11.99	11.36
789-0054	158-92F200	110VDC	11000		13.64	12.96	12.28
789-0055	158-92Q200	24VAC	155		12.94	12.29	11.65
789-0056	158-92T200	120VAC	3900		12.94	12.29	11.65
789-0057	158-92U200	240VAC	14900		13.93	13.23	12.54

159 and 160 Series Mercury-Wetted Relays

Type 159



Miniature single coil, mercury wetted contact relays feature long life, low power operation and no contact bounce. Life is rated in the billions of operations with fast-operate time. Must be operated in the upright position but variations up to 30° will cause only slight changes in operation. Contact rating is 2 amps maximum, 500 volts maximum, 100VA maximum for switching and 5 amps maximum for non-switching loads. **Type 159:** 0.625" H x 0.125" L enclosure and terminals. **Type 160-1:** 0.090" L x 0.093", **Type 160-3:** 0.09" L x .100" grid enclosure and terminals. **Type 160-4:** .125" L x .100" grid enclosure and terminals.

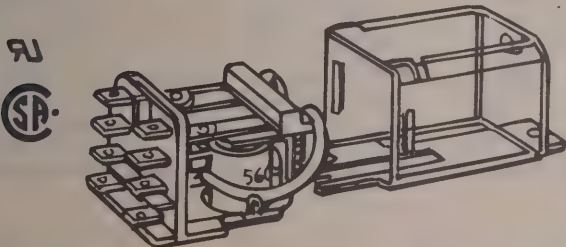
Type 159 1D Single-Side Stable, 115 Milliwatts

Stock No.	Mfr.'s Type	Oper. VDC	Ohms	EACH		
				1-24	25-49	50-99
789-0084	159-117J00	10.5	940	15.75	14.96	14.18

Type 160 1C Single-Side Stable, 40 Milliwatts

789-0085	160-151M00	3.8	325	14.44	13.72	13.00
789-0086	160-451J00	1.8	70	14.44	13.72	13.00
789-0087	160-451M00	3.8	325	14.44	13.72	13.00
789-0088	160-451N00	4.6	435	14.44	13.72	13.00
789-0089	160-151Q00	7.2	1120	14.44	13.72	13.00
789-0090	160-151V00	17.0	6100	14.44	13.72	13.00
789-0091	160-351T00	11.0	2650	14.44	13.72	13.00

187 Series 20-Amp, 2-Pole Relays



20 amp power relays. 2PDT contact arrangement with UL ratings of 20 amps at 28VDC/120VAC and 3/4HP at 120VAC and 3/4HP at 120VAC or 1 1/2HP at 240VAC. Solder/Quick connect 280VDC terminals. Silver cadmium oxide contacts. UL recognized and CSA certified.

Open Style, Solder/QC Terminals

Stock No.	Mfr.'s Type	Coil			EACH		
		Volts	Ohms	Power	1-24	25-49	50-99
789-0063	187-12B200	12VDC	120	1.2W	14.50	13.78	13.05
789-0064	187-12C200	24VDC	470	1.2W	14.50	13.78	13.05
789-0065	187-12F200	110VDC	1000	1.2W	16.40	15.58	14.76
789-0066	187-12Q200	24VAC	72	2.7VA	14.90	14.16	13.41
789-0067	187-12T200	120VAC	1700	2.7VA	14.90	14.16	13.41

Plain Enclosure 3/32 Tapped Core—Solder/QC Terminals

789-0068	187-22B200	12VDC	120	1.2W	13.00	12.35	11.70
789-0069	187-22C200	24VDC	470	1.2W	13.00	12.35	11.70
789-0070	187-22F200	110VDC	1000	1.2W	13.55	12.87	12.20
789-0071	187-22Q200	24VAC	72	2.7VA	13.15	12.49	11.84
789-0072	187-22T200	120VAC	1700	2.7VA	13.15	12.49	11.84

187 Series Flanged Mount With Dust Cover

789-0058	187-32B200	12VDC	120	1.2W	12.50	11.88	11.25
789-0059	187-32C200	24VDC	470	1.2W	12.50	11.88	11.25
789-0060	187-32F200	110VDC	1000	1.2W	13.75	13.06	12.38
789-0061	187-32Q200	24VAC	72	2.7VA	13.25	12.59	11.93
789-0062	187-32T200	120VAC	1700	2.7VA	12.75	12.11	11.48

Sockets, Hold Down Springs for 157 Series

Stock No.	Mfr.'s Type	Fig.	Description	EACH
789-0508	670-0009	3	300VAC, 15A Solder Lug	1.50
789-0509	670-0012	3	300VAC, 15A 3/16" QC	1.50
789-0510	670-0013	3	PC Terminal with Ears	1.50
789-0511	670-0034	4	15A WW & Termi-point	3.41
789-0512	670-0125	5	3-Pole Screw, 15A	9.40
789-0513	139-0029	1	Rivet Mount	.63
789-0514	139-0032	2	Wire Wrap	.59

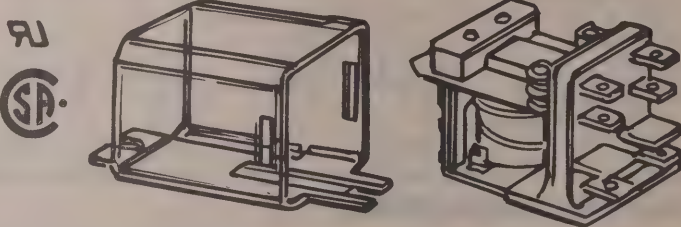
190 Series 16-Pin Dual-In-Line Power 2-Amp Relays



190 Series units are DPDT relays, silver/gold flash by bifurcated crossbar contacts. "S" in type number designates sensitive coil. Rated 2 amps @ 28VDC resistive or 120VAC resistive. **Dielectric breakdown:** 1000VAC coil to poles, 1000VAC between poles, 1100VAC across open contact (1500 VDC FCC surge). **Nominal power rating:** 550mW. Initial contact resistance of 50 milliohms for low level switching. Dual-in-line terminals for 16-pin DIP socket mounting and inert gas sealed for direct printed circuit board insertion and immersion. Nominal 12VDC coil. 10 million mechanical operations. 50K operations minimum rated load. UL/CSA rated.

Stock No.	Mfr.'s Type	Coil		mA	EACH		
		Volts	Ohms		1-24	25-49	50-99
789-0092	190-22E2U0	5	45	110	3.66	3.48	3.29
789-0093	190-22A2U0	6	60	100	3.66	3.48	3.29
789-0094	190-22B2U0	12	280	42	3.66	3.48	3.29
789-0095	190-22C2U0	24	1070	22	3.66	3.48	3.29
789-0096	190-22D2U0	48	4000	12	3.91	3.71	3.52
789-0097	190-22E2S0	5	45	110	4.45	4.23	4.01
789-0098	190-22A2S0	6	60	100	4.45	4.23	4.01
789-0099	190-22B2S0	12	280	42	4.45	4.23	4.01
789-0100	190-22C2S0	24	1070	22	4.45	4.23	4.01
789-0101	190-22D2S0	48	4000	12	4.55	4.32	4.10

188 Series 30-Amp Relays



188 series relays are available with solder/quick connect terminals in an open style (188-1) or in a flanged dust cover (188-3). 1/4" diameter silver-cadmium-oxide contacts. Rated at 30 amps, 28VDC or 120/240/277 VAC. 1HP at 120VAC. UL recognized, File No. E38802. CSA certified, File No. LR22861. All relays listed are Form Y, SPST NC-DB except type 188-34Q200 which is Form X, SPST NO-DM.

Plain Enclosure 3/32 Tapped Core and Tab Solder QC Terminals
Form X, SPST NO-DM

Stock No.	Mfr.'s Type	Coil			EACH		
		Volts	Ohms	Power	1-24	25-49	50-99
789-0078	188-24B200	12VDC	120	1.2W	12.35	11.21	10.65
789-0079	188-24T200	120VAC	1700	2.0VA	12.35	11.21	10.65

Form Y, SPST NC-DB

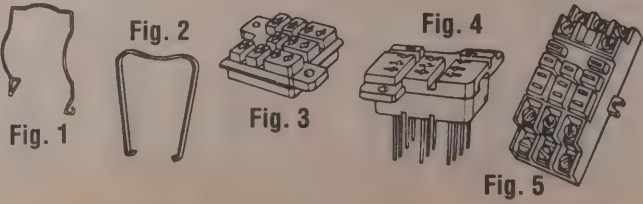
789-0080	188-25B200	12VDC	120	1.2W	10.25	9.31	8.84
789-0081	188-25T200	120VAC	1700	2.0VA	11.80	10.71	10.17

Flange Enclosure, Solder/QC Terminals

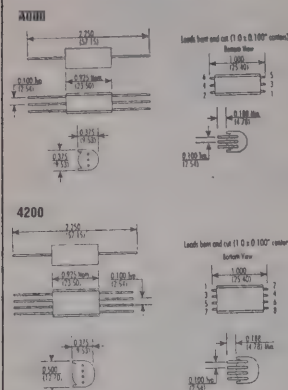
789-0082	188-35B200	12VDC	120	1.2W	9.90	8.99	8.53
789-0083	188-35T200	120VAC	1700	2.0W	11.65	10.58	10.04

188 Series

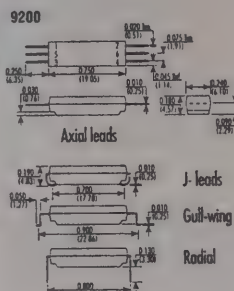
789-0073	188-15C200	24VDC	470	1.2W	11.55	10.49	9.96
789-0074	188-15Q200	24VAC	72	2.0VA	12.10	10.99	10.43
789-0075	188-34Q200	24VAC	72	2.0VA	12.25	11.12	10.56
789-0076	188-35Q200	24VAC	72	2.0VA	11.65	10.58	10.04
789-0077	188-35T200	120VAC	1700	2.0VA	11.65	10.58	10.04



General Purpose, 4000 Series

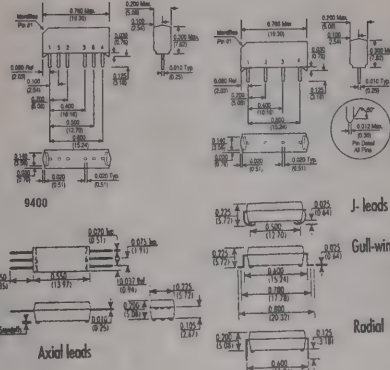


**SMD and SIP
9000, 9200, 9400 Series**

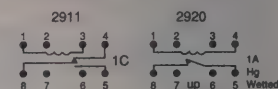


9002

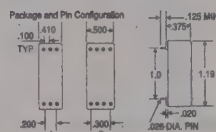
9001



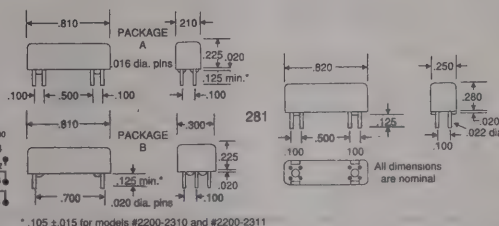
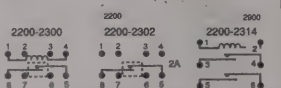
Data Acquisition, 2900 Series



**Dry and Mercury Wetted
7000 Series**

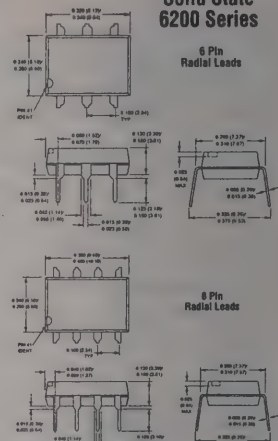


**ATE Type
2200 and 2300 Series**



*.105 ±.015 for models #2200-2310 and #2200-2314

**Solid State
6200 Series**



General Characteristics

Contact Form	1A	2A	1C	2C	1A	2A
Relay Series	A, B, C, D, E	A, B, E	A, D, E	A	E, F	F
Contact Rating (Max)	10W@.5A	10W@.5A	3W@.25A	3W@.25A	50W@1A	50W@1A
Contact Resist. (Type)	.100Ω	.100Ω	.150Ω	.150Ω	.050Ω	.050Ω
Operate Time (Incl. Bounce)	1MS	1ms	1.5ms	1.5ms	2ms	2ms
Contact Breakdown	350 VDC min.	350 VDC min.	200 VDC min.	250 VDC min.	1000 VDC	1000 VDC

Hg Wetted

Coto Wabash is the country's leading maker of reed relays for instrumentation and many other industries. The distinctive red Coto Wabash relays are manufactured to the most exacting quality specifications using computer automated testing and advanced SPC techniques. All this adds up to reliability you simply can't find in other relays. So consider Coto Wabash the next time you're specifying reed or solid state relays.

General Purpose and Mercury

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0030	4004-05-4001	5	500	5.50	5.08
811-0031	4004-12-0001	12	500	5.50	5.08
811-3106	4031-05-3001	5	300	11.58	10.69
811-0039	4211-05-3001	5	300	24.08	22.23
811-1105	7101-05-1000	5	150	11.45	10.57

SMD and SIP (Molded)

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0015	9001-05	5	500	4.95	4.57
811-0016	9002-05	5	350	6.42	5.92
811-3008	9402-05-00	5	200	9.83	9.08
811-3104	9202-05-00†	5	150	7.67	7.08
811-3105	9202-05-20*	5	150	7.67	7.08

*J Leads. †Gull Wing Leads.

Data Acquisition

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-3102	2911-12-301	12	1500	18.28	16.88
811-3103	2911-05-320	5	230	17.67	16.22
811-0009	2911-05-310	5	230	17.28	15.95
811-0010	2920-05-121*	5	50	19.32	17.83

*J Leads.

ATE

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0001	2200-2301	5	150	11.53	10.65
811-0002	2200-2302	5	150	12.43	11.48
811-3101	2200-2310	5	550	10.78	9.95
811-0005	2204-12-210	12	900	12.45	11.49
811-3001	2332-05-000	5	175	10.63	9.82
811-3002	2332-12-000	12	1000	10.72	9.89
811-3003	2341-05-000	5	230	12.67	11.69
811-3004	2341-05-010	5	230	14.10	13.02
811-3005	2341-12-000	12	1000	12.77	11.78
811-3006	2342-05-000	5	175	18.73	17.29
811-3007	2342-12-000	12	1000	18.83	17.38

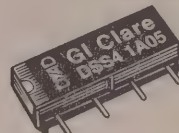
6200 Series Solid State Relays

Stock No.	Mfr.'s Type	Package	Ohms	EACH	
				1-24	25-99
811-3009	6201	6-Pin	30	3.55	3.28
811-3010	6205	8-Pin	25	12.50	11.54
811-3011	6204	6-Pin	25	6.97	6.43
811-3012	6202	6-Pin	25	6.25	5.77
811-3013	6203	6-Pin	25	6.25	5.77
811-3014	6206	8-Pin	25	11.40	10.52
811-3015	6207	8-Pin	25	12.47	11.49
811-3016	6209	6-Pin	25	11.90	10.98
811-3019	6221	6-Pin	3	13.15	12.14
811-3020	6227	6-Pin	33	10.65	9.83
811-3021	6228	8-Pin	33	11.65	10.75
811-3107	6240	6-Pin	55	5.00	4.50
811-3108	6241	6-Pin	33	5.50	4.75
811-3109	6243	8-Pin	55	5.75	5.25

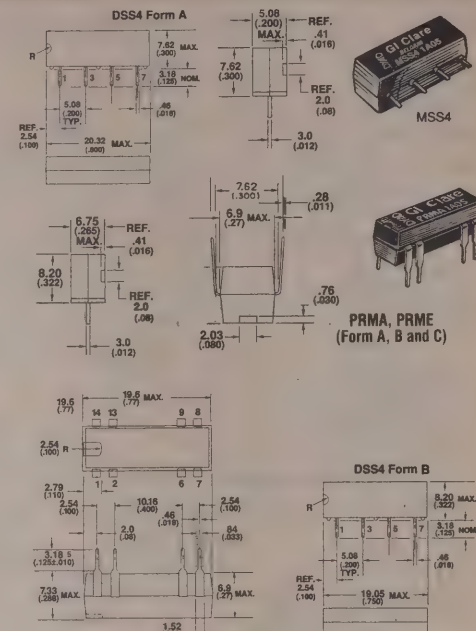
DIP and SIP Dry Reed Relays

Dry Reed Relays

- ▶ Miniature, cost-effective switching solution
- ▶ State-of-the-art capsule
- ▶ Diode and electrostatic shield options available
- ▶ Standard nominal coil voltages include 5, 12, and 24 volts.



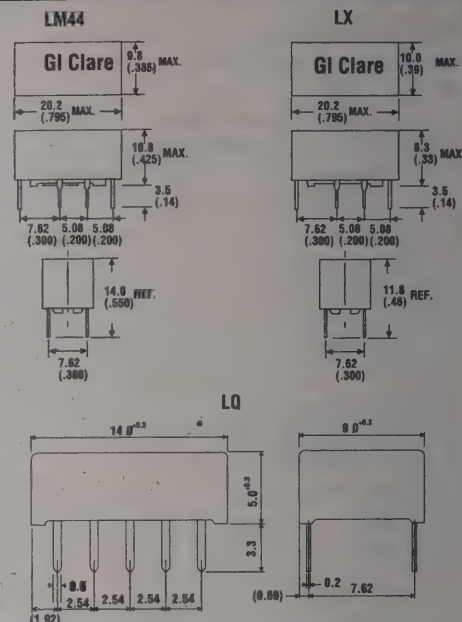
Engineering Specifications	DSS4 PRMA	PRMA (Form C)	MSS4	PRME
Contact Form	1A, 1B	1C	1A	1A
Contact Rating Maximum switching power Maximum switching voltage Maximum switching current Maximum carry current	10 VA 100 VDC or Peak AC 0.50 A 1.00 A	3 VA 100 VDC or Peak AC 0.25 A 0.40 A	30 VA 100 VDC/Peak AC 0.75 A 2.00 A	10 VA 100 VDC/Peak AC 0.50 A 1.00 A
Contact Resistance, Initial	150 milliohms max.	200 milliohms max.	100 milliohms max.	200 milliohms max.
Contact Material	Ruthenium	Rhodium	Mercury (all positions)	Ruthenium
Life Expectancy Signal level loads (ref 10 VDC, 10mA)	200 x 10 ⁶	20 x 10 ⁶	200 x 10 ⁶	200 x 10 ⁶
Timing (at nominal VDC, 10 Hz drive, 50% duty cycle with diode suppression) Operate time, maximum (including Bounce) Release time, maximum	0.50 ms 0.50 ms	3.00 ms 3.00 ms	1.75 ms 1.50 ms	1.00 ms 1.00 ms
Breakdown Voltage Coil to contact Across Contacts	1000 Vrms 1400 VDC 175 Vrms 250 VDC	1000 Vrms 1400 VDC 100 Vrms 150 VDC	1000 Vrms 1400 VDC 1400 Vrms 5000 VDC	700 Vrms 1000 VDC 175 Vrms 250 VDC
Insulation Resistance (Ohms)	10 ¹⁰	10 ⁹	10 ⁸	10 ¹⁰



Stock No.	Mfr.'s Type	Schematic Contact Form (Bottom View)	Nominal Voltage (VDC)	Coil Resistance (Ohms ±10%)	Nominal Input Power (mW)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Maximum Voltage (VDC)	EACH		
									1-24	25-49	50-99
681-0005 681-0010 681-0015 681-0016	DSS41A05 DSS41A12 DSS41A24 DSS41A05B*	1 Form A 	5 12 24 5	500 1000 2000 500	50 144 288 50	3.50 8.60 17.50 3.50	0.8 1.5 2.5 0.8	15.0 30.0 40.0 15.0	3.75 3.75 3.95 4.25	3.67 3.67 3.87 4.16	3.07 3.07 3.21 3.47
681-0020 681-0025 681-0030	DSS41B05 DSS41B12 DSS41B24	1 Form B 	5 12 24	500 1000 2150	50 144 268	3.75 9.00 18.00	0.8 1.0 2.0	6.0 14.5 29.0	6.50 6.50 6.80	6.36 6.36 6.65	5.40 5.40 5.66
681-0050 681-0055 681-0060 681-0061	PRMA1A05 PRMA1A12 PRMA1A24 PRMA1A05B*	1 Form A 	5 12 24 5	500 1000 2150 500	50 144 268 50	3.75 9.00 18.00 3.75	0.8 1.0 2.0 0.8	21.0 30.0 44.0 21.0	3.75 3.75 3.95 4.25	3.67 3.67 3.87 4.16	3.21 3.21 3.39 3.50
681-0065 681-0070 681-0075	PRMA1B05 PRMA1B12 PRMA1B24	1 Form B 	5 12 24	500 1000 2150	50 144 268	3.75 9.00 18.00	0.8 1.0 2.0	6.0 14.5 29.0	5.90 5.90 6.20	5.78 5.78 6.07	4.85 4.85 5.20
681-0080 681-0085 681-0090	PRMA1C05 PRMA1C12 PRMA1C24	1 Form C 	5 12 24	200 500 2150	125 288 268	3.75 9.00 18.00	0.8 1.0 2.0	12.0 18.0 32.0	8.50 8.50 8.90	8.32 8.32 8.71	6.98 6.98 7.26
681-0095 681-0100 681-0105	PRMA2A05 PRMA2A12 PRMA2A24	2 Form A 	5 12 24	140 500 2150	170 288 268	3.75 9.00 18.00	0.8 1.0 2.0	11.0 21.0 44.0	5.90 5.90 5.90	5.78 5.78 5.78	4.85 4.85 4.85
681-0110 681-0115	PRMA10037 PRMA10038	1 Form A 	5 12	380 530	66 271	3.75 9.00	0.8 1.0	15.0 19.0	4.70 4.70	4.60 4.60	3.88 3.88
681-0116 681-0117 681-0118 681-0119	PRME15005 PRME15005A PRME15005B PRME15005AB**	1 Form A 	5 5 5 5	380 380 380 380	66 66 66 66	3.50 3.50 3.50 3.50	1.0 1.0 1.0 1.0	15.0 15.0 15.0 15.0	5.30 6.05 5.80 6.55	5.19 5.92 5.68 6.41	4.60 5.05 4.86 5.70
681-1100 681-1101	MSS41A05 MSS41A12	1 Form A 	5 12	140 500	178 288	3.75 9.00	0.5 1.0	11.0 21.0	9.80 9.80	9.59 9.59	7.89 7.89

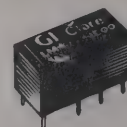
* With Diode ** With Diode and Electrostatic Shield

Engineering Specifications	LM44	LX	MSS2/MSS7*	LQ
Contact Form	2C	2C	1A	2C
Contact Rating Maximum switching power Maximum switching voltage Maximum switching current Maximum carry current	30 VA 125 VDC or AC 2.00 A 3.00 A	60 VA 220 VDC or AC 2.00 A 3.00 A	50 VA 350 VDC 0.75 A 2.00 A	62.5 VA 110 VDC 1.00 A 2.00 A
Contact Resistance, Initial	100 milliohms max.	50 milliohms max.	100 milliohms max.	50 milliohms max.
Contact Material	Ag with Au cap	Ag with Au cap	Mercury (all positions)	Silver alloy with AU Cap
Life Expectancy Signal level load (ref 10 VDC, 10 mA)	10 x 10 ⁶	10 x 10 ⁶	200 x 10 ⁶	5 x 10 ⁶
Timing (at nominal VDC, 10 Hz drive, 50% duty cycle with diode suppression) Operate time, maximum (Including Bounce) Release time, maximum)	6.00 ms 4.00 ms	6.00 ms 4.00 ms	1.75 ms 1.50 ms	6.00 ms 4.00 ms
Breakdown Voltage Coil to contact Across contacts	1000 Vrms 1400 VDC 500 Vrms 700 VDC	1500 Vrms 2100 VDC 1000 Vrms 1400 VDC	1000 Vrms/4000 Vrms 1400 VDC/5600 VDC 1000 Vrms/1400 Vrms 1400 VDC/2000 VDC	1500 Vrms 2100 VDC 1000 Vrms 1400 VDC
Insulation Resistance (Ohms)	10 ⁹	10 ⁹	10 ⁹	10 ⁹



Series LM, LX & LQ Electromechanical

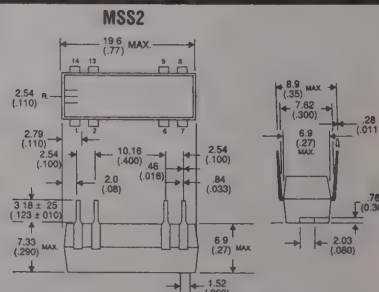
- ▶ Standard nominal coil voltages 5, 12, 24 VDC.
- ▶ UL and CSA approval on some models.
- ▶ Sealed construction for automatic board cleaning processes.



Stock No.	Mfr.'s Type	Schematic Contact Form (Bottom View)	Nominal Voltage (VDC)	Coil Resistance (Ohms ± 10%)	Nominal Input Power (MW)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Maximum Voltage (VDC)	EACH		
									1-24	25-49	50-99
681-0116 681-0117 681-0118	LM44B00 LM44D00 LM44E00	2 Form C 8 9 6 11 4 13 1 16	5 12 24	167 960 2880	150 150 150	4.00 9.60 19.20	0.5 1.2 2.4	7.0 16.8 33.5	4.90 4.90 5.20	4.36 4.36 4.63	3.82 3.82 4.06
681-0119 681-0120 681-0121	LX200B00 LX200D00 LX200E00	2 Form C 8 9 6 11 4 13 + 1 16	5 12 24	125.0 720.0 2880.0	200 200 200	3.50 8.40 16.80	0.5 1.2 2.4	8.0 19.0 38.0	5.80 5.80 6.05	5.16 5.16 5.36	4.52 4.52 4.72
681-1230 681-1231 681-1232	LQ52B00 LQ52D00 LQ52E00	1 Form A 1 2 3 4 5 6 10 7 8 9 Orientation Mark	5 12 24	178.0 1028.0 2880.0	140 140 200	3.50 8.40 16.80	0.5 1.2 2.4	8.0 19.0 38.0	5.90 5.90 6.65	5.06 5.06 5.92	4.60 4.60 5.19

Series MSS2 Mercury Wetted

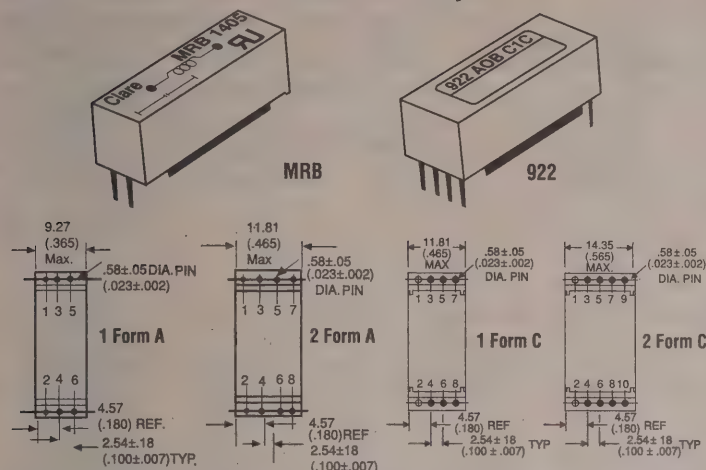
- ▶ Molded construction for compatibility with automatic board processing.
- ▶ Automatic insertion capability.
- ▶ Diode and electrostatic shield options available.
- ▶ UL, VDE versions available on some models.
- ▶ Miniature, cost-effective switching solutions.
- ▶ State-of-the-art capsule designs.
- ▶ Standard nominal-coil voltages include 5, 12 and 24 volts.



Stock No.	Mfr.'s Type	Schematic Contact Form (Bottom View)	Nominal Voltage (VDC)	Coil Resistance (Ohms ± 10%)	Nominal Input Power (MW)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Maximum Voltage (VDC)	EACH		
									1-24	25-49	50-99
681-0035 681-0040 681-0045	MSS21A05 MSS21A12 MSS21A24	1 Form A 1 2 3 4 5 6 14 13 8 9	5 12 24	140.0 500.0 2150.0	178 288 268	3.75 9.00 18.00	0.5 1.0 2.0	11.00 21.00 44.00	9.85 9.85 10.85	9.75 9.75 10.74	9.64 9.64 10.62
681-1102 681-1103 681-1104	MSS71A05 MSS71A12 MSS71A24	1 Form A 1 2 3 4 5 6 13	5 12 24	140.0 500.0 2150.0	178 288 268	3.75 9.00 18.00	0.5 1.0 2.0	11.00 21.00 43.00	10.35 10.35 11.40	10.24 10.24 11.38	10.13 10.13 11.16

Solid State Switches and Relays, Reed Relays

MRB and 922 1 x 0.1 Inch Grid Relays



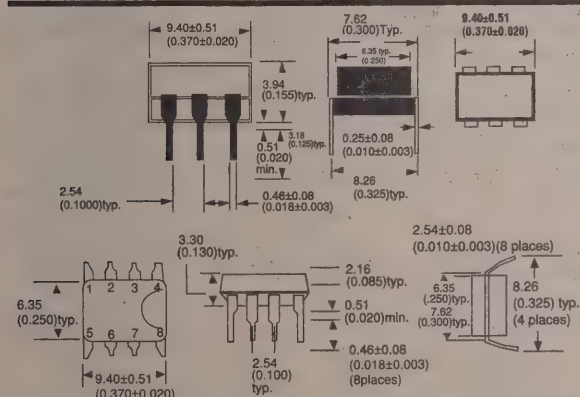
MRB Series units have ruthenium contacts rated 10VA switching power, 200VDC or peak AC switching voltage, and 0.5A switching current. **Contact resistance:** 200Ω. **Life expectancy:** 100 x 10⁶. **Breakdown voltage:** coil to contact 1000Vrms, 1400 VDC; across contacts 175Vrms, 250VDC. **Operate and release time:** 2.0ms, max. **Insulation resistance:** 10¹⁰. UL listed, CSA Certified, FCC 68 qualified. 922 Series units have rhodium contacts rated 3VA switching power, 28VDC or peak AC switching voltage, and 0.25A switching current. **Contact resistance:** 200mΩ. **Life expectancy:** 20 x 10⁶. **Breakdown voltage:** coil to contact 1000Vrms, 1400VDC; across contacts 125Vrms, 175VDC. **Operate and release time:** 3.0ms, max. **Insulation resistance:** 10⁹.

MRB Series

Stock No.	Mfr.'s Type	Volts DC	Coil Ohms	Contact Form	EACH		
					1-24	25-99	100-Up
681-1501	MRB1A05	5	225	1 Form A	4.55	4.45	3.11
681-1502	MRB1A12	12	1400	1 Form A	4.65	4.55	3.18
681-1503	MRB1A24	24	4340	1 Form A	5.00	4.90	3.42
681-1504	MRB2A05	5	105	2 Form A	5.90	5.78	4.03
681-1505	MRB2A12	12	730	2 Form A	5.95	5.83	4.06
681-1506	MRB2A24	24	2500	2 Form A	6.00	5.87	4.10

922 Series

Stock No.	Mfr.'s Type	Volts DC	Coil Ohms	Contact Form	EACH		
					1-24	25-99	100-Up
681-1507	922A05C1C	5	200	1 Form C	10.20	9.99	6.97
681-1508	922A12C1C	12	1080	1 Form C	10.20	9.99	6.97
681-1509	922A24C1C	24	4320	1 Form C	10.75	10.52	7.34
681-1510	922A05C2C	5	100	2 Form C	17.05	16.69	11.65
681-1511	922A12C2C	12	630	2 Form C	17.05	16.69	11.65
681-1512	922A24C2C	24	2520	2 Form C	17.05	16.69	11.65



Optomos® AC/DC Solid-State Switches

Ideal for telecommunications, data acquisition, process and industrial control, alarm systems, automatic test equipment, instrumentation, electronic metering and office equipment. Typical applications include tip/ring interface, hookswitch/dial pulse, AC ring injection, groundstart, flying capacitor multiplexing, I/O modules, microprocessor interface and replaces optocouplers, mechanical relays. Feature AC/DC switching, optical isolation to 3750V, FCC compatible, negligible offset voltage, 100% dv/dt immunity, no EMI/RFI generation, no snubber needed, no contact bounce, machine insertable, wave solderable, low drive power, long life and conserves PC board space. Available in a 6-pin or 8-pin design. BAPT and BSI approved. UL recognized.

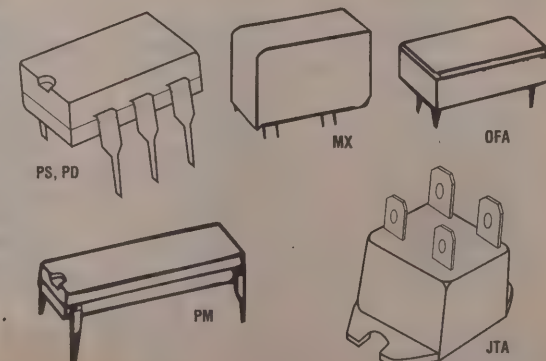
Stock No.	Mfr.'s Type	Contact Form	No. of Pins	Blocking Voltage	Load Current (mA)	On Resistance (Ohms)	Control Current (mA)	EACH		
								1-49	50-99	100-Up
252-0001	LCA-110	1A*	6	350	120	35	2	5.40	4.18	3.43
252-0002	LCA-125	1A*	6	300	170	20	5	6.93	5.36	4.40
252-0003	LCB-110	1B**	6	350	120	35	5	5.40	4.18	3.43
252-0004	LAA-110	2A†	8	350	120	35	5	10.70	8.28	6.79
252-0005	LBA-110	1A1B	8	350	120	35	5	10.70	8.28	6.79
252-0007	LCA-210	2A	8	350	120	35	5	11.00	8.51	6.99
252-0008	LCC-110	1C†	8	350	120	35	8	11.00	8.51	6.99

*Normally open output; ** 1 Normally closed output; †Independent 2 normally open outputs; ‡SPDT.

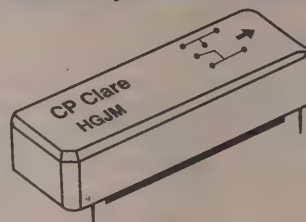
AC Solid-State Relays

Ideal for industrial control, vending machines, business equipment, gasoline pumps, temperature monitoring, process control, medical equipment, programmable controllers, appliance control and gambling machines. Typical applications include input/output modules, solenoid driver, motor, blower, heater and temperature controls, control of relays, switching fans, TTL-compatible driver for contactors and replacing TRIAC/TRIAC drivers. All versions feature optical-isolation and 1 Form A normally open contacts, as well as DC control/AC output. TTL- and CMOS-compatible, these units provide interface between logic and power systems, high transient immunity, high surge capability, and they save PC board space. No arcing, no contact bounce and long life. **Type PM** Power-MINI relays, **Type PD** PowerDIP and **Type PS** PowerSIP relays also feature 5mA sensitivity, zero-crossing detection, low EMI and RFI generation, inherent noise immunity, are machine insertable, wave solderable and PC board space. **Type OFA** OptoFILM™ relays have all the features listed above with the exception of 5mA sensitivity, machine insertable and wave solderable. Type PD, PS and OFA relays are UL recognized. **Type MX** and **JTA** PowerBLOC relays feature random turn-on and are UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Blocking Voltage	Continuous Load	Input Control	EACH		
					1-40	50-99	100-Up
252-0009	PM1204	400	0.5A	2mA	5.75	4.38	3.68
252-0010	PM1205	500	0.5A	2mA	5.90	4.49	3.78
252-0011	PD1201	400	1.0A	2mA	7.23	5.50	4.63
252-0012	PD2401	500	1.0A	2mA	7.33	5.58	4.69
252-0013	PS1201	400	1.0A	2mA	7.23	5.50	4.69
252-0014	PS2401	500	1.0A	2mA	7.33	5.58	4.69
252-0015	OFA2402	500	1.5A	5V	14.00	12.63	11.37
252-0016	OFA2405D	500	3.0A	5V	14.90	13.44	12.10
252-0017	MX100	400	1.5A	15mA	9.72	8.77	7.89
252-0018	JTA2405-2	500	5.0A	5V	14.18	12.79	11.51
252-0019	JTA2410-2	500	10.0A	5V	15.58	14.05	12.65



HGJ2MT Series Mercury-Wetted Reed Relays



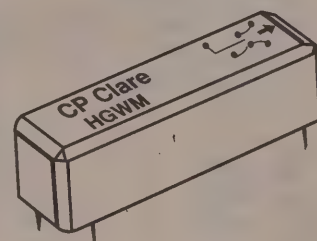
2 form C, DPDT relays feature the same electrical characteristics as the HGJM series relays, except they are shielded and insulation resistance is 10,000mΩ, minimum. **Common open time durations:** 50μ minimum at 100Hz for capacitor transfer technique applications. Excellent input to output isolation and electrostatic shielding.

0.400" (10.16) High Sensitivity Single-Side Stable With Shield

Stock No.	Mfr.'s Type	Contact Form	Nom. Coil VDC	Coil Resistance ±10%	EACH		
					1-24	25-99	100-Up
681-1513	HGJ2MT54211G00	2C	5	55	48.25	47.04	31.85
681-1514	HGJ2MT54211L00	2C	12	370	48.25	47.04	31.85
681-1515	HGJ2MT54211P00	2C	24	1370	48.25	47.04	31.85

HGWM Series Mercury-Wetted Reed Relays

Feature maintenance-free long life for billions of bounce-free operations. **Contact rating:** 100VA maximum; 500VDC or peak AC, maximum; 2 amp switched maximum, 5 amp maximum carry current. **Contact circuit resistance:** 30mΩ maximum; stable with ±2mΩ over life. **Life expectancy:** greater than 20 x 10⁶ operations at rated load with proper contact protection. **Operate and release time:** 1.25ms, maximum. **Bounce time:** none. **Breakdown voltage:** coil-to-contact and across contacts 1000VAC, rms, minimum or 1400VDC; 60Hz between all mutually insulated terminals. **Insulation resistance:** 1000mΩ minimum. **Operating temperature range:** -38.8° to +85°C. No interruption of signal or processing of false signals. Excellent input to output isolation. Mount on standard 0.100" (2.54) grid pattern; upright within 30° of vertical. 1 Form C, SPDT. FCC 68 qualified.

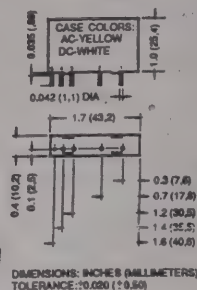
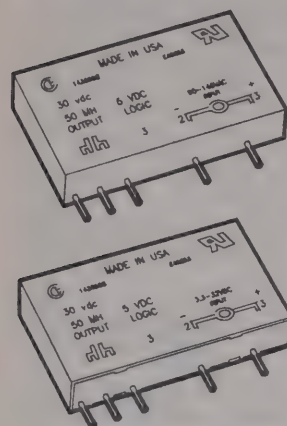


SPDT Single-Side Stable

Stock No.	Mfr.'s Type	Contact Form	Nom. Coil VDC	Coil Resistance ±10%	EACH		
					1-24	25-99	25-99
681-1516	HGWM51111K00	1C	5	117	24.90	24.28	16.43
681-1517	HGWM51111P00	1C	12	720	24.90	24.28	16.43
681-1518	HGWM51111T00	1C	24	2730	26.45	25.50	17.26

10

M Series Input Modules



- Plug Into Mounting Boards for M Series Modules
- AC Inputs for 24 V, 120 V 240 V
- DC Inputs for 3.3 to 32 V, 10 to 60 V
- UL Recognized (E46203)/CSA Certified (38595)
- 4KV Optical Isolation
- Open-Collector Output
- Industry Standard Packaging

793-3056. MIAC5	EACH 9.75
793-3057. MIAC5A	EACH 11.00
793-3058. MIAC5E	EACH 11.50
793-3059. MIAC24	EACH 11.50
793-3060. MIAC24A	EACH 12.00
793-3061. MIDC5	EACH 11.00
793-3062. MIDC5F	EACH 11.50
793-3063. MIDC5N	EACH 12.00
793-3064. MIDC24	EACH 12.00

General Specifications

Parameter	MIAC5, MIAC5A MIAC5E, MIAC24, MIAC24A	MIDC5, MIDC24	MIDC5F	MIDC5N
Operating Temperature Range	-30°C to 80°C	-30°C to 80°C	-30°C to 80°C	-30°C to 80°C
Storage Temperature Range	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C
Maximum Turn-on Time	20 mSec	1.0 mSec	0.05 mSec	5.0 mSec
Maximum Turn-off Time	30 mSec	1.0 mSec	0.10 mSec	5.0 mSec
Input/Output Isolation Voltage	4000 VAC	4000 VAC	4000 VAC	4000 VAC
Input/Output Capacitance (typical)	8 pF	8 pF	8 pF	8 pF
Line Frequency Range	47 to 63 Hertz	DC	DC	DC

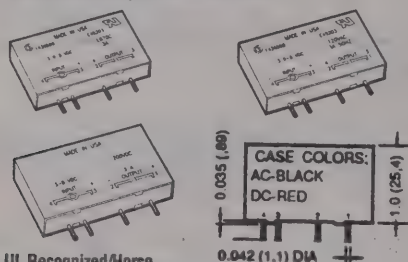
Input Specifications

Parameter	MIAC5, MIAC24	MIAC5A, MIAC24A	MIAC5E	MIDC5, MIDC24	MIDC5F	MIDC5N
Nominal Voltage	120 VAC	240 VAC	24 VAC	5-28 VAC	5-28 VDC	12-48 VDC
Maximum Voltage	140 VAC/VDC	280 VAC/VDC	36 VAC/VDC	32 VDC/VAC	32 VDC	60 VDC
Minimum Voltage	90 VAC/VDC	180 VAC/VDC	18 VAC/VDC	3.3 VDC/VAC	4.0 VDC	10 VDC
Resistance	28K Ω	75K Ω	2K Ω	1K Ω	500 Ω	2K Ω
Maximum Current	5.5 m Arms	5.5 m Arms	10 m Arms	34 mA	68 mA	34 mA
Drop-out Current	2.0 m Arms	1.5 m Arms	1.0 m Arms	1.0 mA	1.0 mA	1.0 mA
Allowable Current	2.5 m Arms	2.0 m Arms	1.5 m Arms	1.5 mA	1.5 mA	1.5 mA
Voltage for No Output	50 VAC/VDC	50 VAC/VDC	10 VAC/VDC	2.0 VDC	2.0 VDC	4.0 VDC

Output Specifications

Parameter	MIAC5, MIAC5A, MIAC5E, MIDC5, MIDC5F, MIDC5N	MIAC24, MIAC24A, MIDC24
Nominal Logic Supply Voltage	5.0 VDC	24.0 VDC
Maximum Logic Supply Voltage	6.0 VDC	30.0 VDC
Minimum Logic Supply Voltage	3.0 VDC	20.0 VDC
Maximum Logic Supply Current	16.0 mA	16.0 mA
Max. Logic Supply Leakage Current	10.0 μ A	10.0 μ A
Maximum Voltage	30.0 VDC	30.0 VDC
Maximum Current	50.0 mA	50.0 mA
Maximum Leakage Current	10.0 μ A	10.0 μ A
Maximum Voltage Drop	0.2 VDC	0.2 VDC

M Series Output Modules



- UL Recognized/Horse Power Rated (E46203)/CSA Certified (38595)
- AC Modules Have High Current Thyristor with 100 Amp Surge Capability
- Zero or Random Turn-On Available in AC Modules
- Plug Into Mounting Boards For m Series Modules
- 4KV Optical Isolation (1500 VAC Optical Isolation for FET DC Output Modules)
- Industry Standard Packaging
- 3.5 Amp AC Modules Provide Extra Switching Capability
- 5.0 Amp DC Modules Available

Input Specifications

Parameter	MOAC5, MOAC5A, MOAC5AR, MOAC5R	MODC5, MODC5A, MODC5F, MODC5MA, MODC5MC, MODC5ML	MOAC24, MOAC24A, MODC24
Nominal Voltage	5.0 VDC	5.0 VDC	24.0 VDC
Minimum Voltage	2.75 VDC	2.75 VDC	18.0 VDC
Maximum Voltage	8.0 VDC	8.0 VDC	32.0 VDC
Drop-out Voltage	1.0 VDC	1.0 VDC	1.0 VDC
Maximum Current	20.0 mA	18.0 mA	13.0 mA
Resistance	220 Ohms	250 Ohms	2000 Ohms

General Specifications

Parameter	MOAC5, MOAC5A, MOAC24, MOAC24A	MOAC5R, MOAC5AR	MODC5, MODC5A, MODC24	MODC5F	MODC5MA, MODC5MC
Operating Temperature Range	-30°C to 80°C	-30°C to 80°C	-30°C to 80°C	-30°C to 80°C	-30°C to 80°C
Storage Temperature Range	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C
Maximum Turn-on Time	8.33 mSec	0.1 mSec	0.1 mSec	0.025 mSec	1.0 mSec
Maximum Turn-off Time	8.33 mSec	8.33 mSec	0.75 mSec	0.05 mSec	0.05 mSec
Input/Output Isolation Voltage	4000 VAC	4000 VAC	4000 VAC	4000 VAC	1500 VAC
Input/Output Capacitance (typical)	8 pF	8 pF	8 pF	8 pF	8 pF
Line Frequency Range	47 to 63 Hertz	47 to 63 Hertz	DC	DC	DC

Output Specifications

Parameter	MOAC5, MOAC5R, MOAC24	MOAC5A, MOAC5AR, MOAC24A	MODC5, MODC24	MODC5A	MODC5F	MODC5MA	MODC5MC	MODC5ML
Nominal Line Voltage	120 VAC	240 VAC	5-48 V	5-150 V	5-48 V	5-150 V	5-90 V	5-48 V
Minimum Line Voltage	12 VAC	24 VAC	3.0 V	3.0 V	3.0 V	1.0 V	1.0 V	1.0 V
Maximum Line Voltage	140 VAC	280 VAC	60 V	250 V	60 V	200 V	100 V	50 V
Max. Off-State Voltage	400 Vpeak	600 Vpeak	60 V	250 V	60 V	200 V	100 V	50 V
Max. Off-State Leakage	3.0 m Arms	500 μ A	2.0 mA	2.0 mA	1.0 mA	10 μ A	10 μ A	10 μ A
Static Off-State dv/dt	200 V/ μ sec	200 V/ μ sec	N/A	N/A	N/A	N/A	N/A	N/A
Maximum Rated On-State Current	3.5 Arms	3.5 Arms	3.0 A	1.0 A	3.0 A	3.0 A	5.0 A	5.0 A
Min. On-State Current	50 m Arms	50 m Arms	10 mA	10 mA	1.0 mA	1.0 mA	1.0 mA	1.0 mA
Max. Surge Current	100 Apeak	100 Apeak	5.0 A	5.0 A	5.0 A	10 A	10 A	10 A
On-State Voltage Drop or Resistance	1.6 V	1.5 V	1.5 V	1.5 V	0.25 Ω	0.25 Ω	0.10 Ω	0.05 Ω
Horse Power Rating	1/4 H.P.	1/4 H.P.	N/A	N/A	N/A	N/A	N/A	N/A

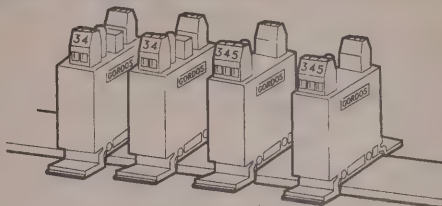
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793-3066. MOAC5A	EACH 11.00
793-3067. MOAC24	EACH 11.50
793-3068. MOAC24A	EACH 12.00
793-3069. MOAC5R	EACH 11.50

793-3070. MOAC5AR	EACH 12.00
793-3071. MODC5	EACH 9.75
793-3072. MODC5A	EACH 16.00
793-3073. MODC24	EACH 11.50

793-3074. MODC5F	EACH 11.00
793-3075. MODC5MA	EACH 38.00
793-3076. MODC5MC	EACH 30.00
793-3077. MODC5ML	EACH 26.00

Gordos Digital I/O Modules Din Rail Mountable Input Modules

- DIN Rail Mountable Single Point Input Modules
- AC Inputs for 24 V, 120 V, 240 V
- DC Inputs for 3.3 to 32 V, 10 to 60 V
- UL Recognized (E46203)/CSA Certified (38595)
- 4KV Optical Isolation
- Open-Collector Output, with LED Indicator
- Input and Output Barrier Strips Accept 14 to 28 AWG Wire
- Configured for Panel Mounting



Input Specifications

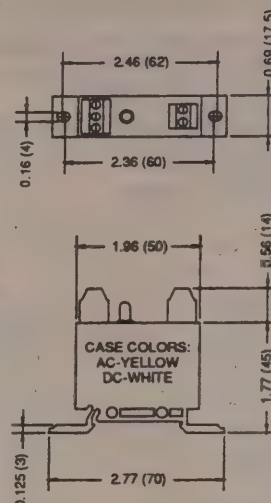
Parameter	DR-IAC5, DR-IAC24	DR-IAC5A, DR-IAC24A	DR-IAC5E	DR-IDC5, DR-IDC24	DR-IDC5A, DR-IDC24A
Nominal Voltage	120 VAC	240 VAC	24 VAC	5-28 VDC	12-48 VDC
Maximum Voltage	140 VAC/VDC	280 VAC/VDC	36 VAC/VDC	32 VDC/VAC	60 VDC
Minimum Voltage	90 VAC/VDC	180 VAC/VDC	18 VAC/VDC	3.3 VDC/VAC	10 VDC
Resistance	28K Ω	75K Ω	2K Ω	1K Ω	2K Ω
Maximum Current	5.0 m Arms	5.0 m Arms	10 m Arms	34 mA	34 mA
Drop-out Current	2.0 m Arms	1.5 m Arms	1.0 m Arms	1.0 mA	1.0 mA
Allowable Current	2.5 m Arms	2.0 m Arms	1.5 m Arms	1.5 mA	1.5 mA
Voltage for No Output	50 VAC/VDC	50 VAC/VDC	10 VAC/VDC	2.0 VDC	4.0 VDC

Output Specifications

Parameter	DR-IAC5, DR-IAC5A, DR-IAC5E, DR-IDC5, DR-IDC5A	DR-IAC24, DR-IAC24A, DR-IDC24, DR-IDC24A
Nominal Logic Supply Voltage	5.0 VDC	24.0 VDC
Maximum Logic Supply Voltage	6.0 VDC	30.0 VDC
Minimum Logic Supply Voltage	3.0 VDC	20.0 VDC
Maximum Logic Supply Current	16.0 mA	16.0 mA
Max. Logic Supply Leakage Current	10.0 μ A	10.0 μ A
Maximum Voltage	30.0 VDC	30.0 VDC
Maximum Current	50.0 mA	50.0 mA
Maximum Leakage Current	10.0 μ A	10.0 μ A
Maximum Voltage Drop	0.2 VDC	0.2 VDC

General Specifications

Parameter	DR-IAC5, 24, DR-IAC5A, 24A, DR-IAC5E	DR-IDC5, 24 DR-IDC5A, 24A
Operating Temperature Range	-30°C to 80°C	-30°C to 80°C
Storage Temperature Range	-40°C to 100°C	-40°C to 100°C
Maximum Turn-on Time	20 mSec	1.0 mSec
Maximum Turn-off Time	30 mSec	1.0 mSec
Input/Output Isolation Voltage	4000 VAC	4000 VAC
Input/Output Capacitance (typical)	8 pF	8 pF
Line Frequency Range	47 to 63 Hertz	DC



793-3089. DR-IAC5	EACH 17.00
793-3090. DR-IAC5A	EACH 17.50
793-3091. DR-IAC5E	EACH 18.00
793-3092. DR-IAC24	EACH 17.50
793-3093. DR-IAC24A	EACH 18.00

793-3094. DR-IDC5	EACH 17.00
793-3095. DR-IDC5A	EACH 19.00
793-3096. DR-IDC24	EACH 17.70
793-3097. DR-IDC24A	EACH 19.50

Din Rail Mountable Output Modules

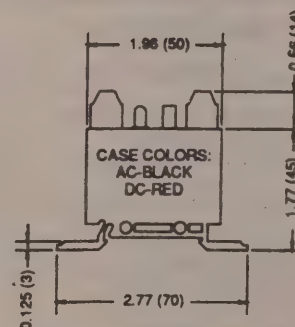
- DIN Rail Mountable Single Point Output Modules
- UL Recognized/Horse Power Rated (E46203)/CSA Certified (38595)
- AC Output Rating 5 Amp at 12 to 280 VAC, with 250 Amp Single Cycle Surge Capability
- DC Output Rating 3 Amp at 3 to 60 VDC
- 3 to 32 VDC Input for AC Module, 5V or 24V for DC Module
- Zero Voltage Turn-on for AC Module
- 4 KV Optical Isolation with LED Indicator
- Barrier Strips Accept 14 to 28 AWG Wire
- Configured for Panel Mounting

Input Specifications

Parameter	DR-OAC	DR-ODC5	DR-ODC24
Nominal Voltage	5-24 VDC	5.0 VDC	24.0 VDC
Minimum Voltage	3.7 VDC	3.5 VDC	18.0 VDC
Maximum Voltage	32 VDC	8.0 VDC	32.0 VDC
Drop-out Voltage	1.0 VDC	1.0 VDC	1.0 VDC
Maximum Current	18.0 mA	18.0 mA	13.0 mA
Resistance	—	250 Ohms	2000 Ohms

General Specifications

Parameter	DR-OAC	DR-ODC5, DR-ODC24
Operating Temperature Range	-30°C to 80°C	-30°C to 80°C
Storage Temperature Range	-40°C to 100°C	-40°C to 100°C
Maximum Turn-on Time	8.33 mSec	0.1 mSec
Maximum Turn-off Time	8.33 mSec	0.75 mSec
Input/Output Isolation Voltage	4000 VAC	4000 VAC
Input/Output Capacitance (typical)	8 pF	8 pF
Line Frequency Range	47 to 63 Hertz	DC
Fuse	5 Amps	5 Amps



DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: ± 0.020 (± 0.50)

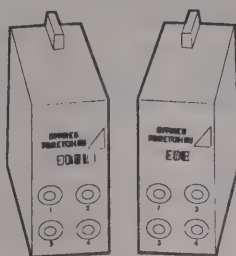
Output Specifications

Parameter	DR-OAC	DR-ODC5, DR-ODC24
Nominal Line Voltage	120/240 VAC	5-48 V
Minimum Line Voltage	12 VAC	3.0 V
Maximum Line Voltage	280 VAC	60 V
Max. Off-state Voltage	600 Vpeak	60 V
Max. Off-state Leakage	6.0 mArms	500 μ A
Static Off-state dv/dt	200 V/ μ sec	N/A
Maximum Rated On-State Current	5.0 Arms	3.0 A
Min. On-state Current	50 mArms	10 mA
Max. Surge Current	250 Apeak	5.0 A
On-state Voltage Drop	1.6 V	1.5 V
Horse Power Rating	1/2 H.P.	N/A

793-3098. DR-OAC	EACH 17.30
793-3099. DR-ODC5	EACH 17.00
793-3100. DR-ODC24	EACH 17.70

Quad-Pack Input Modules

- ▶ Plug Into Mounting Boards for Quad-Pack Modules
- ▶ AC Inputs for 24 V, 120 V 240 V
- ▶ DC Inputs for 4 to 32 V, 10 to 60 V
- ▶ 4 Input Circuits per Module
- ▶ UL Recognized (E46203)/CSA Certified (38595)
- ▶ 4KV Optical Isolation
- ▶ Open-Collector
- ▶ Industry Standard Packaging



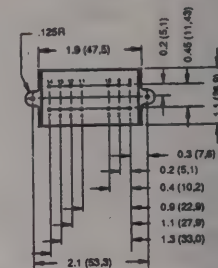
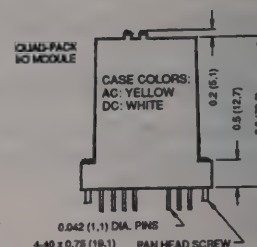
General Specifications

Parameter	IAC5Q, IAC5AQ, IAC5EQ	IDC5Q	IDC5BQ
Operating Temperature Range	-30°C to 80°C	-30°C to 80°C	-30°C to 80°C
Storage Temperature Range	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C
Maximum Turn-on Time	20 mSec	5.0 mSec	0.05 mSec
Maximum Turn-off Time	30 mSec	5.0 mSec	0.10 mSec
Input/Output Isolation Voltage	4000 VAC	4000 VAC	4000 VAC
Input/Output Capacitance (typical)	8 pF	8 pF	8 pF
Line Frequency Range	47 to 63 Hertz	DC	DC

Input Specifications

Parameter	IAC5Q	IAC5AQ	IAC5EQ	IDC5Q	IDC5BQ
Nominal Voltage	120 VAC	240 VAC	24 VAC	12-48 VAC	5-28 VDC
Maximum Voltage	140 VAC/VDC	280 VAC/VDC	36 VAC/VDC	60 VDC/VAC	32 VDC
Minimum Voltage	90 VAC/VDC	180 VAC/VDC	18 VAC/VDC	10 VDC/VAC	4.0 VDC
Resistance	28K Ω	75K Ω	2K Ω	2K Ω	500 Ω
Maximum Current	5.0 m Arms	5.0 m Arms	10 m Arms	34 mA	68 mA
Drop-out Current	2.0 m Arms	1.5 m Arms	1.0 m Arms	1.0 mA	1.0 mA
Allowable Current	2.5 m Arms	2.0 m Arms	1.5 m Arms	1.5 mA	1.5 mA
Voltage for No Output	50 VAC/VDC	50 VAC/VDC	10 VAC/VDC	4.0 VDC	2.0 VDC

793-3078. IAC5Q	EACH 39.00
793-3079. IAC5AQ	EACH 42.00
793-3080. IAC5EQ	EACH 42.00
793-3081. IDC5Q	EACH 39.00
793-3082. IDC5BQ	EACH 49.00



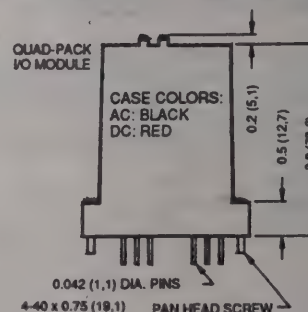
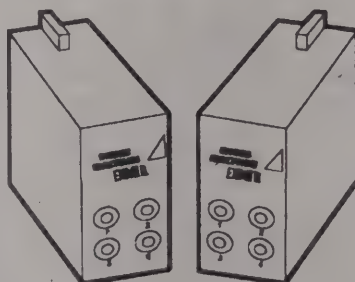
DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: ±0.020 (±0.50)

Output Specifications

Parameter	IAC5Q, IAC5AQ, IAC5EQ, IDC5Q, IDC5BQ
Nominal Logic Supply Voltage	5.0 VDC
Maximum Logic Supply Voltage	6.0 VDC
Minimum Logic Supply Voltage	3.0 VDC
Maximum Logic Supply Current	16.0 mA
Max. Logic Supply Leakage Current	10.0 μA
Maximum Voltage	30.0 VDC
Maximum Current	50.0 mA
Maximum Leakage Current	10.0 μA
Maximum Voltage Drop	0.2 VDC

Quad-Pack Output Modules

- ▶ UL Recognized (E46203)/CSA Certified (38595)
- ▶ AC Modules Have High Current Thyristor with 100 Amp Surge Capability
- ▶ Zero or Random Turn-On Available in AC Modules
- ▶ Plug Into Mounting Boards For 0.6" Modules
- ▶ 4KV Optical Isolation
- ▶ Industry Standard Packaging
- ▶ 3.5 Amp AC Modules Provide Extra Switching Capability
- ▶ 4 Outputs Per Quad-Pack Module



Input Specifications

Parameter	OAC5Q, OAC5AQ, OAC5ARQ, OAC5BQ	ODC5Q, ODC5Q-11
Nominal Voltage	5.0 VDC	5.0 VDC
Minimum Voltage	2.75 VDC	2.75 VDC
Maximum Voltage	8.0 VDC	8.0 VDC
Drop-out Voltage	1.0 VDC	1.0 VDC
Maximum Current	20.0 mA	18.0 mA
Resistance	220 Ohms	250 Ohms

General Specifications

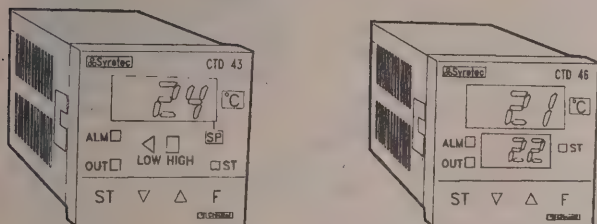
Parameter	OAC5Q, OAC5BQ	OAC5ARQ, OAC5BQ	ODC5Q, ODC5Q-11
Operating Temperature Range	-30°C to 80°C	-30°C to 80°C	-30°C to 80°C
Storage Temperature Range	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C
Maximum Turn-on Time	8.33 mSec	0.1 mSec	0.1 mSec
Maximum Turn-off Time	8.33 mSec	8.33 mSec	0.75 mSec
Input/Output Isolation Voltage	4000 VAC	4000 VAC	4000 VAC
Input/Output Capacitance (typical)	8 pF	8 pF	8 pF
Line Frequency Range	47 to 63 Hertz	47 to 63 Hertz	DC

Output Specifications

Parameter	OAC5Q, OAC5BQ	OAC5ARQ, OAC5BQ	ODC5Q, ODC5Q-11
Nominal Line Voltage	120 VAC	240 VAC	5-48 V
Minimum Line Voltage	12 VAC	24 VAC	3.0 V
Maximum Line Voltage	140 VAC	280 VAC	60 V
Max. Off-State Voltage	400 Vpeak	600 Vpeak	60 V
Max. Off-State Leakage	3.0 mArms	6.0 mArms	500 μA
Static Off-State dv/dt	200 V/μsec	200 V/μsec	N/A
Maximum Rated On-State Current	3.5 Arms	3.5 Arms	3.0 A
Min. On-State Current	50 mArms	50 mArms	10 mA
Max. Surge Current	100 Apeak	100 Apeak	5.0 A
On-State Voltage Drop or Resistance	1.6 V	1.6 V	1.5 V

793-3083. OAC5Q	EACH 37.00
793-3084. OAC5AQ	EACH 40.00
793-3085. OAC5ARQ	EACH 42.00
793-3086. OAC5BQ	EACH 41.00
793-3087. ODC5Q	EACH 37.00

CTD 46 and 43 Series Temperature Controller



- ▶ 1/16 Din-sized Enclosure
- ▶ 5 Temperature Control Modes
- ▶ Multiple Temperature Range (°F and °C)

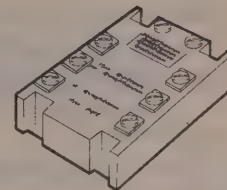
- ▶ Auto-tuning
- ▶ Built-in Alarm
- ▶ Soft Start Function
- ▶ Nema 4X Front Panel

The CTD Series is a temperature controller available in two basic models: the CTD 43 is a single display unit and the CTD 46 is a dual display unit. Both models have a temperature range of -199 to 999°F or -199 to 999°C and will accept J, K, L, or N type thermocouples and RTDs as temperature sensors. Control modes include ON-OFF or proportioning action (PID, P, PL, PD). The main output can be programmed for direct (cooling) or inverse (heating) operations and the relay alarm output programmed to 16 different alarm configurations. The auto-tuning "Smart" function will calculate and set automatically the optimum values for the PID mode to insure the closest control of any heating or cooling load.

Stock No.	Mfr.'s Type	Description	Each
793-3001	89421108	CTD 43, Relay Output, 110/220 VAC	213.00
793-3002	89421118	CTD 43, Transistor Output, 110/220 VAC	213.00
793-3003	89422108	CTD 46, Relay Output, 110/220 VAC	244.00
793-3004	89422118	CTD 46, Transistor Output, 110/220 VAC	244.00

GA 3 Series Three-Phase Solid State Relays

- ▶ 10, 25 and 45 Amps Output Per Channel Available
- ▶ 24 to 600 VAC Output Voltage Range Suitable for Many Applications
- ▶ 1200 Volts Peak Blocking Voltage Helps Protect Against Transients in Harsh Electrical Environments.
- ▶ Internal RC Snubber Network
- ▶ 4000 VAC Optical Isolation
- ▶ 4 to 32 Control Voltage for a Wide Variety of Logic Circuit Applications
- ▶ Zero Voltage or Random Turn-on
- ▶ Industry Standard Package

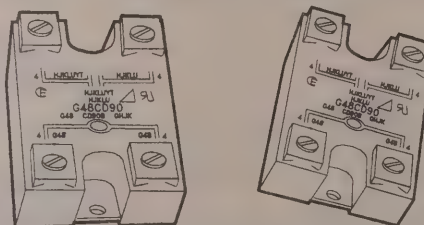


General Specifications	GA3-12D10R GA3-12D25R, GA3-12D45R	GA3-12D10Z GA3-12D25Z, GA3-12D45Z
Operating Temperature Range	-30 to 80°C	-30 to 80°C
Storage Temperature Range	-40 to 100°C	-40 to 100°C
Maximum Turn-on Time	.20 mSec	8.33 mSec
Maximum Turn-off Time	8.33 mSec	8.33 mSec
Input/Output Isolation	4000 VAC	4000 VAC
Input/Output to Base Isolation	4000 VAC	4000 VAC
Input/Output Capacit. (typical)	8 pF	8 pF
Line Frequency Range	47 to 63 Hz	47 to 63 Hz
Weight	450 g	450 g

Stock No.	Mfr.'s Type	Description	Each
793-3005	GA3-12D10R	10A, Random Turn-on	92.60
793-3006	GA3-12D25R	25A, Random Turn-on	94.65
793-3007	GA3-12D45R	45A, Random Turn-on	100.90
793-3008	GA3-12D10Z	10A, Zero Voltage Turn-on	92.60
793-3009	GA3-12D25Z	25A, Zero Voltage Turn-on	94.65
793-3010	GA3-12D45Z	45A, Zero Voltage Turn-on	100.90

G Series Power Relays

- ▶ Back-to-back (dual) SCR Output for Severe Inductive Loads.
- ▶ Superior False Turn-on Immunity and Positive Turn-off at high dv/dt.
- ▶ Current Ratings to 90A
- ▶ Output Voltage Rating to 660 VAC with 24 VAC Minimum
- ▶ AC or DC Inputs
- ▶ 4KV Optical Isolation
- ▶ Zero AC or Random Turn-on Models
- ▶ RC Snubber Network for Inductive loads
- ▶ UL Recognized (E46203, E79183), CSA Certified (38595)
- ▶ VDE Approval on Many Models (37421)
- ▶ UL/CSA 5 H.P. Rated Models



GENERAL SPECIFICATIONS. Operating Temperature Range: -20 to +80°C. Storage Temperature Range: -40 to +100°C. Input to Output Isolation Voltage: 4,000 Vrms. Input/Output to Ground Isolation Voltage: 2,500 Vrms. Capacitance Input to Output (Typical): 8pF. Line Frequency Range: 47 to 80Hz. Maximum Line Voltage (VRMS): 280, 480, 660. Minimum Line Voltage (VRMS): 24, 36, 48. Max. Off-state Voltage (Vpeak)*: ±600, ±1,200, ±1200. Max. Off-state Leakage (mArms)*: 15.0, 15.0, 20.0. Static (off-state) dv/dt (V/μs)*: 200, 200, 200.

Stock No.	Mfr.'s Type	Output Rating	Control Voltage	Each
793-3011	G240A10	10A	90-280VAC	21.40
793-3012	G240A25	25A	90-280VAC	26.50
793-3013	G240A45	45A	90-280VAC	37.00
793-3014	G240A75	75A	90-280VAC	45.90
793-3015	G240A90	90A	90-280VAC	55.10
793-3016	G240D10	10A	3-32VDC	17.85
793-3017	G240D25	25A	3-32VDC	21.40
793-3018	G240D45	45A	3-32VDC	30.70
793-3019	G240D75	75A	3-32VDC	41.80
793-3020	G240D90	90A	3-32VDC	49.90
793-3021	G240E10	10A	18-36VAC	29.00
793-3022	G240E25	25A	18-36VAC	32.00
793-3023	G240E45	45A	18-36VAC	41.50
793-3024	G240E75	75A	18-36VAC	56.00
793-3025	G240E90	90A	18-36VAC	68.85
793-3026	G480A10	10A	90-280VAC	41.00
793-3027	G480A25	25A	90-280VAC	44.00
793-3028	G480A50	45A	90-280VAC	53.00
793-3029	G480A75	75A	90-280VAC	57.00
793-3030	G480A90	90A	90-280VAC	65.00
793-3031	G480D10	10A	3-32VDC	26.50
793-3032	G480D25	25A	3-32VDC	31.00
793-3033	G480D50	50A	3-32VDC	44.00
793-3034	G480D75	75A	3-32VDC	49.00
793-3035	G480D90	90A	3-32VDC	54.00

Stock No.	Mfr.'s Type	Output Rating	Control Voltage	Each
793-3036	G480E10	10A	18-36VAC	52.00
793-3037	G480E25	25A	18-36VAC	56.00
793-3038	G480E50	50A	18-36VAC	67.00
793-3039	G480E75	75A	18-36VAC	71.00
793-3040	G480E90	90A	18-36VAC	82.00
793-3041	G575A10	10A	90-280VAC	43.00
793-3042	G575A25	25A	90-280VAC	47.00
793-3043	G575A50	50A	90-280VAC	56.00
793-3044	G575A75	75A	90-280VAC	59.00
793-3045	G575A90	90A	90-280VAC	67.00
793-3046	G575D10	10A	3-32VDC	30.00
793-3047	G575D25	25A	3-32VDC	34.00
793-3048	G575D50	50A	3-32VDC	45.00
793-3049	G575D75	75A	3-32VDC	52.00
793-3050	G575D90	90A	3-32VDC	55.00
793-3051	G575E10	10A	18-36VAC	55.00
793-3052	G575E25	25A	18-36VAC	58.00
793-3053	G575E50	50A	18-36VAC	70.00
793-3054	G575E75	75A	18-36VAC	73.00
793-3055	G575E90	90A	18-36VAC	84.00

* G4800 and G575D DC input range is 4.0 to 32.0 VDC

C4 Series Input Modules

Features

- ▶ Built-in LED Status Indicator
- ▶ New Industry Standard Packaging
- ▶ 4000 VAC Optical Isolation
- ▶ AC and DC Inputs
- ▶ UL and CSA Approvals

Output Specifications

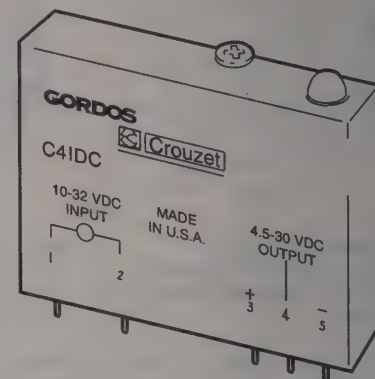
- ▶ Maximum Logic Supply Voltage: 32 VDC
- ▶ Minimum Logic Supply Voltage: 4.5 VDC
- ▶ Maximum Logic Supply Current: 16 mA
- ▶ Maximum Logic Leakage Current: 10 μ A
- ▶ Maximum Output Voltage: 30 VDC
- ▶ Maximum Output Leakage Current: 10 μ A
- ▶ Maximum Output Voltage Drop: 0.2 VDC

The C4 I/O Modules provide all the features of standard I/O Modules plus an LED status indicator and, (for the Output Modules) a replaceable 2 AG type fuse. AC and DC Inputs, new industry standard packaging, **Input to Output Isolation Voltage:** 4000 VAC. **Operating Temperature Range:** -30 to 80°C. **Storage Temperature Range:** -40 to 100°C. The mounting boards will accept either input or output modules. Both the modules and boards are UL and CSA approved.

C4IAC Input Specifications. Nominal Voltage: 120 VAC. Resistance: 28 K Ω . Maximum Current: 5 mA. Maximum Turn-On Time: 20 ms. Maximum Turn-Off Time: 30 ms. Input Allowed for No Output: 2 mA/50 VAC.

C4IACA Input Specifications. Nominal Voltage: 240 VAC. Resistance: 75 K Ω . Maximum Current: 5 mA. Maximum Turn-On Time: 20 ms. Maximum Turn-Off Time: 30 ms. Input Allowed for No Output: 2 mA/100 VAC.

C4IDC Input Specifications. Nominal Voltage: 4-32 VDC. Resistance: 1 K Ω . Maximum Current: 34 mA. Maximum Turn-On Time: 5 ms. Maximum Turn-Off Time: 5 ms. Input Allowed for No Output: 1.5 mA/2 VDC.



Stock No.	Mfr.'s Type	Input	DC Logic Output	EACH
793-8031	C4IDC	4 - 32 VDC	4.5 - 32 VDC	10.00
793-8032	C4IAC	90 - 140 VAC	4.5 - 32 VDC	10.00
793-8033	C4IACA	80 - 280 VAC	4.5 - 32 VDC	11.00

C4 Series Output Modules

Features

- ▶ Built-in LED Status Indicator
- ▶ Replaceable 2AG Type Fuse
- ▶ New Industry Standard Packaging
- ▶ AC and DC Inputs
- ▶ UL and CSA Approvals
- ▶ 4 to 32 VDC Regulated Input

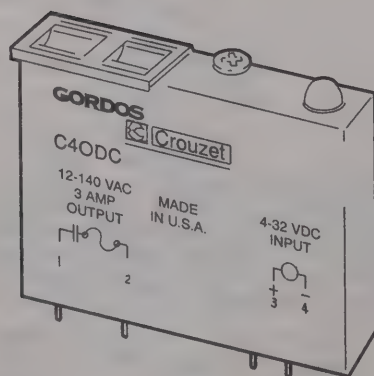
Input Specifications

- ▶ Nominal Voltage: 4-32 VDC
- ▶ Drop-Out Voltage: 1 VDC
- ▶ Maximum Current: 20 mA
- ▶ Resistance: 220 Ohms

Output Specifications

C4OAC. Nominal Line Voltage: 120 VAC. Minimum Line Voltage: 12 VAC. Maximum Line Voltage: 140 VAC. Maximum Off-State Voltage: 400 VDC. Maximum Off-State Leakage: 3 mA. Static Off-State dv/dt: 200 μ /s. Maximum Output Current: 3 A. Minimum Output Current: 50mA. Maximum Surge Current: 100 A. On-State Voltage Drop: 1.6 VDC. HP Rating: 1/4 HP.

C4ODC. Nominal Line Voltage: 5-48 VDC. Minimum Line Voltage: 5 VDC. Maximum Line Voltage: 60 VDC. Maximum Off-State Voltage: 60 VDC. Maximum Off-State Leakage: 10 μ A. Maximum Output Current: 3 A. Minimum Output Current: 10 mA. Maximum Surge Current: 5 A. On-State Voltage Drop: 1.6 VDC.



C4 Output Modules

Stock No.	Mfr.'s Type	Input Voltage	Output Voltage	Output Current	EACH
793-8054	C4ODC	4-32 VDC	3-60 VDC	3 A	10.50
793-8035	C4OAC	4-32 VDC	10-14 VAC	3 A	10.50

C4 Mounting Boards

Stock No.	Mfr.'s Type	I/O Points	EACH
793-8036	PB-4C4	4	23.00
793-8037	PB-8C4	8	42.00
793-8038	PB-16C4	16	66.00
793-8039	PB-24C4	24	103.00
793-8040	PB-32C4	32	142.00



Series AO 241

- ▶ Compact Package for High Density PC Board Mounting
- ▶ TTL Logic Compatible Input
- ▶ 4000 Vrms Optical Isolation
- ▶ Both "Zero Voltage" and Phase Controllable "Random" Switching Versions

1.0 AMP, 24-280 VAC Triac Output, DC Output AC Mini-SIP

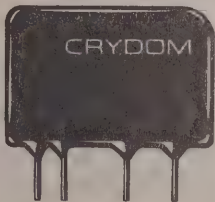
The CRYDOM AO241/R AC relays are 1.0 amp rated SPST-NO miniature SIP solid state relays. Utilizing the popular 100-mil. grid they occupy only 0.36 square inches of board space. These miniature relays have the same high technology and reliable design found in all CRYDOM products. UL, CSA pending.

Stock No.	Mfr.'s Type	Line Voltage VDC	Surge Current 1 Cycle (Max.)	Load Voltage Range	Freq. Range	EACH
682-2103	A0241	3- 9	15 Apk	24-280 VRMS	47-70 Hz	8.09
682-2104	A0241R*	3- 9	15 Apk	24-280 VRMS	47-70 Hz	8.09
682-2377	AS0241	12-280	10 Apk	12-280 VRMS	47-70 Hz	7.43
682-2378	AS0241R*	12-280	10 Apk	12-280 VRMS	47-70 Hz	7.43

*Random Switching Version.

Series CX

- ▶ Extra High Surge Rating
- ▶ Extra Low Leakage (Off-state)
- ▶ Opto-Isolated 4000 Vrms
- ▶ Random And Zero Voltage Switching
- ▶ Compact Package for High Density PC Board Mounting
- ▶ 3-15 Vdc Logic Compatible Input



5.0 AMP, 12-280 VAC SCR Output, DC Control

The CX series is a group of solid state relays designed by CRYDOM to achieve the highest power switching capability in a PC mounted air cooled package. They feature exceptional steady state and high surge ratings by means of over sized inverse-parallel SCR chips, together with highly efficient thermal management for greatly increased cycle life. UL, CSA & VDE pending.

Stock No.	Mfr.'s Type	Control Voltage Range	Surge Current 1 Cycle (Max.)	Load Voltage Range	Freq. Range	EACH
682-2105	CX240D5	3-15 VDC	250 Apk	12-280 VRMS	47-63 Hz	10.09
682-2106	CX240D5R*	3-15 VDC	250 Apk	12-280 VRMS	47-63 Hz	10.09
682-2381	CXE240D5	15-32 VDC	250 Apk	12-280 VRMS	47-63 Hz	9.02
682-2382	CXE240D5R	15-32 VDC	250 Apk	12-280 VRMS	47-63 Hz	9.02
682-2383	CX380D5	4-13 VDC	250 Apk	48-530 VRMS	47-63 Hz	12.63
682-2384	CXE380D5	15-32 VDC	250 Apk	48-530 VRMS	47-63 Hz	12.63
682-2385	CX480D5	4-13 VDC	250 Apk	48-660 VRMS	47-63 Hz	12.63
682-2386	CXE480D5	15-32 VDC	250 Apk	48-660 VRMS	47-63 Hz	12.63

AC Input

Stock No.	Mfr.'s Type	Control Voltage Range	Surge Current 1 Cycle (Max.)	Load Voltage Range	Freq. Range	EACH
682-2387	CX240A5	90-140 VAC	250 Apk	12-280 VRMS	47-63 Hz	10.08
682-2388	CX240A5R	90-140 VAC	250 Apk	12-280 VRMS	47-63 Hz	10.08
682-2389	CXE240A5	18-36 VAC	250 Apk	12-280 VRMS	47-63 Hz	10.08
682-2390	CXE240A5R	18-36 VAC	250 Apk	12-280 VRMS	47-63 Hz	10.08

*Random Switching Version.

Series DO 061

DC Mini-SIP

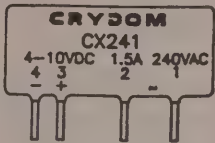


The DO 061 are miniature DC output modules in a conformally coated SIP package, measuring only 0.46 x 0.9 x 0.4 in. with pinouts on the popular 100-mil grid. The input-to-output isolation is 4000 VRMS with an isolation resistance of 1 x 10⁹ ohms. The units are derated 10mA per degree C above 60°C ambient temperature. Operating temperature range is -30°C to +80°C. When used for inductive loads, diode suppression across the load is recommended.

Stock No.	Mfr.'s Type	Line Voltage VDC	Max. I @ 60°C A (RMS)	Control Voltage Range	Must Operate Voltage, Min.	Must Release Voltage, Min.	Surge Current 1 Sec.	EACH
682-2101	DO 061A	3- 60	1.0	3.0- 9.0 VDC	3.0 VDC	1.0 VDC	5A	8.09
682-2102	DO 061B	3- 60	1.0	1.7- 9.0 VDC	3.0 VDC	1.0 VDC	5A	8.09
682-2375	DMO 065	0- 60	—	3.0-10.0 VDC	3.0 VDC	1.0 VDC	20A	20.53
682-2376	DMO 105	0-100	—	3.0-10.0 VDC	1.7 VDC	0.8 VDC	12A	20.53

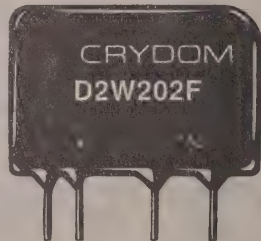
CX241 AC Output Solid State Relay

The new CX241/R Solid State Relays incorporates the SCR output AS0241/R circuit with the popular CX Series pinout.



Stock No.	Mfr.'s Type	Line Voltage Range (Vrms)	Load Current Range (Arms)	Off-State Leakage (mA)	Control Voltage Range	Input Current @ 5 VDC (Typical)	Surge Current 1-Cycle (Apk)	EACH
682-3070	CX241	12-280	.01-1.5	0.5	4-10	15 mA	10	7.40
682-3071	CX241R	12-280	.01-1.5	0.5	4-10	15 mA	10	8.09

Series D2W



Solid State Relays Low Cost AC Output 80 to 280 VAC, 2 Amps

The D2W202F is designed to achieve optimum performance at a record low cost by means of completely automated assembly using labor saving robotics. The package has a hard skin-tight epoxy coating which provides excellent environmental protection and a pinout that matches the Series 6.

General Specifications. Control Signal Range: 3 to 28 VDC. Must Operate Voltage, max.: 3 VDC. Must Release Voltage, min.: 1 VDC. Input Current @ 5 VDC max.: 4 mA. Input Impedance, min.: 1500 OHMS. Dielectric Strength 50/60 Hz: 2500 VRMS. Operating Temperature Range: -20° to 80°C.

Stock No.	Mfr.'s Type	Control Voltage Range	Output Ratings	Surge One Cycle	EACH
682-0114	D2W202F	3-32VDC	2.0A @ 60-280VAC	28A pk	8.03
682-0115	D2W203F	3-32VDC	3.0A @ 60-280VAC	70A pk	9.48
682-0116	D2W203F-11	3-32VDC	3.5A @ 60-280VAC	80A pk	9.94

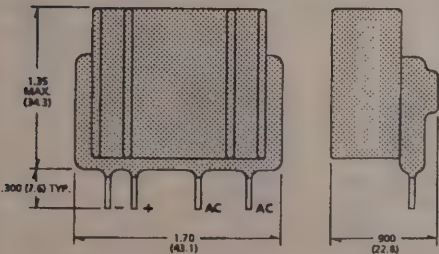
PowerFin™

- ▶ Integral Heatsink
- ▶ Ultra High Ratings
- ▶ Random and Zero Switching
- ▶ SCR Output

Up to 25 Amp, AC SIP. Operating Temperature Range: -30°C to 80°C. Isolation Voltage (Vrms): 4000.

Stock No.	Mfr.'s Type	Line Voltage Range (Vrms)	Load Current Range (Arms)	Control Voltage Range (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Surge Current 1-Cycle (Apk)	EACH
682-2379	PF240D25	240	.06-25*	3-15	3.0	1.0	250	13.13
682-2380	PFE240D25	240	.06-25*	15-32	15.0	1.0	250	13.13
682-2381	PF240D25R	240	.06-25*	3-15	3.0	1.0	250	13.13
682-2382	PFE240D25R	240	.06-25*	15-32	15.0	1.0	250	13.13

R suffix denotes Non-Zero Cross, Phase Controllable.
* .06-25 in forced air, Heat Sink 85°C max., .06-10 in convection air



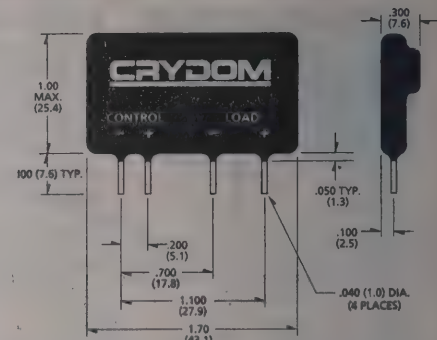
Series CMX — 6 - 10 Amp, DC SIP

- MOSFET Output
- Extra Low On-State Resistance

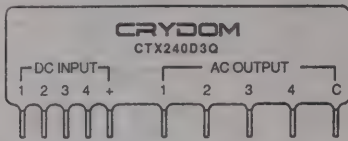
- Printed Circuit Board Mounting

New DC output SPST-NO solid state relays use MOSFET output for high switching capabilities in a PC-mount air-cooled package. Pinouts are compatible with Series 6 and ODC type I/O modules. **Operating Temperature Range:** -30°C to 80°C. **Isolation Voltage:** 2500 Vrms. **Approvals:** UL E116950.

Stock No.	Mfr.'s Type	Line Voltage Range (VDC)	Load Current Range (ADC)	Control Voltage Range (VDC)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Surge Current 10 ms (Apk)	EACH
682-2368	CMX100D6	0-100	0-6	3-10	3.0	1.0	100	24.72
682-2370	CMX60D10	0-60	0-10	3-10	3.0	1.0	100	24.72



CTX240D3Q



- Four AC Output Relays in One Package
- Extra High Surge Rating
- Extra Low Leakage (Off-State)
- Opto-Isolated 2500 Vrms

- Random and Zero Voltage Switching
- Compact Package for High Density PC Board Mounting
- 4-10 VDC Logic Compatible Input

The CTX240D3Q features four independently controlled solid state relays in one package. This model is an extension of Crydom's popular CX Series which is designed to achieve the highest power switching capability in a PC mounted air cooled package. The CTX240D3Q exhibits exceptional steady state ratings by means of highly efficient thermal management for greatly increased cycle life.

Input Specifications. Control Voltage Range: 4-10 VDC. Nominal Input Impedance: 270 Ohms. Typical Input Current at 5 VDC: 15 mAdc. Must Turn On Voltage: 4.0 VDC. Must Turn Off Voltage: 1.0 VDC. **Output Specifications.** Nominal Line Voltage: 240 Vrms. Load Current Range Per Section: 1 Section On — 0.1 - 6.0 Arms; 2 Sections On — 0.1 - 4.0 Arms; 3 Sections On — 0.1 - 3.0 Arms; 4 Sections On — 0.1 - 2.5 Arms. Surge Current, 1 Cycle (Max.): 120 Apk. Load Voltage Range: 24 - 280 Vrms. Transient

Over-Voltage: 600 Vpk. Frequency Range: 47-63 Hz. Off-State dv/dt (Min.): 200 V/μsec. Off-State Leakage Current (Max.) at 240 Vrms: 0.1 mArms. On-State Voltage Drop (Max.): 1.4 Vpk. I² t Max. at t = 8.3 msec: 60 A² sec. Turn-Off Time (Max.) at 60 Hz: 8.3 msec. Turn-On Time (Max.) at 60 Hz: Zero-Cross Switch — 8.3 msec; Random Switch — 0.02 msec. Power Factor (Min.) with Max. Load: Zero-Cross Switch — 0.5; Random Switch — 0.6. **General Specifications.** Dielectric (Min.): 2500 Vrms. Insulation Resistance (Min.) at 500 VDC: 10⁹ Ohms. Capacitance (Max.): 10 pF. Ambient Temperature Range: Operating — -30° to 80°C; Storage — -40° to 125°C.

682-2328. CTX240D3Q. Zero Cross Switch.....	EACH 36.05
682-2330. CTX240D3QR. Random Switch.....	EACH 36.05

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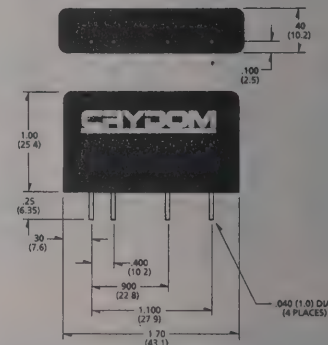
Series MP — 3 - 4 Amp, AC Output, SIP

- High Packaging Density

- Compatible with 5 through 24 Volt Logic Systems

Available in 3 Arms and 4 Arms ratings, all are SPST-NO PC-mount relays that provide greater packaging density and compatibility with pinout of Series 6 and OAC output modules. Models include internal snubber for high dv/dt applications, together with zero-voltage switching to reduce high inrush currents and electrical noise. **Operating Temperature:** -30°C to 80°C. **Isolation Voltage:** 2500 Vrms. UL Approval E 116950.

Stock No.	Mfr.'s Type	Line Voltage Range (VAC)	Load Current Range (Arms)	Control Voltage Range (VDC)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Surge Current 1-Cycle (Apk)	EACH
682-2316	MP120D3	12-140	.02-3.0	3.5-32	3.5	1.0	80	16.50
682-2318	MP240D3	24-280	.02-3.0	3.5-32	3.5	1.0	80	16.50
682-2320	MP240D4	24-280	.02-4.0	3.5-32	3.5	1.0	80	16.97



Series EZ — 12 - 18 Amp, AC Output

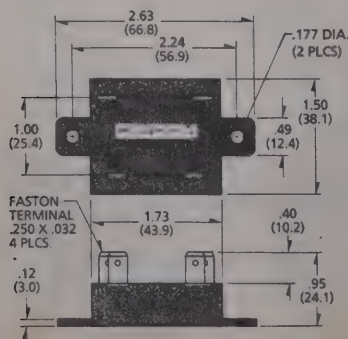
- Low Leakage
- SCR Output
- 24 Volt Control Available

- DC Control Models — SCR Output

Stock No.	Mfr.'s Type	Line Voltage Range (VAC)	Load Current Range (Arms)	Control Voltage Range (VDC)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Surge Current 1-Cycle (Apk)	EACH
682-2352	EZ240D12	24-280	.06-12	3-15	3.0	1.0	150	15.93
682-2354	EZ240D18	24-280	.06-18	3-15	3.0	1.0	200	20.49
682-2356	EZE240D12	24-280	.06-12	15-32	15.0	1.0	150	15.93
682-2358	EZE240D18	24-280	.06-18	15-32	15.0	1.0	200	20.49

- AC Control Models — SCR Output

Stock No.	Mfr.'s Type	Line Voltage Range (VAC)	Load Current Range (Arms)	Control Voltage Range (VAC)	Must Operate Voltage (VAC)	Must Release Voltage (VAC)	Surge Current 1-Cycle (Apk)	EACH
682-2360	EZ204A12	24-280	.06-12	90-140	90.0	10.0	150	20.70
682-2362	EZ240A18	24-280	.06-18	90-140	90.0	10.0	200	22.26
682-2364	EZE240A12	24-280	.06-12	18-36	18.0	2.0	150	20.70
682-2366	EZE240A18	24-280	.06-18	18-36	18.0	2.0	200	22.26

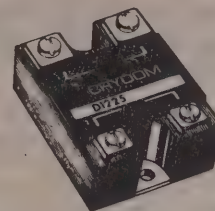


Series 1

- 2.5 to 90 Amp
- 120, 240 and 480 VAC

- Panel Mount
- Solid-State Relays

- SCR AC Output



These Crydom SSRs make it possible to switch AC power loads up to 47 kw. Output circuit consists of inverse-parallel (back-to-back) dual SCRs to meet the most demanding requirements. Features include zero voltage switching, phase control and normally closed models available. **General Specifications.** Isolation Voltage: 4000 VAC Std. (Input to Output). Operating Temperature Range: -30°C to 80°C. UL and CSA. **DC Input Control Models.** Control Signal Range: 3-32 VDC. Must Operate Voltage: 3 VDC Max. Must Release Voltage: 1 VDC Min. Input Current: 4 mA max. @ 5 VDC. Additional DC input models available upon special order: "Normally Closed" —B Suffix; "Non-Zero Switch" —10 Suffix; "400 Hz" —4 prefix. **AC Input Models.** Control Signal Range: 90-280 VAC. Must Operate Voltage: 90 VAC Max. Must Release Voltage: 10 VAC Min. Input Current: 2 mA max. @ 120 VAC.

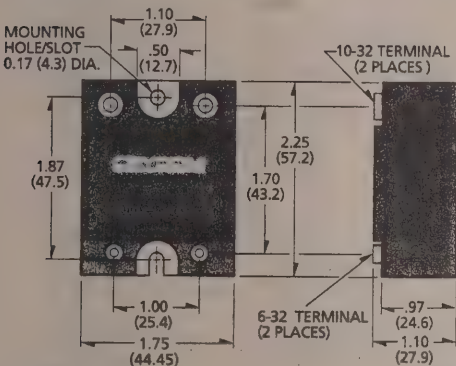
AC Control Models—SCR Output

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current, Amps (RMS)	One-Cycle Surge, Amps (PK)	EACH
682-0001	A1202	24-140	2.5	22.5	22.04
682-0002	A1210	24-140	10.0	120.0	32.81
682-0003	A1225	24-140	25.0	250.0	32.29
682-0004	A1240	24-140	40.0	625.0	34.97
682-0005	A2402	48-280	2.5	22.5	22.76
682-0006	A2410	48-280	10.0	120.0	31.57
682-0007	A2425	48-280	25.0	250.0	32.14
682-0008	A2440	48-280	40.0	625.0	34.76
682-0009	A2450	48-280	50.0	625.0	36.46
682-2391	A2490	48-280	90.0	1200.0	64.32
682-0010	A2475	48-280	75.0	1000.0	58.66
682-0012	A4812	80-530	12.0	140.0	40.12
682-0013	A4825	80-530	25.0	250.0	42.75
682-0014	A4840	80-530	40.0	625.0	46.92
682-0015	A4850	80-530	50.0	625.0	47.74
682-0016	A4875	80-530	75.0	1000.0	65.20
682-0017	A4890	80-530	90.0	1200.0	71.43

DC Control Models—SCR Output

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current, Amps (RMS)	One-Cycle Surge, Amps (PK)	EACH
682-0018	D1202	24-140	2.5	22.5	18.25
682-0019	D1210	24-140	10.0	120.0	26.89
682-0020	D1225	24-140	25.0	250.0	27.32
682-0021	D1240	24-140	40.0	625.0	34.00
682-0022	D2402	48-280	2.5	22.5	20.31
682-0023	D2410	48-280	10.0	120.0	30.50
682-0024	D2425	48-280	25.0	250.0	30.87
682-0025	D2440	48-280	40.0	625.0	34.86
682-0026	D2450	48-280	50.0	625.0	35.01
682-0027	D2475	48-280	75.0	1000.0	57.44
682-0142	D2490	48-280	90.0	1200.0	63.18
682-0029*	D4812	80-530	12.0	140.0	35.28
682-0030*	D4825	80-530	25.0	250.0	38.51
682-0031*	D4840	80-530	40.0	625.0	41.00
682-0032*	D4850	80-530	50.0	625.0	39.41
682-0033*	D4875	80-530	75.0	1000.0	61.38
682-0034*	D4890	80-530	90.0	1200.0	69.17

Series 1 — 110 - 125 Amp, 240 Volt AC Output



- Zero Voltage and Random Turn-On Switching
- Panel Mount

Featuring state-of-the-art Surface Mount Technology, these SPST- NO relays deliver proven reliability in the most demanding applications. Output consists of an SCR AC switch and is available in zero-cross, random turn-on (phase controllable) versions with either AC or DC input (coil) control.

DC Control Models — SCR Output

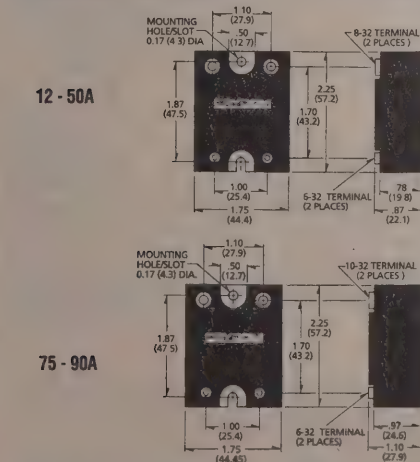
Stock No.	Mfr.'s Type	Line Voltage Range (VAC)	Load Current Range (Amps)	Control Voltage Range (VDC)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Surge Current 1-Cycle (Apk)	EACH
682-2300	D24110	48-280	.04-110	3-32	3.0	1.0	1500	68.75
682-2302	D24110-10*	48-280	.04-110	3-32	3.0	1.0	1500	71.33
682-2304	D24125	48-280	.04-125	3-32	3.0	1.0	1750	72.68
682-2306	D24125-10*	48-280	.04-125	3-32	3.0	1.0	1750	75.32

AC Control Models — SCR Output

Stock No.	Mfr.'s Type	Line Voltage Range (VAC)	Load Current Range (Amps)	Control Voltage Range (VAC)	Must Operate Voltage (VAC)	Must Release Voltage (VAC)	Surge Current 1-Cycle (Apk)	EACH
682-2308	A24110	48-280	.04-110	90-280	90.0	10.0	1500	72.47
682-2310	A24110-10*	48-280	.04-110	90-280	90.0	10.0	1500	75.05
682-2312	A24125	48-280	.04-125	90-280	90.0	10.0	1750	76.17
682-2314	A24125-10*	48-280	.04-125	90-280	90.0	10.0	1750	78.74

*-10: Non-Zero Cross, Phase Controllable Models.

Series HA, Series HD — 12-90 Amp, 480 Volt AC Output



- Zero Voltage and Random Turn-On Switching
- 1200 Volt Blocking
- Panel Mount

Crydom's new HA (AC Control) and HD (DC Control) relays incorporate the same proven technologies as the Series 1. All models come with 1200V blocking as standard. Operating Temperature: -30°C to 80°C. Isolation Voltage: 4000 Vrms. Minimum Off-State dv/dt: 500 V/μsec. Approvals: UL (E116949), CSA (LR81689), VDE (10104).

DC Control Models — SCR Output

Stock No.	Mfr.'s Type	Line Voltage Range (VAC)	Load Current Range (Amps)	Control Voltage Range (VDC)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Surge Current 1-Cycle (Apk)	EACH
682-2342	HD4812	80-530	.04-12	3-32	3.0	1.0	140	37.35
682-2344	HD4825	80-530	.04-25	3-32	3.0	1.0	250	39.62
682-2346	HD4850	80-530	.04-50	3-32	3.0	1.0	625	44.03
682-2348	HD4875	80-530	.04-75	3-32	3.0	1.0	1000	70.17
682-2350	HD4890	80-530	.04-90	3-32	3.0	1.0	1200	71.18

AC Control Models — SCR Output

Stock No.	Mfr.'s Type	Line Voltage Range (VAC)	Load Current Range (Amps)	Control Voltage Range (VAC)	Must Operate Voltage (VAC)	Must Release Voltage (VAC)	Surge Current 1-Cycle (Apk)	EACH
682-2332	HA4812	80-530	.04-12	90-280	90.0	10.0	140	42.59
682-2334	HA4825	80-530	.04-25	90-280	90.0	10.0	250	45.46
682-2336	HA4850	80-530	.04-50	90-280	90.0	10.0	625	51.83
682-2338	HA4875	80-530	.04-75	90-280	90.0	10.0	1000	71.45
682-2340	HA4890	80-530	.04-90	90-280	90.0	10.0	1200	74.90

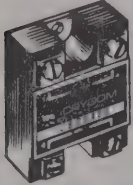
50 To 90 Amp, 48-530 and 48-660 VAC High Voltage AC Output Solid-State Relays 1000V-1200V Blocking

The highest power rated SSRs, up to 59kw. 4000V of isolation with the high available blocking voltages (1.2 KV) below which the SSRs will not mistrigger. The wide margin between operating and blocking voltages permits the proper use of transient suppression (MOV) devices on the 480V line. Features include high dv/dt and zero voltage switching.

General Specifications

Control Signal Range: "WD" —4 to 32 VDC; "CA" —90 to 140 VAC. **Input Current @ 5 VDC:** 15 mA max. **Isolation Voltage 50/60 Hz:** 7000 VRMS. **Operating Temperature Range:** -30°C to 80°C. **1.2 KV Blocking Voltage.**

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current, Amps (RMS)	One-Cycle Surge, Amps (PK)	EACH
682-0047	H12CA4850	48-660	50	625	54.69
682-0048	H12CA4890	48-660	90	1200	72.83
682-0051	H12WD4850	48-660	50	625	53.63
682-0052	H12WD4890	48-660	90	1200	71.40



Series CTA/CTD Solid State Relays

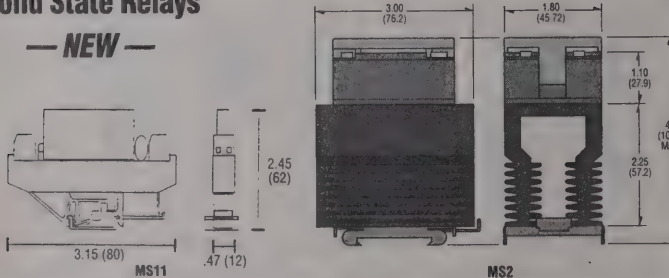
— NEW —

- ▶ TRIAC Output
- ▶ Cost Effective
- ▶ Industry Standard Package

Stock No.	Mfr.'s Type	Line Voltage Range (Vrms)	Load Current Range (Arms)	Off-State Leakage (mA)	Control Voltage Range	Input Current @ 5 VDC/120 VAC (Typical)	Surge Current 1-Cycle (Apk)	EACH
682-3060	CTD1210	24-140	0.25-10	10	4-28 VDC	7 mA	100	16.75
682-3061	CTD1225	24-140	0.25-25	10	4-28 VDC	7 mA	250	16.97
682-2395	CTD2410	48-280	0.25-10	10	4-28 VDC	7 mA	100	20.05
682-2396	CTD2425	48-280	0.25-25	10	4-28 VDC	7 mA	250	20.85
682-3062	CTA1210	24-140	0.25-10	10	90-280 VAC	8 mA	100	19.54
682-3063	CTA1225	24-140	0.25-25	10	90-280 VAC	8 mA	250	21.61
682-3064	CTA2410	48-280	0.25-10	10	90-280 VAC	8 mA	100	22.96
682-3065	CTA2425	48-280	0.25-25	10	90-280 VAC	8 mA	250	27.42

DIN Rail Mount Solid State Relays

— NEW —



Stock No.	Mfr.'s Type	Input Range (VDC)	Load Current Range (Arms)	Load Voltage Range	Transient Voltage (Vpk)	Surge Current 1-Cycle (Apk)	Off-State Current (mA)	EACH
682-3066	MS2-D2420	3.0-32	0.4-20	48-280 VAC	600	625	10.0	52.38
682-3067	MS2-D2430	3.0-32	0.4-30	48-280 VAC	600	625	10.0	60.97
682-3068	MS11-CS240D5	4.5-15	0.6-5.0	12-280 VAC	600	250	0.1	23.07
682-3069	MS11-DMP6301A	3.0-6	0.2-3.0	5-60 VDC	—	5 A*	0.1	24.15

*1 second.

5 Thru 25 Amp/120 and 240 VAC—Triac AC Output Solid State Relays

Crydom Triac SSRs are quality-made devices designed for general purpose switching applications where performance requirements are less demanding than those offered by SCR output types. **General Specifications.** **Control Signal Range:** DC Input — 3 to 32 VDC; AC Input — 90 to 280 VAC. **Input**

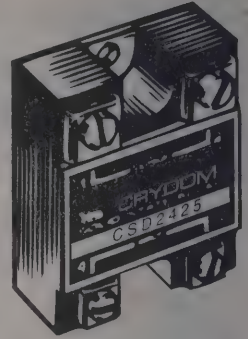
DC Control Models—Triac Output

Stock No.	Mfr.'s Type	Line VDC	Max. Load Current @ 40°C Amps	One-Cycle Surge, Amps (PK)	EACH
682-0077	TD1210	24-140	10	100	16.34
682-0078	TD1225*	24-140	25	250	16.45
682-0079	TD2410*	48-280	10	100	17.93
682-0080	TD2425	48-280	25	250	18.04

*Available "Normally Closed" (-B Suffix) (from factory.)

10 to 75 Amp, 120-240V DC Controlled, AC Output SSRs Feature IC Firing Circuits To Boost Reliability And Performance

Combining integrated circuit technology and the proven Crydom series 1 high power dissipation output system results in superior SSRs. The reduction of control circuit components from 22 to 3 greatly increases life and reliability.



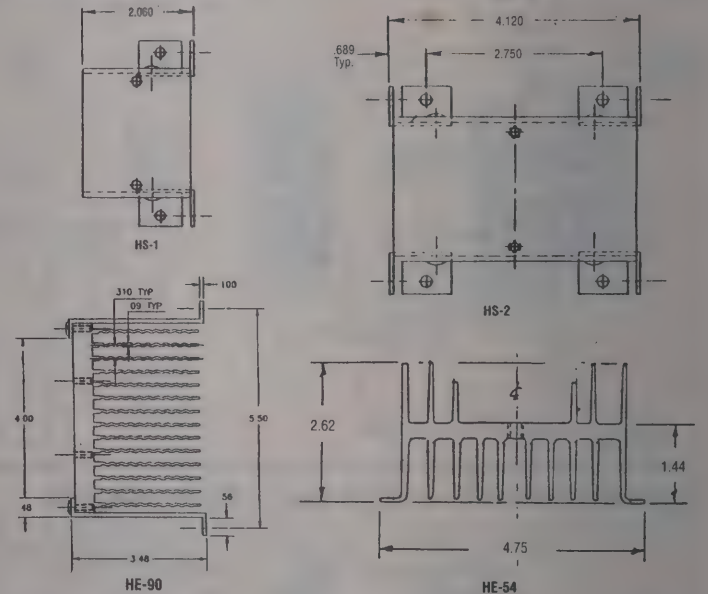
SCR Output

Stock No.	Mfr.'s Type	Input Control Voltage	Output Load Current	Rating Volts (RMS)	EACH
682-0053	CSD2410	3.5-15VDC	10A	120/240	23.19
682-0054	CSD2425	3.5-15VDC	25A	120/240	29.55
682-0055	CSD2440	3.5-15VDC	40A	120/240	32.84
682-0056	CSD2450	3.5-15VDC	50A	120/240	33.95
682-0057	CSD2475	3.5-15VDC	75A	120/240	49.76
682-0058	CSE2410	15.0-32VDC	10A	120/240	23.49
682-0059	CSE2425	15.0-32VDC	25A	120/240	29.55
682-0060	CSE2450	15.0-32VDC	50A	120/240	33.95
682-2393	CSE-2475	15.0-32VDC	75A	120/240	49.76
682-2394	CSE-2490	15.0-32VDC	90A	120/240	54.85
682-2395	CTD-2410*	3.5-15VDC	10A	120/240	20.05
682-2396	CTD-2425*	3.5-15VDC	25A	120/240	20.85

*Triac output.

Heatsinks and Covers

— NEW —



682-0063. HS-1. Heatsink — Up to 10 A.	EACH 16.60
682-0064. HS-2. Heatsink — Up to 25 A.	EACH 17.93
682-0065. HE-54. Heatsink — Up to 50 A.	EACH 26.31
682-2382. HE-90. Heatsink — Up to 90 A.	EACH 74.16
682-1050. KS100. Cover — Fits Series 1 Type Relays.	EACH 3.03
682-1051. KS300. Cover — Fits Series 53TP Three Phase Relays.	EACH 4.83

Current: DC Input — 4 mA @ 5 VDC; AC Input — 2 mA @120 VAC. **Isolation Voltage:** DC Input — 4000 VRMS; AC Input — 4000 VRMS. **Oper. Temp. Range:** DC Input — -30°C to 80°C; AC Input — -30°C to 80°C.

AC Control Models Triac Output

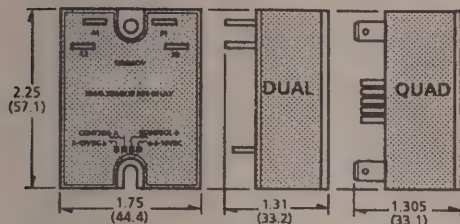
Stock No.	Mfr.'s Type	Line VDC	Max. Load Current @ 40°C Amps	One-Cycle Surge, Amps (PK)	EACH
682-0082	TA1210	24-140	10	100	20.21
682-0083	TA1225	24-140	25	250	22.38
682-0084	TA2410	48-280	10	100	20.11
682-0085	TA2425	48-280	25	250	24.03

Dual/Quad Relays—120/240 Volt, AC Output

► Industry Standard Package

► UL, CSA Approved

► Zero Voltage and Random Turn-on Switching



Available Options: -10 Random Turn-on, Phase Controllable. Operating Temperature Range: -30°C to 80°C. Isolation Voltage: 2500 Vrms.

Dual

Stock No.	Mfr.'s Type	Line Voltage Range (Vrms)	Load Current Range (Amps)	Control Voltage Range (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Surge Current 1-Cycle (Apk)	EACH
682-2397	D2425D	24-280	.05-25	4-15	4.0	1.0	250	55.59
682-2398	D2440D	24-280	.05-40	4-15	4.0	1.0	625	62.70

Quad

Stock No.	Mfr.'s Type	Line Voltage Range (Vrms)	Load Current Range (Amps)	Control Voltage Range (Vdc)	Must Operate Voltage (Vdc)	Must Release Voltage (Vdc)	Surge Current 1-Cycle (Apk)	EACH
682-2399	TD2420Q	24-280	.05-20	4-15	4.0	1.0	250	70.86

7.0 to 40 Amp, 100 to 500 VDC CMOS—DC Input Solid State Relay

This new Crydom series of DC power SSRs incorporates a power MOSFET as the output device in the classics Crydom package. The input can be driven from most logic circuits, requiring less than 1.6 mA at 5 VDC. General Specifications. Control Signal

Range: 3.5 to 32 VDC. Input Current @ 5 VDC: 1.6 mA max. Isolation voltage 50/60 Hz: 2500 VRMS. Operating Temperature Range: 0°C to 80°C.

Stock No.	Mfr.'s Type	Line VDC	Max. Load Current @ 40°C Amps	One-Cycle Surge, Amps (PK)	EACH
682-0067	D1D07	0-100	7.0	15	43.05
682-0068	D1D12	0-100	12.0	28	47.59
682-0069	D1D20	0-100	20.0	42	51.71
682-0070	D1D40	0-100	40.0	106	64.79
682-0071	D2D07	0-200	7.0	22	49.75

Stock No.	Mfr.'s Type	Line VDC	Max. Load Current @ 40°C Amps	One-Cycle Surge, Amps (PK)	EACH
682-0072	D2D12	0-200	12.0	27	59.09
682-0073	D4D07	0-400	7.0	17	59.09
682-0074	D4D12	0-400	12.0	36	81.10
682-0075	D5D07	0-500	7.0	19	66.52
682-0076	D5D10	0-500	10.0	29	87.74

Series DC60 — 3 - 7 Amp, DC Output, 60 VDC

► Industry Standard Package

► Cost Effective

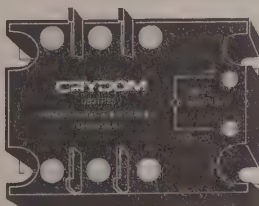
Bipolar transistor outputs are available in 3, 5, and 7 amp ratings. Cost-effective relays offer 4000 volt isolation and come in Crydom's standard panel-mount package. Operating Temperature: -30°C to 80°C. Isolation Voltage: 4000 Vrms.

Stock No.	Mfr.'s Type	Line Voltage Range (VDC)	Load Current Range (ADC)	Control Voltage Range (VDC)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Surge Current 1-Cycle (Apk)	EACH
682-2322	DC60S3	3-60	.02-3	3-32	3.0	1.0	6.0	10.98
682-2324	DC60S5	3-60	.02-5	3-32	3.0	1.0	10.0	17.19
682-2326	DC60S7	3-60	.02-7	3-32	3.0	1.0	14.0	21.49

Series 53TP

3 Phase Solid State Relays
25A and 50A RMS 530V RMS

- Opto-isolated Input-Output 4000V rms
- Electrically Isolated Mounting Base
- DC or AC Control Signal Option
- Zero cross-over load voltage turn-on standard; instantaneous turn-on option available

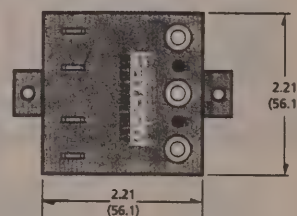


The Crydom 53TP range of three phase solid state relays is designed to switch line voltages of up to 530V rms directly to loads such as motors, transformers and heating elements. The use of power semiconductor technology ensures switch-on at close to the zero cross-over point of load voltage thus virtually eliminating the generation of r.f.i. and electrical noise. For switching of highly inductive loads, an instantaneous turn-on option is available. Power semiconductors generate heat energy during operation and a suitable heatsink must be used to keep the unit within its temperature ratings. The high current surge characteristics allow trouble-free switching of capacitive loads. UL, CSA & VDR pending.

Stock No.	Mfr.'s Type	Input	IRMS	VRMS	VPK	EACH
682-1100	A53TP25-D	90-280VAC	25A	48-520	1200	122.00
682-1101	A53TP50-D	90-280VAC	50A	48-530	1200	133.25
682-1102	D53TP25-D	-3-32VDC	25A	48-530	1200	116.92
682-1103	D53TP50-D	-3-32VDC	50A	48-530	1200	128.15

Form C Solid State Relay —
True Break-Before-Make Device
— NEW —

The Form C Solid State Relay is a true break-before-make device. LEDs indicate the conducting side of the relay. Opto isolation, zero crossover and integral heatsink are standard. Units available with either DC or AC input



Stock No.	Mfr.'s Type	Line Voltage Range (VDC)	Load Current Range (ADC)	Off-State Leakage (mA)	Input Signal (VDC)	Constant Supply (VDC)	Surge Current 1-Cycle (Apk)	EACH
682-3044	D2415-C	90-300	0.1-15	5	4.7-29 VDC	4.7-29 VDC	150	83.33
682-3045	D2440-C	90-300	0.2-40	10	4.7-29 VDC	4.7-29 VDC	625	117.16
682-3046	A2415-C	90-300	0.1-15	5	Dry Closure	90-140 Vrms	150	88.69
682-3047	A2440-C	90-300	0.2-40	10	Dry Closure	90-140 Vrms	625	123.40

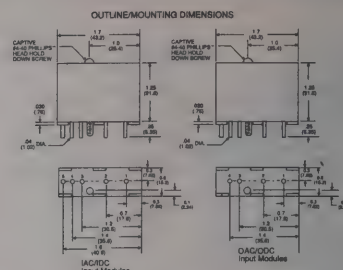
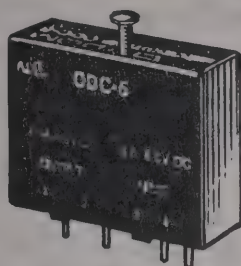
DC Output

Stock No.	Mfr.'s Type	Line Voltage Range (VDC)	Load Current Range (ADC)	Off-State Leakage (mA)	Input Signal (VDC)	Constant Supply (VDC)	EACH
682-3048	DC300S6-C	2-300	.03-6	2	4.7-20	4.7-29	109.70
682-3049	DC80S15-C	2-80	.05-15	5	4.7-20	4.7-29	91.21
682-3050	DC300S15-C	2-300	.05-15	5	4.7-20	4.7-29	133.69

Series IAC/IDC/OAC/ODC

Solid State Opto-Isolated I/O Modules

- Color-Coded by Function
- 4000 Vrms Optical Isolation
- Industry Standard Package and Pin-Out
- High Transient Noise Immunity
- Series Operation Compatibility
- UL Recognized, CSA Certified, SEV Approved Types Available


5 VDC Models

Stock No.	Mfr.'s Type	Voltage Type	(Output) Load Current Over Load Volt.	(Input) Voltage Range	(Input) Max Load Current	EACH
682-1000	IAC-5	AC, DC/IN	.1-100mA @ 4-30VDC	90-140VAC	10mA	9.74
682-1002	IAC-5A	AC, DC/IN	.1-100mA @ 4-30VDC	180-280VAC	7mA	10.24
682-1004	IDC-5	DC/IN	.1-100mA @ 4-30VDC	10-36VDC	13mA	9.74
682-1006	IDC-5B	DC/IN	.1-100mA @ 4-30VDC	4-16VDC	20mA	13.91
682-1008	IDC-5D	DC/IN	.1-100mA @ 4-30VDC	3-32VDC	12mA	9.12
682-1010	OAC-5	AC/OUT	.02-3A @ 12-280VAC	3-6VDC	20mA	9.74
682-1012	OAC-5A	AC/OUT	.02-3A @ 12-280VAC	3-6VDC	20mA	10.24
682-1014	ODC-5	DC/OUT	.02-3A @ 5-60VDC	3-6VDC	14mA	9.74
682-1016	ODC-5A	DC/OUT	.02-1A @ 10-200VDC	3-6VDC	14mA	15.07

15 VDC Models

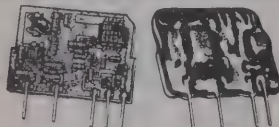
682-1018	IAC-15	AC, DC/IN	.1-100mA @ 4-30VDC	90-14VAC	—	10.20
682-1020	IAC-15A	AC, DC/IN	.1-100mA @ 4-30VDC	180-280VAC	—	10.20
682-1022	IDC-15	DC/IN	.1-100mA @ 4-30VDC	10-36VDC	—	10.20
682-1024	OAC-15	AC/OUT	.02-3A @ 12-280VAC	9-18VDC	—	10.20
682-1026	OAC-15A	AC/OUT	.02-3A @ 12-280VAC	9-18VDC	—	10.20
682-1028	ODC-15	DC/OUT	.02-3A @ 5-60VDC	9-18VDC	—	10.20
682-1030	ODC-15A	DC/OUT	.02-1A @ 10-200VAC	9-18VDC	—	15.07

24 VDC Models

682-1032	IAC-24	AC, DC/IN	.1-100mA @ 4-30VDC	90-140VAC	10mA	10.20
682-1034	IAC-24	DC/IN	.1-100mA @ 4-30VDC	10-36VDC	13mA	10.20
682-1036	OAC-24	AC/OUT	.02-3A @ 12-280VAC	18-28VDC	17mA	10.20
682-1038	OAC-24A	AC/OUT	.02-3A @ 12-280VAC	18-28VDC	17mA	10.20
682-1040	ODC-24	DC/OUT	.02-3A @ 5-60VDC	18-28VDC	12mA	10.20
682-1042	ODC-24	DC/OUT	.02-1A @ 10-200VAC	18-28VDC	12mA	9.74

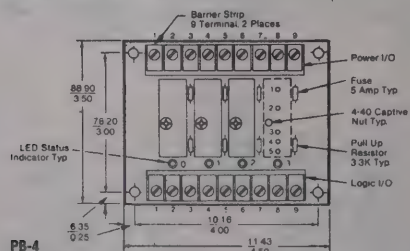
Series DMP

AC And DC Input/Output Modules 3 Amps, 30, 60 VDC And 280 VAC



Electrically identical to Series 6 models. Packaged in a hard, skin-tight epoxy conformal coating for excellent environmental protection and fast heat transfer. Pin-out matches Series. 6.

Stock No.	Mfr.'s Type	Module Type	Input Current vs. Voltage	Maximum Load Voltage	EACH
682-0132	DMP6101A	DC/IN	32mA @ 32VDC	30VDC	9.23
682-0133	DMP6201A	AC/IN	6mA @ 230VAC	30VDC	9.45
682-0134	DMP6202A	AC/IN	6mA @ 240VAC	30VDC	10.45
682-0135	DMP6301A	DC/OUT	15mA @ 5VDC	60VDC	9.55
682-0136	DMP6402A	AC/OUT	15mA @ 5VDC	280VAC	10.45

I/O Module Mounting Boards


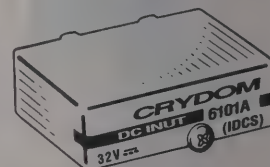
These mounting boards accept I/O modules in any combination of input or output types. Modules are easily and quickly inserted without disturbing field wiring. Features included LED status indicator.

Stock No.	Mfr.'s Type	Description	EACH
682-3041	PB-4 (MS-4)	4 Module Mounting Board with Terminal Block Connections	30.30
682-3042	PB-4H (MS-4H)	4 Module Mounting Board with Edge Connector and Header	33.08
682-3043	PB-8H (MS-8H)	8 Module Mounting Board with Edge Connector and Header	59.20

Series 6

AC And DC Microprocessor Input/Output Modules—3.5 Amps, 60 VDC, 120 and 240 VAC

For electrically clean, photo-isolated, noise-free interfacing between logic level programmable controllers, microprocessors and computerized machine controls and power level loads. Input modules accept power level signals and convert them to logic level signals. Output modules accept logic level signals to switch AC or DC loads to 3.5 Amps.



General Specifications—All Models. Dielectric (Input/Output): 4000 VRMS. Isolation Resistance (Input/Output) @ 500 V: 10^{10} Ohms. Capacitance (Input/Output): 8.0pF. Operating Temperature Range: -40°C to 80°C.

Standard Input/Output Modules (5 Volt Models)

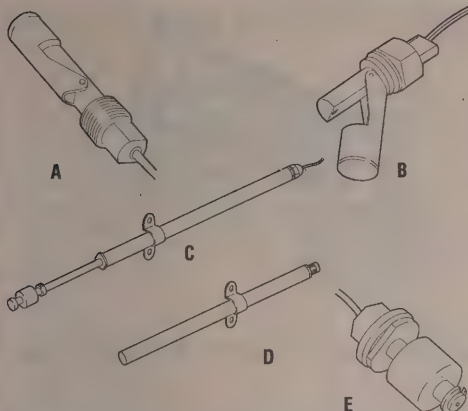
Stock No.	Mfr.'s Type	Type	Input Current vs. Voltage	Maximum Load Voltage	Maximum Load Current	EACH
682-0117	6101A*	DC/IN	7mA @ 32VDC	30VDC	25mA @ 80°C	11.25
682-0118	6201A*	AC/IN	6mA @ 120VAC	30VDC	25mA @ 80°C	10.34
682-0119	6202A*	AC/IN	6mA @ 240VAC	30VDC	25mA @ 80°C	12.14
682-0120	6301A*	DC/OUT	15mA @ 5VDC	60VDC	3ADC @ 45°C	11.45
682-0121	6401A*	AC/OUT	15mA @ 5VDC	140VAC	3A RMS @ 45°C	10.76
682-0122	6402A*	AC/OUT	15mA @ 5VDC	280VAC	3A RMS @ 45°C	11.94
682-0123	6102	DC/IN	6mA @ 180VDC	30VDC	25mA @ 80°C	10.76
682-0124	6200	AC/IN	6mA @ 24VAC	30VDC	25mA @ 80°C	14.33
682-0125	6302	DC/OUT	12mA @ 5VDC	200VDC	1.5A @ 45°C	17.51

*In Compliance With NEMA 2-230 (Noise Immunity).

Buffered Output Modules

Stock No.	Mfr.'s Type	Voltage	Type	Input Current vs. Voltage 5 Volt Models	Maximum Load Voltage	Maximum Load Current	EACH
682-0126	6311	5V	DC/OUT	75µA @ 0.8VDC*	60VDC	3.5ADC @ 45°C	17.98
682-0127	6321	5V	DC/OUT	75µA @ 2.4VDC**	60VDC	3.5ADC @ 45°C	18.35
682-0128	6411	5V	AC/OUT	75µA @ 0.8VDC*	140VAC	3.5A RMS @ 45°C	17.88
682-0129	6412	5V	AC/OUT	75µA @ 0.8VDC*	280VAC	3.5A RMS @ 45°C	18.46
682-0130	6421	5V	AC/OUT	75µA @ 2.4VDC**	140VAC	3.5A RMS @ 45°C	18.39
682-0131	6422	5V	AC/OUT	75µA @ 2.4VDC**	280VAC	3.5A RMS @ 45°C	17.77

*Sink Current (Non-Inverting). **Source Current (Inverting).



Liquid Level Sensors/Float Switches

► Reliable Reedswitch Contacts

► Rugged Design

► Simple to Mount and Use

A range of reedswitch/magnet operated liquid level sensors suitable for a host of applications. Vertical or horizontal mounting styles are offered in a variety of plastics to suit most industrial applications. GFS Nylon is rated from -4°F to +167°F and suitable for use in organic chemicals, oils, fuel and diesel. GFS Polypropylene is rated -4°F to +212°F and suited for use in hot water applications. Polysulfone, rated from 14°F to +185°F is manufactured in FDA approved material and recommended for use in food grade applications. On vertical devices NO or NC operation may be achieved by removing the clip and reversing the float chamber; on horizontal devices, simply rotate through 180°.

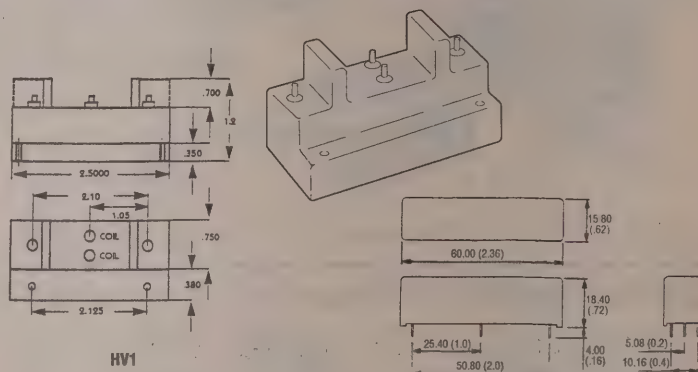
Stock No.	Mfr.'s Type	Fig.	Material	Contact Form	VA Rating	Switching Voltage AC	Switching Voltage DC	Switching Current Max.	EACH
682-3001	RSF84Y100R	A	GFS Polypropylene	A15	15	500	1000	1.00 A	20.09
682-3002	RSF85Y100R	A	Polysulfone	A15	15	500	1000	1.00 A	18.70
682-3003	RSF43Y100RF	B	GFS Nylon	A15	15	500	1000	1.00 A	25.29
682-3004	RSF45Y100RF	B	Polysulfone	A15	15	500	1000	1.00 A	22.76
682-3005	RSF64/EXT	C	Polyphenylene Sulphide (PPS)	A15	15	250	500	1.00 A	47.38
682-3006	EXT1	D	PVC	Extensions Tube Only — RSF66 Series					14.06
682-3007	RSF53Y100RC	E	GFS Nylon	A15	15	500	1000	1.00 A	21.27
682-3008	RSF54T100RC	E	GFS Polypropylene	A15	15	500	1000	1.00 A	24.10

High Voltage Reed Relays

► Low Contact Resistance Option (DAR7 Series)

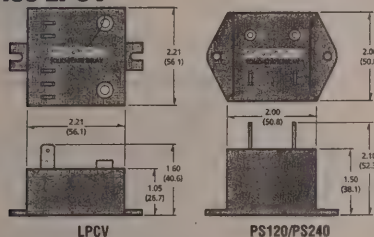
Series DAR7 and DAT7 provide 10 kV isolation, switch voltages up to 8000 volts and come in a PCB mount package. Series HV1 are available with normally open or normally closed contacts, are capable of switching 10,000 VDC and come in a panel mount package.

Stock No.	Mfr.'s Type	Contact Parameters			Coil Parameters			EACH
		Switching Voltage Max. (VDC)	Max. Carry Current (ADC)	Max. Contact Rating	Nominal Working Voltage (VDC)	Pull In (Operate) Voltage (VDC)	Drop Out (Release) Voltage (VDC)	
682-3025	6HV1A 100	10,000	3	50 W	6	4.2	0.60	61.80
682-3027	12HV1A 100	10,000	3	50 W	12	8.4	1.20	61.80
682-3028	24HV1A 100	10,000	3	50 W	24	16.8	2.40	61.80
682-3029	6HV1B 100	10,000	3	50 W	6	4.2	0.60	63.86
682-3030	12HV1B 100	10,000	3	50 W	12	8.4	1.20	63.86
682-3031	24HV1B 100	10,000	3	50 W	24	16.8	2.40	63.86
682-3032	DAR70510	24	6	25 W	5	3.7	0.50	24.46
682-3033	DAR71210	24	6	25 W	12	9.0	1.25	24.69
682-3034	DAT70510	8,000	6	50 W	5	3.7	0.50	26.47
682-3035	DAT71210	8,000	6	50 W	12	9.0	1.25	26.68



DAR7/DAT7

Series LPCV



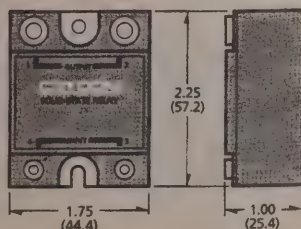
► Precise Proportional Load Control

Series LPCV linear proportional controllers control load up to 110 amps. Changes in the input signal linearly vary the firing angle of the thyristor load control device. Control circuitry and power switch are in a single package. PS120 and PS240 are power supplies suitable for providing 20 VAC required in addition to control voltage.

Stock No.	Mfr.'s Type	Line Voltage Range (Vrms, 60 Hz)	Load Current Range (Arms)	Control Range	Turn-On Threshold	Input Impedance (Ohms)	Surge Current 1-Cycle (Apk)	EACH
682-3009	5LPCV2415	20-300	10-15	0-5 VDC	0.25 VDC	12.7 K	150	197.40
682-3010	5LPCV2425	20-300	10-25	0-5 VDC	0.25 VDC	12.7 K	250	232.27
682-3011	5LPCV2440	20-300	10-40	0-5 VDC	0.25 VDC	12.7 K	625	266.51
682-3012	5LPCV2475	20-300	15-75	0-5 VDC	0.25 VDC	12.7 K	1000	290.31
682-3013	5LPCV24110	20-300	20-110	0-5 VDC	0.25 VDC	12.7 K	1500	301.89
682-3014	10LPCV2415	20-300	10-15	0-10 VDC	0.50 VDC	25.0 K	150	197.40
682-3015	10LPCV2425	20-300	10-25	0-10 VDC	0.50 VDC	25.0 K	250	232.27
682-3016	10LPCV2440	20-300	10-40	0-10 VDC	0.50 VDC	25.0 K	625	266.51
682-3017	10LPCV2475	20-300	15-75	0-10 VDC	0.50 VDC	25.0 K	1000	290.31
682-3018	10LPCV24110	20-300	20-110	0-10 VDC	0.50 VDC	25.0 K	1500	301.89
682-3019	20LPCV2415	20-300	10-15	4-20 mA	4.50 mA	460.0	150	197.40
682-3020	20LPCV2425	20-300	10-25	4-20 mA	4.50 mA	460.0	250	232.27
682-3021	20LPCV2440	20-300	10-40	4-20 mA	4.50 mA	460.0	625	266.51
682-3022	20LPCV2475	20-300	15-75	4-20 mA	4.50 mA	460.0	1000	290.31
682-3023	20LPCV24110	20-300	20-110	4-20 mA	4.50 mA	460.0	1500	301.89

682-3024. Model PS-120. Power Supply, 120 VAC primary, 20 VAC secondary, 100 mA max. load, 2500 Vrms isolationEACH 42.75
682-3025. Model PS-240. Power Supply, 240 VAC primary, 20 VAC secondary, 100 mA max. load, 2500 Vrms isolationEACH 42.75

Series PCV



► Proportional Load Control: 0%-100%

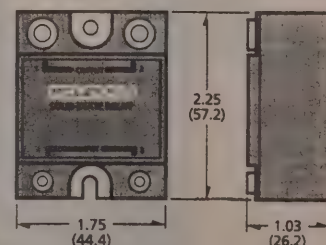
These proportional controllers provide a simple but improved method of speed, heat and universal power control over methods currently available. Requires no calibration. Line Voltage Range at 60 Hz: 100-240 Vrms. Control Voltage Range: 2-10 VDC. Response Time: 8 ms.

Stock No.	Mfr.'s Type	Load Current Range (Arms)	Off-State Leakage (mA)	Surge Current 1-Cycle (Apk)	EACH
682-3038	10PCV2415	05-15	10	150	66.95
682-3039	10PCV2425	05-25	15	250	74.16
682-3040	10PCV2440	05-40	20	625	87.55

Series RPC Proportional Controllers

► Uses Standard Potentiometers
► Manual Power Control

The R family of proportional controllers provide a stable yet less expensive method of controlling power. An inexpensive potentiometer connected to the input provides the proportional control. All models come with KS100 safety cover.

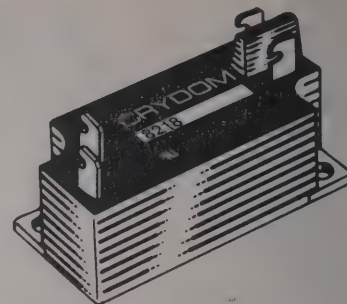


Stock No.	Mfr.'s Type	Line Voltage Range (Vrms, 60 Hz)	Load Current Range (Arms)	Off-State Leakage (mA)	Potentiometer Resistance (Ω)	Potentiometer Wattage	Surge Current 1-Cycle (Apk)	EACH
682-3051	RPC1215	90-130	07-15	10	150 K	1 W	150	50.26
682-3052	RPC1225	90-130	08-25	10	150 K	1 W	250	65.05
682-3053	RPC1240	90-130	09-40	10	150 K	1 W	625	88.79
682-3054	RPC2415	200-240	07-15	7	1 Meg	1/2 W	150	54.95
682-3055	RPC2425	200-240	08-25	7	1 Meg	1/2 W	250	68.08
682-3056	RPC2440	200-240	09-40	7	1 Meg	1/2 W	625	94.71
682-3057	RPC4815	400-480	07-15	3	1 Meg	1/2 W	150	67.98
682-3058	RPC4825	400-480	08-25	3	1 Meg	1/2 W	250	76.89
682-3059	RPC4840	400-480	09-40	3	1 Meg	1/2 W	625	103.52

Series 2—8 Amps, 120 and 240 VAC AC Output, Panel Mount Solid-State Relays

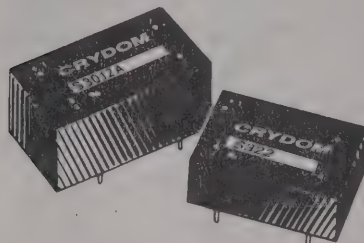
General Specifications. Control Signal Range: 3.5 to 8 VDC. Control Signal Range "221C": 3.5 to 7 VDC. **Must Operate Voltage:** 3.5 VDC max. **Must Release Voltage:** 1 VDC min. **Must Operate Current:** 12 mA max. **Isolation Voltage:** 2500 VAC. **Operating Temperature Range:** -30° to 80°C. **Snubber:** Internal.

The Crydom Series 2 solid-state relays combine small size, zero voltage switching and high current rating in a package designed for heat sink or panel mounting. Standard 0.187" push-on terminals allow quick connection and are positioned to provide maximum isolation between control and power circuits.



Stock No.	Mfr.'s Type	Line VAC (47-63 Hz)	Max. Load Current @ 40°C Amps (RMS)	One-Cycle Surge Amps (PK)	EACH
682-0100	S218	20-140	8.00	120	29.86
682-0101	S228	40-280	8.00	120	31.46
682-0103	S228C	24-280	8.00	120	26.42

Case Style 30A



Case Style 3

Series 3

AC Output PC Board Mount Solid-State Relays 0.3 Amps, 120 and 240 VAC

Designed for PCB applications. Units require only 1 sq. in. space on boards. Overall height of 0.45" on case 3 allows spacing on 0.5" centers. High current rating. Zero voltage switching.

General Specifications. Control Signal Range: 3.5 to 8 VDC. (Models S3013A/S3023A: 3.5 to 18 VDC). **Must Operate Voltage:** 3.5 VDC max. **Must Release Voltage:** 1 VDC min. **Isolation Voltage:** 2500 VAC. (Models S3013A/S3023A: 4000 VAC). **Operating Temperature Range:** -30°C to 80°C.

Stock No.	Mfr.'s Type	Line VAC (47-63 Hz)	Max. I @ 40°C A (RMS)	One-Cycle Surge Amps (PK)	Internal Snubbers	Case Style	EACH
682-0108	S312	20-140	2.0	55	No	3	24.77
682-0109	S3012A	20-140	2.0	55	Yes	30A	23.61
682-0110	S3013A	20-140	3.0	55	Yes	30A	26.95
682-0111	S322	40-280	3.0	55	No	3	23.39
682-0112	S3022A	40-280	2.0	55	Yes	30A	25.73
682-0113	S3023A	48-280	3.0	55	Yes	30A	28.22

Soft-Start Power Modules/Relays—90-140 and 180-280 VAC—10 to 75 Amps

A control module is used in combination with a Crydom phase control relay (-10 Suffix) to provide gradual application of power to the load. **General Specifications.** Input Operate Voltage Range: 3.5 to 10 VAC. **Minimum Release**

Voltage: 1 VDC. **Input Current @ 5 VDC:** 1.6 mA.

Stock No.	Mfr.'s Type	Output Voltage Range VAC	Max. Load Current, Amps	EACH
682-0087	10SST120	90-140	10	57.24
682-0088	25SST120	90-140	25	57.65
682-0089	40SST120	90-140	40	64.14
682-0090	10SST240	180-280	10	61.16

*140 VAC soft control module only. †240 VAC soft control module only.

Stock No.	Mfr.'s Type	Output Voltage Range VAC	Max. Load Current, Amps	EACH
682-0091	25SST240	180-280	25	63.37
682-0093	75SST240	180-280	75	90.02
682-0144*	SST120	—	—	29.49
682-0146†	SST240	—	—	29.92

Time Delay Relays—48 to 280 VAC, 10, 25 or 50 Amp—2 Timing Ranges

Standard series 1 relay with built-in Time Delay. (External resistor for 0 to 10 Megohm.) **General Specifications.**

Stock No.	Mfr.'s Type	Max. Load Current Amps (PK)	One-Cycle Surge Amps (PK)	EACH
682-0094	DSD2410	10	120	37.70
682-0095	DSD2425	25	250	38.93
682-0096	DSD2450	50	625	40.99

Control Voltage Range: 3.5 to 15 VDC. **Timing Range "DSD":** 0.1 to 83 sec. **Timing Range "DLD":** 1.6 to 1330 sec.

Stock No.	Mfr.'s Type	Max. Load Current Amps (PK)	One-Cycle Surge Amps (PK)	EACH
682-0097	DLD2410	10	120	38.83
682-0098	DLD2425	25	250	40.90
682-0099	DLD2450	50	625	42.96

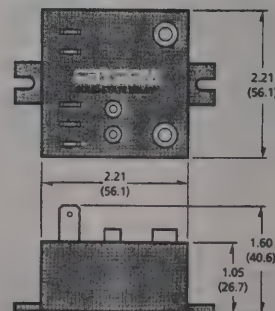
Solid-State Relay Handbook



This handbook is an invaluable source of information for the engineer, technician, or hobbyist who is now or soon will be working with solid-state relays.

682-2000, Model HDBK-899 EACH 21.17

Series TC Temperature Controllers



- Compatible with Process Control Equipment and Manual Operation
- Fail Safe Feature
- SCR Output for High Power Applications

Line Voltage Range: 20-300 Vrms. **Max. Load Current:** 40 Arms. **Off-State Leakage:** 20 mA. **Control Voltage Range:** 0-10 VDC. **Supply Voltage Range:** 20-24 VAC/DC. **Temperature Sensor:** K2440TC — Type "K"; J2440TC — Type "J".

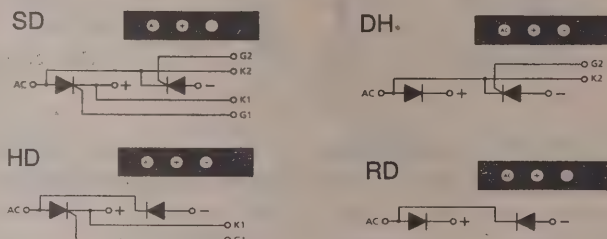
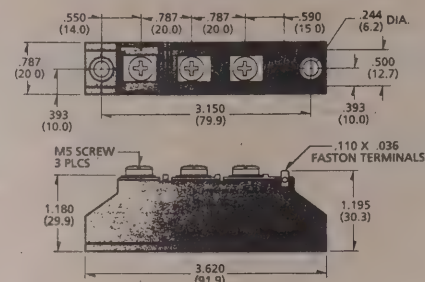
682-3036, K2440TC EACH 111.24
 682-3037, J2440TC EACH 111.24

SCR and Diode Modules

Series F18: 25-90 Amp Diode and SCR/Diode Modules

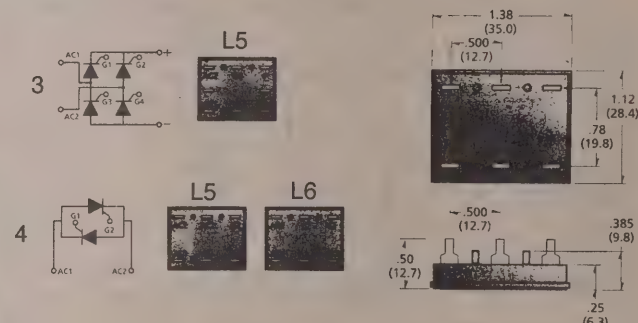
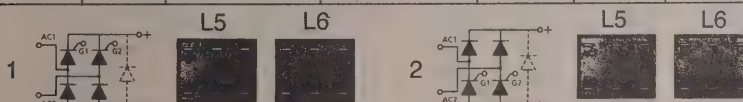
All dimensions are in inches (millimeters)

Stock No.	Mfr.'s Type	Average Output Current per Device: Id (Amps)	Repetitive Peak Reverse Voltage: Vrrm/AC Line	Schematic	Package	EACH
722-1500	F1842SD1200	40	1200/480 Vac	SD	F18	40.65
722-1510	F1842SD600	40	600/240 Vac	SD	F18	31.14
722-1520	F1857D1200	55	1200/480 Vac	D	F18	33.34
722-1530	F1857DH1200	55	1200/480 Vac	DH	F18	42.01
722-1540	F1857DH600	55	600/240 Vac	DH	F18	32.22
722-1550	F1857HD1200	55	1200/480 Vac	HD	F18	42.01
722-1560	F1857HD600	55	600/240 Vac	HD	F18	32.22
722-1570	F1857RD1200	55	1200/480 Vac	RD	F18	36.17
722-1580	F1857RD600	55	600/240 Vac	RD	F18	30.83
722-1590	F1857SD1200	55	1200/480 Vac	SD	F18	43.42
722-1600	F1857SD600	55	600/240 Vac	SD	F18	34.44
722-1610	F1892D1200	90	1200/480 Vac	D	F18	36.96
722-1620	F1892D600	90	600/240 Vac	D	F18	34.46
722-1630	F1892DH1200	90	1200/480 Vac	DH	F18	62.83
722-1640	F1892DH600	90	600/240 Vac	DH	F18	53.02
722-1650	F1892HD1200	90	1200/480 Vac	HD	F18	62.83
722-1660	F1892HD600	90	600/240 Vac	HD	F18	53.02
722-1670	F1892RD1200	90	1200/480 Vac	RD	F18	48.29
722-1680	F1892RD600	90	600/240 Vac	RD	F18	36.64
722-1690	F1892SD1200	90	1200/480 Vac	SD	F18	67.27
722-1700	F1892SD600	90	600/240 Vac	SD	F18	57.02



Series L: 15-42.5 Amp SCR/Diode Modules

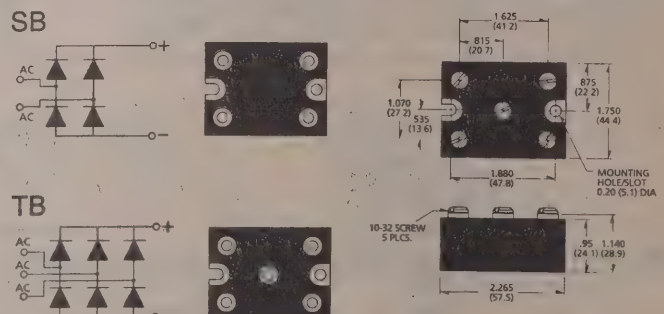
Stock No.	Mfr.'s Type	Max DC Output Current: Id (Amps)	Repetitive Peak Reverse Voltage: Vrrm/AC Line	Schematic	Package	EACH
722-3248	L513F	25	280/800	1	L	23.48
722-3250	L514F	25	480/1200	1	L	25.86
722-4130	L522F	25	240/600	2	L	19.96
722-4131	L542	25	240/600	3	L	30.52
722-4132	L612F	42.5	240/600	1	L	31.24
722-4136	L622F	42.5	240/600	2	L	31.24
722-4138	L652	42.5	240/600	4	L	29.73



10

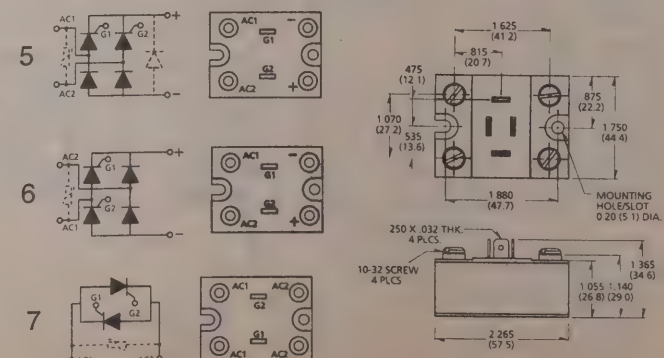
Series M50: 60-100 Amp Diode Modules

Stock No.	Mfr.'s Type	Max DC Output Current: Id (Amps)	Repetitive Peak Reverse Voltage: Vrrm/AC Line	Schematic	Package	EACH
722-4072	M50100SB1200	100	1200/480 Vac	SB	M50	55.03
722-4068	M50100SB600	100	600/240 Vac	SB	M50	49.23
722-4076	M50100TB1200	100	1200/480 Vac	TB	M50	66.55
722-4074	M50100TB600	100	600/240 Vac	TB	M50	61.03
722-4058	M5060SB1200	60	1200/480 Vac	SB	M50	34.11
722-4056	M5060SB600	60	600/240 Vac	SB	M50	30.08
722-4064	M5060TB1200	60	1200/480 Vac	TB	M50	44.15
722-4062	M5060TB600	60	600/240 Vac	TB	M50	40.18



Series M50: 50-100 Amp SCR/Diode Modules

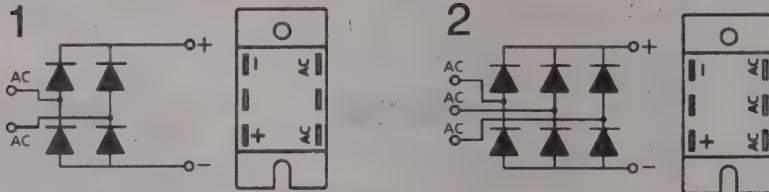
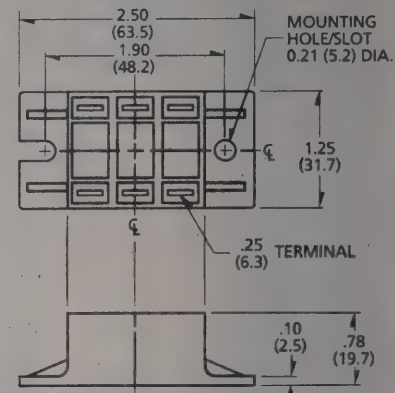
Stock No.	Mfr.'s Type	Max DC Output Current: Id (Amps)	AC Line Input Voltage: Vrms/Vrrm	Schematic	Package	EACH
722-4104	M5010045V	100	480/1200	7	M50	99.53
722-4078	M505012F	50	240/600	5	M50	78.26
722-4080	M505012FV	50	240/600	5	M50	79.75
722-4082	M505015F	50	480/1200	5	M50	115.50
722-4086	M505015FV	50	480/1200	5	M50	110.79
722-4094	M505032	50	240/600	6	M50	59.43
722-4096	M505035	50	480/1200	6	M50	82.65
722-4100	M505042	50	240/600	7	M50	42.28
722-4101	M505045	50	480/1200	7	M50	57.05



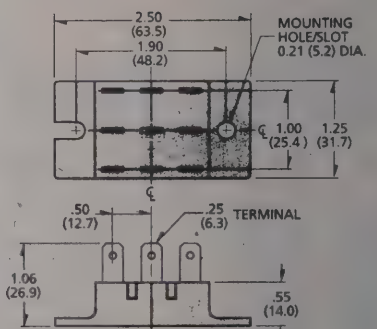
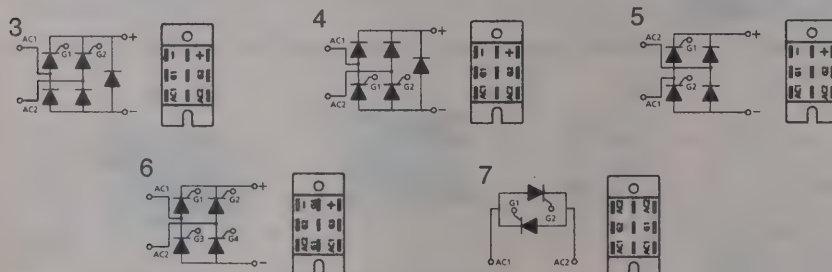
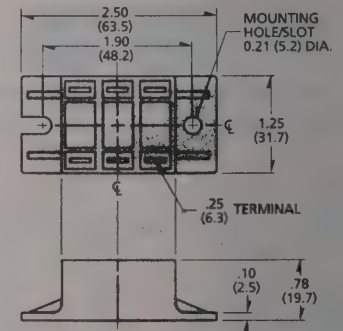
Series B48-2: 35-50 Amp Diode Modules

All dimensions are in inches (millimeters)

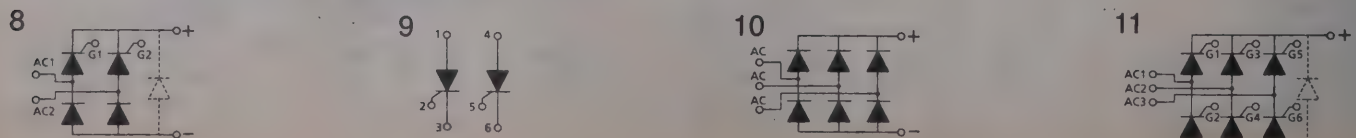
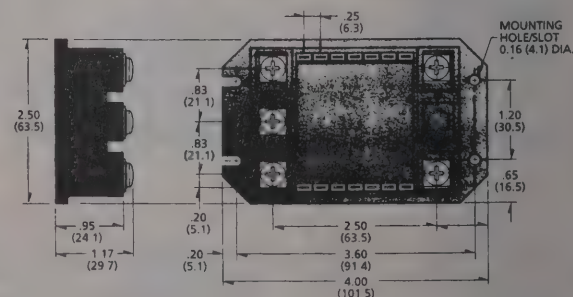
Stock No.	Mfr.'s Type	Max DC Output Current: Id (Amps)	Repetitive Peak Reverse Voltage: Vrrm/AC Line	Schematic	Package	EACH
722-3058	B483C-2	35	600/240 Vac	1	B-2	22.43
722-4010	B483F-2	35	1200/480 Vac	1	B-2	25.59
722-3062	B485C-2	50	600/240 Vac	2	B-2	25.85
722-0055	B485F-2	50	1200/480 Vac	2	B-2	31.30

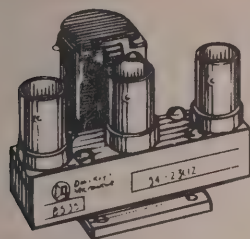
B48-2

Series B-2T and B-2: 25-42.5 Amp SCR/Diode Modules

Stock No.	Mfr.'s Type	Max DC Output Current: Id (Amps)	AC Line Input Voltage: Vrms/Vrrm	Schematic	Package	EACH
722-0065	B512F-2	25	240/600	3	B-2	23.47
722-3272	B512F-2T	25	240/600	3	B-2T	23.47
722-4014	B512FS-2T	25	240/600	3	B-2T	36.67
722-4020	B514F-2T	25	480/1200	3	B-2T	32.09
722-4022	B514FS-2T	25	480/1200	3	B-2T	49.34
722-4024	B522F-2T	25	240/600	4	B-2T	23.47
722-0075	B522FS-2	25	240/600	4	B-2	25.06
722-4026	B522FS-2T	25	240/600	4	B-2T	36.67
722-4030	B532-2T	25	240/600	5	B-2T	21.89
722-4032	B542-2T	25	240/600	6	B-2T	29.02
722-4034	B552-2T	25	240/600	7	B-2T	21.89
722-4038	B554-2T	25	480/1200	7	B-2T	29.37
722-4040	B612F-2T	42.5	240/600	3	B-2T	32.45
722-4044	B622F-2T	42.5	240/600	4	B-2T	32.45
722-4048	B652-2T	42.5	240/600	7	B-2T	25.06

B-2T

B-2

Series EF: 50-170 Amp Diode and SCR/Diode Modules

Stock No.	Mfr.'s Type	Max DC Output Current: Id (Amps)	Repetitive Peak Reverse Voltage: Vrrm/AC Line	Schematic	Package	EACH
722-1000	EFD01FF	50	1200/480 Vac	8	EF	67.10
722-1010	EFE01FF	75	1200/480 Vac	8	EF	82.53
722-1020	EFE13C	75	600/240 Vac	9	EF	52.76
722-1030	EFE15C	75	600/240 Vac	10	EF	62.43
722-1040	EFE15F	75	1200/480 Vac	10	EF	71.21
722-1050	EFE16F	75	1200/480 Vac	11	EF	84.76
722-1060	EFF01FF	100	1200/480 Vac	8	EF	95.73
722-1070	EFG13C	125	600/240 Vac	9	EF	66.82
722-1080	EFG15C	125	600/240 Vac	10	EF	72.10
722-1090	EFG15F	125	1200/480 Vac	10	EF	85.50





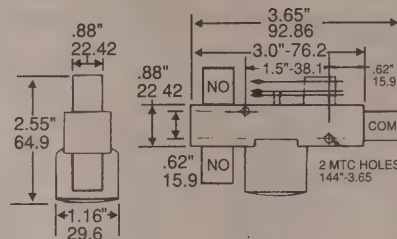
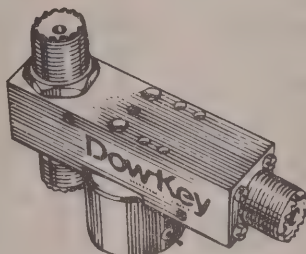
54 Series SPDT 318 Series

At a 150W maximum power rating, these medium size switches accomplish a variety of switching functions. With BNC, TNC or N connectors on the same plane as the power coil, this switch is suited for mounting in various positions. The switches are manufactured to the requirements of MIL-S-3928 with gold-plated silver contacts and two-bladed construction allowing 50 dB isolation at 50 MHz and 30 dB at 4 GHz.

Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH	
					1-4	5-9
771-6903	54-220201	12	BNC	318-10382-2	403.65	391.84
771-6904	54-230201	26	BNC	318-10382-3	403.65	391.84

Series 60 SPDT Remote Coaxial Relays

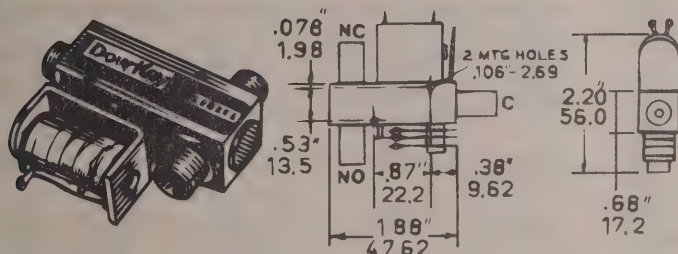
Remotely operated, ruggedly constructed, SPDT coaxial relays for operation to one kW. Specifications following for use in a 50-ohm transmission line. UHF connectors not recommended above 400 MHz. Operating time, 25 ms max. Gold plated silver contacts. *Has two Form C5A, 115VAC auxiliary contacts.



Stock No.	Mfr.'s Type	Coil V	EACH	
			1-4	5-9
771-6780	60-2301	26.0DC	218.50	204.70
771-6781	60-220142	12.0DC	234.60	225.40
771-6800	60-2201	12.0DC	218.50	204.70
771-6802	60-230142	26.5DC	234.60	225.40
771-6804	60-260142	115.0AC	234.60	225.40

Series 77 SPDT Remote Coaxial Relay

Medium size, lightweight relay for industrial and less critical military applications. The "T" shaped connector configuration has the common connector at one end and the NO and NC connectors 180° apart at the other end. Operating time 15ms max. BNC connector type except †. Gold plated silver contacts. **Weight:** 3 oz.



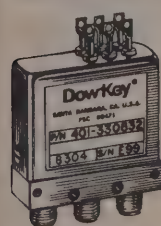
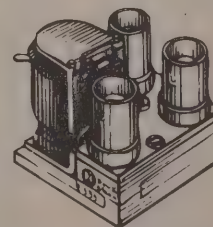
Stock No.	Mfr.'s Type	Coil V	EACH	
			1-4	5-9
771-6742	77-230232*	26.0DC	209.96	199.45
771-6806	77-2232†	12.0DC	221.78	210.69
771-6807	77-2302	26.5DC	184.81	175.58

*One Set Form C Auxiliary Contacts. † F Type Connector.

164 Series SPDT 315 Series

The 164 series is a small compact relay that has all connectors mounted opposite the mounting plane. Gold-plated contacts provide excellent low-level RF performance (50 dB isolation, .03 dB insertion loss, VSWR 1.03:1). With good performance to 1 GHz, these switches have many general purpose applications.

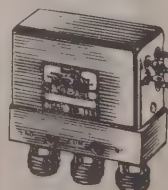
Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH	
					1-4	5-9
771-6919	164-2202	12	BNC	321-11064-2	227.70	214.88
771-6920	164-2302	26	BNC	321-11064-3	227.70	214.88



401 Series SPDT

The 401 SPDT switch with SMA connectors operates DC-18 GHz with minimum isolation of 60 dB (85 dB below 1 GHz), maximum VSWR of 1.5:1, and maximum insertion loss of 0.5 dB. Handles up to 200 W CW (25W at 18 GHz). Standard coils on failsafe relays are 12VDC (42 ohms), and 28VDC (260 ohms). Operate time at 20°C is 15ms max. Type 401-2208 is standard. Type 401-230832 has a set of form C indicator contacts. **Dimensions (excluding connectors):** 1.40"H x 1.34"L x .50"W (35.6 x 34.0 x 12.7mm). **Weight:** approximately 2 oz.

Stock No.	Mfr.'s Type	Coil V	EACH	
			1-4	5-9
771-6787	401-2208	12VDC	214.39	200.10
771-6794	401-2308	28VDC	214.39	200.10



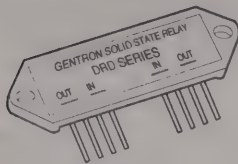
402 Series SPDT

The 402 series SPDT failsafe switches operate DC-12.4 GHz with minimum isolation of 60 dB (85 dB below 1 GHz). **Maximum VSWR:** 1.5:1. **Maximum Insertion Loss:** 0.5 dB. Handles up to 1KW continuous power (100W at 12.4 GHz). Operate time at 20°C is 20ms maximum. N type connectors. Type 402-220132 is with a set of Form C indicator contacts. **Dimensions (excluding connectors):** 2.20"H x 2.64"L x 1.09"W (55.9 x 67.1 x 27.7mm). **Weight:** approximately 9 oz.

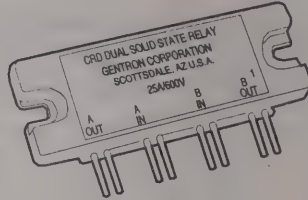
Stock No.	Mfr.'s Type	Coil V	EACH	
			1-4	5-9
771-6789	402-2201	12.0VDC	378.51	353.28
771-6790	402-2301	26.5VDC	378.51	353.28
771-6791	402-220132	12.0VDC	416.95	389.16

Solid State Relays

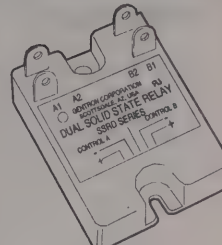
Dimensions (L x W x H) *Indicates No Leads



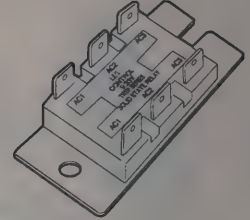
DRDT
2.496 x 0.746* x 2.0



CRD
3.2 x 1.090* x 0.325



SSRD
1.750 x 2.25 x 0.793*



TRTP
2.5 x 1.25 x 0.6*

Gentron's Solid State Relays are designed to handle loads from 10 amps to 250 amps and voltage as high as 1200 volts in standard industry package. Many of the recent developments in superconductor technology such as MOSFETS, IGBTs, and other types of newer devices, offer some interesting choices and performance advantages. Some of the vast advantages are: Selective On and Off control, Reduced RFI, Alterable Switching

Slopes, Reduced Off State Leakage, Higher Immunity to False Triggering, Latch Free Operation, Absolute Zero Cross Firing (with options to switch on voltage or current for either on or off switching) and PWM availability. Available intelligence options are: Current Sense™, Thermal Shutdown, Load Fault and Current Limit.

Solid State Relay Single Pole Zero Cross (D) OR NON ZERO CROSS (R) or AC Control (A)-AC OUTPUT-SCR

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0046	SSR1200480A125	48-530	125	1400	67.52
601-0036	SSR1200480A25	48-530	25	250	49.73
601-0038	SSR1200480A40	48-530	40	400	51.22
601-0040	SSR1200480A55	48-530	55	600	51.35
601-0042	SSR1200480A75	48-530	75	800	51.08
601-0044	SSR1200480A90	48-530	90	1000	51.22
601-0058	SSR1200480D125	48-530	125	1400	61.35
601-0048	SSR1200480D25	48-530	25	250	34.42
601-0050	SSR1200480D40	48-530	40	400	35.91
601-0052	SSR1200480D55	48-530	55	600	36.05
601-0054	SSR1200480D75	48-530	75	800	53.00
601-0056	SSR1200480D90	48-530	90	1000	53.13
601-0070	SSR1200480R125	48-530	125	1400	61.35
601-0060	SSR1200480R25	48-530	25	250	34.42
601-0062	SSR1200480R40	48-530	40	400	35.90
601-0064	SSR1200480R55	48-530	55	800	36.04
601-0066	SSR1200480R75	48-530	75	1000	53.00
601-0068	SSR1200480R90	48-530	90	1400	53.13
601-0010	SSR600240A125	24-330	125	250	65.04
601-0002	SSR600240A25	24-330	25	400	47.26
601-0003	SSR600240A40	24-330	40	600	48.74
601-0004	SSR600240A55	24-330	55	800	48.87
601-0005	SSR600240A75	24-330	75	1000	56.69
601-0006	SSR600240A90	24-330	90	1400	56.83
601-0022	SSR600240D125	24-330	125	250	59.17
601-0012	SSR600240D25	24-330	25	400	31.78
601-0014	SSR600240D40	24-330	40	600	33.26
601-0016	SSR600240D55	24-330	55	800	33.40
601-0018	SSR600240D75	24-330	75	1000	50.82
601-0020	SSR600240D90	24-330	90	1400	50.95
601-0034	SSR600240R125	24-330	125	250	59.17
601-0024	SSR600240R25	24-330	25	400	31.78
601-0026	SSR600240R40	24-330	40	600	33.26
601-0028	SSR600240R55	24-330	55	800	33.40
601-0030	SSR600240R75	24-330	75	1000	50.82
601-0032	SSR600240R90	24-330	90	1400	50.95

Solid State Relay Single Pole Zero Cross (D) or Non-Zero Cross (R) or AC Control (A)-AC OUTPUT-SCR

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0100	BR1200480A25	48-530	25	250	37.22
601-0101	BR1200480A40	48-530	40	400	38.71
601-0102	BR1200480A55	48-530	55	600	38.84
601-0103	BR1200480D25	48-530	25	250	28.41
601-0104	BR1200480D40	48-530	40	400	34.06
601-0105	BR1200480D55	48-530	55	600	30.03
601-0106	BR1200480R25	48-530	25	250	28.41
601-0107	BR1200480R40	48-530	40	400	29.90
601-0108	BR1200480R55	48-530	55	600	30.03
601-0109	BR600240A25	24-330	25	250	34.72
601-0110	BR600240A40	24-330	40	400	36.20
601-0111	BR600240A55	24-330	55	600	36.33
601-0112	BR600240D25	24-330	25	250	25.91
601-0113	BR600240D40	24-330	40	400	27.39
601-0114	BR600240D55	24-330	55	600	27.52
601-0115	BR600240R25	24-330	25	250	25.91
601-0116	BR600240R40	24-330	40	400	27.39
601-0117	BR600240R55	24-330	55	600	27.52

Solid State Relay Single Pole Zero Cross (D) or Non-Zero Cross (R) or AC Control (A)-AC OUTPUT-SCR- PCB Mount or SM

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0118	LR1200480A25	48-530	25	250	36.56
601-0119	LR1200480A40	48-530	40	400	38.05
601-0120	LR1200480D25	48-530	25	250	27.75
601-0121	LR1200480D40	48-530	40	400	29.24
601-0122	LR1200480R25	48-530	25	250	27.75
601-0123	LR1200480R40	48-530	40	400	29.24
601-0124	LR600240A25	24-330	25	250	34.06
601-0125	LR600240A40	24-330	40	400	35.54
601-0126	LR600240D25	24-330	25	250	25.25
601-0127	LR600240D40	24-330	40	400	26.73
601-0128	LR600240R25	24-330	25	250	25.25
601-0129	LR600240R40	24-330	40	400	26.73

Solid State Relay Single Pole Zero Cross (D) or Non Zero Cross (R) or AC Control (A)-AC OUTPUT-SCR

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0130	EFR1200480A150	48-530	150	1600	141.78
601-0131	EFR1200480D150	48-530	150	1600	132.00
601-0132	EFR1200480R150	48-530	150	1600	132.00
601-0133	EFR600240A150	24-330	150	1600	137.38
601-0134	EFR600240D150	24-330	150	1600	127.60
601-0135	EFR600240R150	24-330	150	1600	127.60

Solid State Relay Dual Pole Zero Cross (D) or Non Zero Cross (R) - AC OUTPUT-SCR

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0136	SSRD600240D25	24-330	25	250	40.29
601-0137	SSRD600240D40	24-330	40	400	42.44
601-0138	SSRD600240R25	24-330	25	250	40.29
601-0139	SSRD600240R40	24-330	40	400	42.44

Solid State Relay Dual Pole Zero Cross (D) or Non Zero Cross (R) or AC Control (A)-AC OUTPUT-Triac

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0140	DRDT600240A10	24-330	10	250	45.11
601-0141	DRDT600240D10	24-330	10	250	39.44
601-0142	DRDT600240R10	24-330	10	250	39.44

Solid State Relay Dual Pole Zero Cross (D) or Non Zero Cross (R) or AC Control (A)-AC OUTPUT-Triac

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0143	CRD600240D25	24-330	25	250	41.81
601-0144	CRD600240A25	24-330	25	250	46.80

Solid State Relay Dual Pole Zero Cross (D) or AC Control (A)-AC OUTPUT-SCR

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0145	EFRD1200480A150	48-530	150	1600	188.58
601-0146	EFRD1200480A250	48-530	250	2500	218.81
601-0147	EFRD1200480D150	48-530	150	1600	175.56
601-0148	EFRD1200480D250	48-530	250	2500	203.85
601-0149	EFRD600240A150	24-330	150	1600	182.73
601-0150	EFRD600240A250	24-330	250	2500	212.96
601-0151	EFRD600240D150	24-330	150	1600	169.71
601-0152	EFRD600240D250	24-330	250	2500	198.00

Solid State Relay Three Phase Zero Cross (D) or Non Zero Cross (R) or AC Control (A)- AC OUTPUT-SCR

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0153	TRTP1200480A55	48-530	55	600	95.90
601-0154	TRTP1200480D55	48-530	55	600	87.09
601-0155	TRTP600240A55	24-330	55	600	88.64
601-0156	TRTP600240D55	24-330	55	600	80.16

Solid State Relay Three Phase Zero Cross (D) or Non Zero Cross (R) or AC Control (A)-AC OUTPUT-SCR

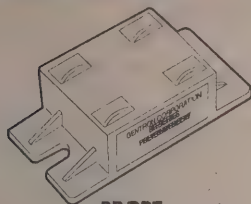
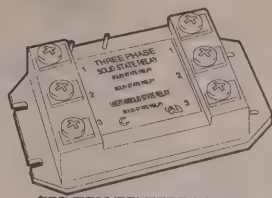
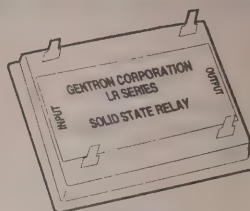
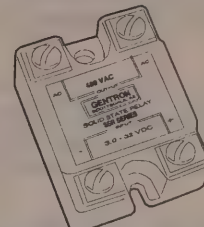
Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0157	EFRTTP1200480A150	48-530	150	1950	179.28
601-0158	EFRTTP1200480A55	48-530	55	600	128.03
601-0159	EFRTTP1200480D150	48-530	150	1950	169.61
601-0160	EFRTTP1200480D55	48-530	55	600	118.36
601-0161	EFRTTP600240A150	24-330	150	1950	171.18
601-0162	EFRTTP600240A55	24-330	55	600	119.90
601-0163	EFRTTP600240D150	24-330	150	1950	161.43
601-0164	EFRTTP600240D55	24-330	55	600	110.23

Solid State Relay DC INPUT Random Control-AC OUTPUT-IGBT

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-1001	IGTA1200480R75	48-530	75	150	231.88
601-1002	IGTA1200480R100	48-530	100	200	249.68
601-0167	IGTA1200480R50	48-530	100	100	193.38
601-0168	IGTA1200480R25	48-530	75	80	180.18
601-0169	IGTA600240R100	24-330	100	200	161.70
601-0170	IGTA600240R75	24-330	75	150	159.66

Solid State Relays

Dimensions (L x W x H) *Indicates No Leads

BR/BRT
2.5 x 1.25 x .078EFR/EFM/EF/EFRD/EFRT
4.0 x 2.5 x 0.95*LR/LRM/LRI/LRT
1.37 x 1.12 x 0.25*SSR/IGTA/IGTD/MOS/MOSFD/SSRT
1.75 x 2.25 x .75*

Solid State Relay

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0171	IGTA600240R50	24-330	50	100	101.19
601-0172	IGTA600240R25	24-330	25	80	100.47

Solid State Relay AC Input — AC Output — IGBT

601-0175	IGTA1200480A50	48-530	50	100	186.72
601-0176	IGTA1200480A25	48-530	25	80	168.27
601-0177	IGTA600240A100	24-330	100	200	148.70
601-0178	IGTA600240A75	24-330	75	150	148.78
601-0179	IGTA600240A50	24-330	50	100	131.61
601-0180	IGTA600240A25	24-330	25	80	128.40

Solid State Relay DC Input — DC Output — IGBT

601-0181	IGTD1200480R100-L	48-530	100	200	218.53
601-0182	IGTD1200480R75-L	48-530	75	150	200.50
601-0183	IGTD1200480R50-L	48-530	50	100	183.78
601-0184	IGTD1200480R25-L	48-530	25	80	133.13
601-0185	IGTD600240R100-L	24-330	100	200	113.59
601-0186	IGTD600240R75-L	24-330	75	150	112.29
601-0187	IGTD600240R50-L	24-330	50	100	97.48
601-0188	IGTD600240R25-L	24-330	25	80	96.46

Solid State Relay AC Input — DC Output — IGBT

601-0189	IGTD1200480A100-L	48-530	100	200	210.30
601-0190	IGTD1200480A75-L	48-530	75	150	199.25
601-0191	IGTD1200480A50-L	48-530	50	100	181.69
601-0192	IGTD1200480A25-L	48-530	25	80	134.07
601-0193	IGTD600240A100-L	24-330	100	200	111.41
601-0194	IGTD600240A75-L	24-330	75	150	110.39
601-0195	IGTD600240A50-L	24-330	50	100	100.09
601-0196	IGTD600240A25-L	24-330	25	80	95.70

Solid State Relay DC Input — DC Output — MOSFET

601-0197	MOSD5050R100-L	3-25	100	400	139.73
601-0198	MOSD100100R100-L	3-100	100	400	135.38
601-0199	MOSD200200R100-L	3-200	100	400	133.73

Solid State Relay DC Input — DC Output — MOSFET — PC Mount or SM

601-0200	LRMOSD5050R25-L	3-25	25	100	152.11
601-0201	LRMOSD100100R25-L	3-100	25	100	147.91
601-0202	LRMOSD200200R25-L	3-200	25	100	146.45

Solid State Relay DC Input — DC Output — IGBT — PC Mount or SM

601-0203	LRIGTD1200480R25-L	48-530	25	80	139.31
601-0204	LRIGTD600240R25-L	24-330	25	80	104.23

Solid State Relay Fast Switching DC Input — DC Output — MOSFET

601-0205	MOSFD5050R100-L	3-25	100	400	122.66
601-0206	MOSFD100100R100-L	3-100	100	400	118.24
601-0207	MOSFD200200R100-L	3-200	100	400	122.60

Solid State Relay Fast Switching DC Input Random Control — AC Output — IGBT

Stock No.	Mfr.'s Type	VAC	Current	Single Cycle Surge Current	EACH
601-0210	IGFA1200480R50	48-530	50	100	140.74
601-0211	IGFA1200480R25	48-530	25	80	140.03
601-0212	IGFA600240R100	24-330	100	200	148.80
601-0213	IGFA600240R75	24-330	75	150	118.21
601-0214	IGFA600240R50	24-330	50	100	104.65
601-0215	IGFA600240R25	24-330	25	80	99.28

Solid State Relay Fast Switching DC Input — DC Output — IGBT

601-0216	IGFD1200480R100	48-530	100	200	191.85
601-0217	IGFD1200480R75	48-530	75	150	190.75
601-0218	IGFD1200480R50	48-530	50	100	122.10
601-0219	IGFD1200480R25	48-530	25	80	120.15
601-0220	IGFD600240R100	24-330	100	200	138.50
601-0221	IGFD600240R75	24-330	75	150	113.85
601-0222	IGFD600240R50	24-330	50	100	98.39
601-0223	IGFD600240R25	24-330	25	80	118.98

Solid State Relay Fast Switching DC Input Random Control — AC Output — IGBT

601-0224	EFIGFA1200480R200	48-530	200	400	983.40
601-0225	EFIGFA600240R300	24-330	300	600	900.90

Solid State Relay Fast Switching DC — DC Output — IGBT

601-0226	EFIGFD1200480R200	48-530	200	600	887.70
601-0227	EFIGFD600240R300	24-330	300	400	805.20

Solid State Relay Fast Switching DC Input — DC Output — MOSFET

601-0228	EFMOSFD5050R300	18323	300	600	792.00
601-0229	EFMOSFD100100R160	3-100	160	280	759.00
601-0230	EFMOSFD200200R120	3-200	120	250	726.00

Solid State Relay DC Input — AC Output — TRIAC

601-0231	SSRT600240D25	24-330	25	250	18.65
601-0232	SSRT600240D10	24-330	10	100	18.48
601-0233	SSRT600240R25	24-330	25	250	18.65
601-0234	SSRT600240R10	24-330	10	100	18.48
601-0235	SSRT600240A25	24-330	25	250	23.10
601-0236	SSRT600240A10	24-330	10	100	22.77

Solid State Relay DC Input — AC Output — TRIAC

601-0237	LRT600240D25	24-330	25	250	18.48
601-0238	LRT600240D10	24-330	10	100	18.15
601-0239	LRT600240R25	24-330	25	250	18.48
601-0240	LRT600240R10	24-330	10	100	18.15
601-0241	LRT600240A25	24-330	25	250	20.13
601-0242	LRT600240A10	24-330	10	100	19.97

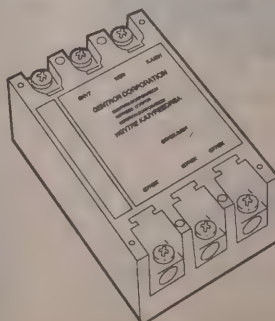
Solid State Relay DC Input — AC Output — TRIAC

601-0243	BRT600240D25	24-330	25	250	17.33
601-0244	BRT600240D10	24-330	10	100	17.02
601-0245	BRT600240R25	24-330	25	250	17.33
601-0246	BRT600240R10	24-330	10	100	17.02
601-0247	BRT600240A25	24-330	25	250	18.85
601-0248	BRT600240A10	24-330	10	100	18.70

Super Solid State Power Breakers and Contactors

- Its Overall Package Design Resembles a Large Mechanical Contactor/Breaker 8" x 5" x 4"
- Includes the Complete Drive and Protection Circuitry
- Low Inductive Losses and Common Thermal Properties
- Customized Product

These contactors and breakers are rated at 50, 500 and 1000 volts DC and up to 1000 amperes with a maximum power dissipation of 5000 watts. Some parts are designed so that as little as 125 watts is dissipated per pole and each pole drops less than a volt. Load current in either direction is monitored by use of Gentron's Current Sense™. Analog and digital current sense outputs are provided for current level monitoring and indication of over current conditions. Over temperature conditions are monitored by a temperature sensor mounted on the power contactor substrate which is in close proximity to the power semiconductors. Additional options include: Soft Start, Energy Saver for AC Types, Voltage Control or On/Off, Status Indicators, Short Circuit Protection, Self Calibrating, Manual or Programmed Restart, Self Diagnostics, Deviation Analysis and Serial Interface.



DC Three Pole

Mfr.'s Type*	Amps	Volts
KWMOSFD	100	1000
KWMOSFD	250	500
KWMSC	100-500	1600

DC Single Pole

KWMOSFD	1000	50
KWIGTD	1000	1200

AC Three Pole

KWSSC	250	1600
KWSSC	500	1600

*Consult Allied for Pricing and Delivery.

Standard, Miniature And G-5 Refusable Input/Output Modules

- ▶ G5 Refusable Module With Integral LED
- ▶ UL Recognized And CSA Certified
- ▶ Meets IEEE 472-1974 And ANSI C37.90 Noise Immunity Standards
- ▶ Surface Mount Internal Construction Provides Excellent High Thermal Conductivity
- ▶ Lifetime Warranty For All Standard I/O Module Part Numbers

Output Modules - 5 Volt Logic

Standard Size

Stock No.	Mfr.'s Type	Load Voltage	EACH		
			1-9	10-24	25-49
948-7301	70-OAC5	120VAC	9.13	8.22	7.76
948-7304	70-OAC5A	240VAC	10.10	9.09	8.59
948-7307	70-ODC5	60VDC	9.13	8.22	7.76
948-7310	70-ODC5A	200VDC	15.38	13.84	13.07

Miniature Size

948-7311	70M-OAC5	120VAC	9.13	8.22	7.76
948-7314	70M-OAC5A	240VAC	10.10	9.09	8.59
948-7317	70M-ODC5	60VDC	9.13	8.00	7.76
948-8016	70M-ODC5A	200VDC	15.38	13.84	13.07

G-5 Size

948-8017	70G-OAC5	120VAC	10.58	9.52	8.99
948-8018	70G-OAC5A	240VAC	11.50	10.38	9.77
948-7307	70G-ODC5	60VDC	10.58	9.52	8.99
948-8020	70G-ODC5B*	60VDC	10.58	9.52	8.99

* Low Leakage, High Turn On/Off Version. ** High Speed Polarized Input Circuitry. *** Non-Polarized DC or AC Input.

Input Modules - 5 Volt Logic

Standard Size

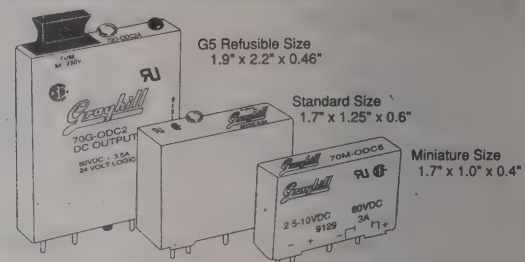
Stock No.	Mfr.'s Type	Load Voltage	EACH		
			1-9	10-24	25-49
948-7320	70-IAC5	120 VAC	9.13	8.22	7.76
948-7323	70-IAC5A	240VAC	9.13	8.22	7.76
948-7326	70-IDC5	32VDC	9.13	8.22	7.76
948-8021	70-IDC5B**	32VDC	9.13	8.22	7.76
948-7329	70-IDC5NP***	32VDC/VAC	9.13	8.22	7.76

Miniature Size

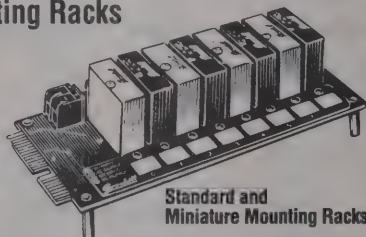
948-7332	70M-IAC5	120VAC	9.13	8.22	7.76
948-7335	70M-IAC5A	240VAC	9.13	8.22	7.76
948-7338	70M-IDC5	32VDC	9.13	8.22	7.76
948-8022	70M-IDC5NP***	32VDC/VAC	9.13	8.22	7.76

G-5 Size

948-8023	70G-IAC5	120VAC	9.62	8.66	8.66
948-8024	70G-IAC5A	240VAC	9.62	8.66	8.66
948-8025	70G-IDC5	32VDC	9.62	8.66	8.66



Module Mounting Racks



Standard and Miniature Mounting Racks

Standard Size Module Mounting Rack

Stock No.	Mfr.'s Type †	Size	EACH	
			1-9	10-24
948-7359	70RCK4	4	28.57	26.36
948-8026	70RCK4R*	4	30.07	36.18
948-7360	70RCK8	8	56.63	52.27
948-7361	70RCK16	16	91.70	84.64
948-7543	70RCK16-HS	16	97.22	89.73
948-7544	70RCK16-HL	16	97.22	89.73
948-7362	70RCK24	24	152.33	140.61
948-7547	70RCK24-HS	24	158.37	146.18
948-7548	70RCK24-HL	24	158.37	146.18

* Accommodates Negative or True Logic. † Suffix: HS Header, short Ejectors; HL-Headers, long Ejectors; EC or none-Edge Connector.

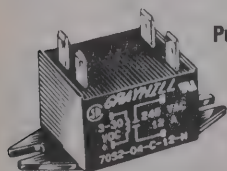
Miniature Size Module Mounting Racks

Stock No.	Mfr.'s Type	Size	EACH	
			1-9	10-24
948-8027	70MRCK8-EC	8	61.63	56.89
948-8028	70MRCK8-HS	8	65.15	60.13
948-8029	70MRCK8-HL	8	65.15	60.13
948-7534	70MRCK16-EC	16	97.22	89.73
948-7535	70MRCK16-HS	16	103.23	95.29
948-7537	70MRCK16-HL	16	103.23	95.29
948-7539	70MRCK24-EC	24	165.87	153.10
948-7540	70MRCK24-HS	24	165.87	153.10
948-7541	70MRCK24-HL	24	165.87	153.10
948-8030	70MRCK24-EC	12 X 12	158.85	158.85
948-8031	70MRCK24-HS	12 X 12	164.37	151.72
948-8032	70MRCK24-HL	12 X 12	164.37	151.72
948-8033	70MRCK32-EC	16 X 16	198.43	183.16
948-8034	70MRCK32-HS	16 X 16	202.47	186.89
948-8035	70MRCK32-HL	16 X 16	202.47	186.89

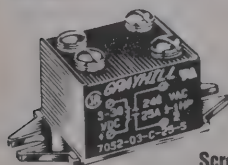
G-5 Refusable Module Mounting Rack

948-8036	70GRCK16-HS	16	97.22	89.73
948-8037	70GRCK16-HL	16	97.22	89.73
948-8038	70GRCK4	4	28.56	26.36

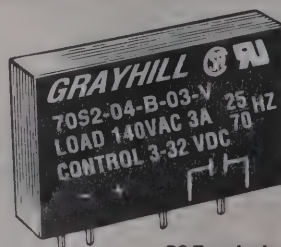
70S2 Series Solid State Relays



Push-on Terminals



Screw Terminals



PC Terminals

- ▶ UL Recognized, CSA Certified
- ▶ Miniature Size, High Performance
- ▶ High Surge Current Protection

- ▶ Built-in Transient Protection
- ▶ Zero Crossing Switching
- ▶ High Thermal Conductivity

- ▶ Panel Mount Mini-Puck Relays
- ▶ Fit/Replacement for Hockey Puck Relays

- ▶ Switch Up to 25A in About 1/2 the Space

- ▶ PC Mount SIP Relays
- ▶ Board Area 680 Sq. In.

- ▶ Switches 3A With No Additional Heat Sink

Push-On Terminal Panel Mount Relays

Stock No.	Mfr.'s Type	Load		Control Range VDC	EACH		
		VAC	A (Max.)		1-9	10-24	25-49
948-7341	70S2-04-B-06-N	120	6	3-30	12.98	11.68	11.03
948-7342	70S2-05-B-06-N	120	6	6-30	12.98	11.68	11.03
948-7343	70S2-04-C-06-N	240	6	3-30	13.65	12.28	11.60
948-7344	70S2-05-C-06-N	240	6	6-30	13.65	12.28	11.60
948-7345	70S2-04-B-12-N	120	12	3-30	13.65	12.28	11.60
948-7346	70S2-05-B-12-N	120	12	6-30	13.65	12.28	11.60
948-7347	70S2-04-C-12-N	240	12	3-30	14.42	12.48	12.26
948-7348	70S2-05-C-12-N	240	12	6-30	14.42	12.48	12.26

Screw Terminal Panel Mount Relays

948-7349	70S2-04-B-06-S	120	6	3-30	14.42	12.98	12.26
948-7350	70S2-05-B-06-S	120	6	6-30	14.42	12.98	12.26
948-7351	70S2-04-B-12-S	120	12	3-30	15.00	13.50	12.75
948-7352	70S2-05-B-12-S	120	12	6-30	15.00	13.50	12.75
948-7353	70S2-03-B-25-S	120	25	3-30	21.35	19.22	18.15
948-7354	70S2-04-C-06-S	240	6	3-30	14.71	13.24	12.50
948-7355	70S2-05-C-06-S	240	6	6-30	14.71	13.24	12.50
948-7356	70S2-04-C-12-S	240	12	3-30	15.58	14.02	13.24
948-7357	70S2-05-C-12-S	240	12	6-30	15.58	14.02	13.24
948-7358	70S2-03-C-25-S	240	25	3-30	22.69	20.42	19.29

PC Mount SIP Relays

948-7366	70S2-04-D-03-V	24	3	3-32	9.13	8.22	7.76
948-7367	70S2-05-D-03-V	24	3	6-32	9.13	8.22	7.76
948-7368	70S2-04-B-03-V	120	3	3-32	9.13	8.22	7.76
948-7369	70S2-05-B-03-V	120	3	6-32	9.13	8.22	7.76
948-7370	70S2-04-C-03-V	240	3	3-32	9.62	8.66	8.18
948-7371	70S2-05-C-03-V	240	3	6-32	9.62	8.66	8.18

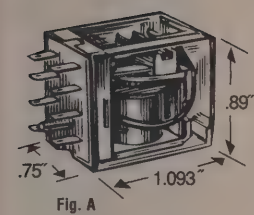


Fig. A

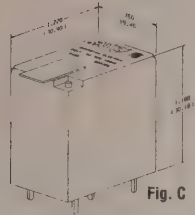


Fig. C

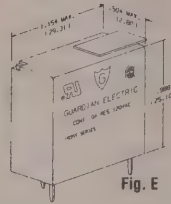


Fig. E

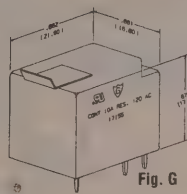


Fig. G

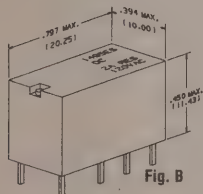


Fig. B

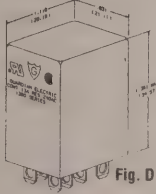


Fig. D

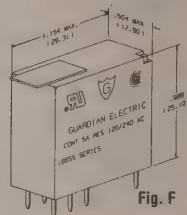


Fig. F

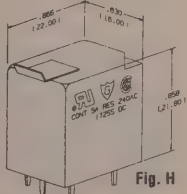


Fig. H

Series 1330/1335 (Socket/Solder Lug) DPDT (Fig. A)

Contacts Rated 5 Amps resistive at 30VDC, 3 Amps Inductive, 1/8 H.P. at 120VAC. DPDT contact arrangement. Socket/solder lug or P.C. solder with polycarbonate cover. **Dimensions:** 0.89 x 0.75 x 1.093". **Weight:** .75 oz. (21 grams).

1330/1335 (Socket/Solder Lug) DPDT

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2100	1330-2C-12A	12AC	50	9.83	7.33	6.77	6.28
802-2105	1330-2C-24A	24AC	245	9.83	7.33	6.77	6.28
802-2110	1330-2C-120A	120AC	5400	9.83	7.33	6.77	6.28
802-2115	1335-2C-12D	12DC	125	7.25	7.03	6.49	6.02
802-2120	1335-2C-24D	24DC	500	7.25	7.03	6.49	6.02

1330/1335 (P.C. Solder) DPDT

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2130	1330P-2C-24A	24AC	245	7.40	7.19	6.64	6.16
802-2135	1330P-2C-120A	120AC	5400	7.40	7.19	6.64	6.16
802-2140	1335P-2C-12D	12DC	125	7.25	7.03	6.49	6.02
802-2145	1335P-2C-24D	24DC	500	7.25	7.03	6.49	6.02

Series 1495ES DPDT (Fig. B)

DPDT contact arrangement at 2 Amps at 120VAC or 30VDC. Immersion cleanable case. PC mount. Gold/silver alloy on silver palladium contacts. **Dimensions:** .45"H x .41"W x .797"L.

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-1401	1495ES-2C-5D	5DC	36	4.00	3.54	3.31	3.01
802-1402	1495ES-2C-6D	6DC	70	4.00	3.54	3.31	3.01
802-1403	1495ES-2C-12D	12DC	280	4.00	3.54	3.31	3.01
802-1404	1495ES-2C-24D	24DC	1050	4.00	3.54	3.31	3.01

Series 1715 (P.C. Terminals) (Fig. G)

Contact Ratings: SPST, 10 Amps @ 30VDC, 120VAC resistive load; 5 amps @ 240 VAC resistive load, 1/4 H.P. @ 120VAC. SPDT: 5 Amps @ 30VDC/240VAC resistance load; 6 amps @ 120 VAC resistance load, 1/10 H.P. @ 120VAC. TV-5 Rating. **Sealed Version:** 1715S Series. UL and CSA approved. **Wt.:** .5 oz.

Stock No.	Mfr.'s Type	Volts	Contacts	Ohms	EACH			
					1-24	25-49	50-99	100-Up
802-4156	1715S-1A-6D	6DC	SPST-NO	80	2.81	2.59	2.41	2.24
802-4157	1715S-1A-12D	12DC	SPST-NO	320	2.81	2.59	2.41	2.24
802-4158	1715S-1A-24D	24DC	SPST-NO	1280	2.81	2.59	2.41	2.24

Series 1725 (SPDT) (Fig. H)

Contacts rated 5 Amps at 30VDC/120VAC/240 VAC resistive load. 1/10 H.P., 120VAC. 5 Amps Tungsten 120VAC. Printed circuit termination. **Sealed Version:** 1725S Series. UL and CSA approved. **Weight:** 1 oz.

Stock No.	Mfr.'s Type	Volts	Ohms	EACH			
				1-24	25-49	50-99	100-Up
802-4165	1725S-1C-6D	6DC	100	3.00	2.77	2.57	2.41
802-4166	1725S-1C-12D	12DC	400	3.00	2.77	2.57	2.41
802-4167	1725S-1C-24D	24DC	1600	3.00	2.77	2.57	2.41

Series 1345 (P.C. Board) (Fig. C)

Contacts rated 10 Amps at 12VDC, 120VAC resistive load; 5 amps at 30 VDC, 240 VAC resistive load. **Coil Res.:** 1400 Ohms at 12VDC and 5600 Ohms at 24VDC. UL and CSA approved. **Weight:** 1.0 oz.

Stock No.	Mfr.'s Type	Volts	Contacts	EACH			
				1-24	25-49	50-99	100-Up
802-4100	1345-1A-12D	12DC	SPST-NO	5.45	5.03	4.66	4.35
802-4101	1345-1C-12D	12DC	SPDT	5.81	5.37	4.98	4.65
802-4102	1345-1A-24D	24DC	SPST-NO	5.45	5.03	4.66	4.35
802-4103	1345-1C-24D	24DC	SPDT	5.81	5.37	4.98	4.65

Series 1390/1395 (D.P.D.T.) (Fig. D)

Contact Ratings: 13 Amps at 30VDC, 120/240 VAC resistive load, 1/8 H.P. at 120/240VAC. **Sealed Versions:** 1390VS, 1390PVS, 1395VS, 1395PVS. UL and CSA approved. **Wt.:** 1.52 oz.

Stock No.	Mfr.'s Type	Volts	Ohms	Terminals	EACH			
					1-24	25-49	50-99	100-Up
802-4108	1390-2C-12A	12AC	45	Plug-in	7.50	6.92	6.42	5.99
802-4109	1390-2C-24A	24AC	160	Plug-in	7.50	6.92	6.42	5.99
802-4110	1390-2C-120A	120AC	3900	Plug-in	7.50	6.92	6.42	5.99
802-4112	1390P-2C-24A	24AC	160	P.C.	7.50	6.92	6.42	5.99
802-4113	1390P-2C-120A	120AC	3900	P.C.	7.50	6.92	6.42	5.99
802-4114	1395-2C-12D	12AC	160	Plug-in	7.35	6.78	6.30	5.88
802-4115	1395-2C-24D	24AC	650	Plug-in	7.35	6.78	6.30	5.88
802-4116	1395-2C-110D	110AC	11000	Plug-in	8.49	7.83	7.27	6.79
802-4117	1395P-2C-12D	12AC	160	P.C.	7.35	6.78	6.30	5.88
802-4118	1395P-2C-24D	24AC	650	P.C.	7.35	6.78	6.30	5.88
802-4119	1395P-2C-110D	110AC	11000	P.C.	8.49	7.83	7.27	6.79

Series 1655 (P.C. Terminals) (Fig. E)

Contact Ratings: 10 Amps @ 30VDC, 120 & 240VAC resistive load. 7 amps tungsten 120VAC (TV7), 1/8 H.P. @ 240VAC. New 16 Amp and TV8 rating, SPST-1A version only. **Sealed Version:** 1655S series. UL, CSA and VDE approved. **Wt.:** .53 oz.

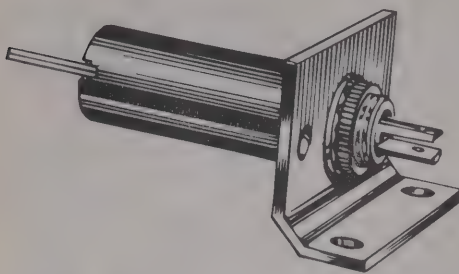
Stock No.	Mfr.'s Type	Volts	Contacts	Ohms	EACH			
					1-24	25-49	50-99	100-Up
802-4138	1655S-1C-6D	6DC	SPDT	68	4.54	4.20	3.64	3.38
802-4139	1655S-1C-12D	12DC	SPDT	275	4.54	4.20	3.64	3.38
802-4140	1655S-1C-24D	24DC	SPDT	1100	4.54	4.20	3.64	3.38

Series 1665 (DPDT) (Fig. F)

P.C. board termination. Contacts rated 5 Amps @ 30VDC, 120/240VAC resistive load; 5 amp tungsten—120VAC; TV5—120VAC, 1/8 H.P. @ 240VAC. **Sealed Version:** 1665S. UL, CSA and VDE approved. **Weight:** .53 oz.

Stock No.	Mfr.'s Type	Volts	Ohms	EACH			
				1-24	25-49	50-99	100-Up
802-4147	1665S-2C-6D	6DC	68	4.97	4.59	4.26	3.97
802-4148	1665S-2C-12D	12DC	275	4.97	4.59	4.26	3.97
802-4149	1665S-2C-24D	24DC	1100	4.97	4.59	4.26	3.97

T and TP Series Tubular Solenoids



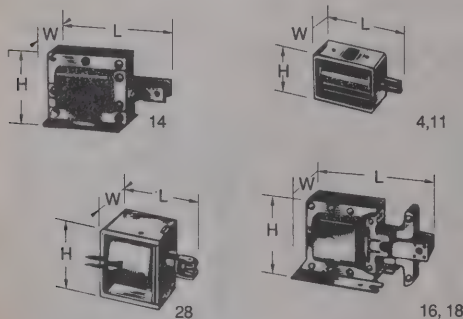
Tubular solenoids are available in either pull (T series) or push (TP series). TP series dimensions are identical to T series. Notched assembly of shell and bushing permits tightening of mounting nut without damaging coil. **Insulation Material:** Class "A" (110°C). **Termination:** 6" leads. Mounting hardware included. T and TP series recognized under the Component Program of Underwriters' Laboratories, Inc.

T3.5x9: L—1¹/₈"; D—7¹/₁₆"; Mounting thread size—5¹/₁₆-32 UNEF; Bracket W—1¹/₈". **T4x7:** L—7⁷/₈"; D—1¹/₂"; Mounting thread size—3¹/₈-32 UNEF; Bracket W—1¹/₈". **T4x12:** L—1¹/₂"; D—1¹/₂"; Mounting thread size—3¹/₈-32 UNEF; Bracket W—1¹/₈". **T4x16:** L—2"; D—1¹/₂"; Mounting thread size—3¹/₈-32 UNEF; Bracket W—1¹/₈". **T6x12:** L—1¹/₂"; D—3¹/₄"; Mounting thread size—5¹/₃₂-32 UNEF; Bracket W—1³/₈". **T8x9:** L—1¹/₈"; D—1"; Mounting thread size—3¹/₄-24 UNS; Bracket W—2". **T8x16:** L—2"; D—1"; Mounting thread size—3¹/₄-24 UNS; Bracket W—2". **T12x13:** L—1⁵/₈"; D—1¹/₂"; Mounting thread size—1-27 UNS; Bracket W—2¹/₂". **T12x19:** L—2³/₈"; D—1¹/₂"; Mounting thread size—1-27 UNS; Bracket W—2¹/₂".

Stock No.	Mfr.'s Type	Duty	Coil Voltage	Ohms	Watts	Typical Lifts and Strokes		EACH		
						Minimum	Maximum	1-24	25-49	50-99
802-1151	T3.5x9*	Inter.	24DC	57.0	10.0	8.5 oz. at 1 ¹ / ₃₂ "	1 oz. at 1 ¹ / ₂ "	13.21	12.26	11.45
802-1152	T3.5x9*	Cont.	24DC	260.0	2.0	5.5 oz. at 1 ¹ / ₃₂ "	.75 oz. at 1 ¹ / ₁₆ "	13.21	12.26	11.45
802-1153	T3.5x9*	Inter.	12DC	14.0	10.0	8.5 oz. at 1 ¹ / ₃₂ "	1 oz. at 1 ¹ / ₂ "	13.21	12.26	11.45
802-1154	T3.5x9*	Cont.	12DC	80.0	2.0	5.5 oz. at 1 ¹ / ₃₂ "	.75 oz. at 5 ¹ / ₁₆ "	13.21	12.26	11.45
802-1155	TP3.5x9	Inter.	24DC	57.0	10.0	6.8 oz. at 1 ¹ / ₃₂ "	.96 oz. at 1 ¹ / ₂ "	18.65	17.32	16.16
802-1156	T4x7*	Inter.	24DC	80.0	7.0	12 oz. at 1 ¹ / ₃₂ "	8 oz. at 1 ¹ / ₄ "	14.95	13.86	12.96
802-1190	T4x7*	Cont.	24DC	240.0	2.4	6 oz. at 1 ¹ / ₃₂ "	1 oz. at 3 ¹ / ₁₆ "	14.95	13.86	12.96
802-1157	TP4x7	Cont.	24DC	240.0	2.4	4.8 oz. at 1 ¹ / ₃₂ "	.8 oz. at 3 ¹ / ₁₆ "	21.83	20.27	18.92
802-1158	T4x12*	Inter.	24DC	38.0	15.0	14 oz. at 1 ¹ / ₃₂ "	1.5 oz. at 7 ¹ / ₈ "	12.59	11.53	10.76
802-1159	T4x12*	Cont.	24DC	160.0	3.5	7 oz. at 1 ¹ / ₃₂ "	1.5 oz. at 1 ¹ / ₄ "	12.59	11.53	10.76
802-1160	TP4x12	Inter.	24DC	38.0	15.0	12 oz. at 1 ¹ / ₃₂ "	1.2 oz. at 7 ¹ / ₈ "	17.67	16.41	15.32
802-1161	TP4x12	Cont.	24DC	160.0	3.5	6 oz. at 1 ¹ / ₃₂ "	1.2 oz. at 1 ¹ / ₄ "	12.59	11.53	10.76
802-1162	T4x16*	Inter.	24DC	24.0	20.0	7 oz. at 1 ¹ / ₃₂ "	4 oz. at 1"	12.90	11.98	11.18
802-1163	T4x16*	Inter.	12DC	6.0	20.0	7 oz. at 1 ¹ / ₃₂ "	4 oz. at 1"	12.90	11.98	11.18
802-1191	T4x16*	Cont.	12DC	36.0	4.0	6.5 oz. at 1 ¹ / ₃₂ "	1.5 oz. at 7 ¹ / ₈ "	12.90	11.98	11.18
802-1192	TP4x16*	Inter.	24DC	24.0	20.0	5.6 oz. at 1 ¹ / ₃₂ "	3.2 oz. at 1"	18.26	16.96	15.83
802-1164	TP4x16	Cont.	24DC	145.0	4.0	5.2 oz. at 1 ¹ / ₃₂ "	1.2 oz. at 7 ¹ / ₈ "	18.26	16.96	15.83
802-1165	T6x12*	Inter.	24DC	25.0	22.0	30 oz. at 1 ¹ / ₁₆ "	4 oz. at 1 ¹ / ₁₆ "	12.20	11.33	10.57
802-1166	T6x12*	Cont.	24DC	165.0	3.5	12 oz. at 1 ¹ / ₁₆ "	1 oz. at 3 ¹ / ₄ "	12.20	11.33	10.57
802-1167	T6x12*	Inter.	12DC	6.5	22.0	30 oz. at 1 ¹ / ₁₆ "	4 oz. at 1 ¹ / ₁₆ "	12.20	11.33	10.57
802-0565	T6x12*	Cont.	12DC	41.0	3.5	12 oz. at 1 ¹ / ₁₆ "	1 oz. at 3 ¹ / ₄ "	12.20	11.33	10.57
802-1193	TP6x12*	Inter.	24DC	25.0	22.0	24 oz. at 1 ¹ / ₁₆ "	3.2 oz. at 3 ¹ / ₄ "	14.93	13.49	12.57
802-1194	TP6x12*	Cont.	24DC	165.0	3.5	9.6 oz. at 1 ¹ / ₁₆ "	.8 oz. at 3 ¹ / ₄ "	14.93	13.49	12.57
802-1168	T8x9*	Inter.	24DC	145.0	4.0	23 oz. at 1 ¹ / ₁₆ "	3 oz. at 7 ¹ / ₁₆ "	15.05	13.23	12.29
802-1195	TP8x9	Inter.	24DC	44.0	14.0	42 oz. at 1 ¹ / ₁₆ "	4.8 oz. at 7 ¹ / ₁₆ "	17.59	16.03	14.88
802-1169	TP8x9	Cont.	24DC	145.0	4.0	18.4 oz. at 1 ¹ / ₁₆ "	2.4 oz. at 7 ¹ / ₁₆ "	17.59	16.03	14.88
802-1170	T8x16*	Inter.	24DC	15.0	38.0	80 oz. at 1 ¹ / ₁₆ "	14 oz. at 7 ¹ / ₈ "	14.65	13.60	12.69
802-0574	T8x16*	Cont.	24DC	105.0	5.5	35 oz. at 5 ¹ / ₈ "	5.5 oz. at 7 ¹ / ₈ "	14.65	13.60	12.69
802-1171	T8x16*	Inter.	12DC	2.7	38.0	80 oz. at 1 ¹ / ₁₆ "	14 oz. at 7 ¹ / ₈ "	14.65	13.60	12.69
802-0573	T8x16*	Cont.	12DC	26.0	5.5	35 oz. at 1 ¹ / ₁₆ "	5.5 oz. at 7 ¹ / ₈ "	14.65	13.60	12.69
802-1172	T12x13*	Inter.	24DC	14.0	40.0	150 oz. at 1 ¹ / ₈ "	14 oz. at 3 ¹ / ₄ "	22.00	20.64	19.07
802-1173	T12x13*	Cont.	24DC	85.0	6.6	50 oz. at 1 ¹ / ₈ "	4 oz. at 3 ¹ / ₄ "	22.00	20.64	19.07
802-1178	TP12x13	Inter.	24DC	14.0	40.0	120 oz. at 1 ¹ / ₈ "	11.2 oz. at 3 ¹ / ₄ "	23.22	21.56	20.12
802-1179	TP12x13	Cont.	24DC	85.0	7.0	40 oz. at 1 ¹ / ₈ "	3.2 oz. at 3 ¹ / ₄ "	23.22	21.56	20.12
802-1174	T12x19*	Inter.	24DC	9.5	60.0	150 oz. at 1 ¹ / ₈ "	12 oz. at 1 ¹ / ₂ "	21.69	20.14	18.80
802-1175	T12x19*	Cont.	24DC	59.0	10.0	80 oz. at 1 ¹ / ₈ "	5 oz. at 1 ¹ / ₂ "	21.69	20.14	18.80
802-1176	TP12x19	Inter.	24DC	9.5	60.0	120 oz. at 1 ¹ / ₈ "	9.6 oz. at 1 ¹ / ₂ "	24.55	22.80	21.28
802-1177	TP12x19	Cont.	24DC	59.0	10.0	64 oz. at 1 ¹ / ₈ "	4 oz. at 1 ¹ / ₂ "	24.55	22.80	21.28

*U.L. Model.

Industrial AC and DC Solenoids



Solenoids in a wide selection of sizes for AC or DC applications. Types 11 and 28 are for either AC or DC voltages. Laminated solenoids Types 14, 16 and 18 are for AC operation only. Tubular pull/push are for DC operation only. Intermittent-duty coils should not be energized for more than 3 consecutive minutes or be permitted to rise more than 85°C above 25°C ambient without time for cooling between cycles; continuous-duty types will not have a temperature rise of more than 85°C at rated voltage and ambient.

**DC Pull-Type or AC/DC Push-Type Solenoids
12 and 120 Volt AC/DC Push-Types**

Intermittent or continuous duty. Lengths of the push rods are equal to the maximum stroke length specified. Type 28P is approximately 20% less power than listed. Other

specifications same as Tubular Pull Types. Please Specify Allied Stock Number, Manufacturer's Type Number, Volts and Duty.

DC Types (Specify Type No., Volts and Duty)

Stock No.	Mfr.'s Type	Volts	Ohms	Stroke and Lift Ounces @ Inches	Size H x W x L	Shpg. Wt., Oz.	EACH
802-1032	4†	120	133.0	8@1 ¹ / ₈ 4@1 ¹ / ₄	1 ⁵ / ₈ x 1 ⁷ / ₁₆ x 2 ¹ / ₁₆	14 ¹ / ₂	18.64 17.32 15.38
802-1057	11†	24	8.0	12@1 ¹ / ₈ 10@3 ¹ / ₄	1 ³ / ₁₆ x 1 ⁵ / ₁₆ x 1 ⁷ / ₈	7 ¹ / ₂	11.55 10.73 10.01
802-1070	11*	120	85.0	40@1 ¹ / ₁₆ 10@3 ¹ / ₄	1 ³ / ₁₆ x 1 ⁵ / ₁₆ x 1 ⁷ / ₈	7 ¹ / ₂	11.55 10.73 10.01
802-1061	11†	120	200.0	12@1 ¹ / ₈ 6@3 ¹ / ₄	1 ³ / ₁₆ x 1 ⁵ / ₁₆ x 1 ⁷ / ₈	7 ¹ / ₂	11.55 10.73 10.01
802-1085	14†	120	18.0	75@1 ¹ / ₈ 35@1 ¹ / ₂	2 ¹ / ₁₆ x 1 ¹⁵ / ₁₆ x 2 ⁷ / ₁₆	19	28.97 26.90 25.11
802-1094	16*	120	41.0	110@1 ¹ / ₈ 30@3 ¹ / ₄	1 ¹ / ₂ x 1 ¹ / ₄ x 1 ⁵ / ₈	7 ¹ / ₂	26.81 24.75 22.98
802-1090	16†	120	85.0	60@1 ¹ / ₈ 15@3 ¹ / ₄	1 ¹ / ₂ x 1 ¹ / ₄ x 1 ⁵ / ₈	7 ¹ / ₂	26.81 24.75 22.98
802-1104	18*	120	8.8	340@1 ¹ / ₈ 200@7 ¹ / ₈	2 ³ / ₃₂ x 1 ¹³ / ₁₆ x 2 ¹ / ₂	16 ¹ / ₂	30.49 28.31 26.43
802-1100	18†	120	19.7	150@1 ¹ / ₈ 100@7 ¹ / ₈	2 ³ / ₃₂ x 1 ¹³ / ₁₆ x 2 ¹ / ₂	16 ¹ / ₂	30.49 28.31 26.43
802-1102	18†	240	78.0	150@1 ¹ / ₈ 100@7 ¹ / ₈	2 ³ / ₃₂ x 1 ¹³ / ₁₆ x 2 ¹ / ₂	16 ¹ / ₂	30.49 28.31 26.43

*Intermittent. †Continuous.

Stock No.	Mfr.'s Type	Duty	Volts	Ohms	Stroke and Lift Ounces @ Inches		Size H x W x L		Shpg. Wt., Oz.	EACH		
					Min.	Max.	In.	MM		1-24	25-49	50-99
802-1097	16P	Cont.	120AC	85.0	60@1 ¹ / ₈	15@3 ¹ / ₄	1 ¹ / ₂ x 1 ¹ / ₄ x 1 ⁵ / ₈	38.10 x 31.75 x 41.27	7 ¹ / ₂	32.28	29.97	27.97
802-1107	18P	Inter.	120AC	8.8	340@1 ¹ / ₈	200@1 ¹ / ₈	2 ³ / ₁₆ x 1 ¹³ / ₁₆ x 2 ¹ / ₂	55.56 x 46.03 x 63.50	16 ¹ / ₂	39.46	36.65	34.20
802-1108	18P	Cont.	120AC	19.7	150@1 ¹ / ₈	100@1 ¹ / ₈	2 ³ / ₁₆ x 1 ¹³ / ₁₆ x 2 ¹ / ₂	55.56 x 46.03 x 63.50	16 ¹ / ₂	39.46	36.65	34.20

Time Modules

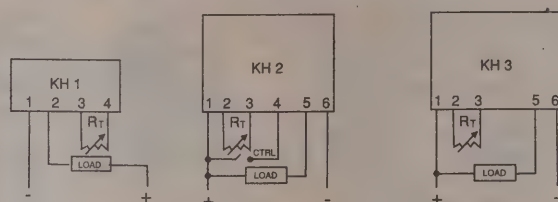
KH ICSotimer



The KH series incorporate a thick film hybrid R-C timing circuit that offers reliable timing ranges from 0.1 to 300 seconds in a very small package. These timers may be wired directly into a circuit with their 22 ga. flexible tinned leads or mounted directly onto a PC board. Other voltages and time ranges available from factory: 24VAC, 12VAC, 12VDC, 240VAC, 48VDC, 110VDC; 1-10 Sec., 5-50 Sec., 6-60 Sec., 12-120 Sec., Special Time or Fixed Time.

Stock No.	Mfr.'s Type	Timing Function	Timing Range	Input Voltage	EACH		
					1-24	25-99	100-249
615-2111	KH111	On Delay	1-1 sec.	120VAC	15.06	13.99	13.05
615-2101	KH121	On Delay	5-5 sec.	120VAC	14.98	13.91	12.98
615-2171	KH171	On Delay	3-30 sec.	120VAC	23.44	21.77	20.32
615-2141	KH141	On Delay	30-300 sec.	120VAC	26.16	24.30	22.68
615-2211	KH211	Off Delay	1-1 sec.	120VAC	23.92	22.21	20.73
615-2221	KH221	Off Delay	5-5 sec.	120VAC	23.81	22.11	20.64

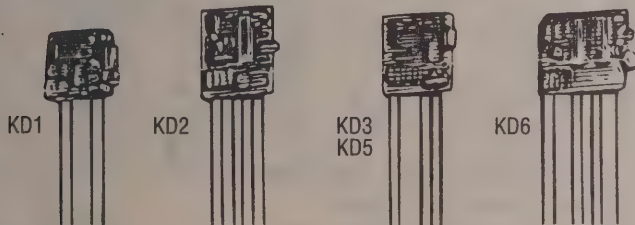
Wiring diagrams: Side shown is flat side with catalog numbers.



Input Voltage Tolerance: $\pm 10\%$. **Maximum Output Load:** 100 ma. for KH1, 500 ma. for KH2 and KH3. **Minimum Output Load:** 10 ma. **Repeat Accuracy:** $\pm 3\%$ (at fixed conditions). **Operating Temperature Range:** -10°C to $+70^{\circ}\text{C}$. **Size (less leads):** KH1-1.25" L x 0.6" W x 0.3" Thick, KH2 and KH3-1.25" L x 1.0" W x 0.5" thick. **Termination:** 22 ga. solid tinned copper leads 1.75" long on 0.2" centers.

Stock No.	Mfr.'s Type	Timing Function	Timing Range	Input Voltage	EACH		
					1-24	25-99	100-249
615-2271	KH271	Off Delay	3-30 sec.	120VAC	32.21	29.91	27.92
615-2241	KH241	Off Delay	30-300 sec.	120VAC	32.75	30.41	28.38
615-2311	KH311	Interval	1-1 sec.	120VAC	24.47	22.72	21.21
615-2321	KH321	Interval	5-5 sec.	120VAC	24.36	22.62	21.12
615-2371	KH371	Interval	3-30 sec.	120VAC	32.75	30.41	28.38
615-2341	KH341	Interval	30-300 sec.	120VAC	32.80	30.45	28.42

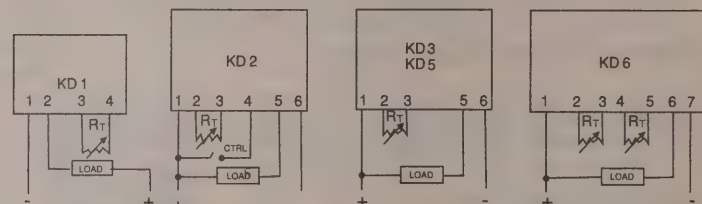
KD ICSotimer



The KD series incorporate a digital countdown circuit that offers excellent repeat accuracy with timing ranges from 0.1 seconds to 10 hours. These timers may be wired directly into a circuit with their 22 ga. flexible tinned leads or mounted directly onto a PC board. Other voltages and time ranges available from factory: 24VAC, 24VDC, 12VAC, 12VDC, 240VAC, 48VDC, 110VDC, 10-600 min., Special Time or Fixed Time.

Stock No.	Mfr.'s Type	Timing Function	Timing Range	Input Voltage	EACH		
					1-24	25-99	100-249
615-1111	KD111	On Delay	1-10 sec.	120VAC	19.58	18.18	16.97
615-1141	KD141	On Delay	1-60 sec.	120VAC	19.93	18.51	17.28
615-1121	KD121	On Delay	10-600 sec.	120VAC	19.58	18.18	16.97
615-1151	KD151	On Delay	1-60 min.	120VAC	19.93	18.51	17.28
615-1211	KD211	Off Delay	1-10 sec.	120VAC	22.47	20.87	19.48
615-1241	KD241	Off Delay	1-60 sec.	120VAC	22.83	21.20	19.78
615-1221	KD221	Off Delay	10-600 sec.	120VAC	22.47	20.87	19.48
615-1251	KD251	Off Delay	1-60 min.	120VAC	22.83	21.2	19.78

Wiring diagrams: Side shown is flat side with catalog numbers.



Input Voltage Tolerance: $\pm 10\%$. **Maximum Output Load:** 500 ma. **Minimum Output Load:** 20 ma. **Repeat Accuracy:** $\pm 0.5\%$ (at fixed conditions). **Operating Temperature Range:** -10°C to $+70^{\circ}\text{C}$. **Size (less leads):** KD1-1.25" L x 1.0" W x 0.5" Thick, KD2, KD3 and KD5-1.38" L x 1.38" W x 0.5" Thick. KD6-2" L x 1.38" W x .5" Thick. **Termination:** 22 ga. solid tinned copper leads 1.75" long on 0.2" centers.

Stock No.	Mfr.'s Type	Timing Function	Timing Range	Input Voltage	EACH		
					1-24	25-99	100-249
615-1311	KD311	Interval	1-10 sec.	120VAC	22.43	20.82	19.44
615-1341	KD341	Interval	1-60 sec.	120VAC	22.78	21.15	19.74
615-1321	KD321	Interval	10-600 sec.	120VAC	22.43	20.82	19.44
615-1351	KD351	Interval	1-60 min.	120VAC	22.78	21.15	19.74
615-1511	KD511	Recycle*	1-10 sec.	120VAC	22.43	20.82	19.44
615-1641	KD641	Recycle**	1-60 sec.	120VAC	35.16	32.65	30.48
615-1621	KD621	Recycle**	10-600 sec., 10-600 sec.	120VAC	34.47	32.01	29.88

* Off and On times are equal (single adjustment). ** Off and On time appears first catalog number.

OP Series Time Delay Relays



The OP4 series incorporate KH or KD series timing modules operating a 10 Amp DPDT long life relay with an LED indicator. Octal bases are used on all types except the OP42 OFF DELAY which uses an eleven pin round base. The timing is knob adjustable. Other voltages and time ranges available from factory: 24VAC, 24VDC, 12VAC, 12VDC, 120VAC, 48VDC, 110VDC; 1-10 Sec., 5-50 Sec., 6-60 Sec., 12-120 Sec., 10 to 600 sec., Special Time or Fixed Time. **Input Voltage:** 120 VAC.

Stock No.	Mfr.'s Type	Timing Function	Timing Range	EACH		
				1-24	25-99	1-24
615-4411	OP411N1	On Delay	1-1 sec.	41.10	35.87	35.62
615-4412	OP412N1	On Delay	5-5 sec.	40.52	35.81	35.12
615-4417	OP417N1	On Delay	3-30 sec.	46.70	43.06	40.48
615-4414	OP414N1	On Delay	30-300 sec.	48.81	43.11	42.30
615-4421	OP421N1	Off Delay	1-1 sec.	55.58	48.17	48.17
615-4422	OP422N1	Off Delay	5-5 sec.	55.29	48.09	47.92
615-4427	OP427N1	Off Delay	3-30 sec.	62.06	55.36	53.78
615-4424	OP424N1	Off Delay	30-300 sec.	64.16	55.40	55.61
615-4470	OP431N1	Interval	1-1 sec.	54.15	50.28	46.93
615-4471	OP432N1	Interval	5-5 sec.	54.43	50.54	47.174
615-4451	OP45AN1	Recycle*	1-10 sec.	51.47	47.80	4.61
615-4461	OP46DD1	Recycle**	1-60 sec., 1-60 sec.	72.72	67.52	63.02
615-4462	OP46BD1	Recycle**	10-60 sec., 1-60 sec.	72.60	67.41	62.92
615-4463	OP46BB1	Recycle**	10-600 sec., 10-600 sec.	74.95	69.60	64.96
615-4464	OP46ED1	Recycle**	1-60 min., 1-60 sec.	72.53	67.35	62.86
615-4465	OP46EE1	Recycle**	1-60 min., 1-60 min.	75.81	70.40	65.70

* Off and On times are equal (single adjustment). ** Off and On times are independently adjustable. Off time appears first in catalog number. Options: Fixed and special time ranges from .05 to 10 hours and special voltages.

RSS Series Solid State Relays

- ▶DC/AC and AC/AC models
- ▶Photo isolation
- ▶600 volt blocking voltage
- ▶4000 volt isolation
- ▶Zero voltage turn-on
- ▶Built-in snubber
- ▶100% tested at rated current
- ▶High surge capability
- ▶UL recognized (File No. E59804)
- ▶Dual SCR output (40 A)



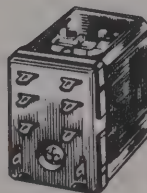
RSS series relays provide highly reliable means of switching AC loads. Available in both AC and DC input voltage. **Dimensions:** 2.23" x 1.74" x .90".

DC/AC Input Series

Stock No.	Mfr.'s Type	Input Voltage	Output Current	EACH		
				1-9	10-49	50-99
812-1104	RSSD-10A	3-32 DC	10	19.89	18.11	17.71
812-1105	RSSD-25A	3-32 DC	25	21.56	19.61	18.53
812-1110	RSSD-40A	3-32 DC	40	29.27	26.63	25.17
812-1106	RSSA-10A	90-280 AC	10	27.23	24.77	23.41
812-1120	RSSA-25A	90-280 AC	25	28.36	25.81	24.39
812-1125	RSSA-40A	90-280 AC	40	36.07	32.83	31.03

RH Series Midget Power Relays

10 amp switching capacity and blade terminals. U.L./CSA listed. **Specifications.** Contact Resistance: 50 MΩ max. (initial value). Operate Time and Release Time: SPDT, DPDT—20 msec max.; 3PDT, 4PDT—25 msec. max. Insulation Resistance: 100MΩ min. (measured at 500VDC megger). **Power Consumption:** SPDT—AC: 1.1VA (50 Hz), 1VA (60Hz); DC: 0.8W. DPDT—AC: 1.4VA (50 Hz), 1.2VA (60 Hz); DC: 0.9W. 3PDT—AC: 2VA (50 Hz), 1.7VA (60 Hz); DC: 1.5W. 4PDT—AC: 2.5VA (50 Hz), 2VA (60 Hz); DC: 1.5W. **Operating Temp.:** -30°C to +70°C. **Temperature Rise:** Coil, 85°C max.; Contact, 65°C max.



Stock No.	Mfr.'s Type	Config-uration	Rated Voltage	Rated Current* mA	Coil Resist. Ω	EACH			
						1-9	10-49	50-99	100-Up
812-1040	RH1B-UAC24V	SPDT	24VAC	37.0	300.0	8.21	7.80	7.39	6.04
812-1044	RH1B-UDC12V	SPDT	12VDC	64.0	188.0	7.48	7.11	6.73	5.60
812-1046	RH1B-UAC24V	SPDT	24VDC	32.0	750.0	7.48	7.11	6.73	5.60
812-1055	RH2B-UAC24V	DPDT	24VAC	50.0	153.0	8.68	8.26	7.83	6.52
812-1060	RH2B-UAC120V	DPDT	120VAC	11.0	4170.0	8.82	8.39	7.95	6.62
812-1070	RH2B-UDC12V	DPDT	12VDC	75.0	160.0	8.33	7.91	7.49	6.24
812-1075	RH2B-UAC24V	DPDT	24VDC	36.9	650.0	8.33	7.91	7.49	6.24
812-1080	RH4B-UAC24V	4PDT	24VAC	83.0	84.5	13.23	12.57	11.91	9.93
812-1092	RH4B-UAC120V	4PDT	120VAC	16.5	2200.0	13.23	12.57	11.91	9.93
812-1094	RH4B-UDC12V	4PDT	12VDC	125.0	96.0	12.86	12.22	11.58	9.64
812-1096	RH4B-UDC24V	4PDT	24VDC	62.0	388.0	12.86	12.22	11.58	9.64

*Rated current ± 15% at 20°C, 60 Hz.

Snap-Mount DIN Rail Sockets

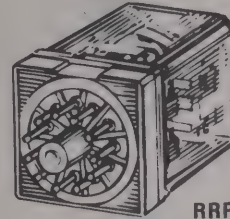
Snap-mount sockets are designed to mount on BNDN-1000 mounting rail. The built-in mounting clip eliminates mounting hardware and reduces mounting time by eighty percent. For spacing between adjoining sockets, use SA-406 DIN rail spacer. Spacers are .197" in width. Spacing can be adjusted according to the amount of spacers added. To prevent sideward movement, use BNL-5 end clip at each end of socket row.

To Mount: Place socket on mounting rail and press down.

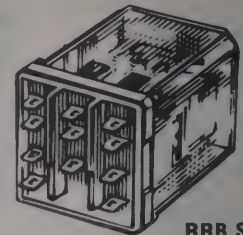
To Remove: Pull clip out with screwdriver and lift socket.

Stock No.	Mfr.'s Type	Fits Series	Description	EACH		
				1-9	10-49	50-99
812-0020	SR2P-06	RR2P, RTE-P	8-pin octal, snap-on rail mount	4.08	3.88	3.67
812-0040	SR3P-06	RR3PA	11-pin octal, snap-on rail mount	6.55	6.22	5.90
812-0060	SR3B-05	RR2BA, RR3B, RTE-B	11-blade, snap-on rail mount	6.55	6.22	5.90
812-0100	SH2B-05	RH2B	Blade, snap-mount (rail mount)	5.69	5.41	5.13
812-0080	SY4S-05	RY4S	Blade, snap-mount (surface mount)	7.80	7.41	7.02
812-0121	BNDN-1000	—	Aluminum DIN mounting rail (1 meter)	7.01	6.31	5.60
812-0130	BNL-5	—	End clip	1.17	1.05	.94
812-4145	SA-406	—	Din rail spacer	.47	.42	.38
812-0021	SH1B05	RH1B	5-blade, snap-on, rail mount	4.58	4.35	4.13
812-0023	SH4B05	RH4B	14-blade, snap-on, rail mount	8.05	7.64	7.24
812-0024	SY2S05	RY2S	8-blade, snap-on, rail mount	4.58	4.35	4.13

RR Series Heavy-Duty Relays



RRP Series



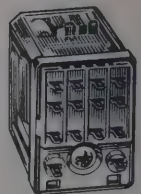
RRB Series

U.L./CSA listed Pin and Blade type terminals and 10 amp capacity. **Specifications.** Contact Material: Silver. Contact Resistance: 30MΩ max. (initial value). Power Consumption: AC—Approx. 3VA (50 Hz), 2.5VA (60 Hz); DC—Approx. 1.5W. Operating Frequency: 1800 operations/hour. Temperature Rise: Coil, 153°F (85°C) max.; Contact, 117°F (65°C) max. Operating Temp.: -22°F to +158°F (-30°C to +70°C). Horsepower Rating: 1/4 HP at 120VAC; 1/3 HP at 240VAC. Maximum Continuous Applied Voltage at 68°F: (110% of rated voltage without overheating. Minimum Operate Voltage at 68°F: 80% of rated voltage. Contact Rating (U.L.): 10A resistive, 7A inductive at 240VAC; 10A resistive, 7A inductive at 30 VDC.

Stock No.	Mfr.'s Type	Config-uration	Rated Voltage	Rated Current* mA	Coil Resist. Ω	EACH			
						1-9	10-49	50-99	100-Up
812-2010	RR2BA-UAC24V	DPDT	24VAC	105.0	80	10.62	10.08	9.55	7.96
812-2012	RR2BA-UAC120V	DPDT	120VAC	20.5	2100	10.62	10.08	9.55	7.96
812-2014	RR2BA-UDC12V	DPDT	12VDC	120.0	100	10.12	9.61	9.10	7.59
812-2020	RR3B-UAC24V	3PDT	24VAC	105.0	80	11.99	11.38	10.79	8.99
812-2022	RR3B-UAC120V	3PDT	120VAC	20.5	2100	11.99	11.38	10.79	8.99
812-2024	RR3B-UDC12V	3PDT	12VDC	120.0	100	11.11	10.56	10.00	8.34
812-2026	RR3B-UAC24V	3PDT	24VDC	60.0	400	11.11	10.56	10.00	8.34
812-4146	RR2P-UAC24V	DPDT	24VAC	105.0	80	14.86	14.12	13.37	11.15
812-4147	RR2P-UAC120V	DPDT	120VAC	18.0	2100	14.86	14.12	13.37	11.15
812-4148	RR2P-UDC12V	DPDT	12VDC	120.0	100	14.62	13.89	13.15	10.96
812-4149	RR2P-UDC24V	DPDT	24VDC	60.0	400	14.62	13.89	13.15	10.96
812-4150	RR3PA-UAC24V	3PDT	24VAC	105.0	80	18.11	17.20	16.30	13.59
812-4151	RR3PA-UAC120V	3PDT	120VAC	18.0	2100	18.11	17.20	16.30	13.59
812-4152	RR3PA-UDC12V	3PDT	12VDC	120.0	100	17.98	17.09	16.19	13.49
812-4153	RR3PA-UDC24V	3PDT	24VDC	60.0	400	17.98	17.09	16.19	13.49

RY Series "Ice Cube" Relays

General purpose relay with 3 amp capacity on DPDT and 5 amp capacity on 4PDT, solder terminals and plug-in mounting. **Specifications.** Contact Material: Fine silver (gold-plated). Contact Resistance: 50 MΩ max. (initial value). Operate Time: 20mS max. Operating Temperature: -22°F to +158°F (-30°C to +70°C). Frequency Response: 1800 operations per hour. Power Consumption: AC, approx. 1.1VA (50 Hz); 1VA (60 Hz). DC, approx. 0.8W. U.L. Listed, CSA Certified.

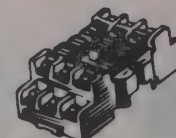


Stock No.	Mfr.'s Type	Config-uration	Rated Voltage	Rated Current* mA	Coil Resist. Ω	EACH			
						1-9	10-49	50-99	100-Up
812-4125	RY2S-UAC24V	DPDT	24VAC	37.0	300	7.84	7.45	7.05	5.88
812-4126	RY2S-UAC120V	DPDT	120VAC	7.5	7680	7.84	7.45	7.05	5.88
812-4127	RY2S-UDC12V	DPDT	12VDC	64.0	188	7.10	6.74	6.39	5.32
812-4128	RY2S-UAC24V	DPDT	24VDC	32.0	750	7.10	6.74	6.39	5.32
812-4131	RY4S-UAC120V	4PDT	120VAC	11.0	4170	9.68	9.20	8.72	7.26
812-4133	RY4S-UDC12V	4PDT	12VDC	75.0	160	7.96	7.56	7.17	5.97
812-4134	RY4S-UDC24V	4PDT	24VDC	36.9	650	7.96	7.56	7.17	5.97

*Rated Current (mA) ± 15% at 20°C, 60 Hz.



SR2P-06



SR3B-05

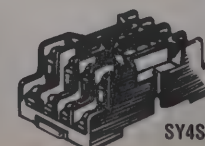
SA-406
DIN Rail Spacer



BNDN-1000



SR3P-06



SY4S-05



End Clip
BNL-5

Timers, Time-Delay Relays

Delay DPDT GT3 Series

Features

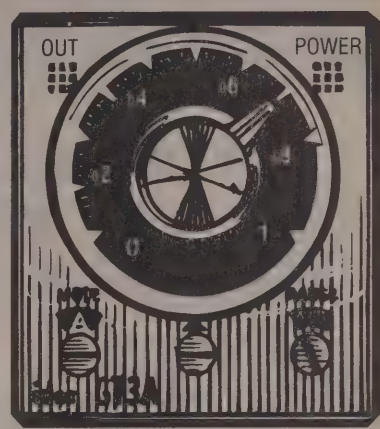
- ▶ Compact spacing-saving size: 1.42" (36m) wide
- ▶ Choice of four basic series: Multi-Mode — On-Delay, Interval-On, Single-Shot and Cycle (available with optional input controls). OFF-Delay — "True Off-Delay" requires no external control switch to initiate timing sequence. Sequence — Dual knob control provides separate time-delay settings. Variable Duty Sequence — Solid-State outputs (AC/DC), duty sequence variable from 0 to 100%
- ▶ Repeat accuracy $\pm 0.2\%$, ± 10 msec
- ▶ POWER on and timing OUT LED indicators
- ▶ Choice of power voltage range: 100V to 240 VAC, 12V AC/DC, and 24V AC/DC
- ▶ All timers compatible with IDEC's 8-pin and 11-pin DIN rail, panel mount sockets. Optional panel-mount adapter available
- ▶ UL recognized and CSA certified

Specifications

Input Voltages: 100V to 240V AC; 12V AC/DC; 24V AC/DC. **Contact Configurations:** Delayed SPDT, Delayed DPDT, Delayed SPDT + Instan. SPDT, solid state. **Contact Load Ratings (Maximum):** 250V AC/5A, 30V DC/5A. **Insulation Resistance:** 100M Ω , minimum. **Time Ranges:** 0.05 seconds to 180 hours (GT3A), 0.05 seconds to 10 minutes (GT3F), 0.1 seconds to 6 hours (GT3W), 0.01 to 10 minutes (GT3P). **Reset Time:** 60 msec., maximum. **Life Expectancy:** Electrical — 100,000 operations, mechanical — 20,000,000 operations. **Termination:** 8- and 11- pin.

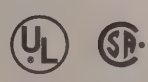
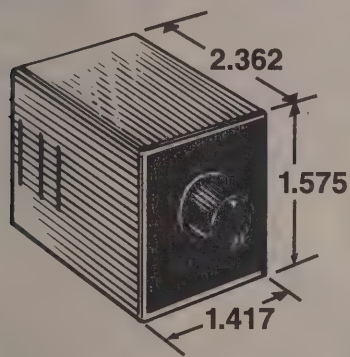
Stock No.	Mfr.'s Type	Description	EACH
812-9110	GT3A-4AF20†	Multi-Mode, 100-240V AC, DPDT	51.67
812-9120	GT3A-4AD12†	Multi-Mode, 12V AC/DC, DPDT	51.67
812-9130	GT3F-2A100*	Off Delay, 100-120 VAC, SPDT	66.83
812-9140	GT3F-2D24*	Off Delay, 24 VDC, SPDT	66.83
812-9150	GT3A-3AF20*	Multi-Mode, 100-240 VAC, DPDT	51.67

*Denotes 8 Pin; †Denotes 11 Pin.



RTE Series

Multi-Function/Time Range Electronic Timer



Features

- ▶ Redesigned compact housing
- ▶ Multi-function operation: On-Delay/Interval or Off-Delay/Single-Shot
- ▶ Multi-time range settings from 0.1 second to 10 minutes and 0.1 minute to 10 hours
- ▶ High repeat accuracy of $\pm 0.25\%$
- ▶ Standard pin and blade termination
- ▶ UL recognized and CSA certified

Specifications

Input Voltages: 120V AC + 10% to -20% (50/60 Hz)
12V AC/DC, $\pm 10\%$
24V AC/DC, +10% to -15%
Contact Configuration: 2 Form C, DPDT (Delay outputs)
Contact Load Ratings: 10A Resist @ 240V AC, 30V DC
7A Inductive @240V AC, 30V DC
1/6 HP @ 120V AC
1/3 HP @ 240V AC
Power Consumption: 2.2VA, maximum
Repeat Accuracy: $\pm 0.25\%$ maximum, 10 ms
Reset Time: 0.1 second, maximum
Dielectric Strength: 1500V AC, 1 minute (Bet. power and output terminal, except bet. contacts of the same pole)
Life Expectancy: Mechanical — 50,000,000 operations
Electrical 250,000 operations

Stock No.	Mfr.'s Type	Description	Time Range	EACH		
				1-9	10-49	50-99
812-5050	RTE-P11-12VAC/DC	On-Delay/Interval	.01 sec.-10 min.	45.24	40.72	36.20
812-5051	RTE-P11-24VAC/DC	On-Delay/Interval	.01 sec.-10 min.	45.24	40.72	36.20
812-5052	RTE-P11-120VAC	On-Delay/Interval	.01 sec.-10 min.	45.24	40.72	36.20
812-5053	RTE-P12-12VAC/DC	On-Delay/Interval	1 min.-10 Hrs.	45.24	40.72	36.20
812-5054	RTE-P12-24VAC/DC	On-Delay/Interval	1 min.-10 Hrs.	45.24	40.72	36.20
812-5055	RTE-P12-120VAC	On-Delay/Interval	1 min.-10 Hrs.	45.24	40.72	36.20
812-5056	RTE-P21-12VAC/DC	Off-Delay/Single-Shot	.01 sec.-10 min.	55.95	50.36	44.77
812-5057	RTE-P21-24VAC/DC	Off-Delay/Single-Shot	.01 sec.-10 min.	55.95	50.36	44.77
812-5058	RTE-P21-120VAC	Off-Delay/Single-Shot	.01 sec.-10 min.	55.95	50.36	44.77
812-5059	RTE-P22-12VAC/DC	Off-Delay/Single-Shot	1 min.-10 Hrs.	55.95	50.36	44.77
812-5060	RTE-P22-24VAC/DC	Off-Delay/Single-Shot	1 min.-10 Hrs.	55.95	50.36	44.77
812-5061	RTE-P22-120VAC	Off-Delay/Single-Shot	1 min.-10 Hrs.	55.95	50.36	44.77
812-5062	RTE-B11-12VAC/DC	On-Delay/Interval	.01 sec.-10 min.	52.39	47.14	41.92
812-5063	RTE-B11-24VAC/DC	On-Delay/Interval	.01 sec.-10 min.	52.39	47.14	41.92
812-5064	RTE-B11-120VAC	On-Delay/Interval	.01 sec.-10 min.	52.39	47.14	41.92
812-5065	RTE-B12-12VAC/DC	On-Delay/Interval	1 min.-10 Hrs.	52.39	47.14	41.92
812-5066	RTE-B12-24VAC/DC	On-Delay/Interval	1 min.-10 Hrs.	52.39	47.14	41.92
812-5067	RTE-B12-120VAC	On-Delay/Interval	1 min.-10 Hrs.	52.39	47.14	41.92
812-5068	RTE-B21-12VAC/DC	Off-Delay/Single-Shot	.01 sec.-10 min.	55.96	50.36	44.77
812-5069	RTE-B21-24VAC/DC	Off-Delay/Single-Shot	.01 sec.-10 min.	55.96	50.36	44.77
812-5070	RTE-B21-120VAC	Off-Delay/Single-Shot	.01 sec.-10 min.	55.96	50.36	44.77
812-5071	RTE-B22-12VAC/DC	Off-Delay/Single-Shot	1 min.-10 Hrs.	55.96	50.36	44.77
812-5072	RTE-B22-24VAC/DC	Off-Delay/Single-Shot	1 min.-10 Hrs.	55.96	50.36	44.77
812-5073	RTE-B22-120VAC	Off-Delay/Single-Shot	1 min.-10 Hrs.	55.96	50.36	44.77

Type List

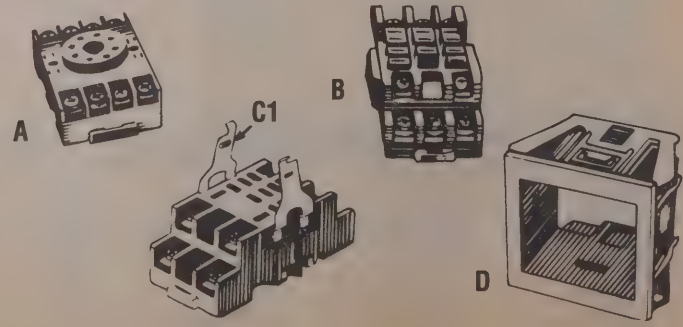
Mode of Operation	Basic Type No.	
	Pin Type	Blade Type
On-Delay/Interval	RTE-P1	RTE-B1
Off-Delay/Single-Shot	RTE-P2	RTE-B2

Time Range Settings

Time Range Group Code	Time Delay Settings
1	1, 3, 6, 10, 30, 60 sec.; 5, 10 minutes
2	1, 3, 6, 10, 30, 60 minutes; 5, 10 hours

Accessories

Stock No.	Mfr.'s Type	Fig.	Description	EACH			
				1-9	10-49	50-99	100-Up
812-0060	SR3B-05	B	11-Blade, Snap-Mount DIN Rail Socket	6.55	6.22	5.90	4.91
812-0020	SR2P-06	A	8-Pin, Snap-Mount DIN Rail Socket	4.08	3.88	3.67	3.06
812-0040	SR3P-06	—	11-Pin, Snap-Mount DIN Rail Socket	6.55	6.22	5.90	4.91
812-0121	BNDN-1000	—	Mounting DIN Rail (not shown)	7.01	6.31	5.60	4.57
812-5006	SFA-202	C1	Hold-down spring	.24	.22	.18	.15
812-5008	RTB-C01	D	Panel Mount Adapter	6.56	5.91	5.25	4.59

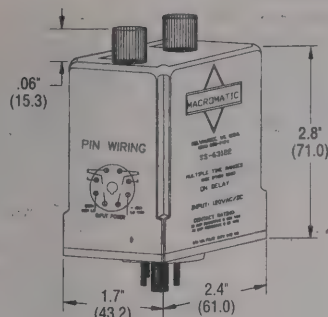


"Time Ranger" Multi-Range Cycle Timers

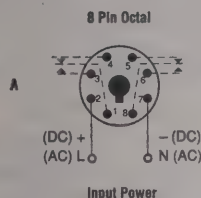
File No.
E109466

File No.
LR-45565

- ▶ 16 Time Ranges In Single Timer
- ▶ Pin For Pin Interchangeable With Most Timers In The Field
- ▶ User Sets Time Ranges. No Math Required — Just Flip Switches
- ▶ Fine Tune Knob For Precision Timing
- ▶ All Timers Operate On Either AC Or DC
- ▶ 0.5% Repeatable Accuracy



Suitable for continuous use. Line transient protected (MOV-10,000 V/ 20 microseconds). **Recycle Time:** Typically 60 mS. **Power Consumption:** 2.5 W maximum. **Operating Temperature:** -30° to + 160°F. **Output:** DPDT 10 A (resistive) at 240 VAC and 30 VDC. 1/3 HP at 240 VAC. **Timing:** Programmable, 0.1 sec. to 2 hrs.



SS 631 Series Repeat Cycle — "Off" Time First. Pin Wiring: 8 Pin Octal.

Action: Upon application of power "off", time period begins. When "off" time completed, "on" time period begins. When "on" time completed, "off" time again begins and cycle repeats until power is removed.

Stock No.	Mfr.'s Type	Input	Fig.	EACH			
				1-9	10-24	25-49	50-99
819-6001	SS-63122	120 VAC/VDC	A	57.50	55.67	53.15	50.11
819-6002	SS-63128	24 VAC/VDC	A	57.50	55.67	53.15	50.11
819-6003	SS-63126	12 VAC/VDC	A	57.50	55.67	53.15	50.11

SS 651 Series Repeat Cycle — "On" Time First. Pin Wiring: 8 Pin Octal.

Action: Upon application of power "on", time period begins. When "on" time completed, "off" time period begins. When "off" time completed, "on" time again begins and cycle repeats until power is removed.

Stock No.	Mfr.'s Type	Input	Fig.	1-9	10-24	25-49	50-99
819-6004	SS-65122	120 VAC/VDC	A	57.50	55.67	53.15	50.11
819-6005	SS-65128	24 VAC	A	57.50	55.67	53.15	50.11
819-6006	SS-65126	12 VAC/VDC	A	57.50	55.67	53.15	50.11

SS 661 Series Single Cycle — Delayed Interval. Pin Wiring: 8 Pin Octal.

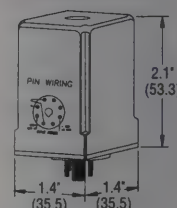
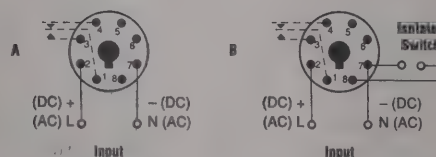
Action: Upon application of power "off", time period begins. When "off" time completed, "on" time period begins. When "on" time completed, timer returns to "off" state and remains there. Power must be removed and re-applied to initiate action again.

Stock No.	Mfr.'s Type	Input	Fig.	1-9	10-24	25-49	50-99
819-6007	SS-66122	120 VAC/VDC	A	57.50	55.67	53.15	50.11
819-6008	SS-66128	24 VAC/VDC	A	57.50	55.67	53.15	50.11
819-6009	SS-66126	12 VAC/VDC	A	57.50	55.67	53.15	50.11

Compact Solid State Time Delay Relays

File No. E109466

- ▶ Output — 3 A SPDT at 120 VAC and 28 VDC, 1/10 HP at 120 V
- ▶ 8 Pin Octal Plug-In Socket
- ▶ Adjustable Time Delay
- ▶ 3 Watts Max. Power Consumption
- ▶ Operating Temperature: 0°F to +130°F
- ▶ 2% Repeatable Accuracy



SS 6 Series On Delay

Action: Upon application of control power, time delay period begins. At end of time delay, output switch operates. When control power is removed, output switch returns to normal.

Stock No.	Mfr.'s Type	Input	Delay (Sec.)	Fig.	EACH			
					1-9	10-24	25-49	50-99
819-7104	SS-6262-04	120 VAC/VDC	0.2-5	A	24.00	23.24	22.18	20.91
819-7105	SS-6262-06	120 VAC/VDC	0.5-15	A	24.00	23.24	22.18	20.91
819-7106	SS-6262-07	120 VAC/VDC	1.0-30	A	24.00	23.24	22.18	20.91
819-7107	SS-6262-08	120 VAC/VDC	2.0-60	A	26.50	25.67	24.50	23.10
819-7108	SS-6262-10	120 VAC/VDC	6.0-180	A	31.00	30.02	28.65	27.01
819-7109	SS-6266-06	12 VAC/VDC	0.5-15	A	24.00	23.24	22.18	20.91
819-7110	SS-6266-08	12 VAC/VDC	2.0-60	A	26.50	25.67	24.50	23.10
819-7111	SS-6268-06	24 VAC/VDC	0.5-15	A	24.00	23.24	22.18	20.91
819-7112	SS-6268-08	24 VAC/VDC	2.0-60	A	26.50	25.67	24.50	23.10

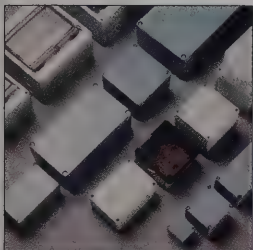
SS 8 Series Off Delay

Action: Upon closure of the control switch, output switch operates. Upon opening of control switch, time period begins. Any control switch closures prior to the end of the time period will immediately reset the time. At the end of the time period, output switch returns to normal. Continuous power must be furnished to timer.

Stock No.	Mfr.'s Type	Input	Delay (Sec.)	Fig.	1-9	10-24	25-49	50-99
819-7113	SS-8562-04	120 VAC/VDC	0.2-5	B	24.00	23.24	22.18	20.91
819-7114	SS-8562-06	120 VAC/VDC	0.5-15	B	24.00	23.24	22.18	20.91
819-7115	SS-8562-07	120 VAC/VDC	1.0-30	B	24.00	23.24	22.18	20.91
819-7116	SS-8562-08	120 VAC/VDC	2.0-60	B	26.50	25.67	24.50	23.10
819-7117	SS-8562-10	120 VAC/VDC	6.0-180	B	31.00	30.02	28.65	27.01
819-7118	SS-8566-06	12 VAC/VDC	0.5-15	B	24.00	23.24	22.18	20.91
819-7119	SS-8566-08	12 VAC/VDC	2.0-60	B	26.50	25.67	24.50	23.10
819-7120	SS-8568-06	24 VAC/VDC	0.5-15	B	24.00	23.24	22.18	20.91
819-7121	SS-8568-08	24 VAC/VDC	2.0-60	B	26.50	25.67	24.50	23.10



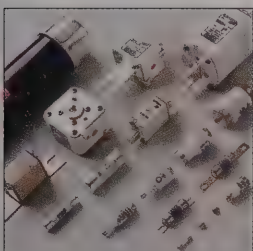
Terminal Blocks



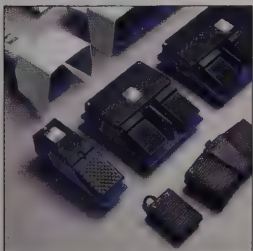
Industrial Enclosures



Liquid Tight Strain Reliefs



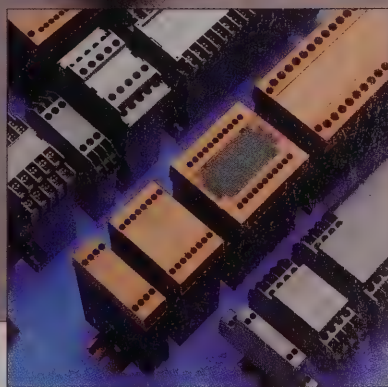
European Fuses



Foot Switches



Circuit Breakers



DIN Enclosures

Package electrical, electronic and electromechanical devices including relays, sensing and monitoring devices, printed circuit boards and more in these enclosures that snap onto DIN rail and come complete with terminals.

Electronic Enclosures

Nonmetallic and aluminum enclosures offer practical solutions for a wide range of applications. Shown are Top Cover, Slanted, Readout, Front Panel, Carry-On, Mini Pocket, Keyboard, Aluminum and EMI/RFI enclosures as well as Potting and Storage Boxes.

Altech Corp.

See Manufacturer's Index for more product information or call Allied: 1-800-433-5700.
Look for other Altech products on the pages indicated.

- | | | | | | |
|-------------------------------|---------|-------------------------------|----|--------------------|-------|
| • Terminal Blocks, Interfaces | 162-171 | • Liquid Tight Strain Reliefs | 44 | • Foot Switches | 868 |
| • Industrial Enclosures | 39-43 | • European Fuses | 25 | • Circuit Breakers | 19-22 |



XTRA•GUARD®

FAMILY OF CABLES

The **XTRA•GUARD®** family of cables have been designed for continuous operation while exposed to hazardous conditions that normally result in cable failures. **XTRA•GUARD®** cables are "hazard-matched" to survive the most demanding environments.

Powerful Solutions to Critical Problems!

XTRA•GUARD® 2

XTRA•GUARD® 4



**INDUSTRIAL
STRENGTH
PROTECTION.**



**TEMPERATURE
RESISTANCE
TO THE
EXTREME.**

Specify **XTRA•GUARD® 2...**
A heavy-duty cable with PVC-insulated conductors and polyurethane jacketing that resists most oils, chemicals, fuels and solvents, as well as mechanical abuse and abrasion. Select from nine jacket colors for easy cable identification: orange, blue, green, yellow, grey, red, beige, white or black.



Specify **XTRA•GUARD® 4...**
A general purpose outdoor cable with TPE (Thermoplastic Elastomer) insulation and jacketing to ensure flexibility at -60°C and performance at temperatures up to 125°C. **XTRA•GUARD® 4** has a UV-stabilized jacket that resists most oils, chemicals, fuels and solvents, as well as mechanical abuse and abrasion.



Multi-Pairs	Multi-Conductors	Jacket Material	Conductor Insulations	Voltage Rating
1-102	2-100	Heavy-duty Polyurethane 80°C UL Style 20233, 20235, 20236 80°C UL Style 20234 CSA AWM FT1	PVC 80°C CSA SR-PVC PVC 80°C CSA TR-64 PVC 105°C CSA TEW PVC 80°C UL Style 1007, 1061 PVC 105°C UL Style 1015	300V 600V

Multi-Pairs	Multi-Conductors	Jacket Material	Conductor Insulations	Voltage Rating
1-102	2-100	TPE: -60°C to +125°C UL 20237, 20238, 20239, 20240 UL Type PLTC Standard 13 UL Type TC Standard 1277	TPE: -60° to +125°C UL Style 1722, 1888	300V 600V

Allied Part No.	Alpha Part No.	Cond.	AWG/Strand	Shielding	Jacket Thickness Inches mm	Cable O.D. Inches mm	Price for 500 Ft.
708-0310	25170	10	18 - 16/30	SUPRASHIELD™	0.032 0.81	0.41 10.5	2040.00
708-0311	25168	8	18 - 16/30	SUPRASHIELD™	0.032 0.81	0.38 9.7	2145.00
708-0312	25106	6	22 - 7/30	SUPRASHIELD™	0.032 0.81	0.25 6.4	1170.00
708-0313	25383/1	3	18 - 16/30	Foil Shield	0.032 0.81	0.24 6.1	840.00
708-0314	25464	4	20 - 7/28	Foil Shield	0.032 0.81	0.24 6.1	835.00
708-0315	25196	6	22 - 7/30	Foil Shield	0.032 0.81	0.23 5.9	865.00
708-0316	25098	8	24 - 7/32	Foil Shield	0.032 0.81	0.22 5.6	930.00
708-0317	25093	3	24 - 7/32	Foil Shield	0.032 0.81	0.17 4.3	630.00

Allied Part No.	Alpha Part No.	Cond.	AWG/Strand	Shielding	Jacket Thickness Inches mm	Cable O.D. Inches mm	Price for 500 Ft.
708-0320	45104	4	22 - 7/30	SUPRASHIELD™	0.032 0.81	0.26 6.5	1065.00
708-0321	45125	5P	22 - 7/30	SUPRASHIELD™	0.032 0.81	0.37 9.5	1870.00
708-0322	45121	1P	22 - 7/30	SUPRASHIELD™	0.032 0.81	0.22 5.6	850.00
708-0323	45113	3	24 - 7/32	SUPRASHIELD™	0.032 0.81	0.22 5.6	915.00
708-0324	45272	2P	24 - 7/32	SUPRASHIELD™	0.032 0.81	0.26 6.6	1045.00
708-0325	45372	2P	18 - 16/30	Foil Shield	0.032 0.81	0.30 7.7	1200.00
708-0326	45462	2	20 - 7/8	Foil Shield	0.032 0.81	0.20 5.2	645.00
708-0327	45464	4	20 - 7/8	Foil Shield	0.032 0.81	0.25 6.3	885.00

See Alpha Wire Corporation's **XTRA•GUARD® 1** line of general purpose electronic cable for premium protection in the Alpha wire and cable pages of Section 17 in this Allied Catalog.



CALL ALLIED TODAY!
1-800-433-5700

ALLIED ELECTRONICS, INC.

AN AVNET COMPANY

FIT[®] HEAT SHRINKABLE TUBING

**ALLIED ELECTRONICS Offers The Widest Variety Of
The Electronic Industry's #1 Brand Call-Out.**

Alpha's broad range of **FIT[®]** tubing offers you the precise product for your specific and unique applications. Insulate, seal and protect the component and connection.

Whether it's polyolefin, high temperature teflon, dual wall or specialty compound tubing, you can count on consistent product uniformity and integrity. You are assured reliable results with Alpha's precision processing techniques guaranteeing precise memory, uniform wall thickness and premeasured encapsulant/adhesives for optimal field application performance. Most of Alpha's **FIT[®]** line meets the conformance/performance requirements of MIL-123053 and are both UL Recognized and CSA Certified.

You'll find these useful **FIT[®]** product options available in the Alpha Fit Heat Shrinkable Tubing pages of Section 17 in this Allied Catalog.

- Variety of shrink ratios (2:1 to 6:1)
- Assorted precut lengths (4 ft. to 1 1/2 inches)
- Assorted spool lengths (1000 ft. to 16 ft.)
- Multiple colors
- Surface marking options
- Preformed shapes
- Specialized kits designed for lab, R & D, MRO, marine, automotive and industrial environments

ALLIED ELECTRONICS, INC.
AN AVNET COMPANY

**CALL ALLIED TODAY!
1-800-433-5700**



HOOK-UP WIRE DISPENSER KIT *A Unique Wire-Dispensing System*

Alpha's Hook-Up Wire Kits contain an assortment of 100 ft. (30.5 m) spools of hook-up wire suitable for military or UL/CSA applications. These kits have been designed for use by technicians, engineers and designers in the R & D lab or maintenance shop.

Each kit contains five spools of hook-up wire in a unique, rack-mounted, transparent dispensing tube. The tube and rack system keeps hook-up wire neat, clean and conveniently at hand.

Allied Part # 708-9891 / Alpha Part # HU-KIT-10

Wire dispensing kit containing assorted colors of 22 AWG stranded MIL Spec hook-up wire for use in the R & D Lab or Maintenance Shop.

Reorder Part No.: 1551

Contains: (5) Spools of Wire (100 Ft.) MIL-W-76B TYPE MW in the following colors, White, Black, Red, Green, Blue, plus (1) Cut and Strip Tool. Each: 50.00

See Alpha Wire Corporation's complete line of wire, cable and heat shrinkable tubing products available in Section 17 of this Allied Catalog.

Allied Part # 708-9892 / Alpha Part # HU-KIT-20

Wire dispensing kit containing assorted colors of 22 AWG stranded UL/CSA hook-up wire for use in the R & D Lab or Maintenance Shop.

Reorder Part No.: 3051

Contains: (5) Spools of Wire (100 Ft.) UL 1007, CSA TR64 in the following colors, White, Black, Red, Green, Blue, plus (1) Cut and Strip Tool. Each: 50.00

- Convenient Wire-Dispensing System
- Five assorted Hook-Up Wire Colors
- Includes cut & strip tool
- Uses standard Alpha Hook-Up Wire Spools when refills are required

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**CALL ALLIED TODAY!
1-800-433-5700**



BERGTM

ELECTRONICS

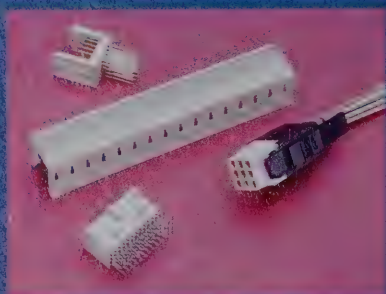
Serving Your Connector Needs.

Call

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ELECTRONICS

1-800-433-5700



Metral[®] Connector System

For Futurbus[®] users... the selected high density, modular, 4-row, 2 mm system. Meets global metric standards. A complete system available in Press-Fit or S-T-B with coax, power and cabling options. Staged mating is standard.



Berg Stik[®] Headers

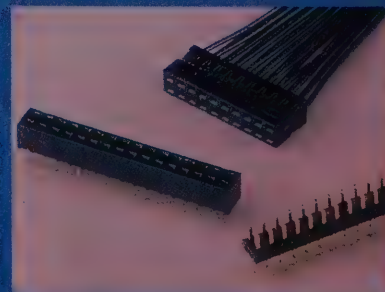
2.54 mm (0.100 inch) centerline. Can be manually broken to desired length. Retention tails hold header firmly in place prior to soldering. High-temperature plastic body.



Quickie[®] III IDC

Receptacles and Headers

2.54 X 2.54 mm (0.100 X 0.100 inch) grid, IDC system. 4-walled shielding protects pins, keying prevents misalignment. Available in 6 to 64 positions. Latching system saves valuable board space. MIL-C-83503-2A compatible. UL recognized and CSA approved.



Minitek[®] II System

2.00 mm (0.079 inch) centerline for compact board-to-board and cable-to-board connection. Available from 4 to 50 positions.

For more reliable power protection, you can't do better than BEST.

Best Power knows the whole reason you buy power protection is reliability. That's why our products consistently win high marks in independent reliability and customer satisfaction surveys. And why their predicted Mean Time Between Failure numbers are among the industry's highest.

Beginning with FERRUPS® uninterruptible power systems (still relied upon worldwide in the toughest power protection jobs) and right on through our newest products, Best Power has steadily engineered solutions that increase power protection reliability.

UNITY/I™ systems are the most failproof UPS advanced engineering can devise. Extremely fault-tolerant. Compatible with voltages and frequencies throughout the world. And equipped with brilliant self-diagnostics.

UNITY/I

Fortress® is today's best value in *true* uninterruptible protection. Affordable. Intelligent. Easy to use, easy to program to *your* application.

Fortress

Patriot® standby power systems set reliability standards, too. Where else will you find advanced microprocessors in economy systems like these? Or such speed of response to the entire range of power problems?

Desktop workstations. Local area and wide area computer networks. Telecommunications. Data centers. Factory floors. Home offices. The computer in the den. Wherever reliable power protection is needed, you can't do better – or get better price/performance – than the products of BEST®.

Patriot

FERRUPS

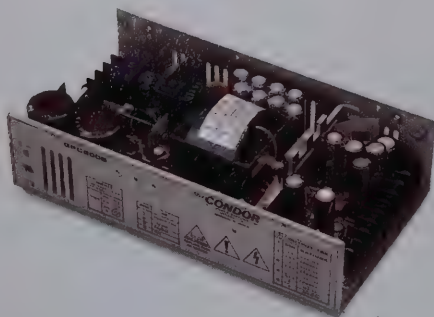


BEST POWER
A UNIT OF GENERAL SIGNAL

Call Allied at
1-800-433-5700

There may be only one power source more reliable than our switchers.

**Condor's Global
Performance[®] power
supplies offer continuous
range input, full agency
approvals and more.**



Our Global Performance switchers give you reliability, performance and full agency approvals, including UL1950 without D3 deviation, CSA22.2 No. 234 Level 3, IEC950, EN60950, VDE0805 Class B EMI and VDE0871 Level B EMI. Medical versions are approved to UL544, IEC601-1, CSA234 Level 3 and VDE0750.

Features include:

- 71 models (single- and multi-output)
- Industry-standard packages
- Custom designs available
- 8 power levels (40 to 225W)
- Continuous-input voltage (85-264VAC)
- OVP on all 5V outputs and single-output units

- MTBF 100,000+ hours per Mil Hndbk 217E
- 8-hour burn-in with cycling (24 hours on medical versions)
- Computerized testing (data sheets furnished)
- 2-year warranty
- 30-day FREE evaluation (call for samples)

If you want top performance and reliability with quick turnaround and competitive pricing, try Condor's Global Performance switchers. The only approval they're missing is yours!

WORLD CLASS RELIABILITY
CONDOR

1-800-433-5700

Autoringing Gorilla

PC board mount switching power supplies



COSEL introduces AC to DC encapsulated PC board mount switching power supplies with an autoringing input. The YAS and YAW Series expand on their popular Gorilla line introduced

last year. Available in 5 and 10 watt versions, these power supplies come in both single and dual output. With an input range of 85 Vac to 264 Vac, these are the power supplies required by designers worldwide. Standard features are the same as for the YS and YW Series and come with a two year warranty. For more information, contact COSEL USA Inc., 3283 Scott Blvd., Santa Clara, CA 95054. (800) 888-3526, Fax: (408) 980-9754.

ZU Series DC/DC Converter

Ultra-thin (0.33") profile

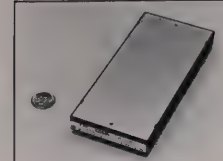


COSEL USA introduces a new line of DG/DC converters. Slim profile is obtained by using high frequency circuitry with isolated input and output. Aluminum die-cast housing allows for low

EMI. ZU Series are available in 15W and 25W with output voltages: 5V, 12V and 15V. Offered DC input ranges 9V-18V, 18V-36V, 36V-72V. Output voltages can be controlled by additional external circuitry. Features include over current and over voltage protection, and power inhibit control. ZUW are dual output models. The state of the art ZU Series are produced in ISO 9001 certified facilities in Japan. For more information, contact COSEL USA Inc., 3283 Scott Blvd., Santa Clara, CA 95054. (800) 888-3526, Fax: (408) 980-9754.

DA Series DC/DC Converter

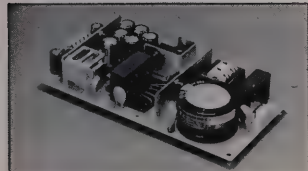
Wide range input voltage range 88-370 Vdc



COSEL introduces a new addition to its popular Z Series. The DA comes in 50 W and 100 W. Output voltages come in 5, 12, 24 Vdc. Small, low profile and wide input voltage make the DA Series one

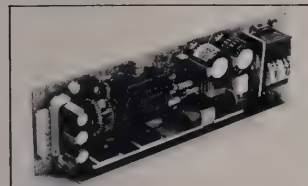
of the easiest DC/DC lines to apply in your design. DAS100F can be used in parallel configuration. Teflon electrolytic capacitor, with PTFE/rubber seal, extends life three times longer than conventional switchers. Other features include remote inhibitor, over-current, and over-voltage protection. Delivered with a three year warranty. The state of the art DA Series is produced in the ISO 9001 certified COSEL Ltd. facilities in Japan. For more information, contact COSEL USA Inc., 3283 Scott Blvd., Santa Clara, CA 95054. (800) 888-3526, Fax: (408) 980-9754.

LDC Series Universal Input Triple Output Switchers



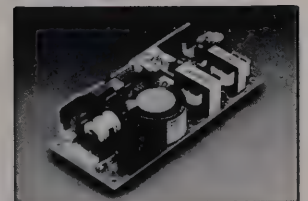
COSEL USA Inc. introduces new LDC series AC/DC switchers built exclusively with premium quality components. The LDC series features glass composite PC boards in an open-frame configuration. These units are available in 15, 30, and 60 watt versions with two output voltage combinations: +5, ± 12 or +5, ± 15 . ISO 9001; Two year warranty. (800) 888-3526, Fax: (408) 980-9754.

LCA Series Switching Power Supplies



COSEL USA Inc. introduces the LCA Series AC/DC switching power supply which is smaller and lighter than ever. Components used for these open frame units are the same as those found on power supplies costing many times more. Available in 10, 15, 30, 50, 100 and 150 watt power ratings with 5, 12, 15, and 24 volt outputs. ISO 9001; Two year warranty. (800) 888-3526, Fax: (408) 980-9754.

LDA Series Universal Input Single Output Switchers



COSEL USA Inc. introduces the LDA series which combines the cost savings of the LCA series with the flexibility of a wide-range input voltage. This compact and lightweight design provides unbeatable quality at a competitive price. Available with or without a chassis and cover, these switchers come in 10, 15, 30, 50, 75, 100, and 150 watt versions with 5, 12, 15, and 24 volt outputs. ISO 9001; Two year warranty. (800) 888-3526, Fax: (408) 980-9754.

For Quality Switchers . . .

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COSEL
ISO 9001 Certified

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INSTRUMENTS

Digital & analog switchboards and meters
Precision image transducers and protection relays
for power generation and the distribution industry

3 in 1 DIGITAL SWITCHBOARD

- Saves Panel Space And Cost Via 3 in 1 Display
- Measures Inputs Up To 600 VAC, 5 AAC And DC Milliamp Direct
- Compatible With DC Milliamp Transducers
- True RMS Measurement For Distorted Waveforms
- Shallow Case Depth, Backlit LCD Display
- Front Panel Scalable UL Recognized



PALADIN TRANSducers

- Full Range of Transducers & Transmitters
- Amp, Volt, Frequency, Phase Angle & More
- High Degree of Isolation, Accuracy, Reliability & Safety
- Top Mounted Terminal Connections, UL



TRANSDUCER COMMUNICATIONS ADAPTOR (TCA)

- Add Communications To Transducer Or Meter
- Accepts Up To 8 Transducer Inputs
- Adjustable Baud Rate & Delay
- RS-232 Fiber Optic Port, With LED Status Indicators
- Standard DIN Rail Or Foot Mount



PROTECTORS

- Continuous Surveillance Of A Variety of Electrical Parameters
- Adjustable Set-Points
- Time Delays & Relay Contacts
- UL and CSA



MODUTEC

Digital & analog meters for industrial, process and custom applications

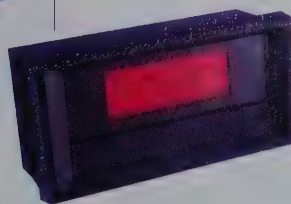
GENESIS PROGRAMMABLE PROCESS CONTROLLER



- 1/8 DIN Alpha Numeric Backlit Display
- Up To 4 Alarm & 4 Control Outputs
- RS-232, R2-422, RS-485
- Analog Outputs
- Universal Input Power 85 to 265 VAC And 90 to 300 VDC
- Full Scrolling Prompts For Front Panel Set Up & Operation
- Front Display Indicates Open Sensor & Overrange Conditions
- Dustproof/Waterproof - NEMA 4, 12 (IP 55)



UNIVERSAL 2000 DIGITAL PANEL METER



- Low Cost Indicator For Process Inputs
- Standard 1/8 DIN Cutout With 1 Inch Depth Requirement
- Custom OEM Engineering & Packaging
- Dustproof/Waterproof - NEMA 4, 12 (IP 55)

COMBINATION ELLIPTICAL BARGRAPH/ DIGITAL METER (2 IN 1)



- Combined LCD Elliptical Bargraph & 3 Digit Display
- Backlit LCD Allows High Visibility In Sunlight Or Remote Areas
- Two Independent Inputs With Corresponding Independent Displays
- Fast Responding LCD Bargraph For Rapidly Changing Inputs

BTR
BTR INSTRUMENTS
Crompton INSTRUMENTS MODUTEC



The Hammond Alternative For Small Cases, Rack Packaging and Transformers



Contempra II Electronic Rack Systems

- Quick access side panels
- Standard leveling feet
- Heavy duty construction
- Adjustable bottom panels
- Built-in castor mount
- Attractive ID trim
- Plexiglass door

Economy Racks

- 19" or 24" rack mount panel widths
- Accessories include a variety of front and rear doors and a wide range of universal accessories
- Knockdown design for easy field assembly
- Standard leveling feet
- Two adjustable combination rails



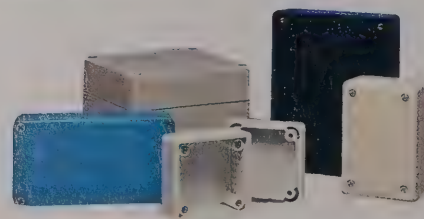
Electrical Enclosures

- Full range of Nema 1, 4, 4X and 12 enclosures
- Protect equipment from dust, oil and water
- Constructed in fiberglass, steel and stainless steel
- UL and CSA listed



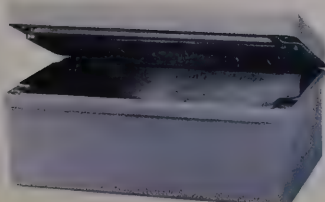
Plastic and Aluminum Diecast Boxes

- Over 50 models to choose from
- ABS plastic cases
- Aluminum diecast cases
- ABS Plastic consoles
- EMI/RFI shielded plastic or metal cases
- Water tight metal cases
- Available in a wide variety of colors and finishes
- Custom punching and screening



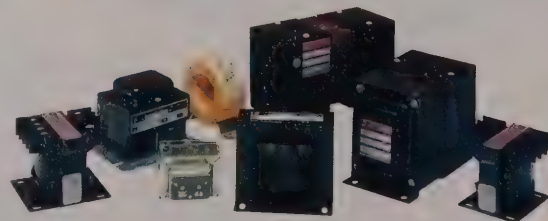
Hand Held Cases

- 'T' Case for Large Displays
- Standard sizes in various colours and materials



Control Transformers

- Broadest line in the industry
- Open Style with terminal blocks
- Primary and Secondary fusibility
- UL and CSA Listed



Rolec

- High quality ABS and diecasts
- Features patented RFI shielded Diecast Series



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NEWPORT®

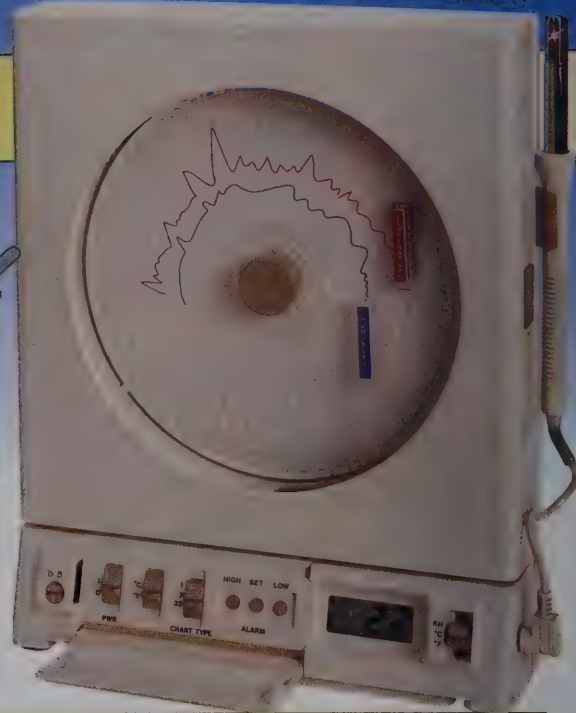
Temperature/Humidity Chart Recorder

- ✓ 200 mm (8") Chart for 1, 7 or 32-Day Recording
- ✓ Versatile Remote Mounting Sensor
- ✓ Convenient Front Panel Programming
- ✓ Fully Electronic Microprocessor Control
- ✓ Alarms and Relay Contact Standard
- ✓ Includes 120 Assorted Charts



CT485B

\$650
Basic Unit



Handheld Infrared Thermometers

- ✓ Non-Contact Measurement from 0 to 540°C (-18 to 1000°F)
- ✓ Emissivity Adjustable from 0.1 to 1.00 in 0.01 steps
- ✓ Backlit LCD Display
- ✓ Dual Digital Display Indicates Current with Min, Max, Average or Difference Temperatures



OS520-E Series

\$495
Basic Unit

OS520-E-LS with Laser Sight Shown, \$745.

Stock No.	Type	Description	Each
544-0097	OS520-E	10:1 distance to spot size ratio.	\$495
544-0098	OS521	20:1 distance to spot size ratio. Features low alarm, ambient target temperature compensation, RS-232 output, printer output	\$895
544-0141	OS521-E-LS	OS520-E with laser sight	\$745
544-0142	OS521-LS	OS521 with laser sight	\$1145

*Other ranges and distances available.

Stock No.	Type	Price	Description
544-0138	CT485B-110V-W-AL	\$650	White recorder, 110 Vac
544-0139	CT485B-RP-W/N	\$80	Replacement probe
544-0140	CT485B-CAL-KIT/N	\$75	RH Calibration kit, 75% and 33%RH

Note: Optional charts, pens and accessories available. Consult your Allied Representative

1/8 DIN Process Indicator

- ✓ 4 Digit Display
- ✓ 10 or 24 Vdc Excitation Standard
- ✓ Minimal Panel Depth
- ✓ Front Panel Digital Tare
- ✓ 4-20 mA, 0-5 V, 1-5 V, or 0-10 V Selectable Inputs



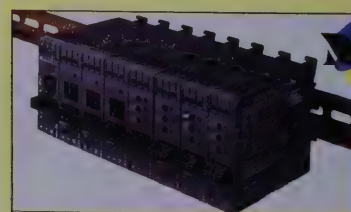
Model IDP
\$155
Basic Unit



Micro-Infinity™
ICN77000 Series
\$219
Basic Unit

1/6 DIN Autotune Temperature/Process Controllers

- ✓ Easily Programmable
- ✓ Single and Dual Output Models Available
- ✓ Dual 4-Digit LED Display with Indicators for Output and Alarm Status
- ✓ Relay, SSR, dc Pulse, 0 to 10 V and 0 to 20 mA Output Types
- ✓ Thermocouple, RTD or Process Voltage/Current Input



DIN Rails
Also Available!

DRN Series
\$295
Basic Unit

High Performance DIN Rail Signal Conditioners

- ✓ Manually Scalable or Computer-Configurable Models
- ✓ Models Available for Thermocouple, RTD, Process, Strain, Frequency/Pulse, ac Voltage and Current
- ✓ 0-10 V, 4-20 mA or 0-20 mA Analog Output

For local, personalized service, call ALLIED: 1-800-433-5700

For Additional NEWPORT Products, See Section 14

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computer/test
equipment

You get big plusses with PacTec "standard" enclosures: free design engineering assistance to help create the ideal custom-modified enclosure for your product... your enclosures are extremely economical... and you'll get your enclosure VERY FAST!

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new enclosures
for 1995!

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Ideal for
medical
products

Ideal for
hand-held
units

PAC  TEC®

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PFT

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FABRICATION
TECHNOLOGIES, INC.

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Power
Supplies
see page 974



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Basic Bench
Instruments
see page 968



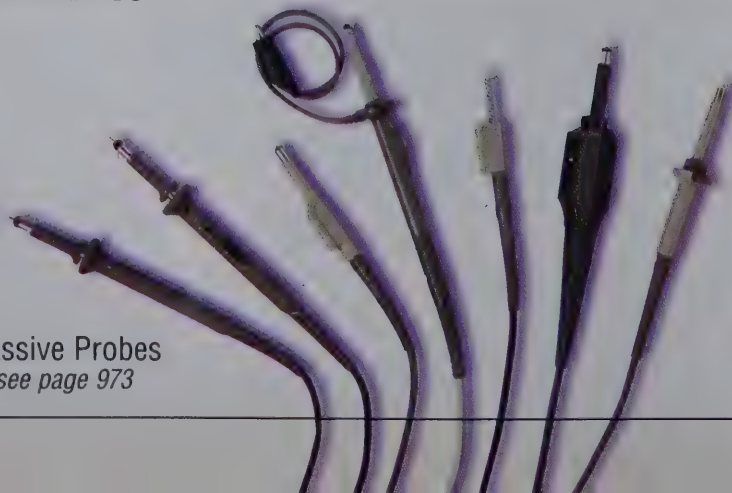
TDS 350
see page 970

TDS 460A, 420A, 410A
see page 967

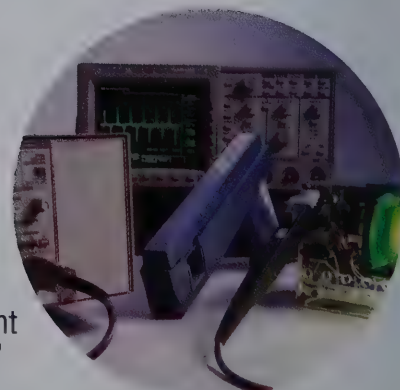


Accessories

Passive Probes
see page 973



Current
Measurement
see page 972



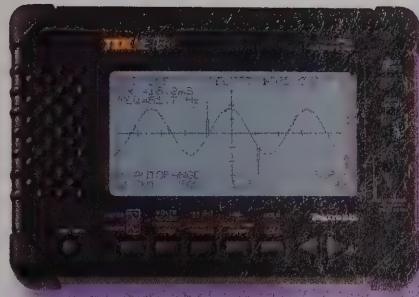


TekTools offer portable troubleshooting power to tackle just about any problem you'll encounter in the field.

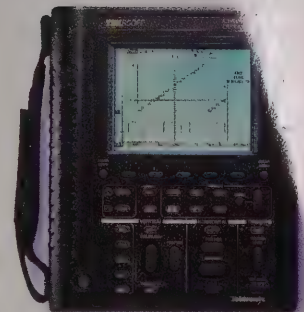
TekWaveMeter™
see page 971



TekMeter®
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TekScope™
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Time Delay Relays

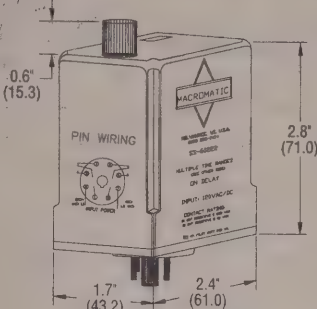


"Time Ranger" Multi-Range Plug-In

File No. E109466
File No. LR-45565

- ▶ 16 Time Ranges In Single Timer
- ▶ Pin For Pin Interchangeable With Most Timers In The Field
- ▶ User Sets Time Ranges. No Math Required — Just Flip Switches
- ▶ Fine Tune Knob For Precision Timing
- ▶ All Timers Operate On Either AC Or DC
- ▶ 0.5% Repeatable Accuracy

Suitable for continuous use. Line transient protected (MOV-10,000 V/ 20 microseconds). **Recycle Time:** Typically 60 mS. **Power Consumption:** 2.5 W maximum. **Operating Temperature:** -30° to +160°F. **Output:** DPDT 10 A (resistive) at 240 VAC and 30 VDC. 1/3 HP at 240 VAC. **Timing:** Programmable, 0.1 sec. to 2 hrs.



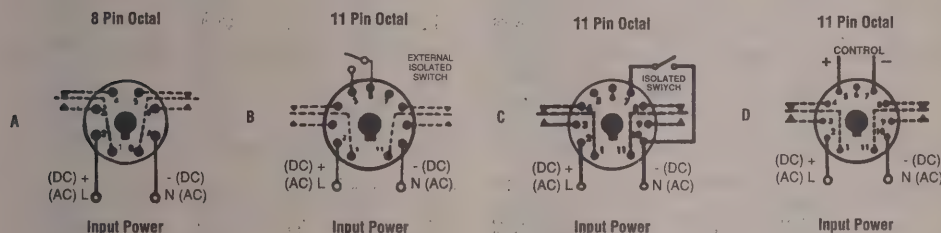
Seconds

1	2	3	4	Time Range	
				Min.	Max.
↓	↓	↓	↓	0.10	0.25
↑	↓	↓	↓	0.15	0.50
↓	↑	↓	↓	0.30	1.00
↓	↑	↑	↓	0.50	2.00
↓	↑	↑	↑	1.00	4.00
↑	↓	↑	↓	2.00	8.00
↓	↑	↑	↓	4.00	15.00
↑	↑	↑	↓	8.00	30.00
↓	↓	↓	↑	15.00	60.00
↑	↓	↓	↑	30.00	120.00

Minutes

↓	↑	↓	↑	1.00	4.00
↑	↑	↓	↑	2.00	8.00
↓	↓	↑	↑	4.00	15.00
↓	↑	↑	↑	8.00	30.00
↓	↑	↑	↑	15.00	60.00
↑	↑	↑	↑	30.00	120.00

Power to timer must be off before setting switches



SS 602 Series On Delay. Pin Wiring: 8 Pin Octal.

Action: Upon application of control power, time delay period begins. At end of time delay, output switch operates. When control power is removed, output switch returns to normal.

Stock No.	Mfr.'s Type	Input	Fig.	EACH			
				1-9	10-24	25-49	50-99
819-1000	SS-60222	120 VAC/VDC	A	41.95	40.62	38.77	36.56
819-1001	SS-60228	24 VAC/VDC	A	41.95	40.62	38.77	36.56
819-1002	SS-60226	12 VAC/VDC	A	41.95	40.62	38.77	36.56

SS 605 Series Interval On. Pin Wiring: 8 Pin Octal.

Action: The relay will operate immediately when the input voltage is applied. At the end of an adjustable interval the relay will release and remain in this state until reapplication of the input voltage.

Stock No.	Mfr.'s Type	Input	Fig.	1-9	10-24	25-49	50-99
819-1003	SS-60522	120 VAC/VDC	A	44.50	43.09	41.14	38.79
819-1004	SS-60528	24 VAC/VDC	A	44.50	43.09	41.14	38.79
819-1005	SS-60526	12 VAC/VDC	A	44.50	43.09	41.14	38.79

SS 615 Series Momentary Interval (Single Shot). Pin Wiring: 11 Pin Octal.

Action: Upon closure of control switch, output switch operates and time period begins. The time period is not affected by duration of the control switch closure. At the end of time period, output switch returns to normal. Continuous power must be furnished to the timer.

Stock No.	Mfr.'s Type	Input	Fig.	1-9	10-24	25-49	50-99
819-1012	SS-61522	120 VAC/VDC	B	47.00	45.51	43.44	40.96
819-1013	SS-61528	24 VAC/VDC	B	47.00	45.51	43.44	40.96
819-1014	SS-61526	12 VAC/VDC	B	47.00	45.51	43.44	40.96

SS 616 Series Off Delay (Terminals 5-6 Trigger). Pin Wiring: 11 Pin Octal.

Action: Upon closure of control switch, output switch operates. Upon opening of control switch, time period begins. Any control switch closures prior to end of time period will recycle timer. At end of time period, output switch returns to normal. Continuous power must be furnished.

Stock No.	Mfr.'s Type	Input	Fig.	1-9	10-24	25-49	50-99
819-1006	SS-61622	120 VAC/VDC	B	47.00	45.51	43.44	40.96
819-1007	SS-61628	24 VAC/VDC	B	47.00	45.51	43.44	40.96
819-1008	SS-61626	12 VAC/VDC	B	47.00	45.51	43.44	40.96

SS 614 Series Off Delay (Terminals 7-10 Trigger). Pin Wiring: 11 Pin Octal.

Action: Upon closure of control switch, output switch operates. Upon opening of control switch, time period begins. Any control switch closures prior to end of time period will recycle timer. At end of time period, output switch returns to normal. Continuous power must be furnished.

Stock No.	Mfr.'s Type	Input	Fig.	1-9	10-24	25-49	50-99
819-7101	SS-61422	120 VAC/VDC	C	47.00	45.51	43.44	40.96
819-7102	SS-61428	24 VAC/VDC	C	47.00	45.51	43.44	40.96
819-7103	SS-61426	12 VAC/VDC	C	47.00	45.51	43.44	40.96

SS 619 Series Off Delay With Powered Control Switch. Pin Wiring: 11 Pin Octal.

Action: Upon application of control power, output switch operates. Upon removal of control power, time period begins. Any control switch closures prior to end of the time period will recycle timer. At end of the time period, output switch returns to normal. Continuous power must be furnished.

Stock No.	Mfr.'s Type	Input	Fig.	1-9	10-24	25-49	50-99
819-1009	SS-61922	120 VAC/VDC	D	49.95	48.37	46.17	43.53
819-1010	SS-61928	24 VAC/VDC	D	49.95	48.37	46.17	43.53
819-1011	SS-61926	12 VAC/VDC	D	49.95	48.37	46.17	43.53

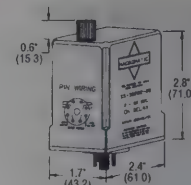
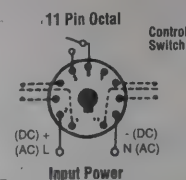
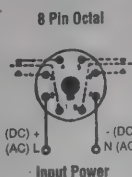
Standard Plug-in Relays

- ▶ All Timers Operate On Either AC Or DC
- ▶ Independent Timing Ranges From 0.1 Seconds Up To 24 Hours Available
- ▶ 10 A DPDT Output
- ▶ $\pm 0.5\%$ Repeat Accuracy

Suitable for continuous use. Line transient protected (MOV-10,000 volts/20 microseconds). Recycle time typically 60 mS.
Power Consumption: 2.5 watts maximum. **Operating Temperature:** -30 to 160°F. **Output:** DPDT, 10 amperes at 240 VAC and 28 VDC, 1/2 hp at 240 VAC. For description of action see preceding pages.

File No.
E109466

File No.
LR-45665-3



On Delay. Pin Wiring: 8 Pin Octal.

Stock No.	Mfr.'s Type	Input Voltage	Time Delay	Fig.	EACH			
					1-9	10-24	25-49	50-99
819-7001	SS-50222-04	120 VAC/DC	0.2-5 sec.	A	39.95	38.68	36.92	34.81
819-7002	SS-50222-06	120 VAC/DC	0.5-15 sec.	A	39.95	38.68	36.92	34.81
819-7003	SS-50222-08	120 VAC/DC	2.0-60 sec.	A	39.95	38.68	36.92	34.81
819-7004	SS-50222-10	120 VAC/DC	6-180 sec.	A	39.95	38.68	36.92	34.81
819-7005	SS-50222-12	120 VAC/DC	10-300 sec.	A	39.95	38.68	36.92	34.81
819-7006	SS-50228-04	24 VAC/DC	0.2-5 sec.	A	39.95	38.68	36.92	34.81
819-7007	SS-50228-06	24 VAC/DC	0.5-15 sec.	A	39.95	38.68	36.92	34.81
819-7008	SS-50228-08	24 VAC/DC	2.0-60 sec.	A	39.95	38.68	36.92	34.81
819-7009	SS-50228-10	24 VAC/DC	6-180 sec.	A	39.95	38.68	36.92	34.81
819-7010	SS-50228-12	24 VAC/DC	10-300 sec.	A	39.95	38.68	36.92	34.81

Interval On. Pin Wiring: 8 Pin Octal.

819-7011	SS-50522-04	120 VAC/DC	0.2-5 sec.	A	42.50	41.16	39.29	37.04
819-7012	SS-50522-06	120 VAC/DC	0.5-15 sec.	A	42.50	41.16	39.29	37.04
819-7013	SS-50522-08	120 VAC/DC	2.0-60 sec.	A	42.50	41.16	39.29	37.04
819-7014	SS-50522-10	120 VAC/DC	6-180 sec.	A	42.50	41.16	39.29	37.04
819-7015	SS-50522-12	120 VAC/DC	10-300 sec.	A	42.50	41.16	39.29	37.04
819-7016	SS-50528-04	24 VAC/DC	0.2-5 sec.	A	42.50	41.16	39.29	37.04
819-7017	SS-50528-06	24 VAC/DC	0.5-15 sec.	A	42.50	41.16	39.29	37.04
819-7018	SS-50528-08	24 VAC/DC	2.0-60 sec.	A	42.50	41.16	39.29	37.04
819-7019	SS-50528-10	24 VAC/DC	6-180 sec.	A	42.50	41.16	39.29	37.04
819-7020	SS-50528-12	24 VAC/DC	10-300 sec.	A	42.50	41.16	39.29	37.04

Single Shot. Pin Wiring: 11 Pin Octal.

819-7021	SS-51522-04	120 VAC/DC	0.2-5 sec.	B	42.50	41.16	39.29	37.04
819-7022	SS-51522-06	120 VAC/DC	0.5-15 sec.	B	42.50	41.16	39.29	37.04
819-7023	SS-51522-08	120 VAC/DC	2.0-60 sec.	B	42.50	41.16	39.29	37.04
819-7024	SS-51522-10	120 VAC/DC	6-180 sec.	B	42.50	41.16	39.29	37.04
819-7025	SS-51522-12	120 VAC/DC	10-300 sec.	B	42.50	41.16	39.29	37.04
819-7026	SS-51528-04	24 VAC/DC	0.2-5 sec.	B	42.50	41.16	39.29	37.04
819-7027	SS-51528-06	24 VAC/DC	0.5-15 sec.	B	42.50	41.16	39.29	37.04
819-7028	SS-51528-08	24 VAC/DC	2.0-60 sec.	B	42.50	41.16	39.29	37.04
819-7029	SS-51528-10	24 VAC/DC	6-180 sec.	B	42.50	41.16	39.29	37.04
819-7030	SS-51528-12	24 VAC/DC	10-300 sec.	B	42.50	41.16	39.29	37.04

Off Delay. Pin Wiring: 11 Pin Octal.

819-7031	SS-51622-04	120 VAC/DC	0.2-5 sec.	B	42.50	41.16	39.29	37.04
819-7032	SS-51622-06	120 VAC/DC	0.5-15 sec.	B	42.50	41.16	39.29	37.04
819-7033	SS-51622-08	120 VAC/DC	2.0-60 sec.	B	42.50	41.16	39.29	37.04
819-7034	SS-51622-10	120 VAC/DC	6-180 sec.	B	42.50	41.16	39.29	37.04
819-7035	SS-51622-12	120 VAC/DC	10-300 sec.	B	42.50	41.16	39.29	37.04
819-7036	SS-51628-04	24 VAC/DC	0.2-5 sec.	B	42.50	41.16	39.29	37.04
819-7037	SS-51628-06	24 VAC/DC	0.5-15 sec.	B	42.50	41.16	39.29	37.04
819-7038	SS-51628-08	24 VAC/DC	2.0-60 sec.	B	42.50	41.16	39.29	37.04
819-7039	SS-51628-10	24 VAC/DC	6-180 sec.	B	42.50	41.16	39.29	37.04
819-7040	SS-51628-12	24 VAC/DC	10-300 sec.	B	42.50	41.16	39.29	37.04

Repeat Cycle (Off Time First). Pin Wiring: 8 Pin Octal.

819-7041	SS-53122-04	120 VAC/DC	0.2-5 sec.	A	52.50	50.83	48.53	45.76
819-7042	SS-53122-06	120 VAC/DC	0.5-15 sec.	A	52.50	50.83	48.53	45.76
819-7043	SS-53122-08	120 VAC/DC	2.0-60 sec.	A	52.50	50.83	48.53	45.76
819-7044	SS-53122-10	120 VAC/DC	6-180 sec.	A	52.50	50.83	48.53	45.76
819-7045	SS-53122-12	120 VAC/DC	10-300 sec.	A	52.50	50.83	48.53	45.76
819-7046	SS-53128-04	24 VAC/DC	0.2-5 sec.	A	52.50	50.83	48.53	45.76
819-7047	SS-53128-06	24 VAC/DC	0.5-15 sec.	A	52.50	50.83	48.53	45.76
819-7048	SS-53128-08	24 VAC/DC	2.0-60 sec.	A	52.50	50.83	48.53	45.76
819-7049	SS-53128-10	24 VAC/DC	6-180 sec.	A	52.50	50.83	48.53	45.76
819-7050	SS-53128-12	24 VAC/DC	10-300 sec.	A	52.50	50.83	48.53	45.76

Delayed Interval. Pin Wiring: 8 Pin Octal.

819-7051	SS-56122-04	120 VAC/DC	0.2-5 sec.	A	52.50	50.83	48.53	45.76
819-7052	SS-56122-06	120 VAC/DC	0.5-15 sec.	A	52.50	50.83	48.53	45.76
819-7053	SS-56122-08	120 VAC/DC	2.0-60 sec.	A	52.50	50.83	48.53	45.76
819-7054	SS-56122-10	120 VAC/DC	6-180 sec.	A	52.50	50.83	48.53	45.76
819-7055	SS-56122-12	120 VAC/DC	10-300 sec.	A	52.50	50.83	48.53	45.76
819-7056	SS-56128-04	24 VAC/DC	0.2-5 sec.	A	52.50	50.83	48.53	45.76
819-7057	SS-56128-06	24 VAC/DC	0.5-15 sec.	A	52.50	50.83	48.53	45.76
819-7058	SS-56128-08	24 VAC/DC	2.0-60 sec.	A	52.50	50.83	48.53	45.76
819-7059	SS-56128-10	24 VAC/DC	6-180 sec.	A	52.50	50.83	48.53	45.76
819-7060	SS-56128-12	24 VAC/DC	10-300 sec.	A	52.50	50.83	48.53	45.76

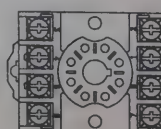
Sockets

- ▶ For Use With All Macromatic Plug-In Time Delay Relays

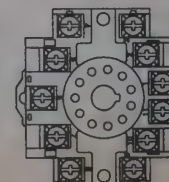
- ▶ Can Be Either DIN Track or Direct Panel-Mounted Pressure Wire Clamps

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-49	50-99
819-7061	70169-D	8 pin	4.00	3.87	3.69	3.48
819-7062	70170-D	11 pin	6.50	6.29	6.01	5.67

70169-D



70170-D



Magnecraft®
ELECTRIC COMPANY

	107 SPST-NO	171 SPST-NO	171 DPST-NO	172 SPDT	172 DPDT
Max. Resistive Load	10VA	10VA	10VA	4VA	3VA
Switching Volts Max. VDC	100	100	100	100	100
Switching Current Max. Amps	.5	.5	.5	.25	.25
Carry Current Amps	1.5	1.5	1.5	.5	.5
Life at Rated Load	5 x 10 ⁶	5 x 10 ⁶	5 x 10 ⁶	5 x 10 ⁶	5 x 10 ⁶



Stock No.	Mfr.'s Type	Coil		EACH			
		Volts	Ohms	1-9	10-24	25-49	50-99
850-1550	W107DIP-1	5	500	5.11	4.48	3.83	3.48
850-1554	W107DIP-5*	5	500	5.55	4.86	4.16	3.78
850-1642	W107DIP-7*	12	1200	5.55	4.86	4.16	3.78
850-1643	W107DIP-8*	24	2200	6.24	5.46	4.68	4.24

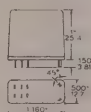
850-1602	W171DIP-2	5/6	500	5.05	4.43	3.79	3.43
850-1604	W171DIP-4	12	1200	5.05	4.43	3.79	3.43
850-1605	W171DIP-5	24	2200	5.55	4.86	4.16	3.78
850-1607	W171DIP-7*	5	500	5.55	4.86	4.16	3.78

850-1621	W171DIP-21	5/6	200	6.89	6.03	5.17	4.68
850-1652	W171DIP-23	12	500	6.89	6.03	5.17	4.68
850-1624	W171DIP-24	24	2200	7.33	6.42	5.51	4.99
850-1625	W171DIP-25*	5/6	200	7.33	6.42	5.51	4.99
850-1627	W171DIP-27*	12	500	7.33	6.42	5.51	4.99

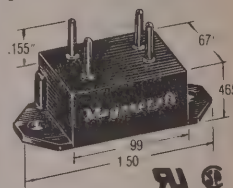
850-1631	W172DIP-1	5/6	200	9.82	8.60	7.37	6.68
850-1633	W172DIP-3	12	500	11.28	9.87	8.46	7.67
850-1634	W172DIP-4	24	2200	11.28	9.87	8.46	7.67
850-1635	W172DIP-5*	5/6	200	10.20	8.92	7.65	6.93
850-1637	W172DIP-7*	12	500	11.28	9.87	8.46	7.67
850-1638	W172DIP-8*	24	2200	12.06	10.56	9.05	8.20

850-1673	W172DIP-21*	5/6	46	38.28	33.49	28.71	26.02
850-1676	W172DIP-24*	24	1066	38.28	33.49	28.71	26.02

*Internal Clamping Diode.



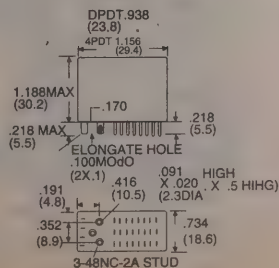
Low cost solid state relay designed to switch low to medium current AC loads from low level logic signals. Can be chassis mounted and connected with standard push on connectors. Compatible with TTL logic. Unit is completely potted to resist shock and moisture effects. DC input versions have LED activated optoisolator input. **Operate time:** 8 msec **typ.** **Release time:** 25 msec **typ.** **Dielectric strength:** 2500 VAC rms from input to output and case. Units have continuous current rating without heatsink of 0.05 to 1.5 amps; 0.05 to 7 amps with heatsink.



Stock No.	Mfr.'s Type	Action	Contact Rating	Coil		EACH			
				Volt DC	Resist. Ohms	1-9	10-24	25-49	50-99
850-7021	W76EURCPXC-16	SPDT	10 amp	12	250	8.23	7.51	6.82	6.16
850-7022	W76EURCPXC-17	SPDT	10 amp	24	1150	8.23	7.51	6.82	6.16
850-7026	W76EURCPXC-149	SPDT	16 amp	24	1150	9.31	8.50	7.71	6.97
850-7029	W76EURCPXC-63	DPDT	5 amp	12	180	9.05	8.25	7.49	6.76
850-7030	W76EURCPXC-64	DPDT	5 amp	24	800	9.05	8.25	7.49	6.76

Stock No.	Mfr.'s Type	Input Volts (DC)	Output Volts		EACH			
			Non-line VRMS	Blocking	1-9	10-24	25-49	50-99
850-0400	W226R-7-5A1	5	120	400	19.77	17.21	14.83	12.65
850-0401	W226R-7-12A1	12	120	400	19.77	17.21	14.83	12.65
850-0404*	W226RE-7-5A1	5	120	400	19.77	17.21	14.83	12.65
850-0405*	W226RE-7-12A1	12	120	400	19.77	17.21	14.83	12.65

*PC Mount.



Stock No.	Mfr.'s Type	Arrangement	Contact Rating	Coil		EACH			
				DCV	Ohms	1-9	10-24	25-49	50-99
850-1021	W67CSX-1/W67RCSX-1	DPDT	5A	6	52	11.04	10.07	9.14	7.50
850-1023	W67CSX-3/W67RCSX-3	DPDT	5A	24	700	12.11	11.05	10.02	8.23
850-1056	W67CSX-12/W67RCSX-12	6PDT	5A	12	90	20.05	18.28	16.59	13.63
850-1027	W67CSX-7/W67RCSX-7	4PDT	5A	12	185	15.38	14.04	12.74	10.45
850-1028	W67CSX-8/W67RCSX-8	4PDT	5A	24	700	15.53	14.18	12.86	10.56
850-1072	W67CSX-17/W67RCSX-17	8PDT	5A	12	72	36.55	33.34	30.26	24.86

*Bifurcated contacts.

Class 388 Square Base Relays

Low cost, UL recognized CSA certified general purpose relays. AC and DC operated types, 13, 12 and 11 amps SPST, DPDT, or 3PDT silver alloy gold flashed contacts. Terminals are 3-way for plug-in, solder, or $\frac{3}{16}$ " $\times$.020" quick connect. UL/CSA E43641/LR37547.

AC Open Relays

Stock No.	Mfr.'s Type	Cont. Comb.	Coil		EACH			
			Volts	Ohms	1-9	10-24	25-49	50-99
850-5014	W388AX-4	SPDT	120	—	11.22	8.89	8.08	7.31
850-5019	W388AX-9	DPDT	120	—	13.98	11.07	10.06	9.11
850-5048	W388AX-14	3PDT	120	—	16.99	13.45	12.24	11.07

AC Voltage Specified—Dust Cover Plug-In

850-5058	W388ACPX-3	SPDT	24	—	11.57	9.15	8.33	7.54
850-5024	W388ACPX-4	SPDT	120	—	11.57	9.15	8.33	7.54
850-5028	W388ACPX-8	DPDT	24	—	14.36	11.37	10.35	9.36
850-5029	W388ACPX-9	DPDT	120	—	14.36	11.37	10.35	9.36
850-5049	W388ACPX-13	3PDT	24	—	17.23	13.64	12.41	11.23
850-5050	W388ACPX-14	3PDT	120	—	17.23	13.64	12.41	11.23

DC Voltage Specified—Dust Cover Plug-In

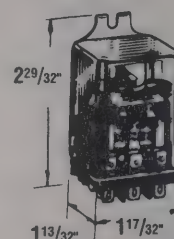
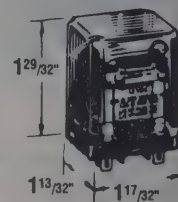
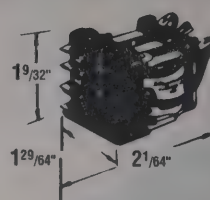
850-5032	W388CPX-2	SPDT	12	120	10.76	8.51	7.74	7.01
850-5051	W388CPX-3	SPDT	24	470	10.76	8.51	7.74	7.01
850-5036	W388CPX-6	DPDT	12	120	13.26	10.49	9.55	8.64
850-5037	W388CPX-7	DPDT	24	470	13.26	10.49	9.55	8.64
850-5052	W388CPX-10	3PDT	12	120	15.77	12.49	11.36	10.29
850-5053	W388CPX-11	3PDT	24	470	15.77	12.49	11.36	10.29

AC Voltage Specified—Flange Cover

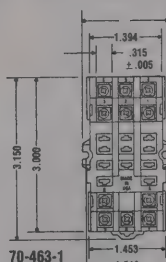
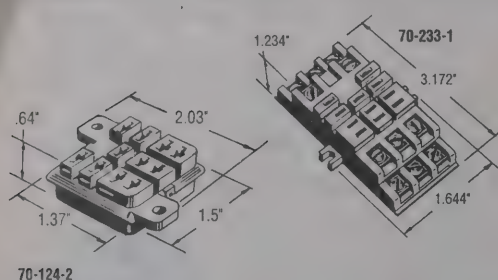
850-5054	W388ACQX-4	SPDT	120	—	11.57	9.15	8.33	7.54
850-5055	W388ACQX-9	DPDT	120	—	14.36	11.37	10.05	9.36
850-5056	W388ACQX-14	3PDT	120	—	17.23	13.64	12.41	11.23

DC Voltage Specified—Flange Cover

850-5042	W388CQX-2	SPDT	12	120	10.76	8.51	7.74	7.01
850-5043	W388CQX-3	SPDT	24	470	10.76	8.51	7.74	7.01
850-5046	W388CQX-6	DPDT	12	120	13.26	10.49	9.55	8.64
850-5047	W388CQX-7	DPDT	24	470	13.26	10.49	9.55	8.64
850-5057	W388CQX-11	3PDT	24	470	15.77	12.49	11.36	10.29



10



Class 388 Sockets

Heavy-duty molded thermoplastic screw terminal socket has closed back construction that requires no insulation. Nylon sockets offer choice of solder, quick connect, or printed circuit. U.L. recognized, File No. E43641, and CSA certified, File No. LR37547.

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-49	50-99
850-5091	70-124-1	Nylon solder terminal	3.02	1.96	1.71	1.46
850-5092	70-124-2	Nylon quick connect	3.02	1.96	1.71	1.46
850-5093	70-178-1	Nylon printed circuit	3.14	2.05	1.78	1.53
850-5090	70-233-1	Screw terminal 11 pin*	19.67	12.81	11.13	9.55
850-1923	70-463-1	Screw term. 11 pin* DIN Mount	15.13	12.32	10.69	9.19

*Accepts all Class 388 plug-in relays.

Class 389 General Purpose Relays

Class 389 General Purpose Relays are designed to switch larger contact loads without increasing overall size. It is similar in design to Class 388 relays and features a flange mounted cover. **Contact Materials:** silver cadmium oxide, gold flashed. **Temperature Range:** Operating, -30°C to $+50^{\circ}\text{C}$ AC; -30°C to $+65^{\circ}\text{C}$ DC. **Enclosure:** Clear polycarbonate. Quick connect terminals are $\frac{1}{4}$ " $\times$.032" and suitable for soldering. **Size (max.):** $2\frac{29}{32}$ "L $\times$ $1\frac{17}{32}$ "W $\times$ $1\frac{13}{32}$ "H. **Weight:** 3.3 oz UL/CSA E436 41/LR37547

Class 389C-20 Amp Contacts—AC Voltage Operated 50/60 Hz

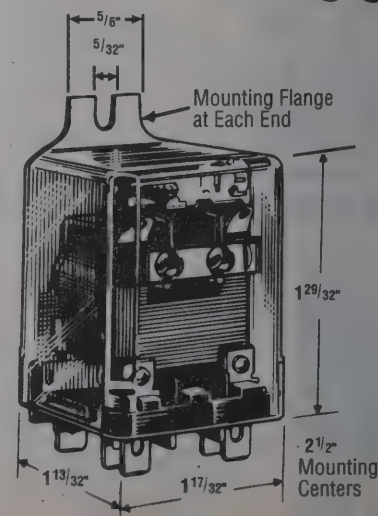
Stock No.	Mfr.'s Type	Contacts	Coil			EACH			
			Volts	Ohms	Nom. Power	1-9	10-24	25-49	50-99
850-7004	W389ACX-4	SPDT	120VAC	—	2.75VA	14.37	11.38	10.35	9.37
850-7008	W389ACX-8	DPDT	24VAC	—	2.75VA	17.21	13.63	12.39	11.22
850-7009	W389ACX-9	DPDT	120VAC	—	2.75VA	17.87	14.15	12.86	11.65
850-7014	W389ACX-14	3PDT	120VAC	—	3.5VA	21.63	17.12	15.57	14.09

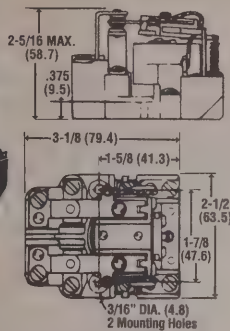
Class 389C-20 Amp Contacts—DC Voltage Operated

850-7102	W389CX-2	SPDT	12VDC	100	1.5W	12.87	10.19	9.27	8.39
850-7103	W389CX-3	SPDT	24VDC	400	1.5W	13.20	10.45	9.50	8.60
850-7107	W389CX-7	DPDT	12VDC	100	1.5W	16.38	13.29	12.08	10.94
850-7108	W389CX-8	DPDT	24VDC	400	1.5W	16.30	12.91	11.74	10.63
850-7109	W389CX-12	3PDT	12VDC	100	1.5W	20.06	15.88	14.43	13.07
850-7110	W389CX-13	3PDT	24VDC	400	1.5W	20.33	16.09	14.63	13.24

Class 389D-30 Amp Contacts—AC (50/60 Hz) & DC Voltage Operated

850-7204	W389ADCX-4	SPST-NO-DM	120VAC	—	3.5VA	14.52	11.49	10.45	9.46
850-7207	W389ADCX-4	SPDT-NC-NO(DB-DM)	120VAC	—	3.5VA	17.40	13.77	12.52	11.33
850-7302	W389DCX-2	SPST-NO-DM	12VDC	100	1.5W	13.89	11.00	10.00	9.05
850-7303	W389DCX-3	SPST-NO-DM	24VDC	400	1.5W	14.24	11.28	10.26	9.29
850-7305	W389DCX-2	SPDT-NC-NO(DB-DM)	12VDC	100	1.5W	16.14	12.77	11.61	10.51
850-7306	W389DCX-3	SPDT-NC-NO(DB-DM)	24VDC	400	1.5W	16.45	13.02	11.84	10.72





Dimensionally interchangeable with relays made by others. Outstanding quality, molded nylon bobbin and longer life. **Standard dielectric strength:** 3000VAC rms. Screw type terminals and molded phenolic base. **Contacts:** silver alloy, $\frac{5}{16}$ " dia. gold flashed. **Size:** SPDT, $2\frac{1}{4}$ "L x $2\frac{1}{2}$ "W x $2\frac{3}{16}$ "H; DPDT, $3\frac{1}{8}$ "L x $2\frac{1}{2}$ "W x $2\frac{5}{16}$ "H. U.L. listed File No. 43641. CSA certified File No. LR37547.

Stock No.	Mfr.'s Type	Contacts	Coil		EACH			
			Volts	Ohms	1-9	10-24	25-49	50-99
850-3009	W199AX-9	DPST-NO	120VAC	—	22.50	17.82	16.20	14.67
850-3014	W199AX-14	DPDT	120VAC	—	28.48	22.55	20.50	18.56
850-3015	W199AX-15	DPDT	240VAC	—	28.96	22.92	20.85	18.87
850-3204	W199ADY-4	SPST-NO-DM	120VAC	—	19.88	15.73	14.31	12.96

850-3103	W199X-3	SPDT	24VDC	290	19.91	15.77	14.34	12.98
850-3107	W199X-7	DPST-NO	12VDC	70	21.90	17.34	15.77	14.28
850-3108	W199X-8	DPST-NO	24VDC	290	21.90	17.34	15.77	14.28
850-3112	W199X-12	DPDT	12VDC	70	27.80	22.02	20.01	18.12
850-3113	W199X-13	DPDT	24VDC	290	27.80	22.02	20.01	18.12

Mercury Displacement Contactor Tube operates in relative silence, eliminating "knocking" associated with conventional hard contactors. **Specifications. Pull-in Voltage:** 96V typical. **Drop-out Voltage:** 93V typical. **Operate Time:** 50 milliseconds typical. **Release Time:** 80 milliseconds typical. **Contact Bounce:** None. $\pm 10\%$ of rated coil voltage. **Contact Resistance:** 35 amp models, .003 ohm terminal to terminal; 60 amp models, .002 ohm terminal to terminal. **Temperature Range:** -35°C to +60°C ambient (operating). **Dielectric Strength:** 2650 rms (1 sec.). **Insulation Material:** Class B (130°C) U.L. approved. **Terminals:** 35 amp models, pressure connectors for AWG6-14; 60 amp models, pressure connectors for AWG2-8. **Mounting:** vertical $\pm 10^\circ$.

Stock No.	Mfr.'s Type	Contacts	Coil			EACH		
			Nominal Volts*	Nominal Current	Ohms	1-9	10-24	25-49
850-0035	WM35A-120A	SPST-NO	120VAC	.058	700	30.94	26.58	25.84
850-0038	WM35AA-120A	DPST-NO	120VAC	.135	218	57.69	49.56	48.18
850-0042	WM35AAA-120A	3PST-NO	120VAC	.220	111	82.28	70.68	68.71

850-0060	WM60A-120A	SPST-NO	120VAC	.058	700	47.83	41.09	39.94
850-0048	WM60A-24D	SPST-NO	24VDC	.120	186	47.83	41.09	39.94
850-0062	WM60AA-120A	DPST-NO	120VAC	.135	218	90.14	77.44	75.29

M35A

1

CONTRACTOR

TERMINALS

2.5 7/8 (66.7)

1.5 5/8 (41.3)

1.5 1/8 (38.1)

2 (50.8)

3/8 DIA. (4.8) 2 HOLES

1 POLE

3 1/8 (79.4)

2 1/8 (52.4)

3 1/8 (82.5)

1 13/16 (49.0)

2 POLE

M60A

The Class 211CP Time Delay Relay makes use of hybrid circuitry, combining solid state circuitry for timing function with an EMR for DPDT 10 amperes output switching. Features nylon dust covers, and reverse polarity protection on DC models. **Repeat Accuracy:** $\pm 1\%$ of setting at nominal voltage at 25°C. **Contact Combination:** DPDT standard. **Reset Time:** 100ms max. **Temperature Range:** Operate, -10°C to +55°C; Storage, 55°C to +85°C. Transient protection of 2000V for 8ms standard.

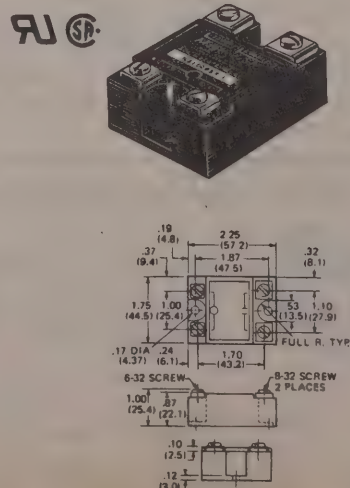
Stock No.	Mfr.'s Type	Time Delay	Coil Volts	EACH		
				1-9	10-24	25-49
850-4109	W211ACPSOX-5	1-10 sec.	120VAC	62.19	54.16	46.65
850-4007	W211ACPSOX-7	1-180 sec.	120VAC	62.19	54.16	46.65

850-4105	W211ACPSRX-5	1-10 sec.	120VAC	68.81	59.92	51.61
850-4107	W211ACPSRX-7	1-180 sec.	120VAC	68.81	59.92	51.61
850-4108	W211ACPSRX-8	2-300 sec.	120VAC	68.81	59.92	51.61

All models incorporate opto-isolation between input and output, and zero-voltage switching. Features high transient capability. DC controlled models have an input impedance of 1500 ohms min.; AC models, 60K ohms typical.

Stock No.	Mfr.'s Type	AC Load Max. L.		Control Sig. Range	EACH		
		Volt	Current		1-9	10-24	25-49
850-7308	W6102DSX-1	20-140VAC	2.5A	3-32VDC	25.46	21.99	20.83
850-7309	W6110DSX-1	20-140VAC	10.0A	3-32VDC	32.25	27.85	26.39
850-7310	W6125DSX-1	20-140VAC	25.0A	3-32VDC	37.85	32.69	30.97
850-7311	W6140DSX-1	20-140VAC	40.0A	3-32VDC	37.72	32.58	30.87
850-7313	W6210DSX-1	40-280VAC	10.0A	3-32VDC	32.92	28.43	26.93
850-7314	W6225DSX-1	40-280VAC	25.0A	3-32VDC	36.43	31.47	29.81
850-7315	W6240DSX-1	40-280VAC	40.0A	3-32VDC	41.85	36.14	34.24

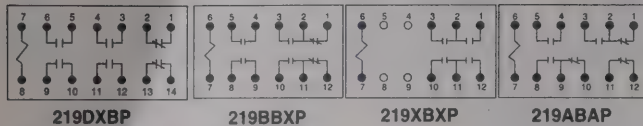
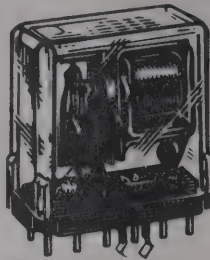
850-7316	W6110ASX-1	20-140VAC	10.0A	90-280VAC 80-140VDC	37.47	32.36	30.65
850-7317	W6125ASX-1	20-140VAC	25.0A	90-280VAC 80-140VDC	37.00	31.96	30.28
850-7318	W6140ASX-1	20-140VAC	40.0A	90-280VAC 80-140VDC	40.51	34.98	33.14
850-7320	W6210ASX-1	40-280VAC	10.0A	90-280VAC 80-140VDC	38.38	33.15	31.40
850-7321	W6225ASX-1	40-280VAC	25.0A	90-280VAC 80-140VDC	38.09	33.59	31.83
850-7322	W6240ASX-1	40-280VAC	40.0A	90-280VAC 80-140VDC	41.85	36.14	34.24



219 Series General-Purpose Relays

- ▶ 10 Amp rating
- ▶ U.L. and CSA Listed

Type 219 relays provide long reliable contact life. They are designed for machine and process control applications requiring up to 20 million cycles of miss-face-operation. 12 pin models use socket #27390; 14 pin models use socket #33377. **Specifications. Insulation:** 1/4" surface, 1/8" air. **Dielectric:** 1500 Volt Test. **Operating Time:** 20 MS max. **Release Time:** 20 MS max. **Temperature Range:** -10°C to +60°C. **Cover:** Clear Polycarbonate. **Contacts:** Fold Diffused SCO. **Life:** 20 million Mech Operations.

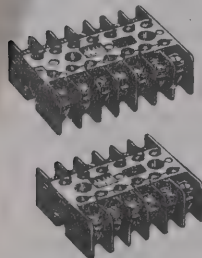


Type 219, 12 Pin (1 15/32 x 2 19/32 x 2 5/8")

Stock No.	Mfr.'s Type	Volts	Contacts	EACH		
				1-24	25-49	50-Up
929-2133	219XBP	120AC	DPDT	68.32	63.44	58.64
929-2172	219BBXP	24DC	DPDT, 2 N.O.	85.77	79.63	74.32
929-2173	219BBXP	125DC	DPDT, 2 N.O.	85.77	79.63	74.32
929-2174	219BBXP	120AC	DPDT, 2 N.O.	85.77	79.63	74.32
929-2142	219ABAP	24DC	DPDT, 1 N.O./1 N.C.	80.89	75.11	70.11
929-2144	219ABAP	120AC	DPDT, 1 N.O./1 N.C.	80.89	75.11	70.11
929-2175	219BBXP*	120AC	DPDT, 2 N.O.	86.95	80.74	75.36
929-2176	219ABAPL*	120AC	DPDT, 1 N.O./1 N.C.	86.95	80.74	75.36
929-2186	219DXBP	120AC	4 N.O./2 N.C.	91.83	85.27	79.59

* With indicating light.

12 and 14 Pin Sockets



Type 27390. Twelve terminal socket accepts types 311, 219, 236, 237, 255, 349, and RSX alarm relays. Overall dimensions 2 15/32 x 2 3/16 x 2 7/32".

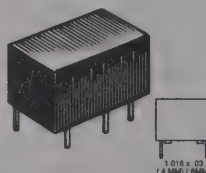
929-2030.....EACH 9.60

Type 33377. Fourteen terminal socket for 219 series 4 and 6 pole relays. Dimension: 2 5/64 x 2 3/16 x 2 7/32".

929-2035.....EACH 13.57

Type 276 Miniature Power Relays

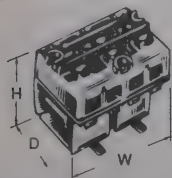
1 Form A contact @ 7 A; 1 Form C contact @ 10 A. Low power coil-40 MA @ 5 VDC. Terminals on 0.1" grid. Silver alloy contacts. Permanent magnet polarized single-sided stable design. Sealed PBT case for wave soldering and immersion cleaning. 4 mm spacing coil to contacts. 5KV surge resistance. **Temperature Range:** - 40° to + 70°C. **Dielectric:** 1000 VAC between contact. **Operating Time:** 10 ms on loss. **Release Time:** 10 ms on loss. **Weight:** 0.2 oz.



Stock No.	Mfr.'s Type	Volts	Ohms +10%	EACH		
				1-24	25-49	50-Up
929-7405†	276AXXH	6DC	180	5.62	5.21	4.63
929-7410†	276AXXH	12DC	720	5.62	5.21	4.63
929-7420‡	276AXXH	6DC	180	5.12	4.76	4.43
929-7425‡	276AXXH	12DC	720	5.77	5.36	5.00

‡ 1 Form A Contact @ 10 A. † Form C Contact @ 7 A.

Type A275KXX, Reversing Control Relay (15 AMP)



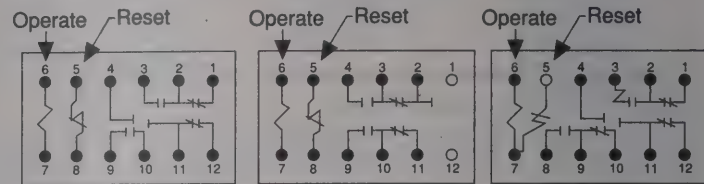
Compact reversing contactors consisting of a pair of 3-pole contactors mounted on a common frame and mechanically interlocked to prevent simultaneous closure. Designed for continuous operation in heavy-duty service. Vertical operating condition. Over 10 million mechanical operations. U.L. and CSA listed. **Weight:** 1 lb.

Stock No.	Mfr.'s Type	Volts	Contacts	EACH		
				1-24	25-49	50-Up
929-0550	A275KXX	24AC	3PNO/3PNC	60.76	56.41	52.64
929-0553	A275KXX	120AC	3PNO/3PNC	60.76	56.41	52.64

Type B255, 12 Pin Latching Relays

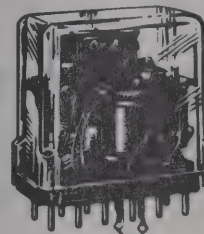


This is a two-coil latching version of the Type 219 relay. When the operate coil is momentarily energized the relay mechanically latches in the energized position even if power is interrupted. The second coil provides electrical reset. All contacts operate from a common armature to prevent contact overlapping. Coils are rated for continuous duty. **Insulation:** 1/4" surface; 1/8" air. **Dielectric:** 1500 Volt test. **Oper. Time:** 25 ms max. **Release Time:** 20 ms max. **Temp. Range:** -10°C to +60°C. **Life Expectancy:** 10 million mechanical operations. **Cover:** Clear Polycarbonate. Uses socket #27390. **Dimension:** 2 5/8 x 1 15/32 x 3 3/4".

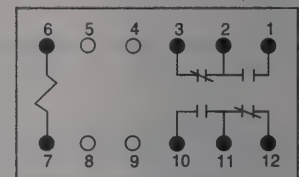


Stock No.	Mfr.'s Type	Volts	Contacts	EACH		
				1-24	25-49	50-Up
929-2520	B255BXBP	120AC	2 N.O./2 N.C.	129.08	120.70	112.65
929-2522	B255XBXP	120AC	DPDT	121.64	112.93	105.41
929-2524	B255XCXP	120AC	3PDT	128.88	119.67	111.69

Type A311, Sequencing Relay



A311XBXP
A311XBXP



A sequencing version of the Type 219 relay. Contacts transfer on each impulse. XBXP type transfers contacts when coil is energized. XBXP type transfers contacts when coil is de-energized. 5 amp coil. Gold diffused SCO contacts. Uses base #27390. **Insulation:** 1/4" surface; 1/8" air. **Dielectric:** 1500 Volt test. **Temp. Range:** -10°C to +60°C. **Dimension:** 2 5/8 x 1 15/32 x 2 19/32".

Stock No.	Mfr.'s Type	Volts	Contacts	EACH		
				1-24	25-49	50-Up
929-2122	A311XBXP	24DC	DPDT	131.66	122.26	114.11
929-2124	A311XBXP	120AC	DPDT	131.66	122.26	114.11
929-2126	A311XBXP	24DC	DPDT	131.66	122.26	114.11
929-0061	A311XBXP	120AC	DPDT	131.66	122.26	114.11

Type 425, 25 and 30 AMP Power Relays

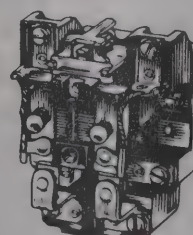


Fig. A

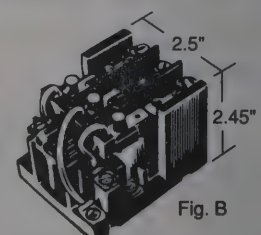
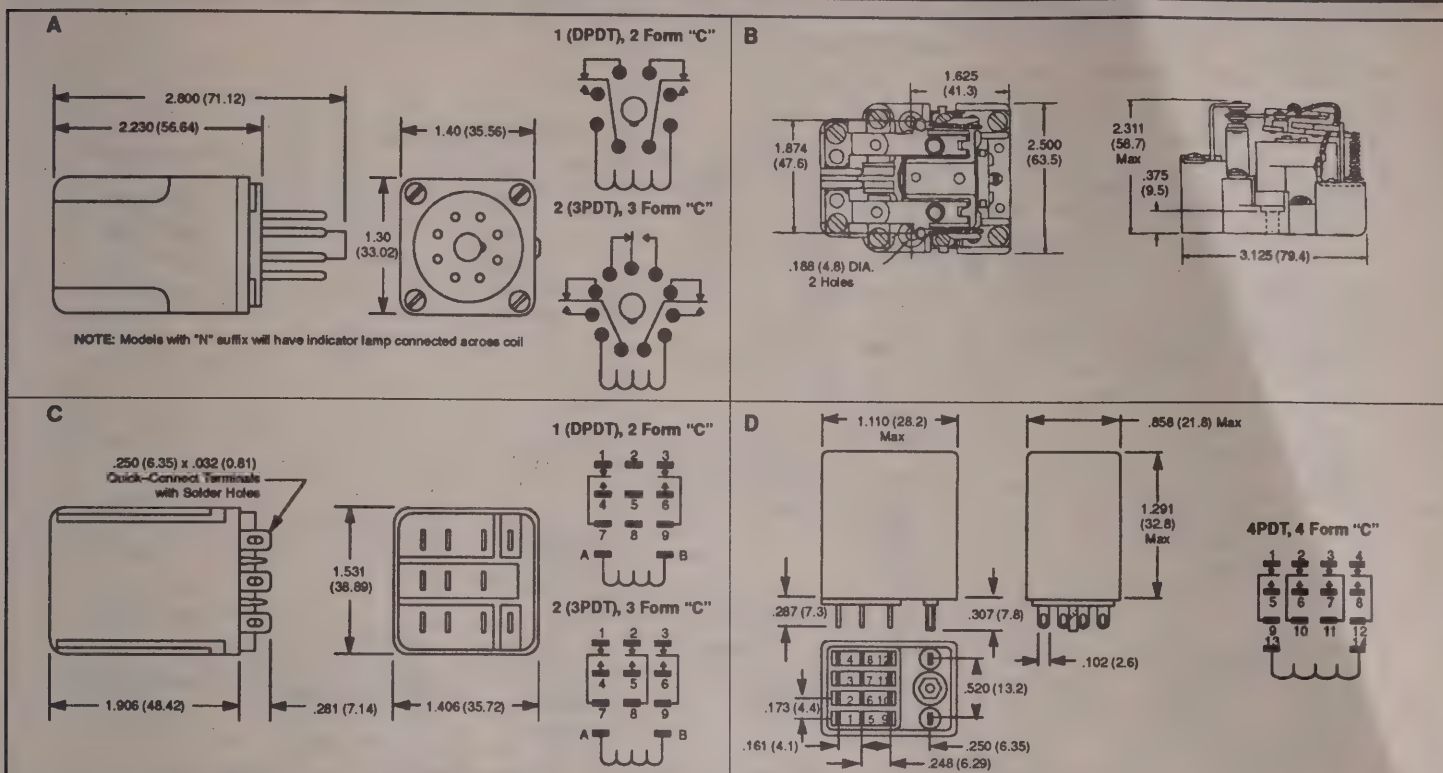


Fig. B

Modern low cost general purpose relays for all On/Off applications. **Dielectric:** 2500 VAC, 60 Hz. **Operations:** 30 mS. **Release Time:** 15mS. **Temp. Range:** (AC) - 55° to + 45°C, (DC) - 55°C to + 80°C. **Life Expectancy:** 10 million mechanical operations. U.L. and CSA listed, SCO contacts.

Stock No.	Mfr.'s Type	Volts	Contacts	EACH		
				1-24	25-49	50-Up
929-3120†	425BXX	120AC	DPST	29.57	27.46	25.63
929-5120†	425XAX	120AC	SPDT	26.98	25.06	23.39
929-3124†	425XAX	24AC	DPDT	26.98	25.06	23.39
929-7120†	425BXX	120AC	DPDT	36.62	33.99	31.73
929-7123‡	425BXX	24DC	DPDT	35.88	33.31	31.09
929-7125‡	425CX	120AC	3PDT	64.28	59.69	55.71

† Fig. A, 30 Amp. ‡ Fig. B, 25 Amp.



General Purpose Relays

- ▶ Clear Plastic Dust Cover
- ▶ DPDT and 3PDT Types
- ▶ 8 Pin and 11 Pin Octal Plug-In Types
- ▶ Indicator Lamp Type (N Suffix)
- ▶ Operating Time: 25mS or Less
- ▶ Release Time: 20mS or Less
- ▶ Duty Cycle: Continuous
- ▶ Operating Temperature: -10° to +50°C (AC), -10° to +60°C (DC)

AC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 120VAC	Fig.	EACH
235-0001	R02-11A10-12	12VAC	DPDT	—	2.00VA	10A	A1	12.90
235-0002	R02-11A10-24	20VAC	DPDT	—	2.00VA	10A	A1	12.90
235-0003	R02-11A10-120	120VAC	DPDT	—	2.00VA	10A	A1	13.00
235-0004	R02-11A10-120N	120VAC	DPDT	—	2.00VA	10A	A1	16.31
235-0005	R02-11A10-240	240VAC	DPDT	—	2.00VA	10A	A1	13.21
235-0006	R02-14A10-120	120VAC	3PDT	—	2.75VA	10A	A2	15.94

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0007	R02-11D10-12	12VDC	DPDT	120	1.0W	10A	A1	12.83
235-0008	R02-11D10-24	24VDC	DPDT	470	1.0W	10A	A1	12.83
235-0009	R02-14D10-12	12VDC	3PDT	120	1.0W	10A	A2	15.75
235-0010	R02-14D10-24	24VDC	3PDT	470	1.0W	10A	A2	15.75

Open Frame Heavy Duty Industrial Relays

- ▶ Screw Terminals
- ▶ Long Life Contacts
- ▶ Molded Plastic Barrier Insulation
- ▶ Molded Nylon Bobbin Coil
- ▶ Operating Time: 40mS or Less
- ▶ Release Time: 30mS or Less
- ▶ Duty Cycle: Continuous
- ▶ Operating Temperature: -30° to +50°C

AC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 120VAC	Fig.	EACH
235-0011	R04-11A30-120	120VAC	DPDT	—	10VA	30A	B	17.00

General Purpose Relays

- ▶ Clear Plastic Dust Cover
- ▶ DPDT and 3PDT Types
- ▶ Plug-in or Solder Terminals, Will Also Accept .187" Quick Connect
- ▶ Operating Time: 20mS (DPDT), 24mS (3PDT)
- ▶ Release Time: 28mS (DPDT), 26mS (3PDT)
- ▶ Duty Cycle: Continuous
- ▶ Operating Temperature: -30° to +50°C (AC), -30° to +55°C (DC)

AC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 120VAC	Fig.	EACH
235-0012	R10-11A10-120	120VAC	DPDT	—	2.00VA	12A	C1	8.96
235-0013	R10-14A10-24	24VAC	3PDT	—	2.75VA	11A	C2	10.19
235-0014	R10-14A10-120	120VAC	3PDT	—	2.75VA	11A	C2	10.49

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0015	R10-11D10-12	12VDC	DPDT	120	1.2W	12A	C1	8.56
235-0016	R10-11D10-24	24VDC	DPDT	470	1.2W	12A	C1	8.53
235-0017	R10-14D10-12	12VDC	3PDT	120	1.2W	11A	C2	9.88
235-0018	R10-14D10-24	24VDC	3PDT	470	1.2W	11A	C2	9.77

General Purpose Relays

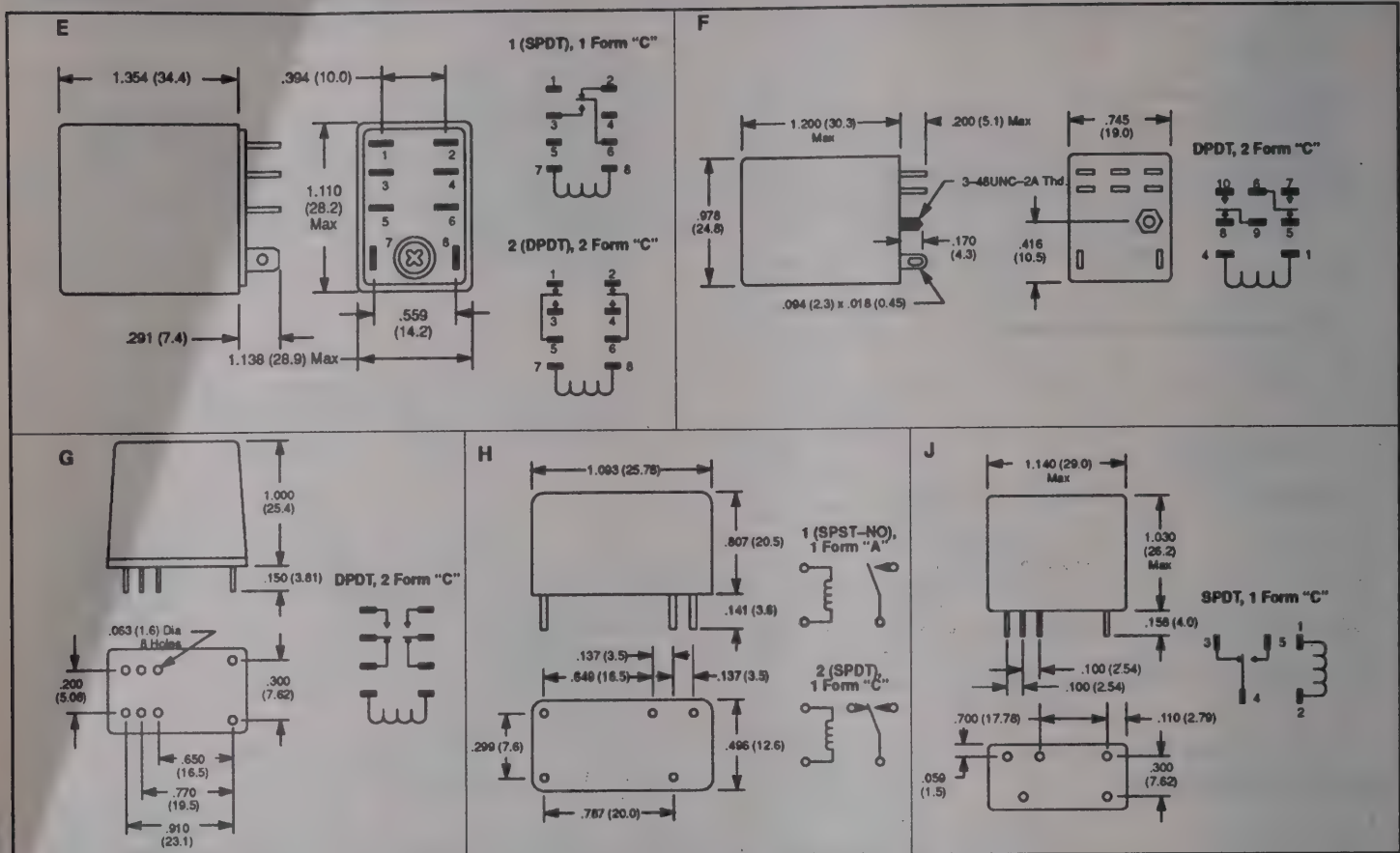
- ▶ Slightly Larger Than 1 Cubic Inch
- ▶ Clear Plastic Dust Cover
- ▶ High Reliability, 50 Million Operations
- ▶ Plug-In or Solder Terminals
- ▶ Operating Time: 25mS or Less
- ▶ Release Time: 25mS or less
- ▶ Duty Cycle: Continuous
- ▶ Operating Temperature: -30° to +55°C

AC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 120VAC	Fig.	EACH
235-0019	R12-17A3-24	24VAC	4PDT	—	1.2VA	3A	D	12.70
235-0020	R12-17A3-120	120VAC	4PDT	—	1.2VA	3A	D	12.70

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0021	R12-17D3-12	12VDC	4PDT	160	0.9W	3A	D	10.89
235-0022	R12-17D3-24	24VDC	4PDT	650	0.9W	3A	D	10.89



General Purpose Relays

- ▶ Slightly Larger Than 1 Cubic Inch
- ▶ Clear Plastic Dust Cover
- ▶ High Reliability, 50 Million Operations
- ▶ Plug-In or Solder Terminals
- ▶ Operating Time: 25mS or Less
- ▶ Release Time: 25mS or Less
- ▶ Duty Cycle: Continuous
- ▶ Operating Temperature: -30° to +55°C

AC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 120VAC	Fig.	EACH
235-0023	R14-11A10-24	24VAC	DPDT	—	1.2VA	10A	E2	8.47
235-0024	R14-11A10-120	120VAC	DPDT	—	1.2VA	10A	E2	8.58

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0025	R14-5D15-12	12VDC	SPDT	160	0.9W	15A	E1	7.40
235-0026	R14-11D10-12	12VDC	DPDT	160	0.9W	10A	E2	7.89
235-0027	R14-11D10-24	24VDC	DPDT	650	0.9W	10A	E2	7.89

Miniature Industrial Relays

- ▶ Combination Plug-In/Solder Terminals
- ▶ Clear Plastic Dust Cover
- ▶ Gold Overlay Bar Type Long Life Contacts
- ▶ Operating Time: 12mS or Less
- ▶ Release Time: 8mS or Less
- ▶ Operating Temperature: -55° to +70°C, 10 Sec Max.

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0028	R16-11D3-12	12VDC	DPDT	185	0.75W	3A	F	9.72
235-0029	R16-11D5-12	12VDC	DPDT	185	0.75W	5A	F	9.72
235-0030	R16-11D5-24	24VDC	DPDT	700	1.00W	5A	F	10.67

General Purpose Relays

- ▶ Requires Minimal PC Board Area
- ▶ Dust Proof Cover
- ▶ Switches Heavy Current With Low Coil Power
- ▶ Operating Time: 10mS or Less
- ▶ Release Time: 8mS or Less
- ▶ Operating Temperature: -45° to +75°C

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0031	R20-11D6-12	12VDC	DPDT	170	0.8W	8A	G	11.64

Slim Line Relays

- ▶ Sealed Construction
- ▶ Long Life
- ▶ PC Board Mount
- ▶ Operating Time: 30mS or Less
- ▶ Release Time: 8mS or Less
- ▶ Operating Temperature: -30° to +70°C

DC Operated

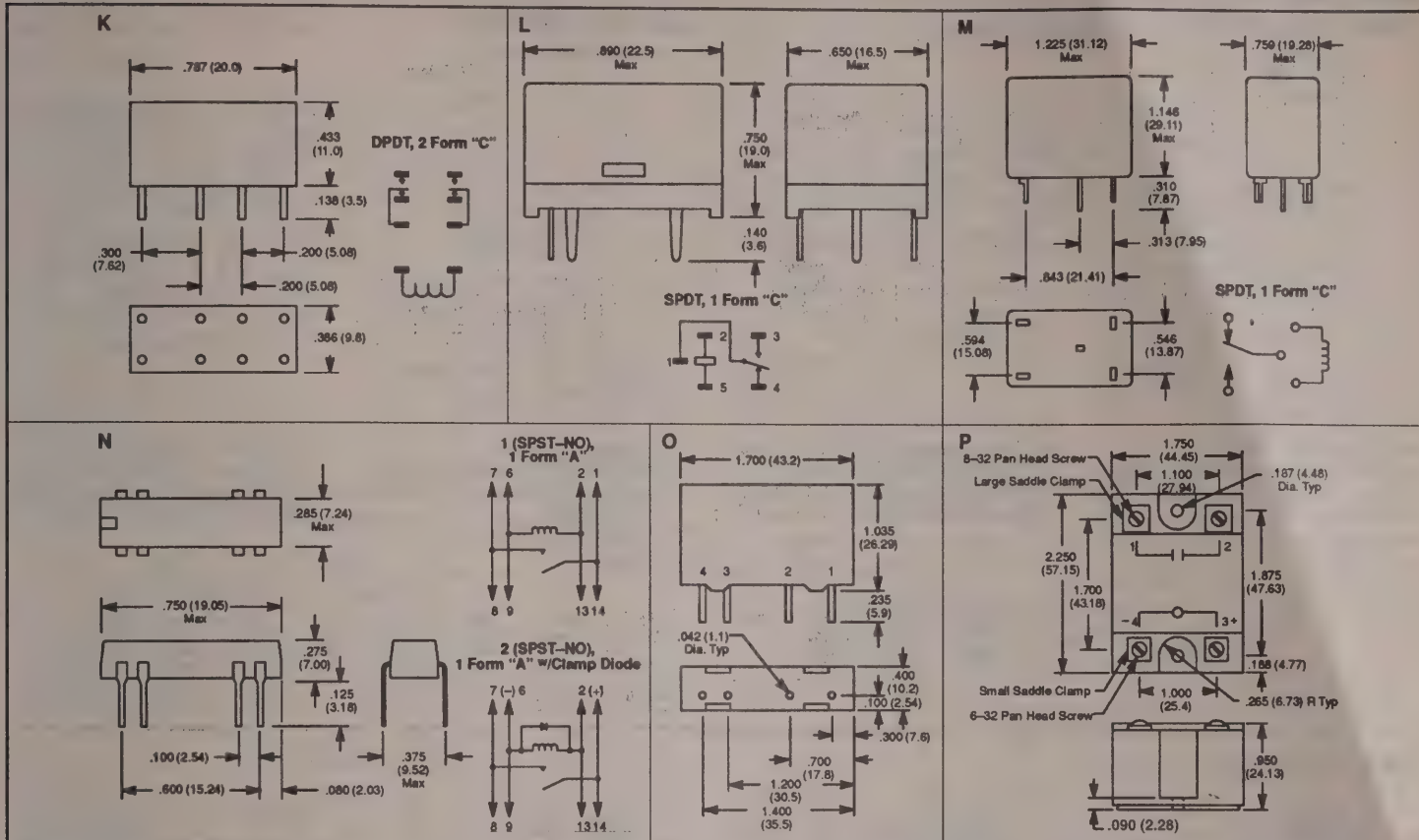
Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0032	R22-1D16-12	12VDC	SPDT-NO	270	0.54W	16A	H1	4.69
235-0033	R22-5D16-12	12VDC	SPDT	270	0.54W	16A	H2	4.69

Upright Epoxy Sealed Power Relays

- ▶ High Dielectric — 400VRMS Between Control and Switching Circuits
- ▶ Cut-Off Nib After PCB Washing
- ▶ 94 V-0 Enclosure
- ▶ Operating Time: 15mS Approx.
- ▶ Release Time: 10mS Approx.
- ▶ Switching Rate: 5 Operations Per Second (Max.)
- ▶ Operating Temperature: -40° to +70°C

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0034	R24-5D10-12V	12VDC	SPDT	230	0.6W	10A	J	5.38
235-0035	R24-5D10-24V	24VDC	SPDT	920	0.6W	10A	J	5.46



Sensitive Coil Single Contact Relays

- ▶ Epoxy Sealed
- ▶ Ultra-Sensitive Coil
- ▶ Standard .100" DIP PC Mount Terminal
- ▶ Operating Time: 4.5ms Approx.
- ▶ Release Time: 1.5ms Approx.
- ▶ Operating Temperature: -40° to +70°C

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0036	R40-11D2-5/6	5/6VDC	DPDT	167	0.15W	2A	K	3.97
235-0037	R40-11D2-12	12VDC	DPDT	960	0.15W	2A	K	3.97
235-0038	R40-11D2-24	24VDC	DPDT	2880	0.20W	2A	K	3.97

General Purpose Relays

- ▶ All Sealed and Resistant to Wave Soldering and Cleaning
- ▶ Less Than 0.53 Cubic Inches
- ▶ Operating Time: 10ms Max.
- ▶ Release Time: 5ms Max.
- ▶ Operating Temperature: -25° to +70°C

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0039	R46-5D3-6	6VDC	SPDT	90	0.4W	5A	L	3.27
235-0040	R46-5D3-12	12VDC	SPDT	360	0.4W	5A	L	3.27
235-0041	R46-5D3-24	24VDC	SPDT	1440	0.4W	5A	L	3.27

Miniature General Purpose Relays

- ▶ PC Mountable
- ▶ Long Life
- ▶ Only 1.1 Cubic Inches
- ▶ Operating Time: 12ms Typ.
- ▶ Release Time: 3ms Typ.
- ▶ Operating Temperature: -55° to +85°C

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Nominal Power	Max. Contact Current @ 28VDC	Fig.	EACH
235-0042	R48-5D10-12	12VDC	SPDT	600	0.25W	10A	M	4.70

General Purpose DIP Reed Relays, DC Operated

- ▶ Standard Industry Packaging
- ▶ Internal Clamping Diode Version (D-Suffix)
- ▶ Separate Time: 330 μ s Max.
- ▶ Release Time: 75 μ s Max.
- ▶ Max. Current: 0.50A
- ▶ Operating Temperature: -45° to +85°C

DC Operated

Stock No.	Mfr.'s Type	Nominal Voltage	Contact Arr.	Coil Res. Ω (Typ)	Max. Pickup VDC	Min. Drop Out VDC	Fig.	EACH
235-0043	R56-1D-5-6	6VDC	SPST-NO	500	3.8	0.5	N1	3.56
235-0044	R56-1D-5-6D	6VDC	SPST-NO	500	3.8	0.5	N2	4.80

Solid State Relay, 4 Amp

- ▶ Industry Standard Package
- ▶ Thick Film Hybrid Construction
- ▶ 4KV Optical Isolation
- ▶ PC Board Mountable
- ▶ Response Time: 0.5 Cycle
- ▶ Input Current: 25mADC Max.
- ▶ On-State Voltage Drop: 1.6V Peak
- ▶ Operating Temperature: -30° to +80°C

DC Operated

Stock No.	Mfr.'s Type	Input Parameters			Output Parameters			Fig.	EACH
		Control Voltage VDC	Min. Turn On Voltage VDC	Drop Out Voltage VDC	Line Voltage Range VAC	Max. On-State Current	Max. 1-Cycle Surge		
235-0045	RS1-1D4-21	3-24	3	1	24-280	3.5A	100A	0	11.79

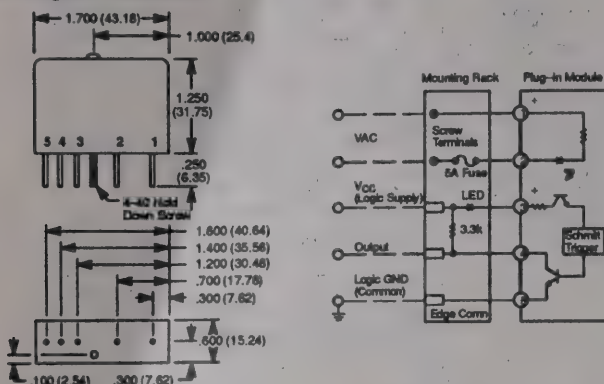
Solid State Heavy Duty Power Relays

- ▶ Back-to-Back Dual SCRs
- ▶ TRIAC Version (T Suffix)
- ▶ Panel Mount
- ▶ Input Current: 4mADC Max
- ▶ On-State Voltage Drop: 1.6V Peak

DC Operated

Stock No.	Mfr.'s Type	Input Parameters			Output Parameters			Fig.	EACH
		Control Voltage VDC	Min. Turn On Voltage VDC	Drop Out Voltage VDC	Line Voltage Range VAC	Max. On-State Current	Max. 1-Cycle Surge		
235-0046	RS3-1D10-51	3-32	3	1	24-330	10A	40A	P	17.81
235-0047	RS3-1D25-24T	3-32	3	1	48-280	25A	215A	P	30.75
235-0048	RS3-1D40-21	3-32	3	1	80-530	40A	600A	P	38.10

Input Digital Module



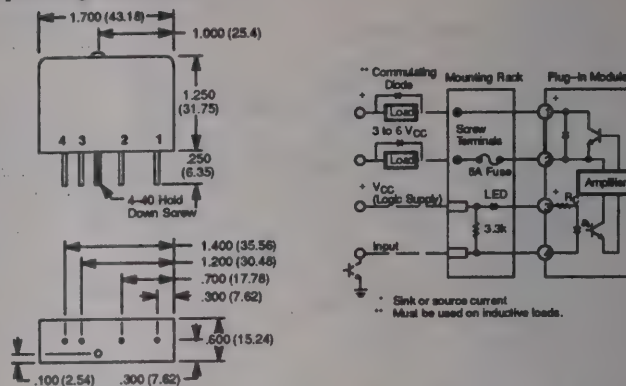
- ▶ 4KV Optical Isolation
- ▶ Industry Standard Package and Color
- ▶ Plugs Into Standard I/O Module Mounting Board

- ▶ Allowable Input for NO Output: 1.5mA
- ▶ Max. Output: 30VDC, 50 mADC
- ▶ Max. Output Leakage Current: 10µADC
- ▶ Operating Temperature: -30° to +80°C

DC Operated

Stock No.	Mfr.'s Type	Input Parameters			Output Parameters			EACH
		Nom. Input Voltage VDC	Max. Input Control mA	Drop Out Current mA	Nom. Logic Supply Voltage VDC	Max. Logic Supply Current mADC	Max. Output Voltage Drop mVDC	
235-0049	RIM-IDC5	5-28	34	1	5	16	200	9.03

Output Digital Module



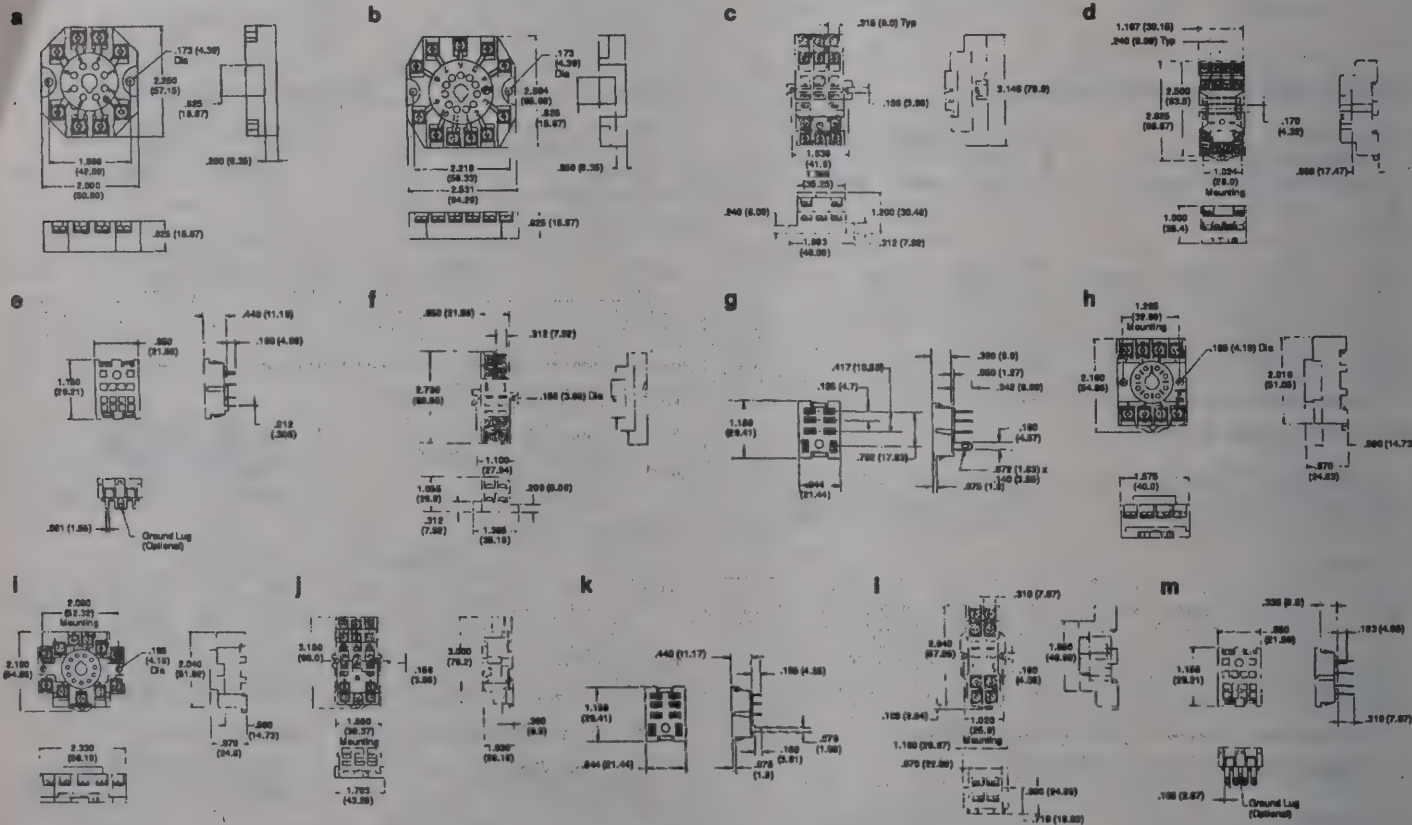
- ▶ 4KV Optical Isolation
- ▶ Industry Standard Package and Color
- ▶ Plugs Into Standard I/O Module Mounting Board
- ▶ Max. Input Current: 18mA

- ▶ Nom. Input Resistance: 2kΩ
- ▶ Line Voltage: 3VDC (Min.), 609VDC (Max.)
- ▶ On-State Current: 10mA (Min.), 3A (Max.)
- ▶ Operating Temperature: -30° to +80°C

DC Operated

Stock No.	Mfr.'s Type	Input Parameters			Output Parameters			EACH
		Nom. Input Voltage VDC	Min. Turn On Voltage VDC	Drop Out Voltage VDC	Nom. Line Voltage Vrms	Peak On-State Voltage	Max. Surge Current ADC	
235-0050	RIM-ODC5	5	2.75	1	240	1.3V	5	9.48

Socket Accessories

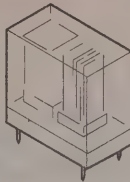


Stock No.	Mfr.'s Type	Description	Electrical Rating		Fig.	EACH
			Volts	Amps		
235-0051	R95-101	8-Pin Octal Socket	600	10	A	4.51
235-0052	R95-104	11-Pin Octal Socket	600	10	B	7.92
235-0053	R95-105	11-Pin Heavy Duty Square Base Socket	300	10	C	8.68
235-0054	R95-106A	14-Pin Miniature Socket	300	7	D	7.73
235-0055	R95-107	14-Pin Blade Socket	120	5	E	1.48
235-0056	R95-110	8-Pin Midget Blade Socket	300	10	F	7.36
235-0057	R95-111	8-Pin Midget Blade Socket	300	10	G	1.76

Stock No.	Mfr.'s Type	Description	Electrical Rating		Fig.	EACH
			Volts	Amps		
235-0058	R95-113	8-Pin Octal Socket	300	10	H	4.06
235-0059	R95-114	11-Pin Octal Socket	300	10	I	5.88
235-0060	R95-115	11-Pin Square Base Socket	300	10	J	6.60
235-0061	R95-117	14-Pin Miniature Socket	300	7	D	7.47
235-0062	R95-120	8-Pin Midget Blade Socket	300	10	K	1.54
235-0063	R95-121	8-Pin Midget Blade Socket	300	10	L	5.21
235-0064	R95-122	14-Pin Blade Socket	120	5	M	1.15

G2R Series General Purpose, Sealed Relays

G2R-14, G2R-24 Specifications. Contact Form: G2R-1 — SPDT; G2R-2 — DPDT. Contact Resistance: G2R-1 — 30Ω maximum; G2R-2 — 50Ω maximum. Contact Rating: G2R-1 — 10A 250 VAC (general use), 10A 30 VDC (resistive); G2R-2 — 5A 250 VAC (general use), 5A 30 VDC (resistive). Operate Time: 15ms maximum. Release Time: AC — 10 ms maximum; DC — 5 ms maximum.



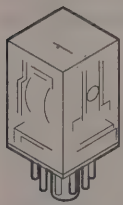
Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-24	25-49	50-99
821-5100	G2R-14-AC24	24 VAC	21.8	260	90 VA	6.12	5.68	5.42
821-5101	G2R-14-AC120	120 VAC	7.5*	6500	90 VA*	6.49	6.04	5.53
821-5102	G2R-14-DC5	5 VDC	106.0	47	53 W	3.73	3.30	2.74
821-5103	G2R-14-DC12	12 VDC	43.6	275	53 W	3.73	3.30	2.74
821-5104	G2R-14-DC24	24 VDC	21.8	1100	53 W	3.73	3.30	2.74
821-5105	G2R-24-AC24	24 VAC	21.8	2670	90 VA	6.42	5.97	4.94
821-5106	G2R-24-AC120	120 VAC	7.5*	6500	90 VA*	7.00	6.51	5.39
821-5107	G2R-24-DC5	5 VDC	106.0	47	53 W	4.12	3.82	3.16
821-5108	G2R-24-DC12	12 VDC	43.6	275	53 W	4.12	3.82	3.16
821-5109	G2R-24-DC24	24 VDC	21.8	1100	53 W	4.12	3.82	3.16

*At 60 Hz.

General-Purpose Relays with LED Indicator and Sockets

Super MK Series

Reliable, high quality, long life. Silver contact rated at 10 amps. UL, CSA rated. LED indicator lets you monitor relay operation at a glance; red LED for AC version; green LED for DC version. Quality sockets and mounting rail complete installation.



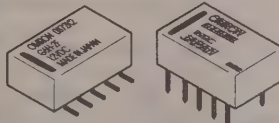
Stock No.	Mfr.'s Type	Rated Voltage	Contact Action	Coil		EACH		
				mA	Ohms	1-24	25-49	50-99
821-5110	MK2PN-S-AC120	120 VAC	DPDT	18.0	1578	11.26	10.48	8.67
821-5111	MK2PN-S-AC24	24 VAC	DPDT	88.0	68	10.56	9.76	8.09
821-5112	MK2PN-S-AC240	240 VAC	DPDT	9.2	6737	23.36	21.84	18.07
821-5113	MK2PN-S-DC12	12 VDC	DPDT	126.0	95	10.50	9.76	8.09
821-5114	MK2PN-S-DC24	24 VDC	DPDT	56.0	430	10.50	9.76	8.09
821-5115	MK2PN-S-DC110	110 VDC	DPDT	15.1	7300	11.26	10.48	8.67
821-5116	MK3PN-S-AC120	120 VAC	3PDT	18.0	1578	12.44	11.58	9.58
821-5117	MK3PN-S-AC24	24 VAC	3PDT	88.0	68	11.69	10.87	8.99
821-5118	MK3PN-S-S-AC240	240 VAC	3PDT	9.2	6737	12.99	12.07	9.99
821-5119	MK3PN-S-S-DC12	12 VDC	3PDT	126.0	95	11.69	10.87	8.99
821-5120	MK3PN-S-S-DC24	24 VDC	3PDT	56.0	430	11.69	10.87	8.99
821-5121	MK3PN-S-S-DC110	110 VDC	3PDT	15.1	7300	12.44	11.58	9.58

Sockets and Track

Stock No.	Mfr.'s Type	For Relay Series	Application	EACH		
				1-24	25-49	50-99
821-3013	PF083A-E	MK 2 Pole	Surface mount or rail	5.53	4.81	4.24
821-3014	PF113A-E	MK 3 Pole	Surface mount or rail	7.86	6.85	6.06
821-3015	PL08	MK 2 Pole	Chassis mount	1.95	1.62	1.38
821-3016	PL11	MK 3 Pole	Chassis mount	2.69	2.47	2.29
821-3017	PPF-100N	All Relays	Mounting rail, 1 m	9.43	8.20	7.26

Compact, Low Profile G6H Series PC Board-Use Relays: 1 Amp Load

Low power consumption 1 amp, 30 VDC relay. Low magnetic interference allows high-density mounting. Just 5mm profile. Standard: G6H-2. Latching: G6HK-2. Surface Mount: G6H-2-F. Surge withstand voltage of 1500 VDC meets FCC Part 68 requirements. DPDT bifurcated contacts. Specifications. Rated Load: 0.5A 125 VAC (p.f.=1) and 1A 30 VDC. Pick-Up Voltage: 75% max. Dropout Voltage: 10% min. Surface mount version can be soldered by VPS, IRS and DWS methods.

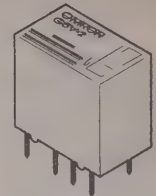


Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resist. Ohms	Coil Inductance		Max. Voltage	Power Consump. mW	EACH		
					Armature Off	Armature On			1-24	25-49	50-99
821-4250	G6H-2-DC5	5 VDC	46.7	64.3	.025	.022	200%	140	4.20	3.72	3.09
821-4251	G6H-2-DC12	12 VDC	11.7	1028.0	.430	.370	200%	140	4.20	3.72	3.09
821-4252	G6H-2-DC24	24 VDC	8.3	2880.0	1.200	.980	170%	200	5.03	4.68	3.87
821-4253	G6H-2-F-DC5	5 VDC	45.7	64.3	.025	.022	200%	140	6.26	5.83	4.82
821-4254	G6H-2-F-DC12	12 VDC	11.7	1028.0	.430	.370	200%	140	6.26	5.83	4.82
821-4255	G6H-2-F-DC24	24 VDC	8.3	2880.0	1.200	.980	170%	200	6.58	6.12	5.06
Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resist. Ohms	Set Pickup Voltage†	Reset Pickup Voltage†	Max. Voltage	Power Consump. mW	EACH		
									1-24	25-49	50-99
821-4259	G6HK-2-DC5	5 VDC	40.0	125	75	75	150%	200	4.92	4.58	3.79
821-4260	G6HK-2-DC12	12 VDC	16.7	720	75	75	150%	200	5.87	5.07	4.70
821-4261	G6HK-2-DC24	24 VDC	12.5	1920	75	75	150%	300	5.31	4.93	4.09

*Rated current and coil resistance for G6HK applies to set coil and reset coil. †% Rated Voltage.

G5V-2 Series PC Board Use Relays: 2 Amp Load

DPDT. Bifurcated contacts. Designed for telecommunications, computer peripherals, security equipment; low level to 2 amps maximum. Standard: G5V-2. High-Sensitivity: G5V-2-H. Ultra-Sensitive: G5V-2-H1. Specifications. Contact Resistance: 50 mΩ. Operate Time: 7 ms max. Release Time: 3 ms max. Fully sealed case allows automatic soldering and cleaning. UL and CSA approved. Meets FCC part 68 1500 V surge withstand. Pick-Up Voltage: 75% max. Dropout Voltage: 5% min.



Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ohms	Power Consumption mW	EACH		
						1-24	25-49	50-99
821-7011	G5V-2-DC5	5 VDC	100.00	50.0	500	3.60	3.18	3.00
821-7012	G5V-2-DC12	12 VDC	41.70	288.0	500	3.60	3.18	3.00
821-7013	G5V-2-DC24	24 VDC	20.80	1152.0	500	3.60	3.18	3.00
821-7014	G5V-2-DC48	48 VDC	12.00	4000.0	500	3.86	3.42	3.19
821-7025	G5V-2-H-DC5	5 VDC	72.00	70.0	360	3.30	2.91	2.42
821-7026	G5V-2-H-DC12	12 VDC	30.00	400.0	360	3.30	2.91	2.42
821-7027	G5V-2-H-DC24	24 VDC	15.00	1600.0	360	3.30	2.91	2.42
821-7028	G5V-2-H1-DC5	5 VDC	30.00	166.7	150	3.53	3.12	2.58
821-7029	G5V-2-H1-DC12	12 VDC	12.50	960.0	150	3.53	3.12	2.58
821-7030	G5V-2-H1-DC24	24 VDC	8.30	2880.0	200	3.53	3.12	2.58
821-7031	G5V-2-H1-DC48	48 VDC	6.25	7680.0	300	3.86	3.43	2.83

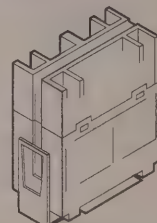
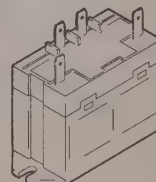
G7J Series

— NEW —

Ideal for three-phase motor control applications and resistive and inductive loads. No contact chattering for voltage drops up to 50% of rated voltage. Withstands more than 4 kV between contacts that are of different polarity and between the coil and contacts. Flame-resistant materials (UL 94V-0) used for all insulation. Push to test button on all models lets user check contact operation. Contact ratings shown for resistive loads.

Stock No.	Mfr.'s Type	Coil Rated Voltage	Contact a-no, b-nc		Coil		EACH		
			Action	Amp	mA	Ohms	1-24	25-49	50-99
821-7101	G7J-2A2B-B-AC100/120	100/120 VAC	2A +2b	25/8	18-22		31.77	30.18	27.00
821-7102	G7J-2A2B-B-AC200/240	200/240 VAC	2A +2b	25/8	9-11		32.83	31.19	27.91
821-7103	G7J-2A2B-DC24	24 VDC	2A +2b	25/8	167	288	28.74	27.30	24.43
821-7104	G7J-3A1B-B-AC100/120	100/120 VAC	3a+1b	25/8	18-22		31.77	30.18	27.00
821-7105	G7J-3A1B-B-AC200/240	200/240 VAC	3a+1b	25/8	9-11		32.83	31.19	27.91
821-7106	G7J-3A1B-B-DC24	24 VDC	3a+1b	25/8	167	288	28.74	27.30	24.43
821-7107	G7J-4A-B-AC100/120	100/120 VAC	4PST-NO	25	18-22		54.88	52.14	46.65
821-7108	G7J-4A-B-AC200/240	200/240 VAC	4PST-NO	25	9-11		56.69	53.85	48.18
821-7109	G7J-4A-B-DC24	24 VDC	4PST-NO	25	167	288	28.74	27.30	24.43
821-7110	R99-04-FOR-G5F Accessory bracket for mounting.						.98	.91	.75

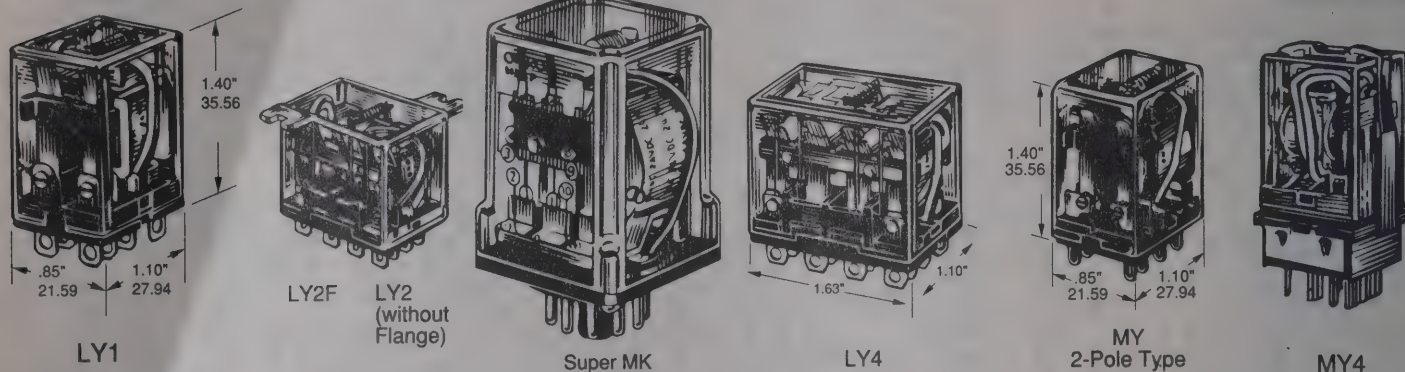
Model G7L Power Relays Offer Quick-Connect or Screw Terminal Versions



High capacity 25-30 amps. Low cost. Relay test button. Replaces G5D series. Upper bracket mounting. High dielectric strength. TVU, UL and CSA approved. VDE approval pending. Nonflammable insulating materials satisfying UL94V-0. Quick Connect Terminals: G7L-TUB. Screw Terminals: G7L-BUB.

Stock No.	Mfr.'s Type	Rated Voltage	Contact		Coil		EACH		
			Action	Amp	mA	Ohms	1-24	25-49	50-99
821-7001	G7L-1A-BUB-J-CB-AC100/120	100/120 VAC	SPST-NO	30	17,020.4	5260	14.89	13.84	12.96
821-7002	G7L-1A-BUB-J-CB-AC24	24 VAC	SPST-NO	30	71	303	14.89	13.84	12.96
821-7003	G7L-1A-BUB-J-CB-AC200/240	200/240 VAC	SPST-NO	30	8.5/10.2	21000	15.55	14.47	13.53
821-7004	G7L-1A-BUB-J-CB-DC12	12 VDC	SPST-NO	30	158	75	14.09	13.11	12.27
821-7005	G7L-1A-BUB-J-CB-DC24	24 VDC	SPST-NO	30	79	303	14.09	13.11	12.27
821-7006	G7L-2A-BUB-J-CB-AC100/120	100/120 VAC	DPST-NO	25	17,020.4	5260	15.63	14.53	13.59
821-7007	G7L-2A-BUB-J-CB-AC24	24 VAC	DPST-NO	25	71	303	14.20	13.21	12.36
821-7008	G7L-2A-BUB-J-CB-AC200/240	200/240 VAC	DPST-NO	25	8.5/10.2	21000	16.23	15.10	14.13
821-7009	G7L-2A-BUB-J-CB-DC12	12 VDC	DPST-NO	25	158	75	14.83	13.78	12.91
821-7010	G7L-2A-BUB-J-CB-DC24	24 VDC	DPST-NO	25	79	303	14.83	13.91	12.91
821-7015	G7L-1A-TUB-J-CB-AC100/120	100/120 VAC	SPST-NO	30	17,020.4	5260	10.50	9.76	8.09
821-7016	G7L-1A-TUB-J-CB-AC24	24 VAC	SPST-NO	30	71	303	10.50	9.76	8.09
821-7017	G7L-1A-TUB-J-CB-AC200/240	200/240 VAC	SPST-NO	30	8.5/10.2	21000	11.09	10.31	8.54
821-7018	G7L-1A-TUB-J-CB-DC12	12 VDC	SPST-NO	30	158	75	9.79	9.10	7.54
821-7019	G7L-1A-TUB-J-CB-DC24	24 VDC	SPST-NO	30	79	303	9.79	9.10	7.54
821-7020	G7L-2A-TUB-J-CB-AC100/120	100/120 VAC	DPST-NO	25	17,020.4	5260	10.88	10.11	8.37
821-7021	G7L-2A-TUB-J-CB-AC24	24 VAC	DPST-NO	25	71	303	10.88	10.11	8.37
821-7022	G7L-2A-TUB-J-CB-AC200/240	200/240 VAC	DPST-NO	25	8.5/10.2	21000	11.41	10.62	8.80
821-7023	G7L-2A-TUB-J-CB-DC12	12 VDC	DPST-NO	25	158	75	10.18	9.47	7.83
821-7024	G7L-2A-TUB-J-CB-DC24	24 VDC	DPST-NO	25	79	303	10.18	9.47	7.83

General Purpose Relays and Sockets



Model LY General-Purpose Relays

Small . . . Low Cost . . . Modern Design . . . Versatile . . . 12 Amps to 15 Amps . . . U.L.-CSA
 ► High Shock and Vibration Resistant ► Arc Barrier Equipped

Stock No.	Mfr.'s Type	Coil Voltage	Contact		Coil		Terminal Type*	Case Style	EACH		
			Action	Amps	MA	Ohms			1-9	25-99	100-249
821-2000	LY1-AC120	120AC	SPDT	15	9.2	4430	Q/C	STD	6.51	6.05	5.01
821-2001	LY1-AC24	24AC	SPDT	15	46.0	180	Q/C	STD	6.51	6.05	5.01
821-2002	LY1-DC12	24DC	SPDT	15	75.0	160	Q/C	STD	6.21	5.78	4.78
821-2003	LY1-DC24	24DC	SPDT	15	36.9	650	Q/C	STD	6.21	5.78	4.78
821-2004	LY1-0-DC12	12DC	SPDT	15	75.0	160	PCB	STD	6.51	6.05	5.01
821-2005	LY1-0-DC24	24DC	SPDT	15	36.9	650	PCB	STD	6.51	6.05	5.01
821-2006	LY1F-AC120	120AC	SPDT	15	9.2	4430	Q/C	UBM	6.62	6.16	5.10
821-2007	LY1F-AC24	24AC	SPDT	15	46.0	180	Q/C	UBM	6.62	6.16	5.10
821-2008	LY1F-DC12	12DC	SPDT	15	75.0	160	Q/C	UBM	6.62	6.16	5.10
821-2009	LY1F-DC24	24DC	SPDT	15	36.9	650	Q/C	UBM	6.62	6.16	5.10
821-2010	LY2-AC120	120AC	DPDT	12	9.2	4430	Q/C	STD	7.52	6.99	5.79
821-2011	LY2-AC24	24AC	DPDT	12	46.0	180	Q/C	STD	7.52	6.99	5.79
821-2012	LY2-AC240	240AC	DPDT	12	4.6	18790	Q/C	STD	7.80	7.25	6.00

Super MK Series

Reliable, high quality, long life. (Silver contacts rated at 10 amps. U.L., CSA rated.)

Stock No.	Mfr.'s Type	Voltage	Contact Action	Coil		EACH		
				MA	Ohms	1-9	25-99	100-249
821-5020	MK2P-S-AC120	120AC	DPDT	18.0	1578	9.82	9.13	7.56
821-5025	MK2P-S-AC24	24AC	DPDT	88.0	68	9.03	8.40	6.95
821-5030	MK2P-S-AC240	240AC	DPDT	9.2	6737	10.72	9.97	8.25
821-5035	MK2P-S-DC12	12DC	DPDT	126.0	95	9.03	8.40	6.95
821-5040	MK2P-S-DC24	24DC	DPDT	56.0	430	9.03	8.40	6.95
821-5045	MK2P-S-DC110	110DC	DPDT	15.1	7300	10.72	9.97	8.25
821-5050	MK3P-S-AC120	120AC	3PDT	18.0	1578	11.05	10.28	8.51
821-5055	MK3P-S-AC24	24AC	3PDT	88.0	68	10.32	9.60	7.95
821-5060	MK3P-S-AC240	240AC	3PDT	9.2	6737	11.67	10.85	8.98
821-5065	MK3P-S-DC12	12DC	3PDT	126.0	95	10.32	9.60	7.95
821-5070	MK3P-S-DC24	24DC	3PDT	56.0	430	10.32	9.60	7.95
821-5075	MK3P-S-DC110	110DC	3PDT	15.1	7300	11.67	10.85	8.98

MY Series

Miniature, high sensitivity power relays. Contacts rated at 3 and 5 amps. Type "E" are silver cadmium oxide contacts. U.L., CSA rated.

Stock No.	Mfr.'s Type	Voltage	Contact		Coil		EACH		
			Action	Amps	MA	Ohms	1-9	25-99	100-249
821-4029	MY2-AC24	24AC	DPDT	5A	46.0	—	5.89	5.48	4.54
821-4030	MY2-AC120	120AC	DPDT	5A	9.2	—	5.89	5.48	4.54
821-4031	MY2-DC12	12DC	DPDT	5A	75.0	160	5.89	5.48	4.54
821-4032	MY2-DC24	24DC	DPDT	5A	36.9	650	5.89	5.48	4.54
821-4033	MY2E-AC24	24AC	DPDT	5A	46.0	—	6.68	6.21	5.14
821-4034	MY2E-AC120	120AC	DPDT	5A	9.2	—	6.68	6.21	5.14
821-4035	MY2E-DC24	24DC	DPDT	5A	36.9	650	6.68	6.21	5.14
821-4037	MY4-AC24	24AC	4PDT	3A	46.0	—	6.17	5.74	4.75
821-4038	MY4-AC120	120AC	4PDT	3A	9.2	—	6.17	5.74	4.75

Quality Sockets and Clips for Relays

Stock No.	Mfr.'s Type	For Relay Series	Application	EACH		
				1-9	25-99	100-249
821-3013	PF083A-E	MK 1 and 2 Pole	Surface mount or rail	4.51	3.98	3.47
821-3014	PF113A-E	MK 3 Pole	Surface mount or rail	6.42	5.73	4.94
821-3015	PL08	MK 2 Pole	Solder	1.61	1.49	1.24
821-3016	PL11	MK 3 Pole	Solder	1.82	1.69	1.40
821-3017	PPF-100N	All Relays	Mounting rail	8.03	7.47	6.19
821-3021	PYF08A-E	MY 2 Pole	Surface or rail mount	4.37	4.06	3.36
821-3022	PYF11A	MY 3 Pole	Surface or rail mount	6.55	6.10	5.05
821-3023	PYF14A-E	MY 4 Pole	Surface or rail mount	6.55	6.10	5.05
821-3024	PY08	MY 2 Pole	Solder	1.20	1.11	.92

► High Dielectric Strength (2000 VAC)

► Operate/Release Time, 25ms

Stock No.	Mfr.'s Type	Coil Voltage	Contact		Coil		Terminal Type*	Case Style	EACH		
			Action	Amps	MA	Ohms			1-9	25-99	100-249
821-2013	LY2-DC12	12DC	DPDT	12	75.0	160	Q/C	STD	7.52	6.99	5.79
821-2014	LY2-DC24	24DC	DPDT	12	36.9	650	Q/C	STD	7.52	6.99	5.79
821-2015	LY2-DC6	6DC	DPDT	12	150.0	40	Q/C	STD	7.52	6.99	5.79
821-2016	LY2-0-DC12	12DC	DPDT	12	75.0	160	PCB	STD	7.52	6.99	5.79
821-2017	LY2-0-DC24	24DC	DPDT	12	36.9	650	PCB	STD	7.52	6.99	5.79
821-2018	LY2F-AC120	120AC	DPDT	12	9.2	4430	Q/C	UBM	7.69	7.15	5.92
821-2019	LY2F-DC12	12DC	DPDT	12	75.0	160	Q/C	UBM	7.69	7.15	5.92
821-2020	LY2F-DC24	24DC	DPDT	12	36.9	650	Q/C	UBM	7.69	7.15	5.92
821-2021	LY4-AC120	120AC	4PDT	12	16.4	2200	Q/C	STD	11.89	11.06	9.15
821-2022	LY4-AC24	24AC	4PDT	12	80.0	78	Q/C	STD	11.89	11.06	9.15
821-2023	LY4-DC12	12DC	4PDT	12	120.0	100	Q/C	STD	11.89	11.06	9.15
821-2024	LY4-DC24	24DC	4PDT	12	69.0	350	Q/C	STD	11.89	11.06	9.15

*In Terminal Type, UBM means UPPER BRACKET MOUNT, Q/C fits sockets or .200" quick connect terminals.

Dual Coil—Magnetic Latching*

Stock No.	Mfr.'s Type	Voltage	Contact Action	Coil		EACH		
				MA	Ohms	1-9	25-99	100-249
821-4013	MK2KP-AC24	24AC	DPDT-S DPDT-R	66.0 10.8	105 965	33.42	31.08	25.73
821-4014	MK2KP-AC120	120AC	DPDT-S DPDT-R	19.0 3.6	1,900 14,400	33.42	31.08	25.73
821-4015	MK2KP-DC12	12DC	DPDT-S DPDT-R	128.0 14.4	25 325	33.42	31.08	25.73
821-4016	MK2KP-DC24	24DC	DPDT-S DPDT-R	66.0 10.6	105 965	33.42	31.08	25.73

*S = Set, R = Reset in coil resistance. DPDT — 11 pin octal socket.

Stock No.	Mfr.'s Type	Voltage	Contact		Coil		EACH		
			Action	Amps	MA	Ohms	1-9	25-99	100-249
821-4039	MY4-DC6	6DC	4PDT	3A	150.0	40	6.17	5.74	4.75
821-4040	MY4-DC12	12DC	4PDT	3A	75.0	160	6.17	5.74	4.75
821-4041	MY4-DC24	24DC	4PDT	3A	36.9	650	6.17	5.74	4.75
821-4042	MY4-DC48	48DC	4PDT	3A	18.5	2,000	6.17	5.74	4.75
821-4043	MY4-DC110	110DC	4PDT	3A	10.0	11,000	6.40	5.95	4.92
821-4044	MY4E-AC24	24AC	4PDT	5A	46.0	—	7.07	6.57	5.44
821-4045	MY4E-AC120	120AC	4PDT	5A	9.2	—	7.07	6.57	5.44
821-4046	MY4E-DC12	12DC	4PDT	5A	75.0	160	6.17	5.74	4.75
821-4047	MY4E-DC24	24DC	4PDT	5A	36.9	2,600	6.17	5.74	4.75

Stock No.	Mfr.'s Type	For Relay Series	Application	EACH		
				1-9	25-99	100-249
821-3025	PY11	MY 3 Pole	Solder	1.51	1.41	1.16
821-3026	PY14	MY 4 Pole	Solder	1.66	1.55	1.28
821-3027	PYC-A1	LY	Hold-down clip	.35	.30	.27
821-3028	PTF08A-E	LY 1 and 2 Pole	Surface or rail mount	4.16	3.87	3.20
821-3029	PTF14A-E	LY 4 Pole	Surface or rail mount	7.69	6.69	6.92
821-3030	PT08	LY 1 and 2 Pole	Chassis—solder	1.66	1.55	1.28
821-3031	PT14	LY 4 Pole	Chassis—solder	1.73	1.66	1.35
821-3032	PT08-0	LY 1 and 2 Pole	PCB terminal	1.66	1.55	1.28
821-3033	PT14-0	LY 4 Pole	PCB terminal	1.73	1.66	1.35

G3NA Series

— NEW —

- All Models Feature the Same Compact Dimensions to Provide a Uniform Mounting Pitch
- Built-in Varistor Effectively Absorbs External Surges
- Operation Indicator (Red LED) Enables Monitoring Operation
- Protective Cover for Greater Safety

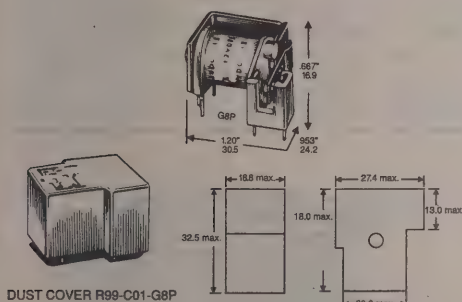
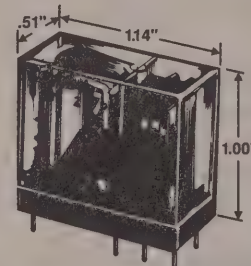
Stock No.	Mir.'s Type	Input Range	Max. mA	Output				Surge Current	Leakage Current	EACH		
				VAC		Load Current				1-24	25-49	50-99
				Min.	Max.	w/Heat Sink	w/o Heat Sink					
821-7113	G3NA-210B-DC5-24	5-24VDC	7	24	240	.01 to 10A	.01 to 4A	150A	5mA @ 100VAC 10mA @ 200VAC	13.99	11.20	9.80
821-7114	G3NA-210B-AC100-120	100-120VAC	7	24	240	.01 to 10A	.01 to 4A	150A		17.97	14.38	12.58
821-7115	G3NA-210B-AC200-240	200-240VAC	7	24	240	.01 to 10A	.01 to 4A	150A		17.97	14.38	12.58
821-7116	G3NA-225B-DC5-24	5-24VDC	7	24	240	.01 to 25A	.01 to 4A	220A		18.13	14.50	12.69
821-7117	G3NA-225B-AC100-120	100-120VAC	7	24	240	.01 to 25A	.01 to 4A	220A		22.41	17.93	15.69
821-7118	G3NA-225B-AC200-240	200-240VAC	7	24	240	.01 to 25A	.01 to 4A	220A		22.41	17.93	15.69
821-7119	G3NA-240B-DC5-24	5-24VDC	7	24	240	.01 to 40A	.01 to 6A	440A		45.88	36.70	32.12
821-7120	G3NA-240B-AC100-120	100-120VAC	7	24	240	.01 to 40A	.01 to 6A	440A		49.35	39.48	34.55
821-7121	G3NA-240B-AC200-240	200-240VAC	7	24	240	.01 to 40A	.01 to 6A	440A		49.35	39.48	34.48
821-7122	G3NA-440B-DC5-24	5-24VDC	5	200	480	.02 to 40A	.02 to 6A	440A	10mA @ 200VAC 20mA @ 400VAC	54.10	54.10	48.69
821-7123	G3NA-440B-AC100-120	100-120VAC	5	200	480	.02 to 40A	.02 to 6A	440A		56.22	56.22	50.60
821-7124	Y92B-A100 Heat Sink	Applicable SSR Type G3NA-210B, 225B								8.51	8.51	7.66
821-7125	Y92B-A150N Heat Sink	Applicable SSR Type G3NA-440B								11.90	11.90	10.71

G2R Series General Purpose, Unsealed Relays

General Purpose, unsealed relays. **Specifications.** Contact Form. **G2R-1:** SPDT. **G2R-2:** DPDT. **Contact Resistance.** **G2R-1:** 30Ω maximum. **G2R-2:** 50Ω maximum. **Contact Rating.** **G2R-1:** 10A 250VAC (general use), 10A 30VDC (resistive). **G2R-2:** 5A 250VAC (general use), 5A 30VDC (resistive). **Operate Time:** 15mS maximum. **Release Time.** AC: 10mS maximum. DC: 5mS maximum.

Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-24	25-49	50-99
821-1026	G2R-1-120VAC	120VAC	7.5*	6500	0.90VA*	7.08	6.37	5.30
821-1027	G2R-1-5VDC	5VDC	106.0	47	0.53W	3.79	3.37	3.15
821-1028	G2R-1-12VDC	12VDC	43.6	275	0.53W	4.49	4.05	3.26
821-1029	G2R-1-24VDC	24VDC	21.8	1100	0.53W	4.49	4.05	3.26
821-1030	G2R-2-120VAC	120VAC	7.5*	6500	0.90VA*	7.61	6.85	5.42
821-1031	G2R-2-5VDC	5VDC	106.0	47	0.53W	7.49	6.92	6.72
821-1032	G2R-2-12VDC	12VDC	43.6	275	0.53W	4.29	3.99	3.74
821-1033	G2R-2-24VDC	24VDC	21.8	1100	0.53W	5.49	4.94	4.74

*At 60Hz.



DUST COVER R99-C01-G8P

Model G8P PC-Board Use 30-Amp Relays

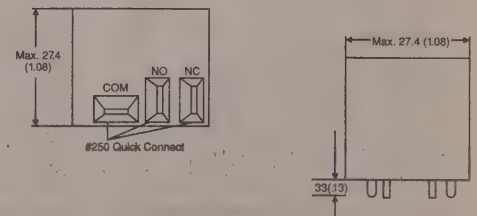
- U.L./CSA Recognized
- Ideal for Heating, Ventilation, Air Conditioning Uses
- Dust Cover Available
- Small Size, Yet Capable of Switching up to 30A Load

Stock No.	Mfr.'s Type	Coil Voltage	Contact		Coil		EACH		
			Action	Amp	mA	Ohms	1-24	25-49	50-99
821-2037	G8P-1111P-US-DC5	5DC	SPST-NO	30	185	27	4.57	4.19	3.86
821-2038	G8P-1111P-US-DC12	12DC	SPST-NO	30	77	155	4.23	4.04	3.18
821-2039	G8P-1111P-US-DC24	24DC	SPST-NO	30	36	660	4.23	4.04	3.18
821-2041	G8P-111P-US-DC12	12DC	SPDT	20/10	77	155	4.51	3.34	3.11
821-2042	G8P-111P-US-DC24	24DC	SPDT	20/10	36	660	4.51	3.34	3.11
821-2043	G8P-111P-US-DC48	48DC	SPDT	20/10	19	2480	4.67	4.29	4.10
821-2044	R99-C01-G8P†	—	—	—	—	—	.45	.41	.32

* 20/10A SPDT, No Contact = 20A, NC Contact = 10A. † Dust Cover.

G7G With Quick-Connect Terminals

Stock No.	Mfr.'s Type	Coil Voltage	Contact		Coil		EACH		
			Action	Amp	mA	Ohms	1-24	25-49	50-99
821-5200	G7G-1A2-CB-DC5	5DC	SPST-NO	30	185	27	4.78	4.45	4.16
821-5201	G7G-1A2-CB-DC12	12DC	SPST-NO	30	77	155	4.78	4.45	4.16
821-5202	G7G-1A2-CB-DC24	24DC	SPST-NO	30	36	660	4.25	3.96	3.70
821-5203	G7G-1C2-CB-DC5	5DC	SPDT	20/10	185	27	5.51	5.13	4.81
821-5204	G7G-1C2-CB-DC12	12DC	SPDT	20/10	77	155	5.51	5.13	4.81
821-5205	G7G-1C2-CB-DC24	24DC	SPDT	20/10	36	660	5.51	5.13	4.81

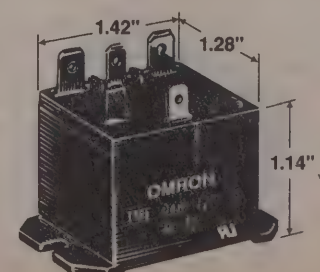


G4B Series Upper Mounting Bracket Type

Creepage distance of more than .08". Upper mounting bracket type for easy wiring and mounting. **Specifications.** Load Contact Terminal: quick connect #110. **Contact Form:** SPDT. **Contact Resistance:** 30mΩ max. **Rated Load (resistive):** 220VAC 15A, 24VDC 15A. **Carry Current:** 20A. **Max. Operating Voltage:** 250VAC, 125VDC. **Max. Operating Current:** 20A. **Max. Switching Capacity (resistive):** 3,300VA, 360W.

Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-24	25-49	50-99
821-1023	G4B-112T-C-US-120VAC	120VAC	10.8*	—	1.3VA	8.75	8.14	6.74
821-1024	G4B-112T-C-US-12VDC	12VDC	89.0	135	1.2W	10.29	9.26	8.59
821-1025	G4B-112T-C-US-24VDC	24VDC	50.0	480	1.2W	10.29	9.26	8.59

*At 60Hz.



G6A Series PC Board-Use Relays

Plastic sealed relay with high surge dielectric for use in telecommunication equipment. High sensitivity. Low profile design for use in 1/2" PC board rack. Surge withstand voltage of 1500 VDC meets FCC Part 68 requirements. Unique moving loop (permanent magnet) armature reduces relay size, magnetic interference, and contact bounce time. DPDT or 4PDT bifurcated crossbar AgPd contacts (Au clad). Rated 2 amps carry current.

DPDT

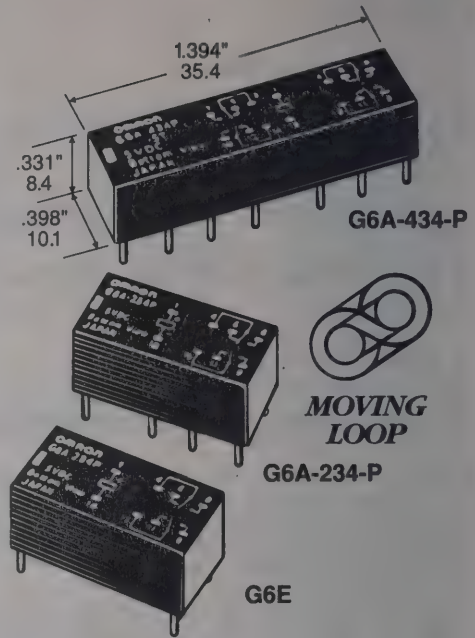
Stock No.	Mfr.'s Type	Coil Voltage	Coil mA	Coil Res.	Pwr. mW	EACH		
						1-24	25-49	50-99
821-3001	G6A-234P-ST-US-DC12	12DC	16.7	720	200	6.70	6.39	5.04
821-3002	G6A-234P-ST-US-DC24	24DC	8.3	2880	200	6.70	6.39	5.04
821-3003	G6A-234P-ST-US-DC48	48DC	4.9	9750	235	6.96	6.47	5.36
821-3004	G6A-234P-ST-US-DC5	5DC	40.0	125	200	6.70	6.39	5.04

4PDT

821-3005	G6A-434P-ST-US-DC12	12DC	30.0	400	360	11.32	10.19	8.50
821-3006	G6A-434P-ST-US-DC24	24DC	15.0	1600	360	11.90	10.70	8.91
821-3007	G6A-434P-ST-US-DC48	48DC	7.5	6400	360	12.58	11.31	9.43
821-3008	G6A-434P-ST-US-DC5	5DC	72.5	69	360	11.90	10.70	8.91

G6E Series—SPDT With Features As Above

821-3009	G6E-134P-ST-US-DC5	5DC	40.0	125	200	3.90	3.63	3.00
821-3010	G6E-134P-ST-US-DC12	12DC	16.7	720	200	5.04	3.68	3.42
821-3011	G6E-134P-ST-US-DC24	24DC	8.3	2880	200	4.93	4.44	3.70



G5V1 Series General Purpose, Horizontal Mount Relays

Sealed, general purpose, horizontal mount types. Features high international .10" terminal pitch arrangement. **Specifications.** Contact. Rated Load: 110VAC 0.5A, 24VDC 1A. Carry Current: 2A. Maximum Operating Voltage: 125VAC, 60VDC. Maximum Operating Current: 1A. Maximum Switching Capacity: 60VA, 30W. Minimum Permissible Load (reference value): 5VDC 1mA. Replaces G2Q Series.

Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-24	25-49	50-99
821-1041	G5V-1-5VDC	5VDC	56.0	89	150	2.90	2.57	2.41
821-1042	G5V-1-12VDC	12VDC	23.5	510	150	2.90	2.57	2.41
821-1043	G5V-1-24VDC	24VDC	15.0	1600	150	2.90	2.57	2.41

G5L Series

Sealed, SPDT relay ideal for applications in household electrical appliances. Construction resistant to flux wicking. Dip soldering is possible. **Specifications.** Contact Resistance: 100 m maximum. Operate Time: .6 mS maximum. Release Time: 7.2 mS maximum. Insulation Resistance: 100 M Ω minimum (at 500 VDC). G5L rated at 5 amps 120 VAC, 30 VDC; G5LE rated at 10 amps 120 VAC, 30 VDC. Replaces G2U and G4S.

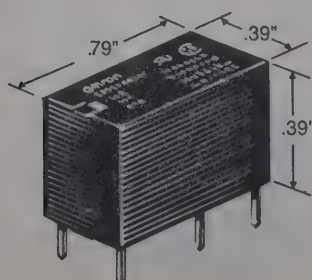
Stock No.	Mfr.'s Type	Rated Current mA	Rated Voltage	Coil Resistance Ohms	Power Consumption mW	EACH		
						1-24	25-49	50-99
821-1034	G5L-114P-PS-5VDC	79.4	5VDC	63	approx. 400	2.43	2.15	1.94
821-1035	G5L-114P-PS-12VDC	33.3	12VDC	360	approx. 400	2.49	2.20	1.99
821-1036	G5L-114P-PS-24VDC	16.7	24VDC	1440	approx. 400	2.40	2.15	1.94
821-1200	G5LE-114P-PS-DC5	79.4	5VDC	63	400	2.71	2.41	2.13
821-1201	G5LE-114P-PS-DC12	33.3	12VDC	360	400	2.71	2.41	2.13
821-1202	G5LE-114P-PS-DC24	16.7	24VDC	1440	400	2.71	2.41	2.13



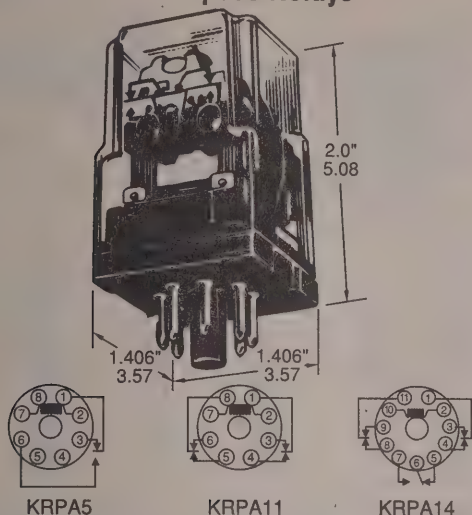
G6B Series

Sealed Power PCB Relay Available: SPST-NO and DPST-NO. Contact Resistance: 30 m Ω max. Operate Time: 10 mS max. Release Time: 10 mS max. Insulation Resistance: 1000 M Ω @ 500 VDC. Contacts: 5 Amps @ 250 VAC Resistive, 5 Amps @ 30 VDC Resistive.

Stock No.	Mfr.'s Type	Contact Form	Related Current mA	Rated Voltage	Coil Resistance Ω	Power Consumption mW	EACH		
							1-24	25-49	50-99
821-4200	G6B-1114P-US-DC12	1A	16.7	12VDC	720	200	4.42	4.11	3.84
821-4205	G6B-1114P-US-DC24	1A	8.3	24VDC	2880	200	5.00	3.99	3.30
821-4215	G6B-2214P-US-DC24	2A	12.5	24VDC	1920	300	6.67	5.35	4.55



Series KRPA General Purpose Relays



- Multi-Contact Arrangement
- Octal Plug Termination
- Clear Dust Cover
- Hold-down spring for KRPA and KRPA-N will accommodate machine screws or rivets. For use with flush mount chassis sockets.

U.L. Contact Ratings for KRPA

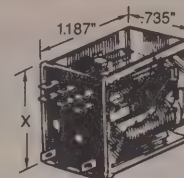
Material	Silver	Silver	
Code	Y	Y	
Models	SPDT,DPDT & 3PDT	SPDT,DPDT	3PDT
Ratings	5 amps @120VAC 1/8HP @120VAC 3 amps @240VAC 1/8HP @240VAC	10amps@250VAC 1/8HP@250VAC 1/8HP@120VAC	10amps@120VAC 1/8HP@120VAC 6amps@250VAC 1/8HP@250VAC

Ruggedly constructed relay offered with silver contacts, code "Y", rated 5 Amps; and silver-cadmium oxide contacts, code "G" rated 10 Amps. Contact arrangements are available up through 3 form (3PDT). Expected life exceeds 100,000 operations at rated load. Mechanical life is 10 million operations, minimum. Enclosed in a clear dust cover. U.L. recognized under file E22575. Low cost version of the KRP relay.

KRPA-N Series has an indicator lamp wired in parallel with its coil, making this model ideal for voltage or current monitoring applications. Silver-cadmium oxide contacts are rated 10 Amps. KRPA-N specifications are identical to those of other models in the KRPA series.

Stock No.	Mfr.'s Type	EACH		
		1-24	25-49	50-99
886-0602	KRPA-5AY-24V	17.01	16.15	15.31
886-0603	KRPA-5AY-120V	17.01	16.15	15.31
886-0606	KRPA-5AG-120V	17.64	16.77	15.88
886-0608	KRPA-5DY-12V	16.96	16.11	15.26
886-0609	KRPA-5DY-24V	16.96	16.11	15.26
886-0615	KRPA-11AY-6V	19.18	18.24	17.26
886-0616	KRPA-11AY-12V	19.18	18.24	17.26
886-0617	KRPA-11AY-24V	19.18	18.24	17.26
886-0618	KRPA-11AY-120V	19.18	18.24	17.26
886-0620	KRPA-11AG-6V	19.18	18.24	17.26
886-0621	KRPA-11AG-12V	19.18	18.24	17.26
886-0622	KRPA-11AG-24V	19.18	18.24	17.26
886-0623	KRPA-11AG-120V	19.18	18.24	17.26
886-0626	KRPA-11DY-12V	18.34	17.45	16.52
886-0627	KRPA-11DY-24V	18.91	17.98	17.01
886-0629	KRPA-11DY-110V	20.80	19.77	18.74
886-0631	KRPA-11DG-12V	19.68	18.71	17.72
886-0632	KRPA-11DG-24V	19.68	18.71	17.72
886-0634	KRPA-11DG-110V*	21.36	20.30	19.23
886-0637	KRPA-14AY-24V	23.61	22.43	21.24
886-0638	KRPA-14AY-120V	22.05	20.95	19.83
886-0641	KRPA-14AG-12V	24.17	22.95	21.75
886-0642	KRPA-14AG-24V	24.17	22.95	21.75
886-0643	KRPA-14AG-120V	24.17	22.95	21.75
886-0646	KRPA-14DY-12V	23.45	22.29	21.13
886-0647	KRPA-14DY-24V	23.45	22.29	21.13
886-0651	KRPA-14DG-12V	24.02	22.82	21.62
886-0652	KRPA-14DG-24V	24.02	22.82	21.62
886-0654	KRPA-14DG-110V	25.98	24.68	23.39
886-0656	KRPA-11AN-12V	22.42	21.30	20.17
886-0657	KRPA-11AN-24V	22.42	21.30	20.17
886-0658	KRPA-11AN-120V	22.42	21.30	20.17
886-0661	KRPA-11DN-12V	22.28	21.16	20.05
886-0662	KRPA-11DN-24V	22.28	21.16	20.05
886-0663	KRPA-11DN-110V	24.02	22.82	21.62
886-0667	KRPA-14AN-120V	27.31	25.96	24.60

R10 Series DC Industrial Relays

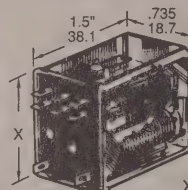


Transparent enclosures. Solder terminals for stud or plug-in mounting. **Mechanical Life:** 100 million operations/ Y series contacts are fine silver. X series contacts are silver-cadmium oxide. **Operating Temperature:** -55° to 75°C. **Size:** 1.187 x .950 (double pole models only) x .735" (3.02 x 2.41 x 1.85cm) max. **Wt.:** 1 1/2 oz. (42.5gm). **Contact Rating:** Y Series 3A; X Series 5A.

Stock No.	Mfr.'s Type	Coil Watts DC	EACH		
			1-24	25-49	50-99
886-1075	R10E1Y2V185*	12V	12.33	11.72	11.09
886-1076	R10E1Y2V700*	24V	12.33	11.72	11.09
886-1070	R10E1Y2J2.5K*	48V	17.08	16.24	15.38
886-1091	R10E1X2115V	115VAC	25.78	24.49	23.20
886-1092	R10E1X4115V	115VAC	30.25	28.74	27.22
886-1050	R10E1X2V185*	12V	13.37	12.72	12.04
886-1051	R10E1X2V700*	24V	16.68	15.85	15.01
886-1053	R10E1X4V185†	12V	16.68	15.85	15.01
886-1054	R10E1X4V700†	24V	16.68	15.85	15.01

* 2 Contacts. †4 Contacts.

R10S Series CMOS-TTL Compatible Relays



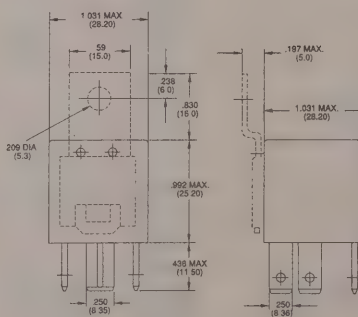
X = 1.0"/25.4 (2 PDT)

Will accept drive directly from many CMOS and TTL ICs—no interface needed. Contacts are .078" in dia. made of fine silver. **Resistive Load Rating:** 28VDC or 115VAC form. 0.1 to 3A max. **Insulation Resistance:** 10,000 meg. at 25° C and 50% R.H. **Typical Capacitance:** Contact-contact, 2 picofarads; coil frame, 30 picofarads; Coil-contacts, 2 picofarads.

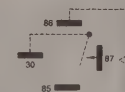
Temperature Range: -55°C to 75°C. Has pierced solder terminals. **Weight:** 0.8 to 1.4 oz. **Rated:** 2 Amps Typ. (3 Amps max.).

Stock No.	Mfr.'s Type	Coils			EACH		
		Input	Res. in Ohms	Nom. Power	1-24	25-49	50-Up
886-1160	R10SE1Y1-J1.0K	3.2mA	1000	10mW	18.21	18.09	17.14
886-1162	R10SE1Y1-J2.5K	2.0mA	1500	10mW	18.21	18.09	17.14
886-1164	R10SE1Y1-J5.0K	1.4mA	5000	10mW	22.96	21.83	20.68
886-1166	R10SE1Y2-J1.0K	4.5mA	1000	20mW	20.66	19.63	18.60
886-1168	R10SE1Y2-J2.5K	2.9mA	2500	20mW	20.66	19.63	18.60
886-1170	R10SE1Y2-J5.0K	2.0mA	5000	20mW	24.60	23.36	22.13

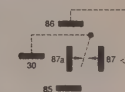
VF4 Automotive Relays



WIRING DIAGRAM
(Bottom View)



1 Form A



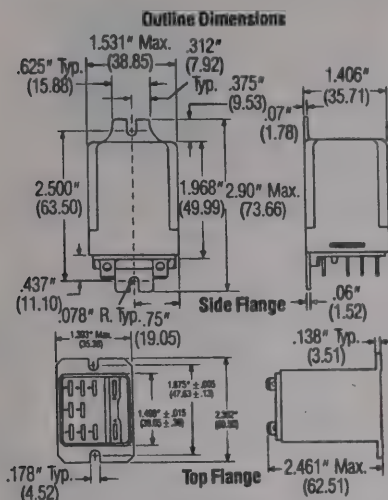
1 Form C

Plastic enclosed relay. 40 Amp contact rating with 1 Form A and 1 Form C contact arrangements. Quick connect or P.C. board terminals. Standardized design for many automotive applications in the United States. **Contacts:** 1 Form A (SPST-NO) and 1 Form C (SPDT). **Contact Material:** Silver-Nickel. **Operating Voltage:** 12 VDC. **Weight:** approx 1.1 oz.

Stock No.	Mfr.'s Type	Terminals	Contact	EACH		
				1-49	50-99	100-249
886-1111	VF4-11F11	Quick Connect	SPST-NO	8.40	6.80	5.35
886-0312	VF4-15F11	Quick Connect	SPDT	9.07	8.42	7.30
886-0313	VF4-11F13	P.C. Terminals	SPST-NO	7.55	6.78	6.00
886-0314	VF4-15F13	P.C. Terminals	SPDT	9.07	8.42	7.30
886-0315	VF4-41F11*	Quick Connect	SPST-NO	8.73	8.10	7.54
886-0316	VF4-45F11	Quick Connect	SPDT	7.96	7.16	6.48

* Dust cover with mounting bracket. All others standard dust cover.

KUHP Series



KUHP Series relays are an extension of the KUP product line, offering 30 amp switching capability in a 1 Form C (SPDT) configuration and 20 amp switching capability in a 2 Form C (DPDT) configuration. This relay has been designed to meet the requirements of international regulatory agencies such as BSI and VDE for many applications. Enclosed KUHP relays are equipped with slotted flanges for bracket mounting to a chassis. Termination to this relay is normally facilitated by .250\"/>

Stock No.	Mfr.'s Type	Voltage	Amps	Contacts	EACH		
					1-24	25-49	50-99
886-0117	KUHP-5A51-24	24VAC	30	SPDT	13.94	13.25	12.56
886-0318	KUHP-5A51-120	120VAC	30	SPDT	13.94	13.25	12.56
886-0319*	KUHP-5A11-120	120VAC	30	SPDT	13.44	12.76	12.11
886-0320	KUHP-5D51-12	12VDC	30	SPDT	13.44	12.76	12.11
886-0321	KUHP-5D51-24	24VDC	30	SPDT	13.44	12.76	12.11
886-0322*	KUHP-5D11-12	12VDC	30	SPDT	13.59	12.88	12.22
886-0323*	KUHP-5D11-24	24VDC	30	SPDT	12.94	12.28	11.64
886-0324	KUHP-11A51-24	24VAC	20	DPDT	15.92	15.13	14.32
886-0325	KUHP-11A51-120	120VAC	20	DPDT	15.92	15.13	14.32
886-0326*	KUHP-11A11-120	120VAC	20	DPDT	15.41	14.64	13.87
886-0327	KUHP-11D51-12	12VDC	20	DPDT	15.41	14.64	13.87
886-0328	KUHP-11D51-24	24VDC	20	DPDT	15.41	14.64	13.87
886-0329*	KUHP-11D11-12	12VDC	20	DPDT	13.59	12.88	12.22
886-0330*	KUHP-11D11-24	24VDC	20	DPDT	12.94	12.28	11.64

*Top bracket mounting. All others side brackets.

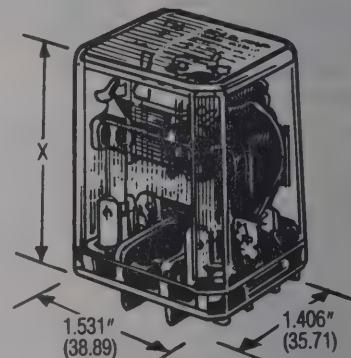
KUMP Series

► UL File E22575

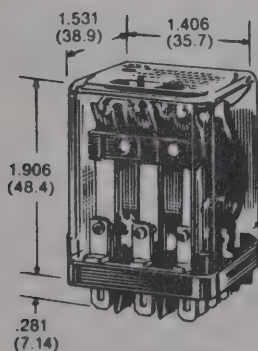
► CSA File LR15734

KUMP Series relays offer higher current ratings than those available in the KUP series but relay dimensions, wiring diagrams and operating characteristics are the same. Relay types ending with "18" mount in the same sockets as the KUP series relays. Relay types ending with "56" have a side-flange mount case for surface mounting and have .250\"/>

Stock No.	Mfr.'s Type	Voltage	Contacts	EACH		
				1-24	25-49	50-99
886-0331	KUMP-11A18-24	24VAC	DPDT	14.64	13.92	13.19
886-0332	KUMP-11A18-120	120VAC	DPDT	14.64	13.92	13.19
886-0333	KUMP-11A18-240	240VAC	DPDT	17.38	16.52	15.66
886-0334	KUMP-11D18-12	12VDC	DPDT	14.20	13.48	12.78
886-0335	KUMP-11D18-24	24VDC	DPDT	14.20	13.48	12.78
886-0336	KUMP-11D18-110	110VDC	DPDT	18.66	17.72	16.80
886-0337	KUMP-11D56-24	24VAC	DPDT	14.64	13.92	13.19
886-0338	KUMP-11A18-24	24VAC	3PDT	16.16	15.37	14.55
886-0339	KUMP-11A18-120	120VAC	3PDT	16.16	15.37	14.55
886-0340	KUMP-14D18-12	12VDC	3PDT	15.67	14.89	14.09
886-0341	KUMP-14D18-24	24VDC	3PDT	15.67	14.89	14.09



KUP Series Enclosed Relays

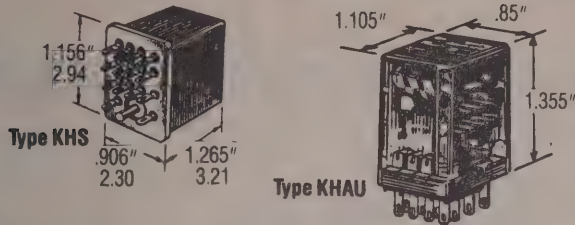


Stock No.	Mfr.'s Type	Coil			Contacts		EACH		
		Input	Res. Ohms	Nom. Power	Arrang.	Rating Amps	1-24	25-49	50-99
886-0889	KUP5A15-24*	24V	85	2.00VA	SPDT	10	11.83	11.24	10.65
886-0838	KUP5A15-120*	120V	2,250	2.00VA	SPDT	10	11.83	11.24	10.65
886-0839	KUP5A15-240*	240V	9,110	2.00VA	SPDT	10	14.84	14.10	13.36
886-0842	KUP5D15-12*	12V	120	1.20W	SPDT	10	10.93	10.38	9.84
886-0843	KUP5D15-24*	24V	472	1.20W	SPDT	10	10.93	10.38	9.84
886-0845	KUP5A55-120	120V	2,250	2.00VA	SPDT	10	12.47	11.87	11.22
886-0846	KUP5D55-24*	24V	472	1.20W	SPDT	10	11.42	10.84	10.28
886-0847	KUP11A11-120*	120V	2,250	2.00VA	DPDT	5	14.15	13.45	12.74
886-0848	KUP11D11-24*	24V	472	1.20W	DPDT	5	13.37	12.72	12.04
886-0849	KUP11A15-6*	6V	6	2.00VA	DPDT	10	13.94	13.24	12.56
886-0850	KUP11A15-12*	12V	24	2.00VA	DPDT	10	13.94	13.24	12.56
886-0851	KUP11A15-24*	24V	85	2.00VA	DPDT	10	13.94	13.24	12.56
886-0851	KUP11A15-120*	120V	2,250	2.00VA	DPDT	10	13.94	13.24	12.56
886-0853	KUP11D15-5*	5V	21	1.20W	DPDT	10	12.51	11.79	11.18
886-0854	KUP11D15-12*	12V	120	1.20W	DPDT	10	13.24	12.58	11.92
886-0855	KUP11D15-24*	24V	472	1.20W	DPDT	10	13.24	12.58	11.92
886-0856	KUP11D15-110*	110V	10,000	1.20W	DPDT	10	18.01	17.11	16.22
886-0856	KUP11A25-120*	120V	2,250	1.20W	DPDT	10	16.31	15.51	14.70
886-0890	KUP11A35-120*	120V	2,250	2.00VA	DPDT	10	17.16	16.30	15.45
886-0859	KUP11D35-24*	24V	472	1.20W	DPDT	10	20.66	19.63	18.60
886-0861	KUP11A55-24	24V	85	2.00VA	DPDT	10	14.56	13.84	13.12
886-0862	KUP11A55-120	120V	2,250	2.00VA	DPDT	10	14.56	13.84	13.12
886-0864	KUP11D55-12	12V	120	1.20W	DPDT	10	13.67	12.98	12.30
886-0865	KUP11D55-24	24V	472	1.20W	DPDT	10	13.67	12.98	12.30
886-0867	KUP11D55-110	110V	10,000	1.20W	DPDT	10	18.49	17.57	16.63
886-0868	KUP14A11-120*	120V	1,700	2.7VA	3PDT	5	15.76	14.97	14.19
886-0869	KUP14D11-24*	24V	472	1.20W	3PDT	10	15.49	14.71	13.94
886-0871	KUP14A15-12*	12V	18	2.7VA	3PDT	10	15.54	14.77	13.99
886-0872	KUP14A15-24*	24V	72	2.7VA	3PDT	10	15.54	14.77	13.99
886-0878	KUP14A15-120*	120V	1,700	2.7VA	3PDT	10	15.76	14.97	14.19
886-0874	KUP14D15-6*	6V	32.1	1.20W	3PDT	10	15.20	14.44	13.69
886-0791	KUP14D15-12*	12V	120	1.20W	3PDT	10	15.20	14.44	13.69
886-0792	KUP14D15-24*	24V	472	1.20W	3PDT	10	15.20	14.44	13.69
886-0875	KUP14D15-48*	48V	1,800	1.20W	3PDT	10	16.61	15.79	14.96
886-0793	KUP14D15-110*	110V	10,000	1.20W	3PDT	10	19.97	18.96	17.98
886-0876	KUP14A25-120*	120V	1,700	2.7VA	3PDT	10	17.85	16.97	16.09
886-0877	KUP14D25-24*	24V	472	1.20W	3PDT	10	16.50	15.67	14.84
886-0879	KUP14A35-120*	120V	1,700	2.7VA	3PDT	10	18.71	17.78	16.83
886-0880	KUP14D35-24*	24V	472	1.20W	3PDT	10	22.69	21.57	20.42
886-0881	KUP14A45-120*	120V	1,700	2.75VA	3PDT	10	20.80	19.77	18.74

*Socket mountable in 27E121 screw terminal socket.

KH Series Miniature 4PDT Relays

Small, Rugged Relays for AC and DC Operations.



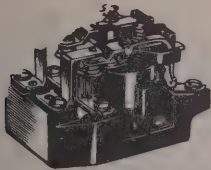
Coil Data for Series KH Relays

DC Coils (0.5-2 Watts)			AC Coils (1.20VA)		
V	Resistance in Ohms ± 10% @ 25°C	Induct in H (approx.)	V	Resistance in Ohms ± 10% @ 25°C	Average Current mA
6	40	0.08	6	10.5	200
12	160	0.28	24	160.0	52
24	650	1.00	120	2900.0	11
48	2600	4.50	—	—	—
110	11K	17.00	—	—	—

KHAU relays are manufactured using automated techniques to provide dependable, low cost switching in a package only slightly larger than a cubic inch. KHAU has smoke-grey polycarbonate dust cover. KHS, hermetically sealed with metal cover. All models U.L. Recognized. KHS is recognized for class 1 division 2 hazardous environments. Silver contacts, rated 3 amps at 28VDC, or 120VAC res. Solder term, 3-48 mtg. stud. 2 oz. (57gm). All fit KH Series sockets.

Stock No.	Mfr.'s Type	Coil Volts	EACH			
			1-24	25-49	50-99	100-249
886-0566	KHS17D11	6 DC	45.52	40.38	38.24	35.87
886-0567	KHS17D11	12 DC	45.52	40.38	38.24	35.87
886-0563	KHS17A11	24 AC	46.61	44.30	41.96	37.33
886-0568	KHS17D11	24 DC	40.49	38.46	36.42	32.87
886-0564	KHS17A11	120 AC	44.39	42.19	39.96	36.42
886-0569	KHS17D11	110 DC	47.87	45.47	43.08	40.37
886-0301	KHAU-17A11-6	6 VAC	9.04	8.66	8.44	6.90
886-0302	KHAU-17A11-12	12 VAC	9.04	8.66	8.44	6.90
886-0303	KHAU-17A11-24	24 VAC	9.04	8.66	8.44	6.90
886-0304	KHAU-17A11-120	120 VAC	9.48	9.10	8.86	7.25
886-0305	KHAU-17D11-6	6 VDC	8.21	7.81	7.60	6.15
886-0306	KHAU-17D11-12	12 VDC	8.21	7.81	7.60	6.15
886-0307	KHAU-17D11-24	24 VDC	8.21	7.81	7.60	6.15
886-0308	KHAU-17D11-110	110 VDC	9.87	9.47	9.22	7.94

PRD Type Heavy Duty Power Relays

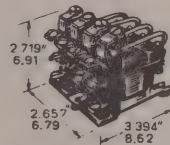


PRD relays are interchangeable with PR relays; same size and mounting holes. Improved design allows use of power screwdrivers on terminals. All models are U.L. and CSA listed and have silver contacts. Model PRD-3AYO is rated 40 amps, all other rated 25 amps. Mounting: two .188" dia. holes on 1.875" centers. Weight: 11 oz.

Stock No.	Mfr.'s Type	Coil		Contacts	EACH			
		Volts	Resistance in Ohms		1-24	25-49	50-99	100-249
886-0973	PRD-3AYO	120AC	290.0	SPST	17.37	16.51	15.63	12.77
886-0982	PRD-5AYO	120AC	290.0	SPDT	19.97	18.96	17.98	14.38
886-0985	PRD-5DYO	120DC	71.0	SPDT	19.33	18.35	17.39	13.75
886-0986	PRD-5DYO	24DC	288.0	SPDT	19.33	18.35	17.39	13.75
886-0990	PRD-7AYO	24AC	12.0	DPST	21.64	20.57	19.48	15.25
886-0991	PRD-7AYO	120AC	290.0	DPST	21.64	20.57	19.48	15.25
886-0992	PRD-7AYO	240AC	1.2K	DPST	21.99	20.89	19.79	15.49
886-0994	PRD-7DYO	120DC	71.0	DPST	20.94	19.89	18.86	14.79
886-1000	PRD-7DYO	24DC	288.0	DPST	20.17	18.90	17.90	14.45
886-1004	PRD-11AYO	24AC	12.0	DPDT	26.90	25.55	24.21	20.20
886-1005	PRD-11AYO	120AC	290.0	DPDT	26.90	25.55	24.21	20.20
886-1006	PRD-11AYO	240AC	1.2K	DPDT	27.26	25.88	24.52	20.29
886-1009	PRD-11DYO	12DC	71.0	DPDT	26.14	24.82	23.52	19.73
886-1010	PRD-11DYO	24DC	288.0	DPDT	26.14	24.82	23.52	19.73
886-1011	PRD-11DYO	110DC	6050.0	DPDT	28.77	27.33	25.93	21.77

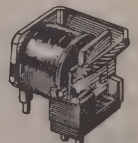
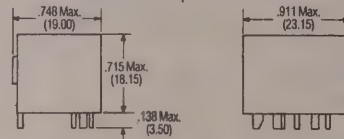
PM17 4DPT 25-Amp Power Relays

4PDT for polyphase and heavy-duty switching. Contacts are silver-cadmium-oxide. Rated at 25 amps, 240V, 50-60 Hz, non-inductive. 1 HP per moveable arm at 120 or 240V single-phase. Mount by keyhole and 2 channels for 8-32 screws on 2 x 2 1/2" triangular centers. Screw term. 2 3/4" x 2 3/4" x 3 3/4". Weight: 1 lb. UL, CSA listed.



Stock No.	Mfr.'s Type	Coil Volts	EACH			
			1-24	25-49	50-99	100-249
886-0951	PM17AY	24AC	69.61	66.14	62.65	53.56
886-0952	PM17AY	120AC	69.61	66.14	62.65	53.56
886-0953	PM17AY	240AC	69.89	66.41	62.91	53.81
886-0956	PM17DY	12DC	63.94	60.76	57.56	49.74
886-0957	PM17DY	24DC	63.94	60.76	57.56	49.74
886-0958	PM17DY	110DC	67.79	64.41	61.03	52.83

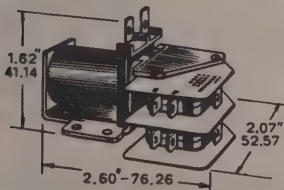
VKP 40-Amp Automotive Relay



Open frame design switches up to 40 amps. One Form A and one Form C. Contact arrangements well suited for many automotive applications. Resistance in Ohms: 90. Nominal Power: 1.6 watts. Termination: Printed circuit terminals. Weight: 0.7 oz.

Stock No.	Mfr.'s Type	Input VDC	Contact Arrangements	EACH			
				1-24	25-49	50-99	100-249
886-0309	VKP-11F42	12	SPST-NO	6.22	5.67	5.29	4.05
886-0310	VKP-15F42	12	SPDT	5.76	5.36	5.00	3.90

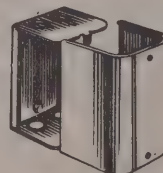
20-Amp Power Relays



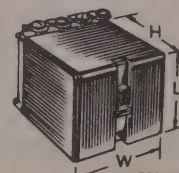
Contact Rating: 20 amps, 277VAC; 60 LRA, 12 FLA, 1 HP at 125VAC; 48 LRA, 8 FLA, 2 HP at 250VAC; pilot duty, 360VA, 125-250VAC. Life Expectancy: 50,000 operations at full load; 1 million operations, mechanical. Operating Temperature Range: -10° to +65°C. Mounting: One .166" (4.21mm) diameter mounting hole and .160" (4.06mm) diameter boss. Termination: .250" (6.35mm) quick-connect. UL Recognized.

Stock No.	Mfr.'s Type	Coil Volts	Contacts	EACH			
				1-24	25-49	50-99	100-249
886-1290	S87R5A2B1D1	24AC	SPDT	12.47	11.87	11.22	9.53
886-1291	S87R5A2B1D1	120AC	SPDT	13.09	12.46	11.78	9.81
886-1292	S87R5D2B1D1	120DC	SPDT	12.21	11.60	10.99	9.29
886-1293	S87R5D2B1D1	24DC	SPDT	12.21	11.60	10.99	9.29
886-1295	S87R11A2B1D1	24AC	DPDT	17.81	16.92	16.02	13.23
886-1294	S87R11A2B1D1	120AC	DPDT	16.96	16.11	15.26	12.73

Dust Covers for PM and PRD Relays



PM METAL COVER 35D227



PM PLASTIC DUST COVER 35D203

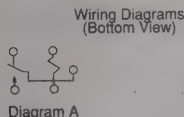
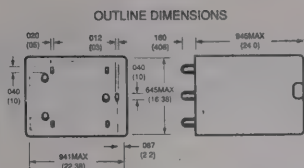
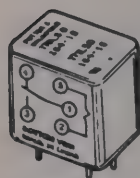
35D013



Heavy steel cover screws in place on sheet metal base. Knockouts accept 0.5" diameter conduit. Pre-drilled mounting holes. Type 35D013 has holes to accept PRD mounting. Type 35D277 accepts PM mounting. Plastic dust cover for PM Series only.

Stock No.	Mfr.'s Type	Dimensions			EACH			
		Length	Width	Height	1-24	25-49	50-99	100-249
886-1455	35D013	5.312"	3.375"	3.125"	19.68	18.75	17.72	15.25
886-1456	35D203	3.394"	2.657"	2.719"	4.68	4.45	4.23	3.75
886-1457	35D227	5.313"	3.812"	3.812"	23.80	22.64	21.43	19.15

T70 Series Miniature Printed Circuit Board Relays



- ▶ 10 Million Mechanical Operations
- ▶ Low Power Consumption

T70 Series relays are for printed circuit board mounting. Feature sealed, immersion-cleanable case. **Two Contact Materials Available:** type number with code 31 are fine silver with gold flash, type numbers with code 64 are silver cadmium oxide. Contact arrangement 1 Form C (SPDT). **Nominal Coil Power:** 360 mW. SPDT 1 Form XX 10 amps. UL recognized, CSA certified.

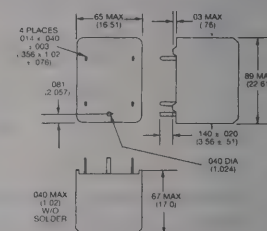
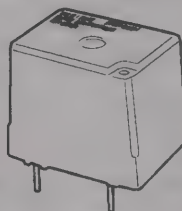
Stock No.	Mfr's Type	Coil		EACH		
		Input VDC	Ohms	1-24	25-49	50-99
886-9202	T70L5D131-5	5	70	3.74	3.38	3.21
886-9204	T70L5D164-5	5	70	4.07	3.69	3.51
886-9206	T70L5D131-6	6	100	3.74	3.38	3.21
886-9208	T70L5D131-9	9	225	3.93	3.55	3.37
886-9210	T70L5D131-12	12	400	3.74	3.38	3.21

Stock No.	Mr.'s Type	Coil		EACH		
		Input VDC	Ohms	1-24	25-49	50-99
886-9212	T70L5D164-12	12	400	4.07	3.69	3.51
886-9216	T70L5D131-24	24	1600	4.16	3.95	3.74
886-9218	T70L5D164-24	24	1600	4.16	3.95	3.74
886-9222	T70L5D131-48	48	6400	5.08	4.83	4.58
886-9224	T70L5D164-48	48	6400	5.34	5.08	4.82

T72 Series 15 Amp Miniature P.C. Board Relay

Immersion cleanable plastic case with knock-off nib for ventilation. Low profile package has a sealed height of only .67 in. 20 A @ 16 VDC switching, 10 A @ 120 VAC Res, 5 A @ 240 VAC Res. **Contacts:** 1 Form C (SPDT). **Nominal Coil Power:** 360 mW. UL File E22575.

Stock No.	Mfr.'s Type	Coil Voltage	Ohms	EACH		
				1-24	25-49	50-99
886-9602	T72L5D164-5	5 VDC	70	3.78	3.35	3.12
886-9606	T72L5D164-12	12 VDC	400	3.78	3.35	3.12

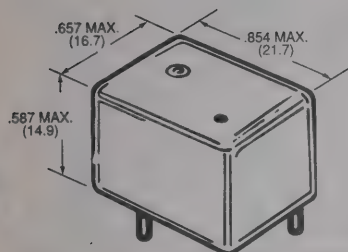


T73 Series 10 Amp Printed Circuit Board Relays

Relays are highly reliable and available in three types of contacts. Sensitive coil. Relays are enclosed in an immersion-cleanable, sealed plastic (PBT) housing. **Available in Two Arrangements:** 1 Form A (SPST NO) and Form C (SPDT). **Operating Voltage:** From 5 to 24 VDC. UL recognized. CSA certified.

Contact Code	Material	Rated Power	Arrangement
1	Gold Overlay Silver-Palladium Alloy, bifurcated	1 A, Resistive @ 30 VDC or 120 VAC	1 Form A (SPST-NO)
4	Gold Overlay Silver-Nickel Alloy	5 A, Resistive @ 24 VDC or 120 VAC	1 Form C (SPDT)
5	Silver-Tin Alloy	10 A, Resistive @ 24 VDC or 120 VAC	1 Form C (SPDT)

Stock No.	Mfr.'s Type	Coil		Contact Code	EACH		
		VDC	Ohms		1-24	25-49	50-99
886-9501	T73L1D15-05	5	56	5	5.11	4.71	4.38
886-9506	T73S5D11-12	12	320	1	4.43	3.94	3.40
886-9508	T73S5D14-05	5	56	4	4.32	4.00	3.75
886-9509	T73S5D14-06	6	80	4	4.32	4.00	3.75
886-9511	T73S5D14-12	12	320	4	4.54	4.20	3.93
886-9512	T73S5D14-24	24	1280	4	4.65	4.32	4.01



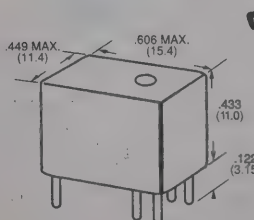
T81 Series Miniature High Density Printed Circuit Board Relays

- ▶ High Dielectric
- ▶ Ideal for Office Machines, Logic and Process Control
- ▶ Standard Coil and Sensitive Coil Models Available

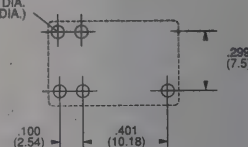
T81 Series relays are ultra-miniature devices for printed circuit board mounting. Permit high density packaging for savings in equipment size and cost. SPDT contacts are silver-palladium alloy with gold overlay provide load handling of 1 amp @ 24 VDC or 0.5 amp at 120 VAC, resistive. 81N Series are standard coil models and 81H Series are sensitive coil models. T81 relays are enclosed in an immersion cleanable polycarbonate case. Printed circuit terminals are on .100" x .300", DIP compatible grid layout. UL recognized, CSA certified. **Temperature Range:** -40°C to +55°C (standard coil); -40°C to +75°C (sensitive coil).

T81N Series Standard Coil Relays

Stock No.	Mfr.'s Type	Coil Voltage	EACH		
			1-24	25-49	50-99
886-9238	T81N5D312-05	5 VDC	4.46	4.15	3.88
886-9242	T81N5D312-12	12 VDC	4.21	4.00	3.79
886-9244	T81N5D312-24	24 VDC	4.21	4.00	3.79



PC BOARD LAYOUT



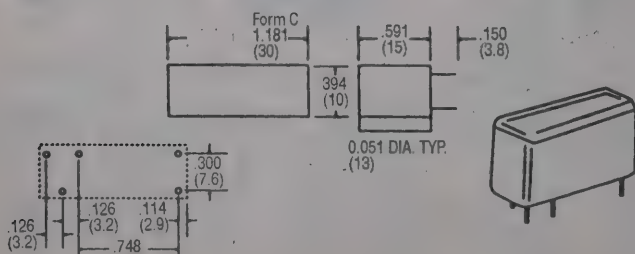
T81H Series Sensitive Coil Relays

Stock No.	Mfr.'s Type	Coil Voltage	EACH		
			1-24	25-49	50-99
886-9246	T81H5D312-05	5 VDC	4.69	4.37	4.07
886-9250	T81H5D312-12	12 VDC	4.26	4.04	3.75
886-9252	T81H5D312-24	24 VDC	4.67	4.45	4.21

T75 Series Miniature DIP Relays

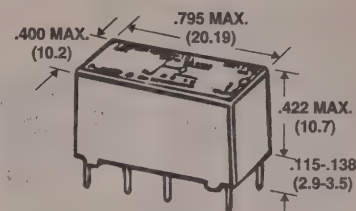
T75 Series relays feature high sensitivity for HVAC, appliance, security, and industrial applications. Nominal coil power requirement is as low as 212 mW. Low profile 0.591" (15.01) tall case uses only 0.465" (11.81) square of PC board for high-density circuit design. **Power Switching Capability:** 1 form C (SPDT) contacts rated 14 amps. **Coil Voltage:** 5-48 VDC. **Normal Power At 25°C:** 230 mW, typ. Continuous duty cycle.

Stock No.	Mfr.'s Type	Voltage	Ohms	EACH		
				1-24	25-49	50-99
B86-9521	T75S50112-05	5	118	6.50	6.03	5.64
B86-9523	T75S50112-12	12	650	6.50	6.03	5.64
B86-9525	T75S50112-24	24	2270	6.08	5.78	5.48
B86-9526	T75S50112-48	48	8790	5.83	5.53	5.27



**Single Coil Non-Latching/
Single Coil Latching**

Dual Coil Latching



+85°C. Standard 16-pin DIP relays withstand automatic wave soldering.

Stock No.	Mfr.'s Type	Power mW	Action	EACH		
				1-24	25-49	50-99
886-9356	T83S11D12-05	150	Non-latching	7.51	7.14	6.77
886-9358	T83S11D12-12	150	Non-latching	7.51	7.14	6.77
886-9360	T83S11D12-24	150	Non-latching	8.16	7.76	7.35
883-9364	T83S11D212-05	200	Non-latching	7.01	6.66	6.31
886-9366	T83S11D212-12	200	Non-latching	7.01	6.66	6.31
886-9368	T83S11D212-24	200	Non-latching	7.26	6.90	6.54
886-9370	T83S11D212-48	200	Non-latching	8.16	7.76	7.35
886-9372	T83S11D412-05	400	Non-latching	5.95	5.65	5.36

Stock No.	Mfr.'s Type	Power mW	Action	EACH		
				1-24	25-49	50-99
886-9374	T83511D412-12	400	Non-latching	5.67	5.38	5.10
886-9376	T83511D412-24	400	Non-latching	5.99	5.69	5.38
886-9380	T83511D122-05	150	Single Coil Latching	8.56	8.13	7.71
886-9384	T83511D222-05	200	Single Coil Latching	7.51	7.14	6.77
886-9390	T83511D422-12	400	Single Coil Latching	6.56	6.23	5.89
886-9392	T83511D132-05	150	Dual Coil Latching	8.27	7.88	7.45
886-9394	T83511D132-12	150	Dual Coil Latching	8.68	8.27	7.81
—	—	—	—	—	—	—

- ▶ UL Recognized
- ▶ CSA Certified

Technical drawing of the 14-pin DIP package showing top, side, and end views with dimensions in inches and millimeters.

Top View Dimensions:

- Pin 1 location: 14(16)±0.032 (Ø.08)
- Pin pitch: .200 (5.08)
- Pin diameter: .044 (1.11)
- Body width: .300 (7.62)
- Overall width: .300 (7.62) ± .044 (1.11)
- Overall length: 1.40 (35.44)

Side View Dimensions:

- Maximum height: MAX. .384 (10.0)
- Standoff height: .130 (3.3)

End View Dimensions:

- Pin pitch: .200 (5.08)
- Pin diameter: .044 (1.11)

Other Features:

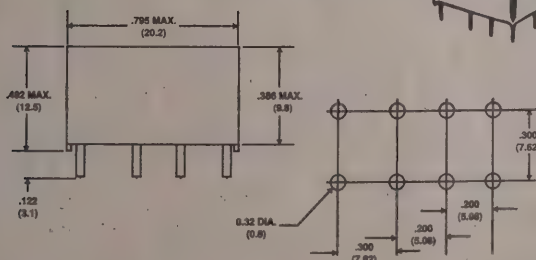
- Reference mark: 1
- Logo: RJ (Rohm Japan) and SP (Shanghai Precision)

Stock No.	Mfr.'s Type	Coil Voltage	Action*	EACH		
				1-24	25-49	50-99
886-9396	T84S17D214-05	5 VDC	SC, NL	12.61	11.98	11.35
886-9398	T84S17D214-12	12 VDC	SC, NL	12.61	11.98	11.35
886-9400	T84S17D214-24	24 VDC	SC, NL	12.61	11.98	11.35
886-9402	T84S17D214-48	48 VDC	SC, NL	16.31	15.50	
886-9404	T84S17D224-05	5-VDC	SC, L	12.99	12.35	11.69
886-9406	T84S17D234-05	5 VDC	DC, L	13.88	13.20	12.49
886-9408	T84S17D234-12	12 VDC	DC, L	14.57	13.86	13.13
886-9410	T84S17D234-24	24 VDC	DC, L	14.57	13.86	13.13

886-9412	T84S17D414-05	5 VDC	SC, NL	11.84	11.26	10.66
886-9414	T84S17D414-12	12 VDC	SC, NL	12.44	11.55	10.78
886-9416	T84S17D414-24	24 VDC	SC, NL	11.84	11.26	10.66
886-9418	T84S17D414-48	48 VDC	SC, NL	14.71	13.96	13.24
886-9420	T84S17D434-05	5 VDC	DC, L	13.05	12.40	11.75
886-9422	T84S17D434-12	12 VDC	DC, L	13.05	12.40	11.75

Coil Data Table

	Standard Coil		Sensitive Coil		
	Single Coil Non-Latching	Dual Coil Latching	Single Coil Non-Latching	Single Coil Latching	Dual Coil Latching
Nom. Coil Power	400 mW	360 mW	200 mW	90 mW	180 mW
Nom. Coil Voltage	Resistance in Ohms @ 20° C ± 10%				
5 VDC	62.5	69	125	278	139
12 VDC	360.0	400	720	1600	800
24 VDC	1440.0	1600	2880	6400	3200
48 VDC	5760.0	6400	11520	25600	12800



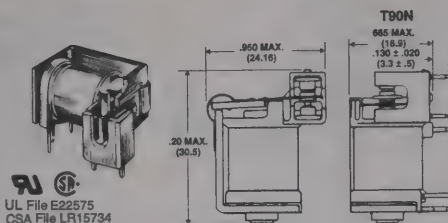
- ▶ UL Recognized
- ▶ CSA Certified

T85 Series DIP relays are 2 form C DPDT and feature terminals on a .100" x .300" grid layout. This configuration permits terminal mating with a 16-pin-DIP socket. Relays are enclosed in PBT polyester dust cover designed for immersion cleaning applications using freon, alcohol or water. Contacts are bifurcated. Suitable for applications in telecommunications equipment, audio equipment and business machines. **Contact Ratings**
Maximum Switched Current: 1.25 A, AC or DC with contact style "4"; 2 amp AC or DC with contact style "5". **Maximum Switched Voltage:** 60 VDC, 120 VAC with contact style "4"; 150 VDC, 125 VAC with contact style "5". **Maximum Switched Power:** 24 W or 60 VA with contact style "4"; 30 W or 62.5 VA with contact style "5". **Maximum Carry Current:** 2 amps. **Minimum Switched Current:** 10 μ A, AC or DC. **Minimum Switched Voltage:** 50 μ V, AC or DC. **Minimum Switched Power:** 25 μ W, AC or DC.

Stock No.	Mfr.'s Type	Coil Voltage	Ohms	Coil Power @ Nom. Voltage	EACH		
					1-24	25-49	50-99
886-9426	T85N11D114-05	5 VDC	167	150 mW	5.86	5.57	4.95
886-9428	T85N11D114-12	12 VDC	960	150 mW	5.86	5.57	4.95
886-9430	T85N11D114-24	24 VDC	2880	200 mW	6.87	6.38	5.27
886-9432	T85N11D114-48	48 VDC	7680	300 mW	7.99	7.42	6.92
886-9434	T85N11D115-05	5 VDC	45	560 mW	6.18	5.75	5.36
886-9436	T85N11D115-12	12 VDC	280	510 mW	6.18	5.75	5.36
886-9438	T85N11D115-24	24 VDC	1070	540 mW	6.18	5.75	5.36
886-9440	T85N11D115-48	48 VDC	4000	580 mW	7.58	7.04	6.57

T90 Series Low Cost, 30 A, DC Coil PC Board Relay

T90 printed circuit board relays provide an inexpensive means of switching loads up to 30 A. While these small, low-cost relays are designed primarily for the appliance industry and heating, ventilating and air conditioning markets, they are also well suited for load management automotive and other applications. The T90 is available with silver-cadmium oxide contacts in 1 Form A or C arrangements. A plastic, snap-on dust cover is available for the open-style T90, but must be ordered separately. See below. Mechanical life expectancy of T90 relays is 10 million operations. Electrical life expectancy is 100,000 operations at rated loads. T90S is sealed version.



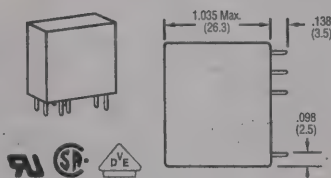
Coil Data. Temperature, Max.: 130°C. **Insulation Class:** B. **Insulation Resistance, Initial:** 1000 megohms, minimum, at 25°C, 500 VDC and 50% relative humidity. **Breakdown Voltage, Initial:** 1500 V rms, contact to coil. **Operate Data. Must-Operate Voltage:** Less than 75% of nominal voltage at 25°C. **Must-Release Voltage:** More than 10% of nominal voltage at 25°C. **Operate Time (Including Bounce):** 15 milliseconds, maximum. **Release Time (Including Bounce):** 15 milliseconds, maximum. **Environmental Data. Ambient Temperature Range:** Storage — -55°C to +105°C; Operating — -55°C to +85°C. **Vibration:** .065" maximum excursions from 10 to 55 Hz. **Resistance, Initial:** 50 milliohms, maximum. **Breakdown Voltage, Initial:** 1500 V rms, contact to contact. **Expected Life:** 10 million operations, mechanical; 100,000 operations at rated load.

Stock No.	Mfr.'s Type	Coils			Contacts		EACH			
		Input VDC	Res. in Ohms	Nom. Power	Arrangement	Amps Rating	1-24	25-49	50-99	100-249
886-1525	T90N1D12-5	5	27	.93 W	SPST-NO	30	4.74	4.45	4.23	3.52
886-1526	T90N1D12-12	12	155	.93 W	SPST-NO	30	4.74	4.45	4.23	3.52
886-1527	T90N1D12-24	24	660	.87 W	SPST-NO	30	4.74	4.45	4.23	3.52
886-1528	T90N5D12-5	5	27	.93 W	SPDT	20	4.37	4.15	3.93	2.90
886-1529	T90N5D12-12	12	155	.93 W	SPDT	20	4.37	4.15	3.93	2.90
886-1530	T90N5D12-24	24	660	.87 W	SPDT	20	4.37	4.15	3.93	2.90
886-1533	T90S1D12-5	5	27	.93 W	SPST-NO	30	6.36	6.03	5.72	4.94
886-1534	T90S1D12-12	12	155	.93 W	SPST-NO	30	6.36	6.03	5.72	4.94
886-1535	T90S1D12-24	24	660	.87 W	SPST-NO	30	6.36	6.03	5.72	4.94
886-1536	T90S5D12-5	5	27	.93 W	SPDT	20	6.63	6.29	5.96	5.15
886-1537	T90S5D12-12	12	155	.93 W	SPDT	20	6.63	6.29	5.96	5.15
886-1538	T90S5D12-24	24	660	.87 W	SPDT	20	6.63	6.29	5.96	5.15

RKA Series 5 to 10 A PC Board Miniature Relays

- Immersion Cleanable, Plastic Sealed Case
- Designed To Meet VDE 8 mm Spacing, 4 kV Dielectric
- UL Recognized File E22575, CSA Certified LR72171
- VDE Licensed 1661, 1662

RKA Series miniature relays designed for printed circuit board mounting. Relays are enclosed in plastic immersion cleanable case. Contacts are silver-nickel alloy except for types RKA-xDT-xx which are silver-cadmium oxide. All contact ratings are at 24 VDC or 240 VAC. **Initial Dielectric Strength From Coil To Contacts:** 5,000 V rms. **Maximum Power:** 1.4 W at +25°C. **Operating Temperature:** -40°C to +65°C. **Operating Time Excluding Bounce:** 14 ms typical. **Release Time Excluding Bounce:** 5 ms typical.



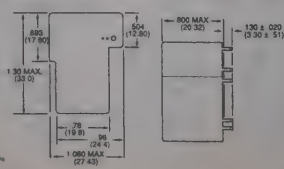
Engineering Data

Voltage (VDC)	Contact Code	Voltage Range	Resistance (Ohms)
5	Z and G	3.5-7.7	47
12	Z and G	8.4-18.5	270
24	Z and G	16.8-37.1	1100
5	T	3.5-7.0	36
12	T	8.4-16.8	200
24	T	16.8-33.6	820

Stock No.	Mfr.'s Type	Coil		Contacts	EACH		
		VDC	Sensitivity		1-24	25-49	50-99
886-9326	RKA-5DG-05	5	Sensitive	SPDT, 10 A	7.25	6.73	6.27
886-9327	RKA-5DG-12	12	Sensitive	SPDT, 10 A	6.90	6.41	5.97
886-9324	RKA-5DG-24	24	Sensitive	SPDT, 10 A	7.25	6.73	6.27
886-9332	RKA-7DZ-05	5	Sensitive	DPST-NO, 5 A	7.99	7.42	6.92
886-9334	RKA-7DZ-12	12	Sensitive	DPST-NO, 5 A	7.85	7.25	6.73
886-9336	RKA-7DZ-24	24	Sensitive	DPST-NO, 5 A	7.61	7.07	6.59
886-9338	RKA-11DZ-05	5	Sensitive	DPDT, 5 A	8.00	7.42	6.93
886-9340	RKA-11DZ-12	12	Sensitive	DPDT, 5 A	7.55	7.18	6.79
886-9342	RKA-11DZ-24	24	Sensitive	SDDT, 5 A	8.19	7.60	7.10

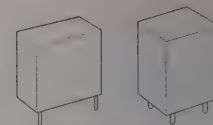
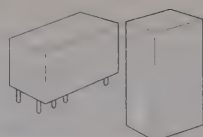
T90H/R Series 3 A Automotive Printed Circuit Relays

T90H/R Series provides economical means of switching automotive loads up to 30 A. **Maximum Temperature:** 125°C. 10 million operations, mechanical. 1,500 V rms, contact to coil. T90H units open relay, high temp. T90R sealed relay, high temp. Silver-cadmium oxide contacts.

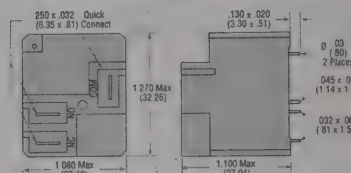


T9A Series

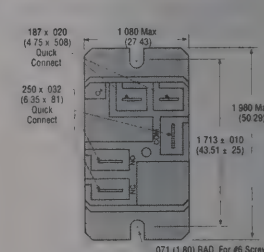
— NEW —



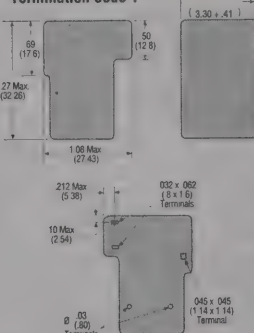
T9AS — Mounting and Termination Code 2



T9AP — Mounting and Termination Code 5

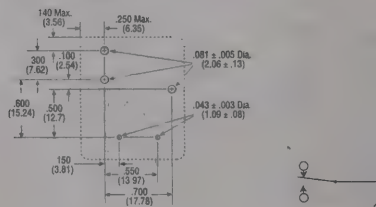


T9AS — Mounting and Termination Code 1

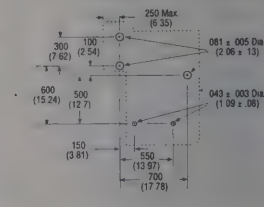


NOTE: Recommended mounting screw torque is 4.0-5.0 lbs.in when #6 screw is used.

T9AS — Mounting and Termination Code 2



9AP/S — Mounting and Termination Code 1



1 Form C
(Unused Terminals
Are Not Present)

T9A Series are low cost, printed circuit board or panel mount relays. Up to 30 A switching in SPST and 20 A in SPDT arrangements. Silver-cadmium oxide contacts in 1 Form A (SPST-NO) and 1 Form C (SPDT). Available in unsealed, plastic dust cover (T9AP) or immersion cleanable, sealed plastic case (T9AS). UL Class F insulation system standard. Well suited for various industrial, commercial and residential applications.

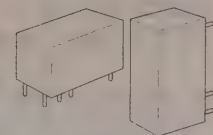
Stock No.	Mfr.'s Type	Volts (DC)	Termination	Contacts	EACH		
					1-49	50-99	100-Up
886-2101	T9AS1D12-12	12	P.C. Mount	SPST-NO	2.43	2.25	2.09
886-2102	T9AS5D12-12	12	P.C. Mount	SPDT	2.43	2.25	2.09
886-2103	T9AS1D12-24	24	P.C. Mount	SPST-NO	2.43	2.25	2.09
886-2104	T9AS5D12-24	24	P.C. Mount	SPDT	2.43	2.25	2.09
886-2105	T9AS5D12-18	18	P.C. Mount	SPDT	2.43	2.25	2.09
886-2106	T9AS1D12-18	18	P.C. Mount	SPST-NO	2.43	2.25	2.09
886-2107	T9AP5D52-12	12	Flange Mount, Q.C.	SPDT	3.00	2.77	2.57
886-2108	T9AP5D52-24	24	Flange Mount, Q.C.	SPDT	3.00	2.77	2.57
886-2109	T9AS1D22-12	12	P.C. Mount, Q.C.	SPST-NO	2.63	2.43	2.25
886-2110	T9AS1D22-24	24	P.C. Mount, Q.C.	SPST-NO	2.63	2.43	2.25
886-2111	T9AS5D22-12	12	P.C. Mount, Q.C.	SPDT	2.63	2.43	2.25
886-2112	T9AS5D22-24	24	P.C. Mount, Q.C.	SPDT	2.63	2.43	2.25

Stock No.	Mfr.'s Type	Coils		Contacts	EACH		
		Impact VDC	Ohms		1-24	25-49	50-99
886-9258	T90H5D12-12	12	97	SPDT	5.02	4.77	4.54
886-9262	T90H1D12-12	12	97	SPDT-NO	6.31	5.99	5.68
886-9264	T90R5D12-12	12	97	SPDT	6.89	6.54	6.21
886-9266	T90R5D12-24	24	380	SDDT	6.56	6.23	5.91

GLR Series Miniature PC Board Relay

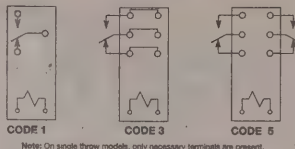
16 AMP PC Board Miniature Relay in SPST and SPDT contact arrangements. Meets VDE 8 mm spacing, 5 KV dielectric, coil to contacts. Conforms to VDE 0435, 0631 and 0700. UL Class F coil insulation system. **Contact Data:** Fine grain silver — 200 mA @ 5 VDC or 12 VAC. **Termination:** Printed circuit terminals. **Enclosures:** GLRS — immersion cleanable, tape sealed plastic case, GLRV — flux-tight, top vented plastic case.

Stock No.	Mfr.'s Type	Voltage	Contacts	EACH		
				1-99	100-249	250-499
886-2120	GLRS-1D11-05	5 VDC	SPST-NO	2.02	1.87	1.75
886-2121	GLRS-1D11-12	12 VDC	SPST-NO	2.02	1.87	1.75
886-2122	GLRS-1D11-24	24 VDC	SPST-NO	2.02	1.87	1.75
886-2123	GLRS-5D11-05	5 VDC	SPDT	2.02	1.87	1.75
886-2124	GLRS-5D11-12	12 VDC	SPDT	2.02	1.87	1.75
886-2125	GLRS-5D11-24	24 VDC	SPDT	2.02	1.87	1.75
886-2126	GLRS-5D11-48	48 VDC	SPDT	2.60	2.41	2.25
886-2127	GLRV-1D11-12	12 VDC	SPST-NO	1.96	1.83	1.70
886-2128	GLRV-1D11-24	24 VDC	SPST-NO	1.96	1.83	1.70
886-2129	GLRV-5D11-12	12 VDC	SPDT	1.96	1.83	1.70
886-2130	GLRV-5D11-24	24 VDC	SPDT	1.96	1.83	1.70

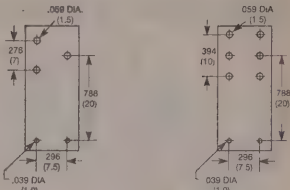


File E22575
File LR15734

— NEW —



Note: On single throw models, only necessary terminals are present.



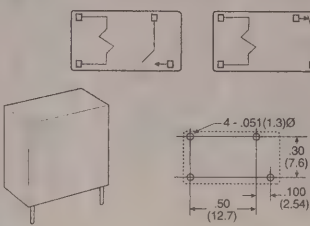
T77 Series

— NEW —

Up to 10 AMP miniature PCB Relay. Small size for high density PCB board mounting. 1 Form A (SPST-NO) contact arrangement. Creepage spacings of 6.5 mm between contact and coil. **Contact Material:** Contact Rating 3 — Silver; Contact Rating 10 — Silver alloy. **Enclosure:** V = Vented (flux-tight not suitable for immersion cleaning); 5 = Plastic epoxy resin sealed. Ideal for appliance and office equipment.

Stock No.	Mfr.'s Type	Voltage	Amps	EACH		
				1-99	100-249	250-Up
886-2134	T77V1D3-5	5 VDC	3	1.45	1.34	1.25
886-2135	T77V1D3-12	12 VDC	3	1.45	1.34	1.25
886-2136	T77V1D3-24	24 VDC	3	1.45	1.34	1.25
886-2137	T77V1D10-5	5 VDC	10	1.51	1.40	1.30
886-2138	T77V1D10-12	12 VDC	10	1.51	1.40	1.30
886-2139	T77V1D10-24	24 VDC	10	1.51	1.40	1.30
886-2140	T77S1D3-5	5 VDC	3	1.51	1.40	1.30
886-2141	T77S1D3-12	12 VDC	3	1.51	1.40	1.30
886-2142	T77S1D3-24	24 VDC	3	1.51	1.40	1.30
886-2143	T77S1D10-5	5 VDC	10	1.55	1.44	1.35
886-2144	T77S1D10-12	12 VDC	10	1.55	1.44	1.35
886-2145	T77S1D10-24	24 VDC	10	1.55	1.44	1.35

File E29244
File LR48471M83



2 PLACES .017 X .017 (.45 X .45)
2 PLACES .03 X .011 (1.0 X .30)

T7C Series

— NEW —

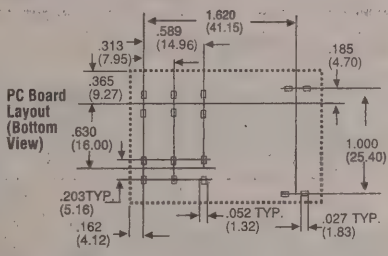
Immersion cleanable, tape sealed case, 12 A miniature power PCB Relay. 1 Form C (SPDT) silver-cadmium oxide contacts. Ideal for domestic appliances and office machines. Resists high temperature and various chemical solutions.

Stock No.	Mfr.'s Type	Voltage	Ohms	EACH		
				1-99	100-249	250-Up
886-2131	T7CS5D-06	6 VDC	100	1.38	1.29	1.20
886-2132	T7CS5D-12	12 VDC	400	1.38	1.29	1.20
886-2133	T7CS5D-24	24 VDC	1600	1.38	1.29	1.20

T92 Series

P.C. Board Relays

T92 Series relays are DPDT configuration with 30 amp switching capabilities, immersion cleanable, tape sealed plastic case. Designed to control compressor loads to 3.5 tons, 25.3 FLA, 110 LRA. Meets requirements of UL873 and UL508 spacings. Meets requirements of VDA 8 mm spacing, 4 KV dielectric coil-to-contacts. Meets requirements of UL class F Construction. **Contact Material:** Silver cadmium oxide. Printed circuit terminals. **Weight:** 2.95 oz. approximately.



Stock No.	Mfr.'s Type	Voltage	Ohms	Contact Arrangement	EACH		
					1-24	25-49	50-99
886-9527	T92S11D12-12	12 VDC	86	DPDT	11.92	11.33	10.85
886-9528	T92S11D12-24	24 VDC	350	DPDT	11.92	11.33	10.85
886-9529	T92S11D12-48	48 VDC	1390	DPDT	12.52	11.89	11.03
886-9530	T92S11D12-110	110 VDC	7255	DPDT	14.48	13.74	13.02

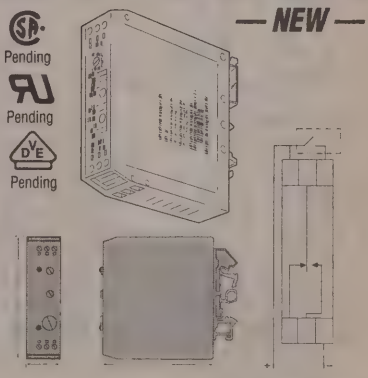
CND Series

Multifunction DIN Mount Time Delay Relay

- 5 Programmable Timing Modes
- 0.5 Sec. To 100 Min. Programmable Timing Range
- Universal Input (24-240 VAC/VDC)
- 10 A Output Relay With SPDT Contacts
- Timing Range and Timing Function Switch Selectable
- Time Adjust Is Potentiometer Adjustable
- Fits 35 mm DIN Track

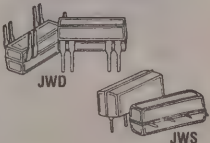
Universal input model, 24-240 VAC/VDC, screw termination. Plastic DIN Case. Silver-cadmium oxide alloy. 1 Form C (SPDT) contacts. **Contact Rating:** 10 A @ 28 VDC or 240 VAC, Resistive; 1/2 HP @ 480 VAC; 1/3 HP @ 240 VAC; 1/4 HP @ 120 VAC. Transient protection and reverse voltage protection. **Timing Adjustment:** Potentiometer adjustable within selected range.

886-2150. Type CND EACH 80.00



JWD Series DIP and JWS Series SIP Dry Reed Relays

JWD Series DIP units and JWS Series SIP units are designed not only to accommodate automatic component insertion but to permit high density packaging of components on printed circuit boards as well. Relay's mounted height is only 0.315" (8.00), allowing PC board spacing on 0.500" (12.70) centers. Molded epoxy package with terminals on 0.100" (2.54) centers compatible with automatic wave soldering, and can be immersion or spray cleaned. Will withstand 100g shock and vibration to 20g between 10 and 5000 Hz. **Operating Temperature Range:** -35°C to +85°C.



1 Form A DIP SPST-NO, 10 Watts, 0.5 Amp, 100 VDC

Stock No.	Mfr.'s Type	Diode	Coil VDC	Coil $\Omega \pm 10$	Max. Pick-Up VDC	EACH		
						1-24	25-49	50-99
886-9553	JWD-107-1	No	5/6	500	3.8	4.65	4.32	3.93
886-9554	JWD-107-5	Yes	5/6	500	3.8	5.05	4.53	4.21
886-9555	JWD-107-3	No	12/15	500	9.6	4.43	4.11	3.93
886-9556	JWD-107-7	Yes	12/15	500	9.6	5.07	4.70	4.40
886-9557	JWD-171-5	No	24	2200	19.2	6.20	5.74	5.37
886-9558	JWD-171-10	Yes	24	2200	19.2	6.20	5.74	5.37

1 Form A SIP SPST-NO, 10 Watts, 0.5 Amp, 100 VDC

Stock No.	Mfr.'s Type	Diode	Coil VDC	Coil $\Omega \pm 10$	Max. Pick-Up VDC	EACH		
						1-24	25-49	50-99
886-9559	JWS-117-1	No	5/6	380	3.8	4.65	4.32	4.02
886-9560	JWS-117-3	No	12/15	530	9.6	4.43	4.11	3.93
886-9561	JWS-117-5	No	24	2000	19.2	6.20	5.74	5.37

2 Form A DIP DPST-NO, 10 Watts, 0.5 Amp, 100 VDC

Stock No.	Mfr.'s Type	Diode	Coil VDC	Coil $\Omega \pm 10$	Max. Pick-Up VDC	EACH		
						1-24	25-49	50-99
886-9563	JWD-171-25	Yes	5/6	200	3.8	6.32	5.87	5.29
886-9564	JWD-171-23	No	12/15	500	9.6	5.36	5.09	4.81
886-9565	JWD-171-27	Yes	12/15	500	9.6	5.90	5.60	5.30
886-9567	JWD-171-28	Yes	24	2200	19.2	6.93	6.58	6.18

1 Form B DIP SPST-NC, 10 Watts, 0.5 Amp, 100 VDC

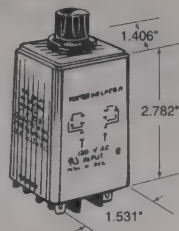
Stock No.	Mfr.'s Type	Diode	Coil VDC	Coil $\Omega \pm 10$	Max. Pick-Up VDC	EACH		
						1-24	25-49	50-99
886-9568	JWD-171-17	Yes	5/6	500	3.8	6.12	5.81	5.60
886-9569	JWD-171-14	No	12/15	1200	9.6	5.57	5.29	5.09
886-9570	JWD-171-20	Yes	24	2200	19.2	7.14	6.77	6.55

1 Form C DIP SPDT, 3 Watts, 0.5 Amp, 28 VDC

Stock No.	Mfr.'s Type	Diode	Coil VDC	Coil $\Omega \pm 10$	Max. Pick-Up VDC	EACH		
						1-24	25-49	50-99
886-9571	JWD-172-1	No	5/6	200	3.8	8.21	7.80	7.40
886-9572	JWD-172-5	Yes	5/6	200	3.8	9.61	8.93	8.33
886-9573	JWD-172-3	No	12/15	500	9.6	8.79	8.16	7.61
886-9574	JWD-172-7	Yes	12/15	500	9.6	9.14	8.72	8.35
886-9575	JWD-172-4	No	24	2200	19.2	9.13	8.68	7.23
886-9576	JWD-172-8	Yes	24	2200	19.2	10.55	10.03	9.49

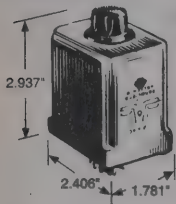
CUB51 Time-Delay Relays

Knob-adjustable delay-on-operate time delay relays. DPDT contacts 10A at 28VDC resist., or 120V, 60 Hz AC, 80% power factor. **Tol.:** adjust., -0, +20% of max. specified at high end; min. specified or less at low end. **Release:** 150 msec. **Recycle:** 150 msec. **Transient Protection:** Yes. Polarity protected. Operate room temp. Timing intervals adjust, over timing ranges *1 to 10 secs. or †1 to 120 secs. 1.53 x 1.406 x 2.78" (3.87 x 3.57 x 7.07mm) (including knob). 120VAC, 3 1/2 oz.



Stock No.	Mfr.'s Type	EACH		
		1-24	25-49	50-99
886-0131	CUB51-70010*	77.25	73.39	69.52
886-0132	CUB51-70010†	77.25	73.39	69.52

CB Series Relays



CB series relays are economy, octal-type plug-in models with CMOS integrated circuits. Available in delay-on-operate, delay-on-release or interval on timing modes, all units are knob-adjustable. Molded enclosure houses the timing circuit and an internal relay. All models are DPDT, except type **CB-1022B78** which is SPDT. Contacts rated 10 amps at 240VAC, 6Hz. Power requirements typically less than 3VA for AC types; 3 watts for DC types. **Operating temperature range:** -10°C to +55°C. Polarity protection. UL recognized, CSA certified.

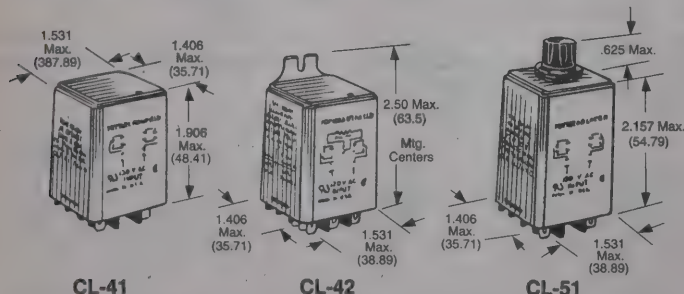
Delay-On-Operate Relays

Stock No.	Mfr.'s Type	Voltage	Delay Seconds	Pins	EACH		
					1-24	25-49	50-99
886-0107	CB-1042B30	24AC	1.8-180	8	63.70	59.16	55.21
886-0108	CB-1001B70	120AC	1-1	8	63.70	59.16	55.21
886-0109	CB-1002B70	120AC	1-5	8	60.83	57.77	54.73
886-0110	CB-1003B70	120AC	1-10	8	60.67	56.34	53.66
886-0005	CB-1004B70	120AC	6-60	8	60.83	57.77	54.73
886-0111	CB-1005B70	120AC	1.8-180	8	63.70	59.16	55.21
886-0112	CB-1006B70	120AC	1.0-10	8	60.83	57.77	54.73
886-0113	CB-1007B70	120AC	10-100	8	60.67	56.34	53.66
886-0104	CB-1047D20	12DC	1-10	8	60.83	57.77	54.73
886-0114	CB-1026D30	24DC	1-1	8	63.70	59.16	55.21
886-0115	CB-1028D30	24DC	1-10	8	63.70	59.16	55.21
886-0116	CB-1029D30	24DC	6-60	8	62.11	59.01	55.66

Delay-On-Release Relays

Stock No.	Mfr.'s Type	Voltage	Delay Seconds	Pins	EACH		
					1-24	25-49	50-99
886-1045	CB-1045B38	24AC	1-10	11	57.78	53.66	53.66
886-0119	CB-1046B38	24AC	1.8-180	11	63.70	59.16	55.21
886-0126	CB-1021B78	120AC	1-10	11	60.83	57.77	54.73
886-0121	CB-1022B78	120AC	1-10	8	60.83	57.77	54.73
886-0122	CB-1023B78	120AC	6-60	11	63.70	59.16	55.21
886-0123	CB-1024B78	120AC	1.8-180	11	62.11	59.01	55.66
886-0124	CB-1038D38	24DC	1-10	11	60.83	57.77	54.73
886-0125	CB-1039D38	24DC	1.8-180	11	63.70	59.16	55.21

CL Series Time Delay Relays



CL-41

CL-42

CL-51

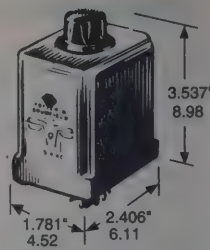
Delay on operate. Similar to the CU Series except they don't have timing cycle interrupt transfer and will time to .1 second. DPDT rated at 10 amps. CL relays are enclosed in yellow polycarbonate dust covers. Plug-in/quick connect terminals. Uses KU Series sockets. Available in fixed, resistor adjustable and knob adjustable. **Weight:** Approx. 3.5 oz. External resistor not included.

Stock No.	Mfr.'s Type	Time Delay (Sec.)	Input Voltage	EACH		
				1-24	25-49	50-99
886-0021	CLB-51-70010†	0.1-10	120VAC	72.39	68.78	65.15
886-0022	CLB-51-70030†	0.3-30	120VAC	72.39	68.78	65.15
886-0023	CLB-51-70120†	1.2-120	120VAC	72.39	68.78	65.15
886-0024	CLF-41-70010*	0.1-10	120VAC	66.51	63.19	61.38
886-0026	CLF-42-70010*	0.1-10	120VAC	66.51	63.19	61.38

*External 1/4 watt minimum. †Knob adjustable.

Series CH and CD Time-Delay Devices and Relays

Solid-state devices, reset within milli-seconds. Adjustable over entire time range. Plastic enclosures. **Series CH. Temperature:** -10°C to +55°C. **Tol.:** -0, +20% of max. specified @ high end; min. specified or less @ low end. **Reset:** 125 msec. **Repeatability:** ±2%. **Series CD. Temperature:** -40°C to +55°C. **Tol.:** ±5%. **Reset:** 60 msec. **Repeatability:** ±1%. CHB/CDB38 time delays have internal DPDT 10-amp relay. CHB38-70011 and CHB38-70013 provide delay on release, others delay on operate. **Wts.:** CD38-9oz. (255gm); CH38-6 oz. (168gm).

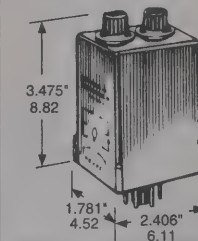


Delay On Operate (Use 8-Pin Octal Sockets)

Stock No.	Mfr.'s Type	Input Volts	Delay Sec.	EACH		
				1-24	25-49	50-99
886-0090	CHB38-70001	120AC	1.0-10	87.91	83.50	79.12
886-0091	CHB38-70003	120AC	1.0-180	87.91	83.50	79.12
886-0085	CHD38-30001	24DC	1.0-10	87.91	83.50	79.12
886-0086	CHD38-30003	24DC	1.0-180	87.91	83.50	79.12
886-0053	CDB38-70003	120AC	0.1-10	136.77	129.91	123.07
886-0054	CDB38-70004	120AC	0.6-60	136.77	129.91	123.07
886-0055	CDB38-70005	120AC	1.8-180	136.77	129.91	123.07

Delay On Release (Use 11-Pin Sockets)

Stock No.	Mfr.'s Type	Input Volts	Delay Sec.	EACH		
				1-24	25-49	50-99
886-0082	CHB38-70011	120AC	1.0-10	87.91	83.50	79.12
886-0083	CHB38-70013	120AC	1.0-180	87.91	83.50	79.12



CS Series Solid-State Voltage Sensors

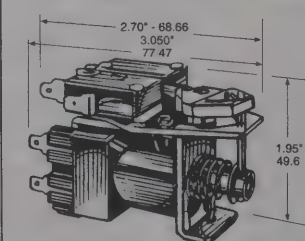
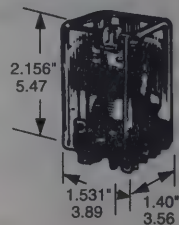
Adjustable pick-up, drop-out voltages. **Drain:** 3mA (max.); after sensing. 30mA. DC polarity protection. **2 form C(DPDT) Contacts:** 10A at 28VDC resistive; 120VAC resistive. **Ambient:** -40° to +55°C. AC types—50-60 Hz. Octal plug. Cover. Uses 8-pin octal sockets. **Wt.:** 10 oz. (284 gm).

Stock No.	Mfr.'s Type	Pick-Up Range	Drop-Out Range	V	EACH		
					1-24	25-49	50-99
886-0118	CSJ-38-70010	92-140V	90-138V	AC	102.95	97.81	92.66

KUL Magnetic Latching Relays

Continuous duty single coil types. Uses a permanent magnet in parallel with normal magnetic circuit, requires only half the space of mechanical interlock types. Continuous latch condition even during loss of power. Contacts rated 10 amps at 28VDC or 120VAC, 80% power factor. **Temp. range:** -45° to 70°C. All are DPDT. **Av. wt.:** 3 1/2 oz.

Stock No.	Mfr.'s Type	Coil		EACH		
		V	Ohms	1-24	25-49	50-99
886-0763	KUL-11A15S	120AC	3700	33.34	31.67	30.00
886-0766	KUL-11D15S	24DC	472	27.79	26.43	25.03



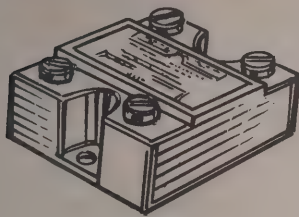
Impulse Relays

The S89R is a bistable, impulse relay that can afford a savings of power in applications where the load is on for long periods of time. Contact rating is 15 amps, 1/2HP, 125/250VAC amps, 125VAC tungsten filament lamp load; 1/2 amp, 125VDC; and 1/4 amp, 250VDC. Life expectancy at full load is 50,000 operations minimum; 100,000 operations, mechanical. Operating temperature range is -10°C to +60°C. Mounting is by two #8-32 tapped holes on 1.84" (46.83 mm) centers. "ACI" indicates .187" (4.75 mm) quick connects. S90 relay is identical to the S89 Series except that terminals are .250" (6.35 mm) quick connect and contacts are rated at 20 amps. Coil for both series are rated for continuous duty operation.

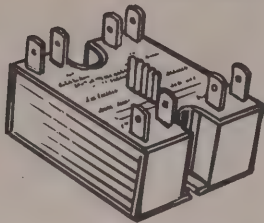
S89 Series except that terminals are .250" (6.35 mm) quick connect and contacts are rated at 20 amps. Coil for both series are rated for continuous duty operation.

Stock No.	Mfr.'s Type	Coil Voltage	Contacts	EACH		
				1-24	25-49	50-99
886-1278	S89R5ABD1-24	24VAC	SPDT	19.40	18.44	16.97
886-1279	S89R5ABD1-120	120VAC	SPDT	19.40	18.44	16.97
886-1280	S89R5DBD1-12	12VDC	SPDT	19.11	18.38	17.45
886-1281	S89R11AAC1-24	24VAC	DPDT	23.81	22.27	21.03
886-1282	S89R11AAC1-120	120VAC	DPDT	23.81	22.27	21.03
886-1283	S89R11ABD1-24	24VAC	DPDT	24.45	23.07	21.84
886-1284	S89R11ABD1-120	120VAC	DPDT	24.45	23.07	21.84
886-1285	S89R11DAC1-12	12VDC	DPDT	22.97	21.82	20.97
886-1286	S89R11DAC1-24	24VDC	DPDT	22.97	21.82	20.97
886-1287	S89R11DBD1-12	12VDC	DPDT	23.17	22.01	20.86
886-1288	S89R11DBD1-24	24VDC	DPDT	23.17	22.01	20.86
886-1289	S90R5ABD1-120	120VAC	SPDT	22.32	20.97	20.10
886-1277	S90R11ABD1-24	24VAC	DPDT	21.89	20.33	18.97
886-1276	S90R11ABD1-120	120VAC	DPDT	26.52	24.63	22.98

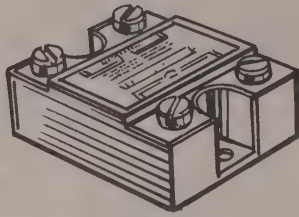
Solid State Relays



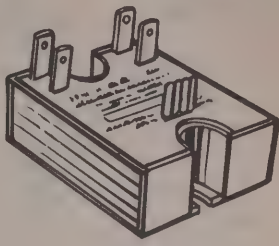
SSR Series



SSRQ Series



SSRT Series



SSRD Series

SSR Series
SSR Series is a medium/high power, 120/240 VAC, 47-70Hz inverse parallel SCR output solid state relay that is controlled by an opto-electronic coupler intended for use as On/Off switch for loads through 110 amps. Ideal for interfacing between logic output of TTL, HTL, or MOS and AC loads such as solenoids, motors and transformers.

Stock No.	Mfr.'s Type	Input Voltage	Max. Switching Rating/Output	EACH	
				1-24	25-49
886-7010	SSR-240A25	90-280 VAC	.05-25A rms	38.23	36.34
886-7011	SSR-240A50	90-280 VAC	.05-50A rms	52.95	50.30
886-7013	SSR-240D25	3-32 VDC	.05-25A rms	32.36	30.75
886-7014	SSR-240D25R*	3-32 VDC	.05-25A rms	35.30	33.54
886-7015	SSR-240D50	3-32 VDC	.05-50A rms	47.07	44.72

*R = Random Voltage Turn-on.

SSRQ Series
SSRQ series relay comprises four totally independent, optically isolated, triac output solid state relays in one standard package. Designed to be used as four On/Off switches for loads through 20 amps.

Stock No.	Mfr.'s Type	Line Voltage	Input Voltage	Max. Switching Rating/Output	EACH	
					1-24	25-49
886-7024	SSRQ-240D20	24-280VAC	4-15 VDC	20A rms	94.13	89.14

SSRT Series
SSRT series relay is a triac output solid state relay that is controlled by an opto-electronic coupler. Intended for use as an On/Off switch for loads through 25 amps. EMI and RFI are greatly reduced due to zero voltage turn-on and zero current turn-off of the load. 1 Form A (SPST-NO). Plastic case is UL rated self-extinguishing.

Stock No.	Mfr.'s Type	Line Voltage	Input Voltage	Max. Switching Rating	EACH	
					1-24	25-49
886-7020	SSRT-240A10	24-280 VAC	90-280 VAC	.05-10A rms	27.94	26.54
886-7021	SSRT-240A25	24-280 VAC	90-280 VAC	.05-25A rms	35.30	33.54
886-7022	SSRT-240D10	24-280 VAC	3-32 VDC	.05-10A rms	24.99	23.76
886-7023	SSRT-240D25	24-280 VAC	3-32 VDC	.05-25A rms	29.40	27.94

SSRD Series
SSRD series relays comprise two totally independent, optically isolated, inverse parallel SCR output solid state relays in one standard package. Intended to be used as two On/Off switches for loads through 40 amps. UL recognized and CSA certified for industrial applications.

Stock No.	Mfr.'s Type	Line Voltage	Input Voltage	Max. Switching Rating/Output	EACH	
					1-24	25-49
886-7025	SSRD-240D25	24-280 VAC	4-15 VDC	25A rms @ 25°C	58.83	55.88
886-7026	SSRD-240D40	24-280 VAC	4-15 VDC	40A rms @ 25°C	73.54	69.87

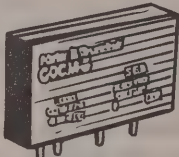
Input/Output Modules

Slim Line Input/Output Modules
Slim line input/output modules provide interfacing between microprocessor- or computer-based control systems and external input devices and loads such as switches, sensors, valves and motor starters. Offered in four photo-isolated versions: AC input, AC output, DC input, DC output. Units are color-coded and have high isolation and noise immunity. Packaged in a 0.4" enclosure for replacement without disturbing wiring. On modules of the same voltage, output is compatible with input of the input module. Ideal for series operation. 1 Form A (SPST-NO).

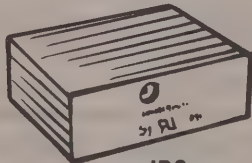
Stock No.	Mfr.'s Type	Logic Voltage	Input		Output		EACH	
			MAX V	MAX mA	MAX mV	MAX m	1-24	25-49
886-7027	IACM-5	5VDC	140VAC	9	30VDC	.100	11.76	11.18
886-7028	IACM-5A	5VDC	280VAC	6	30VDC	.100	11.76	11.18
886-7029	IDCM-5	5VDC	3VDC	39	60VDC	.100	11.76	11.18
886-7030	OACM-5	5VDC	6VDC	28	280VAC	3	11.76	11.18
886-7032	OACM-U	3-15VDC	15VDC	44	280VAC	3	11.76	11.18
886-7033	ODCM-5	5VDC	6VDC	21	60VDC	3	11.76	11.18
886-7100	OACM-UH	3-15VDC	15VDC	44	280VAC	5	9.35	8.88
886-7101	OACM-5H	5VDC	6VDC	28	280VAC	5	10.70	10.16

Solid State Input/Output Modules
A reliable interface between microprocessor- or computer-based control systems and external input devices and loads, these photo-isolated modules feature excellent isolation and transient immunity. On modules of the same voltage type, AC or DC, the output of the output modules is compatible with the input of the input modules, making them ideal for series operation. Modules are color-coded and packaged in industry standard plug-in enclosure. Units interchange easily without disturbing wiring. UL recognized, CSA certified. Order mounting boards separately below.

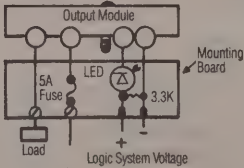
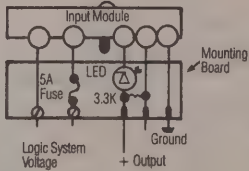
Stock No.	Mfr.'s Type	Usage	Logic Voltage VDC	Typ. Input Curr. @ Nom. Input Voltage	Max. Load Curr. @ Max. Load Voltage	EACH	
						1-24	25-49
886-7034	IAC5	AC Input	5VDC	8mA @ 120VAC	100mA @ 30VDC	13.24	12.58
886-8008	OAC5	AC Output	5VDC	24mA @ 5VDC	3A @ 140VAC	12.03	11.44
886-7035	IDC5	DC Input	5VDC	13mA @ 32VDC	100mA @ 30VDC	13.24	12.58
886-7036	ODC5	DC Output	5VDC	18mA @ 5VDC	3A @ 60VDC	13.24	12.58
886-7037	OAC5A	AC Output	5VDC	24mA @ 5VDC	3A @ 280VAC	13.24	12.58
886-8002	OAC15	AC Output	15VDC	25mA @ 15VDC	3A @ 140VAC	14.02	13.30
886-7038	IAC5A	AC Input	5VDC	6mA @ 240VAC	100mA @ 30VDC	13.24	12.58
886-7039	IAC15	AC Input	15VDC	8mA @ 120VAC	100mA @ 30VDC	14.02	13.30
886-7105	OAC-5H	AC Output	5VDC	24mA @ 5VDC	5A @ 280VAC	12.63	12.00



ODCM



IDC



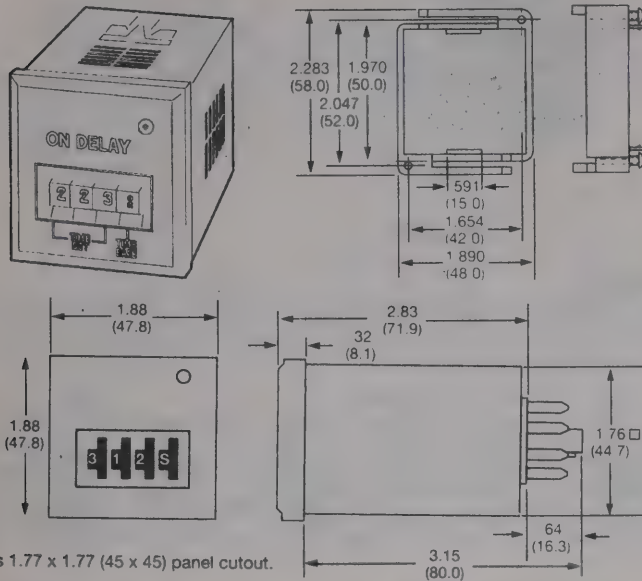
UL Recognized Mounting Boards for I/O Modules

Stock No.	Mfr.'s Type	No. of Module Positions	Approx. Dimensions L x W x H	EACH	
				1-24	25-49
886-7040	2IO4A	4	4.5 x 3.5 x 2.2"	30.88	29.34
886-7041	2IO8	8	8.4 x 3.5 x 2.2"	51.46	48.90
886-7042	2IO16	16	14.4 x 3.5 x 2.2"	91.19	86.64
886-7043	2IO24	24	18.75 x 4.5 x 2.2"	147.08	139.72
886-7110	2IOM16*	16	9.5 x 3.25 x 2.16"	76.41	72.59
886-7111	2IOM24*	24	8 x 6 x 2.16"	124.79	118.57

*For slim line input/output modules.

CN1 Series

**SSA-24C667
MOUNTING CLIP**



On Delay, Time Delay Relay for Plug-in or Panel Mounting. Output relay turns on at the end of a programmed time interval which is started by applying input voltage. LED flashes when output relay is off and is on continuously when the output relay is on. Removal of input voltage turns off output relay. Reapplying input voltage resets the unit. **Timing:** 0.1 sec. to 9,990 hr. Adjustable with thumbwheel switches. **Contacts:** 2 form C (DPDT) silver-cadmium oxide alloy. **Input Voltage:** 120 VAC $\pm 15\%$, 60 Hz. **Rating:** 10A @ 30 VDC or 277 VAC, resistive; 1/2 HP @ 250 VAC. **Termination:** 8-pin octal style plug. **Enclosure:** Black plastic 1/16 DIN (48mm x 48mm) case. **Sockets:** Fits either 27E122 or 27E891 (snap-on) screw terminal sockets. **Weight:** 4.3 oz.

886-0100. Type CN1 **EACH 48.63**

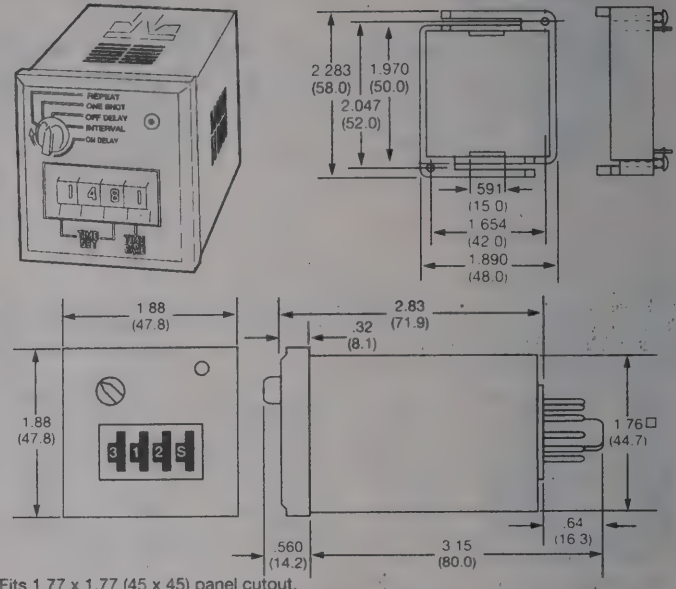
Accessory

SSA-24C667 Mounting Clip. Ratchet-fit clip slides onto CNM5 from behind to secure CNM5 in panel mount applications.

886-0102. SSA-24C667 **EACH 11.36**

CNM5 Series

**SSA-24C667
MOUNTING CLIP**



Multifunction Time Delay Relay for Plug-in or Panel Mounting. Five timing functions selectable via rotary switch. **Timing:** 0.1 sec. to 9,990 hr. Adjustable with thumbwheel switches. **Contacts:** 2 form C (DPDT) silver-cadmium oxide alloy contacts. **Input Voltage:** 120 VAC $\pm 15\%$, 60 Hz. **Rating:** 10A @ 30 VDC or 277 VAC, resistive; 1/2 HP @ 250 VAC; 1/3 HP @ 120 VAC. **Termination:** 11-pin octal style plug. **Enclosure:** Black plastic 1/16 DIN (48mm x 48mm) case. **Sockets:** Fits either 27E123 or 27E392 (snap-on) screw terminal sockets. **Weight:** 4.3 oz.

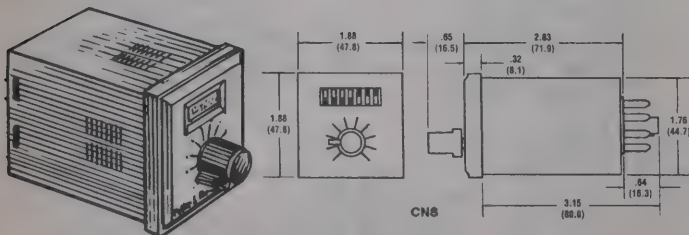
886-0101. Type CNM5 **EACH 60.20**

Accessory

SSA-24C667 Mounting Clip. Ratchet-fit clip slides onto CNM5 from behind to secure CNM5 in panel mount applications.

886-0102. SSA-24C667 **EACH 11.36**

CNS Type Multi-Function, DIP Switch Programmable, Knob Adjustable, Time Delay Relay

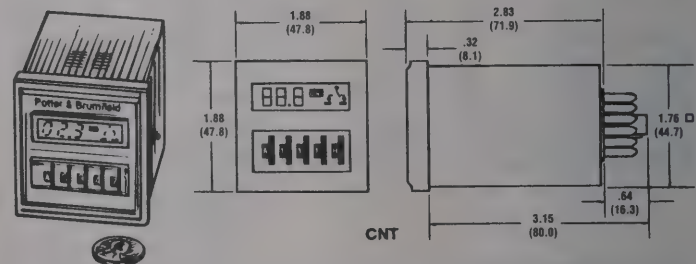


CNS series are economical, multi-functional, programmable, time delay relays housed in 1/16 DIN style enclosures. Available programmable functions in units with 8-pin octal-style bases are delay on operate, interval on, recycler - initially on and recycler - initially off. Units with 11-pin octal-style bases provide those timing functions plus delay on release, interval off, inverted delay on release and an additional interval on function. Timing function and range is selected by a DIP switch, and actual delay time is set with an adjustment knob and calibrated dial. Delay is selectable on all units from .1 sec. to 100 min. All models have DPDT output contacts rated 10 amps @ 240VAC/30VDC. Operating temperature range is -10°C to +55°C.

Stock No.	Mfr.'s Type	Input		Pins*	EACH	
		Voltage	Max. Power		1-24	25-49
886-7072	CNS-35-72	120VAC	3VA	8	48.13	45.72
886-7073	CNS-35-76	120VAC	3VA	11	53.49	50.80
886-7074	CNS-35-92	24-240VAC/VDC	1-10VA or watts	8	63.61	59.07
886-7075	CNS-35-96	24-240VAC/VDC	1-10VA or watts	11	64.18	60.97

*8-pin units provide four timing functions, and 11-pin units provide eight timing functions.

CNT Type 12-Function Digitally Programmable Time Delay Relay/Counter



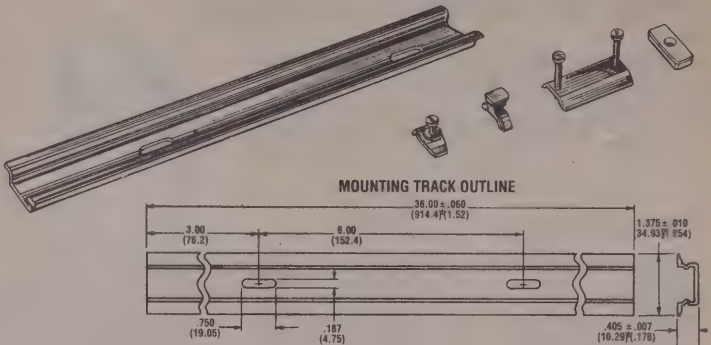
CNT series are multi-functional, programmable, time delay relays/counters housed in 1/16 DIN style enclosures with an octal-style 11-pin plug-ins. The units feature thumbwheel switches for digital programming. An LCD digital readout permits easy monitoring of status. Available programmable functions are delay on operate, delay on release, three interval on functions, delay on operate and release, cumulative delay on operate, 50% duty cycle recycler, output pulsing, single cycle, up counter and down counter. Delay is selectable from .1 sec. to 9990 hours. Counter range is selectable from 1 to 99,900 counts. All models have DPDT output contacts rated 10 amps @ 240VAC/30VDC. Operating temperature range is -10°C to +55°C.

Stock No.	Mfr.'s Type	Input		EACH	
		Voltage	Max. Power	1-24	25-49
886-7076	CNT-35-26	12VDC	3 watts @ 12DC	84.81	78.75
886-7077	CNT-35-76	120VAC	3VA @ 120VAC	76.18	72.40
886-7078	CNT-35-96	24-240VAC/VDC	1-10VA or watts	82.00	76.15

Track and Mounting Accessories

Mounting track and holding clips for screw terminal sockets. The Track 24A110 is available in three foot length with mounting holes on 6" centers. Track can be cut to shorter lengths for small chassis assemblies or full sections can be used end-to-end in larger installations. Made of lightweight, sturdy extruded aluminum, track accepts several styles of screw terminal sockets: KU Series 27E121, 27E867 and 27E893; Octal Type 27E122, 27E123, 27E891 and 27E892; KH Series 27E166 and 27E894; R10 Series 27E460, 27E461 and 27E462; and K10 Series 27E487 and 27E895. The track will also mount the following relays: EOTZ, KUB, PM, PRD, SSR, SSRD, SSRQ and SSRT.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
886-5015	24A110	Mounting Track-3 ft. length	10.51	9.53	8.65
886-1504	24A071	Steel mounting clip with 7/16" long, 6-32 screw	.63	.61	.55
886-1500	24A108	Steel mounting clip with 9/16" long, 6-32 screw	.58	.52	.46
886-1501	24A065	Steel mounting clip with 2 6-40 screws for 27E123	.76	.72	.63
886-1502	24A072	Plastic twist clip for 27E166, 27E122, 27E123 and 27E487	.74	.69	.61
886-1503	40G432	Insulator. Use with 27E460, 27E461, 27E462 and 27E867	.74	.69	.61



KUP Sockets and KU Mounting Strip

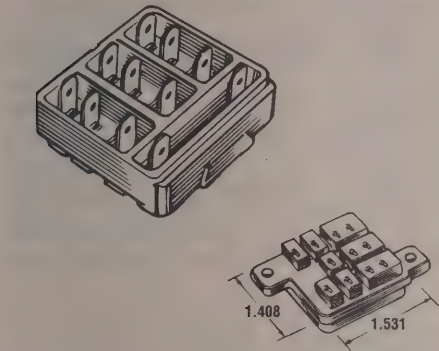
SPDT/DPDT/3PDT sockets rated 15 amps snap into a chassis without additional hardware for support. Socket 27E396 has .187" quick connect terminals. 27E400 has solder terminals. KU mounting strip 37D632 will mount six KU sockets (except 27E121) in aluminum strip 11.9 x 3.00 x .062".

Stock No.	Mfr.'s Type	Term. Type	EACH			
			1-24	25-49	50-99	100-249
886-1436	27E396	Q.C.	3.74	3.38	3.23	2.93
886-1437	27E400	Solder	2.35	2.12	2.02	1.83
886-1490	37D632	Mtg. Strip	7.08	6.72	6.38	5.79

Hard mount sockets are rated 15 amperes. Will accept .187-in. terminals of all Series KU and plain case series KUP relays.

886-1420	27E043	Solder	2.35	2.12	2.02	1.83
886-1421	27E046	P.C.	2.88	2.58	2.47	1.89
886-1425	27E121	Screw	8.56	8.13	7.69	6.42
886-1422	20C228*	Spring	.64	.62	.57	.51
886-5003	27E867†	Screw	18.72	17.88	16.84	15.28
886-5004	27E893‡	Screw	9.68	9.20	8.71	7.90

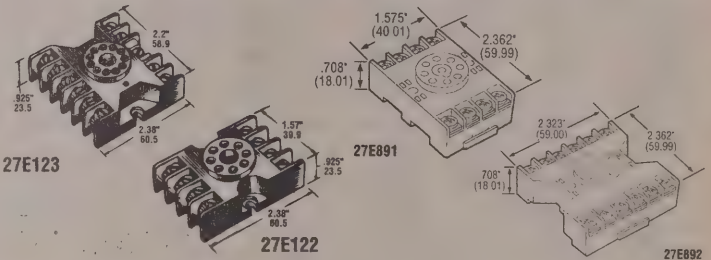
*Type 20C228 hold-down spring. †4 pole. ‡3 pole.



Octal-Style Sockets

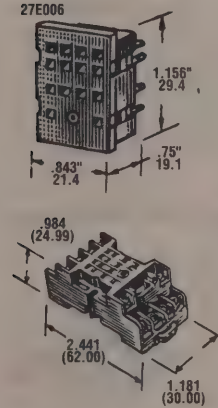
For KRP, KRPA, KRP3-H, KAP, K8P, and KCP relays; CD-21, CD-38, CH, CK, CNS, CNT and CR time delays; and CS sensor. Type 27E122 is molded polycarbonate, 8-pin screw terminal socket, rated 10 amperes. Type 27E123 is molded polycarbonate, 11-pin screw terminal socket, rated 10 amperes. Type 27E891 is 8-pin Din rail mount, screw terminals. Type 27E892 is 11-pin Din rail mount, screw terminals.

Stock No.	Mfr.'s Type	Terminal Type	EACH			
			1-24	25-49	50-99	100-249
886-1426	27E122	Screw Term.	5.47	5.20	4.91	4.11
886-1427	27E123	Screw Term.	8.05	7.66	7.26	6.04
886-1606	27E891	Screw Term.	6.52	5.91	5.30	5.04
886-9997	27E892	Screw Term.	10.70	8.70	7.95	7.55



Sockets for KH Series

For KHS and KHU Series relays. 27E006, 4PDT solder terminal socket; 27E007, 4PDT printed circuit socket; 27E166, 4PDT screw terminal socket. 1 oz.



Stock No.	Mfr.'s Type	Socket Term.	EACH			
			1-24	25-49	50-99	100-249
886-1410	27E006	Solder	2.02	1.82	1.66	1.36
886-1411	27E007	P.C.	1.97	1.80	1.71	1.43
886-1404	27E166	Screw	13.02	12.38	11.73	9.78
886-1412	20C217	**	.52	.49	.46	.43
886-1409	24A032	**	.24	.20	.17	.15
886-5001	27E894	Screw	15.76	14.97	14.19	12.87

*Hold-down spring. **Retainer for 27E006 and 27E007.

Mounting Strip for KH Series

Type 37D633 will mount 8KH sockets (except 27E166 and 27E894) in one length of aluminum strip, measuring 10.9 x 2.5 x .062".

886-1495. 1-24	EACH 5.53
25-49	EACH 5.26
50-99	EACH 5.00
100-249	EACH 4.53

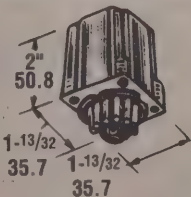
Relay Accessories

8-Pin "P" Case. Type 35D070. Clear plastic; octal base. For mounting rectifiers, capacitors. 4 screws. 2 x 1 13/32 x 1 19/32" (5.08 x 3.57 x 3.57 cm). Wt.: 1 oz (28 gm).

886-1460. 1-24	EACH 3.39
25-49	EACH 3.07
50-99	EACH 2.90
100-249	EACH 2.42

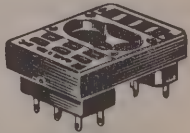
KRP. Hold down Spring. Type 20C176. Wt.: 3 oz. (85 gm).

886-1416. 1-24	EACH .69	25-49	EACH .64
50-99	EACH .58	100-249	EACH .52



Strip Ground Sockets for Series R10 Relays

Types 27E125 and 27E128 are 2PDT sockets, spring ground; Type 27E126 and 27E129, 4PDT socket, spring ground; Type 27E127 is 6PDT socket spring ground. Contact your nearest Allied facility for larger quantity pricing.



Stock No.	Mfr.'s Type	Terminal Type	EACH			
			1-24	25-49	50-99	100-249
886-1430	27E125	Solder	1.62	1.47	1.38	1.25
886-1431	27E126	Solder	1.97	1.80	1.71	1.55
886-1432	27E127	Solder	2.50	2.27	2.14	1.94
886-1433	27E128	PC Term.	1.70	1.55	1.38	1.25
886-1434	27E129	PC Term.	1.97	1.80	1.71	1.55
886-9018*	27E460	Screw	18.21	17.05	15.47	14.75
886-9017†	27E461	Screw	22.41	21.28	18.38	17.58
886-9019‡	27E462	Screw	29.85	28.37	26.89	24.39

*2 pole. †4 pole. ‡6 pole.

Hold Down Springs

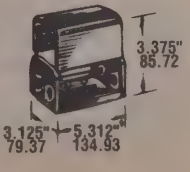
Stock No.	Mfr.'s Type	Poles	EACH			
			1-24	25-49	50-99	100-249
886-1440	20C249	2	.35	.28	.21	.19
886-1441	20C250	4	.26	.25	.22	.20
886-1442	20C251	6	.26	.25	.22	.20

Relay Cover

For Type PRD. Grey enameled heavy steel. Has predrilled mounting holes in base and knockouts for 1/2" (1.27 cm) dia. conduit.

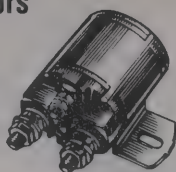
PRD Cover #35D013. Size: 3.125 x 3.375 x 5.312" (13.49 x 8.57 x 7.94 cm). Wt.: 1 lb. (454 gm).

886-1455. 35D013. 1-24	EACH 19.68
25-49	EACH 18.71
50-99	EACH 17.72
100-249	EACH 16.08



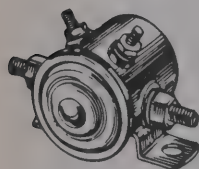
Type 124 Heavy Duty DC Power Contactors

Design meets UL 583 industrial truck standard. Dust and splash proof cover silver alloy contacts rated at 100 amps (400 amps inrush) at 6 to 36VDC. **Temperature Range:** -40°C to +65°C. **Max. Continuous Coil Watts:** 12 at rated voltage. **Sizes:** 3 1/8 x 3 1/16 x 2 1/4" except (*) 3 1/8 x 4 1/4 x 2 1/4".



Stock No.	Mfr.'s Type	DC Volts	Action	EACH			
				1-9	10-24	25-49	50-Up
576-1060	124-902	12	SPNO/4-TER	28.75	27.31	25.88	24.43
576-1061	124-903	24	SPNO/4-TER	29.67	28.18	26.70	25.22
576-1062	124-904	36	SPNO/4-TER	29.67	28.18	26.70	25.22
576-1063	124-906	12	SPNO/3-TER	28.60	27.17	25.74	24.31
576-1064	124-910*	12	SPDT/6-TER	46.00	43.70	41.40	39.10
576-1065	124-911*	24	SPDT/6-TER	46.00	43.70	41.40	39.10

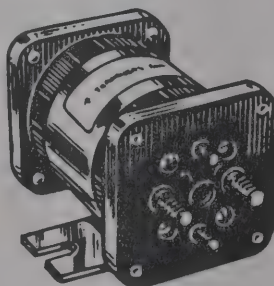
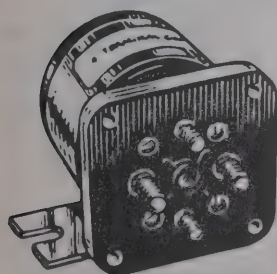
Type 70 DC Power Contactors



Solenoid actuated DC power contactors feature drawn steel dust-proof enclosure, copper stud power and coil terminals, double break rotating disc movable contact, isolated coil terminals. **Magnet Coil Rating:** 9 watts. **Breakdown Voltage:** 500V rms, 60Hz. Copper contacts except (*) which are silver. **Size:** SPDT - 2 1/2 x 3 1/2 x 2 1/2"; SPNO - 3 1/8 x 3 1/16 x 2 1/2". Mounting holes on 2.109" centers. Hardware included.

Stock No.	Mfr.'s Type	Volts DC	Action	Term. No.	EACH			
					1-9	10-24	25-49	50-Up
576-1012	70-901	6	SPNO	4	18.66	17.73	16.79	15.86
576-1013	70-902	12	SPNO	4	18.76	17.82	16.88	15.94
576-1014	70-903	24	SPNO	4	19.00	18.05	17.10	16.15
576-1015	70-904	36	SPNO	4	17.88	16.98	16.09	15.20
576-1016	70-906*	12	SPNO	4	43.49	41.31	39.14	36.96
576-1017	70-907*	24	SPNO	4	43.56	41.38	39.20	37.03
576-1018	70-910*	12	SPDT	6	76.25	72.44	68.62	64.81
576-1019	70-911*	24	SPDT	6	76.25	72.44	68.62	64.81
576-1020	70-914	12	SPNO	3	17.21	16.35	15.49	14.63
576-1021	70-915	24	SPNO	3	18.34	17.42	16.51	15.59
576-1022	70-918	12	SPNO	3	18.10	17.19	16.29	15.38
576-1023	70-922*	12	SPDT	6	44.21	41.99	39.78	37.57

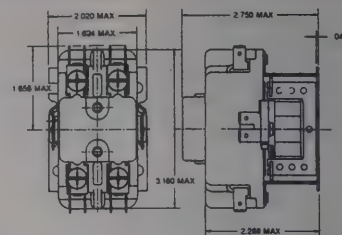
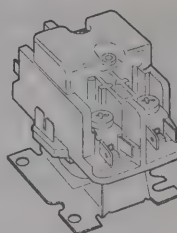
Type 586 Sealed Contactors



Sealed contacts designed for controlling DC starting motors on gasoline engine driven auxiliaries. Battery charging power circuits and low-voltage DC motor generator sets. Coil rated at 12 continuous duty. Silver contacts rated 200 amps. Dust and splash proof. 4 terminal.

Stock No.	Mfr.'s Type	Cast VDC	Pole Form	Ohms	EACH			
					1-9	10-24	25-49	50-Up
576-1078	586-902	12	SPNO	21.0	45.71	43.42	41.14	38.85
576-1079	586-905	24	SPNO	84.0	46.10	43.79	41.49	39.18
576-1080	586-911	12	SPDT	13.2	64.30	61.08	57.87	54.65
576-1081	586-914	24	SPDT	53.0	64.44	61.22	57.99	54.77

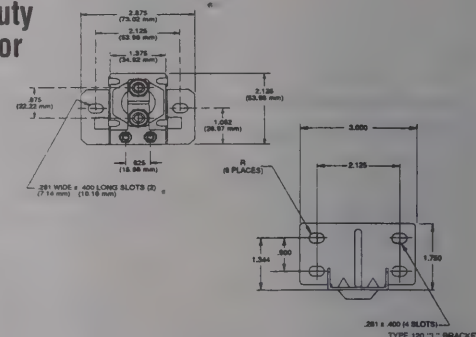
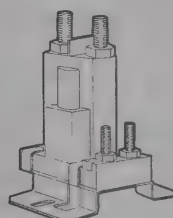
Type 122 AC Power Contactors



Low cost straight-thru wiring AC power contactors have UL File No. E12139 and CSA File No. LR13360 approvals. 1/4" auxiliary quick-connect terminals, screw power terminals for #10 solid wire max. Two pole normally open double make contacts. Wt.: 10.5 oz approx.

Stock No.	Mfr.'s Type	Voltage	Contact Rating		EACH			
			Inductive	Resistive	1-9	10-24	25-49	50-Up
576-3001	122-901	24 VAC	30 Amp Cont. 150 Amp Inrush @277 VAC Per Pole	40 Amp @ 600 VAC	22.60	21.47	20.34	19.21
576-3002	122-902	120 VAC			22.60	21.47	20.34	19.21
576-3003	122-903	208/240 VAC			22.60	21.47	20.34	19.21
576-3004	122-905	24 VAC	40 Amp Cont. 200 Amp Inrush @277 VAC Per Pole With Cover	40 Amp @ 600 VAC	23.16	22.00	20.84	19.68
576-3005	122-906	120 VAC			23.16	22.00	20.84	19.68
576-3006	122-907	208/240 VAC			23.16	22.00	20.84	19.68

Type 120 Heavy Duty DC Power Contactor



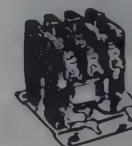
Water resistant durable in both high temperature and high vibration conditions. Capable of handling low-level and high current requirements. Continuous duty. Silver alloy contacts. Temperature range: -20°F to 120°F. Wt. 6.0z approx. Single pole normally open.

Stock No.	Mfr.'s Type	Volts DC	Coil Resistance	EACH			
				1-9	10-24	25-49	50-Up
576-3007	120-901	12	16.0 Ohms	13.53	12.85	12.17	11.50
576-3008	120-902	15	20.8 Ohms	13.94	13.24	12.55	11.85
576-3009	120-904	24	64.0 Ohms	14.28	13.56	12.85	12.13
576-3010	120-907*	12	16.0 Ohms	13.49	13.10	12.41	11.72

*L Type Bracket

Type 154 AC Power Contactors

3PNO contacts. Interchangeable mounting with low coil wattage and 1/4" double quick-connect terminals. Non-positional, non-corroding structure. Low temperature rise. Hardware included in boxed units. 50/60 Hz. **Size:** 2 1/4 x 3 3/4 x 3 1/16". U.L. Recognition File #E12139.



Stock No.	Mfr.'s Type	Coil		Contact Rating		EACH			
		Volts	Amps	Ind.*	Res.	1-9	10-24	25-49	50-Up
576-1035	154-902	120	20	1	30A @ 600V	42.88	40.73	38.59	36.44
576-1037	154-905	120	25	2	35A @ 600V	45.42	43.15	40.88	38.60
576-1038	154-907	24	30	3	40A @ 600V	62.24	59.13	56.01	52.90
576-1039	154-908	120	30	3	40A @ 600V	62.24	59.13	56.01	52.90
576-1041	154-911	120	40	4	50A @ 600V	65.32	62.05	58.79	55.52
576-1042	154-912	208/240	40	4	50A @ 600V	65.32	62.05	58.79	55.52

*1 = 20A @ 600V Inrush; 120 @ 277V; 2 = 25A @ 600V Inrush; 150A @ 277V; 3 = 30A @ 600V Inrush; 180A @ 277V, 4 = 40A @ 600V Inrush, 240A @ 277V, 200A @ 480V.

Type 84 Relays

Totally enclosed, low cost, single pole normally open and single pole double throw general purpose relays. Operates any position; isolated coil; 1 mounting bracket. AC coils rated 50/60 Hz. **Termination:** Screw or 1/4 quick connect. **Wt.:** 2.5 oz. (approx.). **Size:** 1 7/8" x 1 1/2" x 1.26".

Stock No.	Mfr.'s Type	Volts	Poles	Amps	Fig.	EACH			
						1-9	10-24	25-49	50-Up
576-3011	84-901	6 VAC	SPNO	8	1	13.84	11.70	10.73	9.90
576-3012	84-902	24 VAC	SPNO	8	1	13.75	11.61	10.65	9.83
576-3013	84-903	120 VAC	SPNO	8	1	14.16	11.96	10.96	10.12
576-3014	84-906	24 VAC	SPDT	8	1	14.96	12.63	11.58	10.69
576-3015	84-907	120 VAC	SPDT	8	1	16.02	13.54	12.41	11.46
576-3016	84-912	24 VAC	SPNO	8	2	13.55	11.45	10.50	9.69
576-3017	84-913	120 VAC	SPNO	8	2	14.23	12.03	11.03	10.18
576-3018	84-914	208/240 AC	SPNO	8	2	15.08	12.74	11.68	10.78
576-3019	84-917	120 VAC	SPDT	8	2	15.08	12.74	11.68	10.78
576-3020	84-926	24 VAC	SPDT	3	2	14.28	12.07	11.06	10.21
576-3021	84-927	120 VAC	SPDT	3	2	14.69	12.41	11.38	10.50
576-3022	84D-902	12 VDC	SPDT	3	1	14.79	12.49	11.45	10.56
576-3023	84D-903	24 VDC	SPDT	1.5	1	14.91	12.60	11.55	10.66

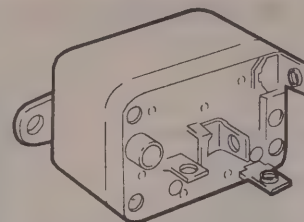


Fig. 1 — Screws

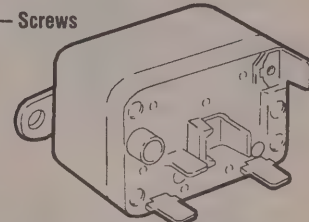


Fig. 2 — Quick Connects

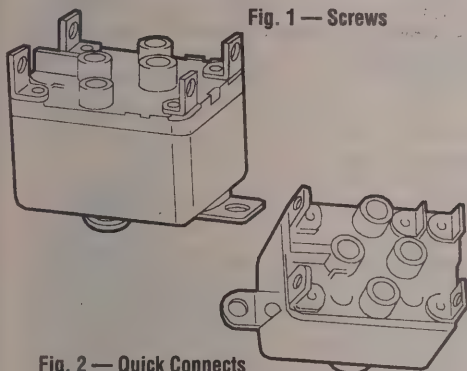


Fig. 1 — Screws

Type 184 AC Relays

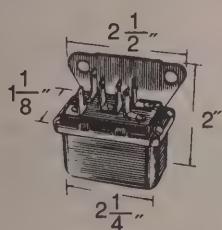
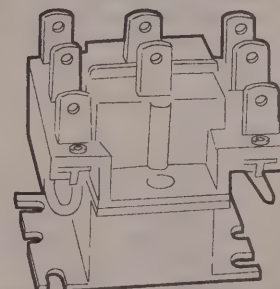
Totally enclosed, low cost, isolated coil relay available in single pole normally open and single pole double throw. Operates in any position; end bracket mounting; screw or 1/4" quick connect termination; AC coils rated at 50/60 Hz. **Contact Ratings:** **Types 184-903, 184-912, 184-916 and 184-918;** 12 amps cont. 60 amps inrush @ 125 VAC, 8 amps cont. 48 amps inrush @ 250 VAC, 7 amps cont. 42 amps inrush @ 277 VAC inductive; 18 amps cont. @ 277 VAC resistive; **Types 184-922 and 184-927;** 3 amps @ 277 VAC, 125 VA @ 125 VAC, and 277 VA @ 277 VAC. **Wt.:** 3 oz. **Size:** 1 7/8" x 1 1/2" x 1.264".

Stock No.	Mfr.'s Type	Volts	Poles	Fig.	EACH			
					1-9	10-24	25-49	50-Up
576-3026	184-903	120 AC	SPNO	1	11.47	9.69	8.88	8.20
576-3027	184-912	24 AC	SPNO	2	11.71	9.90	9.08	8.38
576-3028	184-916	24 AC	SPDT	2	12.49	10.52	9.68	8.93
576-3029	184-918	208/240 AC	SPDT	2	13.99	11.81	10.83	10.00
576-3030	184-922	24 AC	SPNO	2	10.99	9.29	8.51	7.86
576-3031	184-927	120 AC	SPDT	2	13.09	11.07	10.15	9.36

Type 91 Relays

Enclosed contacts, DPDT operates in any position, solenoid action. Can be panel mounted. 1/4" quick connect termination. Coils rated at 50/60 Hz. **Power Rating Inductive:** 12 amp cont 60 amp inrush @ 125 VAC, 6 amp cont. 35 amp inrush @ 250 VAC. **Power Rating Resistive:** 15 amp @ 277 VAC max. **Pilot Rating Inductive:** 125 VA, 1/10 HP @ 125/250 VAC. **Pilot Rating Resistive:** 3 amp @ 277 VAC max. **Wt.:** 6 oz.

Stock No.	Mfr.'s Type	Volts	Circuit Rating Terms.		EACH			
			1-2-3	4-5-6	1-9	10-24	25-49	50-Up
576-3032	91-901	24 AC	Power	Power	22.68	19.16	17.57	16.21
576-3033	91-902	120 AC	Power	Power	23.14	19.56	17.93	16.55
576-3034	91-903	208/240 AC	Power	Power	19.24	16.25	14.90	13.75
576-3035	91-905	120 AC	Power	Pilot	19.89	16.82	15.42	14.23



Type 150 DC Power Relays

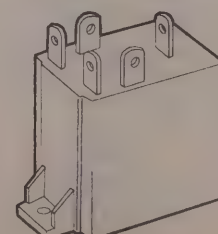
Totally enclosed. Side bracket. 1/4" quick-connect termination. Hardware included in boxed units.

Stock No.	Mfr.'s Type	Contacts		Action	EACH			
		Volts	Amps		1-9	10-24	25-49	50-Up
576-1030	150-902	12	25.0	SPNO	14.83	12.54	11.50	10.61
576-1031	150-903	24	12.0	SPNO	15.29	12.92	11.85	10.93
576-1032	150-905	12	15.0	SPDT	15.80	13.36	12.25	11.30
576-1033	150-906	24	7.5	SPDT	18.83	15.90	14.58	13.46

Type 134 AC Relays

Totally enclosed, quiet operation, versatile termination AC relay. **Contact Rating Inductive:** 12 FLA, 84 LRA @ 125 AVC; 8 FLA, 48 LRA @ 250 VAC; 7 FLA, 42 LRA @ 277 VAC. **Horsepower Ratings:** 3/4 HP @ 125 Vac; 1 HP @ 250 and 277 Vac. **Terminals:** 1/4" Quick Connect Wt: 2.5 Oz (Approx). **Size:** 1.74" x 2" x 1.238".

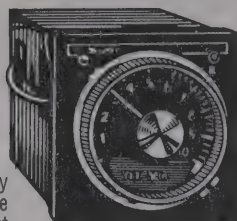
Stock No.	Mfr.'s Type	Volts	Poles	EACH			
				1-9	10-24	25-49	50-Up
576-3024	134-916	24 VAC	SPDT	9.87	8.35	7.65	7.06
576-3025	134-917	120 VAC	SPDT	10.62	8.98	8.23	7.60



Multi-Function Model GLR2U

- 4 Functions in one unit
- Multi Time Range (0.1 sec to 10 hrs.)
- DPDT 10 Amp Relay Output
- LED Indicators — Power/Relay Status

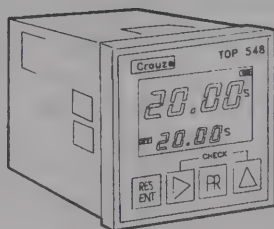
Four Function Timer: delay on make, single shot, delay on break, interval timer. Slide switch selects time range in seconds, minutes, or hours. Easy to set dial for direct reading. Fits standard 11-pin sockets. Also available in DIN-rail version (FLR2U). Other voltages available on special order.



Stock No.	Mfr.'s Type	Voltage	EACH
793-5004	GLR2U	110VAC	56.00
793-5005	FLR2U	110VAC	77.00

88 857 Series LCD Multifunction Timer

- 8 Timing Functions
- Multirange Timing
- Din-sized (48 x 48mm) Housing
- Large LCD Display
- NEMA 4 Front Panel
- 10 Year EEPROM Memory

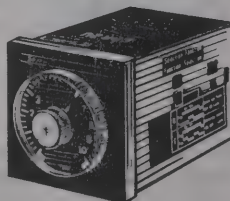


The 88 857 Series is a programmable timer with multi-time ranges (0.01 s to 999.9 hrs) housed in a 1/16 Din (48 x 48mm) style enclosure. The 8 available functions—On Delay, Interval, Single Shot, Repeat Cycle... the large 4 Digit display and the NEMA 4 front panel will fit most industrial applications. The large LCD permits easy programming and monitoring of status such as time remaining, preset value, output relay, time range, functions, etc.

Stock No.	Mfr.'s Type	Description	EACH
793-5035	88857800	8-Pin 110 VAC	98.00
793-5036	88857502	11-Pin 12/24 VDC	98.00
793-5037	88857504	11-Pin 24/48 VDC	98.00
793-5038	88857506	8-Pin 110 VAC	98.00
793-5039	88857508	11-Pin 220 VAC	98.00

Repeat Cycle Timer Model DR2U

- Large Dial Face with Independently Adjustable "ON" and "OFF" Time Range
- 10 Amp DPDT Relay Output
- LED Relay and Power Status Indicators
- Dual Voltage

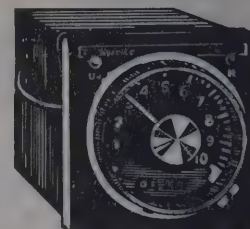


Selection of the time ranges (.1 sec. to 10 hrs.) is made by slide switch on the front of the case. "On" or "Off" time first is also switch selectable. Inner dial selects "On" time; outer dial selects "Off". 48 x 48 mm size for easy panel mounting. Dual voltage feature is identical to CHRONOS series. 110 VAC.

Stock No.	Mfr.'s Type	Description	EACH
793-5514	MDR2U110A	8 Pin Plug-In	71.00
793-5515	GDR2U110A/24AD	11 Pin Plug-In	73.00

Delay on Make Model MAXR2U

- 2 Delayed SPDT or 1 Delayed SPDT and 1 instantaneous SPDT
- Multi Time Range (0.1 sec to 10 hrs.)
- 48 x 48 mm
- LED indicators — Power/Relay Status

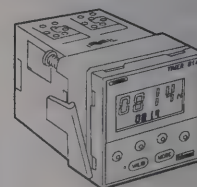


Selection of the two functions is programmed by a slide switch on the side of the timer. Easy to set dial for direct reading. Fits standard 8-pin sockets. Also available in DIN-Rail (FAXR2U), or 11-pin plug-in (GAXR2U). Other voltages available on special order.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5006	MAXR2U	110VAC	54.00
793-5007	FAXR2U	110VAC	73.00
793-5008	GAXR2U	110VAC	56.00

814 Series Multifunction Timer

- 6 Modes of Operation
- LCD 0.3" Display
- Multirange Timing
- Din-sized (48 x 48mm) Housing
- Up or Down Timing
- SPDT 10 Amp Relay Output
- NEMA 12 Front Panel

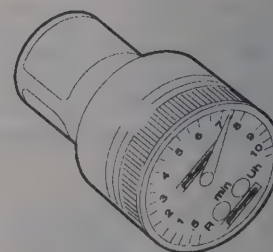


The 814 Timer is a multifunction timer with multi-time ranges (0.01 sec to 9999 hours) housed in a 1/16 Din (48 x 48mm) style enclosure. Easy programming from the front panel push buttons allows selection of up or down timing. 6 different timing functions (Delay on Make, Delay on Break, Interval, Single Shot, Repeat Cycle ON Time First and Repeat OFF Time First) and 11 different timing ranges. A large 4 digit LCD display indicates current and preset values as well as relay output, power input, and initiate switch status. Load such, as light bulb or contactor, can be connected to the start switch.

Stock No.	Mfr.'s Type	Description	EACH
793-5031	88857005	8-Pin 110/220 VAC, 24 VAC/DC	76.00
793-5032	88857003	8-Pin 24/48 VAC/DC, 12VDC	76.00
793-5033	88857105	11-Pin 110/220 VAC, 24 VAC/DC	76.00
793-5034	88857103	11-Pin 24/48 VAC/DC, 12VDC	76.00

88 901 Series Delay on Make Timer

- 22mm Panel Mount Cut-Out
- PLC Compatible
- PNP Open Collector Output
- NEMA 4



The 88 901 Series is a front panel mount analog timer with a Nema 4 front panel. The 3 wire VDC timer can drive a contactor or be connected between the input and the output of a PLC for easy setting of a time variable. Two LEDs monitor Power On and Solid State Output. The output is a PNP Open Collector rated 200 mA at 30 VDC Max. The delay on make timer is available in 10 different time ranges from 1 sec. to 30 min. The device is protected against reverse polarity and short-circuit.

Stock No.	Mfr.'s Type	Description	EACH
793-5042	88 901 102	0.05 to 1 sec	33.00
793-5043	88 901 112	0.15 to 3 sec	33.00
793-5044	88 901 122	0.5 to 10 sec	33.00
793-5055	88 901 132	1.5 to 30 sec	33.00
793-5056	88 901 142	3 to 60 sec	33.00
793-5057	88 901 152	5 to 100 sec	33.00
793-5058	88 901 162	15 to 300 sec	33.00
793-5059	88 901 172	0.5 to 10 min	33.00
793-5060	88 901 182	1.5 to 30 min	33.00

Time Delay Relays

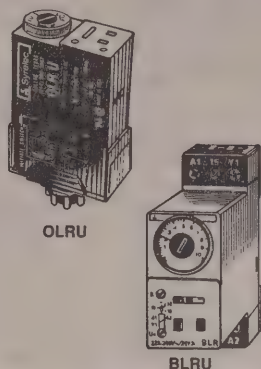
The new CHRONOS series of Timers is now available from Syrelec that will make ordering a much simpler process. Time setting and testing is simplified by the dial face and direct reading capability. Featured below are the five models including, Multifunction, Repeat Cycle, Delay on Make (two versions), and Delay on Break. CHRONOS Timers feature dual

voltages in the following combinations: 48 VAC/DC or 24 VAC/DC...110 VAC or 24 VAC/DC...220 VAC or 24 VAC/DC. 12 VDC is also available on all CHRONOS models on special request. SPDT or DPDT relay outputs available on all models.

CHRONOS Multi-Function Model OLRU

- ▶ 4 functions in one unit
- ▶ Multi time range (0.1 sec to 10 hrs.)
- ▶ SPDT or DPDT 10 Amp Relay Output
- ▶ LED Indicators - Power/Relay Status

Four Function Timer: delay on make, single shot, delay on break, interval timer. Slide switch selects time range in seconds, minutes, or hours. Easy to set dial for direct reading. Fits standard 8-pin sockets. For DIN-rail mounting, order Model BLRU. TLR2U fits standard 11-pin socket.

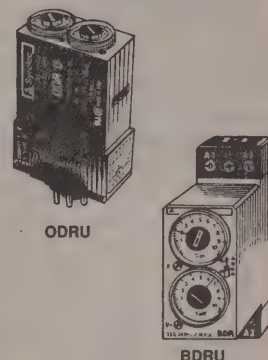


Stock No.	Mfr.'s Type	Voltage	EACH
793-5000	OLRU	110VAC/24VAC/DC	45.00
793-5001	BLRU	110VAC/24VAC/DC	49.00
793-5025	TLR2U	110VAC/24VAC/DC	48.00

CHRONOS Repeat Cycle Model ODRU

- ▶ Multi Time Range (0.1 sec to 10 hrs.)
- ▶ SPDT or DPDT 10 Amp Relay Output
- ▶ LED Indicators - Power/Relay Status
- ▶ Individual "on" and "off" settings

Time range selection is made by dip switches on the case. T1 is the adjustable "off time" for relay R and T2 is the adjustable "on time". When input power is applied, the relay will alternate between "off and on" according to the preset times selected. For DIN-Rail mounting, order Model BDRU.

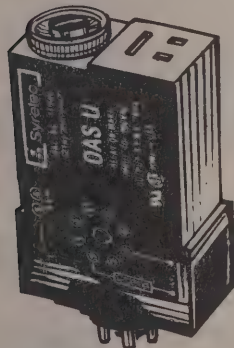


Stock No.	Mfr.'s Type	Voltage	EACH
793-5002	OLRU	110VAC	53.00
793-5003	BDRU	110VAC	54.00
793-5028	ODR2U	110VAC	57.00
793-5029	TDR2U	110VAC / 24VAC/DC	59.00

CHRONOS Delay on Make Model OARU/OASU

- ▶ Multi Time Range (0.1 sec. to 10 hrs.)
- ▶ SPDT or DPDT 10 Amp Relay Output OARU/OAR2U or SCR Solid State Output OASU
- ▶ LED Indicators - Power/Relay Status OARU/OAR2U

For the relay output version OARU, when input power is applied, the relay delays the preset time period prior to energizing. The model OASU, delays the solid state output for the preset time period prior to turning on. Next timing cycle begins when the input power is re-applied. Fits standard 8-pin sockets. For DIN-rail mounting, or order models BARU or BASU.

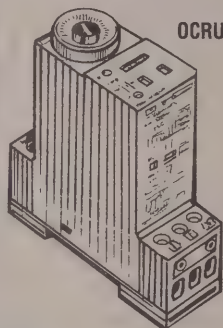


Stock No.	Mfr.'s Type	Voltage	EACH
793-5000	OLRU	110VAC / 24VAC/DC	32.50
793-5501	BARU	110VAC / 24VAC/DC	33.00
793-5502	OASU	10-260VAC/DC	32.50
793-5503	BASU	10-260VAC/DC	39.00
793-5506	OAR2U	110VAC	33.00
793-5027	TAR2U	110VAC / 24VAC/DC	38.00

CHRONOS Delay on Break Model OCRU

- ▶ Multi Time Range (0.1 sec. to 10 hrs.)
- ▶ SPDT or DPDT 10 Amp Relay Output
- ▶ LED Indicators - Power/Relay Status

Input power is continuously supplied to the timer. When an external initiate switch is closed, the output relay is energized. Timing begins when the initiate switch opens. At the end of the delay time, the output is de-energized and the timer is ready for another cycle. Fits standard 8-pin sockets. Order BCRU of DIN-rail mounting.

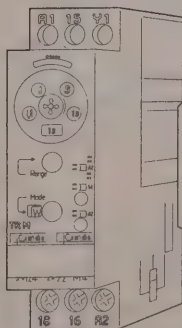


Stock No.	Mfr.'s Type	Voltage	EACH
793-5504	OCRU	110VAC / 24VAC/DC	40.00
793-5505	BCRU	110VAC / 24VAC/DC	41.00
793-5030	TCR2U	110VAC / 24VAC/DC	45.00

TRM Series DIN Rail Multi-Function Timer

- ▶ Slimline 22.5 mm Enclosure
- ▶ 12 Modes of Operation
- ▶ 12 Selectable Time Ranges
- ▶ 24 to 240 VAC/DC Supply Power Range

The TRM Series are timers in a slimline DIN rail mount enclosure. One timer has 12 selectable time ranges, 12 selectable operation modes, and an input power supply voltage range of 24 to 240 VAC/VDC. Output relays can be programmed either as 2 SPDT delayed outputs or 1 SPDT instantaneous output and 1 SPDT delayed output.



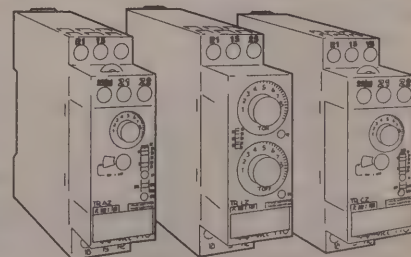
Stock No.	Mfr.'s Type	Description	EACH
793-8001	88 893 003	DIN Rail, 24 TO 240 VAC/DC	70.00

TR 2 Series DIN Rail Timers

— NEW —

- ▶ Slimline 22.5 mm Enclosure
- ▶ Multi-Time Ranges
- ▶ 2 SPDT Output Ranges

The TR 2 Series are timers in a slimline DIN rail mount enclosure. TR2 timers are available in Delay on Make, Delay on Break, and Repeat Cycle operating modes. The TR Series features multiple supply voltage ranges, LED timing and output indication and a remote panel mount potentiometer option. Output relay can be programmed either as 2 SPDT delayed outputs or 1 SPDT instantaneous output and 1 SPDT delayed output.



Stock No.	Mfr.'s Type	Description	EACH
793-8002	88 893 135	Delay on Make 24 VAC/VDC and 110 240 VAC	43.00
793-8003	88 893 335	Delay on Break 24 VAC/VDC and 110 240 VAC	49.00
793-8004	88 893 525	Repeat Cycle 24 VAC/VDC and 110 240 VAC	52.00

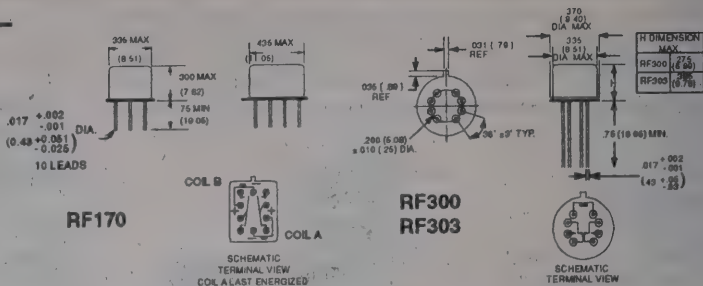
RF Relays Series RF170 and Series RF300 and RF303

— NEW —

- ▶ Hermetically Sealed
- ▶ Gold Plated Contacts
- ▶ Frequency RF170 DC to 4 GHz
- ▶ Frequency RF300, RF303 DC to 3 GHz

The RF170 series are DPDT magnetic latching relays designed to optimize isolation across contacts and poles.

The RF300 and RF303 relays are DPDT relays designed to provide RF signal repeatability over the frequency range by balancing the aggregate insertion loss of the relays' design.

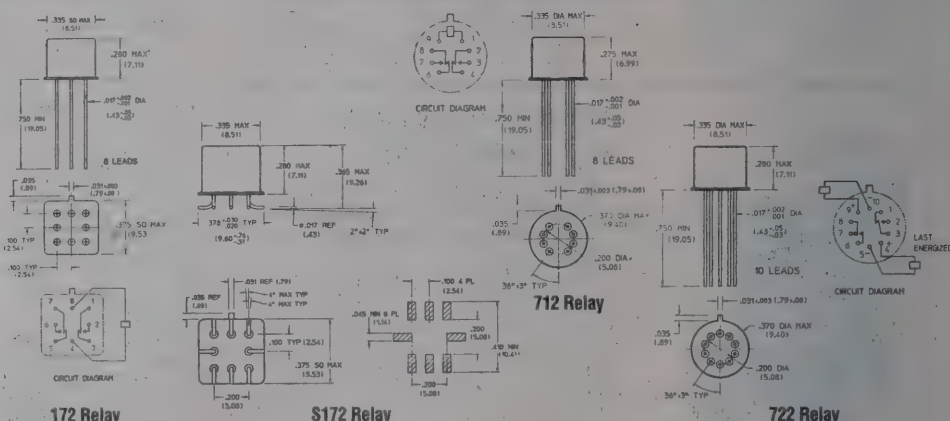


Stock No.	Mfr.'s Type	Style	Nom. Coil Voltage (VDC)	Coil Resistance ($\Omega \pm 20\%$ @ 25°C)	Contact Resistance (m Ω)	Typ. Isolation Across Contacts	Repeatability Typ. (dB)	VSWR Typ. (@ 1 GHz)	Insertion Loss Typ. (dB @ 1 GHz)	EACH
280-1000	RF170-5	Magnetic Latching	5.0	61	150	70-30 dB	—	1.15:1	.20	45.27
280-1001	RF170-6	Magnetic Latching	6.0	120	150	70-30 dB	—	1.15:1	.20	45.27
280-1002	RF170-9	Magnetic Latching	9.0	280	150	70-30 dB	—	1.15:1	.20	45.27
280-1003	RF170-12	Magnetic Latching	12.0	500	150	70-30 dB	—	1.15:1	.20	45.27
280-1004	RF170-18	Magnetic Latching	18.0	1130	150	70-30 dB	—	1.15:1	.20	45.27
280-1005	RF170-26	Magnetic Latching	26.5	2000	150	70-30 dB	—	1.15:1	.20	45.27
280-1006	RF300-5	Non-Latching	5.0	50	150	—	± 0.1	1.12:1	.13	36.65
280-1007	RF300-12	Non-Latching	12.0	390	150	—	± 0.1	1.12:1	.13	36.65
280-1008	RF303-5	Non-Latching	5.0	100	150	—	± 0.1	1.12:1	.13	38.50
280-1009	RF303-12	Non-Latching	12.0	850	150	—	± 0.1	1.12:1	.13	38.50

General Purpose Armature Relays Series 172, 712, and 722

- ▶ Hermetically Sealed
- ▶ Surface Mount (S172 Series)
- ▶ Gold Plated Contacts
- ▶ Dry Circuit to 1 A 28 VDC
- ▶ Excellent RF Performance, DC to 1 GHz

Commercial versions of Teledyne Relays' DPDT, Established Reliability, T²R² relay line. Hermetic sealing, uni-frame design, all welded construction and gold plated, precious metal contacts assure reliable switching of loads from dry circuit to 1 ampere. Contact geometry and low inter contact capacitance provide excellent RF switching capability well into the UHF spectrum.

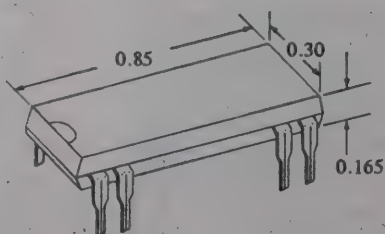


Stock No.	Mfr.'s Type	Type	Nominal Coil Voltage	Coil Resistance Ohms ($\pm 20\%$) @ +25°C	Operate Voltage (Vdc) @ +25°C	Operate Time (msec) @ +25°C	Release Time (msec) @ +25°C	EACH	
								1-49	50-99
280-0001	172-5/28	Non-Latch	5.0	64	3.8	6.0	3.0	17.05	16.21
280-0002	172-12/28	Non-Latch	12.0	400	9.0	6.0	3.0	17.05	16.21
280-0003	172-26/28	Non-Latch	26.5	1600	18.0	6.0	3.0	17.05	16.21
280-0004	S172-5/28	Non-Latch Surface Mount	5.0	64	3.8	6.0	3.0	18.05	17.64
280-0005	S172-12/28	Non-Latch Surface Mount	12.0	400	9.0	6.0	3.0	18.05	17.64
280-0006	S172-26/28	Non-Latch Surface Mount	26.5	1600	18.0	6.0	3.0	18.05	17.64
280-0007	712-5	Non-Latch	5.0	50	3.6	4.0	3.0	17.45	16.14
280-0008	712-12	Non-Latch	12.0	390	8.4	4.0	3.0	17.45	16.14
280-0009	712-26	Non-Latch	26.5	1560	17.0	4.0	3.0	17.45	16.14
280-0010	722-5	Magnetic Latch	5.0	61	3.5	2.0	N/A	33.00	31.90
280-0011	722-12	Magnetic Latch	12.0	500	9.0	2.0	N/A	33.00	31.90
280-0012	722-26	Magnetic Latch	26.5	2000	18.0	2.0	N/A	33.00	31.90

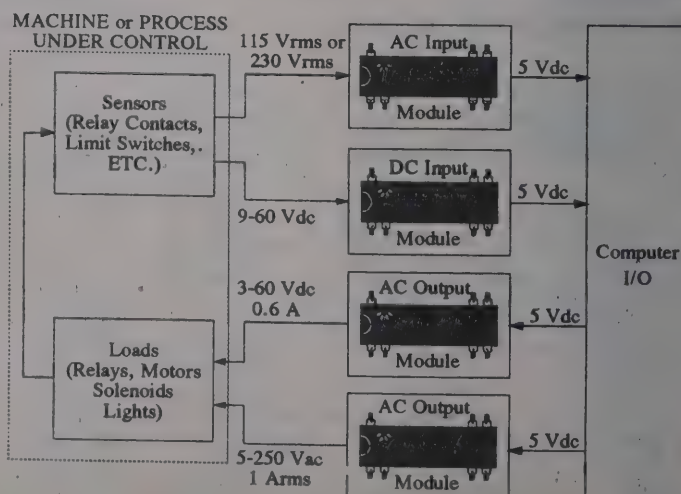
Solid State Computer Input/Output Interface Modules

C76 DIP I/O™ System Optically Isolated — TTL/CMOS Logic Compatible Control

Teledyne Solid State C76 DIP I/O™ Modules are designed for use in computerized control systems for noise-free isolation interfacing of computer logic to harsh industrial environments. Eliminates mounting tracks for low per point cost. Features CMOS and TTL compatibility, optical isolation, high noise immunity and function on input modules. For use in robotics, computerized process control, programmable controllers and ATE.



Stock No.	Mfr.'s Type	Type	Characteristics	EACH
281-0011	C76AO-1	AC Output	3.8-16 Vdc Input 5-250 Vrms, 1A Output	8.50
281-0012	C76AI-1	AC Input	90-135 Vrms and 180-250 Vrms Input	8.50
281-0013	C76DO-1	DC Output	3.8-16 Vdc Input 3-60 Vdc, 0.6 A Output	10.00
281-0014	C76DI-1	DC Input	9-60 Vdc Input	9.35

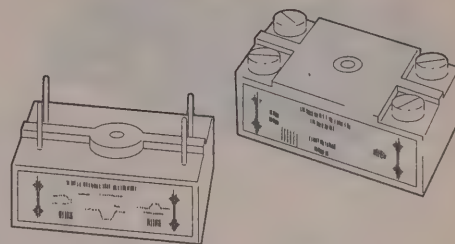


601 Series

— NEW —

- Optically Isolated
- Zero Voltage Turn-On
- 5 and 10 Arms
- PC or Rack Mount Options

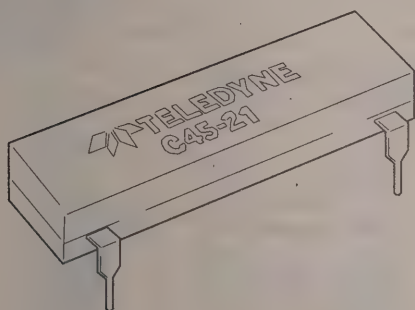
- TTL Compatible, Control Voltage 3.0 to 32 VDC
- Operating Temperature Range: -40°C to 80°C
- Plastic Package, 2.0" × 1.0" × 0.97"
- UL and CSA Registered



Stock No.	Mfr.'s Type	Control Voltage Range	Load Current Amps	Terminals	Mounting	Minimum Load Voltage		EACH
						Continuous (RMS)	Transient (Peak)	
281-1007	601-1	3-32 VDC	5	PC	PC Mount	250	500	48.30
281-1008	601-2	3-32 VDC	10	Screw	Rack Mount	250	500	48.30
281-1009	601-1H	3-32 VDC	5	PC	PC Mount	250	600	48.30
281-1010	601-2H	3-32 VDC	10	Screw	Rack Mount	250	600	48.30
281-1011	601-2QQ	3-32 VDC	10	Quick Connect	Rack Mount	250	500	48.30

C45 Series

— NEW —



- Optically Isolated
- Zero Voltage Turn-On
- TTL Compatible

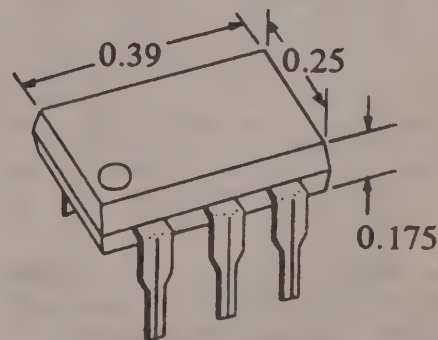
- 16 Pin DIP Epoxy Package, 0.85" × 0.25" × 0.165"
- Operating Temperature: -40°C to 100°C
- UL and CUL Registered

Stock No.	Mfr.'s Type	Voltage Rating	Input Control Current	Load Current Amps	Minimum Load Voltage		EACH
					Continuous (RMS)	Transient (Peak)	
281-1001	C45-11	1.5 VDC	5 mA	1.0	280	400	9.00
281-1002	C45-12	1.5 VDC	10 mA	1.0	280	400	9.00
281-1003	C45-13	3.5 VDC	10 mA	1.0	280	400	9.00
281-1004	C45-21	1.5 VDC	5 mA	1.0	280	500	9.00
281-1005	C45-22	1.5 VDC	10 mA	1.0	280	500	9.00
281-1006	C45-23	3.5 VDC	10 mA	1.0	280	500	9.00

C60 Series

- Bi-Directional
- AC or DC
- Subminiature

- Optically Coupled Solid State Relays
- 6 Pin DIP Packages
- Available in Surface and Through Hole Mounting



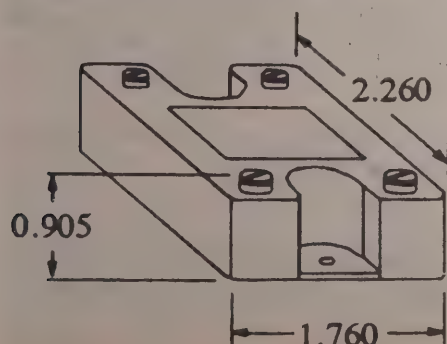
Stock No.	Mfr.'s Type	Input Control Rating	Output Load Rating		Mounting	EACH
			Voltage	Current		
281-0001	C60-1	10mA @ 1.5 VDC	60 VDC	2.0 ADC	Through Hole	9.40
281-0002	C60-2	10mA @ 1.5 VDC	100 VDC	1.5 ADC	Through Hole	9.40
281-0003	C60-3	10mA @ 1.5 VDC	200 VDC	0.8 ADC	Through Hole	9.80
281-0004	C60-4	10mA @ 1.5 VDC	400 VDC	0.5 ADC	Through Hole	9.80
281-0005	SC60-1	10mA @ 1.5 VDC	60 VDC	2.0 ADC	Surface	9.40
281-0006	SC60-2	10mA @ 1.5 VDC	100 VDC	1.5 ADC	Surface	9.40
281-0007	SC60-3	10mA @ 1.5 VDC	200 VDC	0.8 ADC	Surface	9.80
281-0008	SC60-4	10mA @ 1.5 VDC	400 VDC	0.5 ADC	Surface	9.80

For AC or bi-directional operation, the output load current is 1/2 of the above ratings.

C15 Series

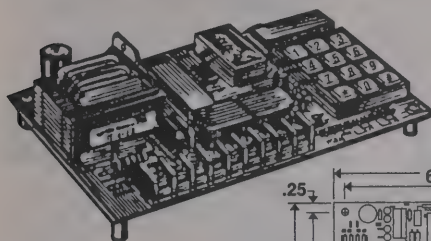
- Optically Isolated
- Zero Voltage Turn-On
- Zero Current Turn Off
- 10 and 25 Amps

- TTL Logic Compatible
- High Dielectric Isolation
- UL Recognized File# E55197

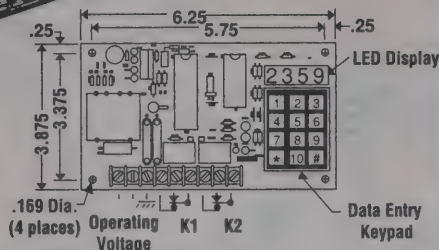


Stock No.	Mfr.'s Type	Control Voltage Range	Load Current Amps	Minimum Load Voltage		EACH
				Continuous (RMS)	Transient (Peak)	
281-0009	C15-31	3-32 VDC	10 A	250	600	16.45
281-0010	C15-32	3-32 VDC	25 A	250	600	17.25

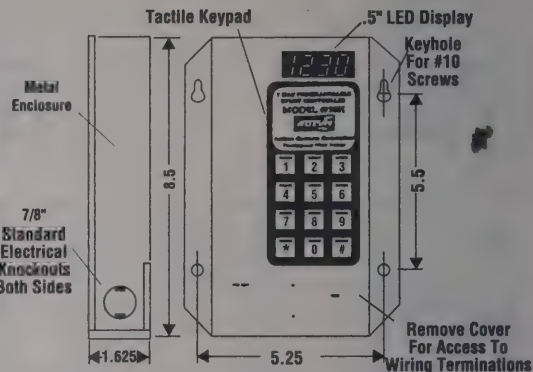
7 Day Programmable Controllers



4950



4950B
4950H



These Programmable Controllers program two separate relays to turn ON or OFF up to 56 times during a 7 day period. Once a pattern of events is programmed, they will operate on a continuous basis, remembering the program, time of day and day of week even during a power failure. **Operating Voltage:** 105-135 VAC, 50-60 Hz. **Operating Temperature:** 0° to +70°C. **Accuracy:** +2 minutes per month. **Display:** 4 digit, LED type, 0.5" high. **Output:** Two (2) SPDT sets of programmable contacts. 4950 — rated at 5 amperes, 4950H — rated at 15 amperes. **Construction:** 4950 — open P.C. Board with screw terminals. 4950H — Metal enclosure with a 9 pin terminal strip to accommodate 12 AWG

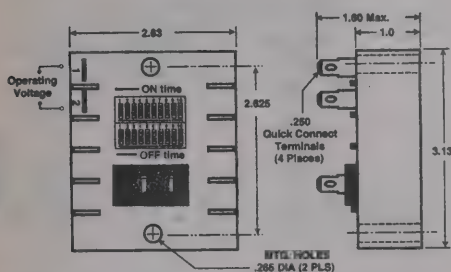
or smaller wiring. Two standard electrical knockout provided. **Other Voltages Available.**

519-5210. Model 4950.....	EACH 158.71
519-6000. Model 4950H.....	EACH 231.00
519-6001. Model 4950B.....	EACH 231.00
519-6002. Model 4950PM.....	EACH 151.00

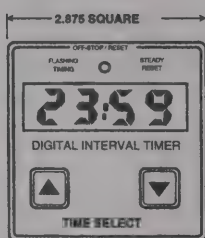
*Model 4950 "B" is specially designed to ring school or factory bells.

Repeat Cycle Timers

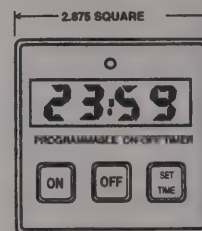
— NEW —



4608 ON/OFF Repeat Cycle Timer. The model 4608 is a solid state timing module that operates a set of high power 20 Amp contacts on a repeat cycle basis. The on and off times of the cycle are set with DIP switches. The on and off time can be set from 1-1024 seconds in one second increments. The output contacts are closed for the portion of the cycle which always starts first on initial application of operating voltage. SPST normally open contacts rated at 20 amps. **Terminals:** (Input/Output) .250 Quick Connect. **Voltage:** 115 VAC.



4972 Count Down Interval Timer. The 4972 is a digital countdown timer with remote start, and provides 20 Amps High Capacity output contacts. The timer has a range of 99 minutes and 59 seconds and counts down in one second increments. The 4972 has a selection switch which allows the user to select 115 or 230 VAC, 50/60 Hz input voltages. Large 1/2" LED display; microcomputer control; time memory retention; tactile front panel; remote start operation.



4980 Repeat Cycle Timer. The 4980 is a microcontroller based on-off timed with digital display of timing. The 4980 controls a set of high current output contacts in accordance with a preprogrammed on-off schedule which continues for as long as power is applied. The on and off time can be programmed to be any time from 1 second to 99 minutes and 59 seconds in 1 second increments. Sealed tactile front panel; large 1/2" LED display; audible alarm; 20 Amp output. **Wiring:** 3, 1/4" quick connect terminals supplied for contacts, 2, 18 AWG Stranded Wires, 12" long supplied for operating voltage. **Voltage:** 115 VAC, 50/60 Hz. Other Voltages available by special order.

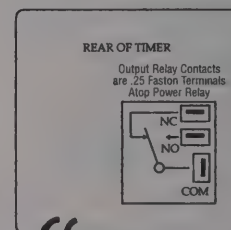
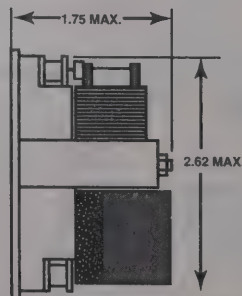
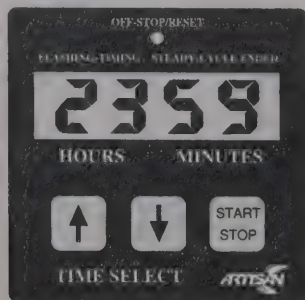


519-6003. Model 4608.....EACH 62.00

519-6004. Model 4972.....EACH 172.00

519-6005. Model 4980-2.....EACH 145.00

Digital Countdown Interval Timer



No need to observe polarity of operating voltage on DC models

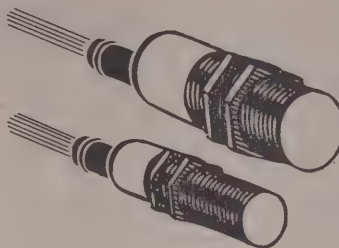
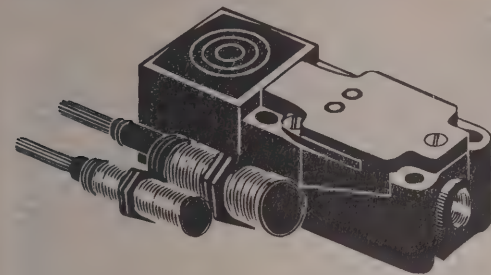
The Model 4970 is a microcontroller-based interval timer with digital display of timing. High power 20 amp, SPDT output contacts. Preset time kept in non-volatile memory. Countdown can be stopped in middle of countdown cycle. Always remembers last time selected and resets to that time. Front panel overlay provides protection. Easy setting with two buttons. **Operating Voltage:** 105 VAC-130 VAC. **Timing Range:** 1 minute to 23 hours and 59 minutes. **Timing Resolution:** 1 minute. **Display:** 4 digit red LED, 0.5" characters. **Timing Accuracy:** Better than 1% over operating temperature and

voltage. **Operating Temperature:** 0 to 70°C. **Audible Indicator:** A solid state alarm will sound for 5 seconds at the end of a timing cycle. **Front Panel Switches:** 3 momentary push-buttons behind front panel label overlay, 2 for setting the time and 1 for starting and stopping the timer. **Mounting:** 2.62" square cutout accepts timer. Timer secured with rear attached bracket. **Wiring Terminals:** .25" quick connect terminals.

519-1276. Model 4970-2.....EACH 137.50



Proximity/Photoelectric Sensors



EI Inductive Sensors

- For sensing of all ferrous metals
- 12, 18 and 30 mm dia., stainless steel housing
- Limit switch style with 5 position head
- Cylindrical and limit switch style housings
- Sensing distances from 2 to 25 mm
- Easy to view LED indicator
- Common applications include:
 - End of travel detection
 - Broken drill or saw blade detection
 - RPM/zero speed detection

EC Capacitive Sensors

- For sensing of granulates, plastics and other ferrous/non ferrous objects
- 18 and 30 mm diameter polyester housings
- Sensing distances from 2 to 20 mm
- Adjustable 20 turn metal potentiometer
- LED indication
- Common applications include:
 - Grain/plastic pellet hopper level detection
 - Level control through sight glass
 - Detection inside of cardboard/plastic containers

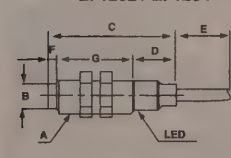
EO Photoelectric Sensors

- For sensing of light colored/reflective objects
- Detects up to 16 inches (400mm)
- Rugged 18mm diameter nickel plated brass housing
- Adjustable 270° potentiometer
- LED indication
- Common applications include:
 - Material detection on a conveyor
 - People and/or vehicle detection through doorway/aisle
 - Detection of parts in a process

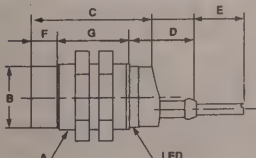
Stock No.	Mfr.'s Type	Sensing Technology	Diameter in mm	Sensing Distance	Shielded (Flush Mount)	Supply Voltage	Output Type	Maximum Current	Switching Speed	EACH
251-0001	EI 1202 NPOS*	Inductive	12	2 mm	Yes	10-40 VDC	NPN N/O	200 mA	800 Hz	46.40
251-0002	EI 1202 PPOS*	Inductive	12	2 mm	Yes	10-40 VDC	PNP N/O	200 mA	800 Hz	46.40
251-0003	EI 1202 TBOS*	Inductive	12	2 mm	Yes	20-250 VAC	SCR N/O	500 mA	25 Hz	71.20
251-0004	EI 1204 NPOS*	Inductive	12	4 mm	No	10-40 VDC	NPN N/O	200 mA	500 Hz	46.40
251-0006	EI 1204 PPOS*	Inductive	12	4 mm	No	10-40 VDC	PNP N/O	200 mA	500 Hz	46.40
251-0007	EI 1204 TBOS*	Inductive	12	4 mm	No	20-250 VAC	SCR N/O	500 mA	25 Hz	71.20
251-0008	EI 1805 NPOS*	Inductive	18	5 mm	Yes	10-40 VDC	NPN N/O	200 mA	500 Hz	54.10
251-0009	EI 1805 PPOS*	Inductive	18	5 mm	Yes	10-40 VDC	PNP N/O	200 mA	500 Hz	54.10
251-0010	EI 1805 TBOS*	Inductive	18	5 mm	Yes	20-250 VAC	SCR N/O	500 mA	25 Hz	77.30
251-0011	EI 1808 NPOS*	Inductive	18	8 mm	No	10-40 VDC	NPN N/O	200 mA	400 Hz	54.10
251-0012	EI 1808 PPOS*	Inductive	18	8 mm	No	10-40 VDC	PNP N/O	200 mA	400 Hz	54.10
251-0013	EI 1808 TBOS*	Inductive	18	8 mm	No	20-250 VAC	SCR N/O	500 mA	25 Hz	77.30
251-0014	EI 3010 NPOS*	Inductive	30	10 mm	Yes	10-40 VDC	NPN N/O	200 mA	300 Hz	60.60
251-0015	EI 3010 PPOS*	Inductive	30	10 mm	Yes	10-40 VDC	PNP N/O	200 mA	300 Hz	60.60
251-0016	EI 3010 TBOS*	Inductive	30	10 mm	Yes	20-250 VAC	SCR N/O	500 mA	25 Hz	85.00
251-0017	EI 3015 NPOS*	Inductive	30	15 mm	No	10-40 VDC	NPN N/O	200 mA	100 Hz	60.60
251-0018	EI 3015 PPOS*	Inductive	30	15 mm	No	10-40 VDC	PNP N/O	200 mA	100 Hz	60.60
251-0019	EI 3015 TBOS*	Inductive	30	15 mm	No	20-250 VAC	SCR N/O	500 mA	25 Hz	85.00
251-1020	EIA 4025 NPAP	Inductive	40 x 40	25 mm	No	10-55 VAC	NPN N/O&C	200 mA	100 Hz	92.60
251-1021	EIA 4025 PPAP	Inductive	40 x 40	25 mm	No	10-55 VAC	PNP N/O&C	200 mA	100 Hz	92.60
251-1022	EIA 4025 UPAP	Inductive	40 x 40	25 mm	No	20-250 AC/DC	SCR N/O&C	250 mA	100 Hz	105.80
251-0024	EC 1808 NPOP	Capacitive	18	2-10 mm	No	10-40 VDC	NPN N/O	200 mA	25 Hz	61.10
251-0025	EC 1808 PPOP	Capacitive	18	2-10 mm	No	10-40 VDC	PNP N/O	200 mA	25 Hz	61.10
251-0026	EC 1808 TBOP	Capacitive	18	2-10 mm	No	20-250 VAC	SCR N/O	500 mA	10 Hz	101.20
251-0027	EC 1808 TBCP	Capacitive	18	2-10 mm	No	20-250 VAC	SCR N/C	500 mA	10 Hz	101.20
251-0028	EC 3015 NNAP	Capacitive	30	2-20 mm	No	10-40 VDC	NPN N/O&C	200 mA	60 Hz	70.70
251-0029	EC 3015 PNAP	Capacitive	30	2-20 mm	No	10-40 VDC	PNP N/O&C	200 mA	60 Hz	70.70
251-0030	EC 3015 TBOP	Capacitive	30	5-15 mm	No	20-250 VAC	SCR N/O	500 mA	10 Hz	103.90
251-0031	EC 3015 TBCP	Capacitive	30	5-15 mm	No	20-250 VAC	SCR N/C	500 mA	10 Hz	103.90
251-0032	EO 1804 NPAS*	Diffuse-Reflective-Photo	18	0-400 mm	Yes	10-40 VDC	NPN N/O&C	200 mA	100 Hz	75.50
251-0033	EO 1804 PPAS*	Diffuse-Reflective-Photo	18	0-400 mm	Yes	10-40 VDC	PNP N/O&C	200 mA	100 Hz	75.50
251-0034	EO 1804 TBOS*	Diffuse-Reflective-Photo	18	0-400 mm	Yes	20-250 VAC	SCR N/O	500 mA	25 Hz	93.50
251-0035	EO 1804 TBCS*	Diffuse-Reflective-Photo	18	0-400 mm	Yes	20-250 VAC	SCR N/C	500 mA	25 Hz	93.50

*Upon request, available with quick disconnect (cylindrical EI series also available in N.C output).

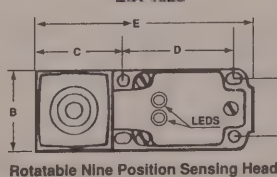
EI 1202 / EI 1204



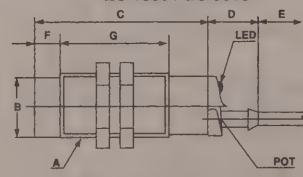
EI 180x / EI 130x



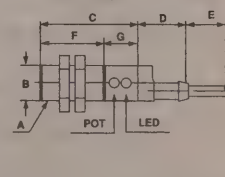
EIA 4025



EC 1808 / EC 3015



EO 1804



Sensor Dimensions (in mm)

Mfr.'s Type	A	B	C	D	E	F	G
EI 1202 xPOS	M 12 x 1	10.7	46	16	2000	0	30
EI 1204 xPOS	M 12 x 1	10.7	50	16	2000	4	30
EI 1202 TBOS	M 12 x 1	10.7	66	16	2000	0	50
EI 1204 TBOS	M 12 x 1	10.7	70	16	2000	4	50
EI 1805 (All)	M 18 x 1	16.7	40.1	10.1	2000	0	30
EI 1808 (All)	M 18 x 1	16.7	48.1	10.1	2000	8	30
EI 3010 (All)	M 30 x 1.5	28	40.6	10.6	2000	0	30
EI 3015 (All)	M 30 x 1.5	28	52.6	10.6	2000	12	30

Mfr.'s Type	A	B	C	D	E	F	G
EIA 4025 (All)	—	40	46	60	120	30	PG 13.5
EC 1808 (All)	M 18 x 1	16.5	79	20.5	2000	8	52
EC 3015 (All)	M 30 x 1.5	28	79	20.5	2000	12	48
EO 1804 xPOS	M 18 x 1	16.7	47	23.5	2000	30	17
EO 1804 TBOS	M 18 x 1	16.7	63.5	23.5	2000	46.5	17

Thrubeams

Stock No.	Mfr.'s Type	Light Source	Body Material	Body Style	Rated Separation	Beam Dia. (in.)	Smallest Detectable Object (in.)	Input Current (mA) Cont./Mod.	Description	EACH
553-1000	L43004	IR LED	Red Anodized Aluminum	Barrel with 3/4-16 thd 1.44" long	100'	0.40	0.15	100/1000	Powerful modulated beam through glass lens for extreme distance, dirty atmospheres, normally opaque materials.	108.91
553-1002	P43004	Photodetector	Blue Anodized Aluminum	Barrel with 3/4-16 thd 2.76" long	100'	0.40	0.15	100/1000	AC coupled pre-amplifier. Ambient light immunity. Use with R43/T43 Super Pulser control only.	210.19
553-1004	L33007	IR LED	Red Anodized Aluminum	Barrel with 3/8-24 UNF 1.0" long	36"	0.16	0.05	100/1000	Miniature size for use in conditions of severe shock and vibration.	43.76
553-1006	L33107	IR LED	Red Anodized Aluminum	Right angle of above					Plastic lens.	69.69
553-1008	L33008	Visible Red	Black Anodized Aluminum	Barrel with 3/8-24 UNF 1.0" long	24"	0.10	0.03	50/80		46.76
553-1010	L33108	Visible Red	Black Anodized Aluminum	Right angle of above						83.62
553-1012	P33001	IR LED Photodetector	Gold Anodized Aluminum	Barrel with 3/8-24 UNF 1.0" long	36"	0.16	0.05	100/1000		46.76
553-1014	P33101	IR LED Photodetector	Gold Anodized Aluminum	Right angle of above						69.69
553-1016	P33008	Visible Red Photodetector	Gold Anodized Aluminum	Barrel with 3/8-24 UNF 1.0" long	24"	0.10	0.03	50/80		46.76
553-1018	P33108	Visible Red Photodetector	Gold Anodized Aluminum	Right angle of above						69.69
553-1020	L30011	Lamp	Gold Anodized Aluminum	Rectangular Flange	10-15'	0.06-0.12	0.02-0.04	115	General purpose beam in a small size.	35.99
553-1022	P30011	Photodetector	Gold Anodized Aluminum	Rectangular Flange					Metal housing, lenses and epoxy sealing.	92.53
553-1024	L34024	IR LED	Stainless Steel	Barrel with 8-32 UCN thd .38" long	6"	0.06	0.02	60/120	Very small and powerful units.	46.60
553-1026	L34035	IR LED	Stainless Steel	Barrel with 8-32 UCN thd .75" long					Heavy duty housings protect against abuse.	53.31
553-1028	L34040	IR LED	Stainless Steel	Right angle of above					Immune to ambient visible light. Glass lens.	58.63
553-1030	P34024	Photodetector	Stainless Steel	Barrel with 8-32 UCN thd .38" long						46.60
553-1032	P34035	Photodetector	Stainless Steel	Barrel with 8-32 UCN thd .75" long						53.27
553-1034	P34040	Photodetector	Stainless Steel	Right angle of above						53.27
553-1036	L11021	IR LED	Black Plastic with Plastic Lens	.25" dia. x .50" long	2"	0.10	0.04	40	For industrial applications where cost is a factor and metal units are not required. Nylon clamp or bracket mount.	27.62
553-1038	P11021	Photodetector							Immune to visible light.	27.62
553-1040	L56001	IR LED	Red Aluminum/Plastic Composite	Rectangular Flange with 0.113" holes	0.50"	0.03	0.01	100/1 A	Tip operable to 200 C. Aluminum housing acts as heat sink to minimize drift. Tip is hardened stainless steel.	126.22
553-1042	L56004	Lamp	Black Aluminum/Plastic Composite	Rectangular Flange with 0.113" holes	0.50"	0.03	0.01	115	Semirigid snout containing the fiber optic bundle is 2.75" long and can be bent by hand.	156.80
553-1044	P56201	Photodetector with IR Filter	Blue Aluminum/Plastic Composite	Rectangular Flange with 0.113" holes	0.50"	0.03	0.01	115	No sharp bends and no bends in the first .5' or last .75'. Do not twist on longitudinal axis.	158.90
553-1046	P56001	Photodetector								126.22

Controls

Stock No.	Mfr.'s Type	Input	Switched Output	Response Time	Enclosure	Mounting	Description	EACH
553-2000	T31101	5 VDC @ 28 mA	25 VDC @ 250 mA	—	Black plastic relay can	8-pin socket	Amplifies photodetector signal from reflective scanner or thrubeam pair to drive output transistor to switch a load. Open collector output.	118.53
553-2002	T31102	8-28 VDC @ 28 mA					Output indicator LED. Wire either light or dark energize.	118.53
553-2004	T32001	5 VDC @ 28 mA	25 VDC @ 250 mA	—	Plastic module	Screw mount with 7-screw terminal strip	Schmitt Trigger provides positive switching. Lamp and LED power for light source must be from separate power source.	138.69
553-2006	T32002	8-28 VDC @ 28 mA						138.69
553-2008	T32501	Light Energize, 5 VDC @ 125 mA	30 VDC @ 100 mA	5 ms	Plastic module	Screw mount with 7-screw terminal strip	Modulates the LED light source of a reflective scanner or thrubeam pair and responds only to the same frequency. Light or dark energize.	141.79
553-2010	T32521	Dark Energize, 5 VDC @ 125 mA					Ambient light immune. 15-turn sensitivity adjustment. Output indicator LED	128.92
553-2012	R40100	115 VAC @ 50-400 Hz 2 VA	SPDT 115 VAC @ 5 A	25 ms	Black plastic relay can	11-pin socket	Each unit provides light source power, amplifies photodetector signal, and functions as output switch.	154.41
553-2014	T40200	115 VAC @ 50-400 Hz 2 VA	Solid state relay 20-240 VAC @ 2 A	—	Black plastic relay can	11-pin socket	Supplies 5 VDC @ 125 mA power for lamps and 125 mA max. for LED. Only standard 115 VAC line voltage is required.	220.13
553-2016	T40300	115 VAC @ 50-400 Hz 2 VA	Open collector 25 VDC @ 100 mA	—	Black plastic relay can	11-pin socket	Regulated DC power supply output. Red LED indicator and 15-turn sensitivity adjustment. May be wired for light or dark energize.	145.34
553-2018	T40500	115 VAC @ 50-400 Hz 2 VA	Diode protected open 5 VDC @ 100 mA	9 ms	Black plastic relay can	11-pin socket	Each unit works with one reflective scanner or thrubeam pair.	179.51
553-2020	T41300	115 VAC @ 50-400 Hz 2 VA	Open collector 25 VDC @ 100 mA	—	Black plastic relay can	11-pin socket	High speed amplifier version with all the above specs.	189.18
553-2022	R42007	Light Energize, 115 VAC @ 50-400 Hz 2 VA	SPDT relay 115 VAC @ 5 A	25 ms	Black plastic relay can	11-pin socket	Complete control to provide photoelectric sensor immunity to ambient light. Each will operate one LED reflective scanner or thrubeam pair. Will not operate with lamps.	196.20
553-2024	R42008	Dark Energize, 115 VAC @ 50-400 Hz 2 VA					Each control provides modulated light source power, amplifies phototransistor signal and functions as output switch. R42 series includes output relay and T42 has open collector transistor to switch external load.	215.82
553-2026	T42007	Light Energize, 115 VAC @ 50-400 Hz 2 VA	Open collector 25 VDC @ 100 mA	5 ms	Black plastic relay can	11-pin socket	Equipped with red LED output indicator and 15-turn sensitivity adjustment.	212.69
553-2028	T42008	Dark Energize, 115 VAC @ 50-400 Hz 2 VA					Two modulating frequencies available to avoid cross talk by unit wiring.	212.69
553-2030	R43007	Light Energize, 115 VAC @ 50-400 Hz 2 VA	SPDT relay 115 VAC @ 5 A	25 ms	Black plastic relay can	12-pin socket	Super Pulser version with the same specs as the above. Increases distance 2 to 5 times, increases beam penetration and provides ambient light immunity.	358.40
553-2032	R43008	Dark Energize, 115 VAC @ 50-400 Hz 2 VA						358.40
553-2034	T43007	Light Energize 115 VAC @ 50-400 Hz 2 VA	Open collector 25 VDC @ 100 mA	1 ms	Black plastic relay can	12-pin socket		325.81
553-2036	T43008	Dark Energize, 115 VAC @ 50-400 Hz 2 VA						358.40

553-2050. 770040. 8-pin socket for controls.

EACH 22.59

553-2052. 770050. 11-pin socket for controls.

28.04

Reflective Skanners	611

Stock No.	Mfr.'s Type	Light Source	Body Material	Body Style	Smallest Detectable Object (in.)	Optimum Distance To Target (in.)	Field Of View	Maximum Usable Distance (in.)	Input Power Cont./Mod. (mA)	Description	EACH
553-3000	S12001	IR LED	Red Anodized Aluminum	Rectangular with 0.125" mount holes	0.120	0.180	0.350	1.50	100/1000	Glass filter blocks visible light and prevents dust and contamination entry. Can be modulated. Used in conditions of severe shock and vibrations.	79.54
553-3002	S11101	IR LED	Black Plastic	Rectangular with 0.089" mount holes	0.060	0.150	0.180	1.30	40/80	Used where cost is critical and metal housing is not necessary. Sealed glass filter blocks ambient light to photodetector and prevents dust and contamination entry.	52.13
553-3004	S13224	IR LED	Black Anodized Aluminum	Rectangular with 0.089" mount holes	0.040	0.300	0.110	1.50	60/120	The LED energy is focused through a collimating lens and a filter over the photodetector blocks out visible light. Shock and vibration resistant.	72.25
553-3006	S13324	IR LED	Black Anodized Aluminum	3/8-24 thd mount	0.040	0.300	0.110	1.50	60/120		72.25
553-3008	S30104	IR LED	Red Anodized Aluminum	3/8-24 thd mount	0.040	0.010	0.100	0.60-1.00	100/1000	Coaxial fiber optic scanner. IR LED is in body so heat can be dissipated. Photodetector is located in the center of the barrel tip with illuminating fibers surrounding it ensuring efficient light collection by the photodetector for high light/dark contrast.	122.96
553-3010	S14101	IR LED	Gold Anodized Aluminum	Rectangular with 0.089" mount holes	0.050	0.070	0.150	0.40	5 VDC @ 115 mA	Small incandescent reflective scanner. Side looking configuration for use in space restrictive applications.	91.43
553-3012	S16111	IR LED with filter	Gold Anodized Aluminum	Rectangular with 0.089" mount holes	0.035	0.160	0.110	3.00	5 VDC @ 115 mA	Small incandescent reflective scanner. Collimating lens increases usable distance.	92.93
553-3014	S27301	IR LED with filter	Gold Plated Steel	TO-18 case can	0.010	0.020	0.040	0.20	60/120	The LED directs infrared energy through a formed epoxy lens and reflected energy is received by fiber optic rod at lens center then passed through ambient light filter to the photodetector.	34.00
553-3016	S27311	IR LED with filter	Aluminum	Rectangular with 0.089" mount holes	0.010	0.020	0.040	0.20	60/120	The LED directs infrared energy through a formed epoxy lens and reflected energy is received by fiber optic rod at lens center then passed through ambient light filter to the photodetector.	55.39
553-3018	S51101	Lamp	Black Anodized Aluminum	Rectangular with 0.089" mount holes and 5/16-24 UNF thd	0.011	0.030	0.330	0.01	115	Light is transmitted coaxially to the target through the outer ring of glass fibers in the barrel then reflected back through the inner fiber optic bundle to the photodetector. This provides max. light/dark contrast.	177.50
553-3020	S56101	Lamp	Black Aluminum/Plastic Composite	Rectangular with 0.113" mount holes	0.007	0.010	0.020	0.07	115	Flexible snout fiber optic scanner. Semi-rigid snout is hand bendable. Tip is stainless steel. Works in normally inaccessible places.	185.74
553-3022	S58101	Lamp	Black Aluminum/Plastic Composite	Rectangular with 0.113" mount holes	0.004	0.006	0.012	0.02	115	Flexible snout fiber optic scanner. Semi-rigid snout is hand bendable. Tip is stainless steel. Works in normally inaccessible places.	311.16
553-3024	S35201	Lamp	Red Anodized Aluminum	Rectangular with 0.113" mount holes with 5/16-24 UNF thd	0.100	0.100	—	—	115	Color red mark detection scanner. Contains simple one stage current amp to boost the photodetector current. Light is transmitted through outer ring of glass fibers then reflected from surface through filters to the photodetector.	216.97
553-3026	S35203	Lamp	Black Anodized Aluminum	Rectangular with 0.113" mount holes with 5/16-24 UNF thd	0.100	0.100	—	—	115	Visible color mark detection scanner. Contains simple one stage current amp to boost the photodetector current. Light is transmitted through outer ring of glass fibers then reflected from surface through filters to the photodetector.	216.97

Self-Contained Photoelectric Controls

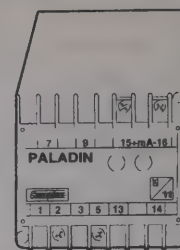
Stock No.	Mfr.'s Type	Light Source	Body Material	Body Style	Smallest Detectable Object (in.)	Optimum Distance To Target (in.)	Maximum Usable Distance (in.)	Input Power Cont./Mod. (mA)	Description	EACH
553-3050	C32414	Lamp	Black Anodized Aluminum	Rectangular with 0.125" mount holes with 3/8-24 UNF thd	0.04	0.10	0.10	8-25 VDC @ 60 mA	Fiber optic scanner with internal amp and open-collector output. Interfaces directly with TTL and programmable controllers. Continuous operation only. Light energized.	186.98
553-3052	C40000	Visible Red LED	Black Zinc	NEMA 12 housing	1.00	—	10' with 3" reflective disk	5 VDC @ 100 mA	DC powered scanner/amp providing reflective sensing and control function in single unit.	166.67
553-3054	C41100	Visible Red LED	Black Zinc	NEMA 12 housing	0.01	1.00	—	8-28 VDC @ 100 mA	Modulated visible red light is easily aligned with target. Units can be wired directly to programmable controllers.	243.72

Accessories

Stock No.	Mfr.'s Type	Overall Size (in.)	Reflector Size (in.)	Luminance Factor	Temp. (Cont.)	Temp. (30 Min.)	Description	PER FOOT
553-3080	749010	1" wide	—	900	175	250	High efficiency, exposed lens retroreflective tape with pressure sensitive adhesive back.	3.89
553-3082	749020	1" wide	—	670	150	150	Medium efficiency, exposed lens retroreflective tape with pressure sensitive adhesive back. Surface protected by clear plastic film.	3.89
553-3084	749050	1" wide	—	200	350	500	Low efficiency, exposed lens retroreflective tape with pressure sensitive adhesive back.	3.89
553-3086	749030	3.25	3.000	3000	—	—	Sealed clear plastic face with prism-like molded rear surface fused to plastic backing.	7.09
553-3088	749040	1.00	0.875	3000	—	—	Used for durability, maximum efficiency and permanent mounting.	3.89
553-3090	807037	—	3/4 x 3/4	—	—	—	Infrared Detector Card (approx. 10% efficiency).	48.18

Paladin Transducer

Paladin transducers and transmitters are manufactured to the same exacting standards you have come to expect from all Crompton instruments. With a typical accuracy of $\pm 0.5\%$ R.O., Paladin's broad range of available options offer all popular input and output ratings for any indication, control, or data acquisition application. Housed in a flame-retardant molded case that can be rail or flush mounted, the Paladin meets all environmental and performance specifications required in a high accuracy utility transducer. **Transducers for:** AC Current (Sinusoidal input), RMS Current (Non-sinusoidal input), AC Voltage (Sinusoidal input), RMS Voltage (Non-sinusoidal input), Frequency.



Specification. Inputs: See individual specification. **Outputs:** 0-1mA into 0-10k Ω , 4-20mA into 0-500 Ω . **Zero Adjustment:** $\pm 2\%$ minimum (except TAA and TVA). **Span Adjustment:** $\pm 10\%$ minimum. **Accuracy Class:** 0.5. **Dielectric Test:** 2kV rms to BS.5458, IEC 414 and ANSI.C37. **Impulse Test:** 5kV transient as BEAMA 219 and BS.923. **Surge Withstand:** To ANSI.C37-90a. (IEEE Std.472 SWC where applicable). **Temperature Range:** -20°C to $+70^{\circ}\text{C}$, Operating 0°C to $+60^{\circ}\text{C}$, Calibrated at 22°C . **Humidity Range:** Up to 95% RH. **Temperature Coeff.:** 0.03% per $^{\circ}\text{C}$ (typical). **Stability:** $\pm 0.25\%$ per annum, non-cumulative. **Response Time:** $< 400\text{ms}$ to 99% rated output. **Output Protection:** Fully protected against open or short circuited output. **Output Ripple:** $< 0.5\%$ of full rated output. **Overload Capacity:** $2 \times$ rated current or $1.25 \times$ rated voltage continuous. $15 \times$ rated current or $1.5 \times$ rated voltage for 10 seconds. **Max. Output Volts under Open Circuit:** 20V DC. **Isolation:** Input/Output/Supply/Case. **Performance:** Designed to comply with BS.5149, BS.5458, IEC 414, IEC 144, AS.1384. ANSI.C37, BEAMA 219, Lloyds and CEBG.

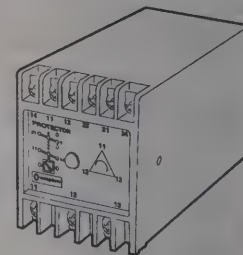
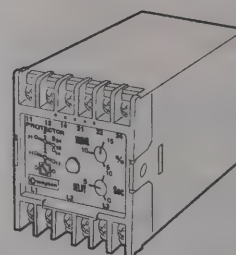
Stock No.	Mfr.'s Type	Type	Input	Output	EACH
					50-99
971-0001	253-TAAU-LSFA-C6	Current	5A	1mA	88.00
971-0002	253-TALU-LSHG-C6-DG*	Current	5A	4-20mA	197.00
971-0003	253-TVAU-PQFA-C6	Voltage	120V	1mA	88.00
971-0004	253-TVLU-PQHG-C6-DG*	Voltage	120V	4-20mA	197.00
971-0005	253-TARU-LSFA-C6-DG	RMS Current	5A	1mA	176.00
971-0006	253-TVRU-PQFA-C6-DG	RMS Voltage	120V	1mA	176.00
971-0007	253-THZU-PQFA-AG	Freq. 120V	45-55Hz	1mA	376.00
971-0008	253-THZU-PQFA-AN	Freq. 120V	55-65Hz	1mA	376.00
971-0009	253-THZU-PQFA-AJ	Freq. 120V	45-65Hz	1mA	376.00

* Requires External 120 VAC Power.

Protector Relay Modules

The protector trip relays have been developed to provide a very comprehensive range of electronic control products for continuous monitoring of electrical quantities. The units are designed for use in severe industrial environments and incorporate the latest solid state electronics technology to eliminate spurious tripping from electrical disturbance to the equipment being protected.

Safety Requirements: BS.5458, IEC 414. **Temperature Range:** 0°C to $+60^{\circ}\text{C}$. **Storage Temperature:** -20°C to $+70^{\circ}\text{C}$. **Temp. Co-efficient:** 0.05% per 1°C of nominal. **Interference Immunity:** Electrical stress surge withstand and non-maloperation to IEEE Std 472, ANSI C37 90a, SEN 361503. **Enclosure Code:** IP50 to BS.5490, IEC 529. **Output Relay. Type:** D.P. changeover. **Rating AC:** 240V, 5A non-inductive. **Rating DC:** 24V, 5A resistive. **Operations:** 2×10^5 at above load. **Reset:** Automatic.



AC Voltage

Stock No.	Mfr.'s Type	System	Protection	EACH
				50-99
971-0010	252-PVUU-PQBX-C6-EB	Single phase 120V	Undervoltage 75-100%	135.50
971-0011	252-PVOU-PQBX-C6-EA	Single phase 120V	Overvoltage 100-125%	135.50
971-0012	253-PVBU-PQBX-C6-EC	Single phase 120V	Over and Undervoltage (2 Output relays)	185.00
971-0013	252-PVKU-PQBX-C6-EA	3ph 3w 120	Undervoltage 75-100%	135.50
971-0014	252-PVAU-PQBX-C6-EA	3ph 3w 120	Overvoltage 100-125%	135.50
971-0015	253-PVMU-PQBX-C6-EC	3ph 3w 120	Over and Undervoltage (2 Output relays)	224.00
971-0016	252-PVUU-PQBX-C6-EB	3ph 4w 120v	Undervoltage 75-100%	156.50
971-0017	252-PVPU-PQBX-C6-EA	3ph 4w 120v	Overvoltage 100-125%	156.50
971-0018	252-PVEU-PQBX-C6-EC	3ph 4w 120v	Over and Undervoltage (2 Output relays)	237.50

AC Current

Requires 120VAC External Power

971-0019	252-PAUU-LSBX-C6-DG-D1-EB	Single phase 5A	Undercurrent 40-120%	162.00
971-0020	252-PAOU-LSBX-C6-DG-D1-EA	Single phase 5A	Overcurrent 40-120%	162.00
971-0021	253-PADU-LSBX-C6-DG-D1-EC	Single phase 5A	Under and Overcurrent (2 Output relays)	237.00
971-0022	253-PAVU-LSBX-C6-EB	3ph 3 or 4w, 5A CT rating	Undercurrent 40-120%	278.50
971-0023	253-PAPU-LSBX-C6-EA	3ph 3 or 4w, 5A CT rating	Overcurrent 40-120%	278.50

Frequency

971-0024	252-PHUU-PQBX-C6-EB	Single phase 120V	Underfrequency 55-65 Hz	190.50
971-0025	252-PHOU-PQBX-C6-EA	Single phase 120V	Overfrequency 55-65 Hz	190.50
971-0026	253-PHDU-PQBX-C6-EC	Single phase 120V	Under and Over (2 Output relays)	258.50

Reverse Power

971-0027	256-PASU-LSBX-PQ-C6-EA	Single phase or .3Ph. 4W, 5A, 120V	Reverse power 2-20%	229.00
971-0028	256-PATU-LSBX-PQ-C6-EA	3Ph, 3W, 5A, 120V	Reverse power 2-20%	276.50

Phase Sequence/Loss

971-0029	252-PVRU-PQBX-C6	3ph 3 or 4w, 120V 60Hz	Phase seq., loss, 15% preset symmetrical undervolts	102.00
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Phase Balance/Sequence/Loss

971-0030	252-PSFU-PQBX-C6	3ph 3 or 4w, 120V 60Hz	Phase seq., loss, 5-15% voltage unbalance.	140.00
971-0031	252-PSGU-PQBX-C6-T1-IA	3ph 3 or 4w, 120V 60Hz	Same as above with 15% preset symmetrical undervolts	166.00

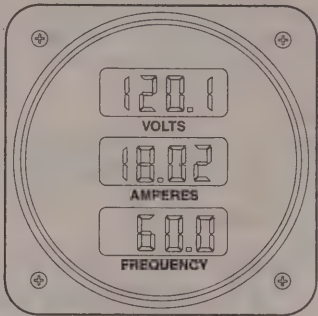
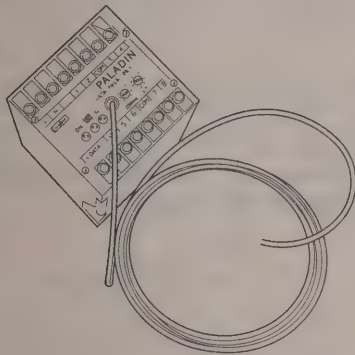
Paralleling

971-0032	256-PLLU-PQBX-C6	1 phase 120V or for 3ph 3 or 4w 120V	Phase angle and voltage: 2 live bus	224.00
971-0033	256-PLDU-PQBX-C6	1 phase 120V or for 3ph 3 or 4w 120V	Phase angle and voltage: Dead bus	251.00

3 in 1 Digital Switchboard

Crompton's Digital Switchboard offers AC amps, AC volts, and frequency in a single switchboard instrument. With an industry standard switchboard panel cut-out, the 3 in 1 offers direct replacement of existing analog switchboard meters. Red digits on a dark background are easily visible in ambient or bright sunlight. The 3 in 1 Digital Switchboard is factory calibrated with the ampere input scaled to read 0 to 2,000 amps with a 0 to 5 AAC input; the voltage display is scaled to read 0 to 600 volts with a 0 to 600 VAC input; and frequency input is calibrated to read from 40 to 200 hertz. The front cover can be removed from the 3 in 1 Digital Switchboard case while in the panel for scaling in engineering units, decimal point selection, and calibration. The digital volt meter and digital amp meter may be re-scaled by the user (via DIP switches under the front cover) from 0 to 1,999 full scale counts allowing the instrument to read the user's specific Current and Potential Transformers. **Display:** 3½ (1999). **Type:** 7 segment illuminated LCD. **Decimal Point:** 3-position selectable for volts and amperes. **Overload Indication:** Three lower digits blank for readings > 1999. **Digital Conversion:** 2.5 times per second. **Tempco:** ±100 PPM typical. **Operating Temperature Range:** -20°C to +50°C. **Storage Temperature Range:** -30°C to +70°C. **Maximum Input:** 5 AC amperes, 600 AC volts. **External Power Requirement:** 115 VAC or 230 VAC ±10% -15% (user selectable), 50-400 Hz at 2 VA. **Accuracy:** AC volts ±(0.1% + 1 count), AC amperes ±(0.5% + 5 counts), frequency ±0.2 Hz (40 to 70 Hz). **Isolation:** Power supply to inputs —> 2 MegOhms, input to input —> 2 MegOhms.

971-0040. 077-CDU3-TB03-AN. 3 in 1 Digital SwitchboardEACH 599.00



Communications Adapter

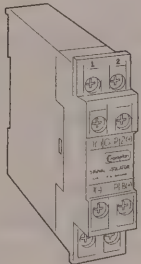
The Communications Adapter has eight analog inputs, with LED status indicators, each accepting 4-20 mADC, all sharing a common ground (applications that require input signal isolation, the Crompton #250-ISAU-HF Signal Isolator is recommended). The analog signals are converted, via an internal microprocessor, to a single 9600 baud RS-232 data stream, which is transmitted via fiber optics. The Communications Adapter permits DIRECT data communications from transducers to the user's computer system via a single RS-232 port. By utilizing the user's existing computer system, complex analysis of up to eight transducers may be achieved in real time. The serial transmission of all inputs, via supplied industry standard fiber optic cable results in reliable, noise immune, data acquisition and monitoring system. Flame retardant case materials to UL/CSA approved material UL94V-0. **Dimensions:** 2.76" x 2.98" x 4.41". **External Power:** 115 VAC or 230 VAC, ±20%, 50-60 Hz.

971-0041. 253-TCAW-HGAC-HG. Comm. adapter for 115 VAC powerEACH 275.00
971-0042. 253-TCAW-HGAC-HN. Comm. adapter for 230 VAC powerEACH 275.00

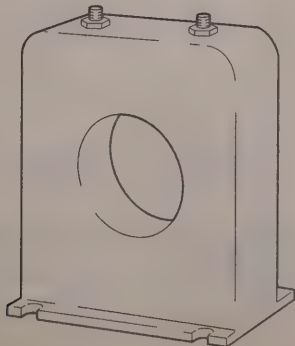
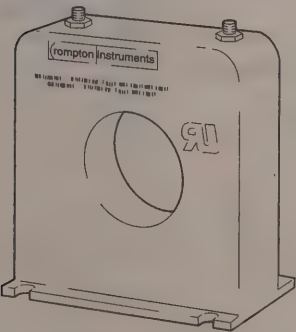
Signal Isolator

The 250-ISA Signal Isolator is a 2-wire loop isolator requiring no external power. The device accepts 0 to 20 dcma inputs and provides isolated current output directly proportional to the input signal. The 250-ISA is designed for signal transmission and processing applications, to prevent noise and pick up problems caused by ground loops and common mode signals. **Temperature Range:** -25°C to +60°C. **Storage Temperature:** -40°C to +70°C. **Temperature Coefficient:** <0.01% per °C from +23°C to +60°C, <0.03% per °C from +23°C to -25°C. **Input Voltage:** Typically I out x (R load + 200 ohms) limited to 18 volts. **Output Load Range:** 0-500 ohms (at 20 mADC). **Nominal Accuracy:** 0.2% at 250 ohms.

971-0043. 250-ISAU-HF2. Loop powered isolatorEACH 221.00



AC Current Transformers



The Crompton 800 series provide a comprehensive range of measuring duty ring current transformers for installation where traditional reliability, accuracy, and quality are required. These current transformers have an accuracy better than one percent over a frequency range of 50 to 400 Hz. Designed for operation with primary voltages to 600 volts they are manufactured to meet the requirements of UL 1244 and revisions. Output termination is via brass #8-32 threaded terminals, with one flat washer, lock washer, and regular nut. The molded, flanged mounting base is slotted to permit the transformer to be secured to virtually any flat surface. Two models, in different physical sizes, are offered in a multiple of ratios.

Stock No.	Mfr.'s Type	Current Ratio	Overall Dimensions	Diameter of Bore	EACH
971-0044	802-943U-NTLS	50:5	1.88" x 3.11" x 2.33"	1.13"	24.00
971-0045	802-943U-NWLS	60:5	1.88" x 3.11" x 2.33"	1.13"	24.00
971-0046	802-943U-PKLS	100:5	1.88" x 3.11" x 2.33"	1.13"	24.00
971-0047	802-943U-PZLS	150:5	1.88" x 3.11" x 2.33"	1.13"	24.00
971-0048	802-943U-RLLS	200:5	1.88" x 3.11" x 2.33"	1.13"	24.00
971-0049	802-943U-RSLS	250:5	1.88" x 3.11" x 2.33"	1.13"	24.00
971-0050	802-943U-RXLS	300:5	1.88" x 3.11" x 2.33"	1.13"	24.00
971-0051	805-943U-NTLS	50:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0052	805-943U-NWLS	60:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0053	805-943U-PKLS	100:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0054	805-943U-PZLS	150:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0055	805-943U-RLLS	200:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0056	805-943U-RSLS	250:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0057	805-943U-RXLS	300:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0058	805-943U-SCLS	400:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0059	805-943U-SFLS	500:5	2.15" x 4.07" x 3.50"	1.56"	27.50
971-0060	805-943U-SJLS	600:5	2.15" x 4.07" x 3.50"	1.56"	27.50

T40A and T50A Quartz Hour Meters

ENM's Series T40/T50 hour meter is the answer to applications requiring a low power, economical, and a reliable hour meter. This compact, tamper-resistant meter is sealed against the environment to provide years of service. A quartz crystal time base insures supersilent operation and accurate time keeping. This AC voltage model is also frequency insensitive.

Power: Less than 0.4 watts.
 207-0038. T50A1. 230 AC.....EACH 25.00
 207-0039. T50A2. 115 AC.....EACH 25.00
 207-0040. T50A4. 24 AC.....EACH 25.00

Power: .03 watts at 12 VDC; .70 watts at 48 VDC.
 207-0037. T40A5. 10-80 DC.....EACH 25.00



T40

T40B and T50B Quartz Hour Meters

ENM's Series T40B and T50B in a large 3-hole flange. This unit has all the standard features which includes a quartz crystal time base in a sealed and tamper-resistant case. NEMA 4X, 12 rated gasket for corrosion and water resistant panel mounting is available (see accessories). This AC voltage model is also frequency insensitive.

Power: Less than 0.4 watts.
 207-0001. T50B1. 230 AC.....EACH 25.00
 207-0002. T50B2. 115 AC.....EACH 25.00
 207-0003. T50B4. 24 AC.....EACH 25.00



T50

Power: .03 watts @ 12 VDC; .70 watts at 48 VDC.
 207-0004. T40B5. 10-80 DC.....EACH 25.00

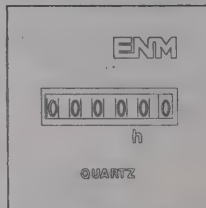
Accessories
 207-0005. A40047-S. NEMA Gasket.....EACH 1.50
 207-0006. B20017. NEMA Gasket with Mounting Hardware.....EACH 2.50

T40E and T50E

This unit is the 52 mm panel mount version of the T40/T50 Series with a printed aluminum faceplate.

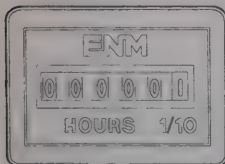
Power: Less than 0.4 watts.
 207-0043. T50E213. 115 AC. Brushed Aluminum.....EACH 25.00
 207-0044. T50E113. 230 AC. Brushed Aluminum.....EACH 25.00
 207-0045. T50E413. 24 AC. Brushed Aluminum.....EACH 25.00

Power: .03 watts at 12 VDC; .70 watts at 48 VDC.
 207-0041. T40E4534. 10-80 DC. Brushed Aluminum.....EACH 25.00
 207-0042. T40E4536. 10-80 DC. Blacked Anodized.....EACH 25.00



T41D and T51D

This is the panel mount version of the T41/T51 Series is secured with an easy to install spring clip. No fasteners are required. This unit has all the standard features which includes a 6-digit display, low power design, and a water sealed case. The DC voltage model is also polarity insensitive. AC voltage is frequency insensitive.



Power: .03 watts at 12 VDC; .70 watts at 48 VDC.
 207-0033. T41D45. 10-80 DC.....EACH 25.00

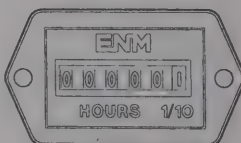
Power: .50 watts.
 207-0034. T51D2. 115 AC.....EACH 25.00
 207-0035. T51D1. 230 AC.....EACH 25.00
 207-0036. T51D4. 24 AC.....EACH 25.00

T41E and T51E Quartz Hour Meters

The Series T41E/T51E hour meter is ideal for applications requiring a low power, reliable, and economical hour meter. The solid state electronic circuit is a low power design that insures accurate time keeping over a large voltage range. The high impact plastic case is sealed against the environment. The DC voltage model is polarity insensitive. AC voltage is frequency insensitive.

Power: .03 watts at 12 VDC; .70 watts at 48 VDC.
 207-0007. T41E45. 10-80 VDC.....EACH 25.00

Power: .50 watts.
 207-0008. T51E2. 115 AC.....EACH 25.00
 207-0009. T51E1. 230 AC.....EACH 25.00
 207-0010. T51E4. 24 AC.....EACH 25.00



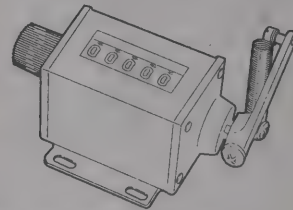
M24 Series Hand Tally

This hand held plastic tally is perfect for personal counting of events or operations. Unit comes with a reset knob on the side. A black unit is included with a base for desk mounting. A blue unit includes a 36" neck cord.

207-0015. M24Z01. Black Case with Base.....EACH 27.00
 207-0016. M24Z04. Blue Case with Neck Cord.....EACH 27.00



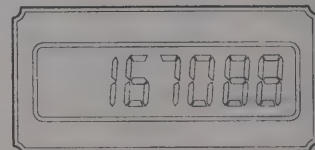
M39 Series Miniature Ratchet Driven Counter



The M39 is a mechanical counter in a case designed for rugged and corrosive environments. Easy base mounting and manual reset coupled with the long life design make this counter ideal for use on machine tools, vending machines, and many industrial applications. Lever is returned to original position by an internal spring. Standard unit is 5 digits. Also available in 3 and 4 digit counters by special order.

207-0011. M39CA50A. 5 digit, RH, Top Coming.....EACH 30.00
 207-0012. M39CA50B. 5 digit, RH, Top Going.....EACH 30.00
 207-0013. M39CA50C. 5 digit, LH, Top Coming.....EACH 30.00
 207-0014. M39CA50D. 5 digit, LH, Top Going.....EACH 30.00

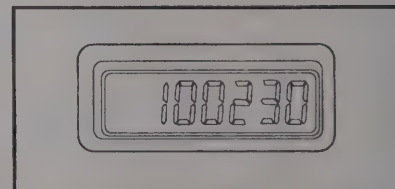
1101 Series DC Pulse PCB Counter



The ENM Series 1101 PCB pulse counter features a 6-digit, 7 segment LCD display with powerless data backup using CMOS EEPROM technology. These modes are ideal for applications where small space and high speed counting are required. An external reset is also available. Memory: EEPROM. Count Speed: 500 Hz.

207-0017. LCD1111. 5-12 DC with Reset.....EACH 23.00
 207-0018. LCD1121. 5-12 DC.....EACH 23.00
 207-0019. LCD1131. 12-48 DC with Reset.....EACH 23.00
 207-0020. LCD1141. 12-48 DC.....EACH 23.00
 207-0023. LCD1171. 48-150 DC with Reset.....EACH 23.00
 207-0024. LCD1181. 48-150 DC.....EACH 23.00

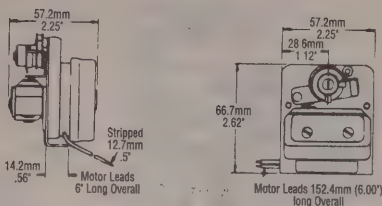
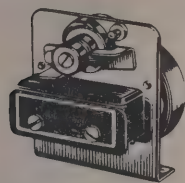
2101 Series DC Pulse Panel Mount Counter



This is the 2101 Series in a panel mount version. This series also has the optional external reset. Memory: EEPROM. Count Speed: 500 Hz.

207-0025. LCD2111. 5-12 DC with Reset.....EACH 24.00
 207-0026. LCD2121. 5-12 DC.....EACH 24.00
 207-0027. LCD2131. 12-48 DC with Reset.....EACH 24.00
 207-0028. LCD2141. 12-48 DC.....EACH 24.00
 207-0031. LCD2171. 48-150 DC with Reset.....EACH 24.00
 207-0032. LCD2181. 48-150 DC.....EACH 24.00

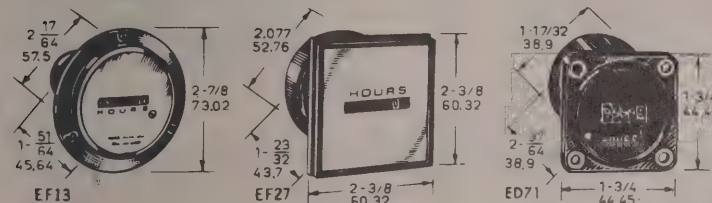
90 Series Delay Timers



The 90 Series is a basic time delay timer designed for remote surface mounting where infrequent adjustment of the time delay setting is anticipated. It features automatic reset upon removal of power. These timers are designed for applications that do not require high repeat accuracy, fast reset or long time cycles. Isolated SPDT load switch rated at 10 amps. **Wiring:** Motor, 6-inch leads; switch, screw terminals. 120 VAC, UL and CSA approved.

Stock No.	Mfr.'s Type	Max. Setting	Min. Setting	EACH		
				1-9	10-24	25-Up
815-1009	90-6S	6 sec.	1/2 sec.	86.54	80.34	75.00
815-1010	90-15S	15 sec.	1 1/2 sec.	86.54	80.34	75.00
815-1011	90-30S	30 sec.	3 sec.	86.54	80.34	75.00
815-1012	90-60S	60 sec.	6 sec.	86.54	80.34	75.00

Non-Reset Elapsed Time Indicators

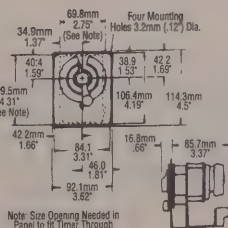
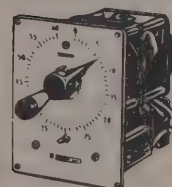


Wide variety of meters for use where accurate time readings are required. All are synchronous-motor driven. Round or square bezel. Panel mount and rear mount available. Non-resettable, readout is digital with a range of five figures plus tenths; in hours and tenths, minutes and tenths or *4 figures and tenths. Units are 120VAC, 60 Hz. **Operating temperature:** -12°C to +55°C.

120 Volts AC 60 Hz

Stock No.	Mfr.'s Type	Bezel In.	Depth In.	Dia. In.	Max. W Motor Rating	Leads	EACH		
							1-9	10-24	25-49
815-0110	EF1333†	27/8 rd.	1 1/4	2 1/4	2.5	6"	46.15	42.86	40.00
815-0112	EF1335	27/8 rd.	1 1/4	2 1/4	2.5	6"	46.15	42.86	40.00
815-0118	EF2733†	2 3/8 sq.	1 29/32	2 5/8	5.0	6"	46.15	42.86	40.00
815-0120	EF2735	2 3/8 sq.	1 29/32	2 5/8	5.0	6"	46.15	42.86	40.00
815-0180	ED7112*	1 3/4 sq.	2 3/8	1 1/2	2.5	1 1/4"	92.30	85.71	80.00

TDAB and TDAF Series Timers

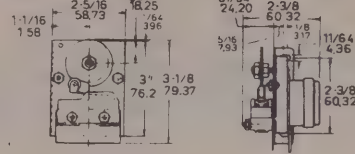


Note: Size Opening Needed in Panel to fit Timer Through

The TDAB and TDAF timers are rugged, high precision time delay timers. They feature automatic reset and an infinite-resolution clutch. The TDAF is designed for panel mounting while the TDAB is designed for back or surface mounting. On both units, wiring connections are made on the screw type terminal block. Both have isolated SPDT load switch rated at 15 amps, 120 VAC. UL and CSA approved.

Stock No.	Mfr.'s Type	Time Cycle	Dial Division	EACH		
				1-9	10-24	25-Up
815-1019	TDAB-6S	6 sec.	1/10 sec.	144.23	133.93	125.00
815-1020	TDAB-15S	15 sec.	1/4 sec.	144.23	133.93	125.00
815-1022	TDAB-60S	60 sec.	1 sec.	144.23	133.93	125.00
815-1023	TDAB-5M	5 min.	5 sec.	144.23	133.93	125.00
815-1024	TDAB-15M	15 min.	15 sec.	144.23	133.93	125.00
815-1026	TDAB-60M	60 min.	60 sec.	144.23	133.93	125.00
815-1027	TDAB-6S	6 sec.	1/10 sec.	144.23	133.93	125.00
815-1028	TDAB-15S	15 sec.	1/4 sec.	144.23	133.93	125.00
815-1030	TDAF-60S	60 sec.	1 sec.	144.23	133.93	125.00
815-1031	TDAF-60M	5 min.	5 sec.	144.23	133.93	125.00
815-1032	TDAF-15M	15 min.	15 sec.	144.23	133.93	125.00
815-1034	TDAF-60M	60 min.	60 sec.	144.23	133.93	125.00

Series RG21, Single Switch

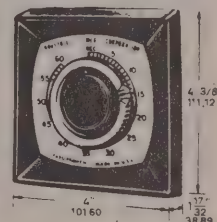


Designed to run continuously, repeating a set cycle of make-break switching operations as long as the motor is energized. This unit may be applied to operations requiring only a single time cycle. The unit's timing motor drives the cam to actuate a SPDT snap-action switch in a definite make-break sequence at predetermined speeds. Switch cams adjustable from minimum notch of 7° to a maximum notch of 169° (±3°). **Cam Shaft Speed for One Complete Revolution (360°):** RG21-093: 1 minute; RG21-096: 15 minutes; RG21-098: 60 minutes. 120V, 60 Hz. U.L. recognized and CSA listed.

Stock No.	Mfr.'s Type	EACH		
		1-9	10-24	25-49
815-0190	RG21-093	63.46	58.93	55.00
815-0194	RG21-096	63.46	58.93	55.00
815-0198	RG21-098	63.46	58.93	55.00

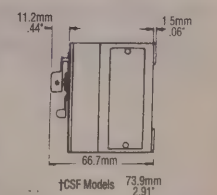
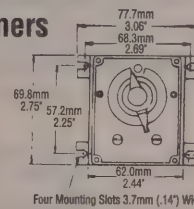
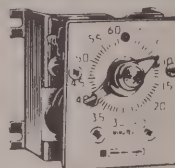
Type MPB Interval Timers

Depressing pushbutton in center of selector ring engages synchronous motor and closes SPDT snap action isolated load switch. At end of cycle, timer automatically resets to zero and opens load switch. Contact rated 15 amps non-inductive at 115 volts, 60 Hz AC. Double load operation possible. Specify timing range desired. **Shpg. wt.:** 3 lbs.



Stock No.	Mfr.'s Type	Time Setting		EACH		
		Max.	Min.	1-9	10-24	25-49
815-0324	MPB15M	15 min.	15 sec.	71.54	66.43	62.00
815-0328	MPB60M	60 min.	60 sec.	71.54	66.43	62.00

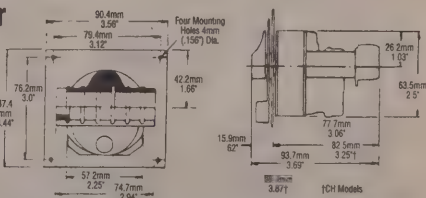
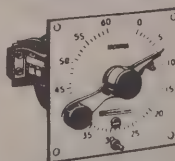
SF and CSF Series Timers



These standard time delay timers are designed for remote surface mounting where infrequent adjustment of the time delay setting is anticipated. The SF timers are in the 6, 15, and 30 second ranges and use a clutch motor. The CSF timers operate in ranges of 1 minute and above and use an external clutch to provide fast reset. Both units feature automatic reset upon removal of power, and isolated SPDT load switch. The CSF also features a motor control feature to protect the motor at the end of the time cycle. **Repeat Accuracy:** SF—±1%; CSF—±1.5%. 10 amp load switch contacts, screw terminal wiring. 120 VAC. UL and CSA approved.

Stock No.	Mfr.'s Type	Time Cycle	Dial Division	EACH		
				1-9	10-24	25-Up
815-1001	SF-6S	6 sec.	1/10 sec.	94.61	87.85	82.00
815-1002	SF-15S	15 sec.	1/4 sec.	94.61	87.85	82.00
815-1003	SF-30S	30 sec.	1/2 sec.	94.61	87.85	82.00
815-1004	CSF-1M	1 min.	1 sec.	94.61	87.85	82.00
815-1005	CSF-5M	5 min.	5 sec.	94.61	87.85	82.00
815-1006	CSF-15M	15 min.	15 sec.	94.61	87.85	82.00
815-1007	CSF-30M	30 min.	30 sec.	94.61	87.85	82.00
815-1008	CSF-60M	60 min.	1 min.	94.61	87.85	82.00

H and CH Series Timer



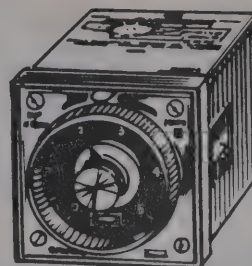
The H and CH series are standard time delay timers designed for panel mounting. They are designed for applications that require medium repeat accuracy and reset time and that may require the operator to change the time delay cycle. The H timers cover the 6, 15, and 30 second time ranges and have a clutch motor. The CH timers are available in 1, 3 and 5 minute time ranges and feature external clutch to enable fast reset. It also features a motor control switch to protect the motor at the end of the time cycle. Both have isolated SPDT load switch rated at 10 amps, screw terminal block wiring. 120 VAC. UL and CSA approved.

Stock No.	Mfr.'s Type	Time Cycle	Dial Division	EACH		
				1-9	10-24	25-Up
815-1013	H-6S	6 sec.	1/10 sec.	101.54	94.28	88.00
815-1014	H-15S	15 sec.	1/4 sec.	101.54	94.28	88.00
815-1015	H-30S	30 sec.	1/2 sec.	101.54	94.28	88.00
815-1016	CH-1M	1 min.	1 sec.	100.38	93.21	87.00
815-1017	CH-3M	3 min.	3 sec.	100.38	93.21	87.00
815-1018	CH-5M	5 min.	5 sec.	100.38	93.21	87.00

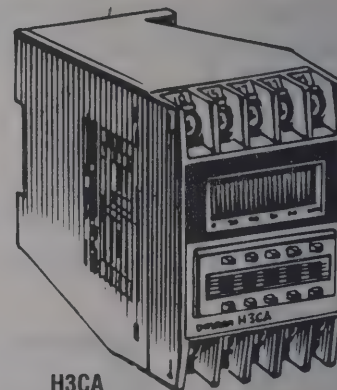
Solid State Timers

H3B Series. 16 ranges (.05 sec. to 100 hrs.) and 4 output modes in a single unit. 8-pin, 11-pin, or screw terminal connection. SPDT or DPDT outputs. Starts, reset, and gate inputs on 11-pin and screw terminal models. "RUN" and "OUTPUT" indication on all units.

H3CA Series. Digital setting. Universal power (24-240 VAC, 12-240 VDC). 8 operation modes. Range of 0.1 sec. to 999 hrs. in single unit. Same connection options, indicators, and outputs as H3BA Series. Bar graph elapsed time indication.



H3BA



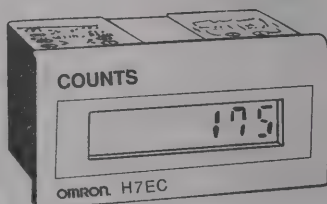
H3CA

Stock No.	Mfr.'s Type	Connection	Output	Description	EACH
834-3000	H3BA-120AC	11-Pin	DPDT	4 Output Modes	67.00
834-3001	H3BA-24DC	11-Pin	DPDT	4 Output Modes	67.00
834-3004	H3BA-8H-120AC	8-Pin	2, SPDT	On Delay Only	70.00
834-3006	H3BA-8-120AC	8-Pin	DPDT	On Delay Only	67.00
834-3008	H3BF-8-120AC	8-Pin	DPDT	Sep. On, Off Delay	61.00
834-3010	H3CA-A	11-Pin	SPDT	8 Output Modes	94.00
834-3011	H3CA-FA	Frt. Screw	SPDT	8 Output Modes	113.00
834-3012	H3CA-8H-120AC	8-Pin	2, SPDT	On Delay Only	88.00
834-3014	H3CA-8-120AC	8-Pin	DPDT	On Delay Only	87.00

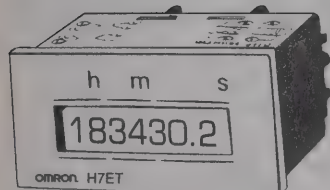
Other voltages available upon special request from factory.

Self-Powered Counters and Tachometers

H7EC



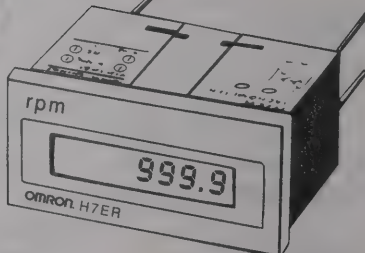
H7EC Series. Subminiature (DIN-sized 48 X 24 mm.); improved noise immunity. Screw terminal and wire-wrap types available. AC, DC and no-voltage input types available. Printed circuit board type available. Internal 3V lithium battery allows unit to operate with no external power supply.



H7ET

H7ET Series. Subminiature (DIN-sized 48 X 24 mm.); improved noise immunity. Screw terminal and wire-wrap types available. AC, DC, and no-voltage input types available. Displays cumulative time by counting the output signals received from a sensor. Internal 3V lithium battery allows unit to operate with no external power supply.

H7ER



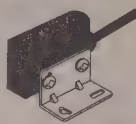
H7ER Tachometers. Subminiature (DIN-sized 48 X 24 mm.); improved noise immunity. Screw terminal and wire-wrap types available. DC and no-voltage input types available. DC-powered model can display the number of revolutions of an encoder in user-selectable units of measure. Internal 3V lithium battery allows unit to operate with no external power supply.

Stock No.	Mfr.'s Type	Description	EACH
834-5001	H7EC-B	7 Digit LCD, No-Voltage Input, 1 KCPS, Screw Terminals, External Reset	49.00
834-5002	H7EC-BL	7 Digit LCD, No-Voltage Input, 30 CPS, Screw Terminals, External Reset	50.00
834-5003	H7EC-BLM	6 Digit LCD, No-Voltage Input, 30 CPS, Screw Terminals, External/Manual Reset	50.00
834-5004	H7EC-BM	6 Digit LCD, No-Voltage Input, 1 KCPS, Screw Terminals, External/Manual Reset	50.00
834-5006	H7EC-BVL	7 Digit LCD, DC Voltage Input, 30 CPS, Screw Terminals, External Reset	50.00
834-5007	H7EC-BVLM	6 Digit LCD, DC Voltage Input, 30 CPS, Screw Terminals, External/Manual Reset	50.00
834-5008	H7EC-BVM	6 Digit LCD, DC Voltage Input, 1 KCPS, Screw Terminals, External/Manual Reset	50.00
834-5009	H7EC-FBV	7 Digit LCD, AC/DC Voltage Input, 20 CPS, Screw Terminals, External Reset	50.00
834-5011	H7ET-B	7 Digit LCD, No-Voltage Input Totalizer, 0-999999.9 Hrs., Screw Terminals	57.00
834-5012	H7ET-BM	6 Digit LCD, No-Voltage Input Totalizer, 0-999999.9 Hrs., Screw Terminals	57.00
834-5014	H7ET-FBV	7 Digit LCD, AC/DC Voltage Input Totalizer, 0-999999.9 Hrs., Screw Terminals	71.00
834-5015	H7ER-B	4 Digit LCD, No-Voltage Input, 1 KCPS, 1000 RPS, 1 Pulse/Rev., Screw Terminals	63.00
834-5016	H7ER-BV2	5 Digit LCD, DC Voltage Input, 10 KCPS, 10,000 RPM, 60 Pulses/Rev., Screw Terminals	63.00
834-5017	H7ER-SBV	5 Digit LCD, DC Voltage Input, 10 KCPS, Selectable Rev. and Res., Screw Terminals	92.00

E3S-A Series

General purpose high performance small DC sensors offer fast 0.5 msec. response time for high-speed sensing. Self-diagnostic functions for easy installation. **Rating:** NEMA 4x, 6, and IP67. Choose prewired or quick disconnect models. Timer models feature an OFF-delay output from 0 to 100 ms.

— NEW —



Through-Beam, 7 m (22.97 ft.) Sensing Distance

Stock No.	Mfr.'s Type	Output	Connection	Features	EACH
834-6101	E3S-AT11	NPN	Prewired	None	124.00
834-6102	E3S-AT16	NPN	Connector	None	131.00
834-6103	E3S-AT21	NPN	Prewired	Timer, alarm, turbo	148.00
834-6104	E3S-AT31	PNP	Prewired	None	124.00
834-6105	E3S-AT36	PNP	Connector	None	131.00
834-6106	E3S-AT41	PNP	Prewired	Timer, alarm, turbo	148.00

Vertical Mounting

834-6107	E3S-AT61	NPN	Prewired	None	124.00
834-6108	E3S-AT66	NPN	Connector	None	131.00
834-6109	E3S-AT71	NPN	Prewired	Timer, alarm, turbo	148.00
834-6110	E3S-AT81	PNP	Prewired	None	124.00
834-6111	E3S-AT86	PNP	Connector	None	131.00
834-6112	E3S-AT91	PNP	Prewired	Timer, alarm, turbo	148.00

Retroreflective, 2 m (6.56 ft.)

834-6113	E3S-AR11	NPN	Prewired	None	107.00
834-6114	E3S-AR16	NPN	Connector	None	110.00
834-6115	E3S-AR21	NPN	Prewired	Timer, alarm, turbo	124.00
834-6116	E3S-AR31	PNP	Prewired	None	107.00
834-6117	E3S-AR36	PNP	Connector	None	110.00
834-6118	E3S-AR41	PNP	Prewired	Timer, alarm, turbo	124.00

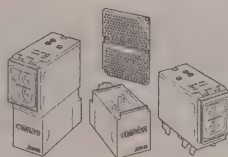
Vertical Mounting

834-6119	E3S-AR61	NPN	Prewired	None	107.00
834-6120	E3S-AR66	NPN	Connector	None	110.00
834-6121	E3S-AR71	NPN	Prewired	Timer, alarm, turbo	124.00
834-6122	E3S-AR81	PNP	Prewired	None	107.00
834-6123	E3S-AR86	PNP	Connector	None	110.00
834-6124	E3S-AR91	PNP	Prewired	Timer, alarm, turbo	124.00

E3B2 Series

— NEW —

General purpose photoelectric sensor with plug-in terminal for easy maintenance and installation. Replace sensing head without rewiring. Detect shiny objects with polarized retroreflective models and dark objects at long distances with the high-gain diffuse reflective models. Includes built-in ON-delay and OFF-delay timers, switch selectable light-ON/dark-ON operation, and mutual interference protection. Ready to use with 3 A relay and mounting brackets. Supply voltages of 24 to 240 VAC, 50/60 Hz; 12 to 240 VDC. Output of 3 A, 250 VAC.



High-Gain Diffuse Reflective

Stock No.	Mfr.'s Type	Features	EACH
834-6009	E3B2-D2M4-US-N	No timer, 3 m (9.84 ft.) sensing distance	179.00
834-6010	E3B2-D2M4D-US-N-3	0.05 to 5 sec. timer, 3 m sensing distance	189.00

Inductive Proximity Sensors



TL-X-GE

Omron's 100% performance-tested proximity sensors detect ferrous metal objects. AC sensors have an LED indicator; DC sensors have high-visibility LED ring indicator.

AC, 2-wire sensors, 100 mA, SCR output, 20 to 264 VAC

Stock No.	Mfr.'s Type	Description	EACH
834-4022	E2E-X2MY1	M8 Unshielded NO	81.00
834-4024	E2E-X5MY1	M12 Unshielded NO	80.00
834-4028	E2E-X18MY1-US	M30 Unshielded NO	88.00
834-4030	E2E-X1R5Y1	M8 Shielded NO	80.00
834-4031	E2E-X1R5Y2	M8 1.5 mm (0.06 in.) NC	80.00
834-4032	E2E-X2Y1	M12 Shielded NO	81.00
834-4033	E2E-X2Y2	M12 2 mm (0.08 in.) NC	81.00
834-4034	E2E-X5Y1-US	M18 Shielded NO	84.00

DC, 3-wire sensors, 200 mA, NPN output, 10 to 30 VDC

834-4038	TL-X2MC1-GE	M8 Unshielded NO	62.00
834-4040	TL-X5MC1-GE	M12 Unshielded NO	62.00
834-4042	TL-X10MC1-GE	M18 Unshielded NO	64.00
834-4044	TL-X18MC1-GE	M30 Unshielded NO	68.00
834-4046	TL-X1R5C1-GE	M8 Shielded NO	62.00
834-4047	TL-X1R5C2-GE	M8 1.5 mm (0.06 in.) NC	62.00
834-4048	TL-X2C1-GE	M12 Shielded NO	56.00
834-4051	TL-X5C2-GE	M12 5 mm (0.20 in.) NC	60.00
834-4052	TL-X10C1-GE	M30 Shielded NO	64.00

Diffuse Reflective, 20 cm (7.87 in.)

Stock No.	Mfr.'s Type	Output	Connection	Features	EACH
834-6125	E3S-AD11	NPN	Prewired	None	94.00
834-6126	E3S-AD16	NPN	Connector	None	98.00
834-6127	E3S-AD21	NPN	Prewired	Timer, alarm, turbo	112.00
834-6128	E3S-AD31	PNP	Prewired	None	94.00
834-6129	E3S-AD36	PNP	Connector	None	98.00
834-6130	E3S-AD41	PNP	Prewired	Timer, alarm, turbo	112.00

Vertical Mounting

834-6131	E3S-AD61	NPN	Prewired	None	94.00
834-6132	E3S-AD66	NPN	Connector	None	98.00
834-6133	E3S-AD71	NPN	Prewired	Timer, alarm, turbo	112.00
834-6134	E3S-AD81	PNP	Prewired	None	94.00
834-6135	E3S-AD86	PNP	Connector	None	98.00
834-6136	E3S-AD91	PNP	Prewired	Timer, alarm, turbo	112.00

Diffuse Reflective, 70 cm (2.3 ft.)

834-6137	E3S-AD12	NPN	Prewired	None	94.00
834-6138	E3S-AD17	NPN	Connector	None	98.00
834-6139	E3S-AD22	NPN	Prewired	Timer, alarm, turbo	112.00
834-6140	E3S-AD32	PNP	Prewired	None	94.00
834-6141	E3S-AD37	PNP	Connector	None	98.00
834-6142	E3S-AD42	PNP	Prewired	Timer, alarm, turbo	112.00

Vertical Mounting

834-6143	E3S-AD62	NPN	Prewired	None	94.00
834-6144	E3S-AD67	NPN	Connector	None	98.00
834-6145	E3S-AD72	NPN	Prewired	Timer, alarm, turbo	112.00
834-6146	E3S-AD82	PNP	Prewired	None	94.00
834-6147	E3S-AD87	PNP	Connector	None	98.00
834-6148	E3S-AD92	PNP	Prewired	Timer, alarm, turbo	112.00

Diffuse Reflective

Stock No.	Mfr.'s Type	Features	EACH
834-6006	E3B2-D2M4-US	No timer, 2 m (6.56 ft.) sensing distance	179.00
834-6007	E3B2-D2M4D-US	0.5 to 20 sec. timer, 2 m sensing distance	189.00
834-6008	E3B2-D2M4D-US-3	0.05 to 5 sec. timer, 2 m sensing distance	189.00

Retroreflective

834-6001	E3B2-R5M4-US	Polarized, no timer, 5 m (16.4 ft.) sensing distance	189.00
834-6002	E3B2-R5M4D-US	Polarized, 0.5 to 20 sec. timer, 5 m sensing distance	200.00
834-6003	E3B2-R5M4D-US-3	Polarized, 0.05 to 5 sec. timer, 5 m sensing distance	200.00
834-6004	E3B2-R7M4-US	No timer, 7 m (22.97 ft.) sensing distance	189.00
834-6005	E3B2-R7M4D-US	0.5 to 20 sec. timer, 7 m sensing distance	200.00

Photoelectric Sensors



Easy-to-install photoelectric sensors meet most needs for reliable detection in conveyor and packaging applications. M18 size threaded cylindrical plastic body. Choose through beam models for reliable operation over long distances in adverse environments; retroreflective models are simpler to install; and diffuse reflective models bounce light of the object to be detected. AC and DC prewired models and DC connector-ready models available. Connector-ready models accept 3-wire Micro-Change style cordsets.

Through beam, 3 m (9.84 ft.) sensing distance

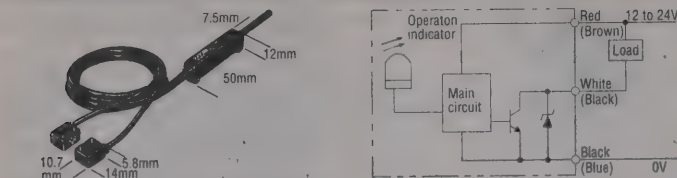
Stock No.	Mfr.'s Type	Description	EACH
834-4001	E3F-3Z2	Dark-On operation, 5-200 mA SCR output, 24 to 240 VAC	116.00
834-4002	E3F-3C4	Selectable Light-ON/Dark-ON operation, 100 mA, NPN, 12 to 24 VDC	93.00
834-4003	E3F-3B4	Selectable Light-ON/Dark-ON operation, 100 mA, PNP, 12 to 24 VDC	93.00
834-4004	E3F-3C4-P1	Connector-ready, selectable Light-ON/Dark-ON operation, 100 mA, NPN, 12 to 24 VDC	105.00
834-4005	E3F-3B4-P1	Connector-ready, selectable Light-ON/Dark-ON operation, 100 mA, PNP, 12 to 24 VDC	105.00

Retroreflective, non-polarized models 2 m (6.56 ft.) sensing distance or polarized models 1 m (3.94 ft.) sensing distance

834-4008	E3F-R2C4	Non-Polarized, selectable operation, 100 mA, NPN, 12 to 24 VDC	75.00
834-4009	E3F-R2B4	Non-Polarized, selectable operation, 100 mA, PNP, 12 to 24 VDC	75.00
834-4012	E3F-R1C4	Polarized, selectable operation, 100 mA, NPN, 12 to 24 VDC	92.00
834-4013	E3F-R1B4	Polarized, selectable operation, 100 mA, PNP, 12 to 24 VDC	92.00

Diffuse reflective, 10 cm (3.94 in.) sensing distance

834-4016	E3F-DS10Z1	Light-On operation, 5-200 mA SCR output, 24 to 240 VAC	94.00
834-4017	E3F-DS10Z2	Dark-On operation, 5-200 mA SCR output, 24 to 240 VAC	94.00
834-4018	E3F-DS10C4	Selectable Light-ON/Dark-ON operation, 100 mA, NPN, 12 to 24 VDC	75.00
834-4019	E3F-DS10B4	Selectable Light-ON/Dark-ON operation, 100 mA, PNP, 12 to 24 VDC	75.00
834-4020	E3F-DS10C4-P1	Connector-ready, selectable Light-ON/Dark-ON operation, 100 mA, NPN, 12 to 24 VDC	81.00
834-4021	E3F-DS10B4-P1	Connector-ready, selectable Light-ON/Dark-ON operation, 100 mA, PNP, 12 to 24 VDC	81.00



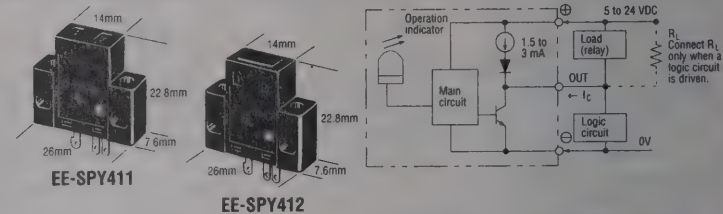
Compact, Prewired Photomicrosensors with 30cm Range

Through-beam (transmissive) sensor with in-line remote DC amplifier and compact sensing heads fit into space-confined locations. Prewired amplifier has 2m (6.6 ft.) of three-conductor cable. Sensor includes two pair of aperture decals to reduce beam width for smaller object detection. Modulated infrared light source reduces external light, dust and humidity interference. Operation indicators on both amplifier body and sensing head simplify alignment and monitoring.

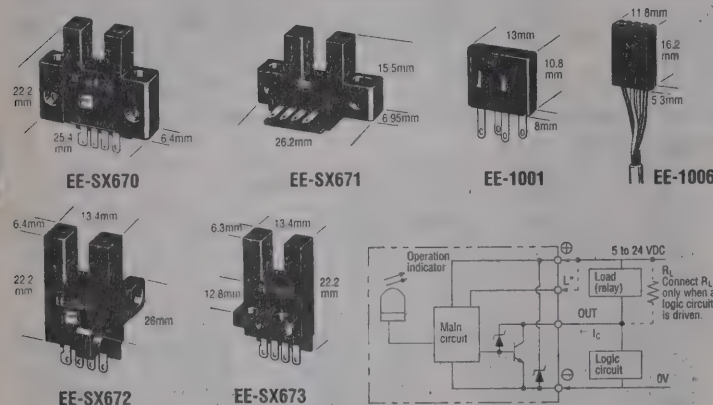
Stock No.	Mfr.'s Type	Output Type	Head to Amp Cable Length	Sensing Method	Sensing Distance	Power Requirements	Control Output	EACH
821-8100	EE-SPW321	Dark-ON	0.5 m (1.64 ft.)	Transmissive	30 cm with 2mm dia. opaque object	10.8 to 26.4 VDC 30 mA current consumption	Transistor, 100 mA load 1 V max. residual voltage 1 ms max. response time	112.90
821-8101	EE-SPW321-A	Dark-ON	1.0 m (3.28 ft.)		20 cm with 1mm dia. object using 1 × 3 mm aperture			115.23
821-8102	EE-SPW421	Light-ON	0.5 m (1.64 ft.)		10 cm with 0.5mm dia. object using 0.5 × 3 mm aperture			112.90
821-8103	EE-SPW421-A	Light-ON	1.0 m (3.28 ft.)					115.23

Sensing Heads Detect Objects in Front of Mirror-Like Backgrounds

Convergent beam reflective sensors with built-in amplifier offers 5mm sensing distance to solve these tough detection problems: objects in front of highly reflective backgrounds at least 20mm away; dark colored objects; small, thin objects such as 0.05mm diameter pure copper wire. Modulated infrared light source reduces external light interference. Choose top or side sensing models. Operation indicator allows monitoring. Wire directly to sensor or use optional EE-1001 unwired or EE-1006 prewired connectors for convenience in servicing. **Output Specifications:** 80 mA load with 1.0V residual voltage; 10 mA load 0.4V residual voltage when driving TTL. **Response Frequency:** 100 Hz.



Stock No.	Mfr.'s Type	Output Type	Sensing Face Position	Sensing Method	Sensing Distance	Power Requirements	EACH
821-8104	EE-SPY311	Dark-ON	Side Face Side Face Top Top	Convergent beam reflective	2 to 6 mm (5 mm rated distance) with 15 × 15 mm 90% reflectance white mat paper 0.2 mm differential distance at 3 mm sensing distance	5 to 24 VDC ±10% 10% max. ripple peak-to-peak 15 mA current consumption 50 mA max. at peak	28.52
821-8105	EE-SPY411	Light-ON					28.52
821-8106	EE-SPY312	Dark-ON					28.52
821-8107	EE-SPY412	Light-ON					28.52



5 mm Slot Sensing Heads in Wide Variety of Configurations

Transmissive sensing heads in standard, L-shaped, T-shaped and close-mounting configurations match most applications. Wide 5-24 VDC operating voltage range makes these photomicrosensors compatible with TTLs, relays and programmable controllers. Wire selectable Light-ON/Dark-ON output operation. Operation indicator for easy monitoring. Wire directly to sensor or use optional EE-1001 unwired or EE-1006 prewired connectors for convenience in servicing. **Output Specifications:** 100 mA load with 0.8 V residual voltage; 40 mA load with 0.4 V residual voltage when driving TTL. **Response Frequency:** 1 kHz (3 kHz typical).

Accessories

821-8112. EE-1001. Unwired Connector.....	EACH 1.85
821-8113. EE-1006. Prewired Connector, 2 m (6.6 ft.) Cable.....	EACH 8.87

Stock No.	Mfr.'s Type	Output Type	Body Configuration	Sensing Method	Sensing Distance	Power Requirements	EACH
821-8108	EE-SX670	Light-ON/Dark-ON	Standard L-Shaped T-Shaped Close-Mounting	Transmissive	5mm slot width with Opaque 0.8 × 2mm object 0.025mm differential distance	5 to 24 VDC ±10% 10% max. ripple peak-to-peak 35 mA current consumption	14.14
821-8109	EE-SX671	Light-ON/Dark-ON					14.14
821-8110	EE-SX672	Light-ON/Dark-ON					14.60
821-8111	EE-SX673	Light-ON/Dark-ON					15.12

Photomicrosensors

Photomicrosensors with Phototransistor Output (Fig. 1)

The EE-SF5/-B, EE-SG3/-B are all available with solder and PC terminals. MAX V = 1.5, IF (mA) = 30.

Stock No.	Mfr.'s Type	Sensing Distance (mm)	Slot Width (mm)	IL				tr, tf				EACH	
				Min. (mA)	Max. (mA)	IF (mA)	VCE (V)	tr (μsec.)	tf (μsec.)	VCC (V)	RL (Ω)		IL (mA)
821-8001	EE-SG3/-B	—	3.6	2.0	40.0	15	10	4	4	10	0.1 K	5	2.99
821-8002	EE-SB5/-B	5	—	0.2	2.0	20	10	30	30	5	1.0 K	1	3.99
821-8003	EE-SF5/-B	5	—	0.2	2.0	20	10	30	50	5	1.0 K	1	3.92

Phototransistor and Photo IC Output Photomicrosensors (Fig. 2)

The EE-SH* is a high resolution type with aperture widths from 0.2 mm to 1 mm. EE-SX298/498 is a PCB mountable Photo IC. MAX V = 1.5, IF (mA) = 30, except EE-SX398, EE-SX498 = 20.

821-8004	EE-SH3	—	3.4	0.5	14.0	20	10	4	4	5	100.0	5	2.74
821-8005	EE-SX1071	—	3.4	0.5	14.0	20	10	4	4	5	100.0	5	1.56
821-8006	EE-SX398	—	3.0	—	—	—	—	—	—	—	—	—	1.75
821-8007	EE-SX498	—	3.0	—	—	—	—	—	—	—	—	—	1.75
821-8008	EE-SX1070	—	8.0	0.5	0.5	10	10	4	4	5	100.0	5	1.62

Slot Type Phototransistor Output Configured Photomicrosensor (Fig. 3)

The EE-SX1042 has deep wide slots 12 mm V 5 mm. The EE-SX1018 and EE-SX1025-EP are PC mountable and compact. The EE-SV3 is a high resolution type. MAX V = 1.5, IF (mA) = 30.

821-8009	EE-SX1042	—	5.0	0.5	14.0	20	10	4	4	5	100.0	5	1.56
821-8010	EE-SX1018	—	2.0	0.5	14.0	20	10	4	4	5	100.0	5	1.73
821-8012	EE-SV3	—	3.4	0.5	0.5	20	10	4	4	5	100.0	5	3.40



Fig. 1

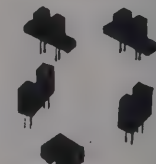
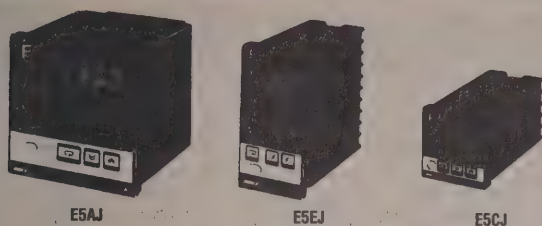


Fig. 2



Fig. 3

E5J Temperature Controllers



E5AJ

E5EJ

E5CJ

Advanced PID controllers with Fuzzy Logic-Based adaptive tuning provides optimum control and performance. Field Selectable sensor inputs and Fahrenheit scaling. Available in 1/4, 1/2, 1/8 DIN sizes. The 1/4 and 1/8 DIN units offer serial communications and plug-in outputs. Alarm outputs of two SPST-NO relays and a heater burnout alarm of a SPST-NO relay.

1/4 and 1/8 DIN Units

Stock No.	Mfr.'s Type	DIN Size	Communications	EACH
834-6201	E5AJ-A2HB-F	1/4	None	345.00
834-6202	E5AJ-A2H01-F	1/4	RS-232C	480.00
834-6203	E5AJ-A2H02-F	1/4	RS-422	480.00
834-6204	E5AJ-A2H03-F	1/4	RS-485	480.00
834-6205	E5EJ-A2HB-F	1/8	None	345.00
834-6206	E5EJ-A2H01-F	1/8	RS-232C	465.00
834-6207	E5EJ-A2H02-F	1/8	RS-422	465.00
834-6208	E5EJ-A2H03-F	1/8	RS-485	465.00

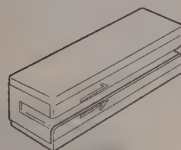
Stock No.	Mfr.'s Type	Control Outputs	EACH
834-6209	E52-C3	Current, 4-20 mA	57.00
834-6210	E53-Q	Voltage, 12 VDC, NPN	17.00
834-6211	E53-Q3	Voltage, 24 VDC, NPN	15.00
834-6212	E53-Q4	Voltage, 24 VDC, PNP	15.00
834-6213	E53-R	SPDT Relay	8.00
834-6214	E53-S	Solid-State Relay	15.00

Stock No.	Mfr.'s Type	Heater Burnout Current Transformers	EACH
834-6215	E54-CT1	5.8 mm (.23 in.) dia. hole	22.00
834-6216	E54-CT3	12 mm (.47 in.) dia. hole	27.00

1/8 DIN Units

Stock No.	Mfr.'s Type	Description	EACH
834-6217	E5CJ-R2HB-F	Relay output, 2 alarms, 1 event input, heater burnout alarm	245.00
834-6218	E5CJ-Q2HB-F	Voltage output, 2 alarms, 1 event input, heater burnout alarm	245.00
834-6219	E5CJ-C2B-F	Current output, 2 alarms, 1 event input, heater burnout alarm	245.00
834-6220	E5CJ-R2-F	Relay output, 2 alarms, without event input	245.00
834-6221	E5CJ-Q2-F	Voltage output, 2 alarms, without event input	230.00
834-6222	E5CJ-C2-F	Current output, 2 alarms, without event input	220.00
834-6223	E5CJ-R-F	Relay output, without alarm and event input	220.00
834-6224	E5CJ-Q-F	Voltage output, without alarm and event input	220.00
834-6225	E5CJ-C-F	Current output, without alarm and event input	258.00
834-6226	H01TAA1	E5J-Series Installation, Operation, and Programming Manual	6.15

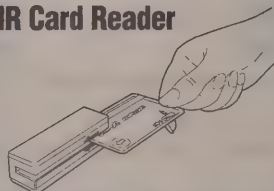
Type 3S4YR-HSR Card Reader



Compact, rugged construction manual swipe card reader, capable of reading up to two tracks. Fixed cable harness for easy installation. **Signal Interface:** TTL. **Card Feed Speed:** 10 to 150 cm/sec. (3.94 to 59.06 in./sec.). **Power Consumption:** 25 mA at 5 VDC. **Operating Temperature:** -10° to +55°C (14° to 131°F). **Service Life:** Single track — 300,000 passes min.; Double track — 600,000 passes min. **Color:** Black. **Dimensions:** 100 L x 32.5 W x 32 H mm (3.94 x 1.28 x 1.26 in.).

821-9000. 3S4YR-HSR4. Reads Track 2 with EnclosureEACH 35.00
821-9001. 3S4YR-HSR6. Reads Tracks 1 and 2 with EnclosureEACH 97.00

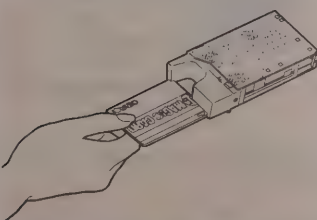
Type 3S4YR-HNR Card Reader



Compact, manual swipe card reader capable of reading up to three tracks. Designed for low power consumption. **Signal Interface:** TTL. **Card Feed Speed:** 10 to 120 cm/sec. (3.94 to 47.24 in./sec.). **Power Consumption:** 5 mA at 5 VDC. **Operating Temperature:** -10° to +55°C (14° to 131°F). **Service Life:** 300,000 passes min. **Color:** Beige. **Dimensions:** 90 L x 28 W x 26.5 H mm (3.54 x 1.10 x 1.04 in.).

821-9002. 3S4YR-HNR1. Reads Tracks 1, 2 and 3 with EnclosureEACH 96.00
821-9003. 3S4YR-HNR6. Reads Tracks 1 and 2 with EnclosureEACH 48.00
821-9004. 3S4YR-HNR4. Reads Track 2 with EnclosureEACH 30.00

Type 3S4YR-SFR

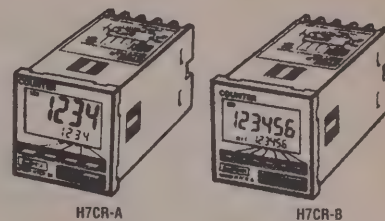


Compact, insert magnetic/IC card reader reads 100% of up to three magnetic tracks. Universal magnetic strip and IC card reader models available. **Signal Interface:** TTL. **Service Life:** Magnetic head — 300,000 passes min.; IC contact — 500,000 passes min. **Card Feed Speed:** 10 to 100 cm/sec. (4 to 39 in./sec.). **Power Consumption:** 70 mA at 5 VDC. **Operating Temperature:** -5° to +55°C (23° to 131°F). **Color:** Black. **Dimensions:** 120 L x 60 W x 194 H mm (4.72 x 2.36 x 0.75 in.).

821-9006. 3S4YR-SFR6N. Reads Tracks 1 and 2 (IC Card/None)EACH 142.00
821-9007. 3S4YR-SFR6J. Reads Tracks 1 and 2 (IC Card Read/Write)EACH 193.00
821-9008. 3S4YR-SFR1N. Reads Tracks 1, 2 and 3 (IC Card/None)EACH 237.00
821-9009. 3S4YR-SFR1J. Reads Tracks 1, 2 and 3 (IC Card Read/Write)EACH 263.00

H7CR Series

Compact 1/8 DIN digital counter with easy-to-use functions with four or six digit LCD displays. High-speed response handles 5,000 counts per second. On-line change of set value and four levels of key protection. Choice of one or two presets with sustained or one-shot output modes.



H7CR-A

H7CR-B

Screw Terminal Mounting

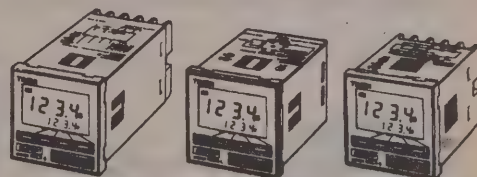
Stock No.	Mfr.'s Type	Input Type	Output Type	Display	Presets	Sensor Voltage	EACH
834-6227	H7CR-A-AC100-240	No-voltage	Contact	Six	One	—	154.00
834-6228	H7CR-AS-AC24	No-voltage	Trans.	Six	One	—	154.00
834-6229	H7CR-AV-AC100-240	Voltage	Contact	Six	One	—	154.00
834-6230	H7CR-B-AC100-240	No-voltage	Contact	Six	One	12 VDC	192.00
834-6231	H7CR-B-AC24/DC12-24	No-voltage	Contact	Six	One	12 VDC	192.00
834-6232	H7CR-B4-AC100-240	No-voltage	Contact	Four	One	12 VDC	189.00
834-6233	H7CR-B4G-AC100-240	No-voltage	Contact	Four	One	24 VDC	189.00
834-6234	H7CR-B4W-AC100-240	No-voltage	Contact	Four	Two	12 VDC	195.00
834-6235	H7CR-B5G-AC24	No-voltage	Trans.	Six	One	24 VDC	192.00
834-6236	H7CR-BV-AC24/DC12-24	Voltage	Contact	Six	One	12 VDC	192.00
834-6237	H7CR-BVG-AC100-240	Voltage	Contact	Six	One	24 VDC	192.00
834-6238	H7CR-BVG-AC24/DC12-24	Voltage	Contact	Six	One	24 VDC	192.00
834-6239	H7CR-BVS-AC100-240	Voltage	Trans.	Six	One	12 VDC	192.00
834-6240	H7CR-BW-AC100-240	No-voltage	Contact	Six	Two	12 VDC	201.00
834-6241	H7CR-BW-AC24/DC12-24	No-voltage	Contact	Six	Two	12 VDC	201.00
834-6242	H7CR-BWG-AC100-240	No-voltage	Contact	Six	Two	24 VDC	201.00
834-6243	H7CR-BWV-AC100-240	Voltage	Contact	Six	Two	12 VDC	201.00
834-6244	H7CR-BWVG-AC100-240	Voltage	Contact	Six	Two	24 VDC	201.00
834-6245	H7CR-BWVS-AC100-240	Voltage	Trans.	Six	Two	12 VDC	201.00

Socket Mounting (11-Pin)

834-6246	H7CR-11-AC100-240	—	Contact	Six	One	—	192.00
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H5CR Series

Compact 1/8 DIN digital timer with 9 output modes including ON-delay, repeat cycle, OFF-delay, and one-shot. Field selectable time ranges from 0.001 second to 9999 hours. Scroll through menus accessed from the highly visible LCD front panel. Four levels of key protection provided. Ten year battery back-up.



H5CR-B, H5CR-S

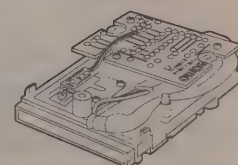
H5CR-L, H5CR-Ls

H5CR-S, H5CR-Ss

Stock No.	Mfr.'s Type	Contact Type	Size	Connection	EACH
834-6247	H5CR-B-AC100-240	SPDT Relay	100 mm (3.94 in.)	Screw Terminal	139.00
834-6248	H5CR-B5-AC100-240	Solid-State	100 mm (3.94 in.)	Screw Terminal	139.00
834-6249	H5CR-L-AC100-240*	SPDT Relay	78 mm (3.07 in.)	8-Pin	127.00
834-6250	H5CR-L-DC12-24*	SPDT Relay	78 mm (3.07 in.)	8-Pin	127.00
834-6251	H5CR-L5-DC12-24*	Solid-State	78 mm (3.07 in.)	8-Pin	127.00
834-6252	H5CR-S-DC12-24	SPDT Relay	64 mm (2.52 in.)	Screw Terminal	132.00
834-6253	H5CR-S5-DC12-24	Solid-State	64 mm (2.52 in.)	Screw Terminal	132.00

*All H5CR-L models do not include panel mounting hardware.

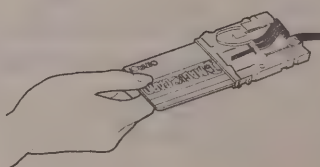
Type 3S4YR-SBR Card Reader



Slim profile, manual insert magnetic card reader. Same mounting as SCR for easy conversion to IC card reader. **Signal Interface:** TTL. **Card Feed Speed:** 10-100 cm/sec. (3.94 to 39.4 in./sec.). **Power Consumption:** 25 mA at 5 VDC. **Operating Temperature:** -10° to +55°C (14° to 131°F). **Service Life:** 300,000 passes min. **Color:** Black. **Dimensions:** 87 L x 60 W x 21.5 H mm (3.42 x 2.36 x 0.85 in.).

821-9005. 3S4YR-SBR4-20. Manual Insert Reads Track 2EACH 48.00

Type 3S4YR-SCR Card Reader

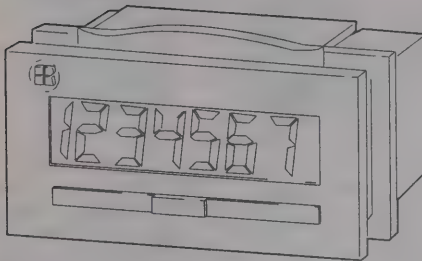


Slim profile, manual insert IC card reader. Read/write to ISO7816 chip cards. Housing compatible to SBR type for easy upgrades. **Signal Interface:** TTL. **Card Feed Speed:** 100 cm/sec. (39.4 in./sec.) max. **Power Consumption:** 10 mA at 30 VDC. **Operating Temperature:** -25° to 75°C (-13° to 167°F). **Service Life:** 100,000 passes min. **Color:** Black. **Dimensions:** 78 L x 60 W x 13.5 H mm (3.07 x 2.36 x 0.53 in.).

821-9010. 3S4YR-SCR0J. 6 Pin ContactEACH 44.00

"Eagle" Self-Powered, Digital Counters and Tachometer

Small size and large numerals make this LCD device ideal for control panels, business machines and instrumentation designed to monitor operational cycles and functions. All models are 7 Figure, with .315" high numerals. Requires only 1.79" x .89" panel cutout. Inputs available include non-voltage (switch, 3-30 VDC or 6-250 VAC/VDC; remote only or manual and remote reset; and termination by either a terminal block or an optional connector with wire leads. UL Recognized, CSA Certified. 20 year typical life with lithium battery. Weighs 2 ozs.



Series 5300, 5301: Electronic, Dual-Speed Counter

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-3008	5300-0000	0-40 and 0-150 Dual CPS Counter, non-voltage (switch) input, remote reset, terminal block	39.60	37.62	35.64
620-3009	5300-1000	0-40 and 0-150 Dual CPS Counter, 3-30 VDC input, remote reset, terminal block	39.60	37.62	35.64
620-3010	5300-1100	0-40 and 0-150 Dual CPS Counter, 3-30 VDC input, manual and remote reset, terminal block	39.60	37.62	35.64
620-3011	5301-0000	0-40 and 0-500 Dual CPS Counter, non-voltage (switch) input, remote reset, terminal block	39.60	37.62	35.64
620-3012	5300-2000	0-40 CPS Counter, 6-250 VAC/VDC input, remote reset, terminal block	51.50	48.92	46.35

Series 5330: Electronic Tachometer/Rate Meter. Practical for production rate and process speed indication.

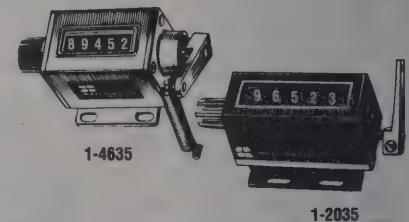
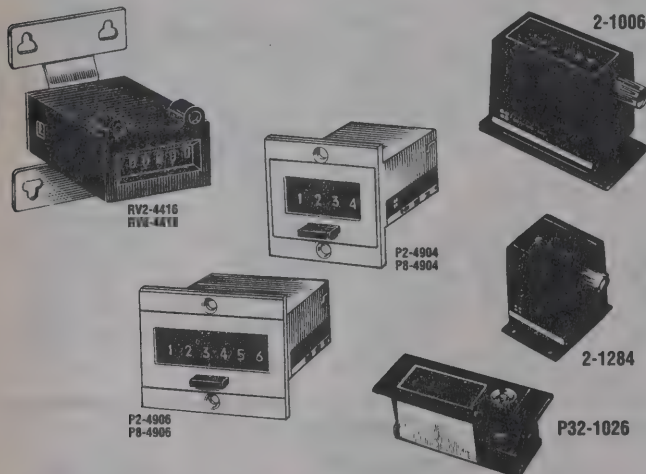
620-3013	5330-0000	10,000 RPM Tachometer/rate meter, with non-voltage (switch) input, remote reset, terminal block	46.50	44.17	41.85
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Mechanical Counters

Series 46. Low cost, compact size, 5-figure, long life, knob reset stroke counter. 1-4635 counts via right-hand lever with top coming action, internal spring return. Size: 2.53" x 1.44" x 1.25".

Series 20. Versatile, 5-figure, low cost, knob reset stroke counter with built-in lever return spring. Size: 3.13" x 1.44" x 1.38".

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-2435	1-4635	.195" high figures, manual reset, right hand, top coming lever	37.45	35.57	33.70
620-2035	1-2035	.190" high figures, manual reset, right hand, top coming lever	43.45	41.27	39.10


10


Electromechanical Counters/Totalizers

Series 44. Rugged, low cost, 6-figure, non-resettable totalizer. "RV" combines behind the panel and base mounts for flexibility in assembly. Size: 1.36" x .78" x 2.36". UL Recognized.

Series 4904 and 4906. Economical, compact, 4 or 6-figure, panel mount, pushbutton reset totalizer. Model 4904 fits 1.46" x 1.01" panel cut-out; 4906 fits 2.00" x 1.01" cut-out. Both UL Recognized.

Series 100. Premium quality, 6-figure electromechanical counter with heavy-duty rectifier, transient protection, convenient reset, 1000 CPM capability. Size: 3.92" x 1.74" x 2.51". UL Recognized, CSA Certified.

Series 128. General purpose, 4-figure, reset electromechanical counter, with heavy-duty rectifier, transient protection, 1000 CPM capability. Size: 2.66" x 2.26" x 2.42". UL Recognized, CSA Certified.

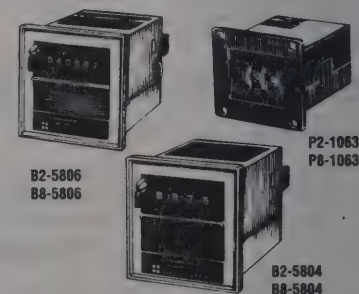
Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-5418	RV2-4416	115 VAC, 177" high figures, 10" 22 AWG leadwires	20.55	19.52	18.49
620-5419	RV8-4416	24 VDC, 177" high figures, 10" 22 AWG leadwires	20.15	19.14	18.13
620-5420	P2-4904	115 VAC, 157" high figures, 10" 22 AWG leadwires	35.30	33.53	31.77
620-5421	P8-4904	24 VDC, 157" high figures, 10" 22 AWG leadwires	32.55	30.92	29.29
620-5422	P2-4906	115 VAC, 157" high figures, 10" 22 AWG leadwires	43.70	41.51	39.33
620-5423	P8-4906	24 VDC, 157" high figures, 10" 22 AWG leadwires	40.70	38.66	36.63
620-0072	2-1006	115 VAC, 190" high figures, base mount, knob reset	85.80	81.51	77.22
620-0076	P2-1006	115 VAC, 190" high figures, panel mount, thumb wheel reset	93.10	88.44	83.79
620-0165	P32-1026	115 VAC, 190" high figures, panel mount, lock/key reset	125.45	119.17	112.90
620-0028	2-1284	115 VAC, 190" high figures, base mount, knob reset	67.35	63.98	60.61
620-0032	P2-1284	115 VAC, 190" high figures, panel mount, knob reset	73.85	70.15	66.46

Predetermining Counter

Series 5804 or 5806. 4 or 6-figure, preset, electromechanical counter. 156" high figures, electric or manual pushbutton reset. Pulse time min, 50 ms "on", 50 ms "off". Fits panel cut-out of 2.17" x 2.17". UL Recognized.

Series 106. 3-figure, panel mount, subtractive predetermining counter; subtracts one count per pulse from preset number to zero, then SPDT switch activates. Switch remains in position until new cycle started. Fits 2.31" x 1.63" panel cut-out. UL Recognized, CSA Certified.

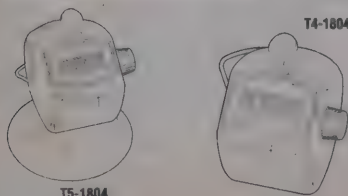
Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-9426	B2-8504	4-fig., 115 VAC, pushbutton reset	162.50	154.37	146.25
620-9428	B2-5806	6-fig., 115 VAC, pushbutton reset	192.70	183.06	173.43
620-9429	B8-5806	6-fig., 24 VDC, pushbutton reset	326.30	309.98	293.67
620-9430	P2-1063	3-fig., 115 VAC, thumbwheel preset	97.75	92.86	87.97
620-9431	P8-1063	3-fig., 24 VDC, thumbwheel preset	98.95	94.00	89.05



Hand or Desk Tally Counters

Series 18. Hand operated reset counter with pushbutton actuator. 4-figure, chrome plated metal case. Hand held or base mount. Size of plastic base mount: 2.1" Dia. with two .14" Dia. mounting holes on 1.3" centers. Practical for inventory counts, attendance, traffic.

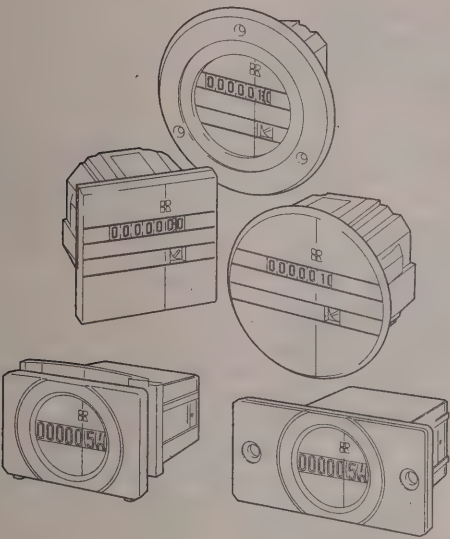
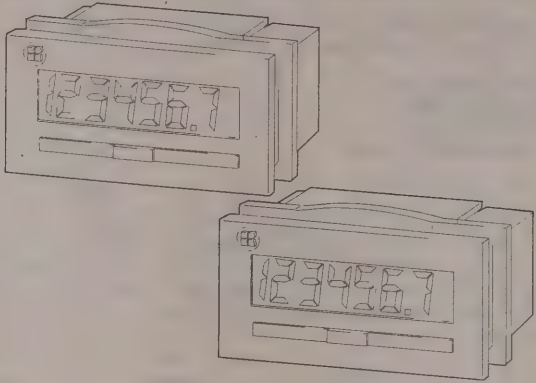
Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-0082	T4-1804	Hand Tally	11.45	10.87	10.30
620-0083	T5-1804	Desk Tally	13.00	12.35	11.70



“Eagle” Self-Powered, Digital Hourmeter — NEW —

Series 5320. 7 figure, .315" height LCD display, electronic hourmeter. Inputs available include non-voltage (switch), 3-30 VDC or 6-250 VAC/VDC; remote only or manual and remote reset; and termination by either a terminal block or an optional connector with wire leads. UL Recognized. CSA Certified. Fits panel cutout of 1.79" x .89". 20 year typical life with lithium battery. Weight: 2 ozs.

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-3001	5320-0000	Hourmeter, with non-voltage (switch) input, remote only reset, terminal block	46.50	44.17	41.85
620-3002	5320-0100	Hourmeter, with non-voltage (switch) input, manual and remote reset, terminal block	46.50	44.17	41.85
620-3003	5320-1000	Hourmeter, with 3-30 VDC input, remote only reset, terminal block	46.50	44.17	41.85
620-3004	5320-1100	Hourmeter, with 3-30 VDC input, manual and remote reset, terminal block	46.50	44.17	41.85
620-3005	5320-2000	Hourmeter, with 6-250 VAC/VDC input, remote only reset, terminal block	60.45	57.42	54.40



Electromechanical AC Hourmeters

Series 711 “Blackbird” AC Hourmeters. Lightweight, low power, rugged electromechanical design, with .138" high figures. Records to 99,999.99 hours. Available in both round or square bezel with retainer clip or 3-hole round versions (with mounting hardware), sealed front bezel and tell-tale operation-indicator. UL Recognized, CSA Certified.

Series 711 “Bullseye” AC Minimeters. Compact, low-cost, synchronous motor controlled AC hourmeters, .138" magnified figures, records to 99,999.99 hours. Panel Cutout: 1.45" x .87". UL Recognized, CSA Certified.

“Blackbird” AC Hourmeters

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-4015	711-0160	120 VAC, 60 Hz, 2.93" dia., 3-hole round bezel (.425" dia. on 2.44" B.C.), 1.99" dia. panel cutout, screw clamp terminal	35.75	32.18	28.60
620-4016	711-0150	120 VAC, 60 Hz, 2.28" dia. flush mount, 1.79" sq. or 1.99" dia. panel cutout, screw clamp terminal	34.45	32.72	31.00
620-0190	711-0190	120 VAC, 60 Hz, 2.05" sq. flush mount, 1.79" sq. or 1.99" dia. panel cutout, screw clamp terminal	38.50	36.57	34.65

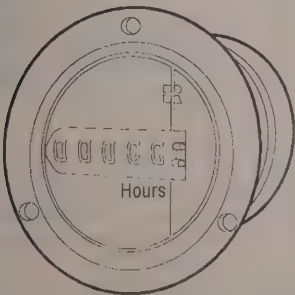
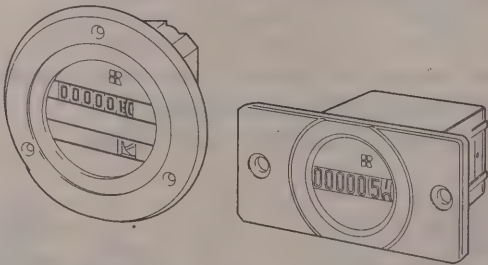
“Bullseye” AC Minimeters

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-4023	711-0113	120 VAC, 60 Hz, 1.60" x 1.08" flush mount, 1/4" screw terminals	39.95	37.95	35.95
620-4024	711-0130	120 VAC, 60 Hz, 2.06" x 1.08" 2-hole mount, 1/4" screw terminals	39.95	37.95	35.95

Electromechanical DC Hourmeters

Series 731 DC Hourmeters. 10-50 VDC, quartz controlled hourmeters, .138" magnified figures, records to 999,999.9 hours.

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-4021	731-0040	2.06" x 1.08" 2-hole bezel, 1/4" screw terminals, 1.45" x .87" panel cutout	67.15	63.79	60.43
620-0046	731-0046	2.83" dia., 3-hole round bezel (.125" dia. on 2.44 B.C.), 1/4" screw terminals, 2.01" panel cutout	69.10	65.64	62.19



Electromechanical AC Hourmeters

Series 710 AC Hourmeters. 120 VAC, 50 or 60 Hz hourmeter (or minute meter), with large .19" figures. 5 or 6 figure readout; 2.84" dia. tough poly-carbonate case. 3-hole panel mount (fits #4 screw on 2.53" B.C. or #6 screw on 2.53" B.C.), 2.21" panel cutout. UL Recognized, CSA Certified.

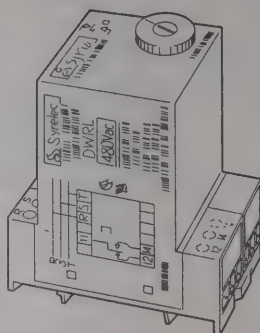
Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-49
620-4010	710-0001	120 VAC, 60 Hz records to 99,999.9 hours, 8" wire leads, non-reset	39.55	37.57	35.59
620-3006	710-0002	120 VAC, 60 Hz records to 99,999.9 hours, terminal block, non-reset	43.30	41.13	38.97
620-3007	710-0003	230 VAC, 60 Hz records to 99,999.9 hours, 8" wire leads, non-reset	41.05	38.99	36.94
620-4011	710-0019	120 VAC, 60 Hz records to 9,999.9 minutes, 8" wire leads, resettable	86.00	81.70	77.40
620-4012	710-0013	120 VAC, 60 Hz records to 9,999.9 hours, 8" wire leads, resettable	78.85	74.90	70.96

WRL Series Phase Control Relay

— NEW —

- Monitors: Phase Sequence; Loss of Any Phase Even if Induced Voltage Reaches 95% of Nominal Voltage
- Under Voltage Detection
- Trip Delay Timer Built-In
- LED Relay Status Indicator
- SPDT and DPDT Relay Output

The WRL Phase Control Relay monitors the sequence loss or reversal of three phase power supplies. The output relay is energized when the phase sequence is correct and the phase voltage is above the voltage threshold set by the front knob. The output relay will de-energize after 2 seconds (built-in timer) when the phase voltage drop is under the voltage threshold or when phase sequence is lost.

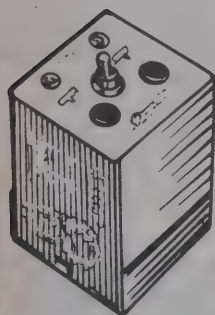


Stock No.	Mfr.'s Type	Voltage	EACH
793-8001	PWRL	3 × 230 VAC	61.00
793-8002	PWRL	3 × 380 VAC	61.00
793-8003	PWRL	3 × 480 VAC	61.00

JR/JRS Series

- Duplex Alternating Control
- SPDT or DPDT Control Relay
- 10 Amp Rated
- Externally Controlled

The electronic alternating relay is designed to replace mechanical style devices used in control applications requiring a duplexing or alternating action of the control circuit to operate pumps, compressors, etc. This is achieved by activating a control switch which is common to one side of the input control voltage. The output contact of the relay(s) change state when this switch is opened (on de-energization of the control circuit). When the control initiate switch is actuated and released or opened, the relay will change state. The next time the initiate switch is actuated, it will change back to its original state. Two red LEDs located on the top of the dust-resistant enclosure provide the status of the relay. The JRS Series offers a three position switch to select normal operation (alternating) or manual selection of lead or lag load.



Stock No.	Mfr.'s Type	Description	EACH
793-2008	LJR2	11 Pin Plug In, DPDT, 110 VAC	49.00
793-2009	PJR	8 Pin Plug In, SPDT, 110 VAC	42.00
793-5528	LJR2S	11 Pin Plug In, DPDT w/Switch, 110 VAC	49.00
793-5529	PJRS	8 Pin Plug In, SPDT w/Switch, 110 VAC	50.00

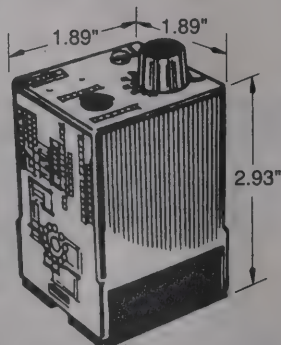
NRU Series Liquid Level Control Pump Up NR Series Liquid Level Control Pump Down

- LED Relay Indicator
- 8-Pin Plug-In Style
- Pump Up Control
- 4.7 K Ω to 100 K Ω Sensitivity

Control of conductive liquids (tap water, sea water, sewage, chemical solutions, coffee, ice cream, etc).

The relay is energized when the level falls below the low level probe. It de-energizes when the high level probe is reached. The NRU will also control a single level. In this case, a single probe is used, and the relay operates when that probe is not immersed.

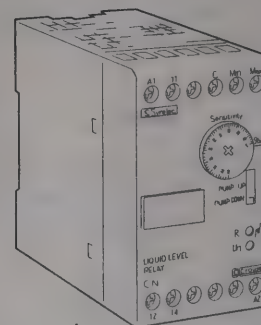
In either case, a common electrode is needed if the container is nonconductive.



Stock No.	Mfr.'s Type	Description	EACH
793-2011	PNR	8 Pin Plug in, 110 VAC, Pump Down	39.00
793-2012	PNRU	8 Pin Plug in, 110 VAC, Pump Up	42.00

DIN Rail Controls

— NEW —



- CN Series Liquid Level Control
- C1I Series Current Control Relay
- C1U Series Voltage Control Relay
- CFP Series Power Factor Control Relay
- CR Series Under and Over Speed Monitor

Compact DIN Rail controls have 45 mm wide DIN-Rail package, precise setting dials, recessed wiring terminals, and 10 amp output relays. Industrial DIN Rail controls have DIN rail or surface mounting, marking identification plates and conform to VDE and IEC standards.

Stock No.	Mfr.'s Type	Description	EACH
793-8004	84 890 002	Liquid Level Control, 24 VAC	75.00
793-8005	84 890 006	Liquid Level Control, 110 VAC	75.00
793-8006	84 890 007	Liquid Level Control, 230 VAC	75.00
793-8007	84 893 103	Voltage Control Relay, 24 VAC	106.00
793-8008	84 893 106	Voltage Control Relay, 110 VAC	106.00
793-8009	84 893 107	Voltage Control Relay, 220 VAC	106.00
793-8010	84 893 203	Current Control Relay, 24 VAC	106.00
793-8011	84 893 206	Current Control Relay, 110 VAC	106.00
793-8012	84 893 207	Current Control Relay, 220 VAC	106.00
793-8013	84 895 209	Power Factor Control Relay, 380/440 VAC	114.00
793-8014	84 894 102	Under and Over Speed Monitor, 24 VAC	214.00
793-8015	84 894 103	Under and Over Speed Monitor, 24 VDC	235.00
793-8016	84 894 106	Under and Over Speed Monitor, 110 VAC	214.00
793-8017	84 894 107	Under and Over Speed Monitor, 230 VAC	204.00

Current Control Relays IR.T and IAR.T Series

- Automatic or Manual Control
- Start-Up Inhibit
- Adjustable Hysteresis
- Multiple Voltages
- LED Relay Status Indicator

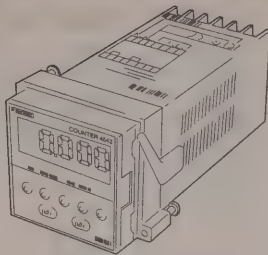
IR.T Series will monitor current ranges of 5 mA up to 10 A, and can be set for latching or non-latching operation. The IAR.T series monitors 5 A to 100 A (Peak to Peak) with the addition of a TIXP3 Current Transformer. All are 110 VAC. Other voltages available from factory upon request.



Stock No.	Mfr.'s Type	Description	EACH
793-5519	LIR.T	11 Pin Plug-In	61.00
793-5520	DIR.T	DIN Rail Mount	61.00
793-5521	LIAR.T/TIXP3	1 Pin Plug-In w/current transformer	95.00
793-5522	DIAR.T/TIXP3	DIN Rail Mount w/current transformer	95.00
793-5523	TIXP3	Additional current transformer	30.00

4541 Series and 4542 Series Up/Down Counter

- ▶ DIN-sized (48 × 48 mm) Housing
- ▶ Single or Dual Preset
- ▶ Built-in Prescaler
- ▶ Built-in Sensor (12 V) Supply
- ▶ Memory Module Option
- ▶ Nema 12 Front Panel



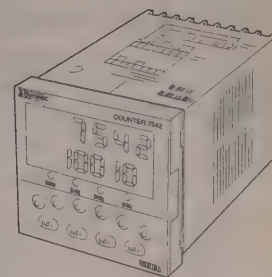
The 4541 Series is a single preset up/down counter housed in a DIN-sized (48 × 48) enclosure. The 4542 Series is a dual preset version enclosed in the same housing. The large LED display permits easy programming and monitoring of status such as counts, preset values, output, scaling factor. Unauthorized front panel changes can be prevented by a lockout function. Data such as counts, preset values, setup data, are saved in case of power failure by a 10 year EEPROM memory.

A memory module, available as an option, allows a programmed configuration to be saved or to be down-loaded to the unit. The front panel is rated NEMA 12.

Stock No.	Mfr.'s Type	Description	EACH
793-8018	87 615 128	1 preset, 115/230 VAC	180.00
793-8019	87 615 124	1 preset, 24/48 VAC	180.00
793-8020	87 615 122	1 preset, 12/24 VDC	180.00
793-8021	87 615 228	2 presets, 115/230 VAC	190.00
793-8022	87 615 224	2 presets, 24/48 VAC	190.00
793-8023	87 615 222	2 presets, 12/24 VDC	190.00
793-8024	79 237 744	Memory Module	15.75

7541 Series and 7542 Series Up/Down Counter

- ▶ DIN-sized (72 × 72 mm) Housing
- ▶ Single or Dual Preset
- ▶ Built-in Prescaler
- ▶ Built-in Sensor (12 V) Supply
- ▶ Memory Module Option
- ▶ Lockout Function
- ▶ Nema 12 Front Panel



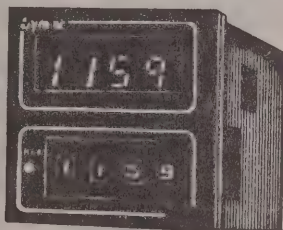
The 7541 Series is a single preset up/down counter housed in a DIN-sized (72 × 72) enclosure. The 7542 Series is the dual preset version enclosed in the same housing. Both versions have a dual display which indicates current and preset values. The dual display permits easy programming as well as monitoring status of different values. The counter will accept either NPN or PNP inputs. Data such as counts, preset values, setup data are saved in case of power failure by a 10 year EEPROM memory.

A plug-in memory module, available as an option, allows a programmed configuration to be saved or to be down loaded to the unit.

Stock No.	Mfr.'s Type	Description	EACH
793-8025	87 616 108	1 preset, 115/230 VAC	294.00
793-8026	87 616 208	2 presets, 115/230 VAC	305.00
793-8027	87 616 104	1 preset, 24/48 VAC	294.00
793-8028	87 616 204	2 presets, 24/48 VAC	305.00
793-8029	87 616 102	1 preset 12/24 VDC	294.00
793-8030	87 616 202	2 presets 12/24 VDC	305.00

Up/Down Counter Model 11014P

- ▶ LED Display, 4 Digit, .3 in. High
- ▶ Dual Voltage
- ▶ One Preset
- ▶ Relay Output
- ▶ 10 year memory (EE PROM)



Power Supply Selection is V1: 110/220 VAC
V2: 24/48 VAC
V3: 12/24 VDC

Solid State Output available on special order

Stock No.	Mfr.'s Type	Power Supply	EACH
793-5012	11014PR	V1	145.00
793-5013	11014PR	V2	145.00
793-5014	11014PR	V3	145.00

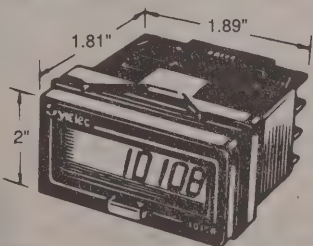
10108 Series Totalizing Counter

10108H Elapsed Time Indicator

10506 Programmable Elapsed Time Indicator

- ▶ 8 Digit 0.3" High LCD Display
- ▶ Totalizer or Elapsed Time Indicator
- ▶ Replaceable Battery Supply
- ▶ Custom CMOS Technology

The 10108 Series consists of two models: the 10108 Totalizer and the 10108H Elapsed Time Indicator for recording time in hours and hundredths of hours (0.01 Hr.). Count input or time enable can be a contact closure. NPN or PNP open collector transistor, 2 or 3 wire proximity switch, or voltage pulse 24 VDC max. In addition, a voltage converter module, p.n. 10,000, will accept voltage inputs from 6 to 240 VAC/DC. Input speed is 40 Hz (low) or up to 5 KHz (high).

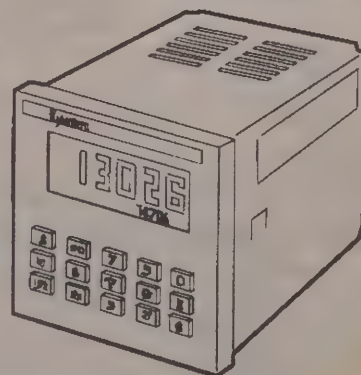


Count total or time is displayed on 0.3" high (7 mm) liquid crystal displays, LCDs. Power for the internal logic and displays is provided by two (2) Size N alkaline batteries with a projected four (4) year life. Mercury batteries, with an estimated eight (8) year life, can also be used. Two (2) of the alkaline batteries are included with each unit.

Stock No.	Mfr.'s Type	Description	EACH
793-2000	10108	Totalizing Counter	40.00
793-2001	10108H	Elapsed Time Indicator	40.00
793-2002	10000	Converter Mod. for 10108	9.40
793-5061	10506	Programmable Elapsed Time Indicator	38.00

Model 13026 Up and Down Counter, Batch Counter, Chronometer and Ratemeter

- ▶ LCD Display with Back Light
- ▶ DIN Sized (72 × 72 mm)
- ▶ Dual Preset or Single Preset Plus Batch
- ▶ Built-in Prescaler
- ▶ Relay and Solid State Outputs
- ▶ Built-in Sensor Supply
- ▶ Lockout Function



The 13026 is a programmable dual preset up/down counter, batch counter, chronometer and rate meter (selectable by dip-switch), which provides both relay and solid state outputs. The 13026 LCD display shows both actual count and preset values. Both count and preset values are saved (in case of power failure) by EE PROM memory. The unit provides a built-in sensor power supply of 12 VDC 100mA and will accept either NPN or PNP input (switch selectable). A programmable prescaler (0.00001 to 99.9999) is also available. Unauthorized front panel changes can be prevented by a lockout function.

Specifications

Power Supply: 115/230 VAC or 24/48 VAC or 12/24 VDC ± 10%. **Output:** relay, 3 Amp/250VAC resistive load; solid state, NPN open collector 100mA, 40 VDC. **Inputs:** Sourcing (NPN) or sinking (PNP) inputs can be selected by a slide switch located on the side of the unit; Low Level 0 to 1VDC Max.; High Level 4 to 30 VDC Max.

793-5062. Model 13026VI. 115/230VACEACH 217.00

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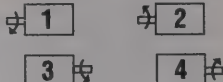
VEEDER-ROOT brand 6 Figure Viscounter*

For construction equipment, brick machines, stokers, conveyors, plastic molding and extruding, power presses, production machines. High visibility, large white on black 0.345" figures. Heavy duty construction, corrosion resistant materials. Acetal resin wheels and pinions for long life. No lubrication required. Knob reset. Speeds in ratchet drive to 500 cpm. Ratchet drive arcs 26° to 45° for Rotations 1 and 3, 42° to 67° for Rotations 2 and 4. Case is 4 3/8" wide, 2 3/16" high, 2 5/16" deep. *Trademark of Veeder-Root.



Specify Ratio When Ordering

Stock No.	Mfr.'s Type	Fig.	EACH
687-0027	166716-006	1	117.47
687-0028	166726-006	2	117.47
687-0029	166736-006	3	117.47
687-0030	166746-006	4	117.47



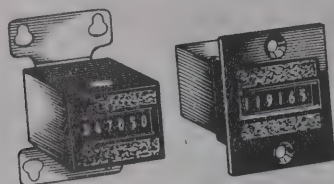
SimTach D Rate Indicators

SimTach D brings high performance and "plug and play" simplicity to speed indication. Time interval measurement coupled with factory calibration provide the highest accuracy available for speed or rate indicators. **Panel Mounting:** 1.78" x 3.56" cutout; 5.68" depth. **Accuracy:** ±0.1%, crystal controlled. **Inputs:** magnetic (sine wave) or pulsed (square wave). **Display:** 5 digit, 0.56" LED. **Power Requirements:** 95-130, or 190-260 VAC, 50/60 Hz, 6 VA; or 10-26 VDC @ 0.4 A max. **Accessory Power:** +12 VDC ±25% @ 0-125 mA. **Operating Temperature:** 32° to +122°F (0° to +50°C).



Stock No.	Mfr.'s Type	Description	EACH
687-4001	STD0001	115 VAC, 1 PPR input speed indicator	190.69
687-4002	STD0002	115 VAC, 60 PPR input speed indicator	190.69
687-4003	STDE001	230 VAC, 1 PPR input speed indicator	170.07
687-4004	STDE002	230 VAC, 60 PPR input speed indicator	170.07
687-4005	STDS001	115/230 VAC, 1 PPR input speed indicator	190.69
687-4006	STDS002	115/230 VAC, 60 PPR input speed indicator	190.69

VEEDER-ROOT brand 7790 Series



6 digit non-reset, miniature electrical counter provides excellent performance and reliability characteristics. Count speed is 600 CPM. UL recognized components. **Case Size:** 1.306" wide, 2.163" deep, 1" high.

Stock No.	Mfr.'s Type	Description	EACH
687-1000	779096-001	Base Mount, 115 VAC	22.33
687-1005	779096-201	Panel Mount, 115 VAC	23.61

Veeder-ROOT brand 7791 Series

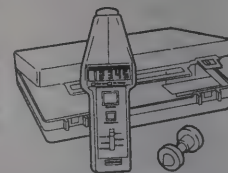


5 digit resettable miniature electrical counter. Outstanding reliability for OEM applications. Count speed in 600 CPM. UL recognized components. **Case Size:** 1.306" wide, 1" high, 2.163" deep.

Stock No.	Mfr.'s Type	Description	EACH
687-1010	779195-201	Panel Mount, 115 VAC	31.92
687-1015	779195-401	Rear Mount, 115 VAC	30.00

VEEDER-ROOT brand HT100 Hand Tachometer System

Big, bright, red LED display provides a highly visible reading, even in dim light or at indirect viewing angles. When used as a non-contact indicator, reflective tape (supplied) is placed on the shaft or other target that is to be measured. By simply pointing the HT100 at the target, rate-per-minute, time-per-event, or counts can be read. For in-contact measurements, an adapter is provided that allows display of linear feet or meters per minute, RPM, or counts. Measures speeds from 3 rpm to 99,999 rpm. System is packaged in a rugged carrying case. Batteries and a generous supply of reflective tape is included.



Model HT100. Complete system includes in-contact adapter and case. **687-5000.** HT100.....EACH 247.38

VEEDER-ROOT brand Series 7795 Hourmeters

AC Hourmeters



Specifications. Weight: 3 oz. **Case:** Polycarbonate, shock resistant tamperproof. **Capacity:** Records up to 99,999 hours — automatic recycle at zero. **Markings:** White numerals indicate hours; black numerals indicate 10ths of hours. **Motor:** Single phase, synchronous, permanently lubricated. **Voltage:** 120 V ac or 240 V ac (range ±10%). **Frequency:** 60 hertz. **Power Rating:** 3.0 watts. **Operating Temperature:** -65°F to +154°F (-18°C to +68°C). **Accuracy:** ±1%. **Termination:** Screw type or 7" leads. UL listed.



DC Hourmeters

Specifications. Weight: 2.5 oz. **Case:** Polycarbonate, shock resistant tamperproof (2.25 cu. in.). **Capacity:** Records up to 9,999 hours — automatic recycle at zero. **Markings:** White numerals indicate hours; black numerals indicate 10ths of hours. **Motor:** Unique in-line mechanism, permanently lubricated. **Voltage:** 4-40 V dc. **Operating Temperature:** -65°F to +160°F (-18°C to +71°C). **Accuracy:** ±1%. Conforms to MIL-M-3971.

Stock No.	Mfr.'s Type	Mount Type	EACH
687-0200	779516-201	Round	36.38
687-0205	779526-201	Round	35.10
687-0210	779536-201	Rectangular	35.10
687-0215	779546-201	Rectangular	33.83

Stock No.	Mfr.'s Type	Mount Type	EACH
687-0220	779555-216	Round	52.98
687-0225	779565-216	Rectangular	52.98

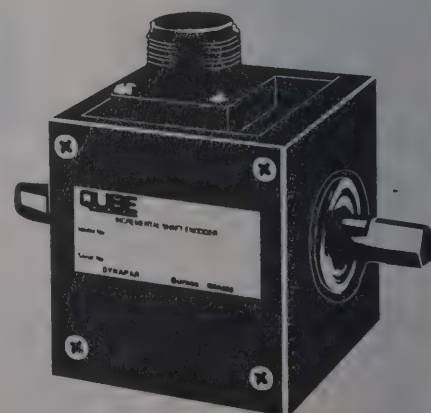
DYNAPAR brand Series 21/22 QUBE™ Encoders

The Series 21/22 QUBE is a family of rugged cube-style encoders. Heavy duty bearings, high mechanical and electronic operating speeds, and 0° to 70° C operating temperature range make it ideal for use in demanding industrial environments. All models generate accurate digital incremental pulses proportional to shaft rotation. Series 21 provides a single channel output, while Series 22 features two channel quadrature outputs can be used to determine direction of rotation. Its general-purpose design makes the Series 21/22 QUBE compatible with most programmable controllers, electronic counters, motion controllers, and motor drives. The Series 21/22 QUBE is electrically and physically interchangeable with most cube-style encoders on the market. It can easily be applied with measuring wheels, belts and pulleys, leadscrews, rack and pinions, lineshafts, etc.

Specifications. **Bearings:** ABEC precision bearings. **Sealed Bearings:** Standard. **Shaft Loading:** 30 lbs. axial; 40 lbs. radial. **Slew Speed:** 6000 RPM, 120 kHz max. **Enclosure:** Environmentally sealed. **Operating Temperature Range:** 0° to +70°C (Standard). **Storage Temperature Range:** -40° to +90°C. **Output Signal:** Squarewave, TTL compatible, with or without index; Logic "1": VCC-2 V min.; Z_{OUT}=200 Ohms (typ.). **Logic "0":** 0.4 Volts max. at 20 mA (max.). **Resistance of 1000 pF.** **Power Requirements:** 5-26 VDC, 80 mA plus load max. **Connector:** 6 pin: style MS3102E-14S-6P; 7 pin: style MS3102E-16S-1P. **Mating Connector:** 6 pin: style MS3106A-14S-6S; 7 pin: style MS3106A-16S-1S.

Stock No.	Mfr.'s Type	Shaft Dia./Ends	PPR/Output	EACH
687-5101	21-0060-1000	3/8" Single	60/Unl.	123.69
687-5102	21-0060-0000	3/8" Double	60/Unl.	128.84
687-5103	21-0100-1000	3/8" Single	100/Unl.	123.69
687-5104	21-0100-0000	3/8" Double	100/Unl.	128.84
687-5105	21-0500-1000	3/8" Single	500/Unl.	123.69
687-5106	21-0500-0000	3/8" Double	500/Unl.	128.84
687-5107	21-0500-1000	3/8" Single	500/Unl.	123.69
687-5108	21-0500-0000	3/8" Double	500/Unl.	128.84
687-5109	22-0600-1000	3/8" Single	600/Quad.	123.69
687-5110	22-0600-0000	3/8" Double	600/Quad.	128.84

Stock No.	Mfr.'s Type	Shaft Dia./Ends	PPR/Output	EACH
687-5111	22-0060-1000	3/8" Single	60/Quad.	180.38
687-5112	22-0060-0000	3/8" Double	60/Quad.	185.53
687-5113	22-0100-1000	3/8" Single	100/Quad.	180.38
687-5114	22-0100-0000	3/8" Double	100/Quad.	185.53
687-5115	22-0500-1000	3/8" Single	500/Quad.	180.38
687-5116	22-0500-0000	3/8" Double	500/Quad.	185.53
687-5117	22-0500-1000	3/8" Single	500/Quad.	180.38
687-5118	22-0500-0000	3/8" Double	500/Quad.	185.53
687-5119	22-0600-1000	3/8" Single	600/Quad.	180.38
687-5120	22-0600-0000	3/8" Double	600/Quad.	185.53



Veeder-Root brand Predetermining Counters

The Backlit LCD Display provides simultaneous count and preset indication. Compact design requires 48mm panel space, Form C (SPDT) relays, accessory sensor power supply, reset to zero or set to a number operation, two level program and preset data security, NEMA 4/IP65 front panel seal. **Power Supply:** 95 to 130 VAC, 50/60 Hz, 6VA max. 10 to 26 VDC, 0.4A max. **Output:** Relay Output: Form C, 5 amp resistive at 24VDC or 120VAC 3 amp resistive at 240 VAC; 1/2 H.P. at 120/240 VAC. **Output Time:** 0.01 to 99.99 seconds momentary, or latch. **Reset:** Pushbutton (selectable enable), remote or automatic. **Accessory Power:** 12 VDC $\pm$ 25%, 100 mA maximum. **Operating Temperature:** 32° to 112°F (-0 to 50°C).



Stock No.	Mfr.'s Type	Count Rate	Count Modes	Preset 1	Preset 2	Batch Preset	Calibrator & Dec. Pt.	EACH
687-4100	SQC11000	20 Hz	add/sub	yes	no	no	no	123.69
687-4101	SQC12000	2.5 kHz	a/s, quad	yes	no	no	yes	149.46
687-4102	SQC22000	2.5 kHz	a/s, quad	yes	yes	no	yes	195.41
687-4103	SQB22000	2.5 kHz	a/s, quad	yes	no	yes	yes	195.41



Veeder-Root Series 7999 "Mite"

Low cost family of compact totalizers, elapsed-time-indicators, and rate indicators (with totalizer). Easy-to-read 8mm high LCD display. Unidirectional totalizers and timer models are self-powered by a long life lithium battery. Fast panel mounting into a 1" x 2" cut out. NEMA-4 rated; CSA certified, UL recognized.

Stock No.	Mfr.'s Type	Description	EACH
687-2010	799988-110	8-digit totalizer, panel reset	32.98
687-2015	799988-410	8-digit totalizer, bidirectional, panel reset	42.26
687-2020	799988-510	8-digit timer, sec. or min. and sec., panel reset	37.10
687-2025	799988-610	8-digit timer, hrs. and min. or hrs. and min., panel reset	37.10
687-5001	799988-801	5-digit rate, 6 digit count, 10-30 VDC power	46.38
687-2030	329587-001	Adapter module, 5-240 VAC/DC for 799988-110	12.36
687-2035	329588-001	Adapter module, 5-240 VAC/DC for timers	12.36
687-2040	329589-001	Quadrature input adapter for 799988-410	27.30
687-2045	329590-001	Screw terminal adapter	9.00

DYNAPAR brand Max Jr. Electronic Counters and Rate Indicators

The **MAXjr** family includes totalizing counters, predetermining counters, and rate indicators with the flexibility required for the most demanding measurement and control applications. All models have bright, high-contrast red LED displays, and NEMA 4 front panel rating.

- Calibrator scales input signal for display in engineering units
- Selectable decimal point positioning
- Non-volatile memory retains count and program during power loss
- Panel mounts in 1/2 DIN cut-out – NEMA 4 water and oil integrity
- Friendly menu-driven programming with display prompting – sealed tactile response keys
- Internal 12 VDC power supply supports external sensors

MAXjr Count 1 Totalizing Counter

Input Power: Switch selectable, 115 (95-130) VAC, or 230 (190-260) VAC; 50/60Hz, 6VA; Optional: 10-26 VDC, 0.4A MAX. **Accessory Power:** DC output provided for transducer, 12 VDC $\pm$ 25%, 125 mA max. **Display:** 8 digit, 0.3" (7.6mm) red LED with $\pm$ polarity indicator. Selectable decimal point. **Calibration:** input scaling common to inputs A and B; range 0.0001 to 9.9999. **Counting Modes:** Add/subtract; input A adds, B subtracts. Quadrature; inputs A and B count bidirectionally from quadrature signal source. **Count Rate:** to 10kHz.

Stock No.	Mfr.'s Type	Description	EACH
687-4108	MCJR1S00	MAXjr Count 1 (115/230 VAC, 50/60 Hz)	221.61
687-4109	MCJR1D00	MAXjr Count 1 (10-26 VDC operation)	252.53

MAXjr Count 2 & 3 Predetermining Counter

Display: 5 digit, 0.56" (14.2mm) red LED. 8 annunciators for ease of programming and operation. Selectable decimal point. **Calibration:** input scaling common to inputs A and B. Range 0.0001 to 9.9999. **Preset Limits:** 2 individual, each allows preset to any 5 digit value. **Preset Modes:** Upmode; resets to zero, process presets 1 and 2 when count matches limit value, down mode; resets to present limit 2 value, outputs are actuated at preset limit 1 value and at zero. Totalizer mode; presets not active, 8 decade capacity, displays either 4 most or least significant digits. **Counting Modes:** add/subtract; input A adds, B subtracts. Quadrature; inputs A and B count bidirectionally from quadrature signal source. **Count Rate:** to 10kHz, 5kHz signal rate. **Signal Inputs:** open collectors (sinking or sourcing), magnetic or contact closure (input speed limited to 20 Hz). **Control Inputs:** Reset and stop count (commands initiated when switched to common). **Control Outputs:** 2 open collector NPN (sinking), 30 VDC maximum applied voltage, 100 mA maximum load. **Reset:** Front panel pushbutton, remote, programmable automatic.

Stock No.	Mfr.'s Type	Description	EACH
687-4110	MCJR2S00	MAXjr Count 2 (115/230 VAC, 50/60 Hz)	242.23
687-4111	MCJR2D00	MAXjr Count 2 (10-26 VDC operation)	273.15
687-4112	MCJR3S00	MAXjr Count 3, with preset batch counter (115/230 VAC, 50/60 Hz)	242.23
687-4113	MCJR3D00	MAXjr Count 3, with preset batch counter (10-26 VDC operation)	335.00

MAXjr Count 4 Totalizing Counter with Rate Indicator

Input Power: Switch selectable 115(95-130) VAC or 230 (190-260) VAC; 50/60 Hz, 6 VA; optional: 10-26 VDC, 0.4 A max. **Accessory Power:** DC output provided for transducer, 12 VDC $\pm$ 25%, 125 mA max. **Display:** 8 digit, 0.3" (7.6mm) red LED with $\pm$ polarity indicator (5 digits for rate), legends for PGM (program mode), and OVF (overflow). Independent selectable decimal point for totals and rate. **Calibration:** Independent calibrators for count and rate; count scaling common to inputs A and B, rate scaled from input A, range 0.0001 to 9.9999. **Counting Modes:** Add/subtract; input A adds, B subtracts. Quadrature; inputs A and B count bidirectionally from quadrature signal source. **Rate Mode:** signal from input A; rate is calculated by converting time interval measurement to rate; programmable for minimum counts between conversions, and minimum time between conversions. **Count Rate:** to 10 kHz maximum, 5 kHz signal rate. **Signal Inputs:** open collector (sinking or sourcing), magnetic or contact closure (input speed limited to 20 Hz). **Control Inputs:** Reset and stop count.

Stock No.	Mfr.'s Type	Description	EACH
687-4114	MCJR4S00	MAXjr Count/Rate 4, (115/230 VAC, selectable)	252.53
687-4115	MCJR4D00	MAXjr Count/Rate 4, (12 VDC operation)	283.46

DYNAPAR brand Series 54Z Sensor

The 54Z Sensors operate over a wide range of air gaps making them suitable for parts counting and speed sensing applications. The wide operating voltage makes them compatible with most counters, indicators or controllers. The 54Z Series does not require a minimum target speed, and can operate from zero up to 20,000 targets per second. **Power Requirements:** 5-18 VDC, 10 mA plus load. **Weight:** 2 oz. **Operating Temperature:** -40° to +105°C. **Vibration:** 15G, 10 to 2000 Hz. **Speed Range:** 0 to 20,000 targets/second. **Output:** 1 sink 17 mA. At 18 V supply; 1 sink 23 mA @ 5 V supply; 1 source 2200 Ω pull-up. **Cable:** 105°C PVC insulation, 10 feet long.



Stock No.	Mfr.'s Type	Description	EACH
687-4104	54Z	Pickup	44.32
687-4105	605213	Clamp	5.15

Gears For Series 54Z

Stock No.	Mfr.'s Type	No. of Teeth	Pitch Dia.	Pitch	Rough Hole Bore	Largest Hole Possible	EACH
687-4106	16002070081	60	3.00"	20°	3/8"	1.00"	36.07
687-4107	16002070083	60	3.75"	16°	1/2"	1.00"	36.07

VEEDER-ROOT brand Series 77853 Motion Detector

Used to detect zero speed or underspeed conditions in motors, shafts, belts and other applications where linear or rotary motion exists. A state-of-the-art replacement for zero speed switches 3.248" (82.5mm) long, 10mm nominal sensing distance. Shielded tubular design. 93-132VAC. Normally open output function.



Stock No.	Mfr.'s Type	Adjustable Freq. Range	Max. Operating Range	EACH
687-0069	778534-611	0.1-2.5 Hz	100 Hz	231.92
687-0070	778534-612	2-50 Hz	8000 Hz	231.92

VEEDER-ROOT brand Tubular Proximity Switches

Self-contained, shielded, non-contact, long-life replacement for mechanical switches in automated machinery. Electronics encapsulated in high density, threaded tubular packages. NPN (sinking) and PNP (sourcing) outputs interface with programmable controllers and counters. 2 meter (6'6") cable. Nickel-plated brass housing and nuts.

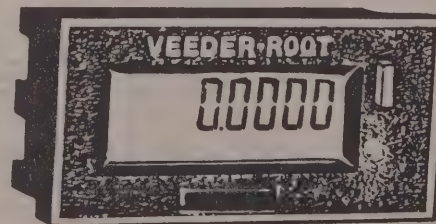
3-Wire DC Types

Stock No.	Mfr.'s Type	Dia. (mm)	Sensing Distance	Output Function	Operating Voltage	EACH
687-0061	650800-010	8	1.5mm	NPN-N.O.	5-24VDC	60.81
687-0062	650802-010	8	1.5mm	PNP-N.O.	5-24VDC	60.81
687-0063	651212-010	12	2.0mm	PNP-N.O.	5-24VDC	59.78
687-0064	651810-010	18	5.0mm	NPN-N.O.	10-50VDC	60.81
687-0065	653010-010	30	10.0mm	NPN-N.O.	10-50VDC	77.30

2-Wire AC Types

Stock No.	Mfr.'s Type	Dia. (mm)	Sensing Distance	Output Function	Operating Voltage	EACH
687-0066	651210-700	12	2.0mm	NPN-N.O.	48-220AC	60.81
687-0067	651810-600	18	5.0mm	PNP-N.O.	90-220AC	68.03
687-0068	653010-210	30	10.0mm	NPN-N.O.	24-220AC	107.20

VEEDER-ROOT brand Series 7990 Tachometer/Totalizer/Running Hourmeter/Elapsed Time Indicator



Low-cost, combined unit, the Series 7990, Model 200 is programmable as tachometer, totalizer, running hour meter, or precise elapsed time indicator. 8 digit LCD display (5 digits in tachometer mode), 0.35" high characters. Rugged die-cast metal housing, sealed, meets NEMA 4 standards. **Power:** 3 volt Lithium battery. Fits 2.6" x 1.3" panel cutout, 1" depth. Series 7990 is available without the tachometer mode. Accessories include three snap-on modules, a panel adapter and panel adapter with key-lock reset. Panel adapters retrofit popular electro-mechanical general purpose totalizers. The Screw Terminal Module provides for the convenience of screw terminal connection. The High Voltage AC/DC Input Module features the above, plus provides for input of AC or DC signal of 25 to 270 volts. The TRIAC Input Module features the above, plus provides for AC-type, solid state input devices such as TRIAC switching devices.

Stock No.	Mfr.'s Type	Description	EACH
687-3040	799008-100	Totalizer/Running Hourmeter/Elapsed Time Indicator	61.84
687-3045	799008-200	Tachometer/Totalizer/Running Hourmeter/Elapsed Time Indicator	77.30
687-3050	328992-010	Screw Terminal Module	13.64
687-3055	328992-020	High Voltage AC/DC Input Module	20.61
687-3060	328992-030	TRIAC Input Module	20.61
687-3065	328992-110	Panel Adapter, Key Lock Reset	10.30
687-3070	328992-120	Panel Adapter	4.12

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1N754A	0.08	MOT	759	2N3053	0.58	MOT	---	2N5685	5.55	MOT	754	2N720A	0.90	MOT	752
1N755A	0.08	MOT	759	2N3055	1.32	SEM	---	2N5686	6.68	MOT	754	2N918	3.00	MOT	---
1N756A	0.08	MOT	759	2N3055	1.30	MOT	753	2N5880	2.08	MOT	753	2SK1008-01	1.81	COL	688
1N757A	0.08	MOT	759	2N3055A	1.66	MOT	753	2N5881	1.86	MOT	753	2SK1009-01	1.91	COL	688
1N758A	0.08	MOT	759	2N3250	0.76	MOT	---	2N5882	2.08	MOT	753	2SK1017-01	8.44	COL	688
1N759A	0.08	MOT	759	2N3251	0.68	MOT	---	2N5883	2.60	MOT	754	2SK1018-01	4.10	COL	688
1N821	0.21	MOT	760	2N3251A	0.72	MOT	752	2N5884	2.42	MOT	754	2SK1020	17.38	COL	688
1N821A	0.21	MOT	760	2N3439	1.94	MOT	---	2N5885	2.32	MOT	754	2SK1023-01	2.36	COL	688
1N823	0.76	MOT	760	2N3440	1.90	MOT	---	2N5886	2.42	MOT	754	2SK1024-01	2.55	COL	688
1N823A	0.80	MOT	760	2N3442	1.62	MOT	753	2N5906	5.00	SEM	---	2SK1081-01	4.15	COL	688
1N823A	0.80	MOT	760	2N3467	1.10	MOT	752	2N5908	5.50	SEM	---	2SK1082-01	4.15	COL	688
1N825	0.84	MOT	760	2N3501	1.80	MOT	752	2N5909	4.60	SEM	---	2SK1083	0.92	COL	---
1N825A	0.92	MOT	760	2N3546	1.20	MOT	---	2N5911	9.00	SEM	---	2SK1084	0.92	COL	---
1N827	1.32	MOT	760	2N3553	2.79	MOT	---	2N5912	7.00	SEM	---	2SK1089	2.68	COL	688
1N827A	2.20	MOT	760	2N3700	0.70	MOT	752	2N5943	3.12	MOT	---	2SK1105	4.06	COL	688
1N829A	3.20	MOT	760	2N3715	1.90	MOT	753	2N6027	0.30	MOT	765	2SK1388	4.57	COL	688
1N914B	0.17	SEM	790	2N3716	1.97	MOT	753	2N6028	0.34	MOT	765	2SK1389	4.17	COL	688
1N958B	0.15	MOT	759	2N3771	2.63	SEM	---	2N6030	3.16	MOT	753	2SK1503-01	3.05	COL	688
1N959B	0.15	MOT	759	2N3771	2.04	MOT	754	2N6031	3.56	MOT	754	2SK1505	2.81	COL	688
1N960B	0.15	MOT	759	2N3772	2.63	SEM	---	2N6034	0.48	MOT	---	2SK1508	2.42	COL	688
1N961B	0.08	MOT	759	2N3772	2.36	MOT	754	2N6035	0.50	MOT	753	2SK1509	2.42	COL	688
1N962B	0.15	MOT	759	2N3773	2.63	SEM	---	2N6036	0.50	MOT	753	2SK1511	5.06	COL	---
1N963B	0.08	MOT	759	2N3773	2.42	MOT	753	2N6038	0.50	MOT	753	2SK1512	7.62	COL	---
1N965B	0.08	MOT	759	2N3791	1.56	MOT	753	2N6039	0.50	MOT	753	2SK723	3.47	COL	---
1N967B	0.08	MOT	759	2N3792	1.49	MOT	753	2N6040	0.79	MOT	753	2SK724	5.12	COL	688
1N968B	0.15	MOT	762	2N3799	1.10	MOT	752	2N6041	0.76	MOT	753	2SK725	8.22	COL	688
1SMB100AT3	0.58	MOT	762	2N3866	2.32	MOT	---	2N6042	0.80	MOT	753	2SK727-01	5.76	COL	688
1SMB10AT3	0.94	MOT	762	2N3903	0.08	MOT	---	2N6043	0.64	MOT	753	2SK897M	3.19	COL	688
1SMB12AT3	0.58	MOT	762	2N3904	0.06	MOT	750	2N6044	0.70	MOT	753	2SK899	8.54	COL	688
1SMB130AT3	0.58	MOT	762	2N3906	0.06	MOT	750	2N6045	0.74	MOT	753	2SK900	2.82	COL	688
1SMB13AT3	0.94	MOT	762	2N3947	0.52	MOT	752	2N6050	2.77	MOT	753	2SK901	4.83	COL	688
1SMB15AT3	0.94	MOT	762	2N3955	3.20	SEM	---	2N6051	2.95	MOT	753	2SK902	7.55	COL	688
1SMB170AT3	0.58	MOT	762	2N3956	3.15	SEM	---	2N6052	2.47	MOT	753	2SK903M	3.46	COL	688
1SMB17AT3	0.58	MOT	762	2N3958	2.94	SEM	---	2N6055	1.49	MOT	753	2SK904	3.50	COL	688
1SMB18AT3	0.58	MOT	762	2N3964	3.04	MOT	752	2N6055	3.03	THO	---	2SK905	4.26	COL	688
1SMB20AT3	0.94	MOT	762	2N4033	1.00	MOT	---	2N6057	2.75	MOT	753	2SK906	4.29	COL	688
1SMB22AT3	0.58	MOT	762	2N4036	1.70	MOT	---	2N6058	2.97	MOT	753	2SK947M	2.96	COL	688
1SMB28AT3	0.94	MOT	762	2N4037	1.70	MOT	---	2N6059	2.32	MOT	753	2SK949M	3.11	COL	688
1SMB30AT3	0.94	MOT	762	2N4124	0.08	MOT	---	2N6071	0.56	MOT	765	2SK951M	1.75	COL	688
1SMB33AT3	0.58	MOT	762	2N4125	0.08	MOT	---	2N6071A	0.68	MOT	765	2SK952	1.80	COL	688
1SMB36AT3	0.58	MOT	762	2N4126	0.08	MOT	---	2N6071B	0.80	MOT	765	2SK954	3.74	COL	---
1SMB40AT3	0.58	MOT	762	2N4398	3.34	MOT	754	2N6073	0.62	MOT	765	2SK955	5.76	COL	688
1SMB43AT3	0.94	MOT	762	2N4399	3.56	MOT	754	2N6073A	0.72	MOT	765	2SK956-01	6.02	COL	688
1SMB48AT3	0.94	MOT	762	2N4400	0.07	MOT	---	2N6073B	0.82	MOT	765	2SK960M	3.63	COL	688
1SMB5.0AT3	0.94	MOT	762	2N4401	0.07	MOT	750	2N6075A	0.76	MOT	765	2SK961	3.50	COL	688
1SMB5.1AT3	0.58	MOT	762	2N4402	0.07	MOT	---	2N6075B	0.86	MOT	765	2SK962-01	6.38	COL	688
1SMB5913BT3	0.48	MOT	760	2N4403	0.07	MOT	750	2N6107	0.80	MOT	753	310J	184.89	COL	---
1SMB5915BT3	0.48	MOT	760	2N4427	2.19	MOT	---	2N6109	0.76	MOT	753	40HA80	9.29	THO	---
1SMB5918BT3	0.48	MOT	760	2N4851	3.34	SEM	790	2N6111	0.60	MOT	753	451J	112.52	ADI	---
1SMB5919BT3	0.48	MOT	760	2N4852	3.34	SEM	790	2N6124	0.78	MOT	---	453K	152.32	ADI	---
1SMB5921BT3	0.48	MOT	760	2N4853	3.34	SEM	790	2N6239	0.62	MOT	765	4N25	0.44	MOT	749
1SMB5925BT3	0.48	MOT	760	2N4870	1.85	SEM	790	2N6240	0.64	MOT	765	4N25A	0.44	MOT	---
1SMB5927BT3	0.48	MOT	760	2N4871	1.85	SEM	790	2N6251	4.73	MOT	753	4N26	0.44	MOT	749
1SMB5928BT3	0.48	MOT	760	2N4918	0.56	MOT	753	2N6275	18.29	MOT	754	4N27	0.44	MOT	749
1SMB5929BT3	0.48	MOT	760	2N4919	0.56	MOT	753	2N6282	2.42	MOT	754	4N28	0.44	MOT	749
1SMB5930BT3	0.48	MOT	760	2N4920	0.47	MOT	753	2N6283	2.95	MOT	754	4N29A	0.44	MOT	749
1SMB5932BT3	0.48	MOT	760	2N4921	0.56	MOT	753	2N6284	3.81	MOT	754	4N30	0.44	MOT	749
1SMB5934BT3	0.48	MOT	760	2N4922	0.56	MOT	753	2N6285	3.81	MOT	754	4N32	0.44	MOT	749
1SMB5935BT3	0.48	MOT	760	2N4923	0.56	MOT	753	2N6286	4.01	MOT	754	4N33	0.44	MOT	749
1SMB5936BT3	0.48	MOT	760	2N5031	2.68	MOT	---	2N6287	4.36	MOT	754	4N35	0.90	TIS	---
1SMB6.0AT3	0.58	MOT	762	2N5038	3.56	MOT	754	2N6292	0.68	MOT	753	4N36	0.44	MOT	749
1SMB7.0AT3	0.58	MOT	762	2N5039	3.49	MOT	754	2N6338	4.86	MOT	754	4N37	0.44	MOT	749
1SMB85AT3	0.58	MOT	762	2N5060	0.20	MOT	765	2N6341	15.10	MOT	754	4N38	0.44	MOT	749
1SMC12AT3	1.12	MOT	762	2N5061	0.21	MOT	765	2N6343	0.92	MOT	765	4N38A	0.56	MOT	---
1SMC13AT3	1.12	MOT	762	2N5062	0.22	MOT	---	2N6343A	1.11	MOT	---	6N137	2.15	TIS	---
1SMC15AT3	1.12	MOT	762	2N5064	0.24	MOT	765	2N6344	0.94	MOT	765	6R1100E-060	76.07	COL	686
1SMC16AT3	1.12	MOT	762	2N5086	0.16	MOT	---	2N6344A	1.12	MOT	---	6R1100G-120	79.58	COL	686
1SMC26AT3	1.12	MOT	762	2N5087	0.10	MOT	750	2N6347A	1.11	MOT	765	6R130E-060	16.00	COL	686
1SMC33AT3	1.12	MOT	762	2N5088	0.12	MOT	---	2N6348A	1.12	MOT	765	6R130G-120	24.30	COL	686
1SMC40AT3	1.12	MOT	762	2N5109	2.69	MOT	---	2N6349	1.00	MOT	765	6R150E-060	30.00	COL	686
1SMC5.0AT3	1.12	MOT	762	2N5115	1.88	SEM	---	2N6349A	1.16	MOT	765	6R150G-060	30.00	COL	686
1SMC6.0AT3	1.12	MOT	762	2N5116	1.88	SEM	---	2N6379	27.82	MOT	754	6R175E-060	39.00	COL	686
2B4J	129.43	ADI	---	2N5179	1.84	MOT	---	2N6387	0.72	MOT	---	6R175G-120	59.63	COL	686
2B6J	143.84	ADI	---	2N5190	0.60	MOT	---	2N6395	0.90	MOT	---	74ABT125D	1.40	PHI	785
2B9J	137.92	ADI	---	2N5191	0.58	MOT	753	2N6397	0.96	MOT	---	74ABT125N	1.47	PHI	---
2B9K	150.65	ADI	---	2N5192	0.54	MOT	753	2N6403	1.24	MOT	---	74ABT126N	1.47	PHI	---
2B9L	165.50	ADI	---	2N5193	0.67	MOT	---	2N6426	0.30	MOT	---	74ABT240-1N	1.79	PHI	---
290A	105.11	ADI	---	2N5194	0.71	MOT	753	2N6427	0.34	MOT	---	74ABT240N	1.79	PHI	---
2B20A	79.38	ADI	---	2N5195	0.54	MOT	753	2N6431	2.00	MOT	752				

Manufacturer's Code Log

ADI AMD COL DLS GIS HAR	Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor	IDT ITL LAT MIC MXM MOS	Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitelec	MOT NSC NTE PHI SEM SIE	Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc.	TIS THO UNI XLX	Texas Instruments Thomson Consumer Electronics Unifronte Integrated Circuits Xilinx
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Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
74ABT620N	2.00	PHI	—	74AC32PC	0.49	NSC	774	74ACT175SC	0.89	NSC	774	74F166D	2.54	PHI	785
74ABT623N	2.10	PHI	—	74AC32SC	0.49	NSC	774	74ACT240PC	1.34	NSC	774	74F166N	2.54	PHI	785
74ABT640N	2.00	PHI	—	74AC373PC	1.34	NSC	774	74ACT240SC	1.34	NSC	774	74F169PC	2.60	NSC	775
74ABT648N	4.60	PHI	—	74AC373SC	1.34	NSC	774	74ACT244PC	1.34	NSC	774	74F169SC	2.60	NSC	775
74ABT657D	5.40	PHI	785	74AC374PC	1.34	NSC	774	74ACT244SC	1.34	NSC	774	74F173N	2.25	PHI	—
74ABT657N	5.40	PHI	—	74AC374SC	1.34	NSC	774	74ACT245PC	1.56	NSC	774	74F174PC	0.80	NSC	775
74ABT821D	2.60	PHI	785	74AC377PC	1.78	NSC	774	74ACT245SC	1.56	NSC	774	74F175PC	0.62	NSC	775
74ABT821N	2.60	PHI	—	74AC521PC	2.78	NSC	774	74ACT251PC	0.89	NSC	774	74F175SC	0.62	NSC	775
74ABT823N	2.60	PHI	—	74AC521SC	2.78	NSC	774	74ACT251SC	0.89	NSC	774	74F1779N	6.05	PHI	—
74ABT827N	2.60	PHI	—	74AC540SC	1.45	NSC	774	74ACT253PC	0.89	NSC	774	74F1804N	2.08	PHI	—
74ABT833N	9.50	PHI	—	74AC541PC	1.45	NSC	774	74ACT253SC	0.89	NSC	774	74F1805N	2.08	PHI	—
74ABT841D	2.80	PHI	785	74AC541SC	1.45	NSC	774	74ACT257PC	0.89	NSC	774	74F1808N	1.45	PHI	—
74ABT841N	2.80	PHI	—	74AC574PC	1.45	NSC	774	74ACT257SC	0.89	NSC	774	74F1815PC	3.12	NSC	775
74ABT843N	2.50	PHI	—	74AC574SC	1.45	NSC	774	74ACT258PC	0.89	NSC	774	74F1832N	1.45	PHI	—
74ABT853N	9.40	PHI	—	74AC646SC	7.15	NSC	774	74ACT258SC	0.89	NSC	774	74F189AN	4.50	PHI	785
74ABT861N	2.80	PHI	—	74AC646SPC	7.15	NSC	774	74ACT2708PC	20.10	NSC	774	74F189PC	6.15	NSC	775
74ABT863N	2.80	PHI	—	74AC74PC	0.62	NSC	774	74ACT2789PC	2.67	NSC	774	74F189SC	6.15	NSC	775
74ABT899A	4.69	PHI	—	74AC74SC	0.62	NSC	774	74ACT299SC	2.67	NSC	774	74F191D	2.00	PHI	785
74AC00PC	0.49	NSC	774	74AC821SC	3.67	NSC	774	74ACT32PC	0.49	NSC	774	74F191N	2.00	PHI	785
74AC00SC	0.49	NSC	774	74AC821SPC	3.67	NSC	774	74ACT32SC	0.49	NSC	774	74F191PC	2.56	NSC	775
74AC02PC	0.49	NSC	774	74AC86PC	0.80	NSC	774	74ACT373PC	1.34	NSC	774	74F191SC	2.56	NSC	775
74AC02SC	0.49	NSC	774	74AC86SC	0.80	NSC	774	74ACT373SC	1.34	NSC	774	74F193PC	4.45	NSC	775
74AC04PC	0.49	NSC	774	74ACT00PC	0.49	NSC	774	74ACT374PC	1.34	NSC	774	74F194N	1.70	PHI	785
74AC04SC	0.49	NSC	774	74ACT00SC	0.49	NSC	774	74ACT374SC	1.34	NSC	774	74F198N	4.09	PHI	—
74AC08PC	0.49	NSC	774	74ACT02PC	0.49	NSC	774	74ACT399SC	2.02	NSC	774	74F199N	4.09	PHI	—
74AC08SC	0.49	NSC	774	74ACT02SC	0.49	NSC	774	74ACT520PC	2.56	NSC	774	74F20PC	0.33	NSC	775
74AC109PC	0.73	NSC	774	74ACT04PC	0.49	NSC	774	74ACT520SC	2.56	NSC	774	74F219AN	4.50	PHI	—
74AC109SC	0.73	NSC	774	74ACT04SC	0.49	NSC	774	74ACT521PC	2.56	NSC	774	74F219PC	6.15	NSC	775
74AC10PC	0.49	NSC	774	74ACT08PC	0.49	NSC	774	74ACT521SC	2.56	NSC	774	74F224AN	0.95	PHI	—
74AC10SC	0.49	NSC	774	74ACT08SC	0.49	NSC	774	74ACT534PC	1.45	NSC	774	74F2244PC	1.34	NSC	775
74AC11000N	0.53	TIS	—	74ACT109SC	0.73	NSC	774	74ACT573PC	1.45	NSC	774	74F2244SC	1.45	NSC	775
74AC11002N	0.53	TIS	—	74ACT10PC	0.49	NSC	774	74ACT573SC	1.45	NSC	774	74F225N	5.08	PHI	—
74AC11004N	0.53	TIS	—	74ACT10SC	0.49	NSC	774	74ACT574PC	1.45	NSC	774	74F240PC	0.76	NSC	775
74AC11008N	0.53	TIS	—	74ACT11000N	0.53	TIS	—	74ACT574SC	1.45	NSC	774	74F240SC	0.80	NSC	775
74AC11010N	0.53	TIS	—	74ACT11002N	0.53	TIS	—	74ACT715PC	10.30	NSC	774	74F241PC	0.89	NSC	775
74AC11030N	0.53	TIS	—	74ACT11004N	0.53	TIS	—	74ACT715SC	10.30	NSC	774	74F244D	0.70	PHI	785
74AC11032N	0.53	TIS	—	74ACT11008D	0.52	TIS	796	74ACT74PC	0.62	NSC	774	74F244N	0.70	PHI	785
74AC11074N	0.74	TIS	—	74ACT11008N	0.53	TIS	796	74ACT74SC	0.62	NSC	774	74F244PC	0.76	NSC	775
74AC11086N	0.81	TIS	—	74ACT11011N	0.53	TIS	—	74ACT8185PC	5.15	NSC	774	74F244SC	0.80	NSC	775
74AC11109N	0.74	TIS	—	74ACT11027N	0.53	TIS	—	74ACT8215PC	3.67	NSC	774	74F245D	0.70	PHI	785
74AC11112N	1.11	TIS	—	74ACT11030N	0.53	TIS	—	74ACT823SC	3.67	NSC	774	74F245N	0.70	PHI	785
74AC11138N	1.05	TIS	—	74ACT11032N	0.53	TIS	—	74ACT8235PC	3.67	NSC	774	74F245PC	0.78	NSC	775
74AC11139N	1.05	TIS	—	74ACT11074N	0.70	TIS	—	74ACT825SC	3.67	NSC	774	74F245SC	0.82	NSC	775
74AC11153N	1.05	TIS	—	74ACT11138N	1.05	TIS	—	74ACT8255PC	3.67	NSC	774	74F257APC	0.60	NSC	775
74AC11175N	1.05	TIS	—	74ACT11151N	1.05	TIS	—	74ACT841SC	3.67	NSC	—	74F258APC	0.60	NSC	775
74AC11240NT	1.80	TIS	—	74ACT11240DW	1.70	TIS	796	74ACT8415PC	3.67	NSC	774	74F259N	2.20	PHI	785
74AC11244NT	1.71	TIS	—	74ACT11240NT	1.71	TIS	796	74ACT843SC	3.67	NSC	774	74F269D	5.80	PHI	785
74AC11245NT	1.84	TIS	—	74ACT11244DW	1.70	TIS	796	74ACT8435PC	3.67	NSC	—	74F269N	5.80	PHI	785
74AC11257N	1.05	TIS	—	74ACT11244NT	1.80	TIS	796	74ACT899SC	9.75	NSC	774	74F269SC	6.45	NSC	775
74AC11286N	1.18	TIS	—	74ACT11245DW	1.82	TIS	796	74F00PC	0.33	NSC	775	74F269SPC	6.45	NSC	775
74AC11373NT	1.71	TIS	—	74ACT11245NT	1.84	TIS	796	74F00SC	0.38	NSC	775	74F273D	0.70	PHI	785
74AC11374NT	1.71	TIS	—	74ACT11257N	1.05	TIS	—	74F02PC	0.33	NSC	775	74F273N	0.70	PHI	785
74AC11377NT	2.10	TIS	—	74ACT11280N	1.18	TIS	—	74F04D	0.30	PHI	785	74F273PC	0.67	NSC	775
74AC11521N	2.18	TIS	—	74ACT11286N	1.18	TIS	—	74F04N	0.30	PHI	785	74F280PC	0.56	NSC	775
74AC11652NT	6.25	TIS	—	74ACT11373DW	1.70	TIS	796	74F04PC	0.33	NSC	775	74F283D	0.80	PHI	785
74AC11PC	0.49	NSC	774	74ACT11373NT	1.80	TIS	796	74F04SC	0.38	NSC	775	74F283PC	1.12	NSC	775
74AC11SC	0.49	NSC	774	74ACT11374NT	1.80	TIS	796	74F06D	0.58	PHI	785	74F2952A	6.31	PHI	—
74AC125PC	1.58	NSC	774	74ACT11544DW	4.37	TIS	796	74F06N	0.61	PHI	—	74F2952D	4.89	PHI	785
74AC125SC	1.58	NSC	774	74ACT11593DW	6.25	TIS	796	74F07D	0.58	PHI	785	74F2952N	5.50	PHI	785
74AC138PC	0.89	NSC	774	74ACT11593NT	6.25	TIS	796	74F07N	0.58	PHI	785	74F2953A	6.31	PHI	—
74AC138SC	0.89	NSC	774	74ACT11623NT	1.84	TIS	—	74F08N	0.30	PHI	785	74F295N	1.39	PHI	—
74AC139PC	0.89	NSC	774	74ACT11640NT	1.84	TIS	—	74F08PC	0.33	NSC	775	74F299D	3.80	PHI	785
74AC139SC	0.89	NSC	774	74ACT11657DW	7.25	TIS	796	74F08SC	0.38	NSC	775	74F299PC	5.00	NSC	775
74AC14PC	0.58	NSC	774	74ACT11898DW	7.12	TIS	796	74F109PC	0.56	NSC	775	74F299SC	5.00	NSC	775
74AC145C	0.58	NSC	774	74ACT125PC	1.58	NSC	774	74F10PC	0.33	NSC	775	74F30240N	2.43	PHI	—
74AC1515C	0.89	NSC	774	74ACT125SC	1.58	NSC	774	74F112PC	0.64	NSC	775	74F3037D	1.08	PHI	785
74AC153PC	0.89	NSC	774	74ACT138PC	0.89	NSC	774	74F113PC	0.78	NSC	775	74F3037N	1.20	PHI	785
74AC153SC	0.89	NSC	774	74ACT138SC	0.89	NSC	774	74F11PC	0.38	NSC	775	74F3038D	1.08	PHI	785
74AC157PC															

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74F399SC	1.56	NSC	775	74F74PC	0.42	NSC	775	74HC4052D	0.56	PHI	785	74HCT573D	0.60	PHI	785
74F401PC	7.00	NSC	775	74F74SC	0.42	NSC	775	74HC4052N	0.56	PHI	785	74HCT573N	0.60	PHI	785
74F402PC	7.00	NSC	775	74F756N	2.72	PHI	—	74HC4053D	0.56	PHI	785	74HCT574D	0.60	PHI	785
74F413PC	25.70	NSC	775	74F757N	2.15	PHI	—	74HC4053N	0.56	PHI	785	74HCT574N	0.60	PHI	785
74F433SPC	38.00	NSC	775	74F760D	2.72	PHI	785	74HC4060D	0.60	PHI	785	74HCT595D	0.62	PHI	785
74F455N	3.80	PHI	—	74F760D	2.72	PHI	785	74HC4067D	1.80	PHI	785	74HCT597N	0.56	PHI	785
74F456N	3.80	PHI	—	74F779D	6.20	PHI	785	74HC4094N	0.52	PHI	785	74HCT640N	0.70	PHI	785
74F50109N	1.85	PHI	—	74F779N	6.20	PHI	785	74HC423N	0.50	PHI	785	74HCT646D	1.44	PHI	785
74F50728N	1.85	PHI	—	74F779PC	6.90	NSC	775	74HC4316D	0.60	PHI	785	74HCT688D	0.60	PHI	785
74F50729N	1.85	PHI	—	74F779SC	6.90	NSC	775	74HC4338D	0.60	PHI	785	74HCT688N	0.60	PHI	785
74F5074N	1.85	PHI	—	74F786D	3.12	PHI	785	74HC4538N	0.60	PHI	785	74HCT74D	0.32	PHI	785
74F521N	1.06	PHI	785	74F786N	3.12	PHI	785	74HC541D	0.58	PHI	785	74HCT74N	0.32	PHI	785
74F521PC	1.12	NSC	775	74F794PC	6.20	NSC	775	74HC541N	0.58	PHI	785	74HCT86N	0.32	PHI	785
74F521SC	1.12	NSC	775	74F804N	1.45	PHI	—	74HC573D	0.60	PHI	785	757P	224.05	ADI	—
74F524PC	12.80	NSC	775	74F805N	1.45	PHI	—	74HC573N	0.60	PHI	785	759N	102.96	ADI	—
74F524SC	12.80	NSC	775	74F807A	11.54	PHI	—	74HC574D	0.60	PHI	785	759P	106.44	ADI	—
74F5300N	5.00	PHI	—	74F808N	1.45	PHI	—	74HC574N	0.60	PHI	785	75HC393D	0.42	PHI	—
74F5302N	5.92	PHI	—	74F821D	2.90	PHI	785	74HC595D	0.62	PHI	785	902-2	130.29	ADI	—
74F534PC	1.52	NSC	775	74F821N	2.90	PHI	785	74HC595N	0.62	PHI	—	98KE47CA	0.87	GIS	—
74F538PC	3.89	NSC	775	74F821SC	4.23	NSC	775	74HC597N	0.56	PHI	785	A114A	0.33	HAR	706
74F540D	3.00	PHI	785	74F821SPC	4.23	NSC	775	74HC640N	0.70	PHI	785	A114B	0.34	HAR	706
74F540N	3.00	PHI	785	74F822N	3.71	PHI	—	74HC7046AD	1.40	PHI	785	A114D	0.38	HAR	706
74F541D	3.00	PHI	785	74F823D	2.90	PHI	785	74HC74D	0.32	PHI	785	A114M	0.43	HAR	706
74F541N	3.00	PHI	785	74F823N	2.90	PHI	785	74HC74N	0.32	PHI	785	A115A	0.58	HAR	706
74F541PC	3.34	NSC	775	74F823SC	4.23	NSC	775	74HC86D	0.32	PHI	785	A115B	0.64	HAR	706
74F541SC	3.34	NSC	775	74F823SPC	4.23	NSC	775	74HC86N	0.32	PHI	785	A115M	0.87	HAR	706
74F543D	1.90	PHI	785	74F824N	3.71	PHI	—	74HC86N	0.32	PHI	785	A11A	0.19	HAR	706
74F543N	1.90	PHI	785	74F825D	2.90	PHI	785	74HC86N	0.32	PHI	785	A14F	0.19	HAR	706
74F543PC	2.78	NSC	775	74F825N	2.90	PHI	785	74HC86N	0.32	PHI	785	A14P	0.33	HAR	706
74F543SC	2.74	NSC	775	74F825SC	4.23	NSC	775	74HC86N	0.32	PHI	785	A15A	0.37	HAR	706
74F543SPC	2.56	NSC	775	74F825SPC	4.23	NSC	775	74HC86N	0.32	PHI	785	A15F	0.37	HAR	706
74F544N	1.90	PHI	785	74F826N	3.71	PHI	—	74HC86N	0.32	PHI	785	A80386DX-16	43.45	ITL	715
74F544SC	3.89	NSC	775	74F827D	2.90	PHI	785	74HC86N	0.32	PHI	785	A80386DX-20	43.45	ITL	715
74F544SPC	3.89	NSC	775	74F827N	2.90	PHI	785	74HC86N	0.32	PHI	785	A80386DX-25	43.45	ITL	715
74F545N	1.90	PHI	785	74F827SC	4.23	NSC	775	74HC86N	0.32	PHI	785	A80386DX-32	45.55	ITL	715
74F545PC	6.90	NSC	775	74F832N	1.45	PHI	—	74HC86N	0.32	PHI	785	A80C186XL-13	38.00	ITL	715
74F548PC	6.90	NSC	775	74F835N	3.17	PHI	—	74HC86N	0.32	PHI	785	A80C186XL-20	41.10	ITL	715
74F552QC	10.60	NSC	775	74F841D	2.90	PHI	785	74HC86N	0.32	PHI	785	A80C186XL-12	37.00	ITL	715
74F569PC	4.20	NSC	775	74F841N	2.90	PHI	785	74HC86N	0.32	PHI	785	A80X186XL-20	40.00	ITL	715
74F569SC	4.20	NSC	775	74F841SPC	4.23	NSC	775	74HC86N	0.32	PHI	785	AC1013	41.38	ADI	—
74F573D	1.10	PHI	785	74F842N	3.71	PHI	—	74HC86N	0.32	PHI	785	AC1016	53.55	ADI	—
74F573N	1.10	PHI	785	74F844N	3.71	PHI	—	74HC86N	0.32	PHI	785	AC1054	65.34	ADI	—
74F573PC	1.34	NSC	775	74F845N	3.69	PHI	—	74HC86N	0.32	PHI	785	AC1058	20.95	ADI	—
74F573SC	1.34	NSC	775	74F846N	3.71	PHI	—	74HC86N	0.32	PHI	785	AC1059	20.95	ADI	—
74F574D	1.10	PHI	785	74F852SPC	7.25	NSC	775	74HC86N	0.32	PHI	785	AC1060	20.95	ADI	—
74F574N	1.10	PHI	785	74F85D	2.16	PHI	785	74HC86N	0.32	PHI	785	AC1062	26.46	ADI	—
74F574PC	1.34	NSC	775	74F85N	2.16	PHI	785	74HC86N	0.32	PHI	785	AC1214	59.54	ADI	—
74F574SC	1.34	NSC	775	74F862N	6.83	PHI	—	74HC86N	0.32	PHI	785	AC1222	169.50	ADI	—
74F579D	5.60	PHI	785	74F863N	4.40	PHI	—	74HC86N	0.32	PHI	785	AC1224	117.81	ADI	—
74F579N	5.60	PHI	785	74F864N	6.83	PHI	—	74HC86N	0.32	PHI	785	AC1226	12.13	ADI	—
74F579PC	7.25	NSC	775	74F86PC	0.67	NSC	775	74HC86N	0.32	PHI	785	AC1227	37.27	ADI	—
74F583PC	8.60	NSC	775	74F86SC	0.67	NSC	775	74HC86N	0.32	PHI	785	AC2626J6	58.00	ADI	—
74F595D	2.92	PHI	785	74F899QC	15.70	NSC	775	74HC86N	0.32	PHI	785	AC2626L4	123.73	ADI	—
74F595N	3.07	PHI	785	74HC00D	0.28	PHI	785	74HC86N	0.32	PHI	785	AC2626L6	134.40	ADI	—
74F597N	2.92	PHI	—	74HC00N	0.28	PHI	785	74HC86N	0.32	PHI	785	AC2629B	13.20	ADI	—
74F598N	2.92	PHI	—	74HC02D	0.28	PHI	785	74HC86N	0.32	PHI	785	AD1170	209.58	ADI	—
74F604N	4.00	PHI	—	74HC02N	0.28	PHI	785	74HC86N	0.32	PHI	785	AD1376JD	167.08	ADI	—
74F620PC	2.23	NSC	775	74HC04D	0.28	PHI	785	74HC86N	0.32	PHI	785	AD1380JD	223.90	ADI	—
74F623D	1.30	PHI	785	74HC04N	0.28	PHI	785	74HC86N	0.32	PHI	785	AD1382KD	910.86	ADI	674
74F623N	1.30	PHI	785	74HC08D	0.28	PHI	785	74HC86N	0.32	PHI	785	AD1403AN	4.73	ADI	683
74F623PC	4.12	NSC	775	74HC08N	0.28	PHI	785	74HC86N	0.32	PHI	785	AD1403N	3.30	ADI	683
74F632VC	62.00	NSC	775	74HC123D	0.50	PHI	785	74HC86N	0.32	PHI	785	AD1671JP	59.96	ADI	674
74F640PC	3.34	NSC	775	74HC123N	0.50	PHI	785	74HC86N	0.32	PHI	785	AD1671JQ	85.27	ADI	674
74F641N	3.80	PHI	—	74HC125D	0.36	PHI	785	74HC86N	0.32	PHI	785	AD1671KP	109.01	ADI	674
74F642N	3.80	PHI	—	74HC132D	0.38	PHI	785	74HC86N	0.32	PHI	785	AD1674AD	39.66	ADI	674
74F646AN	4.00	PHI	—	74HC132N	0.38	PHI	785	74HC86N	0.32	PHI	785	AD1674JN	23.78	ADI	674
74F646BSC	5.60	NSC	775	74HC138D	0.36	PHI	785	74HC86N	0.32	PHI	785	AD1674KN	31.70	ADI	674
74F646BSPC	5.60	NSC	775	74HC138N	0.36	PHI	785	74HC86N	0.32	PHI	785	AD1835KD	1074.06	ADI	—
74F646D	4.50	PHI	785	74HC139D	0.36	PHI	785	74HC86N	0.32	PHI	785	AD1856N	20.45	ADI	—
74F646N	4.50	PHI	785	74HC14D	0.32	PHI	785	74HC86N	0.32	PHI	785	AD1862N	25.45	ADI	—
74F646SC	5.00	NSC	775	74HC14N	0.32	PHI	785	74HC86N	0.32	PHI	785	AD1865N	19.80	ADI	—
74F646SPC	5.00	NSC	775	74HC154N	1.28	PHI	785	74HC86N	0.32	PHI	785	AD202JN	45.00	ADI	677
74F647N	6.34	PHI	—	74HC157D	0.40	PHI	785	74HC86N	0.32	PHI	785	AD202JY	45.00	ADI	677
74F649N	6.34	PHI	—	74HC191D	0.50	PHI	785	74HC86N	0.32	PHI	785	AD202KN	52.00	ADI	677
74F64PC	0.33	NSC	775	74HC191N	0.50	PHI	785	74HC86N	0.32	PHI	785	AD202KY	52.00	ADI	677
74F651AN	6.50	PHI	—	74HC221D	0.56	PHI	785	74HC86N	0.32	PHI	785	AD204JN	39.00	ADI	677
74F652AD	6.50	PHI	785	74HC238N	0.50	PHI	785	74HC86N	0.32	PHI	785	AD204JY	39.00	ADI	677
74F652AN	6.50	PHI	785	74HC244D	0.56	PHI	785	74HC86N	0.32	PHI	785	AD204KN	47.00	ADI	677
74F652SC	7.25	NSC	775	74HC244N	0.56	PHI	785	74HC86N	0.32	PHI	785	AD204KY	47.00	ADI	677
74F655AN	3.80	PHI	—	74HC245D	0.58	PHI	785	74HC86N	0.32	PHI	785	AD208AY	65.34	ADI	677
74F656AN	3.80	PHI	—	74HC259D	0.50	PHI	785	74HC86N	0.32	PHI	785	AD208BY	77.44	ADI	677
74F657D	3.60	PHI	785	74HC259N	0.50	PHI	785	74HC86N	0.32	PHI	785	AD210AN	72.00	ADI	677
74F657N	3.60	PHI	785	74HC273D	0.58	PHI	785	74HC86N	0.32	PHI	785	AD210BN	89.00	ADI	677
74F657SC	5.70	NSC	775	74HC273N	0.58	PHI	7								

Manufacturer's Code Log

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AD504MH				105.33	ADI	—	AD566AJD				43.89	ADI	675	AD600AQ				54.00	ADI	681	AD669BN				41.86	ADI	—	AD671JD-500				105.00	ADI	674
AD506KH				39.88	ADI	—	AD566AKD				61.53	ADI	675	AD600AR				39.00	ADI	681	AD669BR				35.33	ADI	676	AD671JD-750				105.00	ADI	674
AD510JH				20.57	ADI	—	AD567JD				49.46	ADI	—	AD600JN				31.50	ADI	681	AD670JN				18.30	ADI	674	AD671KD-500				126.00	ADI	674
AD515AJH				20.50	ADI	—	AD568JQ				48.51	ADI	675	AD600JR				30.00	ADI	681	AD671JD-500				105.00	ADI	674	AD671KD-750				126.00	ADI	674
AD515AKH				31.00	ADI	—	AD568KQ				65.80	ADI	675	AD602AQ				54.00	ADI	681	AD674ABD				67.10	ADI	674	AD674BJN				37.20	ADI	674
AD515ALH				40.00	ADI	—	AD568SQ				151.20	ADI	—	AD602AR				39.00	ADI	681	AD674BN				48.80	ADI	674	AD674KN				70.88	ADI	674
AD517JH				5.80	ADI	—	AD569AD				43.26	ADI	676	AD602JN				30.00	ADI	681	AD676JD				70.88	ADI	674	AD676JN				42.88	ADI	674
AD517KH				8.30	ADI	—	AD569JN				27.90	ADI	676	AD603AQ				7.99	ADI	681	AD676KD				78.32	ADI	674	AD677JN				50.45	ADI	674
AD521JD				28.60	ADI	—	AD569KN				35.30	ADI	676	AD603AR				7.18	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD521KD				39.71	ADI	—	AD570JD				64.34	ADI	674	AD606JN				49.90	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD521LD				57.66	ADI	—	AD571JD				94.02	ADI	674	AD606JR				49.90	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD522AD				73.44	ADI	—	AD571KD				109.26	ADI	674	AD620AN				6.75	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD522BD				89.25	ADI	—	AD572AD				250.27	ADI	—	AD620AR				6.75	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD524AD				16.33	ADI	678	AD573JN				33.80	ADI	674	AD620BN				9.21	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD524AE				24.53	ADI	—	AD573KN				45.60	ADI	674	AD620BR				10.04	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD524BD				21.34	ADI	678	AD574AJD				48.30	ADI	674	AD620JN				30.00	ADI	—	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD524CD				33.00	ADI	678	AD574AJN				36.30	ADI	674	AD621AN				7.33	ADI	—	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD524CD/+				64.03	ADI	—	AD574AJN				38.10	ADI	—	AD621AR				6.98	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD524SD				32.89	ADI	678	AD574AKD				63.00	ADI	674	AD621BN				9.82	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD526AD				18.15	ADI	—	AD574AKN				47.50	ADI	674	AD621BR				9.82	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD526BD				21.89	ADI	678	AD574ASD				132.30	ADI	—	AD624AD				19.64	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD526CD				31.35	ADI	—	AD578JN				164.22	ADI	—	AD624BD				25.63	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD526JN				11.55	ADI	678	AD580JN				3.31	ADI	683	AD624CD				17.60	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD532JD				34.00	ADI	—	AD580KH				5.83	ADI	683	AD625AD				17.60	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD532JN				28.55	ADI	—	AD580LH				9.19	ADI	683	AD625BD				22.27	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD532KD				47.00	ADI	—	AD580MH				15.86	ADI	683	AD625CD				37.12	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD532KH				39.60	ADI	—	AD580SH				10.29	ADI	—	AD625JN				12.37	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD532SD				71.00	ADI	—	AD580UJ				32.34	ADI	—	AD625KN				17.60	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD532SH				59.30	ADI	—	AD581JH				5.09	ADI	683	AD625SD				44.55	ADI	—	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD533JD				24.11	ADI	—	AD581KH				7.93	ADI	683	AD626AN				4.69	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD533JH				18.00	ADI	—	AD581LH				16.17	ADI	683	AD626AR				4.69	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD534JD				37.00	ADI	680	AD581SH				13.97	ADI	—	AD626BN				6.39	ADI	678	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD534JH				29.95	ADI	680	AD581UH				36.02	ADI	—	AD630AD				23.00	ADI	680	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD534KD				49.00	ADI	680	AD582KD				37.19	ADI	—	AD630BD				34.00	ADI	680	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD534KH				41.40	ADI	—	AD582KH				18.50	ADI	—	AD630JN				13.10	ADI	680	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD534LD				78.00	ADI	680	AD584JH				5.72	ADI	683	AD630KN				20.90	ADI	680	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD534LH				66.30	ADI	—	AD584JN				4.36	ADI	683	AD630SD				58.00	ADI	—	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD535JD				65.91	ADI	—	AD584KH				11.34	ADI	683	AD632AD				34.00	ADI	—	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD536AJD				26.00	ADI	681	AD584KN				8.51	ADI	683	AD633JN				5.51	ADI	680	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD536AJH				15.10	ADI	681	AD584LH				19.11	ADI	683	AD633JR				5.51	ADI	680	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD536AKD				47.00	ADI	681	AD584SH				14.39	ADI	—	AD636JD				20.00	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD536AKH				26.25	ADI	681	AD584TH				23.52	ADI	—	AD636JH				12.50	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD536AKJ				31.00	ADI	681	AD585AQ				17.60	ADI	677	AD636KD				33.00	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD537JD				53.48	ADI	682	AD585JP				22.00	ADI	677	AD637AJ				27.18	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD537JH				14.60	ADI	682	AD586JN				4.10	ADI	—	AD637AR				25.02	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD537KH				84.55	ADI	682	AD586JQ				4.15	ADI	683	AD637JD				34.00	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD537KH				22.20	ADI	682	AD586JR				4.15	ADI	683	AD637JN				15.10	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD537SD				123.35	ADI	—	AD586KN				5.05	ADI	—	AD637JR				13.90	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD538AD				33.41	ADI	—	AD586KQ				5.45	ADI	683	AD637KD				61.00	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD539JN				22.90	ADI	—	AD586KN				5.45	ADI	683	AD637KQ				25.80	ADI	681	AD677JN				50.45	ADI	674	AD677JN				50.45	ADI	674
AD539JH				22.90	ADI	—																												

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AD7228LP	74.25	ADI	—	AD7528JN	9.80	ADI	676	AD781AN	10.40	ADI	677	AD828AR	3.46	ADI	679
AD7233AN	12.13	ADI	676	AD7528JP	11.50	ADI	676	AD781JN	8.40	ADI	677	AD829AQ	5.95	ADI	—
AD7233BN	14.86	ADI	676	AD7528JR	11.50	ADI	676	AD7820KN	16.40	ADI	677	AD829JN	4.13	ADI	680
AD7237BQ	43.45	ADI	—	AD7528KN	10.20	ADI	676	AD7821KN	16.40	ADI	674	AD829JR	4.13	ADI	680
AD7237JN	24.75	ADI	676	AD7528LN	3.94	TIS	—	AD7821KP	19.50	ADI	674	AD830AN	4.64	ADI	680
AD7237JR	24.75	ADI	676	AD7528KP	12.24	ADI	—	AD7821KR	19.50	ADI	674	AD830JN	4.20	ADI	680
AD7237KN	29.05	ADI	676	AD7528LN	16.40	ADI	676	AD7824KN	17.25	ADI	674	AD834AQ	38.40	ADI	680
AD7237KR	29.05	ADI	676	AD7530LN	18.50	ADI	—	AD7824KR	17.25	ADI	674	AD834JN	23.40	ADI	680
AD7242JN	23.10	ADI	676	AD7533JN	5.50	ADI	—	AD7824LN	23.85	ADI	674	AD834JR	23.40	ADI	680
AD7243AN	13.09	ADI	676	AD7533KN	5.85	ADI	—	AD7828CQ	41.64	ADI	—	AD835AN	17.90	ADI	680
AD7243AR	11.55	ADI	676	AD7533LN	7.02	ADI	—	AD7828KN	18.05	ADI	674	AD835AR	17.90	ADI	680
AD7243BN	14.86	ADI	676	AD7534JN	27.97	ADI	—	AD7828KP	21.50	ADI	674	AD840JN	8.30	ADI	679
AD7243BR	14.86	ADI	676	AD7536JP	36.00	ADI	—	AD7828LN	24.65	ADI	674	AD840JR	11.03	ADI	679
AD7245AAN	15.10	ADI	676	AD7537JN	25.51	ADI	676	AD7828LP	29.00	ADI	674	AD840KN	9.45	ADI	679
AD7245AAP	22.70	ADI	—	AD7537KN	29.92	ADI	676	AD7837AN	24.75	ADI	676	AD840QK	13.23	ADI	—
AD7245AAR	15.10	ADI	676	AD7538BQ	31.41	ADI	675	AD7837AR	24.75	ADI	676	AD841JH	20.79	ADI	680
AD7245ABN	19.60	ADI	676	AD7538JN	17.35	ADI	675	AD7837BN	29.05	ADI	676	AD841JN	8.30	ADI	680
AD7245JN	19.70	ADI	—	AD7538JR	17.35	ADI	675	AD7837BR	29.05	ADI	676	AD841JR	14.18	ADI	680
AD7247JN	24.75	ADI	676	AD7538KN	23.10	ADI	675	AD7838AQ	22.80	ADI	—	AD841KN	9.45	ADI	680
AD7247JR	24.75	ADI	676	AD7538KR	23.10	ADI	675	AD783AR	21.00	ADI	677	AD842JH	23.90	ADI	679
AD7247KN	23.05	ADI	676	AD7541AAQ	15.73	ADI	—	AD783JQ	17.90	ADI	677	AD842JN	8.50	ADI	679
AD7247KR	23.05	ADI	676	AD7541ABQ	17.33	ADI	—	AD783JR	17.00	ADI	677	AD842JQ	15.90	ADI	679
AD7248AAN	15.10	ADI	676	AD7541AJN	12.85	ADI	—	AD7840AQ	25.05	ADI	—	AD842KN	9.70	ADI	680
AD7248AAR	15.10	ADI	676	AD7541AKN	14.30	ADI	—	AD7840JN	17.33	ADI	676	AD843AQ	11.90	ADI	680
AD7248ABN	19.60	ADI	676	AD7541AQ	26.84	ADI	—	AD7840KN	19.30	ADI	676	AD843BQ	13.90	ADI	—
AD7248ABR	19.60	ADI	676	AD7541JN	27.50	ADI	—	AD7845BQ	18.90	ADI	—	AD843JN	8.70	ADI	680
AD7248AQ	28.27	ADI	—	AD7541KN	30.00	ADI	—	AD7845JN	12.20	ADI	676	AD843JR-16	6.70	ADI	680
AD7248JN	19.70	ADI	—	AD7542AQ	24.40	ADI	—	AD7845KN	16.40	ADI	676	AD843KN	9.90	ADI	—
AD7248JP	22.70	ADI	—	AD7542BQ	29.26	ADI	—	AD7846JN	31.35	ADI	676	AD844AN	4.13	ADI	679
AD7249AN	18.86	ADI	676	AD7542JN	21.40	ADI	—	AD7846KN	39.60	ADI	676	AD844AQ	6.93	ADI	—
AD734AN	15.51	ADI	680	AD7542KN	23.60	ADI	—	AD7846KP	39.60	ADI	—	AD844BQ	9.73	ADI	—
AD734AQ	17.84	ADI	680	AD7543KN	23.60	ADI	—	AD7850JP	41.11	ADI	—	AD844JR-16	4.75	ADI	679
AD734BQ	28.74	ADI	680	AD7545AKN	11.35	ADI	—	AD7869JN	44.80	ADI	674	AD845BQ	9.03	ADI	—
AD735AQ	10.32	ADI	681	AD7545GQ	34.87	ADI	—	AD7869JR	44.80	ADI	674	AD845JN	4.55	ADI	—
AD736JN	5.96	ADI	681	AD7545GLN	27.65	ADI	—	AD7870AQ	45.56	ADI	—	AD845KN	5.25	ADI	680
AD736JR	5.96	ADI	681	AD7545JN	13.20	ADI	—	AD7870JN	28.70	ADI	674	AD846AN	12.50	ADI	679
AD736KN	9.50	ADI	681	AD7545JP	15.50	ADI	—	AD7870JP	29.70	ADI	674	AD846AQ	14.00	ADI	—
AD736KR	9.95	ADI	681	AD7545LN	18.90	ADI	—	AD7870KN	36.30	ADI	674	AD846BN	14.90	ADI	679
AD737AQ	10.32	ADI	681	AD7546JN	36.46	ADI	—	AD7870KP	36.30	ADI	674	AD847AQ	8.50	ADI	—
AD737JN	5.96	ADI	681	AD7546KN	56.35	ADI	—	AD7870LN	49.50	ADI	674	AD847JN	5.90	ADI	680
AD737JR	5.96	ADI	681	AD7548AQ	20.50	ADI	—	AD7870LP	49.50	ADI	674	AD847JR	5.90	ADI	680
AD737KN	9.50	ADI	681	AD7548BQ	23.96	ADI	—	AD7871JN	41.60	ADI	—	AD848JN	6.20	ADI	680
AD737KR	9.95	ADI	681	AD7548JN	15.64	ADI	—	AD7871KN	49.00	ADI	—	AD848JR	6.20	ADI	680
AD741JH	3.25	ADI	—	AD7548KN	18.97	ADI	—	AD7872JN	39.20	ADI	674	AD849AQ	8.50	ADI	—
AD741KH	5.50	ADI	—	AD7549JN	27.95	ADI	—	AD7872KN	46.20	ADI	674	AD849JN	5.90	ADI	680
AD741KN	4.40	ADI	—	AD7549KN	33.80	ADI	—	AD7874AN	46.20	ADI	674	AD849JR	5.90	ADI	680
AD741LN	13.80	ADI	—	AD7568BS	46.00	ADI	676	AD7874BN	57.75	ADI	—	AD875JST	21.00	ADI	673
AD743AN	6.08	ADI	679	AD7569JN	9.90	ADI	675	AD7875KN	36.30	ADI	674	AD9000JQ	67.20	ADI	673
AD743BQ	12.89	ADI	679	AD7569JP	11.90	ADI	—	AD7876BN	35.20	ADI	674	AD9002AD	151.20	ADI	673
AD743JN	5.53	ADI	—	AD7569KN	14.85	ADI	675	AD7878JN	46.20	ADI	674	AD9012AQ	126.00	ADI	673
AD743JR-16	6.08	ADI	679	AD7572AJN03	39.60	ADI	—	AD7878JP	50.80	ADI	674	AD9012BQ	228.48	ADI	673
AD743KN	8.30	ADI	679	AD7572AJR03	38.00	ADI	—	AD7878KN	52.80	ADI	674	AD9020JE	299.88	ADI	673
AD744AQ	6.20	ADI	—	AD7572JN05	75.90	ADI	—	AD7878KP	58.00	ADI	674	AD9032AD	1453.50	ADI	673
AD744JN	4.50	ADI	678	AD7572JN12	57.75	ADI	—	AD7878LN	56.10	ADI	674	AD9048JQ	45.36	ADI	673
AD744JR	4.95	ADI	678	AD7572LN05	100.65	ADI	—	AD7878LP	61.70	ADI	674	AD9048KQ	63.84	ADI	673
AD744KN	6.40	ADI	—	AD7574JN	12.50	ADI	—	AD7880BN	23.10	ADI	674	AD9058JQ	60.90	ADI	673
AD745AN	6.08	ADI	679	AD7574KN	15.00	ADI	—	AD7880BR	23.10	ADI	674	AD9058KQ	71.82	ADI	—
AD745BQ	12.89	ADI	679	AD7575JN	9.10	ADI	674	AD7880CN	26.40	ADI	674	AD9058KJ	74.62	ADI	—
AD745JN	5.53	ADI	—	AD7578KN	33.90	ADI	—	AD7880CR	26.40	ADI	674	AD9060JE	317.02	ADI	673
AD745JR-16	6.08	ADI	679	AD7580JN	14.85	ADI	—	AD7884AP	65.41	ADI	674	AD9060KE	462.67	ADI	673
AD745KN	8.30	ADI	679	AD7580JP	17.80	ADI	—	AD7884BP	75.58	ADI	674	AD9100AD	145.53	ADI	677
AD746JN	8.50	ADI	678	AD7581JN	22.25	ADI	—	AD7885AAP	63.00	ADI	674	AD9100JD	116.13	ADI	677
AD746JR	8.50	ADI	678	AD7581KN	30.30	ADI	—	AD7885ABP	72.80	ADI	674	AD9101AR	45.04	ADI	677
AD75004KN	48.30	ADI	—	AD7582KN	40.38	ADI	—	AD7885AQ	69.30	ADI	—	AD9300KP	12.80	ADI	677
AD75019JP	21.00	ADI	—	AD7591DIKN	7.40	ADI	—	AD7886JD	87.94	ADI	673	AD9300KQ	12.80	ADI	677
AD7501JN	9.75	ADI	—	AD7592DIKN	13.71	ADI	—	AD7886KQ	103.93	ADI	673	AD9500BQ	28.80	ADI	—
AD7501JQ	16.50	ADI	—	AD7628KN	4.05	ADI	676	AD7890AN-10	17.66	ADI	674	AD9501JN	15.48	ADI	—
AD7501KN	10.10	ADI	—	AD7628KP	4.05	ADI	676	AD7890AN-2	17.66	ADI	674	AD9502BM	584.72	ADI	—
AD7502JN	9.75	ADI	—	AD7628KR	4.05	ADI	676	AD7890AN-4	17.66	ADI	674	AD9617AQ	25.60	ADI	—
AD7502KN	10.10	ADI	—	AD7669JN	15.65	ADI	—	AD7893AN-10	14.54	ADI	674	AD9617JN	14.00	ADI	679
AD7502KQ	17.00	ADI	—	AD766AN	24.25	ADI	676	AD7893AN-2	14.54	ADI	674	AD9617JR	14.00	ADI	679
AD7503JN	9.75	ADI	—	AD766JN	17.87	ADI	676	AD790JN	5.90	ADI	680	AD9618AQ	25.60	ADI	—
AD7503KQ	17.00	ADI	—	AD767AD	28.35	ADI	—	AD790JR	5.18	ADI	680	AD9618JN	14.00	ADI	—
AD7506JN	14.00	ADI	—	AD767JN	19.70	ADI	676	AD790KN	7.91	ADI	—	AD9618JR	14.00	ADI	—
AD7506KN	15.00	ADI	—	AD767KN	26.00	ADI	676	AD795JN	4.05	ADI	678	AD9621AN	7.72	ADI	679
AD7506KQ	33.50	ADI	—	AD7701AN	21.00	ADI	675	AD795JR	3.86	ADI	678	AD9621AR	7.72	ADI	679
AD7507JN	14.00	ADI	—	AD7701BN	28.00	ADI	675	AD795KN	5.21	ADI	678	AD9622AN	7.72	ADI	679
AD7507KN	15.00	ADI	—	AD7701BR	28.00	ADI	675	AD797AN	6.43	ADI	678	AD9622AR	7.72	ADI	679
AD7510DIJN	8.80	ADI	—	AD7703AN	25.90	ADI	675	AD797AR	5.74	ADI	678	AD9623AN	7.72	ADI	679
AD7510DIKN	9.90	ADI	—	AD7703AR	25.90	ADI	675	AD8001AR	4.76	ADI	679	AD9623AQ	15.60	ADI	679
AD7510DIQK	20.24	ADI	—	AD7703BN	30.80	ADI	675	AD810AN	3.60	ADI	679	AD9623AR	7.72	ADI	679
AD7510DIQK	31.63	ADI	—	AD7703BR	30.80	ADI	675	AD810AR	3.43	ADI	679	AD9623BQ	18.72	ADI	679
AD7511DIJN	8.80	ADI	—	AD7703CN	37.80	ADI	675	AD811AN	5.46	ADI	679	AD9624AN	7.72	ADI	679
AD7511DIKN	9.90	ADI	—	AD7703CR	37.80	ADI	675	AD811AR-16	5.91	ADI	679	AD9624AQ	15.60	ADI	679
AD7512DIJN	8.80	ADI	—	AD7710JN	29.65	ADI	675	AD811JR	4.93	ADI	679	AD9624AR	7.72	ADI	679
AD7512DIKN	9.90	ADI	—	AD7710AQ	31.44	ADI	675	AD812AN	4.09	ADI	679	AD9624SQ	18.72		

Manufacturer's Code Log

Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor				IDT ITL LAT MIC MXM MOS				Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitellic				MOT NSC NTE PHI SEM SIE				Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc.				TIS THO UNI XLX				Texas Instruments Thomson Consumer Electronics Unirode Integrated Circuits Xilinx			
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AD9713BBP				104.00	ADI	—	ADC10154CIN				12.00	NSC	768	ADM230LJR				4.38	ADI	681	AM186EM-20KCW				23.85	AMD	669
AD9720BR				80.00	ADI	675	ADC10158CIN				12.70	NSC	768	ADM231LAR				2.84	ADI	681	AM186EM-20VCW				23.85	AMD	669
AD9720BR				80.00	ADI	675	ADC10158CIWM				12.70	NSC	768	ADM231LAR				2.84	ADI	681	AM186EM-25KCW				26.24	AMD	669
AD9721BN				64.00	ADI	675	ADC1031CIN				8.20	NSC	768	ADM231LJN				2.30	ADI	681	AM186EM-25VCW				26.24	AMD	669
AD9721BR				67.20	ADI	675	ADC1034BIN				15.00	NSC	—	ADM231LJN				2.30	ADI	681	AM186EM-33KCW				31.49	AMD	669
AD9768JD				24.38	ADI	—	ADC1034BIWM				15.00	NSC	—	ADM232AAN				2.88	ADI	681	AM186EM-33VCW				31.49	AMD	669
AD9901KP				5.60	ADI	—	ADC1034CIN				8.55	NSC	768	ADM232AARW				2.88	ADI	681	AM186EM-40KCW				34.64	AMD	669
AD9901KQ				9.20	ADI	—	ADC1034CIWM				8.55	NSC	768	ADM232AARW				2.88	ADI	681	AM186EM-40VCW				34.64	AMD	669
AD9955KS-6				46.40	ADI	—	ADC1038CIN				8.90	NSC	768	ADM232LAN				2.84	ADI	681	AM186EM-40VCW				34.64	AMD	669
AD9955KS-6				46.40	ADI	—	ADC1038CIWM				8.90	NSC	768	ADM232LAN				2.84	ADI	681	AM186EM-40VCW				34.64	AMD	669
ADAD071JD				159.17	ADI	—	ADC10662CIN				26.30	NSC	768	ADM232LAR				2.84	ADI	681	AM186EM-20VCW				22.66	AMD	669
ADAD080-12				110.51	ADI	—	ADC10662CIWM				26.30	NSC	768	ADM232LJN				2.42	ADI	681	AM186EM-25KCW				24.93	AMD	669
ADAD08012				99.96	ADI	—	ADC10662CIWM				26.30	NSC	768	ADM232LJN				2.42	ADI	681	AM186EM-25VCW				24.93	AMD	669
ADAD084-12				140.52	ADI	—	ADC10664CIN				27.30	NSC	768	ADM233LAN				7.72	ADI	681	AM186EM-33KCW				29.91	AMD	669
ADC0801LCN				14.00	NSC	768	ADC10664CIWM				27.30	NSC	768	ADM233LAN				7.72	ADI	681	AM186EM-33VCW				29.91	AMD	669
ADC0802LCN				8.00	NSC	768	ADC1205CCJ-1				41.70	NSC	768	ADM233LAN				4.09	ADI	682	AM186EM-40KCW				32.90	AMD	669
ADC08031BIN				6.60	NSC	768	ADC124CJ				15.90	NSC	—	ADM234LAR				4.09	ADI	682	AM186EM-40VCW				32.90	AMD	669
ADC08031CIN				4.38	NSC	—	ADC9124AFP				18.00	ADI	—	ADM234LJN				3.40	ADI	681	AM26C31CD				2.50	TIS	802
ADC08032CIN				4.52	NSC	768	ADDAC71-CSB-V				83.90	ADI	—	ADM234LJN				3.40	ADI	682	AM26C31CD				2.63	TIS	802
ADC08032CIWM				4.52	NSC	768	ADDAC80-CBI-V				46.98	ADI	—	ADM235LAN				16.76	ADI	682	AM26C31CN				3.12	TIS	—
ADC08034BIN				7.40	NSC	768	ADDAC80-CCD-V				51.57	ADI	—	ADM235LJN				9.48	ADI	682	AM26C32CN				2.50	TIS	—
ADC08034CIN				4.94	NSC	—	ADDAC80D-CBI-V				23.77	ADI	—	ADM236LAN				5.24	ADI	682	AM26C32IN				3.12	TIS	—
ADC08034CIWM				4.94	NSC	—	ADDAC80N-CBI-V				15.64	ADI	675	ADM236LAR				5.24	ADI	682	AM26LA33ACD				1.25	TIS	—
ADC08038BIN				8.20	NSC	768	ADDAC80Z-CBI-V				49.27	ADI	—	ADM236LJN				4.38	ADI	682	AM26LS30PC				1.36	MOT	741
ADC08038BIWM				8.20	NSC	768	ADEL2020AN				3.28	ADI	679	ADM236LJN				4.38	ADI	682	AM26LS31CD				1.60	TIS	802
ADC08038CIN				5.45	NSC	—	ADEL2020AR-20				3.28	ADI	679	ADM237LAN				5.24	ADI	682	AM26LS31CN				1.05	TIS	802
ADC08038CIWM				5.45	NSC	—	ADG201ABQ				6.12	ADI	—	ADM237LAR				5.24	ADI	682	AM26LS31PC				0.80	MOT	741
ADC08038CMJ				14.20	NSC	—	ADG201AKN				4.42	ADI	677	ADM237LAN				4.38	ADI	682	AM26LS32ACD				1.25	TIS	802
ADC0803LCN				6.90	NSC	768	ADG201AKR				5.30	ADI	677	ADM237LJR				4.38	ADI	682	AM26LS32ACN				1.25	TIS	802
ADC0804LCJ				5.50	NSC	768	ADG201HSBQ				11.22	ADI	—	ADM238LAN				5.24	ADI	682	AM26LS32PC				0.80	MOT	740
ADC0804LCN				2.89	NSC	768	ADG201HSJN				5.10	ADI	677	ADM238LAR				5.24	ADI	682	AM26LS33ACN				1.39	TIS	802
ADC0804LCWM				2.89	NSC	768	ADG201HSKN				7.90	ADI	677	ADM238LJN				5.24	ADI	682	AM26S10CN				2.21	TIS	802
ADC08061BIN				12.60	NSC	768	ADG202ABQ				6.12	ADI	—	ADM238LJN				5.24	ADI	682	AM27C010-120DC				5.85	AMD	671
ADC08061CIN				8.35	NSC	—	ADG202AKN				4.42	ADI	677	ADM239LAN				4.38	ADI	682	AM27C010-120PC				5.65	AMD	671
ADC0808CCJ				7.65	NSC	768	ADG202AKR				5.30	ADI	677	ADM239LAR				5.24	ADI	682	AM27C010-150DC				5.65	AMD	—
ADC0808CCN				5.90	NSC	768	ADG211AKN				2.77	ADI	677	ADM239LJN				4.38	ADI	682	AM27C010-150PC				5.65	AMD	—
ADC0808CCV				6.50	NSC	768	ADG211AKR				3.17	ADI	677	ADM239LJN				4.38	ADI	682	AM27C010-200DC				5.85	AMD	671
ADC0809CCN				4.03	NSC	768	ADG212AKN				2.77	ADI	677	ADM241LAR				5.24	ADI	682	AM27C010-200PC				5.65	AMD	671
ADC0809CCV				5.80	NSC	768	ADG212AKR				3.17	ADI	677	ADM241LARS				5.47	ADI	682	AM27C020-120DC				8.90	AMD	671
ADC08131BIN				7.40	NSC	768	ADG221KN				4.18	ADI	—	ADM241LJR				4.38	ADI	682	AM27C020-150DC				8.90	AMD	671
ADC08131CIN				4.94	NSC	—	ADG406BN				8.75	ADI	677	ADM242AN				3.02	ADI	682	AM27C020-200DC				8.90	AMD	671
ADC08134BIN				8.20	NSC	768	ADG406BN				10.71	ADI	677	ADM242AR				2.88	ADI	682	AM27C020-200PC				8.75	AMD	671
ADC08134BIWM				8.20	NSC	768	ADG407BN				8.75	ADI	677	ADM485AN				2.35	ADI	682	AM27C040-120DC				14.90	AMD	671
ADC08134CIN				5.45	NSC	—	ADG407BP				10.71	ADI	677	ADM485AR				2.35	ADI	682	AM27C040-150DC				14.90	AMD	671
ADC08138BIWM				9.05	NSC	768	ADG408BN				4.90	ADI	677	ADM485JN				1.77	ADI	682	AM27C040-200DC				14.90	AMD	671
ADC08138CIN				6.05	NSC	—	ADG408BR				4.90	ADI	677	ADM485JR				1.77	ADI	682	AM27C1024-120DC				7.85	AMD	671
ADC08138CIWM				6.05	NSC	—	ADG409BN				4.90	ADI	677	ADM5170AN				3.61	ADI	682	AM27C1024-150DC				7.85	AMD	671
ADC08161CIN				9.20	NSC	768	ADG426BN				9.31	ADI	677	ADM5170JN				3.61	ADI	682	AM27C1024-200DC				7.85	AMD	671
ADC0816CCN				23.20	NSC	—	ADG426BRS				9.31	ADI	677	ADM5180AN				4.34	ADI	682	AM27C1024-200PC				7.85	AMD	671
ADC0816CJ				65.00	NSC	—	ADG428BP				5.18	ADI	677	ADM5180JN				3.61	ADI	682	AM27C1024-90DC				9.40	AMD	671
ADC0817CCN				13.00	NSC	—	ADG428BP				5.96	ADI	677	ADM663AN				1.69	ADI	683	AM27C128-120DC				3.85	AMD	670
ADC0819BCN				10.40	NSC	768	ADG429BN				5.18	ADI	677	ADM663AR				1.94	ADI	683	AM27C128-150DC				3.85	AMD	670
ADC0819BCN				10.40	NSC	768	ADG429BN				5.18	ADI	677	ADM663AR				1.94	ADI	683	AM27C128-150DC				3.85	AMD	670
ADC0819BCV				11.60	NSC	768	ADG429BP				5.96	ADI	677	ADM666AN				2.00	ADI	683	AM27C128-150PC				3.75	AMD	670
ADC0819CCV				7.65	NSC	768	ADG431BN				3.33	ADI	677	ADM666AR				2.18	ADI	683	AM27C128-200DC				3.85	AMD	670
ADC0819CIN				8.20	NSC	—	ADG431BR				3.33	ADI	677	ADM690AN				4.00	ADI	682	AM27C128-200PC				3.75	AMD	670
ADC0820BCN				17.70	NSC	768	ADG432BN				3.21	ADI	677	ADM691AN				4.55	ADI	682	AM27C128-90DC				4.60	AMD	670
ADC0820CCN				10.50	NSC	768	ADG432BR				3.21	ADI	677	ADM691AR				4.75	ADI	682	AM27C2048-120DC				12.00	AMD	671
ADC08231CIN				6.20	NSC	768	ADG433BN				3.21	ADI	677	ADM692AN				4.00	ADI	682	AM27C2048-150DC				12.00	AMD	671
ADC08231CIWM				6.20	NSC	768	ADG433BR				3.21	ADI	677	ADM693AN				4.55	ADI	682	AM27C256-120DC				3.75		

Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
AMP04FP	7.80	ADI	678	CA3080M	0.96	HAR	701	CD4014BCN	0.84	NSC	775	CD4081BE	0.26	HAR	705
AMP04FS	7.80	ADI	678	CA3081	0.88	HAR	702	CD4014BE	0.65	HAR	705	CD4082BE	0.26	HAR	705
AMP05FX	14.85	ADI	—	CA3082	0.93	HAR	702	CD4015BCN	0.73	NSC	775	CD4085BE	0.41	HAR	705
AMPAL22V10AJC	4.84	AMD	671	CA3083	0.93	HAR	702	CD4015BE	0.58	HAR	705	CD4086BE	0.34	HAR	705
AMPAL22V10APC	4.84	AMD	671	CA3086	0.46	HAR	702	CD4016BE	0.64	HAR	705	CD4089BE	0.89	HAR	705
AW02M	1.08	COL	—	CA3089E	1.40	HAR	—	CD40161BE	0.58	HAR	705	CD4093BCN	0.44	NSC	775
AW04M	1.07	COL	—	CA3094E	0.99	HAR	—	CD40163BE	0.63	HAR	705	CD4093BCN	0.44	NSC	775
AW06M	1.01	COL	—	CA3096AE	3.22	HAR	702	CD4016BCM	0.44	NSC	775	CD4093BE	0.32	HAR	705
AW08M	1.08	COL	—	CA3096CE	0.92	HAR	702	CD4016BCN	0.44	NSC	775	CD4094BE	0.51	HAR	705
B1-A230	2.39	SIE	792	CA3096E	1.89	HAR	702	CD4016BE	0.31	HAR	705	CD4095BE	0.49	HAR	705
B1-A350	2.04	SIE	792	CA3098E	1.95	HAR	700	CD40174BCN	0.73	NSC	775	CD4096BE	0.60	HAR	705
B1-C145	1.92	SIE	792	CA3100E	1.52	HAR	701	CD40174BE	0.51	HAR	705	CD4097BE	1.79	HAR	705
B1-C75	2.04	SIE	792	CA3100M	1.82	HAR	701	CD40175BCN	0.73	NSC	775	CD4098BE	0.49	HAR	705
B1-C90/20	2.49	SIE	792	CA3102E	3.40	HAR	702	CD40175BE	0.51	HAR	705	CD4099BCN	0.89	NSC	775
B2-B600	2.25	SIE	792	CA3126E	1.54	HAR	—	CD4017BCM	0.73	NSC	775	CD4099BE	0.65	HAR	705
B2-H100X	4.38	SIE	—	CA3127E	2.50	HAR	702	CD4017BCN	0.73	NSC	775	CD4502BE	0.60	HAR	705
B2-H25	4.47	SIE	—	CA3130AE	1.54	HAR	701	CD4017BE	0.58	HAR	705	CD4503BCN	1.34	NSC	775
B32K130	13.40	SIE	791	CA3130AM	1.92	HAR	701	CD4018BE	0.65	HAR	705	CD4503BE	0.49	HAR	705
B32K150	13.40	SIE	791	CA3130E	1.00	HAR	701	CD40192BE	0.82	HAR	705	CD4504BE	1.11	HAR	705
B32K250	13.40	SIE	791	CA3130M	1.44	HAR	701	CD40193BCN	1.09	NSC	775	CD4508BE	1.70	HAR	705
B32K275	13.40	SIE	791	CA3130T	1.92	HAR	—	CD4019BE	0.85	HAR	705	CD4510BE	0.66	HAR	705
B32K385	13.40	SIE	791	CA3140AE	0.90	HAR	701	CD40194BE	0.57	HAR	705	CD4511BE	0.65	HAR	705
B32K460	13.40	SIE	791	CA3140AM	1.42	HAR	701	CD4019BE	0.26	HAR	705	CD4512BE	0.60	HAR	705
B32K550	13.40	SIE	791	CA3140E	0.55	HAR	701	CD4020BCN	0.73	NSC	775	CD4514BCN	1.74	NSC	775
B40K130	16.70	SIE	791	CA3140M	1.00	HAR	701	CD4020BCN	0.73	NSC	775	CD4514BE	1.45	HAR	705
B40K150	16.70	SIE	791	CA3140T	2.11	HAR	—	CD4020BE	0.56	HAR	705	CD4515BCN	1.74	NSC	775
B40K250	16.70	SIE	791	CA3160AE	1.50	HAR	701	CD4021BCM	0.73	NSC	775	CD4515BE	1.53	HAR	705
B40K275	16.70	SIE	791	CA3160E	0.84	HAR	701	CD4021BCN	0.73	NSC	775	CD4516BE	0.63	HAR	705
B40K750	24.70	SIE	791	CA3161E	1.52	HAR	698	CD4021BE	0.56	HAR	705	CD4517BE	1.24	HAR	705
B60K130	57.00	SIE	791	CA3162E	6.30	HAR	698	CD4022BCN	0.73	NSC	775	CD4518BE	0.65	HAR	705
B60K150	57.00	SIE	791	CA3183AE	1.58	HAR	702	CD4022BE	0.56	HAR	705	CD4519BE	0.51	HAR	705
B80K250	56.31	SIE	791	CA3183E	1.32	HAR	702	CD4023BCN	0.33	NSC	775	CD4520BE	0.60	HAR	705
B80K275	57.00	SIE	791	CA3189E	1.73	HAR	—	CD4023BE	0.26	HAR	705	CD4521BE	0.87	HAR	705
B80K460	57.00	SIE	791	CA3240AE	2.14	HAR	—	CD4024BCM	0.53	NSC	775	CD4522BE	0.82	HAR	705
B80K550	57.00	SIE	791	CA3240E	1.10	HAR	—	CD4024BCN	0.53	NSC	775	CD4527BE	0.69	HAR	705
B80K130	147.00	SIE	791	CA3242E	2.88	HAR	699	CD4024BE	0.41	HAR	705	CD4528BCN	0.93	NSC	775
B80K150	147.00	SIE	791	CA324E	0.75	HAR	—	CD40257BE	0.93	HAR	705	CD4529BE	0.94	HAR	705
B80K250	147.00	SIE	791	CA3260AE	2.52	HAR	—	CD4025BE	0.25	HAR	705	CD4532BE	0.72	HAR	705
B87C58	24.50	ITL	—	CA3260E	1.76	HAR	—	CD4026BE	0.60	HAR	705	CD4536BE	1.09	HAR	705
BAS116LT1	0.13	MOT	759	CA3262AE	2.95	HAR	699	CD4027BCN	0.44	NSC	775	CD4538BCN	1.00	NSC	775
BAV170LT1	0.14	MOT	759	CA3262E	2.88	HAR	699	CD4027BE	0.31	HAR	705	CD4541BCN	0.78	NSC	775
BAV199LT1	0.14	MOT	759	CA3272AQ	4.95	HAR	699	CD4028BE	0.56	HAR	705	CD4541BE	0.58	HAR	705
BAV70LT1	0.14	MOT	759	CA3272Q	6.48	HAR	699	CD4029BCN	0.73	NSC	775	CD4543BE	0.58	HAR	705
BAV99LT1	0.14	MOT	759	CA3275E	3.40	HAR	699	CD4029BE	0.56	HAR	705	CD4555BE	0.58	HAR	705
BAW156LT1	0.14	MOT	759	CA3280AE	5.88	HAR	—	CD4030BE	0.34	HAR	705	CD4556BE	0.58	HAR	705
BAW56LT1	0.10	MOT	751	CA3280E	2.87	HAR	701	CD4031BE	0.04	HAR	705	CD4560BE	1.79	HAR	705
BC846AL1	0.10	MOT	751	CA3290AE	1.00	HAR	700	CD4033BE	0.81	HAR	705	CD4566BE	1.31	HAR	705
BC846BL1	0.10	MOT	751	CA3290E	0.74	HAR	700	CD4034BE	2.64	HAR	705	CD4572UBE	0.65	HAR	705
BC847ALT1	0.10	MOT	751	CA3292AQ	5.00	HAR	699	CD4035BE	0.61	HAR	705	CD4585BE	0.65	HAR	705
BC847BL1	0.10	MOT	751	CA3304E	4.13	HAR	697	CD4040BCN	0.73	NSC	775	CD4724BCN	1.12	NSC	775
BC847CL1	0.10	MOT	751	CA3306CE	6.44	HAR	697	CD4040BCN	0.73	NSC	775	CD4724BE	0.83	HAR	705
BC848AL1	0.10	MOT	751	CA3318CE	25.58	HAR	697	CD4040BE	0.56	HAR	705	CD7211AE	3.74	HAR	705
BC848BL1	0.10	MOT	751	CA3338AE	12.41	HAR	697	CD4041UBE	0.97	HAR	705	CD7211AME	3.91	HAR	705
BC848CL1	0.10	MOT	751	CA339E	0.75	HAR	700	CD4042BE	0.43	HAR	705	CD74AC00E	0.46	HAR	704
BC856AL1	0.10	MOT	751	CA3450E	3.94	HAR	701	CD4043BE	0.56	HAR	705	CD74AC00M	0.53	HAR	704
BC856BL1	0.10	MOT	751	CA3524E	0.89	HAR	700	CD4044BCN	0.84	NSC	775	CD74AC02E	0.46	HAR	704
BCP53T1	0.43	MOT	751	CA5130AE	1.88	HAR	701	CD4044BE	0.56	HAR	705	CD74AC02M	0.53	HAR	704
BCP56T1	0.44	MOT	751	CA5130E	1.20	HAR	701	CD4045BE	0.77	HAR	705	CD74AC04E	0.46	HAR	704
BCP68T1	0.43	MOT	752	CA5260AE	2.88	HAR	701	CD4046BCN	0.89	NSC	775	CD74AC04M	0.53	HAR	704
BCP69T1	0.44	MOT	752	CA5260AM	3.46	HAR	701	CD4046BCN	0.89	NSC	775	CD74AC05E	0.57	HAR	704
BFR96	1.58	MOT	—	CA5260E	1.92	HAR	701	CD4046BE	0.65	HAR	705	CD74AC05M	0.60	HAR	704
BS107	0.70	MOT	754	CA5260M	2.30	HAR	701	CD4047BCN	1.00	NSC	775	CD74AC08E	0.46	HAR	704
BS107A	0.80	MOT	754	CA555E	0.63	HAR	702	CD4047BCN	0.89	NSC	775	CD74AC08M	0.53	HAR	704
BSP16T1	0.50	MOT	752	CA555T	1.79	HAR	702	CD4047BE	0.58	HAR	705	CD74AC109E	0.70	HAR	704
BSP19AT1	0.50	MOT	752	CA723CE	0.42	HAR	700	CD4048BE	0.43	HAR	705	CD74AC109M	0.70	HAR	704
BSP52T1	0.46	MOT	752	CA723CT	1.20	HAR	700	CD4049UBCM	0.44	NSC	775	CD74AC10E	0.46	HAR	704
BSP62T1	0.46	MOT	752	CA723E	0.54	HAR	700	CD4049UBCN	0.44	NSC	775	CD74AC10M	0.53	HAR	704
BSS123LT1	0.70	MOT	755	CA723T	1.20	HAR	—	CD4049UBE	0.31	HAR	705	CD74AC112E	1.10	HAR	704
BU22AP	3.30	MOT	753	CA741CE	0.36	HAR	—	CD4050BCN	0.44	NSC	775	CD74AC122M	1.09	HAR	704
BU207	1.76	MOT	753	CA741E	0.48	HAR	701	CD4050BE	0.34	HAR	705	CD74AC13BE	0.92	HAR	704
BUF03FJ	20.25	ADI	—	CD741T	1.79	HAR	—	CD4051BCN	0.73	NSC	775	CD74AC13BM	0.94	HAR	704
BUF03FJ	11.25	ADI	—	CD14538BE	0.68	HAR	705	CD4051BE	0.48	HAR	705	CD74AC139E	0.92	HAR	704
BUF04GP	7.41	ADI	680	CD22402E	7.50	HAR	705	CD4052BCN	0.73	NSC	775	CD74AC139M	0.94	HAR	704
BUF04GS	7.60	ADI	680	CD2277E	0.59	HAR	705	CD4052BCN	0.73	NSC	775	CD74AC14E	0.60	HAR	704
BUV48A	4.68	MOT	753	CD4001BCM	0.33	NSC	775	CD4052BE	0.48	HAR	705	CD74AC14M	0.62	HAR	704
BUX85	0.90	MOT	753	CD4001BCN	0.33	NSC	775	CD4052BE	0.48	HAR	705	CD74AC151E	0.92	HAR	704
BUZ11	1.84	MOT	—	CD4001BE	0.24	HAR	705	CD4053BCN	0.73	NSC	775	CD74AC151M	0.94	HAR	704
BUZ11	1.02	HAR	706	CD4001CN	0.24	NSC	775	CD4053BE	0.78	NSC	775	CD74AC153E	0.92	HAR	704
BUZ41A	1.56	HAR	706	CD4001UBE	0.26	HAR	705	CD4053BE	0.48	HAR	705	CD74AC153M	0.94	HAR	704
BUZ45	7.17	HAR	706	CD4002BE	0.26	HAR	705	CD4054BE	0.61	HAR	705	CD74AC157E	0.92	HAR	704
BUZ71	0.54	HAR	706	CD4006BE	0.60	HAR	705	CD4055BE	0.67	HAR	705	CD74AC157M	0.94	HAR	704
BUZ71A	0.59	HAR	706	CD4007UBE	0.26	HAR	705	CD4056BE	0.61	HAR	705	CD74AC158E	0.92	HAR	704
C106A	0.34	MOT	765	CD4008UBE	0.47	HAR	705	CD4060BCN	0.73	NSC	775	CD74AC158M	0.94	HAR	704
C106B	0.36	MOT	765	CD40100BE	0.85	HAR	705	CD4060BCN	0.73	NSC	775	CD74AC161E	1.38	HAR	704
C106D	0.40	MOT	765	CD40102BE	0.85	HAR	705	CD4060BE	0.55	HAR	705	CD74AC161M	1.40	HAR	704
C106F	0.34	MOT	765	CD40103BE	0.77	HAR									

Manufacturer's Code Log

AMD COL DLS GIS HAR	Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor	DT ITL LAT MIC MXM MOS	Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitellic	MOT NSC NTE PHI SEM SIE	Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc.	TIS THO UNI XLX	Texas Instruments Thomson Consumer Electronics Unilrode Integrated Circuits Xilinx													
Mr.'s Type				Price	Mr.'s Code	Page	Mr.'s Type				Price	Mr.'s Code	Page	Mr.'s Type				Price	Mr.'s Code	Page
CD74AC241E				1.36	HAR	704	CD74ACT175E				0.92	HAR	704	CD74FCT541E				3.79	HAR	—
CD74AC241M				1.38	HAR	704	CD74ACT175M				0.94	HAR	704	CD74FCT541M				4.23	HAR	704
CD74AC244E				1.36	HAR	704	CD74ACT191E				2.53	HAR	704	CD74FCT543EN				5.31	HAR	—
CD74AC244M				1.38	HAR	704	CD74ACT191M				2.55	HAR	704	CD74FCT543M				5.98	HAR	704
CD74AC245E				1.50	HAR	704	CD74ACT193E				2.53	HAR	704	CD74FCT564E				2.01	HAR	704
CD74AC245M				1.52	HAR	704	CD74ACT193M				2.55	HAR	704	CD74FCT573E				2.01	HAR	704
CD74AC251E				0.90	HAR	704	CD74ACT202E				0.53	HAR	704	CD74FCT573M				2.02	HAR	704
CD74AC253E				0.92	HAR	704	CD74ACT202M				0.55	HAR	704	CD74FCT574E				2.01	HAR	704
CD74AC253M				0.94	HAR	704	CD74ACT238E				1.03	HAR	704	CD74FCT574M				2.02	HAR	704
CD74AC257E				0.92	HAR	704	CD74ACT238M				1.06	HAR	704	CD74FCT623M				4.32	HAR	704
CD74AC257M				0.94	HAR	704	CD74ACT240E				1.36	HAR	704	CD74FCT646EN				4.81	HAR	—
CD74AC273E				1.36	HAR	704	CD74ACT240M				1.38	HAR	704	CD74FCT646M				5.40	HAR	704
CD74AC273M				1.38	HAR	704	CD74ACT241E				1.36	HAR	704	CD74FCT651EN				4.81	HAR	—
CD74AC280E				0.97	HAR	704	CD74ACT241M				1.38	HAR	704	CD74FCT651M				5.40	HAR	704
CD74AC280M				0.99	HAR	704	CD74ACT244E				1.36	HAR	704	CD74FCT652EN				4.81	HAR	—
CD74AC283E				1.36	HAR	704	CD74ACT244M				1.38	HAR	704	CD74FCT652M				5.40	HAR	704
CD74AC283M				1.35	HAR	704	CD74ACT245E				1.50	HAR	704	CD74FCT653EN				4.81	HAR	—
CD74AC297M				1.70	HAR	704	CD74ACT245M				1.52	HAR	704	CD74FCT653M				5.40	HAR	704
CD74AC298E				2.30	HAR	704	CD74ACT251E				0.92	HAR	704	CD74FCT654M				5.40	HAR	704
CD74AC298M				2.32	HAR	704	CD74ACT253E				0.92	HAR	704	CD74FCT674EN				4.81	HAR	—
CD74AC293E				2.79	HAR	704	CD74ACT253M				0.94	HAR	704	CD74FCT7623M				4.32	HAR	704
CD74AC32E				0.46	HAR	704	CD74ACT257E				0.92	HAR	704	CD74FCT821AEN				2.66	HAR	—
CD74AC32M				0.53	HAR	704	CD74ACT257M				0.94	HAR	704	CD74FCT821M				2.66	HAR	704
CD74AC373E				1.40	HAR	704	CD74ACT258E				0.92	HAR	704	CD74FCT822AEN				2.66	HAR	—
CD74AC373M				1.43	HAR	704	CD74ACT258M				0.99	HAR	704	CD74FCT823AEN				2.66	HAR	—
CD74AC374E				1.40	HAR	—	CD74ACT273E				1.36	HAR	704	CD74FCT824AEN				2.66	HAR	—
CD74AC374M				1.43	HAR	704	CD74ACT273M				1.38	HAR	704	CD74FCT841AEN				2.66	HAR	—
CD74AC533E				1.50	HAR	—	CD74ACT280E				0.97	HAR	704	CD74FCT841AM				2.66	HAR	704
CD74AC533M				1.52	HAR	704	CD74ACT280M				0.95	HAR	704	CD74FCT842AM				2.66	HAR	704
CD74AC534E				1.50	HAR	704	CD74ACT283E				1.36	HAR	704	CD74FCT843AEN				2.66	HAR	—
CD74AC534M				1.52	HAR	704	CD74ACT283M				1.38	HAR	704	CD74FCT843AM				2.66	HAR	704
CD74AC540E				1.43	HAR	704	CD74ACT297M				1.75	HAR	704	CD74FCT844AEN				2.66	HAR	—
CD74AC540M				1.45	HAR	704	CD74ACT299E				2.30	HAR	704	CD74FCT861AM				2.66	HAR	704
CD74AC541E				1.43	HAR	704	CD74ACT299M				2.32	HAR	704	CD74FCT863AM				2.66	HAR	704
CD74AC541M				1.45	HAR	704	CD74ACT323E				2.79	HAR	704	CD74GHC4053M				0.84	HAR	—
CD74AC563E				1.50	HAR	704	CD74ACT323E				0.46	HAR	704	CD74HC00E				0.29	HAR	702
CD74AC564E				1.50	HAR	704	CD74ACT32M				0.53	HAR	704	CD74HC00M				0.32	HAR	702
CD74AC564M				1.52	HAR	704	CD74ACT373E				1.40	HAR	704	CD74HC02E				0.26	HAR	702
CD74AC573E				1.45	HAR	704	CD74ACT373M				1.43	HAR	704	CD74HC02M				0.35	HAR	702
CD74AC574E				1.47	HAR	704	CD74ACT374E				1.40	HAR	704	CD74HC03E				0.37	HAR	702
CD74AC574M				1.45	HAR	704	CD74ACT374M				1.43	HAR	704	CD74HC03M				0.37	HAR	702
CD74AC623E				1.73	HAR	704	CD74ACT533E				1.50	HAR	704	CD74HC04E				0.29	HAR	702
CD74AC623M				1.75	HAR	704	CD74ACT533M				1.52	HAR	704	CD74HC04M				0.35	HAR	702
CD74AC646EN				4.60	HAR	—	CD74ACT534E				1.50	HAR	704	CD74HC08E				0.29	HAR	702
CD74AC646M				5.17	HAR	—	CD74ACT534M				1.52	HAR	704	CD74HC08M				0.35	HAR	702
CD74AC648M				4.91	HAR	704	CD74ACT540E				1.43	HAR	704	CD74HC107E				0.55	HAR	—
CD74AC652EN				4.60	HAR	—	CD74ACT540M				1.45	HAR	704	CD74HC107M				0.54	HAR	702
CD74AC652M				5.17	HAR	704	CD74ACT541E				1.43	HAR	704	CD74HC109E				0.39	HAR	702
CD74AC653M				5.13	HAR	—	CD74ACT541M				1.45	HAR	704	CD74HC109M				0.51	HAR	702
CD74AC654EN				4.37	HAR	—	CD74ACT563E				1.50	HAR	704	CD74HC10E				0.29	HAR	702
CD74AC654M				4.37	HAR	—	CD74ACT563M				1.52	HAR	704	CD74HC10M				0.35	HAR	702
CD74AC74E				0.60	HAR	704	CD74ACT564E				1.50	HAR	704	CD74HC112E				0.39	HAR	—
CD74AC74M				0.64	HAR	—	CD74ACT564M				1.52	HAR	704	CD74HC11E				0.37	HAR	702
CD74AC86E				0.83	HAR	704	CD74ACT573E				1.45	HAR	704	CD74HC11M				0.37	HAR	702
CD74AC86M				0.85	HAR	704	CD74ACT573M				1.47	HAR	704	CD74HC123E				0.64	HAR	—
CD74ACT00E				0.46	HAR	704	CD74ACT574E				1.45	HAR	704	CD74HC123M				0.67	HAR	702
CD74ACT00M				0.53	HAR	704	CD74ACT574M				1.47	HAR	704	CD74HC125E				0.42	HAR	—
CD74ACT02E				0.46	HAR	704	CD74ACT623E				1.73	HAR	704	CD74HC125M				0.51	HAR	702
CD74ACT02M				0.53	HAR	704	CD74ACT623M				1.75	HAR	704	CD74HC126E				0.60	HAR	—
CD74ACT04E				0.46	HAR	704	CD74ACT646EN				4.60	HAR	—	CD74HC126M				0.61	HAR	702
CD74ACT04M				0.53	HAR	704	CD74ACT646M				5.17	HAR	704	CD74HC132E				0.62	HAR	—
CD74ACT05E				0.57	HAR	704	CD74ACT647M				4.91	HAR	704	CD74HC132M				0.62	HAR	702
CD74ACT05M				0.60	HAR	704	CD74ACT648EN				4.37	HAR	—	CD74HC137E				0.68	HAR	—
CD74ACT08E				0.46	HAR	704	CD74ACT648M				4.91	HAR	704	CD74HC137M				0.68	HAR	702
CD74ACT08M				0.53	HAR	704	CD74ACT651EN				4.60	HAR	—	CD74HC138E				0.48	HAR	—
CD74ACT109E				0.71	HAR	704	CD74ACT651M				4.91	HAR	704	CD74HC138M				0.53	HAR	702
CD74ACT109M				0.72	HAR	704	CD74ACT652EN				4.60	HAR	—	CD74HC139E				0.49	HAR	—
CD74ACT10E				0.46	HAR	704	CD74ACT652M				5.17	HAR	704	CD74HC139M				0.54	HAR	702
CD74ACT10M				0.53	HAR	704	CD74ACT654EN				4.60	HAR	—	CD74HC147E				0.63	HAR	—
CD74ACT112E				1.10	HAR	704	CD74ACT7060E				1.50	HAR	704	CD74HC147M				0.72	HAR	702
CD74ACT112M				1.13	HAR	704	CD74ACT7060M				1.47	HAR	704	CD74HC14E				0.40	HAR	702
CD74ACT138E				0.92	HAR	704	CD74ACT74E				0.60	HAR	704	CD74HC14M				0.39	HAR	702
CD74ACT138M				0.94	HAR	704	CD74ACT74M				0.64	HAR	704	CD74HC151M				0.52	HAR	702
CD74ACT139E				0.92	HAR	704	CD74ACT7623E				1.63	HAR	704	CD74HC153E				0.52	HAR	—
CD74ACT139M				0.94	HAR	704	CD74ACT7623M				1.68	HAR	704	CD74HC153M				0.53	HAR	702
CD74ACT14E				0.60	HAR	704	CD74ACT86E				0.83	HAR	704	CD74HC154E				1.98	HAR	—
CD74ACT14M				0.62	HAR	704	CD74ACT86M				0.85	HAR	704	CD74HC154M				2.22	HAR	702
CD74ACT151E				0.92	HAR	704	CD74FCT240E				2.01	HAR	704	CD74HC157E				0.51	HAR	—
CD74ACT151M				0.94	HAR	704	CD74FCT240M				2.02	HAR	704	CD74HC157M				0.56	HAR	702
CD74ACT153E				0.92	HAR	—	CD74FCT244E				2.01	HAR	704	CD7						

Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
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CD74HC4017E	0.71	HAR	703	CD74HCE240M	0.72	HAR	—	CD74HCT280E	0.69	HAR	703	CD74HCT646M	4.58	HAR	703
CD74HC4017M	0.76	HAR	703	CD74HCE243M	0.71	HAR	—	CD74HCT280M	0.78	HAR	703	CD74HCT652EN	4.37	HAR	—
CD74HC4020E	0.78	HAR	703	CD74HCT00E	0.29	HAR	702	CD74HCT283E	0.69	HAR	703	CD74HCT652M	4.58	HAR	703
CD74HC4020M	0.76	HAR	703	CD74HCT00M	0.35	HAR	702	CD74HCT283M	0.78	HAR	703	CD74HCT670E	0.91	HAR	703
CD74HC4024E	0.60	HAR	703	CD74HCT02E	0.32	HAR	702	CD74HCT297E	1.73	HAR	703	CD74HCT670M	0.94	HAR	703
CD74HC4024M	0.63	HAR	703	CD74HCT02M	0.35	HAR	702	CD74HCT299E	1.10	HAR	703	CD74HCT688E	0.91	HAR	703
CD74HC4040E	0.74	HAR	703	CD74HCT03E	0.37	HAR	702	CD74HCT299M	1.13	HAR	703	CD74HCT688M	0.94	HAR	703
CD74HC4040M	0.74	HAR	703	CD74HCT03M	0.37	HAR	702	CD74HCT30E	0.29	HAR	702	CD74HCT7030E	4.84	HAR	703
CD74HC4046AE	1.61	HAR	703	CD74HCT04E	0.32	HAR	702	CD74HCT30M	0.35	HAR	702	CD74HCT7046AE	1.98	HAR	703
CD74HC4046AM	1.61	HAR	703	CD74HCT04M	0.35	HAR	702	CD74HCT32E	0.34	HAR	702	CD74HCT7046AM	1.94	HAR	703
CD74HC4049E	0.68	HAR	703	CD74HCT08E	0.32	HAR	702	CD74HCT32M	0.37	HAR	702	CD74HCT73E	0.33	HAR	702
CD74HC4049M	0.66	HAR	703	CD74HCT08M	0.35	HAR	702	CD74HCT354E	0.83	HAR	703	CD74HCT73M	0.46	HAR	702
CD74HC4050E	0.64	HAR	703	CD74HCT107E	0.56	HAR	702	CD74HCT356E	0.83	HAR	703	CD74HCT74E	0.39	HAR	702
CD74HC4050M	0.63	HAR	703	CD74HCT107M	0.61	HAR	702	CD74HCT356E	0.74	HAR	703	CD74HCT74M	0.44	HAR	702
CD74HC4051E	0.83	HAR	703	CD74HCT109E	0.39	HAR	702	CD74HCT356M	0.81	HAR	703	CD74HCT75E	0.37	HAR	702
CD74HC4051M	0.84	HAR	703	CD74HCT109M	0.51	HAR	702	CD74HCT366E	0.69	HAR	703	CD74HCT75M	0.46	HAR	702
CD74HC4052E	0.80	HAR	703	CD74HCT10E	0.32	HAR	702	CD74HCT367E	0.69	HAR	703	CD74HCT85E	0.62	HAR	702
CD74HC4053E	0.83	HAR	703	CD74HCT10M	0.35	HAR	702	CD74HCT367M	0.81	HAR	703	CD74HCT85M	0.68	HAR	702
CD74HC4059E	2.05	HAR	703	CD74HCT112E	0.44	HAR	702	CD74HCT368E	0.69	HAR	703	CD74HCT86E	0.44	HAR	702
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CD74HC4060E	0.78	HAR	703	CD74HCT11E	0.37	HAR	702	CD74HCT373E	0.69	HAR	703	CD74HCT93E	0.62	HAR	702
CD74HC4060M	0.78	HAR	703	CD74HCT11M	0.37	HAR	702	CD74HCT373M	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4066E	0.64	HAR	703	CD74HCT123E	0.67	HAR	702	CD74HCT374E	0.69	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4066M	0.66	HAR	703	CD74HCT123M	0.71	HAR	702	CD74HCT374M	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4067E	2.16	HAR	703	CD74HCT125E	0.57	HAR	702	CD74HCT377E	0.83	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4067M	2.14	HAR	703	CD74HCT125E	0.57	HAR	702	CD74HCT377M	0.97	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4075E	0.45	HAR	703	CD74HCT126M	0.62	HAR	702	CD74HCT390E	0.69	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4075M	0.51	HAR	703	CD74HCT132E	0.64	HAR	702	CD74HCT390M	0.81	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4094E	0.70	HAR	703	CD74HCT132M	0.67	HAR	702	CD74HCT393E	0.69	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4094M	0.70	HAR	703	CD74HCT137E	0.64	HAR	702	CD74HCT393M	0.71	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC423E	0.67	HAR	703	CD74HCT137M	0.68	HAR	702	CD74HCT4002E	0.37	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC423M	0.67	HAR	703	CD74HCT138E	0.46	HAR	702	CD74HCT4003E	0.94	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC42E	0.59	HAR	702	CD74HCT138M	0.55	HAR	702	CD74HCT40103M	0.99	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC42M	0.60	HAR	702	CD74HCT139E	0.57	HAR	702	CD74HCT40105M	0.99	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4316E	0.71	HAR	703	CD74HCT139M	0.67	HAR	702	CD74HCT40105M	1.06	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4316M	0.76	HAR	703	CD74HCT147E	0.69	HAR	702	CD74HCT4015E	0.76	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4351E	0.92	HAR	703	CD74HCT14E	0.39	HAR	702	CD74HCT4015M	0.76	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4351M	0.90	HAR	—	CD74HCT14M	0.41	HAR	702	CD74HCT4016E	4.37	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4352E	0.92	HAR	703	CD74HCT151E	0.53	HAR	702	CD74HCT4017E	0.71	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4352M	0.94	HAR	703	CD74HCT151M	0.60	HAR	702	CD74HCT4020E	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4353E	0.83	HAR	703	CD74HCT153E	0.53	HAR	702	CD74HCT4020M	0.81	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4502M	0.82	HAR	—	CD74HCT153M	0.60	HAR	702	CD74HCT4024E	0.60	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4511E	0.67	HAR	703	CD74HCT154E	1.84	HAR	702	CD74HCT4024M	0.67	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4511M	0.72	HAR	703	CD74HCT154M	2.30	HAR	702	CD74HCT4040E	0.74	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4514E	1.96	HAR	703	CD74HCT157E	0.51	HAR	702	CD74HCT4040M	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4514M	1.91	HAR	703	CD74HCT157M	0.57	HAR	702	CD74HCT4046AE	1.61	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4515E	1.94	HAR	703	CD74HCT158E	0.51	HAR	702	CD74HCT4046AM	1.68	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4515M	1.91	HAR	703	CD74HCT158E	0.66	HAR	702	CD74HCT4051E	0.83	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4516E	0.76	HAR	703	CD74HCT161E	0.55	HAR	702	CD74HCT4051M	0.90	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4518E	0.78	HAR	—	CD74HCT161M	0.69	HAR	702	CD74HCT4052E	0.81	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4518M	0.83	HAR	703	CD74HCT163E	0.57	HAR	703	CD74HCT4052M	0.83	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4520E	0.78	HAR	703	CD74HCT163M	0.67	HAR	703	CD74HCT4053E	0.83	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4520M	0.83	HAR	703	CD74HCT164E	0.57	HAR	703	CD74HCT4053M	0.90	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4538M	0.92	HAR	703	CD74HCT164M	0.62	HAR	703	CD74HCT4059E	2.05	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC4543E	0.64	HAR	703	CD74HCT165E	0.57	HAR	703	CD74HCT4059M	2.16	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC533E	0.92	HAR	703	CD74HCT165M	0.64	HAR	703	CD74HCT4060E	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC534E	0.91	HAR	703	CD74HCT165M	0.69	HAR	703	CD74HCT4060M	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC534M	0.92	HAR	703	CD74HCT166M	0.76	HAR	703	CD74HCT4060E	0.84	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC540E	0.85	HAR	703	CD74HCT173E	0.64	HAR	703	CD74HCT4066E	0.69	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC540M	0.92	HAR	703	CD74HCT173M	0.71	HAR	703	CD74HCT4067E	2.07	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC541E	0.87	HAR	703	CD74HCT174E	0.51	HAR	703	CD74HCT4067M	2.19	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC541M	0.85	HAR	703	CD74HCT174M	0.57	HAR	703	CD74HCT4075E	0.37	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC563E	0.87	HAR	703	CD74HCT175E	0.46	HAR	703	CD74HCT4075M	0.51	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC563M	0.86	HAR	703	CD74HCT175M	0.55	HAR	703	CD74HCT4094E	0.67	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC564E	0.95	HAR	703	CD74HCT190E	0.64	HAR	703	CD74HCT4094M	0.74	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC564M	1.01	HAR	703	CD74HCT191E	0.74	HAR	703	CD74HCT423E	0.67	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC573E	0.83	HAR	703	CD74HCT191M	0.76	HAR	703	CD74HCT42E	0.60	HAR	702	CD74HCT93M	0.66	HAR	702
CD74HC573M	0.84	HAR	—	CD74HCT192E	0.64	HAR	703	CD74HCT4316E	0.69	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC574E	0.87	HAR	703	CD74HCT193E	0.69	HAR	703	CD74HCT4316M	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC574M	0.94	HAR	703	CD74HCT193M	0.74	HAR	703	CD74HCT4351E	0.87	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC583E	0.78	HAR	703	CD74HCT194E	0.67	HAR	703	CD74HCT4351M	0.90	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC597E	0.77	HAR	703	CD74HCT195E	0.67	HAR	703	CD74HCT4352E	0.92	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC597M	0.78	HAR	703	CD74HCT20E	3.99	HAR	702	CD74HCT4511E	0.67	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC640E	1.10	HAR	703	CD74HCT20M	0.41	HAR	702	CD74HCT4514E	1.86	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC640M	1.12	HAR	703	CD74HCT21E	0.39	HAR	702	CD74HCT4514M	1.91	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC646E	3.33	HAR	703	CD74HCT21M	0.41	HAR	702	CD74HCT4515E	1.94	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC646M	4.58	HAR	703	CD74HCT221E	0.69	HAR	703	CD74HCT4515M	1.91	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC648E	2.83	HAR	703	CD74HCT221M	0.83	HAR	703	CD74HCT4518E	0.78	HAR	703	CD74HCT93M	0.66	HAR	702
CD74HC648M	4.58	HAR	703	CD74HCT237E	0.69	HAR	703	CD74HCT4520E	0.80	HAR	703	CD74			

Manufacturer's Code Log

ADI				Analog Devices Inc.				IDT				Integrated Device Technology, Inc.				MOT				Motorola Semiconductor				TIS				Texas Instruments			
AMD				Advanced Micro Devices				Intel				Intel				NSC				National Semiconductor				THO				Thomson Consumer Electronics			
COL				Coltamer Semiconductors, Inc.				Lattice				Lattice				NTE				NTE Electronics				UNI				Unitrode Integrated Circuits			
DLS				Dallas Semiconductor				Micron				Maxim				PHI				Philips Semiconductors				XLX				Xilinx			
GIS				General Instrument				MOS				MOSel-Vitalic				SEM				Siemens Components, Inc.											
HAR				Harris Semiconductor																											
Mfr.'s Type				Price	Mfr.'s Code	Page	Mfr.'s Type				Price	Mfr.'s Code	Page	Mfr.'s Type				Price	Mfr.'s Code	Page	Mfr.'s Type				Price	Mfr.'s Code	Page				
CMP02CP				3.94	ADI	680	DAC0808LCN				1.52	NSC	768	DF10M				0.50	GIS	693	DM74AS08M				0.51	NSC	775				
CMP02CS				3.75	ADI	680	DAC0830LCJ				9.80	NSC	768	DF10S				0.60	GIS	693	DM74AS08N				0.44	NSC	775				
CMP02EP				5.63	ADI	—	DAC0830LCN				8.25	NSC	768	DG401DJ				2.26	HAR	698	DM74AS1000AM				1.07	NSC	775				
CMP04FP				7.80	ADI	680	DAC0832LCJ				7.85	NSC	768	DG403DJ				7.28	HAR	698	DM74AS1000AN				1.00	NSC	775				
CMP04FS				7.80	ADI	—	DAC0832LCN				4.23	NSC	768	DG405DJ				4.28	HAR	698	DM74AS1004AM				1.07	NSC	775				
CMP05GP				3.15	ADI	—	DAC0832LCWM				5.50	NSC	768	DG408DJ				4.27	HAR	698	DM74AS1004AN				1.00	NSC	775				
CMP05GZ				4.13	ADI	—	DAC0843AZ				55.68	ADI	—	DG409DJ				4.27	HAR	698	DM74AS1032AN				1.00	NSC	775				
CMP404FY				4.43	ADI	—	DAC0854BIN				22.00	NSC	768	DG411DJ				3.01	HAR	698	DM74AS1032AN				1.00	NSC	775				
CNY17-1				0.50	MOT	749	DAC0854CJ				16.20	NSC	768	DG412DJ				3.20	HAR	698	DM74AS1034AN				1.07	NSC	775				
CNY17-2				0.48	MOT	749	DAC0854CIN				14.70	NSC	768	DG413DJ				3.05	HAR	698	DM74AS10M				0.51	NSC	775				
CNY17-3				0.48	MOT	749	DAC0854CIWM				14.60	NSC	768	DG441DJ				2.13	HAR	698	DM74AS10N				0.44	NSC	775				
COP372N-3				5.15	NSC	—	DAC088AQ				9.08	ADI	—	DG442DJ				2.13	HAR	698	DM74AS157M				1.12	NSC	775				
COP372WM-3				5.15	NSC	—	DAC088CP				1.98	ADI	—	DG444DJ				1.92	HAR	698	DM74AS157N				1.03	NSC	775				
COP472N-3				4.62	NSC	—	DAC088CQ				2.07	ADI	—	DG445DJ				1.83	HAR	698	DM74AS158N				1.03	NSC	775				
COP472WM-3				4.62	NSC	—	DAC088CS				1.80	ADI	675	DK80386XSXA-40				26.52	ITL	—	DM74AS174N				1.54	NSC	775				
CP80C86				16.35	HAR	694	DAC088EP				2.25	ADI	675	DM74ALS00AM				0.42	NSC	774	DM74AS1804N				2.89	NSC	775				
CP80C86-2				21.30	HAR	694	DAC088EP				2.81	ADI	675	DM74ALS00AN				0.42	NSC	774	DM74AS220N				0.44	NSC	775				
CP80C88				13.60	HAR	694	DAC088EP				3.38	ADI	675	DM74ALS02N				0.42	NSC	774	DM74AS221N				0.44	NSC	775				
CP80C88-2				17.75	HAR	694	DAC088EP				4.13	ADI	675	DM74ALS04BM				0.42	NSC	774	DM74AS240N				1.89	NSC	775				
CP82C237				16.45	HAR	694	DAC1006LCN				9.85	NSC	768	DM74ALS04BN				0.42	NSC	774	DM74AS240WM				1.89	NSC	775				
CP82C237-12				27.30	HAR	694	DAC1007LCN				7.80	NSC	768	DM74ALS05AN				0.42	NSC	774	DM74AS244N				1.89	NSC	775				
CP82C37A				16.45	HAR	694	DAC1008LCN				6.50	NSC	768	DM74ALS08M				0.42	NSC	774	DM74AS244WM				1.89	NSC	775				
CP82C37A-12				27.30	HAR	694	DAC1020LCN				8.35	NSC	768	DM74ALS08N				0.42	NSC	774	DM74AS245N				2.00	NSC	775				
CP82C54				4.94	HAR	694	DAC1020LCV				8.35	NSC	768	DM74ALS1000AN				1.60	NSC	774	DM74AS245WM				2.00	NSC	775				
CP82C54-12				7.41	HAR	694	DAC1021LCN				6.55	NSC	768	DM74ALS109AN				0.51	NSC	774	DM74AS257N				1.16	NSC	775				
CP82C59A				4.75	HAR	694	DAC1022LCN				5.45	NSC	768	DM74ALS10AM				0.42	NSC	774	DM74AS258M				1.27	NSC	775				
CP82C59A-12				7.13	HAR	694	DAC1022LCN				12.75	NSC	768	DM74ALS10AN				0.42	NSC	774	DM74AS258N				1.16	NSC	775				
CP82C84A				3.30	HAR	695	DAC1208LCJ				16.60	NSC	768	DM74ALS11AN				0.42	NSC	774	DM74AS273N				0.44	NSC	775				
CPD1802CD				30.85	HAR	695	DAC1210LCJ				11.60	NSC	768	DM74ALS125M				1.40	NSC	774	DM74AS280N				1.34	NSC	775				
C552-10				0.91	COL	688	DAC1218LCJ				16.60	NSC	768	DM74ALS125N				1.40	NSC	774	DM74AS286M				1.45	NSC	775				
C552-12				1.16	COL	688	DAC1230LCJ				16.60	NSC	768	DM74ALS133M				1.05	NSC	774	DM74AS286N				1.34	NSC	775				
C552-14				1.24	COL	688	DAC1231LCJ				14.20	NSC	768	DM74ALS138M				0.84	NSC	774	DM74AS303N				0.67	NSC	775				
C553-16				1.35	COL	688	DAC1232LCJ				11.60	NSC	768	DM74ALS138N				0.80	NSC	774	DM74AS32M				0.51	NSC	775				
C553-18				1.42	COL	688	DAC1232LCJ-1				10.00	NSC	768	DM74ALS14M				1.85	NSC	774	DM74AS32N				0.44	NSC	775				
C553-20				1.66	COL	688	DAC16EP				48.00	ADI	675	DM74ALS14N				2.00	NSC	774	DM74AS373N				1.89	NSC	775				
C554-08				0.87	COL	688	DAC16ES				48.00	ADI	675	DM74ALS161BN				0.78	NSC	774	DM74AS373WM				1.89	NSC	775				
C556-24				1.72	COL	688	DAC16FP				37.50	ADI	675	DM74ALS163BN				0.78	NSC	774	DM74AS374N				1.89	NSC	775				
C557-04				0.78	COL	688	DAC16FS				37.50	ADI	675	DM74ALS169BN				0.78	NSC	774	DM74AS374WM				1.89	NSC	775				
CS80C286-12				16.00	HAR	694	DAC2106GX				15.68	ADI	675	DM74ALS174N				0.78	NSC	774	DM74AS373N				2.00	NSC	775				
CS80C286-18				17.50	HAR	694	DAC312FR				14.77	ADI	675	DM74ALS200AM				0.53	NSC	774	DM74AS573WM				2.12	NSC	775				
CS80C286-20				19.50	HAR	694	DAC312HP				6.75	ADI	675	DM74ALS240AN				1.00	NSC	774	DM74AS574N				2.00	NSC	775				
CS80C286-25				21.00	HAR	694	DAC312HS				6.75	ADI	675	DM74ALS240AWM				1.00	NSC	774	DM74AS640N				2.23	NSC	775				
CS80C86				18.24	HAR	694	DAC8043FP				13.43	ADI	675	DM74ALS241AN				1.00	NSC	774	DM74AS645N				2.67	NSC	775				
CS80C86-2				23.15	HAR	694	DAC8043GP				19.95	ADI	675	DM74ALS244AN				1.00	NSC	774	DM74AS646NT				5.60	NSC	775				
CS80C88				15.50	HAR	694	DAC8143FP				9.80	ADI	675	DM74ALS244AWM				1.00	NSC	774	DM74AS646WM				5.70	NSC	775				
CS80C88-2				19.60	HAR	694	DAC8143FS				9.80	ADI	675	DM74ALS245AN				1.00	NSC	774	DM74AS684NT				6.15	NSC	775				
CS82C237				19.74	HAR	694	DAC8212FV				26.74	ADI	675	DM74ALS245AWM				1.00	NSC	774	DM74AS6851NT				5.60	NSC	775				
CS82C237-12				32.75	HAR	694	DAC8221FP				16.32	ADI	676	DM74ALS253N				0.78	NSC	774	DM74AS6851WM				5.70	NSC	775				
CS82C37A				19.74	HAR	694	DAC8222FP				21.05	ADI	676	DM74ALS257M				0.78	NSC	774	DM74AS74N				0.56	NSC	775				
CS82C37A-12				32.75	HAR	694	DAC8222GP				27.60	ADI	676	DM74ALS257N				0.78	NSC	774	DM74AS760N				3.34	NSC	775				
CS82C54				5.92	HAR	694	DAC8228FP				5.93	ADI	676	DM74ALS258N				1.23	NSC	774	DM74AS760WM				3.34	NSC	775				
CS82C54-12				8.88	HAR	694	DAC8228FS				6.53	ADI	676	DM74ALS273N				1.07	NSC	774	DM74AS804BN				2.12	NSC	775				
CS82C55A				5.48	HAR	694	DAC8229FP				5.93	ADI	676	DM74ALS27N				0.42	NSC	774	DM74AS804BWM				2.16	NSC	775				
CS82C59A				5.70	HAR	694	DAC8229FS				6.53	ADI	676	DM74ALS300AN				0.47	NSC	774	DM74AS874NT				4.23	NSC	775				
CS82C59A-12				8.55	HAR	694	DAC8248FP				19.14	ADI	676	DM74ALS32M				0.42	NSC	774	DM74ALS00M				0.38	NSC	774				
DC82C84A				3.95	HAR	695	DAC8248GP				27.60	ADI	—	DM74ALS32N				0.42	NSC	774	DM74ALS00N				0.33	NSC	774				
D44H10				1.10	MOT	753	DAC8408FP				20.25	ADI	676	DM74ALS373N				1.00	NSC	774	DM74ALS02N				0.33	NSC	774				
D44H11				0.90	MOT	753	DAC8408FS				13.25	ADI	676	DM74ALS374N				1.00	NSC	774	DM74ALS04M				0.38	NSC	774				
D44H8				0.90	MOT	753	DAC8408GP				20.25	ADI	676	DM74ALS374WM				1.00	NSC	774	DM74ALS04N				0.33	NSC	774				
D44H10				1.20	MOT	753	DAC8412EP				70.20	ADI	676	DM74ALS38AN				0.67	NSC	774	DM74ALS05N				0.33	NSC	774				
D45H11				1.10	MOT	753	DAC8412FP				51.75	ADI	676	DM74ALS520N				0.20	NSC	774	DM74ALS08M				0.38	NSC	774				
D45H8				1.24	MOT	753	DAC8412FPC				58.50	ADI	—	DM74ALS520WM				2.00	NSC	774	DM74ALS08N				0.33	NSC	774				
D45VH10				1.24	MOT	753	DAC8412FT				80.85	ADI	—	DM74ALS521WM				2.00	NSC	774	DM74ALS10N				0.33	NSC	774				
D80C318H				5.60	ITL	716	DAC8413FP				51.75	ADI	—	DM74ALS5245N				2.36	NSC	774	DM74ALS123M				0.67	NSC	774				
D80C318H-1				6.05	ITL	716	DAC8426FP				21.75	ADI	676	DM74ALS5245WM				2.36	NSC	774	DM74ALS123N				0.56	NSC	774				
D87C51				22.90	ITL	716	DAC8426FS				21.75	ADI	676	DM74ALS533N				2.00	NSC	774	DM74ALS125AM				0.53	NSC	774				
D87C51-1				24.10	ITL	716	DAC88800																								

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DM74LS273N	0.69	NSC	774	DS1225A8-170	12.32	DLS	—	DS75176BM	1.45	NSC	773	ENC102D-14A	1.13	COL	689
DM74LS273WM	0.78	NSC	774	DS1225A0-150	16.50	DLS	—	DS75176BN	1.34	NSC	773	ENC102D-20A	2.77	COL	689
DM74LS279N	0.44	NSC	774	DS1230V-120	18.90	DLS	—	DS75176BTM	2.23	NSC	773	ENC121D-05A	0.49	COL	689
DM74LS32M	0.38	NSC	774	DS1231-20	4.60	DLS	—	DS75176BTN	2.00	NSC	773	ENC121D-07A	0.38	COL	689
DM74LS32N	0.33	NSC	774	DS1232	2.99	DLS	—	DS75451M	0.58	NSC	—	ENC121D-10A	0.41	COL	689
DM74LS373N	0.67	NSC	774	DS1233-10	1.58	DLS	—	DS75451N	0.58	NSC	—	ENC121D-14A	0.61	COL	689
DM74LS373WM	0.71	NSC	774	DS1233-15	1.58	DLS	—	DS75452N	0.56	NSC	—	ENC121D-20A	1.35	COL	689
DM74LS374N	0.67	NSC	774	DS1287	11.12	DLS	—	DS75453M	0.56	NSC	—	ENC151D-05A	0.46	COL	689
DM74LS374WM	0.71	NSC	774	DS1488M	0.67	NSC	772	DS75453N	0.56	NSC	—	ENC151D-07A	0.38	COL	689
DM74LS377N	0.84	NSC	774	DS1488N	0.67	NSC	772	DS75454N	0.56	NSC	—	ENC151D-10A	0.41	COL	689
DM74LS38N	0.36	NSC	774	DS1489AM	0.67	NSC	772	DS75462N	0.73	NSC	—	ENC151D-14A	0.61	COL	689
DM74LS393M	0.76	NSC	774	DS1489AN	0.67	NSC	772	DS75463N	0.69	NSC	—	ENC151D-20A	1.22	COL	689
DM74LS393N	0.69	NSC	774	DS1489M	0.67	NSC	772	DS75491N	1.17	NSC	—	ENC201D-05A	0.49	COL	689
DM74LS503N	8.20	NSC	774	DS1489N	0.67	NSC	772	DS75492N	1.97	NSC	—	ENC201D-07A	0.40	COL	689
DM74LS534N	3.23	NSC	774	DS14C232CM	4.23	NSC	772	DS75494N	1.30	NSC	—	ENC201D-10A	0.41	COL	689
DM74LS573N	2.98	NSC	774	DS14C232CN	4.00	NSC	772	DS78C20J	15.90	NSC	773	ENC201D-14A	0.61	COL	689
DM74LS574N	2.98	NSC	774	DS14C232CWM	4.23	NSC	—	DS8640N	1.20	NSC	774	ENC201D-20A	1.25	COL	689
DM74LS74AM	0.42	NSC	774	DS14C232TM	5.25	NSC	—	DS8641N	2.78	NSC	774	ENC220D-14B	0.67	COL	689
DM74LS74AN	0.38	NSC	774	DS14C232TN	5.00	NSC	—	DS8830N	1.67	NSC	773	ENC220D-20B	1.35	COL	689
DM74LS85N	0.51	NSC	774	DS14C232TWM	5.25	NSC	—	DS8830N	1.51	TIS	—	ENC221D-05A	0.49	COL	689
DM74LS86N	0.44	NSC	774	DS14C88M	1.34	NSC	772	DS8834N	1.67	NSC	774	ENC221D-07A	0.40	COL	689
DP5380V	12.75	NSC	—	DS14C88N	1.34	NSC	772	DS8837M	2.77	NSC	774	ENC221D-10A	0.41	COL	689
DP7310J	13.90	NSC	—	DS14C88TM	1.74	NSC	772	DS8837N	2.23	NSC	774	ENC221D-14A	0.61	COL	689
DP8304BN	2.12	NSC	—	DS14C88TN	1.74	NSC	772	DS8838M	2.20	NSC	774	ENC221D-20A	1.35	COL	689
DP8310N	7.55	NSC	—	DS14C89AM	1.34	NSC	772	DS8838N	1.89	NSC	774	ENC241D-05A	0.46	COL	689
DP8311N	8.25	NSC	—	DS14C89AN	1.34	NSC	772	DS88C20N	5.65	NSC	773	ENC241D-07A	0.40	COL	689
DP8344BV	57.00	NSC	—	DS14C89ATM	1.74	NSC	772	DS88LS120N	4.31	NSC	773	ENC241D-10A	0.41	COL	689
DP83901AV	20.60	NSC	—	DS14C89ATN	1.74	NSC	772	DS8921AM	3.23	NSC	773	ENC241D-14A	0.58	COL	689
DP83902AV	21.70	NSC	—	DS1691AJ	11.40	NSC	772	DS8921AN	2.12	NSC	773	ENC241D-20A	1.35	COL	689
DP83902AVJG	23.40	NSC	—	DS1692J	9.85	NSC	773	DS8921ATJ	5.00	NSC	773	ENC270D-05B	0.46	COL	689
DP83902AVLJ	21.70	NSC	—	DS16F95J	12.40	NSC	—	DS8921ATM	3.56	NSC	773	ENC270D-07B	0.53	COL	689
DP83905AVQB	23.80	NSC	—	DS2001CJ	1.45	NSC	—	DS8921ATN	2.78	NSC	773	ENC270D-14B	0.63	COL	689
DP8390DN	19.50	NSC	—	DS2003CJ	1.45	NSC	—	DS8921M	1.56	NSC	773	ENC270D-20B	1.35	COL	689
DP8390DV	19.50	NSC	—	DS2003CN	0.89	NSC	—	DS8921N	1.34	NSC	773	ENC271D-05A	0.46	COL	689
DP83910AN	23.80	NSC	—	DS2004CN	0.89	NSC	—	DS8922AM	3.89	NSC	773	ENC271D-07A	0.38	COL	689
DP83910AV	23.80	NSC	—	DS26C32ATM	2.23	NSC	773	DS8922AN	3.56	NSC	773	ENC271D-10A	0.39	COL	689
DP83916VF	61.20	NSC	—	DS26F31CJ	5.65	NSC	772	DS8922M	2.34	NSC	773	ENC271D-14A	0.58	COL	689
DP8391AN	20.00	NSC	—	DS26F31MJ	14.40	NSC	—	DS8922N	2.12	NSC	773	ENC271D-20A	1.35	COL	689
DP8391AV	20.00	NSC	—	DS26F32CJ	5.65	NSC	773	DS8923AM	3.89	NSC	773	ENC330D-05B	0.49	COL	689
DP8392CN	10.30	NSC	—	DS26F32MJ	14.40	NSC	—	DS8923AN	3.56	NSC	773	ENC330D-07B	0.53	COL	689
DP8392CN-1	18.30	NSC	—	DS26LS31CJ	1.78	NSC	772	DS8923M	2.34	NSC	773	ENC330D-10B	0.56	COL	689
DP8392CV	10.30	NSC	—	DS26LS31CM	1.34	NSC	772	DS8923N	2.12	NSC	773	ENC330D-14B	0.67	COL	689
DP83932BV	47.60	NSC	—	DS26LS31CN	0.98	NSC	772	DS95172CN	2.83	NSC	773	ENC330D-20B	1.35	COL	689
DP83932BVF-25	54.40	NSC	—	DS26LS31MJ	7.80	NSC	—	DS96174CN	2.83	NSC	773	ENC361D-05A	0.46	COL	689
DP83934AVQB	51.68	NSC	—	DS26LS32ACM	1.34	NSC	773	DS96175CN	2.78	NSC	773	ENC361D-07A	0.40	COL	689
DP83950BVQB	124.00	NSC	—	DS26LS32ACN	1.00	NSC	773	DS96176CJ	3.09	NSC	773	ENC361D-10A	0.43	COL	689
DP83955AV	40.80	NSC	—	DS26LS32CN	1.00	NSC	773	DS96176CN	2.45	NSC	773	ENC361D-14A	0.64	COL	689
DP8402AD	67.00	NSC	773	DS26LS32MJ	10.00	NSC	—	DS96177CN	1.89	NSC	773	ENC361D-20A	1.35	COL	689
DP8409AN	20.40	NSC	773	DS26LS33ACN	1.23	NSC	773	DS9636ACN	1.36	NSC	772	ENC390D-05B	0.49	COL	689
DP8409AN-2	27.20	NSC	773	DS26LS33CN	1.23	NSC	773	DS9636AMJ	12.20	NSC	—	ENC390D-07B	0.53	COL	689
DP8417N-70	48.96	NSC	773	DS26S10N	1.78	NSC	—	DS9637ACM	1.67	NSC	773	ENC390D-10B	0.59	COL	689
DP8419N-70	48.96	NSC	773	DS3486M	0.89	NSC	773	DS9637ACN	1.56	NSC	773	ENC390D-14B	0.67	COL	689
DP8419N-80	38.08	NSC	773	DS3486N	0.89	NSC	773	DS9637AMJ	12.00	NSC	773	ENC391D-05A	1.35	COL	689
DP8419N-80	38.08	NSC	773	DS3487M	0.89	NSC	772	DS9638CJ	13.40	NSC	773	ENC391D-07A	0.40	COL	689
DP8420AV-20	19.86	NSC	773	DS3487N	0.89	NSC	772	DS9638CN	1.45	NSC	773	ENC391D-10A	0.46	COL	689
DP8420AV-25	24.48	NSC	773	DS3631N	2.73	NSC	—	DS96F172CJ	6.70	NSC	773	ENC391D-14A	0.64	COL	689
DP8421AV-20	24.89	NSC	773	DS3632N	2.34	NSC	—	DS96F172MJ	12.40	NSC	773	ENC391D-20A	1.35	COL	689
DP8421AV-25	33.73	NSC	773	DS3633N	2.82	NSC	—	DS96F173CJ	6.70	NSC	773	ENC431D-05A	1.35	COL	689
DP8422ATV-25	67.32	NSC	773	DS3650M	1.89	NSC	773	DS96F173MJ	12.40	NSC	773	ENC431D-07A	0.49	COL	689
DP8422AV-20	39.85	NSC	773	DS3658N	5.80	NSC	—	DS96F174CJ	6.70	NSC	773	ENC431D-10A	0.40	COL	689
DP8422AV-25	47.60	NSC	773	DS3662N	4.83	NSC	774	DS96F174MJ	12.40	NSC	773	ENC431D-14A	0.46	COL	689
DP8428D-70	76.16	NSC	773	DS3667N	9.85	NSC	774	DS96F175CJ	6.70	NSC	773	ENC431D-20A	1.35	COL	689
DP8428V-70	61.20	NSC	773	DS3668N	11.50	NSC	—	DS96F175MJ	12.40	NSC	773	ENC470D-05B	0.46	COL	689
DP8429D-70	76.16	NSC	773	DS3680M	5.70	NSC	—	DSP56000CLASA	417.28	MOT	730	ENC470D-07B	0.53	COL	689
DP8429D-80	76.16	NSC	774	DS3680N	2.89	NSC	—	DSP56000CLASF	417.28	MOT	730	ENC470D-10B	0.59	COL	689
DP8429TD-70	85.68	NSC	774	DS3680N	3.01	TIS	—	DSP56002ADM	1738.64	MOT	730	ENC470D-14B	0.67	COL	689
DP8429V-70	61.20	NSC	773	DS3691M	3.12	NSC	772	DSP56002ADSA	2086.37	MOT	730	ENC470D-20B	1.35	COL	689
DP8429V-80	61.20	NSC	774	DS3691N	2.00	NSC	772	DSP56002ADSF	2086.37	MOT	730	ENC471D-05A	0.49	COL	689
DP8458V-25	20.40	NSC	—	DS3692N	3.12	NSC	773	DSP56002EVM	189.89	MOT	—	ENC471D-07A	0.40	COL	689
DP8459V-10	17.00	NSC	—	DS36950V	14.20	NSC	773	DSP56002FC40	49.34	MOT	730	ENC471D-10A	0.46	COL	689
DP8459V-25	20.40	NSC	—	DS36954V	14.20	NSC	773	DSP56002RC40	153.93	MOT	730	ENC471D-14A	0.61	COL	689
DP8464BV-2	9.52	NSC	—	DS36955M	2.34	NSC	773	DSP56004ADM	1738.64	MOT	730	ENC471D-20A	1.35	COL	689
DP8464BV-3	8.84	NSC	—	DS3695ATM	3.34	NSC	773	DSP56004ADSA	2086.37	MOT	730	ENC621D-14A	1.02	COL	689
DP8466BN-12	142.80	NSC	—	DS3695N	2.34	NSC	773	DSP56004ADSF	2086.37	MOT	730	ENC621D-20A	1.86	COL	689
DP8466BN-20	183.60	NSC	—	DS3695TN	3.32	NSC	773	DSP56100CLASA	417.28	MOT	730	ENC680D-05B	0.49	COL	689
DP8466BN-25	224.40	NSC	—	DS3696N	2.34	NSC	773	DSP56100CLASB	417.28	MOT	730	ENC680D-07B	0.53	COL	689
DP8466BV-12	142.80	NSC	—	DS3696TN	3.32	NSC	773	DSP56156ADM	1738.64	MOT	—	ENC680D-10B	0.63	COL	689
DP8466BV-20	183.60	NSC	—	DS3697N	2.34	NSC	773	DSP56156ADSA	2086.37	MOT	730	ENC680D-20B	1.35	COL	689
DP8466BV-25	224.40	NSC	—	DS36F95J	6.70	NSC	773	DSP56156ADSB	2086.37	MOT	730	ENC680D-14B	0.69	COL	689
DP8473AV	11.20	NSC	—	DS3862N	10.60	NSC	774	DSP56156ADSF	2086.37	MOT	730	ENC820D-10A	0.41	COL	689
DP8481N	10.62	TIS	—	DS3875V	55.49	NSC	774	DSP56166ADM	1738.64	MOT	730	ENC			

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ERB44-08	0.36	COL	—	GAL18V10-15LP	4.20	LAT	718	GBPC608	1.76	GIS	693	GL34A	0.20	GIS	693	HD3-15531B-9	101.75	HAR	696	GL34B	0.08	GIS	693	HD3-6402R-9	5.55	HAR	696	HFA11001P	5.25	HAR	701
ERB44-10	0.47	COL	685	GAL18V10-20LJ	3.30	LAT	718	GBPC610	1.76	GIS	693	GL34D	0.08	GIS	693	HD3-6402B-9	5.65	HAR	696	GL34E	0.08	GIS	693	HD3-6402C-9	5.55	HAR	696	HFA11001P	5.25	HAR	701
ERB81-004	0.61	COL	685	GAL20RA10B-10LJ	17.95	LAT	718	GF1B	0.14	GIS	693	GL34G	0.08	GIS	693	HD3-6402D-9	7.25	HAR	696	GL34H	0.08	GIS	693	HD3-6402E-9	5.55	HAR	696	HFA11001P	5.25	HAR	701
ERB84-009	0.89	COL	685	GAL20RA10B-10LP	17.05	LAT	718	GF1D	0.14	GIS	693	GL34I	0.08	GIS	693	HD3-6402F-9	5.55	HAR	696	GL34J	0.08	GIS	693	HD3-6402G-9	5.55	HAR	696	HFA11001P	5.25	HAR	701
ERB91-02	0.51	COL	685	GAL20RA10B-15LJ	13.30	LAT	718	GF1J	0.14	GIS	693	GL34K	0.08	GIS	693	HD3-6402H-9	5.55	HAR	696	GL34L	0.08	GIS	693	HD3-6402I-9	5.55	HAR	696	HFA11001P	5.25	HAR	701
ERB93-02	0.87	COL	685	GAL20RA10B-15LP	12.66	LAT	718	GF1K	0.18	GIS	693	GL34M	0.09	GIS	693	HD3-6402J-9	29.15	HAR	696	GL34N	0.09	GIS	693	HD3-6402K-9	15.95	HAR	696	HFA11001P	5.25	HAR	701
ERC06-15	0.66	COL	685	GAL20RA10B-20LJ	6.34	LAT	718	GF1M	0.19	GIS	693	GL41A	0.12	GIS	693	HD4-15530-9	169.50	HAR	696	GL41B	0.12	GIS	693	HD4-15531-9	169.50	HAR	696	HFA11001P	5.25	HAR	701
ERC30-01	0.24	COL	685	GAL20RA10B-20LP	9.35	LAT	718	GL41Y	0.35	GIS	693	GL41D	0.11	GIS	693	HD4-4702-9	22.55	HAR	696	GL41E	0.11	GIS	693	HD4-4702-9	22.55	HAR	696	HFA11001P	5.25	HAR	701
ERC38-04	0.87	COL	685	GAL20RA10B-30LJ	9.25	LAT	718	H11A1	0.50	MOT	749	GL41G	0.11	GIS	693	HD4-6409-9	28.27	HAR	696	GL41H	0.11	GIS	693	HD4-6409-9	28.27	HAR	696	HFA11001P	5.25	HAR	701
ERC62-004	3.82	COL	685	GAL20RA10B-30LP	8.80	LAT	718	H11A3	0.48	MOT	749	GL41I	0.11	GIS	693	HFA11001P	5.25	HAR	701	GL41J	0.12	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC80-004	2.14	COL	685	GAL20RA10B-7LJ	21.55	LAT	718	H11A2	0.80	MOT	749	GL41K	0.12	GIS	693	HFA11001P	5.25	HAR	701	GL41L	0.12	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC81-004	2.36	COL	685	GAL20V8B-10LJ	6.05	LAT	718	H11A3	0.90	MOT	749	GL41M	0.19	GIS	693	HFA11001P	5.25	HAR	701	GL41N	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC81-006	0.94	COL	685	GAL20V8B-10LP	5.85	LAT	718	H11A4	0.90	MOT	749	GL41Y	0.35	GIS	693	HFA11001P	5.25	HAR	701	GL41O	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC81S-004	2.08	COL	685	GAL20V8B-15LJ	2.55	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41P	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC84-009	1.70	COL	685	GAL20V8B-15LP	2.30	LAT	718	H11A2	0.80	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Q	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC88-009	2.68	COL	—	GAL20V8B-15QJ	3.30	LAT	718	H11A3	0.48	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41R	0.11	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC90-02B	2.19	COL	—	GAL20V8B-15QJ	3.10	LAT	718	H11A3	0.48	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41S	0.11	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERC91-02	1.26	COL	685	GAL20V8B-15QJ	1.85	LAT	718	H11A1	0.80	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41T	0.12	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-01	0.82	COL	685	GAL20V8B-25LJ	1.75	LAT	718	H11A2	0.80	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41U	0.12	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	0.84	COL	685	GAL20V8B-25LP	2.30	LAT	718	H11A3	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41V	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	2.10	LAT	718	H11A4	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41W	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41X	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Y	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701
ERD32-02	1.96	COL	—	GAL20V8B-25QJ	7.70	LAT	718	H11A5	0.90	MOT	749	H11A1	0.50	MOT	749	HFA11001P	5.25	HAR	701	GL41Z	0.19	GIS	693	HFA11001P	5.25	HAR	701	HFA11001P	5.25	HAR	701

Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
HM1-6504-9	20.38	HAR	696	ICL720AB	2.29	HAR	—	IDT7130LA55P	8.30	IDT	711	IDT7164S15TP	5.60	IDT	711
HM1-6504B-9	26.79	HAR	696	ICL7660SCPA	1.44	HAR	700	IDT7130SA100C	17.20	IDT	711	IDT7164S20TP	5.20	IDT	711
HM1-6504S-9	31.07	HAR	696	ICL7660SIPA	2.78	HAR	700	IDT7130SA100P	6.30	IDT	711	IDT7164S25P	6.00	IDT	711
HM1-6508-9	24.84	HAR	696	ICL7662CPA	1.76	HAR	700	IDT7130SA100J	6.30	IDT	711	IDT71874S12TP	11.20	IDT	711
HM1-6508B-9	32.68	HAR	696	ICL7662MTV	6.67	HAR	700	IDT7130SA20J	13.90	IDT	711	IDT71874S15TP	8.00	IDT	711
HM1-6514-9	16.86	HAR	696	ICL7663SCPA	1.89	HAR	700	IDT7130SA25J	11.35	IDT	711	IDT71874S20TP	8.00	IDT	712
HM1-6514B-9	22.23	HAR	696	ICL7665SACPA	2.21	HAR	700	IDT7130SA35J	9.05	IDT	711	IDT7200L15J	14.45	IDT	712
HM1-6514S-9	25.75	HAR	696	ICL7665SAIPA	2.38	HAR	700	IDT7130SA35P	9.05	IDT	711	IDT7200L20J	8.70	IDT	712
HM1-6516-9	35.77	HAR	696	ICL7665SCPA	2.04	HAR	700	IDT7130SA55J	6.65	IDT	711	IDT7200L20TP	8.70	IDT	712
HM1-6516B-9	16.01	HAR	696	ICL7665SIPA	2.14	HAR	700	IDT7132LA25J	15.30	IDT	711	IDT7200L25J	6.60	IDT	712
HM1-65162B-9	28.79	HAR	696	ICL7667CPA	1.39	HAR	699	IDT7132LA35J	12.65	IDT	711	IDT7200L25TP	7.40	IDT	712
HM1-65162C-9	11.21	HAR	696	ICL7667CTV	2.88	HAR	699	IDT7132LA55J	9.50	IDT	711	IDT7200L35J	7.10	IDT	712
HM1-6516B-9	64.32	HAR	696	ICL7673CBA	1.38	HAR	700	IDT7132LA55J	13.75	IDT	711	IDT7200L35TP	6.60	IDT	712
HM1-6518-9	27.31	HAR	696	ICL7673CPA	1.08	HAR	700	IDT7132LA55J	8.65	IDT	711	IDT7200L50J	4.90	IDT	712
HM1-6518B-9	35.91	HAR	696	ICL8211CBA	1.38	HAR	700	IDT7132LA100J	8.40	IDT	711	IDT7200L50TP	4.90	IDT	712
HM1-6526B-9	17.81	HAR	696	ICL8211CPA	1.46	HAR	700	IDT7132LA100P	8.40	IDT	711	IDT7201LA15J	14.75	IDT	712
HM1-65262B-9	32.06	HAR	696	ICL8212CBA	1.38	HAR	700	IDT7132LA20J	18.30	IDT	711	IDT7201LA15P	14.75	IDT	712
HM1-6551-9	23.56	HAR	696	ICL8212CPA	1.46	HAR	700	IDT7132LA25J	15.30	IDT	711	IDT7201LA15TP	14.75	IDT	712
HM1-6551B-9	31.02	HAR	696	ICM7211AIPL	4.13	HAR	698	IDT7132LA35C	39.70	IDT	711	IDT7201LA20P	9.00	IDT	712
HM1-6561-9	26.08	HAR	696	ICM7212AMIPL	3.75	HAR	698	IDT7132LA35J	12.65	IDT	711	IDT7201LA25D	10.35	IDT	712
HM1-6561B-9	34.30	HAR	696	ICM7228AIPI	5.55	HAR	698	IDT7132LA35P	12.65	IDT	711	IDT7201LA25J	7.80	IDT	712
HM1-65642-9	62.04	HAR	696	ICM7242IPA	1.43	HAR	702	IDT7132LA55J	9.50	IDT	711	IDT7201LA25P	7.80	IDT	712
HM1-6617-9	35.53	HAR	697	ICM7243BIPL	10.71	HAR	699	IDT7132LA55P	9.45	IDT	711	IDT7201LA25TP	7.80	IDT	712
HM1-6617B-9	46.79	HAR	—	ICM7555CON	0.44	PHI	788	IDT7132SA100C	18.90	IDT	711	IDT7201LA35J	6.85	IDT	712
HM1-6642-9	25.08	HAR	697	ICM7555IBA	0.90	HAR	702	IDT7132SA100J	7.60	IDT	711	IDT7201LA35P	6.85	IDT	712
HM1-6642B-9	32.97	HAR	697	ICM7555IPA	0.67	HAR	702	IDT7132SA100P	7.60	IDT	711	IDT7201LA35TP	6.85	IDT	712
HM3-6504-9	10.73	HAR	696	ICM7555MTV	3.37	HAR	702	IDT7132SA25J	13.75	IDT	711	IDT7201LA50D	7.10	IDT	712
HM3-6504B-9	13.92	HAR	696	IDT100A48457C	52.50	IDT	—	IDT7132SA35J	11.45	IDT	711	IDT7201LA50J	5.15	IDT	712
HM3-6508-9	13.06	HAR	696	IDT101A48457C	30.00	IDT	—	IDT7132SA35P	11.45	IDT	711	IDT7201LA50P	5.15	IDT	712
HM3-6508B-9	17.01	HAR	696	IDT1048457C	30.00	IDT	—	IDT7132SA55J	23.05	IDT	711	IDT7201LA50TP	5.15	IDT	712
HM3-6514-9	8.88	HAR	696	IDT1048458C	29.35	IDT	—	IDT7132SA55J	8.65	IDT	711	IDT7202LA15P	18.50	IDT	712
HM3-6514B-9	11.54	HAR	696	IDT10494S10C	94.50	IDT	—	IDT7132SA55P	8.65	IDT	711	IDT7202LA15TP	18.50	IDT	712
HM3-6514S-9	13.35	HAR	696	IDT10474540F	40.50	IDT	—	IDT7133LA35J	22.10	IDT	711	IDT7202LA20P	17.20	IDT	712
HM3-6551-9	12.40	HAR	696	IDT104A8457C	30.00	IDT	—	IDT7133LA35J	22.10	IDT	711	IDT7202LA20P	10.65	IDT	712
HM3-6551B-9	16.10	HAR	696	IDT10B48455XE	67.50	IDT	—	IDT7133LA55J	18.50	IDT	711	IDT7202LA20TP	10.65	IDT	712
HM4-6504-9	42.85	HAR	696	IDT29FC1520AP	4.03	IDT	713	IDT7133LA70G	31.30	IDT	711	IDT7202LA25D	13.05	IDT	712
HM4-6516-9	71.49	HAR	696	IDT29FC1520ATP	4.03	IDT	713	IDT7133LA90G	31.30	IDT	711	IDT7202LA25J	9.15	IDT	712
HM4-65162-9	31.97	HAR	696	IDT29FC1520BTP	4.84	IDT	713	IDT7133LA90J	18.50	IDT	711	IDT7202LA25P	9.15	IDT	712
HM4-65162B-9	57.57	HAR	696	IDT29FC1520CTP	6.05	IDT	713	IDT7133SA35J	21.85	IDT	711	IDT7202LA25TP	9.15	IDT	712
HM4-65162C-9	22.37	HAR	696	IDT29FC1521ATP	4.03	IDT	713	IDT7133SA55J	16.80	IDT	711	IDT7202LA35J	8.00	IDT	712
HM4-6617-9	74.81	HAR	697	IDT29FC152AP	3.06	IDT	713	IDT7133SA70J	16.80	IDT	711	IDT7202LA35P	8.00	IDT	712
HM4-6617B-9	97.28	HAR	697	IDT29FC152ATP	3.06	IDT	713	IDT7133SA90G	29.60	IDT	711	IDT7202LA35TP	8.00	IDT	712
HM4-6642-9	52.77	HAR	697	IDT29FC152BTP	3.39	IDT	713	IDT7133SA90J	16.80	IDT	711	IDT7202LA50D	7.20	IDT	712
HM6-6617-9	46.79	HAR	697	IDT29FC152BTP	3.39	IDT	713	IDT7134LA70J	15.75	IDT	711	IDT7202LA50J	6.15	IDT	712
HM6-6617B-9	60.75	HAR	697	IDT29FC152CTP	4.44	IDT	713	IDT7134SA25P	22.10	IDT	711	IDT7202LA50P	6.15	IDT	712
HM6-6642-9	32.97	HAR	697	IDT49C402AG	64.40	IDT	713	IDT7134SA35P	18.65	IDT	711	IDT7202LA50TP	6.15	IDT	712
HM6-6642B-9	42.89	HAR	697	IDT49C402BG	96.70	IDT	713	IDT7134SA35P	20.50	IDT	711	IDT7203L15J	23.40	IDT	713
HS1-3182-8	62.23	HAR	696	IDT49C402BJ	51.50	IDT	713	IDT7134SA45J	17.20	IDT	711	IDT7203L15TP	21.80	IDT	713
HS1-3282-8	123.75	HAR	696	IDT49C406AG	66.00	IDT	713	IDT7134SA55J	14.30	IDT	711	IDT7203L20J	14.05	IDT	713
HS4-3182-8	117.35	HAR	696	IDT49C460AJ	49.00	IDT	713	IDT7134SA55P	15.75	IDT	711	IDT7203L20TP	14.05	IDT	713
HS4-3282-8	148.50	HAR	696	IDT49C460BG	78.40	IDT	713	IDT7134SA70J	14.30	IDT	711	IDT7203L25J	12.10	IDT	713
HSP431245C-45	39.93	HAR	697	IDT49C460GJ	64.40	IDT	713	IDT7134LA35J	20.50	IDT	711	IDT7203L25P	12.10	IDT	713
HSP43168J-33	61.19	HAR	697	IDT49FC1805AP	7.60	IDT	713	IDT7134LA35P	20.50	IDT	711	IDT7203L25TP	12.10	IDT	713
HSP43168J-40	68.85	HAR	697	IDT49FC1805P	5.15	IDT	713	IDT7134LA45J	18.95	IDT	711	IDT7203L35J	9.30	IDT	713
HSP43168J-45	84.15	HAR	697	IDT49FC1806AP	7.60	IDT	713	IDT7134LA45P	18.95	IDT	711	IDT7203L35TP	10.00	IDT	713
HSP43168V-33	67.82	HAR	697	IDT49FC1806P	5.15	IDT	713	IDT7134LA55J	15.75	IDT	711	IDT7203S35P	7.55	IDT	713
HSP43168V-40	76.28	HAR	697	IDT6116LA20TP	6.70	IDT	711	IDT7134LA55P	15.75	IDT	711	IDT7203S35P	8.15	IDT	713
HSP43168V-45	93.24	HAR	697	IDT6116LA25P	6.40	IDT	711	IDT7134LA70J	15.75	IDT	711	IDT7203S35P	7.55	IDT	713
HSP43216V-52	58.27	HAR	697	IDT6116LA25TP	5.75	IDT	711	IDT7134LA70P	15.75	IDT	711	IDT7203S20J	19.20	IDT	713
HSP43220J-25	124.95	HAR	697	IDT6116LA35P	5.20	IDT	711	IDT7134SA25J	20.10	IDT	712	IDT7203S25J	14.90	IDT	713
HSP43220J-33	162.43	HAR	697	IDT6116LA35TP	5.20	IDT	711	IDT7134SA35J	18.65	IDT	712	IDT7203S35J	9.30	IDT	713
HSP43220V-33	178.12	HAR	697	IDT6116LA45P	5.20	IDT	711	IDT7134SA35P	18.65	IDT	712	IDT7203S35P	9.30	IDT	713
HSP43881JC-25	53.78	HAR	697	IDT6116LA45TP	5.20	IDT	711	IDT7134SA55J	17.20	IDT	712	IDT7203S35P	9.30	IDT	713
HSP43881JC-30	67.24	HAR	697	IDT6116SA15TP	8.40	IDT	711	IDT7134SA55P	17.20	IDT	712	IDT7203S50J	7.55	IDT	713
HSP43891JC-25	55.51	HAR	697	IDT6116SA20TP	6.00	IDT	711	IDT7134SA55J	14.30	IDT	712	IDT7203S50P	8.00	IDT	713
HSP43891JC-30	69.38	HAR	697	IDT6116SA20TP	5.60	IDT	711	IDT7134SA55P	14.30	IDT	712	IDT7203S50P	31.05	IDT	713
HSP45102SC-40	21.68	HAR	697	IDT6116SA25P	5.20	IDT	711	IDT7134SA70J	14.30	IDT	712	IDT7204L15TP	31.05	IDT	713
HSP45102S1-33	20.81	HAR	697	IDT6116SA25TP	4.80	IDT	711	IDT7134SA70P	14.30	IDT	712	IDT7204L20J	23.65	IDT	713
HSP45102S1-40	24.99	HAR	697	IDT6116SA35P	4.40	IDT	711	IDT7140LA100P	6.95	IDT	712	IDT7204L20P	23.65	IDT	713
HSP45106JC-33	38.76	HAR	697	IDT6116SA35TP	4.40	IDT	711	IDT7140LA35J	10.00	IDT	712	IDT7204L25J	16.80	IDT	713
HSP45116AVZ-25	210.53	HAR	—	IDT6116SA45P	4.40	IDT	711	IDT7140LA35P	10.00	IDT	712	IDT7204L25TP	16.80	IDT	713
HSP45116GC-25	222.23	HAR	697	IDT6116SA45TP	4.40	IDT	711	IDT7140LA55P	7.30	IDT	712	IDT7204L35J	13.85	IDT	713
HSP45116GC-33	277.79	HAR	697	IDT6167LA25P	5.30	IDT	—	IDT7140SA100C	17.20	IDT	712	IDT7204L35P	13.85	IDT	713
HSP45116VC-25	134.74	HAR	697	IDT6167SA15P	5.60	IDT	711	IDT7140SA100J	6.30	IDT	712	IDT7204L35TP	13.85	IDT	713
HSP48212JC-40	26.43	HAR	697	IDT6167SA20P	4.80	IDT	711	IDT7140SA100P	6.30	IDT	712	IDT7204L50J	13.00	IDT	713
HSP48212VC-40	34.08	HAR	697	IDT6167SA25P	4.40	IDT	711	IDT7140SA25J	11.35	IDT	712	IDT7204L50P	13.00	IDT	713
HSP48410JC-33	91.49	HAR	697	IDT6168LA25P	6.00	IDT	711	IDT7140SA35P	9.05	IDT	712	IDT7204L50TP	13.00	IDT	713
HSP48410JC-40	109.61	HAR	697	IDT6168SA15P	5.60	IDT	711	IDT7140SA55J	6.65	IDT	712	IDT7204S15P	29.45	IDT	713
HSP48908JC-20	77.33	HAR	697</												

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HARAnalog Devices Inc.
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IDT7205L50TP	26.20	IDT	713	IDT74FCT138TP	1.53	IDT	713	IDT74FCT540TP	1.69	IDT	714	IP80C88-2	24.85	HAR	694
IDT7206L25J	66.80	IDT	713	IDT74FCT139AP	2.42	IDT	713	IDT74FCT541AP	2.42	IDT	714	IP82C237	23.03	HAR	694
IDT7206L25P	66.80	IDT	713	IDT74FCT139ATP	1.53	IDT	713	IDT74FCT541ATP	1.69	IDT	714	IP82C237-12	38.20	HAR	694
IDT7206L35J	46.75	IDT	713	IDT74FCT139CTP	4.44	IDT	713	IDT74FCT541CTP	3.23	IDT	714	IP82C37A	23.03	HAR	694
IDT7206L50P	45.20	IDT	713	IDT74FCT139P	1.77	IDT	713	IDT74FCT541P	1.69	IDT	714	IP82C37A-12	38.20	HAR	694
IDT72105L25TP	18.55	IDT	713	IDT74FCT139TP	1.61	IDT	713	IDT74FCT541TP	1.69	IDT	714	IP82C54	6.91	HAR	694
IDT72105L50TP	10.35	IDT	713	IDT74FCT151ATP	2.26	IDT	713	IDT74FCT543AP	3.39	IDT	714	IP82C54-12	10.37	HAR	694
IDT7210L25G	79.20	IDT	—	IDT74FCT151CTP	2.26	IDT	713	IDT74FCT543ATP	2.74	IDT	714	IP82C55A	6.40	HAR	694
IDT7210L25J	46.20	IDT	—	IDT74FCT151ATP	2.26	IDT	713	IDT74FCT543CTP	3.87	IDT	714	IP82C59A	6.65	HAR	694
IDT7210L35G	72.60	IDT	—	IDT74FCT157CTP	5.30	IDT	713	IDT74FCT543P	3.06	IDT	714	IP82C59A-12	9.98	HAR	694
IDT7210L35J	34.65	IDT	—	IDT74FCT157TP	2.26	IDT	713	IDT74FCT543TP	2.74	IDT	714	IP82C84A	4.60	HAR	695
IDT7210L45J	26.40	IDT	—	IDT74FCT161AP	3.31	IDT	713	IDT74FCT573AP	2.42	IDT	714	IRF510	0.80	MOT	755
IDT7210L55G	59.40	IDT	—	IDT74FCT161ATP	2.18	IDT	713	IDT74FCT573ATP	1.61	IDT	714	IRF520	0.80	MOT	755
IDT7210L55J	20.95	IDT	—	IDT74FCT161CTP	5.65	IDT	713	IDT74FCT573CTP	3.23	IDT	714	IRF530	1.04	MOT	755
IDT72115L25TP	27.85	IDT	713	IDT74FCT161P	2.18	IDT	713	IDT74FCT573DTP	4.84	IDT	714	IRF540	2.20	MOT	755
IDT72125L25TP	36.40	IDT	713	IDT74FCT161TP	2.18	IDT	713	IDT74FCT573TP	1.69	IDT	714	IRF610	0.86	MOT	755
IDT72125L50TP	20.40	IDT	713	IDT74FCT163AP	3.31	IDT	713	IDT74FCT573TP	1.61	IDT	714	IRF620	0.86	MOT	755
IDT72131L35P	25.95	IDT	713	IDT74FCT163P	2.18	IDT	713	IDT74FCT574AP	2.42	IDT	714	IRF630	1.40	MOT	755
IDT72131L50P	20.40	IDT	713	IDT74FCT191AP	4.44	IDT	713	IDT74FCT574ATP	1.61	IDT	714	IRF640	2.20	MOT	755
IDT72132L35P	25.95	IDT	713	IDT74FCT193P	2.58	IDT	713	IDT74FCT574CTP	3.23	IDT	714	IRF720	1.04	MOT	755
IDT72141L35P	36.35	IDT	713	IDT74FCT240AP	1.69	IDT	713	IDT74FCT574DTP	4.84	IDT	714	IRF730	1.64	MOT	755
IDT72141L50P	28.55	IDT	713	IDT74FCT240ATP	1.34	IDT	713	IDT74FCT574P	1.69	IDT	714	IRF740	2.72	MOT	755
IDT72142L35P	36.35	IDT	713	IDT74FCT240P	1.42	IDT	713	IDT74FCT574TP	1.61	IDT	714	IRF820	1.20	MOT	755
IDT7216L16G	79.20	IDT	—	IDT74FCT240TP	1.34	IDT	713	IDT74FCT621ATP	5.25	IDT	714	IRF830	1.50	MOT	755
IDT7216L20J	62.70	IDT	—	IDT74FCT244AP	1.69	IDT	713	IDT74FCT621TP	5.25	IDT	714	IRF840	2.60	MOT	755
IDT7216L25J	47.85	IDT	—	IDT74FCT244ATP	1.34	IDT	713	IDT74FCT623ATP	2.42	IDT	714	IRFZ20	1.02	MOT	755
IDT7216L35G	66.70	IDT	—	IDT74FCT244CTP	2.42	IDT	713	IDT74FCT623CTP	6.45	IDT	714	IRFZ44	2.20	MOT	755
IDT7216L35J	34.65	IDT	—	IDT74FCT244CTP	1.34	IDT	713	IDT74FCT623TP	2.42	IDT	714	IS80C286-12	28.26	HAR	694
IDT7216L45G	62.00	IDT	—	IDT74FCT244DTP	4.11	IDT	713	IDT74FCT640AP	2.34	IDT	714	IS80C286-16	36.94	HAR	694
IDT7216L45J	29.70	IDT	—	IDT74FCT244P	1.42	IDT	713	IDT74FCT640ATP	1.85	IDT	714	IS80C286-20	42.39	HAR	694
IDT7216L65J	21.55	IDT	—	IDT74FCT244TP	1.34	IDT	713	IDT74FCT640CTP	3.31	IDT	714	IS80C86	27.80	HAR	694
IDT7217L20G	73.80	IDT	—	IDT74FCT245AP	1.69	IDT	713	IDT74FCT640P	1.85	IDT	714	IS80C86-2	36.25	HAR	694
IDT7217L20J	62.70	IDT	—	IDT74FCT245ATP	1.34	IDT	713	IDT74FCT645AP	2.66	IDT	714	IS80C88	23.15	HAR	694
IDT7217L25G	69.60	IDT	—	IDT74FCT245CTP	1.34	IDT	713	IDT74FCT645ATP	2.10	IDT	714	IS80C88-2	30.15	HAR	694
IDT7217L25J	47.85	IDT	—	IDT74FCT245DTP	4.11	IDT	713	IDT74FCT645CTP	3.15	IDT	714	IS82C237	27.64	HAR	694
IDT7217L35J	34.65	IDT	—	IDT74FCT245P	1.42	IDT	713	IDT74FCT645CTP	3.15	IDT	714	IS82C237-12	46.40	HAR	694
IDT7217L45G	62.00	IDT	—	IDT74FCT245TP	1.34	IDT	713	IDT74FCT645P	2.10	IDT	714	IS82C37A	27.64	HAR	694
IDT7217L55G	57.40	IDT	—	IDT74FCT257ATP	2.26	IDT	713	IDT74FCT645TP	2.10	IDT	714	IS82C54	8.29	HAR	694
IDT7217L65G	52.30	IDT	—	IDT74FCT257CTP	5.30	IDT	713	IDT74FCT646AP	3.23	IDT	714	IS82C54-12	12.44	HAR	694
IDT7217L65J	21.55	IDT	—	IDT74FCT273AP	1.69	IDT	713	IDT74FCT646ATP	2.58	IDT	714	IS82C55A	7.68	HAR	694
IDT72205L815J	35.60	IDT	712	IDT74FCT273ATP	1.42	IDT	713	IDT74FCT646P	4.52	IDT	714	IS82C59A	7.98	HAR	694
IDT72205L820J	26.90	IDT	712	IDT74FCT273CTP	2.42	IDT	713	IDT74FCT646CTP	4.52	IDT	714	IS82C59A-12	11.98	HAR	694
IDT72205L835J	22.10	IDT	712	IDT74FCT273CTP	2.42	IDT	713	IDT74FCT646P	2.58	IDT	714	IS82C84A	5.55	HAR	695
IDT72205L850J	17.90	IDT	712	IDT74FCT273P	1.42	IDT	713	IDT74FCT646TP	2.58	IDT	714	IS82S37A-12	46.40	HAR	—
IDT7221L15J	18.90	IDT	712	IDT74FCT273TP	1.42	IDT	713	IDT74FCT648CTP	4.52	IDT	714	ISPGAL22V108-10LJ	13.30	LAT	718
IDT7221L120J	15.95	IDT	712	IDT74FCT299AP	2.42	IDT	713	IDT74FCT652ATP	2.58	IDT	714	ISPGAL22V108-15LJ	9.70	LAT	718
IDT7221L125J	14.70	IDT	712	IDT74FCT299ATP	2.10	IDT	714	IDT74FCT652TP	2.58	IDT	714	ISPGAL22V108-7LJ	17.25	LAT	718
IDT7221L150J	10.10	IDT	712	IDT74FCT299P	2.10	IDT	713	IDT74FCT821AP	2.26	IDT	714	ISPGDS14-7J	4.60	LAT	719
IDT7221L820J	31.70	IDT	712	IDT74FCT299TP	2.21	IDT	713	IDT74FCT821ATP	1.85	IDT	714	ISPGDS14-7P	4.30	LAT	719
IDT72215L850J	19.25	IDT	712	IDT74FCT373AP	1.69	IDT	714	IDT74FCT821BP	2.90	IDT	714	ISPGDS18-7P	4.95	LAT	719
IDT7222L120J	20.30	IDT	712	IDT74FCT373ATP	1.34	IDT	714	IDT74FCT821BP	2.58	IDT	714	ISPGDS22-7P	6.50	LAT	719
IDT7222L125J	18.70	IDT	712	IDT74FCT373CTP	2.26	IDT	714	IDT74FCT821CTP	3.55	IDT	714	ISPLS10106-110LJ	47.25	LAT	719
IDT7222L135J	16.40	IDT	712	IDT74FCT373DTP	4.11	IDT	714	IDT74FCT823AP	2.26	IDT	714	ISPLS10106-60LJ	10.25	LAT	719
IDT72225L815J	51.80	IDT	712	IDT74FCT373P	1.42	IDT	714	IDT74FCT823ATP	1.85	IDT	714	ISPLS10106-60LT	12.50	LAT	719
IDT72225L820J	37.30	IDT	712	IDT74FCT373TP	1.34	IDT	714	IDT74FCT823BP	2.90	IDT	714	ISPLS10106-80LJ	10.75	LAT	719
IDT72225L825J	33.60	IDT	712	IDT74FCT374AP	1.69	IDT	714	IDT74FCT823CTP	2.58	IDT	714	ISPLS10106-80LT	13.25	LAT	719
IDT72225L825PF	33.60	IDT	712	IDT74FCT374ATP	1.34	IDT	714	IDT74FCT823CTP	3.55	IDT	714	ISPLS10106-90LJ	11.25	LAT	719
IDT72225L835PF	30.95	IDT	712	IDT74FCT374CTP	2.42	IDT	714	IDT74FCT823DTP	5.25	IDT	714	ISPLS10106-90LT	13.75	LAT	719
IDT7223L125J	24.40	IDT	712	IDT74FCT374CTP	2.26	IDT	714	IDT74FCT824AP	2.26	IDT	714	ISPLS1024-60LJ	31.25	LAT	719
IDT7223L150J	19.70	IDT	712	IDT74FCT374DTP	4.11	IDT	714	IDT74FCT824BP	2.90	IDT	714	ISPLS1024-80LJ	38.25	LAT	719
IDT7224L115J	39.70	IDT	712	IDT74FCT374P	1.42	IDT	714	IDT74FCT825AP	2.37	IDT	714	ISPLS1024-90LJ	44.00	LAT	719
IDT7224L120J	33.95	IDT	712	IDT74FCT374TP	1.34	IDT	714	IDT74FCT825ATP	1.85	IDT	714	ISPLS1032-60LJ	36.00	LAT	719
IDT7224L125J	31.80	IDT	712	IDT74FCT377AP	2.42	IDT	714	IDT74FCT825BP	2.90	IDT	714	ISPLS1032-60LT	51.75	LAT	719
IDT7224L150J	25.80	IDT	712	IDT74FCT377ATP	2.10	IDT	714	IDT74FCT825CTP	2.58	IDT	714	ISPLS1032-80LJ	53.50	LAT	719
IDT7240L110P	7.60	IDT	712	IDT74FCT377CTP	3.23	IDT	714	IDT74FCT825CTP	3.63	IDT	714	ISPLS1032-80LT	70.25	LAT	719
IDT7240L115P	9.75	IDT	712	IDT74FCT377P	2.10	IDT	714	IDT74FCT827AP	2.26	IDT	714	ISPLS1032-90LJ			

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KBPC1004P	2.08	COL	687	LH0032CG	25.60	NSC	—	LM2574N-12	2.87	NSC	770	LM2936Z-5.0	2.24	TIS	771
KBPC1006P	2.29	COL	687	LH0033ACG	36.00	NSC	—	LM2574N-15	2.87	NSC	770	LM2937ET-10	1.29	NSC	771
KBPC1008P	2.39	COL	687	LH0033CG	25.60	NSC	767	LM2574N-3.3	3.25	NSC	770	LM2937ET-12	1.29	NSC	771
KBPC1010P	2.52	COL	687	LH0033GJ	33.10	NSC	767	LM2574N-5.0	2.87	NSC	770	LM2937ET-15	1.29	NSC	771
KBPC2501	2.98	COL	687	LH0033G	44.50	NSC	767	LM2574N-ADJ	2.87	NSC	770	LM2937ET-5.0	1.29	NSC	771
KBPC2502	3.02	COL	687	LH0041CG	19.80	NSC	—	LM2575HVM-5.0	5.70	NSC	770	LM2937ET-8.0	1.29	NSC	771
KBPC2504	3.15	COL	687	LH0041CJ	28.00	NSC	—	LM2575HVM-ADJ	5.70	NSC	770	LM293D	1.57	TIS	803
KBPC2506	3.26	COL	687	LH0042CH	7.35	NSC	—	LM2575HVN-12	4.63	NSC	770	LM293P	1.73	TIS	803
KBPC2508	3.47	COL	687	LH0042H	22.30	NSC	766	LM2575HVN-15	4.63	NSC	770	LM2940CT-12	1.56	NSC	770
KBPC3500S	3.13	COL	687	LH0063CK	40.00	NSC	767	LM2575HVN-5.0	4.63	NSC	770	LM2940CT-15	1.56	NSC	770
KBPC3501	3.19	COL	687	LH0070-0H	6.70	NSC	—	LM2575HVN-ADJ	4.63	NSC	770	LM2940CT-5.0	1.56	NSC	770
KBPC3502	3.36	COL	687	LH0070-1H	11.20	NSC	—	LM2575HVT-12	5.05	NSC	770	LM2940T-10.0	1.89	NSC	770
KBPC3504	3.53	COL	687	LH0070-2H	25.60	NSC	—	LM2575HVT-15	5.05	NSC	770	LM2940T-120	1.89	NSC	770
KBPC3506	3.70	COL	687	LH0071-0H	19.50	NSC	—	LM2575HVT-5.0	5.05	NSC	770	LM2940T-5.0	1.89	NSC	770
KBPC3508	3.97	COL	687	LH0071-1H	23.40	NSC	—	LM2575HVT-ADJ	5.05	NSC	770	LM2940T-8.0	1.89	NSC	770
KBPC3510	4.20	COL	687	LH0094CD	119.00	NSC	—	LM2575M-5.0	4.76	NSC	770	LM2940T-9.0	1.89	NSC	770
KBPC6005	1.24	COL	687	LH0101AK	44.50	NSC	—	LM2575M-ADJ	4.76	NSC	770	LM2941CT	1.67	NSC	770
KBPC601	1.28	COL	687	LH0101CK	26.70	NSC	—	LM2575N-12	3.91	NSC	770	LM2941T	1.89	NSC	770
KBPC602	1.28	COL	687	LH0101K	35.60	NSC	—	LM2575N-15	3.91	NSC	770	LM2990T-12	2.94	NSC	770
KBPC604	1.32	COL	687	LH1605CK	33.30	NSC	770	LM2575N-5.0	3.96	NSC	770	LM2990T-15	2.94	NSC	770
KBPC606	1.38	COL	687	LH2111D	24.50	NSC	—	LM2575N-ADJ	3.96	NSC	770	LM2990T-5.0	2.94	NSC	770
KBPC610	1.54	COL	687	LH2311D	20.00	NSC	—	LM2575T-12	3.96	NSC	770	LM2990T-120	2.94	NSC	770
KBU8005	1.66	COL	687	LH4001CN	6.70	NSC	—	LM2575T-15	3.96	NSC	770	LM2991T	2.94	NSC	771
KBU801	1.74	COL	687	LM101AJ	2.67	NSC	766	LM2575T-3.3	3.96	NSC	770	LM301AH	2.23	NSC	766
KBU802	1.84	COL	687	LM1040N	3.34	NSC	—	LM2575T-5.0	3.96	NSC	770	LM301AN	0.71	NSC	766
KBU804	1.92	COL	687	LM108AH	5.60	NSC	766	LM2575T-ADJ	3.96	NSC	770	LM3045J	1.67	NSC	—
KBU806	2.02	COL	687	LM10CH	6.70	NSC	766	LM2576HVT-12	8.75	NSC	770	LM305H	1.12	NSC	771
KBU808	2.00	COL	687	LM10CLN	3.34	NSC	766	LM2576HVT-15	8.75	NSC	770	LM306D	1.62	TIS	803
KBU810	2.27	COL	687	LM10CN	5.60	NSC	766	LM2576HVT-5.0	8.75	NSC	770	LM306P	1.62	TIS	803
KD80386CXA-25	29.24	ITL	715	LM111H	3.23	NSC	767	LM2576HVT-ADJ	8.75	NSC	770	LM307N	0.89	NSC	766
KD80386CXA-33	35.56	ITL	715	LM111J-8	3.89	NSC	767	LM2576T-12	7.80	NSC	770	LM3080M	1.16	NSC	—
KD80386CXA-40	38.69	ITL	715	LM113H	12.60	NSC	769	LM2576T-15	7.80	NSC	770	LM3080N	1.09	NSC	—
KD80386CXB-25	35.56	ITL	715	LM117H	10.30	NSC	771	LM2576T-5.0	7.80	NSC	770	LM3086N	0.73	NSC	—
KD80386CXA-25	23.45	ITL	715	LM1201M	5.25	NSC	768	LM2576T-ADJ	7.80	NSC	770	LM308AH	2.00	NSC	766
KD80386CXA-33	25.25	ITL	715	LM1201N	5.25	NSC	768	LM2577M-12	7.30	NSC	770	LM308AM	1.12	NSC	766
KE80C186EC-13	19.31	ITL	—	LM1202M	12.80	NSC	768	LM2577M-ADJ	7.30	NSC	770	LM308AN	1.12	NSC	766
KE80C186EC-13	18.22	ITL	—	LM1202N	12.80	NSC	768	LM2577N-12	6.60	NSC	770	LM308AN	0.90	MOT	743
KU80386EXSA-25	38.76	ITL	715	LM1203AN	7.80	NSC	768	LM2577N-15	6.60	NSC	770	LM308M	0.82	NSC	766
KU80C186EC-20	25.00	ITL	715	LM1203N	3.89	NSC	768	LM2577N-ADJ	6.60	NSC	770	LM308N	0.82	NSC	766
KU80C186EC-20	18.90	ITL	—	LM1204V	9.25	NSC	768	LM2577T-12	5.75	NSC	770	LM310H	2.58	NSC	767
KU80C51SLAH	13.87	ITL	717	LM1205N	5.40	NSC	768	LM2577T-15	5.75	NSC	770	LM310N	2.75	NSC	767
KU80L186EC-13	19.86	ITL	716	LM120H-5.0	9.80	NSC	772	LM2577T-ADJ	5.75	NSC	770	LM311D	0.40	PHI	787
KU80L186EC-13	18.63	ITL	716	LM124AJ	9.60	NSC	766	LM2577AM	4.80	NSC	770	LM311D	0.72	TIS	803
KU87C51SLAH	29.10	ITL	717	LM124J	3.00	NSC	766	LM2578AN	4.31	NSC	770	LM311H	2.23	NSC	767
L293DNE	3.00	TIS	803	LM12CLK	33.10	NSC	—	LM258D	0.94	PHI	787	LM311M	0.78	NSC	767
L293NE	3.00	TIS	803	LM135AH	15.20	NSC	769	LM258D	1.32	TIS	803	LM311N	0.47	PHI	787
LF13006N	6.80	NSC	—	LM135H	8.55	NSC	769	LM258N	0.60	PHI	787	LM311N	0.71	NSC	767
LF13202N	4.76	NSC	—	LM13600N	1.23	NSC	—	LM258N	1.28	MOT	743	LM311N	0.65	MOT	744
LF13331N	4.76	NSC	—	LM136AH-2.5	14.50	NSC	769	LM258P	1.46	TIS	803	LM311P	0.76	TIS	803
LF13333N	5.35	NSC	—	LM136H-2.5	10.00	NSC	769	LM285BXZ-2.5	4.23	NSC	769	LM313H	7.45	NSC	769
LF13508D	10.70	NSC	—	LM138J	2.00	NSC	767	LM285BYZ-2.5	1.65	NSC	769	LM317AH	4.67	NSC	771
LF13508N	7.15	NSC	—	LM139J	2.12	TIS	—	LM285M-1.2	1.65	NSC	769	LM317H	4.35	NSC	771
LF147J	13.40	NSC	766	LM140LAH-5.0	3.43	NSC	771	LM285Z-1.2	1.34	MOT	747	LM317HVH	6.70	NSC	771
LF156H	5.80	NSC	766	LM1458M	0.58	NSC	766	LM285Z-2.5	1.34	MOT	747	LM317HVT	2.45	NSC	771
LF256H	3.96	NSC	—	LM1458N	0.58	NSC	766	LM2878P	3.34	NSC	767	LM317LM	0.69	NSC	771
LF311H	4.45	NSC	767	LM148J	2.23	NSC	766	LM2900N	2.21	TIS	—	LM317LZ	0.60	NSC	771
LF347BN	2.78	NSC	767	LM1496N	1.34	NSC	—	LM2901D	1.00	TIS	803	LM317MP	1.23	NSC	771
LF347BN	3.28	TIS	—	LM158H	3.49	NSC	766	LM2901M	0.84	NSC	767	LM317MT	0.84	MOT	746
LF347D	1.75	TIS	804	LM1819N	1.67	NSC	—	LM2901N	0.80	NSC	767	LM317T	1.07	NSC	771
LF347M	1.74	NSC	766	LM18293N	3.00	NSC	—	LM2901N	1.10	TIS	803	LM317T	0.71	SEM	790
LF347N	1.67	NSC	766	LM1830N	3.74	NSC	—	LM2901N	1.25	MOT	745	LM317T	0.80	MOT	746
LF347N	1.93	TIS	804	LM1851N	1.56	NSC	—	LM2902D	0.48	PHI	787	LM318D	1.25	TIS	803
LF347N	0.73	MOT	744	LM185H-2.5	16.20	NSC	769	LM2902D	1.00	TIS	804	LM318P	1.39	TIS	803
LF351M	0.82	NSC	767	LM1865M	4.47	NSC	—	LM2902M	0.84	NSC	—	LM319D	1.00	PHI	787
LF351N	0.82	NSC	767	LM1868N	2.56	NSC	—	LM2902N	0.48	PHI	787	LM319M	1.67	NSC	767
LF351N	0.52	MOT	743	LM1875T	3.07	NSC	767	LM2902N	0.80	NSC	—	LM319N	0.99	PHI	787
LF351P	0.92	TIS	—	LM1877M-9	2.47	NSC	767	LM2902N	1.10	TIS	804	LM319N	1.67	NSC	767
LF353D	0.87	TIS	803	LM1877N-9	2.47	NSC	767	LM2902N	1.25	MOT	744	LM320H-5.0	4.89	NSC	772
LF353H	1.58	NSC	767	LM1881M	4.89	NSC	768	LM2903D	0.60	PHI	787	LM320K-15	5.60	NSC	772
LF353M	0.91	NSC	767	LM1881N	4.89	NSC	768	LM2903D	1.00	TIS	803	LM320LZ-12	0.49	NSC	772
LF353N	0.60	MOT	743	LM1894N	7.50	NSC	767	LM2903M	0.84	NSC	767	LM320LZ-5.0	0.49	NSC	772
LF353P	0.92	TIS	803	LM1921T	2.85	NSC	772	LM2903N	0.49	PHI	787	LM320T-12	2.67	NSC	772
LF355N	1.20	NSC	766	LM193H	5.15	NSC	767	LM2903N	0.80	NSC	767	LM320T-15	2.67	NSC	772
LF356AH	14.50	NSC	766	LM193JG	3.70	TIS	—	LM2903N	1.25	MOT	744	LM320T-5.0	2.67	NSC	772
LF356BN	1.69	NSC	—	LM1951T	4.40	NSC	772	LM2903P	1.10	TIS	803	LM323AT	4.60	MOT	745
LF356H	1.78	NSC	766	LM201AH	2.23	NSC	766	LM2904D	1.00	TIS	803	LM324AD	0.50	PHI	787
LF356M	1.20	NSC	766	LM211D	1.25	TIS	803	LM2904M	0.84	NSC	—	LM324AM	0.91	NSC	766
LF356N	1.20	NSC	766	LM211P	1.39	TIS	803	LM2904N	0.80	NSC	—	LM324AN	0.50	PHI	787
LF357N	1.34	NSC	766	LM224AJ	9.35	NSC	766	LM2904N	1.25	MOT	743	LM324AN	0.91	NSC	766
LF398AN	5.45	NSC	770	LM224D	1.50	TIS	804	LM2904P (LM2904QP)	1.10	TIS	—	LM324AN	1.51	TIS	804
LF398H	4.63	NSC	770	LM224J	1.78	NSC	766	LM2907N	2.67	NSC	—	LM324D	0.52	PHI	787
LF398N	2.21	PHI	—	LM224N	1.66	TIS	804	LM2907N-8	2.67	NSC	—	LM324D	0.80	TIS	804
LF398N	2.12	NSC	770	LM231N	6.20	NSC	770	LM2917M	2.67	NSC	—	LM324J	1.45</		

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LM335AZ	4.00	NSC	769	LM385BD-1-2	2.00	TIS	805	LM4040DIM3-10.0	1.45	NSC	769	LM723H	4.12	NSC	771
LM335Z	1.98	NSC	769	LM385BLP-1-2	2.21	TIS	805	LM4040DIM3-2.5	1.45	NSC	769	LM725CN	4.00	NSC	766
LM336BM-2.5	2.00	NSC	769	LM385BLP-2-5	2.21	TIS	—	LM4040DIM3-4.1	1.45	NSC	769	LM741CH	2.00	NSC	766
LM336BM-5.0	2.00	NSC	769	LM385BM-1.2	1.14	NSC	769	LM4040DIM3-5.0	1.45	NSC	769	LM741CM	0.69	NSC	766
LM336BZ-2.5	2.00	NSC	769	LM385BM-2.5	1.14	NSC	769	LM4040DIZ-10.0	1.45	NSC	769	LM741CN	0.62	NSC	766
LM336LP-2-5	1.39	TIS	—	LM385BZ-1.2	1.49	NSC	769	LM4040DIZ-2.5	1.45	NSC	769	LM741H	3.12	NSC	766
LM336M-5.0	1.12	NSC	769	LM385BZ-1.2	1.32	MOT	747	LM4040DIZ-4.1	1.45	NSC	769	LM747CN	0.62	NSC	—
LM336Z-2.5	1.12	NSC	769	LM385BZ-2.5	1.49	NSC	769	LM4040DIZ-5.0	1.45	NSC	769	LM748CN	0.67	NSC	—
LM336Z-5.0	1.12	NSC	769	LM385BZ-2.5	1.32	MOT	747	LM4040DIZ-8.2	1.45	NSC	769	LM759CP	3.31	NSC	—
LM337H	5.25	NSC	771	LM385D-1-2	1.50	TIS	805	LM4040EIM3-2.5	1.34	NSC	—	LM7805CT	0.96	NSC	771
LM337K STEEL	6.00	NSC	771	LM385LP-1-2	1.66	TIS	805	LM4040EIM3-2.5	1.34	NSC	—	LM7805CT	0.61	SEM	790
LM337KC	2.50	TIS	—	LM385M	1.52	NSC	769	LM4040EIM3-2.5	2.45	NSC	—	LM7808CT	0.96	NSC	771
LM337LM	1.16	NSC	771	LM385M-1.2	1.14	NSC	769	LM4040EIM3-1.2	3.23	NSC	769	LM7808CT	0.61	SEM	790
LM337LZ	1.16	NSC	771	LM385M-2.5	1.14	NSC	769	LM4041AIM3-1.2	3.23	NSC	769	LM7812CT	0.96	NSC	771
LM337MT	1.17	MOT	746	LM385Z	1.52	NSC	769	LM4041BIM-1.2	3.23	NSC	769	LM7812CT	0.61	SEM	790
LM337T	1.56	NSC	771	LM385Z-1.2	1.14	NSC	769	LM4041BIM3-1.2	2.40	NSC	769	LM7815CT	0.96	NSC	771
LM337T	1.02	MOT	746	LM385Z-1.2	1.12	MOT	747	LM4041CIM-1.2	1.83	NSC	769	LM7815CT	0.61	SEM	790
LM338BZ-5.0	2.00	NSC	—	LM385Z-2.5	1.14	NSC	769	LM4041CIM3-1.2	1.83	NSC	769	LM7818CT	0.96	NSC	771
LM338T	1.92	NSC	771	LM385Z-2.5	1.12	MOT	747	LM4041CIZ-1.2	1.83	NSC	769	LM7818CT	0.49	NSC	771
LM339AD	1.25	TIS	803	LM386M-1	0.60	NSC	767	LM4041CIZ-ADJ	1.83	NSC	769	LM7818CT	0.44	NSC	771
LM339AN	0.74	PHI	787	LM386N-1	0.80	NSC	767	LM4041CIZ-ADJ	1.43	NSC	769	LM7818CT	0.30	SEM	790
LM339AN	0.91	NSC	—	LM386N-3	1.36	NSC	767	LM4041DIM3-1.2	1.43	NSC	769	LM7818CT	0.30	SEM	790
LM339AN	1.24	TIS	803	LM386N-4	1.50	NSC	767	LM4041DIM3-ADJ	1.43	NSC	769	LM7818CT	0.30	SEM	790
LM339AN	1.36	MOT	—	LM3875T	7.85	NSC	767	LM4041EIM3-1.2	1.32	NSC	769	LM7818CT	0.44	NSC	771
LM339D	0.50	PHI	787	LM3876T	8.45	NSC	767	LM4250CH	2.45	NSC	766	LM7818CT	0.30	SEM	790
LM339D	0.80	TIS	803	LM387AN	2.56	NSC	—	LM4250CN	1.45	NSC	766	LM7818CT	0.49	NSC	771
LM339M	0.60	NSC	767	LM3886T	7.35	NSC	767	LM431ACM	0.56	NSC	772	LM7818CT	0.44	NSC	771
LM339N	0.55	PHI	787	LM388N-1	1.52	NSC	767	LM431ACZ	0.47	NSC	772	LM7818CT	0.30	SEM	790
LM339N	0.67	NSC	767	LM3900D	1.12	TIS	804	LM431AIZ	0.58	NSC	772	LM7818CT	0.49	NSC	771
LM339N	0.80	TIS	803	LM3900N	0.78	NSC	—	LM4431M3-2.5	1.14	NSC	769	LM7818CT	0.44	NSC	771
LM340AT-12	1.16	MOT	745	LM3900N	1.24	TIS	804	LM555CJ	1.45	NSC	—	LM7818CT	0.30	SEM	790
LM340AT-15	1.16	MOT	745	LM3909N	1.50	NSC	—	LM555CN	0.56	NSC	—	LM7818CT	0.30	SEM	790
LM340AT-5.0	1.67	NSC	—	LM3914N	2.78	NSC	—	LM555CN	0.56	NSC	—	LM7818CT	0.30	SEM	790
LM340AT-5.0	0.95	MOT	745	LM3914V	3.89	NSC	—	LM555CN	0.56	HAR	702	LM7818CT	1.78	NSC	771
LM340K-5.0	4.00	NSC	771	LM3915N	2.78	NSC	—	LM556CM	0.78	NSC	—	LM7818CT	0.96	NSC	771
LM340LAH-12	1.67	NSC	771	LM3916N	2.78	NSC	—	LM556CN	0.78	NSC	—	LM7818CT	0.61	SEM	790
LM340LAH-5.0	1.67	NSC	771	LM3922M	1.17	NSC	767	LM556CN	0.89	NSC	—	LM7818CT	0.61	SEM	790
LM340LAZ-5.0	0.84	NSC	771	LM3922N	1.07	NSC	767	LM567CM	0.71	NSC	—	LM7818CT	1.78	NSC	771
LM340T-12	0.96	NSC	771	LM393AD	1.12	TIS	803	LM567CN	0.71	NSC	—	LM7818CT	0.96	NSC	771
LM340T-12	0.71	MOT	745	LM393AN	0.84	PHI	787	LM6118N	30.40	NSC	—	LM7818CT	0.61	SEM	790
LM340T-15	0.96	NSC	771	LM393AN	1.36	MOT	744	LM611CN	1.65	NSC	—	LM7818CT	1.78	NSC	771
LM340T-15	0.71	MOT	745	LM393AP	1.24	TIS	803	LM612AIN	3.80	NSC	—	LM7818CT	0.96	NSC	771
LM340T-5.0	0.96	NSC	771	LM393D	0.44	PHI	787	LM612IIM	1.75	NSC	767	LM7818CT	0.61	SEM	790
LM340T-5.0	0.82	MOT	745	LM393D	0.72	TIS	803	LM612IIN	1.75	NSC	767	LM7818CT	1.96	NSC	771
LM341T-12	0.96	NSC	771	LM393M	0.60	NSC	767	LM613AIN	4.50	NSC	—	LM7818CT	2.92	NSC	770
LM341T-15	0.96	NSC	771	LM393N	0.47	PHI	787	LM613AMN	20.40	NSC	—	LM7905CT	0.96	NSC	772
LM341T-5.0	0.96	NSC	771	LM393N	0.67	NSC	767	LM613CN	2.55	NSC	767	LM7905CT	0.61	SEM	790
LM343H	7.15	NSC	766	LM393N	1.14	MOT	744	LM613IN	2.67	NSC	767	LM7908CT	0.61	SEM	790
LM346N	2.05	NSC	766	LM393P	0.72	TIS	803	LM613IWM	2.67	NSC	767	LM7912CT	0.96	NSC	772
LM348D	1.50	TIS	804	LM394CH	4.50	NSC	—	LM614AIN	4.31	NSC	—	LM7912CT	0.61	SEM	790
LM348N	0.71	NSC	766	LM394H	7.20	NSC	—	LM614AMN	18.90	NSC	—	LM7915CT	0.96	NSC	772
LM348N	1.50	TIS	804	LM395T	3.25	NSC	—	LM614BIN	2.55	NSC	—	LM7915CT	0.61	SEM	790
LM348N	0.75	MOT	744	LM399H	4.00	NSC	769	LM614CN	2.38	NSC	—	LM7915CT	0.53	NSC	772
LM349N	1.45	NSC	—	LM4040AIM-10.0	3.25	NSC	769	LM614CWM	2.38	NSC	—	LM7915CT	0.49	NSC	772
LM34CAH	12.90	NSC	769	LM4040AIM-2.5	3.25	NSC	769	LM614IWM	2.63	NSC	—	LM7915CT	0.30	SEM	790
LM34CAZ	8.25	NSC	769	LM4040AIM-4.1	3.25	NSC	769	LM615AIN	4.31	NSC	—	LM7915CT	0.30	SEM	790
LM34CH	10.50	NSC	769	LM4040AIM-5.0	3.25	NSC	769	LM615IM	2.47	NSC	767	LM7915CT	0.30	SEM	790
LM34CH	6.30	NSC	769	LM4040AIM3-10.0	3.25	NSC	769	LM615IN	2.38	NSC	767	LM7915CT	0.30	SEM	790
LM34DZ	3.88	NSC	769	LM4040AIM3-2.5	3.25	NSC	769	LM6162N	17.80	NSC	766	LM7915CT	0.49	NSC	772
LM34DZ	1.95	NSC	769	LM4040AIM3-5.0	3.25	NSC	769	LM6181AM	6.20	NSC	766	LM7912ACZ	0.30	SEM	790
LM350AT	4.89	NSC	771	LM4040AIZ-10.0	3.25	NSC	769	LM6181AIN	10.60	NSC	766	LM7915CT	0.53	NSC	772
LM350T	4.16	NSC	771	LM4040AIZ-2.5	3.25	NSC	769	LM6181AIM	10.60	NSC	766	LM7915CT	0.30	SEM	790
LM350T	2.84	MOT	746	LM4040AIZ-4.1	3.25	NSC	769	LM6181AMN	4.42	NSC	766	LM7915CT	0.30	SEM	790
LM352ADM	2.23	NSC	770	LM4040AIZ-5.0	3.25	NSC	769	LM6181IN	4.42	NSC	766	LM7915CT	0.30	SEM	790
LM3578AN	2.69	NSC	770	LM4040AIZ-8.2	3.25	NSC	769	LM6218AN	10.10	NSC	766	LM7915CT	0.96	NSC	772
LM358AD	0.82	TIS	803	LM4040BIC-5.0	2.45	NSC	769	LM6218N	7.80	NSC	766	LM7915CT	0.61	SEM	790
LM358AN	0.91	NSC	766	LM4040BIM-10.0	2.45	NSC	769	LM6218WM	7.80	NSC	766	LM7915CT	0.61	SEM	790
LM358AP	0.87	TIS	803	LM4040BIM-2.5	2.45	NSC	769	LM6261N	4.93	NSC	766	LM7915CT	0.96	NSC	772
LM358D	0.50	PHI	787	LM4040BIM-4.1	2.45	NSC	769	LM6262M	4.93	NSC	766	LM7915CT	0.61	SEM	

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LMC835V	15.60	NSC	767	MACH131-15JC	19.62	AMD	670	MAX239CWG	5.48	MXM	720	MAX481CPA	2.00	MXM	720
LMD1820T	15.20	NSC	—	MACH131-20JC	18.05	AMD	670	MAX240CMH	9.00	MXM	720	MAX481CSA	2.00	MXM	720
LP210T	14.80	NSC	—	MACH131-7JC	59.24	AMD	670	MAX241CAI	5.78	MXM	720	MAX483CPA	2.00	MXM	720
LP211P	0.90	TIS	803	MACH210-15JC	8.08	AMD	670	MAX241CWI	5.48	MXM	720	MAX483CSA	2.00	MXM	720
LP239D	0.95	TIS	803	MACH210-20JC	8.08	AMD	670	MAX241ECAI	6.28	MXM	720	MAX485CPA	2.00	MXM	720
LP239N	0.95	TIS	803	MACH210A-10JC	11.38	AMD	670	MAX242CPN	3.68	MXM	720	MAX485CSA	2.00	MXM	720
LP2901D	1.00	TIS	803	MACH210A-12JC	8.32	AMD	670	MAX242CWN	3.68	MXM	720	MAX487CPA	1.93	MXM	720
LP2901N	1.00	TIS	803	MACH210A-7JC	16.87	AMD	670	MAX243CPE	4.28	MXM	720	MAX487CSA	1.93	MXM	720
LP2950ACZ-5.0	1.76	NSC	—	MACH210AQ-12JC	14.52	AMD	670	MAX248CQH	13.50	MXM	720	MAX488CPA	1.93	MXM	720
LP2950CZ-5.0	1.54	NSC	771	MACH210AQ-15JC	9.65	AMD	670	MAX249CQH	13.50	MXM	720	MAX488CSA	1.93	MXM	720
LP2951ACM	2.03	NSC	—	MACH210AQ-20JC	9.26	AMD	670	MAX250CPD	5.78	MXM	720	MAX489CPD	1.93	MXM	720
LP2951ACN	2.03	NSC	—	MACH215-12JC	8.00	AMD	670	MAX250CSD	6.36	MXM	720	MAX489CSD	1.93	MXM	720
LP2951CM	1.87	NSC	771	MACH215-15JC	7.85	AMD	670	MAX251CPD	5.78	MXM	720	MAX490CPA	1.93	MXM	720
LP2951CN	1.87	NSC	771	MACH215-20JC	7.85	AMD	670	MAX251CSD	6.36	MXM	720	MAX491CPD	1.93	MXM	720
LP2952AIM	4.78	NSC	—	MACH220-10JC	78.06	AMD	670	MAX252ACHL	84.83	MXM	720	MAX491CSD	1.93	MXM	720
LP2952AIN	4.78	NSC	—	MACH220-12JC	38.32	AMD	670	MAX252BCHL	50.15	MXM	720	MAX492CPA	4.00	MXM	725
LP2952IM	4.01	NSC	771	MACH220-15JC	29.68	AMD	670	MAX253CSA	1.93	MXM	721	MAX492CSA	4.00	MXM	725
LP2952IN	4.01	NSC	771	MACH220-20JC	27.46	AMD	670	MAX3222CAP	2.86	MXM	720	MAX494CPD	6.42	MXM	725
LP2953AIM	5.50	NSC	—	MACH230-10JC	95.63	AMD	670	MAX3222CPN	2.86	MXM	720	MAX494CSD	6.42	MXM	725
LP2953IM	4.60	NSC	771	MACH230-15JC	42.43	AMD	670	MAX3223CAP	2.86	MXM	720	MAX495CPA	2.58	MXM	725
LP2953IN	4.60	NSC	771	MACH230-20JC	29.68	AMD	670	MAX3232CPE	2.86	MXM	720	MAX690ACPA	3.09	MXM	723
LP2954AIT	5.40	NSC	—	MACH355-15VC	63.33	AMD	670	MAX3232CPE	2.86	MXM	720	MAX690ACSA	5.22	MXM	723
LP2954IT	4.50	NSC	771	MACH355-20VC	60.21	AMD	670	MAX3241CAI	5.17	MXM	720	MAX690RCPA	6.46	MXM	723
LP2957IT	4.93	NSC	771	MACH435-12JC	66.80	AMD	670	MAX3243CAI	5.17	MXM	720	MAX690RCSA	6.46	MXM	723
LP311D	0.82	TIS	803	MACH435-15JC	51.35	AMD	670	MAX4005CSA	4.89	MXM	725	MAX690SCPA	6.46	MXM	723
LP311N	0.76	NSC	767	MACH435-20JC	47.74	AMD	670	MAX400CPA	9.00	MXM	725	MAX690SCSA	6.46	MXM	723
LP311P	0.87	TIS	803	MACH435Q-20JC	71.90	AMD	670	MAX400CSA	9.90	MXM	725	MAX690TCPA	6.46	MXM	723
LP324M	0.89	NSC	766	MACH435Q-25JC	51.35	AMD	670	MAX403CPA	5.53	MXM	725	MAX690TCSA	5.70	MXM	723
LP339M	0.89	NSC	767	MACH465-15VC	187.31	AMD	670	MAX403CSA	5.53	MXM	725	MAX691ACPE	5.99	MXM	723
LP339N	0.89	NSC	767	MACH465-20VC	171.81	AMD	670	MAX404CPA	5.07	MXM	725	MAX691ACSE	5.99	MXM	723
LP365N	0.84	NSC	767	MACHLV210-12JC	20.64	AMD	670	MAX404CSA	5.07	MXM	725	MAX691ACWE	5.99	MXM	723
LT1004CLP-1-2	2.46	TIS	—	MACHLV210-15JC	13.73	AMD	670	MAX405CPA	8.42	MXM	725	MAX692ACPA	4.97	MXM	723
LT1009CLP	2.34	TIS	805	MACHLV210-20JC	9.81	AMD	670	MAX405CSA	8.50	MXM	725	MAX692ACSA	5.22	MXM	723
LT1009ILP	2.52	TIS	—	MAD1107P	2.82	MOT	759	MAX406ACPA	8.48	MXM	725	MAX693ACPE	5.70	MXM	723
LT1013AIP	4.80	TIS	—	MAD1108P	2.46	MOT	759	MAX406ACSA	8.65	MXM	725	MAX693ACSE	4.99	MXM	723
LT1013AMP	6.25	TIS	—	MAD1109P	4.92	MOT	759	MAX407CPA	5.95	MXM	725	MAX693ACWE	5.99	MXM	723
LT1013CP	2.68	TIS	803	MAD130P	4.90	MOT	759	MAX407CSA	5.95	MXM	725	MAX696CPE	6.43	MXM	723
LT1013DD	2.00	TIS	803	MAT01GH	13.13	ADI	—	MAX409ACPA	8.48	MXM	725	MAX696CWE	5.99	MXM	723
LT1013DIP	2.42	TIS	—	MAT02EH	6.18	ADI	—	MAX409ACSA	8.65	MXM	725	MAX697CPE	6.48	MXM	723
LT1013DP	2.00	TIS	803	MAT03EH	15.75	ADI	—	MAX410CPA	4.39	MXM	725	MAX697CWE	7.11	MXM	723
LT1013IP	2.87	TIS	—	MAT03FH	8.25	ADI	—	MAX410CSA	4.39	MXM	725	MAX700CPA	3.93	MXM	723
LT1014CN	7.50	TIS	—	MAT04FP	4.88	ADI	—	MAX412CPA	6.38	MXM	725	MAX700CSA	3.93	MXM	723
LT1014IN	8.32	TIS	—	MAT04FS	4.88	ADI	—	MAX412CSA	6.38	MXM	725	MAX703CPA	5.02	MXM	723
LT1030CD	2.50	TIS	802	MAX1232CSA	3.09	MXM	723	MAX414CPD	9.35	MXM	725	MAX703CSA	5.02	MXM	723
LT1030CN	2.63	TIS	802	MAX1480ACPI	16.04	MXM	721	MAX414CSD	9.35	MXM	725	MAX704CPA	5.02	MXM	723
LT1054CP	3.94	TIS	805	MAX1480BPI	15.34	MXM	721	MAX417CPA	5.63	MXM	725	MAX704CSA	5.02	MXM	723
LT1054IP	3.01	TIS	—	MAX200CPP	5.48	MXM	720	MAX417CSA	5.63	MXM	725	MAX704RCPA	6.00	MXM	723
LT1072CKC	7.50	TIS	—	MAX201CPD	2.40	MXM	720	MAX418CPD	7.51	MXM	725	MAX704RCSA	6.00	MXM	723
LT1072CKV	7.50	TIS	—	MAX202CPE	2.40	MXM	720	MAX418CSD	7.51	MXM	725	MAX704SCPA	6.00	MXM	723
LT1072CP	4.37	TIS	805	MAX202CSE	2.40	MXM	720	MAX419CPD	7.51	MXM	725	MAX704SCSA	6.00	MXM	723
MAC08MT1	0.72	MOT	765	MAX202CWE	2.40	MXM	720	MAX419CSD	7.51	MXM	725	MAX704TCPA	6.00	MXM	723
MAC12M	0.88	MOT	765	MAX202CPE	2.86	MXM	—	MAX427CPA	3.32	MXM	725	MAX704TCSA	6.00	MXM	723
MAC12N	0.92	MOT	765	MAX202CSE	2.86	MXM	720	MAX427CSA	4.17	MXM	725	MAX705CPA	4.49	MXM	723
MAC15-6	1.14	MOT	765	MAX202CWE	2.86	MXM	720	MAX435CPD	5.13	MXM	725	MAX705CSA	4.49	MXM	723
MAC15-8	1.16	MOT	765	MAX203CPP	5.40	MXM	720	MAX435CSD	5.13	MXM	725	MAX706CPA	4.49	MXM	723
MAC15A6	1.20	MOT	765	MAX204CPE	4.28	MXM	720	MAX436CPD	5.13	MXM	725	MAX706CSE	4.49	MXM	723
MAC15A8	1.22	MOT	765	MAX204CWE	4.28	MXM	720	MAX436CSD	5.13	MXM	725	MAX706RCPA	4.86	MXM	723
MAC15D	1.06	MOT	765	MAX205CPG	11.88	MXM	720	MAX437CPA	3.32	MXM	725	MAX706RCSA	4.86	MXM	723
MAC15M	1.08	MOT	765	MAX206CNG	5.48	MXM	720	MAX437CSA	4.17	MXM	725	MAX706SCPA	4.86	MXM	723
MAC15N	1.12	MOT	765	MAX206CWG	5.48	MXM	720	MAX439CPA	5.53	MXM	725	MAX706SCSA	4.86	MXM	723
MAC16M	1.08	MOT	765	MAX207CNG	5.48	MXM	720	MAX439CSA	5.53	MXM	725	MAX706TCPA	4.86	MXM	723
MAC16N	1.12	MOT	765	MAX207CWG	5.48	MXM	720	MAX440CPA	17.49	MXM	726	MAX706TCSA	4.86	MXM	723
MAC210A10	1.08	MOT	765	MAX208CNG	5.48	MXM	720	MAX440CWI	19.24	MXM	726	MAX707CPA	4.03	MXM	723
MAC210A8	1.08	MOT	765	MAX208CWG	5.48	MXM	720	MAX441CPP	11.53	MXM	726	MAX707CSA	4.03	MXM	723
MAC223A10	2.00	MOT	765	MAX209CNG	5.48	MXM	720	MAX441CWP	12.68	MXM	726	MAX708CPA	4.03	MXM	723
MAC223A6	1.80	MOT	765	MAX209CWG	5.48	MXM	720	MAX442CPA	8.42	MXM	726	MAX708CSE	4.03	MXM	723
MAC223A8	1.90	MOT	765	MAX211CAI	5.78	MXM	720	MAX442CSA	8.42	MXM	726	MAX708RCPA	4.35	MXM	723
MAC224A10	2.70	MOT	765	MAX211CWI	5.48	MXM	720	MAX452CPA	4.50	MXM	725	MAX708SCPA	4.35	MXM	723
MAC224A4A	2.50	MOT	765	MAX211ECAI	7.53	MXM	—	MAX452CSA	4.95	MXM	725	MAX708SCSA	2.18	MXM	723
MAC224A6	2.54	MOT	765	MAX213CAI	5.78	MXM	720	MAX453CPA	7.12	MXM	726	MAX708TCPA	4.35	MXM	723
MAC224A8	2.60	MOT	765	MAX213CWI	5.48	MXM	720	MAX453CSA	7.84	MXM	726	MAX709CPA	3.69	MXM	—
MAC228A10	1.70	MOT	765	MAX213ECAI	6.28	MXM	—	MAX454CPA	9.50	MXM	726	MAX791CPE	6.15	MXM	723
MAC228A8	1.70	MOT	765	MAX222CPN	3.68	MXM	720	MAX454CSD	10.46	MXM	726	MAX792LCPE	5.60	MXM	723
MAC228A4	1.08	MOT	765	MAX222CWE	3.68	MXM	720	MAX455CPP	15.83	MXM	726	MAX792LSE	5.87	MXM	723
MAC228A6	1.18	MOT	765	MAX223CAI	5.78	MXM	720	MAX455CWP	17.41	MXM	726	MAX793CPE	6.83	MXM	723
MAC228A8	1.52	MOT	765	MAX223CWI	5.48	MXM	720	MAX457CPA	7.50	MXM	725	MAX793RCPA	6.83	MXM	723
MAC243CSE	3.68	MXM	—	MAX230CPP	5.48	MXM	720	MAX457CSA	8.25	MXM	725	MAX793RCSA	6.83	MXM	723
MAC495CSA	2.58	MXM	—	MAX230CWP	5.48	MXM	—	MAX463CNG	10.78	MXM	726	MAX793SCSE	6.83	MXM	723
MAC805SCPA	6.46	MXM	—	MAX231CPD	2.40	MXM	720	MAX464CNI	12.32	MXM	726	MAX793TCPA	6.83	MXM	723
MAC8D	0.82	MOT	765	MAX232ACPE	3.68	MXM	720	MAX465CNG	10.78	MXM	726	MAX793TCSA	6.83	MXM	723
MAC8M	0.84	MOT	765	MAX232ACSE	3.68	MXM	720	MAX466CNI	12.32	MXM	726	MAX794CPE	6.83	MXM	723
MAC8N	0.88	MOT	765	MAX232ACWE	3.68	MXM	720	MAX467CPE	5.64	MXM	725	MAX794CSE	6.83	MXM	723
MAC97-6	0.32	MOT	765	MAX232CSE	2.40	MXM	720	MAX467CWE	5.64	MXM	725	MAX800LCPA	6.18	MXM	723
MAC97A4	0.32	MOT	765	MAX232CWE	2.40	MXM	720	MAX468CPE	6.38	MXM	725	MAX800LCSE	6.50	MXM	723
MAC97A6	0.34	MOT	765	MAX232D	1.50	TIS	802								

Manufacturer's Code Log

ADI AMD COL DLS GIS HAR	Analog Devices Inc. Advanced Micro Devices Colimer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor	IDT ITL LAT MIC MXM MOS	Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitelec	MOT NSC NTE PHI SEM SIE	Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc.	TIS THO UNI XLX	Texas Instruments Thomson Consumer Electronics Unitrode Integrated Circuits Xilinx
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Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
MAX805RCSA	6.46	MXM	723	MBRD1035CTL	1.30	MOT	763	MC10136FN	15.73	MOT	739	MC10H124P	3.25	MOT	738
MAX805SCSA	6.46	MXM	723	MBRD640CT	1.38	MOT	763	MC10136P	11.34	MOT	739	MC10H125FN	4.51	MOT	738
MAX805TCPA	6.46	MXM	723	MBRD660CT	1.38	MOT	763	MC10137P	11.97	MOT	739	MC10H125P	3.25	MOT	738
MAX805TCSA	6.46	MXM	723	MBRD835L	1.10	MOT	763	MC10138P	8.81	MOT	739	MC10H131FN	4.84	MOT	738
MAX806RCPA	8.31	MXM	723	MBRP20030CTL	39.00	MOT	763	MC10141L	5.07	MOT	—	MC10H131P	2.82	MOT	738
MAX806RCSA	8.31	MXM	723	MBRP20045CT	35.10	MOT	763	MC10141P	4.44	MOT	—	MC10H135FN	5.66	MOT	738
MAX806SCPA	8.31	MXM	723	MBRP20060CT	37.70	MOT	763	MC10158P	3.08	MOT	739	MC10H135P	4.44	MOT	738
MAX806SCSA	8.31	MXM	723	MBRP30045CT	39.00	MOT	763	MC10161P	3.08	MOT	739	MC10H136FN	19.38	MOT	738
MAX806TCPA	8.31	MXM	723	MBRP30060CT	41.60	MOT	763	MC10164P	3.08	MOT	739	MC10H136P	14.47	MOT	738
MAX806TCSA	8.31	MXM	723	MBRP60035CTL	70.00	MOT	763	MC10174P	3.08	MOT	739	MC10H141FN	7.76	MOT	738
MAX813LCPA	3.05	MXM	723	MBRS1100T3	0.78	MOT	763	MC10176P	4.46	MOT	739	MC10H141P	4.46	MOT	738
MAX813LCSA	3.05	MXM	723	MBRS130LT3	0.75	MOT	763	MC10178P	8.18	MOT	739	MC10H158FN	4.10	MOT	739
MAX820LCSE	6.47	MXM	726	MBRS140T3	0.65	MOT	763	MC10188P	2.77	MOT	739	MC10H158P	3.08	MOT	739
MAX900BCPP	11.05	MXM	726	MBRS340T3	0.78	MOT	763	MC10192FN	4.33	MOT	739	MC10H164FN	4.10	MOT	739
MAX901BCPE	9.35	MXM	726	MBRS360T3	0.78	MOT	763	MC10192P	4.53	MOT	739	MC10H164P	3.08	MOT	739
MAX901BCSE	9.35	MXM	726	MBS4991	0.28	MOT	765	MC10198FN	20.94	MOT	739	MC10H174FN	4.10	MOT	739
MAX902CPD	7.65	MXM	726	MBS4992	0.88	MOT	765	MC10198P	17.81	MOT	739	MC10H174P	3.08	MOT	739
MAX902CSD	7.74	MXM	726	MBS4993	0.46	MOT	765	MC10216FN	2.99	MOT	739	MC10H176FN	6.98	MOT	739
MAX903CPA	5.95	MXM	726	MC100E016FN	39.23	MOT	738	MC10216P	1.60	MOT	739	MC10H176P	4.46	MOT	739
MAX903CSCA	6.04	MXM	726	MC100E01FN	21.80	MOT	738	MC10231P	4.79	MOT	739	MC10H186P	6.72	MOT	739
MAX907CPA	3.23	MXM	726	MC100E104FN	21.80	MOT	738	MC10319DW	24.73	MOT	743	MC10H188FN	8.26	MOT	739
MAX907CSCA	3.23	MXM	726	MC100E107FN	21.80	MOT	738	MC10319P	24.54	MOT	743	MC10H188P	4.46	MOT	739
MAX908CPD	5.61	MXM	726	MC100E111FN	39.23	MOT	738	MC10321P	13.25	MOT	743	MC10H189P	4.46	MOT	739
MAX908CSD	5.61	MXM	726	MC100E112FN	21.80	MOT	738	MC10322P	6.22	MOT	743	MC10H210P	2.17	MOT	739
MAX909CPA	2.84	MXM	726	MC100E116FN	26.15	MOT	738	MC10E016FN	39.23	MOT	738	MC10H350FN	15.60	MOT	739
MAX909CSCA	2.84	MXM	726	MC100E122FN	21.80	MOT	738	MC10E101FN	21.80	MOT	738	MC10H350P	11.21	MOT	739
MAX912CPE	7.36	MXM	726	MC100E131FN	30.60	MOT	738	MC10E104FN	21.80	MOT	738	MC10H351FN	15.60	MOT	739
MAX912CSE	7.36	MXM	726	MC100E141FN	34.87	MOT	738	MC10E107FN	21.80	MOT	738	MC10H351P	11.21	MOT	739
MAX913CSCA	4.81	MXM	726	MC100E142FN	34.87	MOT	738	MC10E111FN	39.23	MOT	738	MC10H424FN	14.36	MOT	739
MAX921CSCA	2.98	MXM	726	MC100E143FN	34.87	MOT	738	MC10E112FN	21.80	MOT	738	MC10H424P	11.21	MOT	739
MAX922CPA	2.84	MXM	726	MC100E151FN	30.60	MOT	738	MC10E116FN	26.15	MOT	738	MC10H600FN	11.28	MOT	739
MAX922CSCA	2.84	MXM	726	MC100E156FN	30.60	MOT	738	MC10E131FN	30.60	MOT	738	MC10H601FN	11.28	MOT	739
MAX922CSE	2.84	MXM	726	MC100E158FN	26.15	MOT	738	MC10E136FN	39.23	MOT	738	MC10H602FN	12.73	MOT	739
MAX923CSCA	3.69	MXM	—	MC100E163FN	26.15	MOT	738	MC10E141FN	34.87	MOT	738	MC10H603FN	12.73	MOT	739
MAX924CPE	4.25	MXM	726	MC100E167FN	30.60	MOT	738	MC10E142FN	34.87	MOT	738	MC10H604FN	12.73	MOT	739
MAX924CSE	4.25	MXM	726	MC100E195FN	39.23	MOT	738	MC10E143FN	34.87	MOT	738	MC10H605FN	12.73	MOT	739
MAX931CPA	1.85	MXM	726	MC100E416FN	30.60	MOT	738	MC10E151FN	30.60	MOT	738	MC10H607FN	12.73	MOT	739
MAX931CSCA	1.85	MXM	726	MC100E445FN	53.60	MOT	738	MC10E158FN	26.15	MOT	738	MC10H640FN	16.14	MOT	739
MAX932CPA	2.88	MXM	726	MC100E452FN	30.60	MOT	738	MC10E1651FN	66.77	MOT	738	MC10H641FN	11.13	MOT	739
MAX932CSCA	2.38	MXM	726	MC100E457FN	30.60	MOT	738	MC10E166FN	30.60	MOT	738	MC10H643FN	20.87	MOT	739
MAX933CPA	2.38	MXM	726	MC100EL01D	9.46	MOT	738	MC10E171FN	26.15	MOT	738	MC10H645FN	9.09	MOT	739
MAX933CSCA	2.38	MXM	726	MC100EL04D	9.46	MOT	738	MC10E195FN	39.23	MOT	738	MC12002P	7.76	MOT	739
MAX934CSE	2.47	MXM	726	MC100EL05D	9.46	MOT	738	MC10E416FN	30.60	MOT	738	MC12009FN	15.53	MOT	739
MAX941CPA	2.17	MXM	726	MC100EL07D	9.46	MOT	738	MC10E431FN	30.60	MOT	738	MC12009P	14.47	MOT	739
MAX941CSCA	2.17	MXM	726	MC100EL11D	10.48	MOT	738	MC10E457FN	30.60	MOT	738	MC12011FN	15.53	MOT	739
MAX942CPA	2.32	MXM	726	MC100EL12D	9.46	MOT	738	MC10EL01D	9.46	MOT	738	MC12011P	13.14	MOT	739
MAX942CSCA	2.32	MXM	726	MC100EL15D	19.03	MOT	738	MC10EL04D	9.46	MOT	738	MC12013D	15.53	MOT	739
MAX944CPD	3.87	MXM	726	MC100EL16D	9.46	MOT	738	MC10EL05D	9.46	MOT	738	MC12013FN	15.53	MOT	739
MAX944CSD	3.87	MXM	726	MC100EL31D	7.76	MOT	738	MC10EL07D	9.46	MOT	738	MC12013P	13.14	MOT	739
MBD101	0.36	MOT	758	MC100EL32D	9.83	MOT	738	MC10EL11D	9.46	MOT	738	MC12015D	8.81	MOT	739
MBD301	0.40	MOT	758	MC100EL33D	9.83	MOT	738	MC10EL12D	9.46	MOT	738	MC12015P	8.81	MOT	739
MBD701	0.40	MOT	758	MC100EL34D	11.93	MOT	738	MC10EL15D	19.03	MOT	738	MC12016D	8.81	MOT	739
MBR0520LT1	0.25	MOT	763	MC100EL35D	9.46	MOT	738	MC10EL16D	9.46	MOT	738	MC12016P	8.81	MOT	739
MBR0530T1	0.25	MOT	763	MC100EL51D	9.46	MOT	738	MC10EL31D	7.76	MOT	738	MC12017D	8.81	MOT	739
MBR0540T1	0.25	MOT	763	MC100EL52D	9.46	MOT	738	MC10EL32D	9.83	MOT	738	MC12017P	8.81	MOT	739
MBR10100	1.80	MOT	763	MC100EL57D	15.10	MOT	738	MC10EL33D	9.83	MOT	738	MC12018P	21.15	MOT	739
MBR1045	1.40	MOT	763	MC100EL58D	9.46	MOT	738	MC10EL34D	11.93	MOT	738	MC12019D	9.44	MOT	739
MBR1060	1.40	MOT	763	MC100ELT21D	7.55	MOT	738	MC10EL35D	9.46	MOT	738	MC12019P	8.81	MOT	739
MBR1100	0.56	MOT	763	MC100ELT22D	7.55	MOT	738	MC10EL51D	9.46	MOT	738	MC12022AD	5.96	MOT	739
MBR1545CT	1.20	MOT	763	MC100ELT23D	7.55	MOT	738	MC10EL52D	9.46	MOT	738	MC12022AP	5.96	MOT	739
MBR160	0.47	MOT	763	MC100ELT25D	7.55	MOT	738	MC10EL57D	15.10	MOT	738	MC12028AD	7.44	MOT	739
MBR1635	1.38	MOT	763	MC100H600FN	15.30	MOT	739	MC10EL58D	9.46	MOT	738	MC12028AP	7.44	MOT	739
MBR1645	1.38	MOT	763	MC100H602FN	17.27	MOT	739	MC10EL89D	10.70	MOT	738	MC12034AD	8.16	MOT	739
MBR20100CT	3.00	MOT	763	MC100H640FN	16.14	MOT	739	MC10ELT22D	7.55	MOT	738	MC12040FN	13.47	MOT	739
MBR20200CT	3.50	MOT	763	MC100H641FN	11.13	MOT	739	MC10ELT25D	7.55	MOT	738	MC12040P	11.54	MOT	739
MBR2030CTL	2.70	MOT	763	MC100H643FN	20.87	MOT	739	MC10H016FN	19.51	MOT	738	MC12061P	5.51	MOT	739
MBR2045CT	1.54	MOT	763	MC10101P	0.82	MOT	739	MC10H016P	14.47	MOT	738	MC12073P	8.81	MOT	739
MBR2060CT	2.00	MOT	763	MC10102FN	2.21	MOT	739	MC10H101FN	2.36	MOT	738	MC12079D	5.96	MOT	

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MC1401UBCP	0.28	MOT	734	MC144111DW	5.25	MOT	743	MC145474P	16.81	MOT	740	MC33179P	1.88	MOT	744
MC1401UBD	0.30	MOT	734	MC144111P	5.25	MOT	743	MC145475DW	17.40	MOT	740	MC33182P	1.36	MOT	743
MC14012BCP	0.26	MOT	734	MC14433P	9.08	MOT	743	MC14547BCP	2.10	MOT	735	MC33202D	1.58	MOT	744
MC14013BCL	0.93	MOT	—	MC14443P	4.40	MOT	743	MC14548BDW	6.03	MOT	740	MC33202P	1.58	MOT	744
MC14013BCP	0.30	MOT	734	MC14447P	6.88	MOT	—	MC14548BP	6.03	MOT	740	MC33284P	2.73	MOT	744
MC14013BD	0.32	MOT	734	MC14469P	13.38	MOT	—	MC14548BCP	9.50	MOT	735	MC3335DW	2.27	MOT	742
MC14014BCP	0.71	MOT	734	MC14489DW	4.88	MOT	741	MC14551BCP	1.82	MOT	735	MC33340P	1.77	MOT	—
MC14014BD	0.73	MOT	734	MC14489P	4.88	MOT	741	MC14551BD	1.82	MOT	735	MC3346P	0.90	MOT	—
MC14015BCL	1.86	MOT	—	MC14490DW	4.81	MOT	735	MC14553BCP	4.96	MOT	735	MC3356DW	1.97	MOT	742
MC14015BCP	0.64	MOT	734	MC14490L	5.75	MOT	—	MC14555BCP	0.64	MOT	735	MC3356P	1.78	MOT	742
MC14015BD	0.65	MOT	734	MC14490P	4.81	MOT	735	MC14556BCP	0.64	MOT	735	MC3357P	1.78	MOT	—
MC14016BCP	0.38	MOT	734	MC14497P	8.75	MOT	—	MC14557BCP	2.14	MOT	735	MC3358P	0.86	MOT	743
MC14016BD	0.39	MOT	734	MC14499P	4.50	MOT	741	MC14557BDW	2.14	MOT	735	MC3359P	1.71	MOT	742
MC14017BCL	1.86	MOT	—	MC145000P	8.38	MOT	741	MC14559BCP	9.50	MOT	735	MC3361N	0.84	PHI	—
MC14017BCP	0.64	MOT	734	MC14500BCP	6.88	MOT	735	MC14559P	0.39	MOT	—	MC3362P	3.19	MOT	742
MC14017BD	0.65	MOT	734	MC14501UBCP	0.65	MOT	735	MC14560BCP	1.95	MOT	735	MC3363DW	4.51	MOT	742
MC14018BCP	0.71	MOT	734	MC14502BCP	1.75	MOT	740	MC14562BCP	6.37	MOT	735	MC3367DW	3.12	MOT	742
MC14020BCP	0.62	MOT	734	MC145027P	2.50	MOT	740	MC14566BCP	1.43	MOT	735	MC3371D	2.64	MOT	742
MC14020BD	0.64	MOT	734	MC145028P	2.50	MOT	740	MC14568BCP	5.44	MOT	735	MC3372D	2.64	MOT	742
MC14021BCL	1.86	MOT	—	MC14502BCP	0.65	MOT	735	MC14569BCP	2.42	MOT	735	MC3373P	0.97	MOT	—
MC14021BCP	0.62	MOT	734	MC14503BCP	0.54	MOT	735	MC14572UBCP	0.62	MOT	735	MC34004BP	1.01	MOT	744
MC14021BD	0.64	MOT	734	MC14503BD	0.47	MOT	735	MC14573D	3.63	MOT	744	MC34004P	0.84	MOT	744
MC14022BCP	0.62	MOT	734	MC145040FN	4.13	MOT	743	MC14573P	3.63	MOT	744	MC3403N	0.90	TIS	804
MC14023BCL	0.64	MOT	—	MC145040P	3.30	MOT	743	MC14575D	3.63	MOT	744	MC3403P	0.45	MOT	744
MC14023BCP	0.28	MOT	734	MC145041FN	4.13	MOT	743	MC14575P	3.63	MOT	744	MC34050D	1.47	MOT	741
MC14023BD	0.30	MOT	734	MC145041P	3.30	MOT	743	MC14577CP	1.63	MOT	—	MC34050P	1.47	MOT	741
MC14024BCP	0.45	MOT	734	MC145048CP	1.21	MOT	735	MC14583BCP	0.92	MOT	735	MC34051D	1.47	MOT	741
MC14024BD	0.47	MOT	734	MC145048D	1.30	MOT	735	MC14584BCL	1.02	MOT	—	MC34051P	1.47	MOT	741
MC14025BCL	0.84	MOT	—	MC145050DW	4.38	MOT	743	MC14584BCP	0.47	MOT	735	MC3405P	0.99	MOT	744
MC14025BCP	0.28	MOT	734	MC145050P	4.38	MOT	743	MC14584BD	0.47	MOT	735	MC34060AD	1.62	MOT	746
MC14027BCL	1.28	MOT	—	MC145051DW	4.38	MOT	743	MC14585BCP	0.71	MOT	735	MC34060AP	1.62	MOT	746
MC14027BCP	0.34	MOT	734	MC145051P	4.38	MOT	743	MC1458CP1	0.43	MOT	743	MC34063AD	1.84	MOT	746
MC14027BD	0.36	MOT	734	MC145053D	3.75	MOT	—	MC1458D	0.52	PHI	787	MC34063AP1	1.84	MOT	746
MC14028BCP	0.62	MOT	734	MC145053P	3.75	MOT	743	MC1458D	0.72	TIS	804	MC34064D-5	1.06	MOT	746
MC14028BD	0.64	MOT	734	MC145058BCP	1.82	MOT	735	MC1458N	0.55	PHI	787	MC34064P-5	1.02	MOT	746
MC14029BCP	0.62	MOT	734	MC145060DW	5.38	MOT	740	MC1458P	0.76	TIS	804	MC34071P	0.80	MOT	743
MC14035BCP	0.75	MOT	734	MC145106P	5.38	MOT	740	MC1458P1	0.52	MOT	743	MC34072P	0.99	MOT	743
MC1403D	1.67	MOT	747	MC14510BCP	0.73	MOT	735	MC14599BCP	4.68	MOT	735	MC34074AP	1.47	MOT	744
MC14040BCL	1.86	MOT	—	MC14511BCP	0.71	MOT	735	MC14581BCP	5.94	MOT	—	MC34074P	1.34	MOT	744
MC14040BCP	0.62	MOT	734	MC14512BCP	0.65	MOT	735	MC14581BP	5.94	MOT	—	MC34082P	1.27	MOT	743
MC14040BD	0.64	MOT	734	MC14513BCP	2.27	MOT	735	MC1472P1	1.43	MOT	741	MC34084P	2.12	MOT	744
MC14042BCP	0.47	MOT	734	MC145146DW2	8.38	MOT	740	MC1488D	0.60	MOT	741	MC3410CF	6.74	PHI	—
MC14043BCP	0.62	MOT	734	MC145146P2	8.38	MOT	740	MC1488N	0.74	TIS	802	MC3410F	8.98	PHI	—
MC14043BD	0.64	MOT	734	MC14514BCP	1.58	MOT	735	MC1488P	0.60	MOT	741	MC34129D	2.86	MOT	746
MC14044BCP	0.62	MOT	734	MC145151DW2	7.50	MOT	740	MC1489AD	0.65	MOT	740	MC34129P	2.86	MOT	746
MC14044BD	0.71	MOT	734	MC145151P2	7.50	MOT	740	MC1489AN	0.70	TIS	802	MC34160P	1.78	MOT	746
MC14046BDW	0.73	MOT	734	MC145152DW2	9.75	MOT	740	MC1489AP	0.76	MOT	740	MC34163P	3.12	MOT	746
MC14048BCP	0.38	MOT	734	MC145152P2	9.75	MOT	740	MC1489D	0.60	MOT	740	MC34164D-3	1.06	MOT	747
MC14048BD	0.38	MOT	734	MC145155P2	5.88	MOT	740	MC1489N	0.74	TIS	802	MC34164D-5	1.06	MOT	746
MC14049BCL	1.25	MOT	—	MC145156DW2	6.50	MOT	740	MC1489P	0.60	MOT	740	MC34164P-3	1.02	MOT	747
MC14049BCP	0.34	MOT	734	MC145156P2	6.50	MOT	740	MC1490P	2.10	MOT	744	MC34164P-5	1.02	MOT	746
MC14049BD	0.36	MOT	—	MC145157DW2	6.00	MOT	740	MC1496D	0.75	MOT	742	MC34165P	2.27	MOT	746
MC14050BCL	1.12	MOT	—	MC145157P2	6.00	MOT	740	MC1496N	0.78	PHI	—	MC34181P	0.97	MOT	743
MC14050BCP	0.38	MOT	734	MC145158DW2	6.00	MOT	740	MC1496P	0.75	MOT	742	MC34182P	1.30	MOT	743
MC14050BD	0.39	MOT	734	MC145158P2	6.00	MOT	740	MC14C88BD	1.27	MOT	741	MC34184P	2.03	MOT	744
MC14051BCP	0.52	MOT	734	MC145158CP	1.67	MOT	735	MC14C88BP	1.27	MOT	741	MC3423P1	0.78	MOT	—
MC14051BD	0.54	MOT	734	MC145162DW	2.63	MOT	740	MC14C88BP	1.27	MOT	740	MC34261P	1.84	MOT	746
MC14052BCP	0.52	MOT	734	MC145162P	2.63	MOT	740	MC14C5472FE	77.04	MOT	740	MC34262P	2.21	MOT	746
MC14052BD	0.54	MOT	734	MC145168CP	0.69	MOT	735	MC14C5472F2U	55.57	MOT	740	MC3430P	2.42	MOT	745
MC14053BCP	0.52	MOT	734	MC145178CP	1.36	MOT	735	MC1558P	1.32	TIS	—	MC3437P	1.36	MOT	740
MC14053BD	0.54	MOT	734	MC14517BDW	1.38	MOT	735	MC1648P	3.92	MOT	739	MC3448AP	1.93	MOT	740
MC14060BCP	0.60	MOT	734	MC14518BCL	1.86	MOT	—	MC1658D	4.98	MOT	739	MC3450P	1.28	MOT	740
MC14060BD	0.62	MOT	—	MC14518BCP	0.71	MOT	735	MC1658P	4.98	MOT	739	MC3453P	1.54	MOT	741
MC14066BCL	0.78	MOT	—	MC145191F	9.80	MOT	740	MC1723CP	0.47	MOT	746	MC3458P1	0.71	MOT	743
MC14066BCP	0.38	MOT	734	MC14519BCP	0.47	MOT	735	MC1776CP1	0.88	MOT	743	MC3476P1	0.73	MOT	743
MC14066BD	0.39	MOT	734	MC14520BCP	0.65	MOT	735	MC2681P	6.96	MOT	740	MC3481P	4.08	MOT	741
MC14067BCP	1.77	MOT	734	MC14521BCP	1.17	MOT	735	MC26L530D	1.36	MOT	741	MC3485P	4.08	MOT	741
MC14068BCP	0.28	MOT	734	MC14521BD	1.19	MOT	735	MC26L531D	0.80	MOT	741	MC3486D	1.00	TIS	802
MC14069UBCP	0.28	MOT	734	MC14522BCP	0.90	MOT	735	MC26L532D	0.80	MOT	740	MC3486D	0.95	MOT	740
MC14069UBD	0.30	MOT	734	MC14523BCP	0.84	MOT	735	MC26S10P	1.15	MOT	740	MC3486N	1.10	TIS	802
MC14070BCP	0.28	MOT	734	MC14527BCP	0.75	MOT	735	MC2833D	1.08	MOT	742	MC3486P	0.95	MOT	740
MC14070BD	0.30	MOT	734	MC14528BCP	0.75	MOT	735	MC2833P	1.08	MOT	742	MC3487D	1.00	TIS	802
MC14071BCL	0.84	MOT	—	MC14529BCP	1.02	MOT	735	MC3302N	0.60	PHI	787	MC3487D	0.95	MOT	741
MC14071BCP	0.28	MOT	734	MC14529BD	1.04	MOT	735	MC3302P	0.65	MOT	745	MC3487N	1.10	TIS	802
MC14071BD	0.30	MOT	734	MC14532BCP	0.75	MOT	735	MC3303N	3.54	TIS	—	MC3488P	0.95	MOT	741
MC14072BCP	0.30	MOT	734	MC14534BCP	3.25	MOT	735	MC3303P	0.54	MOT	744	MC3488P	1.47	MOT	741
MC14073BCP	0.28	MOT	734	MC14536BCP	1.19	MOT	735	MC33060AD	1.93	MOT	746	MC3488AP1	1.47	MOT	741
MC14075BCP	0.28	MOT	734	MC14536BDW	1.21	MOT	735	MC33060AP	1.93	MOT	746	MC4018P	41.73	MOT	739
MC14076BCP	0.65	MOT	734	MC14538BCL	1.51	MOT	—	MC33063AD	2.21	MOT	746	MC4024P	10.30	MOT	739
MC14077BCP	0.28	MOT	734	MC14538BCP	0.84	MOT	735	MC33063AP1	2.21	MOT	746	MC4044D	15.42	MOT	739
MC14078BCP	0.28	MOT	735	MC14538BDW	0.86	MOT	735	MC33064D-5	1.12	MOT	746	MC4044P	15.21	MOT	739
MC1408-8N	1.05	PHI	—	MC14539BCP	0.75	MOT	735	MC33064P-5	1.21	MOT	746	MC4420FN	15.00	MOT	743
MC14081BCL	0.84	MOT	—	MC145403DW	2.88	MOT	741	MC33071AP	1.21	MOT	743	MC44602P2	2.32	MOT	746
MC14081BCP	0.28	MOT	735	MC145403P	2.88	MOT	741	MC33071P	0.97	MOT					

Manufacturer's Code Log

ADI Analog Devices Inc.
AMD Advanced Micro Devices
COL Colimer Semiconductors, Inc.
DLS Dallas Semiconductor
GIS General Instrument
HAR Harris Semiconductor

IDT Integrated Device Technology, Inc.
LTL Intel
LAT Lattice
MIC Micron
MXM Maxim
MOS Mosel-Vitelco

MOT Motorola Semiconductor
NSC Motorola Semiconductor
NTE NTE Electronics
PHI Philips Semiconductors
SEM Semiconductors Inc.
SIE Siemens Components, Inc.

TIS Texas Instruments
THO Thomson Consumer Electronics
UNI Unitrode Integrated Circuits
XLX Xilinx

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MC68030RC40B	277.30	MOT	731	MC68HC705P9CDW	5.20	MOT	733	MC74ACT04D	0.41	MOT	735	MC74F112N	0.54	MOT	736
MC68030RC50B	310.66	MOT	731	MC68HC705P9CP	5.20	MOT	733	MC74ACT04N	0.38	MOT	735	MC74F11D	0.32	MOT	736
MC680P	16.84	MOT	—	MC68HC711D3CFB2	15.16	MOT	734	MC74ACT05D	0.41	MOT	735	MC74F11N	0.28	MOT	736
MC681P	16.84	MOT	—	MC68HC711D3CFN2	14.64	MOT	734	MC74ACT05N	0.38	MOT	735	MC74F1245N	2.42	MOT	736
MC68302FC16C	58.05	MOT	732	MC68HC711D3CP2	14.64	MOT	734	MC74ACT08D	0.41	MOT	735	MC74F125D	0.56	MOT	736
MC68302FC20C	62.69	MOT	732	MC68HC711E9CFN2	30.53	MOT	734	MC74ACT08N	0.38	MOT	735	MC74F125N	0.56	MOT	736
MC68302FC25C	78.36	MOT	732	MC68HC711L6CFN2	33.59	MOT	734	MC74ACT109D	0.62	MOT	735	MC74F126D	0.56	MOT	736
MC68302RC16C	157.86	MOT	732	MC68HC811E2FN	23.80	MOT	734	MC74ACT109N	0.58	MOT	735	MC74F126N	0.82	MOT	736
MC68302RC20C	197.33	MOT	732	MC68HC811E2P	23.80	MOT	734	MC74ACT112D	0.99	MOT	735	MC74F132N	0.45	MOT	736
MC68302RC25C	246.64	MOT	732	MC68L11A0FN2	13.93	MOT	733	MC74ACT112N	0.95	MOT	735	MC74F138D	0.47	MOT	736
MC68306FC16	25.36	MOT	732	MC68L11A1FN2	14.58	MOT	733	MC74ACT113D	1.36	MOT	735	MC74F138N	0.47	MOT	736
MC68306PV16	30.34	MOT	732	MC68L11E0FN2	15.88	MOT	—	MC74ACT113N	1.32	MOT	735	MC74F139D	0.56	MOT	736
MC68331CFC16	32.42	MOT	734	MC68L11E1FN2	16.60	MOT	—	MC74ACT125D	0.78	MOT	735	MC74F139N	0.56	MOT	736
MC68332ACFC16	38.88	MOT	734	MC68L11F1FN3	20.11	MOT	734	MC74ACT125N	0.75	MOT	735	MC74F148D	0.84	MOT	736
MC68340FE16C	40.43	MOT	732	MC68SEC81E2FN	28.84	MOT	734	MC74ACT132D	0.93	MOT	735	MC74F148N	0.84	MOT	736
MC68340FE16VC	62.65	MOT	732	MC68SEC81E2P	28.84	MOT	734	MC74ACT138D	0.93	MOT	735	MC74F14D	0.43	MOT	736
MC68340FE25C	55.36	MOT	732	MC74AC00D	0.41	MOT	735	MC74ACT138N	0.90	MOT	735	MC74F14N	0.43	MOT	736
MC68340PV16C	37.37	MOT	732	MC74AC00N	0.38	MOT	735	MC74ACT139D	0.93	MOT	735	MC74F151D	0.56	MOT	736
MC68340PV25C	52.28	MOT	732	MC74AC02D	0.41	MOT	735	MC74ACT14D	0.50	MOT	735	MC74F151N	0.56	MOT	736
MC68349FT16A	82.90	MOT	732	MC74AC02N	0.38	MOT	735	MC74ACT14N	0.47	MOT	735	MC74F153D	0.47	MOT	736
MC68349FT25A	104.04	MOT	732	MC74AC04D	0.41	MOT	735	MC74ACT151D	0.78	MOT	735	MC74F153N	0.47	MOT	736
MC68882FN16A	71.37	MOT	731	MC74AC04N	0.38	MOT	735	MC74ACT151N	0.75	MOT	735	MC74F157AD	0.47	MOT	736
MC68882FN20A	78.60	MOT	731	MC74AC05D	0.41	MOT	735	MC74ACT153D	0.78	MOT	735	MC74F157AN	0.47	MOT	736
MC68882FN25A	85.56	MOT	731	MC74AC05N	0.38	MOT	735	MC74ACT157D	0.78	MOT	735	MC74F158AD	0.47	MOT	736
MC68882FN33A	92.81	MOT	—	MC74AC08D	0.41	MOT	735	MC74ACT157N	0.75	MOT	735	MC74F158AN	0.47	MOT	736
MC68882FN40A	142.82	MOT	731	MC74AC08N	0.38	MOT	735	MC74ACT158D	0.78	MOT	735	MC74F160AN	0.65	MOT	736
MC68882RC16A	122.13	MOT	731	MC74AC112D	0.99	MOT	735	MC74ACT158N	0.75	MOT	735	MC74F161AD	0.71	MOT	736
MC68882RC20A	122.13	MOT	731	MC74AC112N	0.95	MOT	735	MC74ACT161D	1.15	MOT	735	MC74F161AN	0.65	MOT	736
MC68882RC25A	139.10	MOT	731	MC74AC113D	1.36	MOT	735	MC74ACT161N	1.12	MOT	735	MC74F163AD	0.71	MOT	736
MC68882RC33A	139.10	MOT	731	MC74AC113N	1.32	MOT	735	MC74ACT163D	1.15	MOT	735	MC74F163AN	0.65	MOT	736
MC68882RC40A	182.68	MOT	731	MC74AC125D	0.78	MOT	735	MC74ACT163N	1.12	MOT	735	MC74F164D	0.71	MOT	736
MC68882RC50A	197.88	MOT	731	MC74AC125N	0.75	MOT	735	MC74ACT174D	0.78	MOT	735	MC74F164N	0.65	MOT	736
MC68901P	7.42	MOT	—	MC74AC138D	0.93	MOT	735	MC74ACT174N	0.75	MOT	735	MC74F169D	2.60	MOT	736
MC68B54P	5.85	MOT	—	MC74AC138N	0.90	MOT	735	MC74ACT175D	0.78	MOT	735	MC74F169N	2.60	MOT	736
MC68EC000FN10	10.11	MOT	731	MC74AC139D	0.93	MOT	735	MC74ACT175N	0.75	MOT	735	MC74F174D	0.78	MOT	736
MC68EC000FN12	12.52	MOT	731	MC74AC139N	0.90	MOT	735	MC74ACT240DW	1.14	MOT	735	MC74F174N	0.82	MOT	736
MC68EC000FN16	15.77	MOT	731	MC74AC14D	0.50	MOT	735	MC74ACT240N	1.10	MOT	735	MC74F175D	0.52	MOT	736
MC68EC000FN20	18.92	MOT	731	MC74AC14N	0.43	MOT	735	MC74ACT244DW	1.14	MOT	735	MC74F175N	0.52	MOT	736
MC68EC000FN8	8.07	MOT	731	MC74AC151D	0.78	MOT	735	MC74ACT244N	1.10	MOT	735	MC74F194D	1.58	MOT	736
MC68EC000FU10	10.06	MOT	731	MC74AC151N	0.75	MOT	735	MC74ACT245DW	1.62	MOT	735	MC74F194N	1.58	MOT	736
MC68EC000FU12	12.34	MOT	731	MC74AC157D	0.78	MOT	735	MC74ACT245N	1.58	MOT	735	MC74F20D	0.32	MOT	736
MC68EC000FU16	15.42	MOT	731	MC74AC157N	0.75	MOT	735	MC74ACT251D	0.82	MOT	735	MC74F20N	0.28	MOT	736
MC68EC000FU20	19.27	MOT	731	MC74AC160D	1.25	MOT	735	MC74ACT253D	0.78	MOT	735	MC74F21D	0.32	MOT	736
MC68EC000F8	8.11	MOT	731	MC74AC160N	1.21	MOT	735	MC74ACT257D	0.78	MOT	735	MC74F21N	0.28	MOT	736
MC68EC020FG16	28.03	MOT	731	MC74AC161D	1.15	MOT	735	MC74ACT257N	0.75	MOT	735	MC74F240DW	0.67	MOT	736
MC68EC020FG25	31.38	MOT	731	MC74AC161N	1.12	MOT	735	MC74ACT258D	0.78	MOT	735	MC74F240N	0.64	MOT	736
MC68EC020R16	73.82	MOT	731	MC74AC163D	1.15	MOT	735	MC74ACT273DW	1.14	MOT	735	MC74F241DW	0.67	MOT	736
MC68EC020R25	88.65	MOT	731	MC74AC163N	1.12	MOT	735	MC74ACT273N	1.10	MOT	735	MC74F241N	0.64	MOT	736
MC68EC030FE40B	83.77	MOT	731	MC74AC174D	0.78	MOT	735	MC74ACT298DW	1.90	MOT	735	MC74F243D	0.64	MOT	736
MC68EC030RP25B	90.25	MOT	731	MC74AC174N	0.75	MOT	735	MC74ACT298N	1.86	MOT	735	MC74F244DW	0.67	MOT	736
MC68EC030R40B	116.78	MOT	731	MC74AC175D	0.78	MOT	735	MC74ACT323DW	2.34	MOT	735	MC74F244N	0.64	MOT	736
MC68HC000FN10	10.13	MOT	730	MC74AC175N	0.75	MOT	735	MC74ACT323N	2.32	MOT	735	MC74F245DW	0.73	MOT	736
MC68HC000FN12	11.54	MOT	730	MC74AC20D	0.41	MOT	735	MC74ACT32D	0.41	MOT	735	MC74F245N	0.65	MOT	736
MC68HC000FN16	14.45	MOT	730	MC74AC20N	0.38	MOT	735	MC74ACT32N	0.38	MOT	735	MC74F251D	0.62	MOT	736
MC68HC000FN20	19.01	MOT	730	MC74AC240N	1.10	MOT	735	MC74ACT373DW	1.17	MOT	735	MC74F251N	0.62	MOT	736
MC68HC000FN8	8.65	MOT	730	MC74AC241DW	1.14	MOT	735	MC74ACT373N	1.14	MOT	735	MC74F253D	0.50	MOT	736
MC68HC000P10	12.15	MOT	730	MC74AC241N	1.10	MOT	735	MC74ACT374DW	1.17	MOT	735	MC74F253N	0.50	MOT	736
MC68HC000P12	13.64	MOT	730	MC74AC244DW	1.14	MOT	735	MC74ACT377DW	1.71	MOT	735	MC74F257AD	0.50	MOT	736
MC68HC000P16	16.70	MOT	730	MC74AC244N	1.10	MOT	735	MC74ACT377N	1.67	MOT	735	MC74F257AN	0.50	MOT	736
MC68HC000P8	10.67	MOT	730	MC74AC245DW	1.34	MOT	735	MC74ACT378D	1.62	MOT	735	MC74F258AD	0.50	MOT	736
MC68HC11A0FN	12.13	MOT	733	MC74AC245N	1.30	MOT	735	MC74ACT533DW	1.25	MOT	735	MC74F258AN	0.50	MOT	736
MC68HC11A0P	14.64	MOT	733	MC74AC251D	0.78	MOT	735	MC74ACT533N	1.21	MOT	735	MC74F259D	2.51	MOT	736
MC68HC11A1FN	12.67	MOT	733	MC74AC251N	0.75	MOT	735	MC74ACT540DW	1.19	MOT	735	MC74F259N	2.51	MOT	736
MC68HC11A1P	15.18	MOT	733	MC74AC273DW	1.14	MOT	735	MC74ACT540N	1.15	MOT	735	MC74F269DW	5.38	MOT	736
MC68HC11D0FB	7.24	MOT	733	MC74AC273N	1.10	MOT	735	MC74ACT541DW	1.17	MOT	735	MC74F269N	5.38	MOT	736
MC68HC11D0FN	6.72	MOT	733	MC74AC323DW	2.34	MOT	735	MC74ACT541N	1.15	MOT	735	MC74F280D	0.47	MOT	736
MC68HC11D0P	6.72	MOT	733	MC											

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MC74F533N	1.27	MOT	736	MC74HC242N	0.62	MOT	—	MC74HCT04AN	0.26	MOT	736	MC88914D	11.87	MOT	739
MC74F534N	1.27	MOT	736	MC74HC244ADW	0.60	MOT	736	MC74HCT08AN	0.26	MOT	736	MC88914N	11.84	MOT	739
MC74F543DW	2.32	MOT	736	MC74HC244AN	0.58	MOT	736	MC74HCT138AD	0.39	MOT	736	MC88915FN55	16.23	MOT	739
MC74F543N	2.32	MOT	736	MC74HC245ADW	0.60	MOT	736	MC74HCT138AN	0.38	MOT	736	MC88915FN70	16.42	MOT	739
MC74F544DW	3.25	MOT	736	MC74HC245AN	0.58	MOT	736	MC74HCT14AD	0.34	MOT	736	MC88915TFN100	19.20	MOT	739
MC74F544N	3.25	MOT	736	MC74HC251D	0.47	MOT	736	MC74HCT14AN	0.32	MOT	736	MC88915TFN133	26.08	MOT	739
MC74F568DW	3.51	MOT	736	MC74HC251N	0.45	MOT	736	MC74HCT157AN	0.41	MOT	736	MC88915TFN160	35.20	MOT	739
MC74F569DW	3.51	MOT	736	MC74HC253D	0.50	MOT	736	MC74HCT161AN	0.45	MOT	736	MC88915TFN55	16.23	MOT	739
MC74F569N	3.51	MOT	—	MC74HC253N	0.49	MOT	736	MC74HCT163AN	0.45	MOT	736	MC88915TFN70	16.42	MOT	739
MC74F569N	3.51	MOT	—	MC74HC257D	0.47	MOT	736	MC74HCT174AD	0.43	MOT	736	MC88916DW70	16.29	MOT	739
MC74F574DW	1.21	MOT	736	MC74HC257N	0.45	MOT	736	MC74HCT174AN	0.41	MOT	736	MC88916DW80	20.90	MOT	739
MC74F574N	1.21	MOT	736	MC74HC259D	0.60	MOT	736	MC74HCT240ADW	0.58	MOT	736	MC88920DW	17.88	MOT	739
MC74F579DW	6.40	MOT	736	MC74HC259N	0.58	MOT	736	MC74HCT240AN	0.56	MOT	736	MC88921DW	17.34	MOT	739
MC74F579N	6.40	MOT	736	MC74HC273ADW	0.58	MOT	736	MC74HCT244ADW	0.60	MOT	736	MCA255	0.74	MOT	749
MC74F620DW	3.68	MOT	736	MC74HC273AN	0.55	MOT	736	MC74HCT244AN	0.58	MOT	736	MC812140D	20.46	MOT	739
MC74F623N	1.49	MOT	736	MC74HC27N	0.32	MOT	736	MC74HCT245ADW	0.60	MOT	736	MC812140D	20.46	MOT	739
MC74F640N	2.79	MOT	736	MC74HC280D	0.58	MOT	736	MC74HCT245AN	0.58	MOT	736	MCR08MT1	0.66	MOT	765
MC74F646DW	4.27	MOT	736	MC74HC280N	0.56	MOT	736	MC74HCT273ADW	0.58	MOT	736	MCR100-6	0.32	MOT	765
MC74F646N	4.18	MOT	736	MC74HC290DW	0.91	MOT	736	MC74HCT273AN	0.56	MOT	736	MCR100-8	0.36	MOT	765
MC74F64N	0.28	MOT	736	MC74HC299N	0.90	MOT	736	MC74HCT32AD	0.30	MOT	736	MCR102	0.26	MOT	765
MC74F657ADW	4.75	MOT	736	MC74HC30D	0.28	MOT	736	MC74HCT32AN	0.28	MOT	736	MCR106-2	0.38	MOT	765
MC74F657AN	4.75	MOT	736	MC74HC30N	0.28	MOT	736	MC74HCT373ADW	0.58	MOT	737	MCR106-4	0.42	MOT	765
MC74F74D	0.36	MOT	736	MC74HC32AD	0.26	MOT	736	MC74HCT373AN	0.56	MOT	737	MCR106-6	0.44	MOT	765
MC74F74N	0.32	MOT	736	MC74HC32AN	0.26	MOT	736	MC74HCT374ADW	0.60	MOT	737	MCR106-8	0.48	MOT	765
MC74F779D	5.75	MOT	736	MC74HC354N	0.62	MOT	737	MC74HCT374AN	0.56	MOT	737	MCR12M	0.96	MOT	765
MC74F779N	5.75	MOT	736	MC74HC365N	0.60	MOT	737	MC74HCT541ADW	0.73	MOT	737	MCR12N	1.04	MOT	765
MC74F803D	8.55	MOT	736	MC74HC367N	0.56	MOT	737	MC74HCT541AN	0.71	MOT	737	MCR16M	1.12	MOT	765
MC74F803N	8.52	MOT	736	MC74HC368N	0.56	MOT	737	MC74HCT573ADW	0.76	MOT	737	MCR16N	1.16	MOT	765
MC74F823DW	2.75	MOT	736	MC74HC373ADW	0.58	MOT	737	MC74HCT573AN	0.75	MOT	737	MCR22-3	0.30	MOT	765
MC74F823N	2.69	MOT	736	MC74HC373AN	0.56	MOT	737	MC74HCT574ADW	0.73	MOT	737	MCR22-6	0.36	MOT	765
MC74F827DW	3.18	MOT	736	MC74HC374ADW	0.58	MOT	737	MC74HCT574AN	0.71	MOT	737	MCR22-8	0.40	MOT	765
MC74F827N	3.16	MOT	736	MC74HC374AN	0.56	MOT	737	MC74HCT74AD	0.38	MOT	737	MCR264-10	2.36	MOT	765
MC74F85D	2.14	MOT	736	MC74HC390D	0.60	MOT	737	MC74HCT74AN	0.36	MOT	737	MCR264-8	2.18	MOT	765
MC74F85N	2.01	MOT	736	MC74HC390N	0.56	MOT	737	MC74HC00AD	0.28	MOT	736	MCR265-10	2.96	MOT	765
MC74F86D	0.56	MOT	736	MC74HC390N	0.56	MOT	737	MC74HC00AD	0.28	MOT	736	MCR265-4	2.50	MOT	765
MC74F86N	0.52	MOT	736	MC74HC393N	0.56	MOT	737	MC74HC00AD	0.28	MOT	736	MCR265-6	2.56	MOT	765
MC74HC00AD	0.28	MOT	736	MC74HC4002D	0.32	MOT	737	MC7805ACT	0.82	MOT	745	MCR265-8	2.64	MOT	765
MC74HC00AN	0.26	MOT	736	MC74HC4002N	0.30	MOT	737	MC7806CT	0.71	MOT	745	MCR69-2	1.44	MOT	765
MC74HC02AD	0.28	MOT	736	MC74HC4017D	0.60	MOT	737	MC7812ACT	0.82	MOT	745	MCR69-3	1.48	MOT	765
MC74HC02AN	0.26	MOT	736	MC74HC4017N	0.58	MOT	737	MC7812CT	0.71	MOT	745	MCR69-6	1.56	MOT	765
MC74HC03AD	0.28	MOT	736	MC74HC4020N	0.64	MOT	737	MC7815ACT	0.82	MOT	745	MCR72-2	0.76	MOT	765
MC74HC03AN	0.26	MOT	736	MC74HC4024D	0.50	MOT	737	MC7815BT	0.86	MOT	745	MCR72-6	0.84	MOT	765
MC74HC04AD	0.28	MOT	736	MC74HC4024N	0.49	MOT	737	MC7815CT	0.71	MOT	745	MCR72-8	0.88	MOT	765
MC74HC04AN	0.26	MOT	736	MC74HC4040N	0.60	MOT	737	MC7824BT	0.86	MOT	745	MCR8M	0.76	MOT	765
MC74HC08AD	0.28	MOT	736	MC74HC4046AD	1.08	MOT	737	MC78L05ACD	0.47	MOT	745	MCR8N	0.80	MOT	765
MC74HC08AN	0.26	MOT	736	MC74HC4046AN	1.02	MOT	737	MC78L05ACP	0.47	MOT	745	MCR8S	0.88	MOT	765
MC74HC107D	0.45	MOT	736	MC74HC4049D	0.56	MOT	737	MC78L08P	0.43	MOT	745	MCR8S	0.88	MOT	765
MC74HC107N	0.43	MOT	736	MC74HC4049N	0.52	MOT	737	MC78L08ACP	0.47	MOT	745	MCT2	0.44	MOT	749
MC74HC109D	0.41	MOT	736	MC74HC4050D	0.54	MOT	737	MC78L08CP	0.43	MOT	745	MCT2E	0.44	MOT	749
MC74HC109N	0.39	MOT	736	MC74HC4050N	0.52	MOT	737	MC78L12ACD	0.47	MOT	745	MCT7805CT	0.60	MOT	745
MC74HC10N	0.28	MOT	736	MC74HC4051DW	0.69	MOT	737	MC78L12ACP	0.47	MOT	745	MCT7806CT	0.60	MOT	745
MC74HC10N	0.26	MOT	736	MC74HC4051N	0.67	MOT	737	MC78L12CP	0.43	MOT	745	MCT7808BT	0.76	MOT	745
MC74HC112D	0.43	MOT	736	MC74HC4052DW	0.67	MOT	737	MC78L15ACP	0.47	MOT	745	MCT7808CT	0.60	MOT	745
MC74HC112N	0.41	MOT	736	MC74HC4052N	0.65	MOT	737	MC78L15CP	0.43	MOT	745	MCT7812BT	0.60	MOT	745
MC74HC11D	0.32	MOT	736	MC74HC4053DW	0.69	MOT	737	MC78L18ACP	0.47	MOT	745	MCT7812CT	0.76	MOT	745
MC74HC11N	0.30	MOT	736	MC74HC4053N	0.67	MOT	737	MC78L24ACP	0.47	MOT	745	MCT7815BT	0.76	MOT	745
MC74HC125AD	0.41	MOT	736	MC74HC4060N	0.64	MOT	737	MC78M05CDT	0.88	MOT	745	MCT7815CT	0.60	MOT	745
MC74HC125AN	0.39	MOT	736	MC74HC4066D	0.54	MOT	737	MC78M05CT	0.60	MOT	745	MCT7824BT	0.76	MOT	745
MC74HC126AD	0.43	MOT	736	MC74HC4066N	0.52	MOT	737	MC78M06CT	0.60	MOT	745	MCT7824CT	0.60	MOT	745
MC74HC132AD	0.54	MOT	736	MC74HC4068N	0.36	MOT	737	MC78M08CDT	0.88	MOT	745	MCTG35P60F1	19.55	MOT	—
MC74HC132AN	0.52	MOT	736	MC74HC4075D	0.34	MOT	737	MC78M08CT	0.60	MOT	745	MF10CCN	3.34	NAR	—
MC74HC132AN	0.52	MOT	736	MC74HC4075N	0.34	MOT	737	MC78M12CDT	0.88	MOT	745	MF4CN-100	1.63	NSC	—
MC74HC133N	0.52	MOT	736	MC74HC4078D	0.47	MOT	737	MC78M12CT	0.60	MOT	745	MF4CN-50	1.63	NSC	—
MC74HC137D	0.54	MOT	736	MC74HC4078N	0.43	MOT	737	MC78M15CDT	0.88	MOT	745	MF4CWM-100	2.23	NSC	—
MC74HC137N	0.52	MOT	736	MC74HC42N	0.49	MOT	737	MC78M15CT	0.60	MOT	745	MF5CWM	2.05	NSC	—
MC74HC138AD	0.39	MOT	736	MC74HC4316D	0.58	MOT	737	MC78M20CT	0.60	MOT	745	MF6CN-100	3.29	NSC	—
MC74HC138AN	0.38	MOT	736	MC74HC4316N	0.56	MOT	737	MC78M24CT	0.60	MOT	745	MF6CN-50	3.29	NSC	—
MC74HC139AD	0.41	MOT	736	MC74HC4351N	0.71	MOT	737	MC78T05ACT	2.53	MOT	745	MF6CWM-50	3.80	NSC	—
MC74HC139AN	0.39	MOT	736	MC74HC4511N	0.54	MOT	737	MC78T05CT	2.27	MOT	745	MHW591	46.37	MOT	—
MC74HC147D	0.52	MOT	736	MC74HC4514N	1.51	MOT	737	MC78T08CT	2.27	MOT	745	MHW7142	61.20	MOT	—
MC74HC147N	0.50	MOT	736	MC74HC4538AD	0.73	MOT	737	MC78T12ACT	2.53	MOT	745	MHW7185	83.46	MOT	—
MC74HC14AD	0.34	MOT	736	MC74HC4538AN	0.71	MOT	737	MC78T12CT	2.27	MOT	745	MHW7205	92.73	MOT	—
MC74HC14AN	0.32	MOT	736	MC74HC51N	0.38	MOT	737	MC78T15CT	2.27	MOT	745	MHW8142	64.91	MOT	—
MC74HC151N	0.39	MOT	736	MC74HC534AN	0.71	MOT	737	MC7905ACT	0.82	MOT	745	MHW913	55.64	MOT	—
MC74HC153D	0.43	MOT	736	MC74HC540ADW	0.71	MOT	737	MC7905CT	0.71	MOT	745	MHW9142	83.46	MOT	—
MC74HC153N	0.41	MOT	736	MC74HC540ADW	0.69	MOT	737	MC7906CT	0.71	MOT	745	MJ1000	1.63	MOT	753
MC74HC154DW	1.77	MOT	736	MC74HC541ADW	0.73	MOT	737	MC7908CT	0.71	MOT	745	MJ1000	6.54	MOT	753
MC74HC154N	1.40	MOT	736	MC74HC541AN	0.71	MOT	737	MC7912CT	0.71	MOT	745	MJ1005	5.20	MOT	754
MC74HC157AD	0.43	MOT	736	MC74HC563N	0.71	MOT	737	MC7915ACT	0.82	MOT	745	MJ1009	11.35	MOT	754
MC74HC157AN	0.41	MOT	736	MC74HC564N	0.76	MOT	737	MC7915CT	0.71	MOT	745	MJ1001	1.77	MOT	—
MC74HC158N	0.41	MOT	736	MC74HC573ADW	0.71	MOT	737	MC7918CT	0.71	MOT	745	MJ1005	20.40	MOT	754
MC74HC160N	0.50	MOT	736	MC74HC573AN	0.69	MOT	737	MC7924CT	0.71	MOT	745	MJ1006	25.00	MOT	754
MC74HC161AD	0.49	MOT	736	MC74HC574ADW	0.73	MOT	737	MC79L05ACD	0.95	TIS	805	MJ10020	12.06	MOT	754
MC74HC161AN	0.4														

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MJ15002	3.27	MOT	753	MJF18008	1.84	MOT	753	MMBFJ309LT1	0.34	MOT	754	MMSZ52338T1	0.09	MOT	760
MJ15003	3.16	MOT	754	MJF2955	1.24	MOT	753	MMBFJ310LT1	0.34	MOT	754	MMSZ52348T1	0.09	MOT	760
MJ15004	4.08	MOT	754	MJF3055	0.90	MOT	753	MMBFJ310LT1	0.34	MOT	754	MMSZ52358T1	0.09	MOT	760
MJ15011	3.56	MOT	753	MJF31C	0.78	MOT	753	MMBR5179LT1	0.45	MOT	—	MMSZ52408T1	0.09	MOT	760
MJ15015	1.88	MOT	753	MJF44H11	1.40	MOT	753	MMBR901LT1	0.32	MOT	—	MMSZ52418T1	0.09	MOT	760
MJ15016	1.99	MOT	753	MJF45H11	1.54	MOT	753	MMBT2222ALT1	0.15	MOT	751	MMSZ52428T1	0.09	MOT	760
MJ15020	4.12	MOT	753	MJF47	1.20	MOT	753	MMBT2369LT1	0.19	MOT	751	MMSZ52438T1	0.09	MOT	760
MJ15021	4.36	MOT	753	MJF6388	1.00	MOT	753	MMBT2907ALT1	0.15	MOT	751	MMSZ52468T1	0.09	MOT	760
MJ15022	3.62	MOT	754	MJF6668	1.30	MOT	753	MMBT3640LT1	0.28	MOT	751	MMSZ52478T1	0.09	MOT	760
MJ15023	3.96	MOT	754	MJH10012	3.50	MOT	753	MMBT3904LT1	0.14	MOT	751	MMSZ52488T1	0.09	MOT	760
MJ15024	3.44	MOT	754	MJH11019	8.20	MOT	753	MMBT3904T/R	0.13	SEM	790	MMSZ52508T1	0.09	MOT	760
MJ16010	4.46	MOT	753	MJH11020	4.50	MOT	753	MMBT3906T/R	0.13	SEM	790	MMSZ52578T1	0.09	MOT	760
MJ16012	6.03	MOT	753	MJH11021	5.20	MOT	753	MMBT4044LT1	0.36	MOT	—	MMSZ52618T1	0.09	MOT	760
MJ2500	3.06	MOT	753	MJH11022	8.25	MOT	753	MMBT4401LT1	0.15	MOT	751	MMSZ52628T1	0.09	MOT	760
MJ2955	1.54	MOT	753	MJH6284	5.04	MOT	753	MMBT4401T/R	0.13	SEM	790	MMSZ52648T1	0.09	MOT	760
MJ3000	2.79	MOT	753	MJH6287	5.25	MOT	753	MMBT4403T/R	0.13	SEM	790	MMSZ52658T1	0.09	MOT	760
MJ410	2.75	MOT	753	MJL1302A	5.40	MOT	753	MMBT5087LT1	0.13	MOT	751	MMUN2111LT1	0.12	MOT	751
MJ413	2.79	MOT	753	MJL21193	5.00	MOT	753	MMBT5089LT1	0.14	MOT	751	MMUN2112LT1	0.12	MOT	751
MJ423	4.55	MOT	753	MJL21194	5.00	MOT	753	MMBT5401LT1	0.23	MOT	751	MMUN2113LT1	0.12	MOT	751
MJ4502	3.16	MOT	754	MJL3281A	5.40	MOT	753	MMBT5551LT1	0.23	MOT	751	MMUN2114LT1	0.12	MOT	751
MJ802	2.42	MOT	754	MJW16018	7.20	MOT	753	MMBT6517LT1	0.30	MOT	751	MMUN2211LT1	0.12	MOT	751
MJD112	0.62	MOT	753	MJW16110	5.76	MOT	753	MMBT6907LT1	0.17	MOT	751	MMUN2212LT1	0.12	MOT	751
MJD117	0.62	MOT	753	MJW16206	6.00	MOT	753	MMBT6907LT1	0.16	MOT	751	MMUN2213LT1	0.12	MOT	751
MJD127	0.78	MOT	753	MJW16210	5.76	MOT	753	MMBT6907LT1	0.19	MOT	751	MMUN2214LT1	0.12	MOT	751
MJD210	0.70	MOT	—	MJW16212	13.68	MOT	753	MMBT6907LT1	0.17	MOT	751	MOC2A40-010	3.64	MOT	749
MJD243	1.54	MOT	753	MLT04GP	17.93	ADI	680	MMBT6907LT1	0.19	MOT	751	MOC2A40-5	3.84	MOT	749
MJD2955	0.64	MOT	753	MLT04GS	17.93	ADI	680	MMBT6907LT1	0.26	MOT	751	MOC2A60-10	3.94	MOT	—
MJD3055	0.62	MOT	753	MM53200N	2.27	NSC	—	MMBT6907LT1	0.36	MOT	—	MOC2A60-5	4.02	MOT	749
MJD31	0.42	MOT	753	MM5369AA/N	2.06	NSC	—	MMBT6907LT1	0.28	MOT	751	MOC3009	0.62	MOT	749
MJD31C	0.42	MOT	753	MM5450N	4.67	NSC	—	MMBV105GLT1	0.46	MOT	758	MOC3010	0.62	MOT	749
MJD32	0.46	MOT	753	MM5451N	4.67	NSC	—	MMBV109LT1	0.46	MOT	758	MOC3011	0.64	MOT	749
MJD350	1.08	MOT	753	MM5452N	4.67	NSC	—	MMBV3102LT1	0.46	MOT	758	MOC3012	0.66	MOT	749
MJD44H11	1.24	MOT	753	MM5453N	4.67	NSC	—	MMBV3401LT1	0.46	MOT	759	MOC3020	0.72	MOT	749
MJD45H11	1.30	MOT	753	MM5480N	4.56	NSC	—	MMBV409LT1	0.46	MOT	758	MOC3021	0.74	MOT	749
MJD47	0.68	MOT	753	MM5481N	4.45	NSC	—	MMBV432LT1	0.70	MOT	758	MOC3022	0.76	MOT	749
MJD50	0.72	MOT	753	MM5483N	4.93	NSC	—	MMBV609LT1	0.70	MOT	758	MOC3023	1.24	MOT	—
MJE1123	1.22	MOT	753	MM5484N	2.59	NSC	—	MMBZ15VOLT1	0.26	MOT	782	MOC3024	1.26	MOT	749
MJE1303	0.75	MOT	753	MM5486N	3.89	NSC	—	MMBZ52268LT1	0.15	MOT	760	MOC3032	1.30	MOT	749
MJE1305	1.20	MOT	—	MM58167BN	14.90	NSC	—	MMBZ52288LT1	0.15	MOT	760	MOC3033	1.34	MOT	749
MJE13007	1.40	MOT	753	MM58167BV	15.40	NSC	—	MMBZ52298LT1	0.15	MOT	760	MOC3041	1.38	MOT	749
MJE13009	2.00	MOT	—	MM58174AN	13.60	NSC	—	MMBZ52308LT1	0.15	MOT	760	MOC3042	1.42	MOT	749
MJE1320	2.70	MOT	753	MM58248N	6.60	NSC	—	MMBZ52318LT1	0.15	MOT	760	MOC3043	1.46	MOT	749
MJE15028	1.64	MOT	753	MM58274CN	13.60	NSC	—	MMBZ52328LT1	0.15	MOT	760	MOC3051	0.74	MOT	749
MJE15029	1.60	MOT	753	MM58274CV	14.30	NSC	—	MMBZ52338LT1	0.15	MOT	760	MOC3052	0.72	MOT	749
MJE15030	1.74	MOT	—	MM58342N	5.65	NSC	—	MMBZ52348LT1	0.15	MOT	760	MOC3061	1.60	MOT	749
MJE15031	1.40	MOT	—	MM74C00N	1.45	NSC	775	MMBZ52358LT1	0.15	MOT	760	MOC3062	1.68	MOT	749
MJE16002	1.38	MOT	753	MM74C02N	1.45	NSC	775	MMBZ52368LT1	0.15	MOT	760	MOC3063	1.76	MOT	749
MJE16106	2.10	MOT	753	MM74C08N	1.45	NSC	775	MMBZ52378LT1	0.15	MOT	760	MOC3081	1.90	MOT	749
MJE171	0.36	MOT	—	MM74C10N	1.45	NSC	775	MMBZ52398LT1	0.15	MOT	760	MOC3082	2.10	MOT	749
MJE172	0.36	MOT	753	MM74C154N	7.15	NSC	775	MMBZ52408LT1	0.15	MOT	760	MOC3163	1.68	MOT	749
MJE180	0.36	MOT	—	MM74C157N	4.78	NSC	775	MMBZ52428LT1	0.15	MOT	760	MOC5007	2.00	MOT	749
MJE18004	0.90	MOT	753	MM74C164N	2.78	NSC	775	MMBZ52438LT1	0.15	MOT	760	MOC5008	1.30	MOT	749
MJE18006	0.99	MOT	753	MM74C221N	4.78	NSC	775	MMBZ52458LT1	0.15	MOT	760	MOC5009	1.20	MOT	749
MJE18008	1.27	MOT	753	MM74C240N	4.78	NSC	775	MMBZ52468LT1	0.15	MOT	760	MOC8020	0.90	MOT	749
MJE181	0.36	MOT	—	MM74C244N	4.78	NSC	775	MMBZ52488LT1	0.15	MOT	760	MOC8021	1.10	MOT	749
MJE182	0.36	MOT	753	MM74C30N	1.45	NSC	775	MMBZ52548LT1	0.15	MOT	760	MOC8030	0.90	MOT	749
MJE200	0.56	MOT	753	MM74C32N	1.45	NSC	775	MMBZ52568LT1	0.24	MOT	762	MOC8050	0.96	MOT	749
MJE210	0.49	MOT	753	MM74C373N	4.78	NSC	775	MMFT107T1	0.85	MOT	755	MOC8080	1.80	MOT	749
MJE243	0.75	MOT	753	MM74C374N	4.78	NSC	775	MMFT11N10ET1	1.70	MOT	755	MOC8100	1.00	MOT	749
MJE253	0.80	MOT	753	MM74C42N	3.78	NSC	775	MMFT2406T1	0.85	MOT	755	MOC8102	0.86	MOT	749
MJE270	1.02	MOT	753	MM74C74M	2.18	NSC	775	MMFT2955ET1	1.36	MOT	755	MOC8104	0.98	MOT	749
MJE271	0.99	MOT	753	MM74C74N	2.07	NSC	775	MMFT2N02LT1	1.02	MOT	755	MOC8111	0.54	MOT	749
MJE2955T	0.72	MOT	753	MM74C85N	3.78	NSC	775	MMFT3055ET1	1.02	MOT	755	MOC8112	0.56	MOT	749
MJE3055T	0.70	MOT	753	MM74C902N	2.72	NSC	775	MMFT3055ET1	0.92	MOT	755	MOC8113	0.80	MOT	749
MJE340	0.54	MOT	753	MM74C905N	15.90	NSC	775	MMFT6661T1	0.75	MOT	755	MOC8204	2.04	MOT	—
MJE3439	0.65	MOT	753	MM74C906M	2.29	NSC	775	MMFT960T1	0.85	MOT	755	MPF102	0.32	MOT	—
MJE344	0.73	MOT	753	MM74C906N	2.18	NSC	775	MMFQ222A	2.24	MOT	750	MPF6659	0.90	MOT	754
MJE350	0.65	MOT	753	MM74C911N	17.80	NSC	775	MMFQ2369	3.72	MOT	750	MPF680	0.90	MOT	754
MJE371	0.65	MOT	753	MM74C912N	17.80	NSC	775	MMFQ2907A	2.24	MOT	750	MPF6661	0.90	MOT	754
MJE4343	4.74	MOT	753	MM74C914N	3.12	NSC	775	MMMPQ3467	3.68	MOT	750	MPF910	0.90	MOT	754
MJE4353	3.04	MOT	753	MM74C922N	8.35	NSC	775	MMMPQ3799	3.90	MOT	750	MPF960	0.90	MOT	754
MJE520	0.54	MOT	—	MM74C923N	8.35	NSC	775	MMMPQ3904	4.72	MOT	750	MPF970	1.10	MOT	—
MJE521	0.50	MOT	753	MM74C925N	11.70	NSC	775	MMMPQ3906	2.36	MOT	750	MPN3404	0.42	MOT	—
MJE5731	1.50	MOT	753	MM74C926N	11.70	NSC	775	MMMPQ6700	2.54	MOT	750	MPN3700	0.78	MOT	—
MJE5740	1.58	MOT	753	MM80C98N	1.92	NSC	—	MMSZ4678T1	0.14	MOT	760	MPQ2222A	1.60	MOT	750
MJE5742	2.16	MOT	753	MM82PC12NI	15.40	NSC	—	MMSZ4679T1	0.14	MOT	760	MPQ2369	1.62	MOT	750
MJE5850	4.28	MOT	753	MM86C30N	5.50	NSC	—	MMSZ4681T1	0.14	MOT	760	MPQ2307A	1.60	MOT	750
MJE5851	5.20	MOT	753	MMAD1103	3.04	MOT	759	MMSZ4684T1	0.14	MOT	760	MPQ3804	1.70	MOT	750
MJE5852	2.90	MOT	753	MMAD1109	2.82	MOT	759	MMSZ4686T1	0.14	MOT	760	MPQ3906	1.70	MOT	750
MJE700	0.60	MOT	753	MM9D101LT1	0.44	MOT	758	MMSZ4688T1	0.14	MOT	760	MPQ6700	1.98	MOT	750
MJE702	0.52	MOT	753	MMBD301LT1	0.44	MOT	758	MMSZ4689T1	0.14	MOT	760	MPS2222	0.07	MOT	—
MJE703	0.52	MOT	753	MMBD352LT1	1.32	MOT	758	MMSZ4690T1	0.14	MOT	760	MPS2222A	0.07	MOT	750

Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
MPS4126	0.05	MOT	—	MPX5100GS	20.40	MOT	748	MS7200L-50JC	7.00	MOS	728	MTB4N80E	4.42	MOT	755
MPS4250	0.12	MOT	—	MPX5100GSX	20.40	MOT	748	MS7200L-50NC	7.00	MOS	728	MTB50N06E	3.86	MOT	755
MPS5172	0.07	MOT	—	MPX5100GVP	20.40	MOT	748	MS7200L-80FC	5.60	MOS	728	MTB50N06EL	4.00	MOT	755
MPS5179	0.34	MOT	750	MPX5100GVS	20.40	MOT	748	MS7200L-80JC	5.60	MOS	728	MTB50P03HDL	5.94	MOT	—
MPS651	0.60	MOT	750	MPX5100GVSX	20.40	MOT	748	MS7200L-80NC	5.60	MOS	728	MTB60N06HD	3.70	MOT	755
MPS6521	0.16	MOT	750	MPX700AP	7.42	MOT	747	MS7200L-80PC	5.60	MOS	728	MTB6N06E	4.34	MOT	755
MPS623	0.18	MOT	750	MPX700AS	7.42	MOT	747	MS7201AL-25FC	14.00	MOS	728	MTB75N03HDL	5.88	MOT	—
MPS6531	0.16	MOT	—	MPX700ASX	7.42	MOT	747	MS7201AL-25JC	14.00	MOS	728	MTB75N05HD	5.50	MOT	755
MPS6602	1.28	MOT	750	MPX700D	6.50	MOT	747	MS7201AL-25NC	14.00	MOS	728	MTB75N06HD	5.54	MOT	755
MPS6652	0.29	MOT	750	MPX700DP	8.35	MOT	747	MS7201AL-25PC	14.00	MOS	728	MTB8N50E	3.64	MOT	755
MPS6725	0.38	MOT	—	MPX700GP	7.42	MOT	747	MS7201AL-35FC	11.38	MOS	728	MTD10N05E	1.29	MOT	755
MPS751	0.54	MOT	750	MPX7050D	13.91	MOT	748	MS7201AL-35JC	11.38	MOS	728	MTD15N06V	1.10	MOT	755
MPS8098	0.22	MOT	—	MPX7050GP	14.66	MOT	748	MS7201AL-35NC	11.40	MOS	728	MTD20N03HDL	1.90	MOT	755
MPS8099	0.22	MOT	750	MPX7100D	13.91	MOT	748	MS7201AL-35PC	11.40	MOS	728	MTD20P03HDL	3.24	MOT	755
MPS8599	0.21	MOT	750	MPX7200A	13.91	MOT	748	MS7201AL-50JC	8.75	MOS	728	MTD2955E	1.24	MOT	755
MPS918	0.18	MOT	750	MR750	0.65	MOT	—	MS7201AL-50FC	8.75	MOS	728	MTD2N50E	1.52	MOT	755
MPSA05	0.10	MOT	—	MR751	0.69	MOT	—	MS7201AL-50NC	8.80	MOS	728	MTD3055E	0.88	MOT	—
MPSA06	0.09	MOT	750	MR752	0.76	MOT	—	MS7201AL-50PC	8.80	MOS	728	MTD3055EL	1.08	MOT	755
MPSA13	0.12	MOT	—	MR754	0.84	MOT	764	MS7201AL-80FC	6.65	MOS	728	MTD3055V	0.80	MOT	755
MPSA14	0.12	MOT	750	MR756	1.21	MOT	—	MS7201AL-80JC	6.65	MOS	728	MTD5P06E	1.10	MOT	755
MPSA17	1.00	MOT	750	MR760	1.67	MOT	764	MS7201AL-80NC	6.70	MOS	728	MTD8N06E	0.82	MOT	755
MPSA18	0.19	MOT	750	MR850	0.28	MOT	—	MS7201AL-80PC	6.70	MOS	728	MTD9N10E	1.18	MOT	755
MPSA20	0.07	MOT	—	MR851	0.28	MOT	—	MS7202AL-25FC	19.25	MOS	728	MTP10N40E	2.72	MOT	755
MPSA25	0.50	MOT	—	MR852	0.38	MOT	764	MS7202AL-25JC	19.25	MOS	728	MTP12N10E	1.04	MOT	755
MPSA29	0.48	MOT	750	MR854	0.38	MOT	—	MS7202AL-25NC	19.30	MOS	728	MTP12P10	2.40	MOT	755
MPSA42	0.15	MOT	750	MR856	0.38	MOT	764	MS7202AL-25PC	19.30	MOS	—	MTP15N05E	1.16	MOT	755
MPSA43	0.24	MOT	—	MRD300	1.90	MOT	—	MS7202AL-35FC	14.00	MOS	728	MTP15N05EL	1.36	MOT	755
MPSA44	0.34	MOT	750	MRF134	22.54	MOT	756	MS7202AL-35JC	14.00	MOS	728	MTP15N06E	1.20	MOT	755
MPSA55	0.12	MOT	—	MRF141G	248.51	MOT	756	MS7202AL-35NC	14.00	MOS	728	MTP15N06V	1.10	MOT	755
MPSA56	0.10	MOT	750	MRF148	49.69	MOT	756	MS7202AL-35PC	14.00	MOS	728	MTP16N25E	2.40	MOT	755
MPSA63	0.12	MOT	—	MRF150	92.73	MOT	756	MS7202AL-50FC	10.50	MOS	728	MTP1N100E	3.90	MOT	755
MPSA70	0.07	MOT	—	MRF1503G	270.77	MOT	756	MS7202AL-50JC	10.50	MOS	728	MTP1N50E	0.90	MOT	755
MPSA75	0.50	MOT	—	MRF151G	231.92	MOT	756	MS7202AL-50NC	10.50	MOS	728	MTP1N60E	0.96	MOT	755
MPSA92	0.16	MOT	750	MRF160	25.04	MOT	756	MS7202AL-50PC	10.50	MOS	728	MTP20N20E	3.50	MOT	755
MPSA93	0.30	MOT	—	MRF16006	122.40	MOT	756	MS7202AL-80FC	8.75	MOS	728	MTP23P06	2.90	MOT	755
MPSH10	0.22	MOT	750	MRF166W	100.35	MOT	756	MS7202AL-80JC	8.75	MOS	728	MTP2955E	1.56	MOT	755
MPSH11	0.36	MOT	750	MRF174	101.26	MOT	756	MS7202AL-80NC	8.80	MOS	728	MTP2N40E	1.40	MOT	755
MPSH17	0.37	MOT	750	MRF182	111.28	MOT	756	MS7202AL-80PC	8.80	MOS	728	MTP2N50E	1.60	MOT	755
MPSH81	0.22	MOT	750	MRF183	129.82	MOT	756	MS7203-35NC	22.80	MOS	—	MTP2N50E	1.58	MOT	755
MPSW01	0.30	MOT	—	MRF227	9.22	MOT	—	MS7203L-25JC	26.25	MOS	728	MTP2P50E	3.64	MOT	755
MPSW01A	0.64	MOT	750	MRF237	9.17	MOT	—	MS7203L-25NC	26.25	MOS	728	MTP3055EL	0.92	MOT	755
MPSW06	0.68	MOT	—	MRF247	37.56	MOT	756	MS7203L-25PC	26.25	MOS	728	MTP3055V	0.84	MOT	755
MPSW42	0.40	MOT	750	MRF422	50.08	MOT	—	MS7203L-35FC	22.75	MOS	728	MTP30N06EL	2.58	MOT	755
MPSW45A	0.36	MOT	750	MRF454	17.07	MOT	756	MS7203L-35JC	22.75	MOS	728	MTP33N10E	4.60	MOT	755
MPSW51A	0.38	MOT	750	MRF455	14.01	MOT	756	MS7203L-35NC	22.75	MOS	728	MTP36N06E	1.84	MOT	755
MPSW92	0.96	MOT	750	MRF5003	11.04	MOT	756	MS7203L-35PC	22.75	MOS	728	MTP36N06V	1.70	MOT	755
MPX100A	6.96	MOT	747	MRF5015	35.61	MOT	756	MS7203L-50FC	14.00	MOS	728	MTP3N100E	5.00	MOT	755
MPX100AP	7.89	MOT	747	MRF5035	46.15	MOT	756	MS7203L-50NC	14.00	MOS	728	MTP3N50E	1.40	MOT	755
MPX100AS	7.89	MOT	747	MRF517	6.96	MOT	—	MS7203L-50PC	14.00	MOS	728	MTP3N60E	1.98	MOT	755
MPX100GP	7.42	MOT	747	MRF557	4.18	MOT	756	MS7203L-80FC	10.50	MOS	728	MTP4N40E	1.28	MOT	755
MPX100GVP	7.42	MOT	747	MRF559	1.30	MOT	—	MS7203L-80JC	10.50	MOS	728	MTP4N50E	1.90	MOT	755
MPX10DP	8.81	MOT	747	MRF571	1.27	MOT	—	MS7203L-80PC	10.50	MOS	728	MTB4N80E	4.02	MOT	755
MPX10GP	7.89	MOT	747	MRF571-1LT1	1.21	MOT	—	MS7204L-35FC	26.25	MOS	728	MTP50N05E	2.20	MOT	755
MPX200A	6.96	MOT	747	MRF581	1.77	MOT	756	MS7204L-35JC	26.25	MOS	728	MTP50N05EL	2.88	MOT	755
MPX200AP	7.89	MOT	747	MRF587	16.88	MOT	—	MS7204L-35PC	26.25	MOS	728	MTP50N06E	2.20	MOT	755
MPX200D	6.50	MOT	747	MRF847	48.61	MOT	756	MS7204L-50FC	17.50	MOS	728	MTP50N06EL	3.00	MOT	755
MPX200GP	7.42	MOT	747	MRF857	30.05	MOT	756	MS7204L-50JC	17.50	MOS	728	MTP50N06V	1.96	MOT	755
MPX2010D	28.47	MOT	748	MRF857S	28.94	MOT	756	MS7204L-80FC	14.00	MOS	728	MTB50P03HDL	5.70	MOT	—
MPX2010DP	32.18	MOT	748	MRF858	39.30	MOT	756	MS7204L-80JC	14.00	MOS	728	MTP5N40E	1.90	MOT	755
MPX2010GP	30.33	MOT	748	MRF860	155.79	MOT	756	MS7204L-80PC	14.00	MOS	728	MTB60N06HD	3.20	MOT	755
MPX2010GS	30.33	MOT	748	MRF861	41.71	MOT	756	MS7206L-50JC	14.00	MOS	—	MTP6N60E	4.00	MOT	755
MPX2010GSX	30.33	MOT	748	MRF862	500.73	MOT	756	MT12D436M-6	807.14	MIC	—	MTP6P20E	2.60	MOT	755
MPX2010GVP	30.33	MOT	748	MRF898	113.13	MOT	756	MT12D436M-7	800.00	MIC	—	MTP75N03HDL	5.50	MOT	755
MPX2010GVS	30.33	MOT	748	MRF901	1.02	MOT	—	MT16D232M-6	421.43	MIC	—	MTP75N05HD	5.10	MOT	755
MPX2010GVSX	30.33	MOT	748	MRF904	2.34	MOT	—	MT16D232M-6 X	428.57	MIC	—	MTP75N06HD	5.20	MOT	755
MPX2050DP	21.33	MOT	748	MRFIC1801	3.90	MOT	—	MT16D232M-7	407.14	MIC	—	MTP8N50E	2.64	MOT	755
MPX2050GP	20.40	MOT	748	MRFIC1803	13.17	MOT	—	MT16D232M-7 X	414.29	MIC	—	MTP9N25E	1.50	MOT	—
MPX2050GSX	20.40	MOT	748	MRFIC1804	12.06	MOT	—	MT16D832M-6	1392.86	MIC	—	MTW10N100E	14.38	MOT	755
MPX2050GVP	20.40	MOT	748	MRFIC2401	9.43	MOT	—	MT18D236M-6	464.29	MIC	—	MTW14N50E	6.50	MOT	755
MPX2052D	26.15	MOT	748	MRFIC2403	8.54	MOT	—	MT18D236M-7	450.00	MIC	—	MTW18N40E	7.04	MOT	755
MPX2052DP	29.86	MOT	748	MRFIC2404	5.20	MOT	—	MT24D836M-6	1600.00	MIC	—	MTW20N50E	14.00	MOT	755
MPX2052GVP	28.01	MOT	748	MS621002-25KC	38.90	MOS	728	MT24D836M-7	1564.29	MIC	—	MTW23N25E	7.04	MOT	755
MPX2100DP	30.60	MOT	748	MS621002A-20KC	37.00	MOS	728	MT2D18M-6	64.29	MIC	—	MTW24N40E	16.10	MOT	755
MPX2100GP	28.75	MOT	748	MS621002A-25KC	35.15	MOS	728	MT2D18M-7	58.57	MIC	—	MTW26N15E	5.50	MOT	755
MPX2100GSX	28.75	MOT	748	MS621002A-35KC	34.23	MOS	728	MT4C16257DJ-6	28.57	MIC	—	MTW32N20E	7.04	MOT	755
MPX2100GVP	28.75	MOT	748	MS621007A-20KC	37.00	MOS	728	MT4C16257DJ-7	28.57	MIC	—	MTW32N25E	11.00	MOT	755
MPX2100GVSX	28.75	MOT	748	MS621007A-25KC	35.15	MOS	728	MT4C16270DJ-6	28.57	MIC	—	MTW35N15E	7.04	MOT	755
MPX2200DP	20.40	MOT	748	MS621007A-35KC	34.23	MOS	728	MT4C16270DJ-7	28.57	MIC	—	MTW45N10E	7.04	MOT	755
MPX2200GP	20.40	MOT	748	MS62256CLL-10FC	7.40	MOS	728	MT4C4001JDJ-6	25.71	MIC	—	MTW4N80E	6.10	MOT	755
MPX4100A	22.26	MOT	748	MS62256CLL-10PC	7.40	MOS	728	MT4C4001JDJ-7	25.71	MIC	—	MTW6N100E	11.50	MOT	755
MPX4100AP	23.19	MOT	748	MS62256CLL-70FC	8.00	MOS	728	MT4C4001JTG-6	25.71	MIC	—	MTW7N80E	9.26	MOT	755
MPX4101A	22.26	MOT	748	MS62256CLL-70PC	8.00	MOS	728	MT4C4007JDJ-6	28.57	MIC	—	MTW8N60E	8.06	MOT	755
MPX4115A	22.26	MOT	748	MS62256H-15RC	9.25	MOS	728	MT4C4007JDJ-7	27.14	MIC	—	MU4891	2.23	SEM	790
MPX4115AP	23.19	MOT	748	MS62256H-20RC	8.33	MOS	728	MT							

Manufacturer's Code Log

AMD COL DLS GIS HAR				Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor				DT ITL LAT MIC MXM MOS				Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitellic				MOT NSC NTE PHI SEM SIE				Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc				TIS THO UNI XLX				Texas Instruments Thomson Consumer Electronics Unitrode Integrated Circuits Xilinx						
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MUR110				0.47	MOT	—	N80C186-12				15.90	AMD	669	NE5204AD				1.46	PHI	787	NE592N8				0.47	PHI	—	NE602AN				1.61	PHI	788
MUR110OE				0.93	MOT	764	N80C186-16				16.70	AMD	669	NE5204AN				1.65	PHI	787	NE594N				1.26	PHI	—	NE604AD				3.62	PHI	788
MUR120				0.47	MOT	764	N80C186-20				17.50	AMD	669	NE5205AN				2.19	PHI	787	NE602AD				1.45	PHI	788	NE604AN				3.80	PHI	788
MUR140				0.65	MOT	764	N80C186-25				19.25	AMD	669	NE5209D				16.35	PHI	787	NE602AN				1.61	PHI	788	NE604AD				3.62	PHI	788
MUR1510				1.26	HAR	706	N80C186XL-12				12.20	ITL	715	NE5209N				16.35	PHI	787	NE604AD				1.61	PHI	788	NE604AN				3.80	PHI	788
MUR1515				1.31	HAR	706	N80C186XL-20				13.00	ITL	715	NE5212AFE				7.89	PHI	—	NE604AN				3.80	PHI	788	NE605D				4.09	PHI	788
MUR1520				1.80	MOT	764	N80C188				16.35	AMD	669	NE5212AN				6.34	PHI	—	NE605D				4.09	PHI	788	NE605N				4.51	PHI	788
MUR1520				1.35	HAR	706	N80C188-12				14.30	AMD	669	NE5219D				9.26	PHI	787	NE605N				4.51	PHI	788	NE612AN				1.27	PHI	788
MUR1540				2.10	MOT	764	N80C188-16				15.05	AMD	669	NE5219N				9.26	PHI	787	NE612AN				1.27	PHI	788	NE614AD				2.23	PHI	788
MUR1560				2.20	MOT	764	N80C188-20				15.80	AMD	669	NE521D				1.83	PHI	787	NE614AD				2.23	PHI	788	NE614AN				2.34	PHI	788
MUR160				0.75	MOT	764	N80C188-25				17.35	AMD	669	NE521F				2.54	PHI	—	NE615D				3.18	PHI	788	NE615N				3.34	PHI	788
MUR1620CT				1.30	MOT	764	N80C188XL-12				11.20	ITL	715	NE521N				1.92	PHI	787	NE624N				4.69	PHI	788	NE625N				5.18	PHI	—
MUR1620CT				1.36	HAR	706	N80C188XL-20				12.00	ITL	715	NE522N				1.66	PHI	—	NE627N				5.18	PHI	788	NE627N				5.18	PHI	788
MUR1620CTR				4.09	MOT	764	N80C251SB-12				11.97	ITL	716	NE5230D				0.95	PHI	787	NE630N				4.08	PHI	—	NE6392C-2A				8.85	PHI	—
MUR1640CT				2.84	MOT	764	N80C251SB-16				11.97	ITL	716	NE5230N				1.41	PHI	787	NE6392C-2N				8.85	PHI	—	NE6392CN				4.80	PHI	—
MUR1660CT				3.20	MOT	764	N80C318H				3.40	ITL	716	NE5234D				2.49	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3020PT				4.20	MOT	764	N80C318H-1				3.85	ITL	716	NE5234N				2.28	PHI	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3020PT				4.46	HAR	706	N80C32				4.90	ITL	716	NE527N				1.61	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3020WT				4.20	MOT	764	N80C32-1				5.35	ITL	716	NE529D				1.40	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3040PT				4.50	MOT	764	N80C32-20				5.50	ITL	716	NE529N				1.44	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3040WT				4.50	MOT	764	N80C51FA				5.85	ITL	716	NE531N				1.10	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3060PT				5.30	MOT	764	N80C51FA-1				5.98	ITL	716	NE532N				0.52	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3060WT				5.30	MOT	764	N80C51GB				10.34	ITL	717	NE5410F				11.98	PHI	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR3080				4.80	MOT	764	N80C51GB-1				10.88	ITL	717	NE5512N				0.97	PHI	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR4100E				1.28	MOT	764	N80C51RA				6.39	ITL	717	NE5514N				1.62	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR415				0.64	MOT	—	N80L186				17.40	AMD	669	NE5517AN				1.28	PHI	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR420				0.64	MOT	764	N80L186-12				18.30	AMD	669	NE5517D				0.72	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR440				0.73	MOT	764	N80L186-16				19.20	AMD	669	NE5517N				0.84	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR460				0.82	MOT	764	N80L188				15.70	AMD	669	NE5532AFE				3.40	PHI	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR6040				7.00	MOT	764	N80L188-12				16.45	AMD	669	NE5532AN				1.54	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR620CT				2.10	MOT	764	N80L188-16				17.30	AMD	669	NE5532AP				1.51	TIS	804	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR805				1.04	MOT	—	N80L51FA				7.34	ITL	717	NE5532D				1.20	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR810				0.80	HAR	706	N82HS321AN				14.40	PHI	786	NE5532N				0.99	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR810OE				3.14	MOT	764	N82L5135N				3.10	PHI	786	NE5532P				1.00	TIS	804	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR810OE				1.18	HAR	—	N82S123AA				1.60	PHI	786	NE5533AN				1.92	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR820				1.04	MOT	764	N82S123AN				1.40	PHI	786	NE5533N				1.52	PHI	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR840				1.18	MOT	764	N82S123N				1.30	PHI	786	NE5534AD				1.20	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR840				1.05	HAR	706	N82S129N				1.50	PHI	786	NE5534AD				1.50	TIS	803	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR850				1.09	HAR	—	N82S131N				2.40	PHI	786	NE5534AN				1.32	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MUR860				1.28	MOT	764	N82S135N				2.70	PHI	786	NE5534AP				1.50	TIS	803	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MURB1620CT				2.00	MOT	764	N82S147AN				2.90	PHI	786	NE5534D				0.60	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MURB1660CT				3.50	MOT	764	N82S147BN				3.47	PHI	—	NE5534D				0.95	TIS	803	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MURD620CT				1.10	MOT	764	N82S147N				3.00	PHI	786	NE5534N				0.68	PHI	787	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MURH840CT				3.20	MOT	764	N82S181AN				4.60	PHI	786	NE5534P				1.00	TIS	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
MURH860CT				3.60	MOT	764	N82S191AN				6.00	PHI	786	NE5539N				2.10	PHI	—	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
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MURP20040CT				40.50	MOT	764	N87C51				13.30	ITL	716	NE555N				0.49	PHI	788	NE6392CN				4.80	PHI	—	NE6392CN				4.80	PHI	—
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Mfr.'s Type	Price	Mfr.'s Code	Page
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NTE1908	1.91	NTE	—

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NTE191	4.18	NTE	—

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ADI AMD COL DLS GIS HAR				Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor				IDT ITL LAT MIC MXM MOS				Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitelco				MOT NSC NTE PHI SEM SIE				Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc.				TIS THO UNI XLX				Texas Instruments Thomson Consumer Electronics Unitrode Integrated Circuits Xilinx			
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NTE2409	2.05	NTE	—	NTE3068	3.07	NTE	—	NTE4043B	2.77	NTE	—	NTE5035A	0.83	NTE	—	NTE4047B	3.20	NTE	—	NTE5065A	0.97	NTE	—	NTE5074A	0.97	NTE	—	NTE5084A	0.97	NTE	—
NTE241	2.68	NTE	—	NTE3078	3.69	NTE	—	NTE4044B	2.87	NTE	—	NTE505	4.55	NTE	—	NTE4049	1.49	NTE	782	NTE5067A	0.97	NTE	—	NTE5070A	0.97	NTE	781	NTE5087A	0.97	NTE	—
NTE242	2.78	NTE	—	NTE3079	3.71	NTE	—	NTE4046B	2.47	NTE	—	NTE506	1.96	NTE	782	NTE4050B	1.87	NTE	—	NTE5069A	0.97	NTE	781	NTE5071A	0.97	NTE	781	NTE5088A	0.97	NTE	—
NTE243	3.53	NTE	—	NTE3081	4.20	NTE	—	NTE4051B	3.03	NTE	—	NTE5072A	0.97	NTE	—	NTE4052B	3.03	NTE	—	NTE5073A	0.97	NTE	—	NTE5074A	0.97	NTE	—	NTE5089A	0.97	NTE	—
NTE244	4.15	NTE	—	NTE3083	2.44	NTE	—	NTE4053B	3.03	NTE	—	NTE5075A	0.97	NTE	—	NTE4054B	3.03	NTE	—	NTE5076A	0.97	NTE	—	NTE5077A	0.97	NTE	781	NTE5090A	0.97	NTE	—
NTE245	4.55	NTE	—	NTE3084	2.40	NTE	—	NTE4060B	3.45	NTE	—	NTE5078A	0.97	NTE	—	NTE4061B	3.45	NTE	—	NTE5079A	0.97	NTE	—	NTE5080A	0.97	NTE	781	NTE5091A	0.97	NTE	—
NTE246	5.80	NTE	—	NTE3085	6.10	NTE	—	NTE4066B	1.89	NTE	782	NTE5081A	0.97	NTE	—	NTE4069	0.87	NTE	782	NTE5082A	0.97	NTE	—	NTE5083A	0.97	NTE	—	NTE5092A	0.97	NTE	—
NTE247	5.25	NTE	—	NTE3086	4.18	NTE	782	NTE4070B	0.96	NTE	—	NTE5084A	0.97	NTE	—	NTE4071B	0.96	NTE	—	NTE5085A	0.97	NTE	—	NTE5086A	0.97	NTE	—	NTE5093A	0.97	NTE	—
NTE248	6.42	NTE	—	NTE3089	4.95	NTE	—	NTE4077B	0.96	NTE	—	NTE5087A	0.97	NTE	—	NTE4078B	0.96	NTE	—	NTE5088A	0.97	NTE	—	NTE5089A	0.97	NTE	—	NTE5094A	0.97	NTE	—
NTE249	8.38	NTE	779	NTE308P	8.70	NTE	—	NTE4081B	0.77	NTE	782	NTE5095A	0.97	NTE	—	NTE4082B	0.77	NTE	782	NTE5096A	0.97	NTE	—	NTE5097A	0.97	NTE	—	NTE5098A	0.97	NTE	—
NTE25	1.90	NTE	—	NTE3091	4.32	NTE	—	NTE4085B	2.44	NTE	—	NTE5099A	0.97	NTE	—	NTE4086B	2.44	NTE	—	NTE5100A	0.97	NTE	—	NTE5101A	0.97	NTE	—	NTE5102A	0.97	NTE	—
NTE250	8.50	NTE	779	NTE3092	4.72	NTE	—	NTE409	2.18	NTE	—	NTE5103A	0.97	NTE	—	NTE4093B	1.24	NTE	782	NTE5104A	0.97	NTE	—	NTE5105A	0.97	NTE	—	NTE5106A	0.97	NTE	—
NTE251	8.38	NTE	—	NTE3097	5.63	NTE	—	NTE4097B	4.38	NTE	—	NTE5107A	0.97	NTE	—	NTE4098B	4.38	NTE	—	NTE5108A	0.97	NTE	—	NTE5109A	0.97	NTE	—	NTE5110A	0.97	NTE	—
NTE252	8.50	NTE	—	NTE3098	2.54	NTE	—	NTE4099B	3.08	NTE	—	NTE5111A	0.97	NTE	—	NTE4101B	1.96	NTE	778	NTE5112A	0.97	NTE	—	NTE5113A	0.97	NTE	—	NTE5114A	0.97	NTE	—
NTE253	2.61	NTE	780	NTE309K	4.50	NTE	—	NTE4102B	1.96	NTE	778	NTE5115A	0.97	NTE	—	NTE4103B	1.96	NTE	778	NTE5116A	0.97	NTE	—	NTE5117A	0.97	NTE	—	NTE5118A	0.97	NTE	—
NTE2532	19.10	NTE	—	NTE31	3.05	NTE	—	NTE4104B	1.96	NTE	778	NTE5119A	0.97	NTE	—	NTE4105B	1.96	NTE	778	NTE5120A	0.97	NTE	—	NTE5121A	0.97	NTE	—	NTE5122A	0.97	NTE	—
NTE254	2.76	NTE	780	NTE3100	6.95	NTE	—	NTE4106B	1.96	NTE	778	NTE5123A	0.97	NTE	—	NTE4107B	1.96	NTE	778	NTE5124A	0.97	NTE	—	NTE5125A	0.97	NTE	—	NTE5126A	0.97	NTE	—
NTE255	13.55	NTE	—	NTE3101	7.15	NTE	782	NTE4108B	1.96	NTE	778	NTE5127A	0.97	NTE	—	NTE4109B	1.96	NTE	778	NTE5128A	0.97	NTE	—	NTE5129A	0.97	NTE	—	NTE5130A	0.97	NTE	—
NTE261	2.54	NTE	780	NTE3102	6.95	NTE	—	NTE4110B	1.96	NTE	778	NTE5131A	0.97	NTE	—	NTE4111B	1.96	NTE	778	NTE5132A	0.97	NTE	—	NTE5133A	0.97	NTE	—	NTE5134A	0.97	NTE	—
NTE262	2.85	NTE	780	NTE3103	6.90	NTE	—	NTE4112B	1.96	NTE	778	NTE5135A	0.97	NTE	—	NTE4113B	1.96	NTE	778	NTE5136A	0.97	NTE	—	NTE5137A	0.97	NTE	—	NTE5138A	0.97	NTE	—
NTE263	2.69	NTE	780	NTE311	3.11	NTE	780	NTE4114B	1.96	NTE	778	NTE5139A	0.97	NTE	—	NTE4115B	1.96	NTE	778	NTE5140A	0.97	NTE	—	NTE5141A	0.97	NTE	—	NTE5142A	0.97	NTE	—
NTE264	3.08	NTE	780	NTE3115	5.75	NTE	—	NTE4116B	1.96	NTE	778	NTE5143A	0.97	NTE	—	NTE4117B	1.96	NTE	778	NTE5144A	0.97	NTE	—	NTE5145A	0.97	NTE	—	NTE5146A	0.97	NTE	—
NTE265	1.52	NTE	780	NTE312	1.48	NTE	781	NTE4118B	1.96	NTE	778	NTE5147A	0.97	NTE	—	NTE4119B	1.96	NTE	778	NTE5148A	0.97	NTE	—	NTE5149A	0.97	NTE	—	NTE5150A	0.97	NTE	—
NTE268	1.73	NTE	—	NTE314	9.80	NTE	—	NTE4120B	1.96	NTE	778	NTE5151A	0.97	NTE	—	NTE4121B	1.96	NTE	778	NTE5152A	0.97	NTE	—	NTE5153A	0.97	NTE	—	NTE5154A	0.97	NTE	—
NTE269	1.91	NTE	—	NTE315	2.90	NTE	—	NTE4122B	1.96	NTE	778	NTE5155A	0.97	NTE	—	NTE4123B	1.96	NTE	778	NTE5156A	0.97	NTE	—	NTE5157A	0.97	NTE	—	NTE5158A	0.97	NTE	—
NTE27	34.20	NTE	—	NTE316	3.47	NTE	—	NTE4124B	1.96	NTE	778	NTE5159A	0.97	NTE	—	NTE4125B	1.96	NTE	778	NTE5160A	0.97	NTE	—	NTE5161A	0.97	NTE	—	NTE5162A	0.97	NTE	—
NTE270	5.44	NTE	—	NTE32	3.57	NTE	—	NTE4126B	1.96	NTE	778	NTE5163A	0.97	NTE	—	NTE4127B	1.96	NTE	778	NTE5164A	0.97	NTE	—	NTE5165A	0.97	NTE	—	NTE5166A	0.97	NTE	—
NTE2708	12.00	NTE	—	NTE323	4.30	NTE	—	NTE4128B	1.96	NTE	778	NTE5167A	0.97	NTE	—	NTE4129B	1.96	NTE	778	NTE5168A	0.97	NTE	—	NTE5169A	0.97	NTE	—	NTE5170A	0.97	NTE	—
NTE271	5.75	NTE	—	NTE324	4.50	NTE	—	NTE4130B	1.96	NTE	778	NTE5171A	0.97	NTE	—	NTE4131B	1.96	NTE	778	NTE5172A	0.97	NTE	—	NTE5173A	0.97	NTE	—	NTE5174A	0.97	NTE	—
NTE2716	13.75	NTE	—	NTE326	1.90	NTE	781	NTE4132B	1.96	NTE	778	NTE5175A	0.97	NTE	—	NTE4133B	1.96	NTE	778	NTE5176A	0.97	NTE	—	NTE5177A	0.97	NTE	—	NTE5178A	0.97	NTE	—
NTE272	1.84	NTE	—	NTE327	19.55	NTE	—	NTE4134B	1.96	NTE	778	NTE5179A	0.97	NTE	—	NTE4135B	1.96	NTE	778	NTE5180A	0.97	NTE	—	NTE5181A	0.97	NTE	—	NTE5182A	0.97	NTE	—
NTE2732A	15.00	NTE	—	NTE328	11.50	NTE	—	NTE4136B	1.96	NTE	778	NTE5183A	0.97	NTE	—	NTE4137B	1.96	NTE	778	NTE5184A	0.97	NTE	—	NTE5185A	0.97	NTE	—	NTE5186A	0.97	NTE	—
NTE276	13.11	NTE	781	NTE331	3.47	NTE	780	NTE4138B	1.96	NTE	778	NTE5187A	0.97	NTE	—	NTE4139B	1.96	NTE	778	NTE5188A	0.97	NTE	—	NTE5189A	0.97	NTE	—	NTE5190A	0.97	NTE	—
NTE2764	22.00	NTE	—	NTE332	3.74	NTE	780	NTE4140B	1.96	NTE	778	NTE5191A	0.97	NTE	—	NTE4141B	1.96	NTE	778	NTE5192A	0.97	NTE	—	NTE5193A	0.97	NTE	—	NTE5194A	0.97	NTE	—
NTE278	3.41	NTE	—	NTE346	3.15	NTE	—	NTE4142B	1.96	NTE	778	NTE5195A	0.97	NTE	—	NTE4143B	1.96	NTE	778	NTE5196A	0.97	NTE	—	NTE5197A	0.97	NTE	—	NTE5198A	0.97	NTE	—
NTE280	6.57	NTE	780	NTE350	19.74	NTE	—	NTE4144B	1.96	NTE	778	NTE5199A	0.97	NTE	—	NTE4145B	1.96	NTE	778	NTE5200A	0.97	NTE	—	NTE5201A	0.97	NTE	—	NTE5202A	0.97	NTE	—
NTE2800	9.97	NTE	—	NTE357	20.34	NTE	—	NTE4146B	1.96	NTE	778	NTE5203A	0.97	NTE	—	NTE4147B	1.96	NTE	778	NTE5204A	0.97	NTE	—	NTE5205A	0.97	NTE	—	NTE5206A	0.97	NTE	—
NTE281	8.53	NTE	—	NTE359	33.16	NTE	—	NTE4148B	1.96	NTE	778	NTE5207A	0.97	NTE	—	NTE4149B	1.96	NTE	778	NTE5208A	0.97	NTE	—	NTE5209A	0.97	NTE	—	NTE5210A	0.97	NTE	—
NTE283	10.29	NTE	780	NTE36	4.35	NTE	778	NTE4150B	1.96	NTE	778	NTE5211A	0.97	NTE	—	NTE4151B	1.96	NTE	778	NTE5212A	0.97	NTE	—	NTE5213A	0.97	NTE	—	NTE5214A	0.97	NTE	—
NTE284	10.43	NTE	780	NTE369	8.23	NTE	—	NTE4152B	1.96	NTE	778	NTE5215A	0.97	NTE	—	NTE4153B	1.96	NTE	778	NTE5216A	0.97	NTE	—	NTE5217A	0.97	NTE	—	NTE5218A	0.97	NTE	—
NTE285	11.17	NTE	780	NTE37	4.95	NTE	778	NTE4154B	1.96	NTE	778	NTE5219A	0.97	NTE	—	NTE4155B	1.96	NTE	778	NTE5220A	0.97	NTE	—	NTE5221A	0.97	NTE	—	NTE5222A	0.97	NTE	—
NTE287	1.17	NTE	780	NTE373	2.18	NTE	780	NTE4156B	1.96	NTE	778	NTE5223A	0.97	NTE	—	NTE4157B	1.96	NTE	778	NTE5224A	0.97	NTE	—	NTE5225A	0.97	NTE	—	NTE5226A	0.97	NTE	—
NTE288	1.17	NTE	780	NTE374	2.40	NTE	780	NTE4158B	1.96	NTE	778	NTE5227A	0.97	NTE	—	NTE4159B	1.96	NTE	778	NTE5228A	0.97	NTE	—	NTE5229A	0.97	NTE	—	NTE5230A	0.97	NTE	—
NTE289	1.47	NTE	780	NTE375	3.07	NTE	780	NTE4160B	1.96	NTE	778	NTE5231A	0.97	NTE	—	NTE4161B	1.96	NTE	778	NTE5232A	0.97	NTE	—	NTE5233A	0.97	NTE	—	NTE5234A	0.97	NTE	—

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NTE5419	3.34	NTE	—	NTE585	1.29	NTE	—	NTE8125	1.32	NTE	—	OP177FP	4.43	ADI	679
NTE542	10.15	NTE	—	NTE586	2.05	NTE	—	NTE8139	1.32	NTE	—	OP177GP	1.66	ADI	679
NTE5424	4.76	NTE	—	NTE587	1.25	NTE	—	NTE8149	1.32	NTE	—	OP177GS	1.50	ADI	679
NTE5426	2.96	NTE	—	NTE5870	2.84	NTE	—	NTE815	3.37	NTE	782	OP17EZ	8.63	ADI	—
NTE5429	7.39	NTE	—	NTE5871	2.84	NTE	—	NTE8167	1.32	NTE	—	OP183GP	2.37	ADI	679
NTE5437	2.39	NTE	—	NTE5874	3.38	NTE	—	NTE8181	1.32	NTE	—	OP183GS	2.37	ADI	679
NTE5452	1.06	NTE	—	NTE5878	3.98	NTE	—	NTE8213	1.32	NTE	—	OP200AZ	14.70	ADI	679
NTE5453	1.14	NTE	—	NTE588	1.76	NTE	—	NTE8226	1.32	NTE	—	OP200EZ	8.85	ADI	679
NTE5454	1.27	NTE	—	NTE5882	4.74	NTE	—	NTE823	2.32	NTE	—	OP200FZ	5.25	ADI	679
NTE5455	2.07	NTE	781	NTE5890	9.40	NTE	—	NTE8242	1.32	NTE	—	OP200GP	4.43	ADI	679
NTE5456	2.06	NTE	—	NTE5916	3.65	NTE	—	NTE832	4.10	NTE	—	OP20HP	2.36	ADI	—
NTE5457	2.16	NTE	781	NTE5917	3.65	NTE	—	NTE834	3.18	NTE	782	OP213EZ	8.85	ADI	679
NTE5461	2.27	NTE	—	NTE5920	4.60	NTE	—	NTE844	14.45	NTE	—	OP213FP	3.60	ADI	679
NTE5463	2.87	NTE	—	NTE5921	4.60	NTE	—	NTE85	0.99	NTE	778	OP213FS	4.35	ADI	679
NTE5465	3.26	NTE	781	NTE5924	6.60	NTE	—	NTE857M	3.94	NTE	—	OP215AJ	30.50	ADI	—
NTE5466	4.45	NTE	—	NTE5925	6.60	NTE	—	NTE858M	3.57	NTE	—	OP215EZ	13.35	ADI	—
NTE5468	5.05	NTE	—	NTE5962	3.78	NTE	—	NTE859	4.18	NTE	—	OP215FZ	12.00	ADI	—
NTE5483	10.12	NTE	—	NTE5982	4.06	NTE	—	NTE863	4.05	NTE	—	OP215GP	5.63	ADI	—
NTE5484	10.49	NTE	—	NTE5994	7.56	NTE	782	NTE868	11.58	NTE	—	OP215GZ	6.60	ADI	—
NTE5485	10.86	NTE	—	NTE5995	7.56	NTE	—	NTE87	8.28	NTE	—	OP220EZ	7.50	ADI	679
NTE5486	11.84	NTE	—	NTE60	10.20	NTE	—	NTE874	12.92	NTE	—	OP220FZ	6.00	ADI	679
NTE5487	12.82	NTE	—	NTE6002	12.61	NTE	—	NTE88	8.55	NTE	—	OP220GP	3.36	ADI	679
NTE55	4.40	NTE	778	NTE6050	10.80	NTE	—	NTE89	11.29	NTE	778	OP220GS	3.36	ADI	679
NTE5511	5.05	NTE	—	NTE605A	0.80	NTE	—	NTE90	1.54	NTE	778	OP220GZ	4.28	ADI	679
NTE5513	6.26	NTE	—	NTE6094	12.45	NTE	—	NTE909	1.76	NTE	—	OP221AZ	12.20	ADI	679
NTE5514	6.76	NTE	—	NTE61	11.40	NTE	—	NTE909D	1.60	NTE	—	OP221EZ	7.50	ADI	679
NTE5515	7.21	NTE	—	NTE612	2.17	NTE	—	NTE91	1.54	NTE	778	OP221GZ	4.28	ADI	—
NTE5518	7.80	NTE	—	NTE614	2.17	NTE	—	NTE912	4.80	NTE	—	OP227EY	16.50	ADI	—
NTE552	1.53	NTE	782	NTE6240	4.15	NTE	—	NTE914	9.85	NTE	—	OP227FY	13.50	ADI	—
NTE5529	10.40	NTE	—	NTE6400A	18.70	NTE	—	NTE92	10.85	NTE	—	OP227GZ	8.78	ADI	—
NTE5534	21.30	NTE	—	NTE6401	5.98	NTE	780	NTE922M	2.43	NTE	—	OP22EJ	6.75	ADI	—
NTE5541	8.11	NTE	—	NTE6402	1.70	NTE	781	NTE923	2.59	NTE	782	OP22EZ	4.88	ADI	—
NTE5542	9.20	NTE	—	NTE6403	8.06	NTE	—	NTE923D	1.66	NTE	782	OP22FZ	3.75	ADI	—
NTE5543	9.86	NTE	—	NTE6407	1.98	NTE	781	NTE928M	3.29	NTE	782	OP249AZ	13.13	ADI	—
NTE5547	15.20	NTE	—	NTE6408	1.23	NTE	781	NTE93	11.75	NTE	—	OP249EJ	10.88	ADI	—
NTE555	2.02	NTE	—	NTE6409	6.43	NTE	780	NTE931	12.83	NTE	782	OP249FZ	5.93	ADI	678
NTE5550	3.81	NTE	—	NTE6410	4.62	NTE	780	NTE932	15.20	NTE	—	OP249GP	2.76	ADI	678
NTE5552	4.25	NTE	—	NTE6419	3.05	NTE	781	NTE933	19.07	NTE	—	OP249GS	4.43	ADI	678
NTE5554	6.00	NTE	—	NTE66	10.20	NTE	—	NTE937	3.05	NTE	—	OP260GP	11.93	ADI	—
NTE5556	7.60	NTE	—	NTE67	10.20	NTE	—	NTE937M	2.91	NTE	—	OP270EZ	9.00	ADI	679
NTE5558	11.60	NTE	—	NTE68	9.80	NTE	—	NTE94	6.78	NTE	778	OP270FZ	6.75	ADI	679
NTE5564	13.28	NTE	—	NTE703	2.70	NTE	—	NTE941	2.02	NTE	782	OP270GP	5.25	ADI	679
NTE5568	28.10	NTE	—	NTE712	5.06	NTE	782	NTE941D	3.51	NTE	782	OP270GS	5.25	ADI	—
NTE5569	45.25	NTE	—	NTE725	7.57	NTE	—	NTE941M	1.09	NTE	782	OP271EZ	9.75	ADI	—
NTE5574	127.50	NTE	—	NTE730	9.75	NTE	—	NTE943M	4.08	NTE	782	OP271GP	5.25	ADI	679
NTE5577	71.05	NTE	—	NTE7400	0.77	NTE	782	NTE947	6.25	NTE	—	OP275GP	1.98	ADI	680
NTE558	2.72	NTE	782	NTE7402	1.10	NTE	782	NTE947D	6.25	NTE	—	OP275GS	1.98	ADI	680
NTE5582	119.95	NTE	—	NTE7403	0.73	NTE	782	NTE948	3.45	NTE	—	OP27AZ	27.00	ADI	678
NTE56	3.47	NTE	—	NTE7404	0.89	NTE	782	NTE950	2.29	NTE	—	OP27BZ	11.85	ADI	—
NTE5600	1.59	NTE	—	NTE7405	0.89	NTE	—	NTE955M	2.06	NTE	782	OP27CZ	11.25	ADI	679
NTE56004	3.99	NTE	—	NTE7406	1.73	NTE	782	NTE956	3.38	NTE	782	OP27EJ	10.50	ADI	678
NTE56006	4.90	NTE	—	NTE7407	1.73	NTE	—	NTE960	4.12	NTE	782	OP27FZ	5.30	ADI	678
NTE56008	5.65	NTE	—	NTE7408	0.85	NTE	782	NTE961	5.04	NTE	—	OP27GP	10.50	ADI	678
NTE56010	6.55	NTE	—	NTE7410	0.85	NTE	782	NTE962	3.97	NTE	—	OP27H	9.64	ADI	678
NTE56014	12.78	NTE	—	NTE74121	1.46	NTE	782	NTE964	3.92	NTE	782	OP27FZ	7.20	ADI	678
NTE56016	5.75	NTE	—	NTE7416	1.61	NTE	782	NTE965	3.93	NTE	—	OP27GP	2.43	ADI	678
NTE56018	7.05	NTE	—	NTE7417	1.48	NTE	—	NTE966	4.13	NTE	782	OP27GS	2.79	ADI	678
NTE56022	13.38	NTE	—	NTE74192	4.06	NTE	782	NTE9669	4.07	NTE	—	OP27GZ	5.70	ADI	679
NTE56024	13.95	NTE	—	NTE74193	4.07	NTE	782	NTE967	5.65	NTE	782	OP282GP	1.97	ADI	678
NTE56026	16.36	NTE	—	NTE7425	1.00	NTE	782	NTE968	4.05	NTE	782	OP282GS	2.15	ADI	678
NTE5603	2.09	NTE	—	NTE7432	1.10	NTE	782	NTE969	5.15	NTE	—	OP283GP	3.59	ADI	679
NTE5604	2.59	NTE	—	NTE7437	1.28	NTE	782	NTE970	10.75	NTE	—	OP283GS	3.59	ADI	679
NTE5605	3.41	NTE	—	NTE7442	2.02	NTE	782	NTE972	4.12	NTE	782	OP285GP	2.67	ADI	679
NTE5608	2.47	NTE	—	NTE7447	2.72	NTE	—	NTE977	1.95	NTE	782	OP285GS	3.40	ADI	—
NTE5610	5.62	NTE	—	NTE747	3.94	NTE	—	NTE98	18.99	NTE	778	OP289EJ	8.25	ADI	—
NTE5629	2.12	NTE	—	NTE7472	2.16	NTE	782	NTE987	2.74	NTE	782	OP290FZ	5.10	ADI	678
NTE5633	2.37	NTE	—	NTE7473	1.11	NTE	782	NTE990	6.72	NTE	—	OP290GP	3.94	ADI	678
NTE5637	4.10	NTE	—	NTE7474	1.21	NTE	782	NTE992	3.10	NTE	782	OP290GS	3.75	ADI	678
NTE5640	2.59	NTE	—	NTE7475	2.00	NTE	782	NTE997	3.68	NTE	—	OP291GP	3.85	ADI	679
NTE5642	3.22	NTE	—	NTE7476	1.84	NTE	782	OP02CP	4.18	ADI	—	OP291GS	3.93	ADI	679
NTE5643	3.41	NTE	—	NTE7486	1.00	NTE	782	OP05CJ	9.00	ADI	—	OP292GP	1.65	ADI	679
NTE5645	4.12	NTE	781	NTE7490	1.69	NTE	782	OP05CP	4.88	ADI	—	OP292GS	1.70	ADI	679
NTE5646	4.20	NTE	—	NTE7493	2.00	NTE	—	OP05EJ	11.25	ADI	—	OP295GP	4.03	ADI	679
NTE5650	3.83	NTE	—	NTE74C00	1.38	NTE	—	OP07AZ	18.38	ADI	679	OP295GS	3.64	ADI	679
NTE5651	4.55	NTE	—	NTE74C04	1.10	NTE	—	OP07CJ	4.50	ADI	679	OP297AZ	14.25	ADI	—
NTE5652	6.90	NTE	—	NTE74C14	2.33	NTE	—	OP07CP	1.91	ADI	679	OP297FP	4.65	ADI	—
NTE5655	1.43	NTE	—	NTE74C221	4.81	NTE	—	OP07CS	2.07	TIS	803	OP297FZ	5.10	ADI	678
NTE5656	2.03	NTE	781	NTE74LS00	0.83	NTE	—	OP07CZ	1.80	ADI	679	OP297GP	3.98	ADI	678
NTE5657	3.30	NTE	—	NTE74LS04	1.07	NTE	—	OP07D	4.50	ADI	679	OP297GS	4.18	ADI	678
NTE5673	8.78	NTE	—	NTE74LS05	1.20	NTE	—	OP07DP	1.25	TIS	803	OP37EP	4.74	ADI	679
NTE5675	10.15	NTE	—	NTE74LS125A	1.54	NTE	—	OP07DP	1.66	ADI	679	OP37EZ	10.50	ADI	679
NTE5677	12.44	NTE	—	NTE74LS138	2.56	NTE	—	OP07DP	1.39	TIS	803	OP37FP	2.35	ADI	—
NTE5679	18.78	NTE	—	NTE74LS14	3.28	NTE	—	OP07EJ	7.50	ADI	679	OP37GP	2.09	ADI	679
NTE5687	16.40	NTE	—	NTE74LS32	0.97	NTE	—	OP07EP	3.15	ADI	679	OP37GS	2.40	ADI	679
NTE5693	10.36	NTE	—	NTE74LS373	3.16	NTE	—	OP07EZ	5.25	ADI	679	OP400AY	26.85	ADI	679
NTE5695	11.40	NTE	—	NTE74LS74A	1.18	NTE	—	OP07J	10.50	ADI	—	OP400EY	12.75	ADI	679
NTE5697	12.15	NTE	—	NTE74LS76A	1.09	NTE	—	OP08AY	26.40	ADI	—	OP400FY	8.63	ADI	679
NTE5700	47.45	NTE	—	NTE74S138	3.87	NTE	—	OP0CCY	15.00	ADI	—	OP400GP	8.03	ADI	679
NTE5701	47.45	NTE	—	NTE75188	2.25	NTE	—	OP113EZ	5.40	ADI	679	OP400GS	8.03	ADI	679
NTE5710	83.90	NTE	—	NTE75189	2.36	NTE	—	OP113FP	2.40	ADI	679	OP413FP	8.03	ADI	679
NTE5721	75.32	NTE	—	NTE778A	4.00	NTE	782	OP113FS	2.40	ADI	679	OP413FS	8.78	ADI	679
NTE580	2.73	NTE	782	NTE791	5.77	NTE	—	OP11EY	12.75	ADI	—	OP41EJ	7.50	ADI	—
NTE5800	0.5														

Manufacturer's Code Log

ADI AMD COL DLS GIS HAR	Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor	IDT ITL LAT MIC MXM MOS	Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosek-Vitellic	MOT NSC NTE PHI SEM SIE	Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc.	TIS THO UNI XLX	Texas Instruments Thomson Consumer Electronics Unilode Integrated Circuits Xilinx
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OP470FY	9.75	ADI	679	P6KE27CA	0.87	GIS	691	P80C652FHAA	10.28	PHI	784	PAL16LB84CN	3.75	AMD	672
OP470GP	7.80	ADI	679	P6KE300A	1.26	GIS	691	P80CL31HFPN	4.82	PHI	784	PAL16LB8CN	1.86	AMD	672
OP470GS	8.40	ADI	679	P6KE300CA	1.26	GIS	691	P80CL410HFN	5.20	PHI	784	PAL16LB8CNL	1.86	AMD	672
OP471AY	26.85	ADI	679	P6KE30A	0.36	MOT	761	P85CL000HFZ	102.57	PHI	---	PAL16LB8D/2JC	3.00	AMD	672
OP471GP	8.25	ADI	679	P6KE30A	0.78	GIS	691	P87C0548BPNB	44.66	PHI	---	PAL16LB8D/2PC	3.00	AMD	672
OP482GP	3.08	ADI	678	P6KE30CA	0.87	GIS	691	P87C0558BPNB	32.15	PHI	784	PAL16R4-4JC	17.48	AMD	672
OP482GS	3.23	ADI	678	P6KE33A	0.36	MOT	761	P87C51	13.30	ITL	716	PAL16R4-5JC	13.35	AMD	672
OP490AY	17.25	ADI	---	P6KE33CA	0.78	GIS	691	P87C51-1	13.90	ITL	716	PAL16R4-5PC	13.35	AMD	672
OP490EY	9.75	ADI	---	P6KE33CA	0.60	MOT	761	P87C51-20	14.60	ITL	716	PAL16R4-7JC	6.00	AMD	672
OP490FY	6.75	ADI	678	P6KE33CA	0.87	GIS	---	P87C51FA	19.58	ITL	716	PAL16R4-7PC	6.00	AMD	672
OP490GP	4.95	ADI	678	P6KE350A	1.26	GIS	691	P87C51FA-1	20.67	ITL	716	PAL16R4ACN	1.49	AMD	672
OP490GS	4.95	ADI	678	P6KE350CA	1.26	GIS	691	P87C51FA-20	21.62	ITL	716	PAL16R4ACNL	1.49	AMD	672
OP491GP	5.78	ADI	679	P6KE36A	0.36	MOT	761	P87C51FB	24.34	ITL	716	PAL16R4B2CN	1.08	AMD	672
OP491GS	5.86	ADI	679	P6KE36A	0.78	GIS	691	P87C51FB-1	25.43	ITL	716	PAL16R4B2CNL	1.08	AMD	672
OP492GP	4.31	ADI	679	P6KE36CA	0.60	MOT	761	P87C51FC	30.87	ITL	717	PAL16R4B4CN	3.75	AMD	672
OP492GS	4.31	ADI	679	P6KE36CA	0.87	GIS	---	P87C51FC-1	31.82	ITL	717	PAL16R4B4CN	1.86	AMD	672
OP495GP	5.93	ADI	679	P6KE39A	0.44	MOT	761	P87C51FC-20	32.91	ITL	717	PAL16R4BCNL	1.86	AMD	672
OP495GS	5.96	ADI	679	P6KE39A	0.78	GIS	691	P87C52	15.60	ITL	716	PAL16R4D/2JC	3.00	AMD	672
OP497FP	10.70	ADI	---	P6KE39CA	0.60	MOT	761	P87C52-1	16.30	ITL	716	PAL16R4D/2PC	3.00	AMD	672
OP497GP	7.13	ADI	678	P6KE39CA	0.87	GIS	691	P87C524EBAA	27.69	PHI	784	PAL16R6-5JC	16.00	AMD	672
OP50AY	25.35	ADI	---	P6KE400A	1.26	GIS	691	P87C524EBFFA	38.46	PHI	784	PAL16R6-5PC	16.00	AMD	672
OP77AZ	27.00	ADI	---	P6KE400CA	1.26	GIS	691	P87C524EBLKA	46.15	PHI	784	PAL16R6-7JC	6.00	AMD	672
OP77EJ	7.95	ADI	---	P6KE43A	0.44	MOT	761	P87C524EBPN	27.69	PHI	784	PAL16R6-7PC	6.00	AMD	672
OP77EP	4.50	ADI	679	P6KE43A	0.78	GIS	691	P87C524GFAA	31.85	PHI	784	PAL16R6ACN	1.49	AMD	672
OP77EZ	5.63	ADI	679	P6KE43CA	0.60	MOT	761	P87C524GFFA	44.23	PHI	784	PAL16R6ACNL	1.49	AMD	672
OP77FJ	3.31	ADI	679	P6KE43CA	0.87	GIS	691	P87C524GLKA	53.08	PHI	784	PAL16R6B2CN	1.09	AMD	672
OP77FP	2.63	ADI	679	P6KE440A	1.26	GIS	691	P87C524GFPPN	31.85	PHI	784	PAL16R6B2CNL	1.08	AMD	672
OP77GP	2.08	ADI	679	P6KE440CA	1.26	GIS	691	P87C528EBAA	34.62	PHI	784	PAL16R6B4CN	3.75	AMD	672
OP77GS	2.07	ADI	679	P6KE47A	0.78	GIS	691	P87C528EBFFA	47.69	PHI	784	PAL16R6BCN	1.86	AMD	672
OP80GP	3.94	ADI	---	P6KE51A	0.78	GIS	691	P87C528EBLKA	56.15	PHI	784	PAL16R6BCNL	1.86	AMD	672
OP90AZ	9.75	ADI	---	P6KE51CA	0.87	GIS	691	P87C528EBPN	34.62	PHI	784	PAL16R6D/2JC	3.00	AMD	672
OP90FZ	3.55	ADI	---	P6KE56A	0.78	GIS	691	P87C528EBFFA	39.77	PHI	784	PAL16R6D/2PC	3.00	AMD	672
OP90GP	2.60	ADI	678	P6KE56CA	0.87	GIS	691	P87C528EBFFA	54.85	PHI	784	PAL16R8-4JC	17.48	AMD	672
OP90GS	2.60	ADI	678	P6KE68A	0.36	MOT	761	P87C528EFLKA	64.62	PHI	784	PAL16R8-5JC	13.35	AMD	672
OP97EP	5.63	ADI	678	P6KE68A	0.74	GIS	691	P87C528BEPFN	39.77	PHI	784	PAL16R8-5PC	13.35	AMD	672
OP97EZ	7.50	ADI	678	P6KE68CA	0.60	MOT	761	P87C528GBAA	39.77	PHI	784	PAL16R8-7JC	6.00	AMD	672
OP97FP	1.95	ADI	678	P6KE68CA	0.78	GIS	691	P87C528GBFFA	54.85	PHI	784	PAL16R8-7PC	6.00	AMD	672
P108E	0.69	NSC	---	P6KE62A	0.78	GIS	691	P87C528GBLKA	64.62	PHI	784	PAL16R8ACN	1.49	AMD	672
P108T	0.69	NSC	---	P6KE62CA	0.87	GIS	691	P87C528GBPN	39.77	PHI	784	PAL16R8ACNL	1.49	AMD	672
P6KE100A	0.83	GIS	691	P6KE68A	0.78	GIS	691	P87C528GFAA	43.23	PHI	784	PAL16R8B2CN	1.08	AMD	672
P6KE100CA	0.87	GIS	691	P6KE68CA	0.87	GIS	691	P87C528GFFA	59.62	PHI	784	PAL16R8B2CNL	1.08	AMD	672
P6KE10A	0.74	GIS	---	P6KE7.5A	0.44	MOT	761	P87C528GFLKA	70.15	PHI	784	PAL16R8B4CN	3.75	AMD	672
P6KE10CA	0.78	GIS	691	P6KE7.5A	0.74	GIS	691	P87C528GFPPN	43.23	PHI	784	PAL16R8BCN	1.86	AMD	672
P6KE110A	0.44	MOT	761	P6KE7.5CA	0.58	MOT	761	P87C52EBAA	17.50	PHI	784	PAL16R8BCNL	1.86	AMD	672
P6KE110A	0.83	GIS	691	P6KE7.5CA	0.36	GIS	691	P87C52EBFFA	29.40	PHI	784	PAL16R8D/2JC	3.00	AMD	672
P6KE110CA	0.78	MOT	761	P6KE75A	0.78	GIS	691	P87C52EBLKA	51.80	PHI	784	PAL16R8D/2PC	3.00	AMD	672
P6KE110CA	0.87	GIS	691	P6KE75CA	0.87	GIS	691	P87C52EBPN	17.50	PHI	784	PAL20L8-10/2JC	7.15	AMD	672
P6KE11A	0.36	MOT	761	P6KE8.2A	0.74	GIS	691	P87C52EFAA	19.26	PHI	784	PAL20L8-10/2PC	7.15	AMD	672
P6KE11A	0.78	GIS	691	P6KE8.2CA	0.78	GIS	691	P87C52EFFFFA	32.20	PHI	784	PAL20L8-5JC	20.00	AMD	672
P6KE11CA	0.78	GIS	691	P6KE82A	0.78	GIS	691	P87C52EFLKA	56.00	PHI	784	PAL20L8-5PC	20.00	AMD	672
P6KE120A	0.75	GIS	691	P6KE82CA	0.87	GIS	691	P87C52EFPN	19.26	PHI	784	PAL20L8-7JC	10.60	AMD	672
P6KE120CA	0.87	GIS	691	P6KE9.1A	0.74	GIS	691	P87C528IBFA	32.20	PHI	784	PAL20L8-7PC	10.60	AMD	672
P6KE12A	0.78	GIS	691	P6KE9.1CA	0.78	GIS	691	P87C528IBLKA	54.60	PHI	784	PAL20L8ACN	2.35	AMD	672
P6KE12CA	0.78	GIS	691	P6KE91A	0.71	GIS	---	P87C528IBPN	21.00	PHI	784	PAL20L8ACNL	2.25	AMD	672
P6KE130A	0.83	GIS	691	P6KE91CA	0.79	GIS	---	P87C52IFAA	26.60	PHI	784	PAL20L8BCN	3.00	AMD	672
P6KE130CA	0.87	GIS	691	P6SMB11AT3	0.78	MOT	762	P87C52IFFA	35.00	PHI	784	PAL20L8BCNL	3.00	AMD	672
P6KE13A	0.78	GIS	691	P6SMB12AT3	0.78	MOT	762	P87C52IFLKA	63.00	PHI	784	PAL20R4-10/2JC	7.15	AMD	672
P6KE13CA	0.60	MOT	761	P6SMB13AT3	0.78	MOT	762	P87C52IFPN	26.60	PHI	784	PAL20R4-10/2PC	7.15	AMD	672
P6KE13CA	0.78	GIS	691	P6SMB15AT3	0.78	MOT	762	P87C54	19.70	ITL	716	PAL20R4-5JC	20.00	AMD	672
P6KE150A	0.83	GIS	691	P6SMB18AT3	0.78	MOT	762	P87C54-1	20.70	ITL	716	PAL20R4-5PC	20.00	ITL	---
P6KE150CA	0.87	GIS	691	P6SMB22AT3	0.78	MOT	762	P87C54-20	21.70	ITL	716	PAL20R4-7JC	10.60	AMD	672
P6KE15A	0.36	MOT	761	P6SMB27AT3	0.78	MOT	762	P87C550EBFFA	30.00	PHI	784	PAL20R4-7PC	10.60	AMD	672
P6KE15A	0.78	GIS	691	P6SMB30AT3	0.78	MOT	762	P87C550EBLKA	37.92	PHI	784	PAL20R4ACN	2.35	AMD	672
P6KE15CA	0.60	MOT	761	P6SMB33AT3	0.78	MOT	762	P87C550EBPN	19.23	PHI	784	PAL20R4BCN	3.00	AMD	672
P6KE15CA	0.78	GIS	691	P6SMB36AT3	0.78	MOT	762	P87C550EFAA	22.08	PHI	784	PAL20R6-10/2JC	7.15	AMD	672
P6KE160A	0.83	GIS	691	P6SMB51AT3	0.78	MOT	762	P87C550EFAA	34.46	PHI	784	PAL20R6-10/2PC	7.15	AMD	672
P6KE160CA	0.87	GIS	691	P6SMB6.8AT3	0.78	MOT	762	P87C550EFLKA	43.62	PHI	784	PAL20R6-5JC	20.00	AMD	672
P6KE16A	0.78	GIS	691	P6SMB62AT3	0.78	MOT	762	P87C550EFPN	22.08	PHI	784	PAL20R6-5PC	20.00	AMD	672
P6KE16CA	0.60	MOT	761	P6SMB68AT3	0.78	MOT	762	P87C57SEBAA	21.97	PHI	784	PAL20R6-7JC	10.60	AMD	672
P6KE16CA	0.78	GIS													

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PALCE16V8H-7JC/5	4.00	AMD	671	PLS167AN	11.00	PHI	786	PSD301-20KA	37.20	PHI	783	RFA100N05E	11.77	HAR	706
PALCE16V8H-7PC/5	4.00	AMD	671	PLS167N	10.00	PHI	—	PSD302-12A	19.28	PHI	783	RFD12N06RLESM	0.70	HAR	706
PALCE16V8H-10JC/5	5.34	AMD	671	PLS168AA	12.00	PHI	—	PSD302-12KA	45.04	PHI	783	RFD14N05	0.71	HAR	706
PALCE16V8H-15JC/4	1.90	AMD	671	PLS168AN	11.00	PHI	786	PSD302-15A	18.00	PHI	783	RFD14N05L	0.77	HAR	706
PALCE16V8H-15PC/4	1.90	AMD	671	PLS168N	10.00	PHI	—	PSD302-15IA	19.12	PHI	783	RFD14N05LSM	0.78	HAR	706
PALCE16V8H-25JC/4	1.50	AMD	671	PLS173A	6.30	PHI	786	PSD302-15IKA	44.56	PHI	783	RFD14N05SM	0.73	HAR	706
PALCE16V8H-25PC/4	1.50	AMD	671	PLS173N	5.40	PHI	786	PSD302-15KA	42.08	PHI	783	RFD15P05	1.53	HAR	706
PALCE16V8Z-25JC	4.09	AMD	671	PLS179A	7.51	PHI	—	PSD302-20A	17.52	PHI	783	RFD15P05SM	1.55	HAR	706
PALCE16V8Z-25PC	4.09	AMD	671	PLS179N	6.54	PHI	—	PSD302-20IA	18.64	PHI	783	RFD16N05	1.29	HAR	706
PALCE20RA10H-10JC	16.20	AMD	672	PLS1016-110LJ	37.50	LAT	719	PSD302-20IKA	43.44	PHI	783	RFD16N05LSM	1.36	HAR	706
PALCE20RA10H-10PC	16.20	AMD	672	PLS1016-60LJ	8.00	LAT	719	PSD302-20KA	40.96	PHI	783	RFD16N05SM	1.31	HAR	706
PALCE20RA10H-15JC	12.50	AMD	672	PLS1016-60LT	10.25	LAT	719	PSD303-12A	22.40	PHI	783	RFD3055	0.59	HAR	706
PALCE20RA10H-15PC	12.50	AMD	672	PLS1016-80LJ	8.50	LAT	719	PSD303-12KA	51.52	PHI	783	RFD7N10LE	1.02	HAR	706
PALCE20RA10H-20JC	8.90	AMD	672	PLS1016-80LT	10.75	LAT	719	PSD303-15A	20.96	PHI	783	RFD8P05	0.94	HAR	706
PALCE20RA10H-20PC	8.90	AMD	672	PLS1016-90LJ	8.75	LAT	719	PSD303-15IA	22.24	PHI	783	RFD8P05SM	0.95	HAR	706
PALCE20V8H-7JC	27.91	AMD	672	PLS1016-90LT	11.25	LAT	719	PSD303-15IKA	51.04	PHI	783	RFG30P05	9.94	HAR	—
PALCE20V8H-10JC/4	5.50	AMD	671	PLS1024-60LJ	25.25	LAT	719	PSD303-15KA	48.16	PHI	783	RFG30P06	11.04	HAR	—
PALCE20V8H-10PC/4	5.50	AMD	671	PLS1024-80LJ	30.50	LAT	719	PSD303-20A	20.40	PHI	783	RFG40N10	8.41	HAR	—
PALCE20V8H-15JC/4	2.20	AMD	671	PLS1024-90LJ	35.25	LAT	719	PSD303-20IA	21.68	PHI	783	RFG45N06	4.25	HAR	706
PALCE20V8H-15PC/4	2.20	AMD	671	PLS1032-60LJ	28.75	LAT	719	PSD303-20IKA	49.76	PHI	783	RFG60P05E	12.86	HAR	706
PALCE20V8H-25JC/4	1.70	AMD	671	PLS1032-80LJ	42.75	LAT	719	PSD303-20KA	46.96	PHI	783	RFG60P06	13.50	HAR	706
PALCE20V8H-25PC/4	1.60	AMD	671	PLS1032-80LT	56.25	LAT	719	PSD311-12A	13.92	PHI	783	RFG70N06	8.05	HAR	706
PALCE20V8H-5JC/5	20.00	AMD	671	PLS1032-90LJ	62.00	LAT	719	PSD311-12KA	35.88	PHI	783	RFG75N05E	8.50	HAR	706
PALCE20V8H-7JC/5	7.00	AMD	671	PLS1048-50LJ	81.25	LAT	719	PSD311-15A	10.60	PHI	783	RFH25P08	7.24	HAR	706
PALCE20V8H-7PC/5	7.00	AMD	671	PLS1048-70LQ	101.75	LAT	719	PSD311-15IA	13.76	PHI	783	RFH25P10	8.23	HAR	706
PALCE20V8H-10PC/5	8.00	AMD	671	PLS1048-80LQ	131.25	LAT	719	PSD311-15IKA	35.36	PHI	783	RFH75N05E	8.64	HAR	706
PALCE20V8H-10PC/5	3.00	AMD	671	PLS1048C-50LQ	81.25	LAT	719	PSD311-15KA	33.36	PHI	783	RFH75N05E	9.42	HAR	—
PALCE20V8H-15PC/4	3.00	AMD	671	PLS1048C-70LQ	101.75	LAT	719	PSD311-20A	12.68	PHI	783	RFG25N20	8.79	HAR	706
PALCE20V8H-25JC/4	1.75	AMD	671	PLS10232-110LJ	10.75	LAT	719	PSD311-20IA	13.44	PHI	783	RFL6N10	1.67	HAR	706
PALCE20V8H-25PC/4	1.75	AMD	671	PLS10232-110LT	14.00	LAT	719	PSD311-20IKA	34.48	PHI	783	RFL1N08L	1.75	HAR	706
PALCE22V10H-10JC/5	11.00	AMD	671	PLS10232-135LJ	16.50	LAT	719	PSD312-12A	16.88	PHI	783	RFL1N10	1.75	HAR	706
PALCE22V10H-10PC/5	8.00	AMD	671	PLS10232-150LJ	26.50	LAT	719	PSD312-12KA	39.36	PHI	783	RFL1N10L	1.84	HAR	706
PALCE22V10H-15JC/4	8.00	AMD	671	PLS10232-80LJ	7.75	LAT	719	PSD312-15A	15.76	PHI	783	RFL1N12L	1.75	HAR	706
PALCE22V10H-15PC/4	8.00	AMD	671	PLS10232-80LT	10.25	LAT	719	PSD312-15IA	16.64	PHI	783	RFL1N15	1.75	HAR	706
PALCE22V10H-25JC/4	4.50	AMD	671	PLS10264-100LJ	26.25	LAT	719	PSD312-15IKA	38.96	PHI	783	RFL1N15L	1.92	HAR	706
PALCE22V10H-25PC/4	4.50	AMD	671	PLS10264-125LJ	36.00	LAT	719	PSD312-15KA	36.80	PHI	783	RFL1N18L	1.75	HAR	706
PALCE22V10H-5JC/5	29.90	AMD	671	PLS10264-80LJ	17.75	LAT	719	PSD312-20A	15.36	PHI	783	RFL1N20L	1.84	HAR	706
PALCE22V10H-7JC/5	18.00	AMD	671	PLS13256-50LM	153.25	LAT	719	PSD312-20IA	16.24	PHI	783	RFL1P08	1.67	HAR	706
PALCE22V10H-7PC/5	22.00	AMD	671	PLS13256-70LM	226.00	LAT	719	PSD312-20IKA	37.92	PHI	783	RFL2N05L	1.80	HAR	706
PALCE22V10H-10JC/5	11.89	AMD	671	PLUS105-45A	13.85	PHI	—	PSD312-20KA	35.76	PHI	783	RFL4N12	2.04	HAR	706
PALCE22V10H-10PC/5	11.69	AMD	671	PLUS105-45N	12.69	PHI	—	PSD313-12A	19.60	PHI	783	RFL4N12	3.94	HAR	706
PALCE22V10H-15JC/5	9.50	AMD	671	PLUS105-45N3	12.69	PHI	—	PSD313-15A	18.32	PHI	783	RFL10P15	4.47	HAR	706
PALCE22V10H-15PC/5	9.50	AMD	671	PLUS105-55A	16.92	PHI	—	PSD313-15IA	19.44	PHI	786	RFL10P15	3.96	HAR	706
PALCE22V10H-25JC/4	5.00	AMD	671	PLUS105-55N	16.15	PHI	—	PSD313-15IKA	44.64	PHI	—	RFL12P08	3.45	HAR	706
PALCE22V10H-25PC/4	5.00	AMD	671	PLUS105-55N3	16.15	PHI	—	PSD313-15KA	42.08	PHI	783	RFL3N45	2.04	HAR	706
PALCE22V10Z-25JC	10.88	AMD	671	PLUS133-10A	11.23	PHI	—	PSD313-20A	17.84	PHI	783	RFLM8P10	3.91	HAR	706
PALCE24V10H-15JC	5.00	AMD	671	PLUS153-10N	10.62	PHI	—	PSD313-20IA	18.96	PHI	783	RFLM8P10	1.00	HAR	706
PALCE24V10H-15PC	5.00	AMD	671	PLUS153BA	6.83	PHI	—	PSD313-20IKA	43.44	PHI	783	RFLM8P10	1.22	HAR	706
PALCE24V10H-25JC	3.00	AMD	671	PLUS153BN	6.31	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.94	HAR	706
PALCE24V10H-25PC	3.00	AMD	671	PLUS16L8-7A	4.30	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.38	HAR	706
PALCE26V12H-10JC/4	11.40	AMD	671	PLUS16L8-7N	4.30	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.95	HAR	706
PALCE26V12H-15JC/4	11.40	AMD	671	PLUS16L8DA	2.30	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.05	HAR	706
PALCE26V12H-15PC/4	10.00	AMD	671	PLUS16L8DN	2.30	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.09	HAR	706
PALCE26V12H-20JC/4	8.00	AMD	671	PLUS16R4-7A	3.90	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.21	HAR	706
PALCE26V12H-20PC/4	8.00	AMD	671	PLUS16R4-7N	3.90	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.72	HAR	706
PALCE26V12H-7JC/4	14.30	AMD	671	PLUS16R6-7A	3.90	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.40	HAR	706
PALCE29M16H25JC/4	12.78	AMD	671	PLUS16R6-7N	3.90	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.72	HAR	706
PALCE29M16H25PC/4	12.78	AMD	671	PLUS16R8-7A	3.90	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.77	HAR	706
PALCE29M16H25JC/4	13.76	AMD	672	PLUS16R8-7N	3.90	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.82	HAR	706
PALCE29M16H25PC/4	13.76	AMD	672	PLUS173-10A	14.31	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.99	HAR	706
PALCE29M16H25JC/4	13.76	AMD	672	PLUS173-10N	13.69	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.09	HAR	706
PALCE29M16H25PC/4	13.76	AMD	672	PLUS173BA	8.23	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.12	HAR	706
PALCE610H-15JC	8.93	AMD	672	PLUS173BN	7.54	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.75	HAR	706
PALCE610H-15PC	8.93	AMD	672	PLUS20L8-7A	6.40	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.61	HAR	706
PALCE610H-25JC	6.68	AMD	672	PLUS20L8-7N	6.40	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.33	HAR	706
PALCE610H-25PC	6.68	AMD	672	PLUS20L8DA	3.70	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.35	HAR	706
PC16550DV	11.20	NSC	—	PLUS20R4-7A	6.40	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.38	HAR	706
PC16552DV	27.30	NSC	—	PLUS20R4-7N	6.40	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.75	HAR	706
PD16N8-5A	6.25	PHI	—	PLUS20R6-7A	6.40	PHI	786	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.80	HAR	706
PD16N8-5N	6.25	PHI	—	PLUS20R6-7N	6.40	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.74	HAR	706
PKD01AY	37.73	ADI	—	PLUS20R8-7A	6.40	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	1.74	HAR	706
PKD01EP	12.35	ADI	—	PLUS20R8-7N	6.40	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.99	HAR	706
PKD01FP	10.28	ADI	—	PLUS405-45A	20.95	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	2.49	HAR	706
PKD01FY	12.86	ADI	—	PLUS405-45N	19.40	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.63	HAR	706
PL22V10-10A	9.20	PHI	786	PLUS405-55A	26.92	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.56	HAR	706
PL22V10-10N	9.20	PHI	786	PLUS405-55N	25.85	PHI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.71	HAR	706
PL22V10-15A	6.00	PHI	786	PM7226AF	21.75	ADI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.61	HAR	706
PL22V10-15N	6.00	PHI	786	PM7226E	37.06	ADI	—	PSD313-20KA	40.96	PHI	783	RFLM8P10	0.63	HAR	706</

Manufacturer's Code Log

ADI	Analog Devices Inc.	IDT	Integrated Device Technology, Inc.	MOT	Motorola Semiconductor	TIS	Texas Instruments
AMD	Advanced Micro Devices	INT	Intel	NSC	National Semiconductor	THO	Thomson Consumer Electronics
COL	Collmer Semiconductors, Inc.	LAT	Lattice	NTE	NTE Electronics	UNI	Unitrode Integrated Circuits
DLS	Dallas Semiconductor	MIC	Micron	PHI	Philips Semiconductors	XLX	Xilinx
GIS	General Instrument	MXM	Maxim	SEM	Semiconductors Inc.		
HAR	Harris Semiconductor	MOS	Mosel-Vitelco	SIE	Siemens Components, Inc.		

Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
RFP8P10	2.72	HAR	706	S14K140	0.55	SIE	791	S87C51FA-BF40	36.40	PHI	784	SA30CA	0.53	GIS	691
RHRP1560	2.06	HAR	706	S14K150	0.56	SIE	791	S87C51FA-BK44	61.88	PHI	784	SA33A	0.47	GIS	691
RHRU10060	9.67	HAR	706	S14K17	0.63	SIE	791	S87C51FA-BN40	23.80	PHI	784	SA33CA	0.53	GIS	691
RHRU15060	17.70	HAR	706	S14K175	0.63	SIE	791	S87C51FB	24.89	ITL	716	SA36A	0.47	GIS	691
RKBP3C501	7.96	COL	687	S14K20	0.63	SIE	791	S87C51FB-1	25.98	ITL	716	SA36CA	0.56	MOT	761
RKBP3C502	8.36	COL	687	S14K230	0.63	SIE	791	S87C51FB-20	26.93	ITL	716	SA36CA	0.53	GIS	691
RKBP3C504	8.60	COL	687	S14K25	0.63	SIE	791	S87C51FB-4A44	22.40	PHI	784	SA40A	0.47	GIS	691
RKBP3C506	8.55	COL	687	S14K250	0.63	SIE	791	S87C51FB-4F40	36.40	PHI	784	SA40CA	0.53	GIS	691
RKBP6C005	3.32	COL	687	S14K275	0.63	SIE	791	S87C51FB-4K44	52.00	PHI	784	SA43A	0.47	GIS	691
RKBP6C01	3.42	COL	687	S14K30	0.63	SIE	791	S87C51FB-4N40	22.40	PHI	784	SA43CA	0.53	GIS	691
RKBP6C02	3.56	COL	687	S14K300	0.63	SIE	791	S87C51FB-5A44	27.02	PHI	784	SA45A	0.47	GIS	691
RKBP6C04	3.88	COL	687	S14K35	0.63	SIE	791	S87C51FB-5F40	37.80	PHI	784	SA45CA	0.56	MOT	761
RKBP6C06	3.82	COL	687	S14K385	0.81	SIE	791	S87C51FB-5N40	27.02	PHI	784	SA45CA	0.53	GIS	691
RKBP6C01	3.64	COL	687	S14K40	0.63	SIE	791	S87C51FB-A444	25.20	PHI	784	SA48A	0.38	GIS	691
RKBP6C02	3.73	COL	687	S14K420	0.81	SIE	791	S87C51FB-AF40	40.60	PHI	784	SA48CA	0.53	GIS	691
RKBP6C04	3.82	COL	687	S14K460	0.81	SIE	791	S87C51FB-AK44	52.00	PHI	784	SA5 0A	0.32	MOT	761
RKBP6C06	3.92	COL	687	S14K50	0.55	SIE	791	S87C51FB-AN40	25.20	PHI	784	SA5 0A	0.51	GIS	691
RURD420	0.72	HAR	706	S14K510	1.17	SIE	791	S87C51FB-BA44	30.10	PHI	784	SA5 0CA	0.61	GIS	691
RURD460	0.98	HAR	706	S14K550	1.17	SIE	791	S87C51FB-BF40	48.30	PHI	784	SA5090N	3.35	PHI	—
RURG1520CC	3.11	HAR	706	S14K60	0.55	SIE	791	S87C51FB-BK44	59.30	PHI	784	SA51A	0.47	GIS	691
RURG30120	3.93	HAR	706	S14K625	1.17	SIE	791	S87C51FB-BN40	30.10	PHI	784	SA51CA	0.53	GIS	691
RURG5080	5.09	HAR	706	S14K680	1.17	SIE	791	S87C51FC	31.42	ITL	717	SA5204AN	1.75	PHI	—
RURH3020CC	6.82	HAR	706	S14K75	0.55	SIE	791	S87C51FC-1	32.37	ITL	717	SA5205AN	2.40	PHI	—
RURP15120	2.01	HAR	706	S14K95	0.55	SIE	791	S87C51FC-20	33.46	ITL	717	SA5209D	16.40	PHI	787
RURP1580	1.82	HAR	706	S20K1000	4.05	SIE	791	S87C51FC-4A44	28.00	PHI	784	SA5209N	16.40	PHI	787
RURP30120	2.70	HAR	706	S20K11	0.91	SIE	791	S87C51FC-4F40	37.40	PHI	784	SA5212AFE	9.62	PHI	—
RURP3080	2.40	HAR	706	S20K130	0.76	SIE	791	S87C51FC-4K44	52.80	PHI	784	SA5212AN	6.42	PHI	—
RURP8120	1.29	HAR	706	S20K14	0.91	SIE	791	S87C51FC-4N40	28.00	PHI	784	SA5219N	12.86	PHI	—
RURP860	1.17	HAR	706	S20K150	0.76	SIE	791	S87C51FC-5A44	32.20	PHI	784	SA5230D	1.68	PHI	787
RURU10060	9.00	HAR	706	S20K17	0.91	SIE	791	S87C51FC-5F40	43.00	PHI	784	SA5230N	1.68	PHI	—
RURU150100	18.34	HAR	706	S20K20	0.91	SIE	791	S87C51FC-5K44	60.70	PHI	784	SA5234N	2.69	PHI	—
RURU15080	16.28	HAR	706	S20K25	0.91	SIE	791	S87C51FC-5N40	32.20	PHI	784	SA54A	0.47	GIS	691
RURU5040	6.17	HAR	706	S20K250	0.85	SIE	791	S87C52-1	16.30	ITL	716	SA54CA	0.53	GIS	691
RURU75120	8.35	HAR	706	S20K275	0.85	SIE	791	S87C52-20	17.10	ITL	716	SA5521N	8.77	PHI	—
RURU80100	8.35	HAR	706	S20K300	0.85	SIE	791	S87C54	22.50	ITL	716	SA5534AD	1.50	PHI	787
RURU8040	7.12	HAR	706	S20K385	1.17	SIE	791	S87C54-1	24.70	ITL	716	SA5534AN	1.80	PHI	787
RURU8060	7.58	HAR	706	S20K420	1.17	SIE	791	S87C54-20	25.00	ITL	716	SA555D	0.64	PHI	—
RV4558D	0.60	TIS	804	S20K460	1.17	SIE	791	S87C58	24.50	ITL	716	SA555D	0.60	TIS	—
RW01M	1.43	COL	687	S20K510	1.53	SIE	791	S87C58-1	25.70	ITL	716	SA555N	0.53	PHI	788
RW02M	1.57	COL	687	S20K550	1.53	SIE	791	S87C58-20	27.00	ITL	716	SA555P	0.71	TIS	—
RW04M	1.72	COL	687	S20K625	1.53	SIE	791	S87L51FB	28.70	ITL	717	SA556N	0.74	TIS	—
S05K11	0.35	SIE	791	S20K680	1.53	SIE	791	SA100A	0.51	GIS	691	SA556N	2.68	PHI	—
S05K14	0.35	SIE	791	S20K75	0.85	SIE	791	SA100CA	0.53	GIS	691	SA571F	5.40	PHI	—
S05K17	0.35	SIE	791	S2800D	0.88	MOT	765	SA10A	0.47	GIS	691	SA571N	1.95	PHI	—
S05K20	0.35	SIE	791	S2800M	0.94	MOT	765	SA10CA	0.61	GIS	691	SA572F	4.46	PHI	—
S05K25	0.35	SIE	791	S80C186-12	16.80	AMD	669	SA110A	0.51	GIS	691	SA572N	2.46	PHI	—
S05K30	0.35	SIE	791	S80C186-20	18.40	AMD	669	SA110CA	0.53	GIS	691	SA5750N	7.51	PHI	—
S05K35	0.35	SIE	791	S80C186-25	20.15	AMD	669	SA111A	0.47	GIS	691	SA5751N	13.94	PHI	—
S05K40	0.35	SIE	791	S80C186EA-25	14.14	ITL	715	SA111A	0.47	GIS	691	SA575N	2.80	PHI	—
S05K50	0.30	SIE	791	S80C186EB-25	20.13	ITL	715	SA120A	0.51	GIS	691	SA576N	2.03	PHI	—
S05K60	0.33	SIE	791	S80C186XL-12	12.80	ITL	715	SA120CA	0.53	GIS	691	SA5775N	4.91	PHI	—
S05K75	0.33	SIE	791	S80C186XL-20	13.60	ITL	715	SA12A	0.47	GIS	691	SA577N	2.75	PHI	—
S05K95	0.33	SIE	791	S80C186XL-25	16.80	ITL	715	SA12CA	0.56	MOT	761	SA578N	3.14	PHI	—
S07K11	0.32	SIE	791	S80C188	14.55	AMD	669	SA12CA	0.61	GIS	691	SA58A	0.47	GIS	691
S07K130	0.29	SIE	791	S80C188-12	15.20	AMD	669	SA130A	0.51	GIS	691	SA58CA	0.53	GIS	691
S07K14	0.32	SIE	791	S80C188-16	15.95	AMD	669	SA130CA	0.53	GIS	691	SA594N	1.37	PHI	—
S07K140	0.29	SIE	791	S80C188-25	18.25	AMD	669	SA13A	0.32	MOT	761	SA6 0A	0.32	MOT	761
S07K150	0.29	SIE	791	S80C188EA-25	15.91	ITL	715	SA13A	0.47	GIS	691	SA6 0CA	0.51	GIS	691
S07K17	0.32	SIE	791	S80C188XL-12	11.90	ITL	715	SA13CA	0.56	MOT	761	SA6 5A	0.61	GIS	691
S07K175	0.29	SIE	791	S80C188XL-20	16.30	ITL	715	SA13CA	0.61	GIS	691	SA6 5CA	0.51	GIS	691
S07K20	0.32	SIE	791	S80C188XL-25	15.70	ITL	715	SA1458D	1.10	PHI	787	SA601DK	3.18	PHI	788
S07K230	0.29	SIE	791	S80C31BH	3.90	ITL	716	SA14A	0.47	GIS	691	SA602AD	1.91	PHI	788
S07K25	0.32	SIE	791	S80C31BH-1	3.85	ITL	716	SA14CA	0.61	GIS	691	SA602AN	1.91	PHI	788
S07K250	0.29	SIE	791	S80C32	4.90	ITL	716	SA150A	0.51	GIS	691	SA604AD	4.80	PHI	788
S07K275	0.29	SIE	791	S80C32-1	5.35	ITL	716	SA150CA	0.53	GIS	691	SA604AN	4.80	PHI	788
S07K30	0.32	SIE	791	S80C51FA	5.85	ITL	716	SA15A	0.32	MOT	761	SA605N	5.18	PHI	—
S07K300	0.29	SIE	791	S80C51FA-1	5.98	ITL	716	SA15A	0.47	GIS	691	SA606D	4.91	PHI	788
S07K35	0.32	SIE	791	S80L186	18.30	AMD	669	SA15CA	0.56	MOT	761	SA606N	4.91	PHI	—
S07K40	0.32	SIE	791	S80L186-12	19.20	AMD	669	SA15CA	0.61	GIS	691	SA60A	0.47	GIS	691
S07K50	0.29	SIE	791	S80L186-16	20.10	AMD	669	SA160A	0.51	GIS	691	SA60CA	0.53	GIS	691
S07K60	0.29	SIE	791	S80L188	16.70	AMD	669	SA160CA	0.39	GIS	691	SA612AN	1.45	PHI	—
S07K75	0.29	SIE	791												

Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page	Mfr.'s Type	Price	Mfr.'s Code	Page
SA8.0CA	0.61	GIS	691	SC87C51ACF40	35.00	PHI	784	SK3072	4.85	THO	806	SK33X	2.29	THO	—
SA8.5A	0.51	GIS	691	SC87C51ACN40	14.64	PHI	784	SK3079	8.65	THO	807	SK3433	1.06	THO	807
SA8.5CA	0.61	GIS	691	SC87C51AGA44	16.80	PHI	—	SK3080	0.42	THO	808	SK3434	1.08	THO	807
SA85A	0.32	MOT	761	SC87C51AGF40	30.80	PHI	784	SK3081	0.83	THO	808	SK3438	8.95	THO	807
SA85A	0.47	GIS	691	SC87C51AGK44	54.60	PHI	784	SK3083	2.86	THO	807	SK3439A	10.75	THO	807
SA85CA	0.56	MOT	761	SC87C51AGN40	16.80	PHI	784	SK3085	4.65	THO	807	SK3440	3.12	THO	807
SA85CA	0.53	GIS	—	SC87C51AYA44	35.00	PHI	784	SK3086	6.90	THO	807	SK3441	3.41	THO	807
SA9.0A	0.51	GIS	691	SC87C51AYF40	65.50	PHI	784	SK3087	0.53	THO	—	SK3444	1.53	THO	807
SA9.0CA	0.61	GIS	691	SC87C51OCA44	13.30	PHI	784	SK3090	0.63	THO	—	SK3445	8.38	THO	806
SA90A	0.32	MOT	761	SC87C51CCF40	26.82	PHI	784	SK30A	0.66	THO	—	SK3447	2.18	THO	806
SA90A	0.47	GIS	691	SC87C51CCN40	13.30	PHI	784	SK3100	1.19	THO	—	SK3449	1.82	THO	807
SA90CA	0.53	GIS	691	SC87C51CGA44	13.30	PHI	—	SK3103A	3.20	THO	807	SK3450	1.70	THO	807
SAB10	0.38	GIS	—	SC87C51CGF44	26.82	PHI	784	SK3104A	2.26	THO	807	SK3451	6.50	THO	806
SAB12	0.38	GIS	—	SC87C51CGK44	49.00	PHI	784	SK3105	2.36	THO	808	SK3452	1.64	THO	807
SAB15	0.38	GIS	—	SC87C51CGN40	13.30	PHI	784	SK3106	1.91	THO	808	SK3456	7.10	THO	806
SAB18	0.38	GIS	—	SC87C51CPA44	16.80	PHI	784	SK3107	2.69	THO	808	SK3461	4.85	THO	806
SAB24	0.38	GIS	—	SC87C51CPF40	45.10	PHI	784	SK3111	9.40	THO	807	SK3462	1.83	THO	808
SAB28	0.38	GIS	—	SC87C51CPK44	54.60	PHI	784	SK3112	2.26	THO	807	SK3464	3.25	THO	807
SAB5.0	0.38	GIS	691	SC87C51CPN40	16.80	PHI	784	SK3114A	1.69	THO	807	SK3465	4.26	THO	806
SAC10	0.82	GIS	691	SC87C51CYA44	28.00	PHI	784	SK3115	13.50	THO	807	SK3466	1.82	THO	807
SAC12	0.74	GIS	691	SC87C51CYF40	60.50	PHI	784	SK3117	2.10	THO	807	SK3467	9.90	THO	807
SAC15	0.74	GIS	691	SC87C51CYK44	91.00	PHI	784	SK3118	1.22	THO	807	SK3468	6.50	THO	806
SAC18	0.74	GIS	691	SC87C51CYN40	28.00	PHI	784	SK3122	1.76	THO	807	SK3472	4.66	THO	806
SAC22	0.74	GIS	691	SC902-2	0.41	COL	685	SK3123	9.08	THO	807	SK3474	12.20	THO	806
SAC26	0.74	GIS	691	SCM333A	1.54	GIS	—	SK3124A	1.46	THO	807	SK3477	4.80	THO	806
SAC30	0.74	GIS	691	SD241	5.20	MOT	—	SK3125A	2.40	THO	808	SK3478	8.75	THO	806
SAC36	0.74	GIS	691	SD14	0.49	COL	685	SK3129	5.00	THO	806	SK3479	1.39	THO	807
SAC45	0.74	GIS	691	SE024	0.49	COL	685	SK3130	1.54	THO	807	SK3481	8.00	THO	806
SAC5.0	0.82	GIS	691	SE55P	2.12	TIS	805	SK3133	8.40	THO	807	SK3483	5.75	THO	806
SAC50	0.74	GIS	691	SG2524N	3.75	TIS	805	SK3134	11.34	THO	806	SK3487	3.62	THO	806
SAC5.0	0.74	GIS	691	SG3524D	1.12	TIS	805	SK3135	5.40	THO	806	SK3490	3.05	THO	806
SAC7.0	0.74	GIS	691	SG3524N	1.12	TIS	805	SK3137	1.98	THO	807	SK3503	3.80	THO	808
SAC8.0	0.82	GIS	691	SGT03U13	1.03	HAR	709	SK3149	4.85	THO	806	SK3504	6.45	THO	808
SAC8.5	0.74	GIS	691	SGT06U13	1.19	HAR	709	SK3158	6.10	THO	806	SK3505	5.13	THO	808
SBO20	0.26	GIS	693	SGT21B13	1.54	HAR	709	SK3159	6.20	THO	806	SK3506	11.15	THO	808
SBO40	0.30	GIS	693	SGT23B13	1.54	HAR	709	SK3164	2.40	THO	806	SK3505	15.20	THO	808
SBI20	0.52	GIS	693	SGT30U13	1.30	HAR	709	SK3175A	2.20	THO	808	SK3506	2.84	THO	808
SBI30	0.27	GIS	693	SGT27B13	1.79	HAR	709	SK3176	24.30	THO	807	SK3508	9.28	THO	808
SBI40	0.43	GIS	693	SGT27B13A	1.62	HAR	709	SK3177	26.06	THO	807	SK3509	10.50	THO	808
SBI50	0.53	GIS	693	SGT27B27	2.89	HAR	709	SK3178B	3.83	THO	807	SK3512	5.20	THO	807
SBI60	0.61	GIS	693	SGT27B27A	2.86	HAR	709	SK3180	2.79	THO	807	SK3513	5.75	THO	807
SBI320	0.56	GIS	693	SGT27510	1.61	HAR	709	SK3181A	3.23	THO	807	SK3514	2.53	THO	806
SBI330	0.42	GIS	693	SGT27523	1.65	HAR	709	SK3182	3.48	THO	807	SK3517	4.52	THO	808
SB340	0.59	GIS	693	SK10A	0.66	THO	—	SK3188A	4.66	THO	807	SK3518	7.15	THO	808
SB350	0.75	GIS	693	SK10V	0.97	THO	—	SK3189A	5.25	THO	807	SK3519	3.41	THO	808
SB360	0.86	GIS	693	SK10X	2.29	THO	—	SK3190	2.32	THO	807	SK3520	13.52	THO	808
SB520	0.60	GIS	693	SK11A	0.66	THO	—	SK3191	2.61	THO	807	SK3521	16.40	THO	808
SB530	0.77	GIS	693	SK11V	0.97	THO	—	SK3192	2.51	THO	807	SK3525	5.10	THO	806
SB540	0.85	GIS	693	SK12A	0.66	THO	—	SK3193	2.50	THO	807	SK3526	6.25	THO	806
SB550	0.95	GIS	693	SK12V	0.97	THO	—	SK3194	8.45	THO	807	SK3528	3.31	THO	807
SB560	1.04	GIS	693	SK13A	0.86	THO	—	SK3195	2.79	THO	807	SK3529	4.20	THO	807
SB80386CXSA-25	35.50	ITL	715	SK13V	0.97	THO	—	SK3197	6.30	THO	807	SK3533	3.57	THO	808
SB80386CXSA-33	39.64	ITL	715	SK15A	0.66	THO	—	SK3198	4.86	THO	807	SK3538	3.15	THO	807
SB80C186	16.85	AMD	669	SK15V	0.97	THO	—	SK3199	2.53	THO	807	SK3540	5.33	THO	806
SB80C186-12	17.60	AMD	669	SK15X	2.06	THO	—	SK3200	2.79	THO	807	SK3541	9.85	THO	806
SB80C186-16	17.40	AMD	669	SK16V	0.97	THO	—	SK3201	2.60	THO	807	SK3542	3.55	THO	806
SB80C186-20	19.20	AMD	669	SK18A	0.66	THO	—	SK3207	4.70	THO	806	SK3543	4.80	THO	806
SB80C186-25	20.95	AMD	669	SK200V	0.97	THO	—	SK3214	5.70	THO	806	SK3544	4.30	THO	806
SB80C186EA-20	15.64	ITL	715	SK2024	0.73	THO	—	SK3218	3.41	THO	807	SK3545	3.30	THO	806
SB80C186EB-20	18.50	ITL	715	SK2040	1.89	THO	—	SK3219	3.41	THO	807	SK3547	7.15	THO	806
SB80C186EC-20	22.03	ITL	715	SK2041	2.09	THO	807	SK3220	3.36	THO	807	SK3548	5.75	THO	806
SB80C188	15.35	AMD	669	SK2046	3.94	THO	—	SK3223	4.61	THO	806	SK3550	4.50	THO	806
SB80C188-12	16.00	AMD	669	SK2083	2.44	THO	—	SK3226	11.45	THO	806	SK3552	1.05	THO	806
SB80C188-16	16.75	AMD	669	SK2086	3.83	THO	—	SK3227	9.68	THO	806	SK3555	2.78	THO	806
SB80C188-20	17.50	AMD	669	SK20X	2.29	THO	—	SK3231	10.82	THO	806	SK3557	2.55	THO	808
SB80C188-25	19.05	AMD	669	SK22V	0.97	THO	—	SK3234	3.57	THO	806	SK3559	9.37	THO	807
SB80C188EA-13	13.19	ITL	715	SK24V	0.97	THO	—	SK3238	9.05	THO	806	SK3562	4.05	THO	807
SB80C188EA-20	14.55	ITL	715	SK24X	2.29	THO	—	SK3244	1.44	THO	807	SK3564	1.76	THO	806
SB80C188EC-20	21.08	ITL	715	SK2716	13.75	THO	—	SK3245	1.11	THO	807	SK3565	7.14	THO	806
SB80C51SLAH	14.55	ITL	717	SK2A4	0.66	THO	—	SK3246A	1.83	THO	807	SK3567A	3.36	THO	806
SB80C51SLAL	16.86	ITL	717	SK2A7	0.66	THO	—	SK3247	1.10	THO	807	SK3568	5.04	THO	806
SB80L186	19.10	AMD	669	SK2V7	0.97	THO	807	SK3248	2.55	THO	807	SK3569	2.54	THO	806
SB80L186-12	20.00	AMD	669	SK3003A	6.38	THO	807	SK3249	2.30	THO	806	SK3570	2.10	THO	808
SB80L186-16	20.90	AMD	669	SK3004	2.04	THO	807	SK3250	2.90	THO	807	SK3571	4.20	THO	808
SB80L186EA-13	15.37	ITL	716	SK3006	2.94	THO	807	SK3253	3.36	THO	807	SK3574	4.50	THO	808
SB80L186EB-13	18.77	ITL	716	SK3008	2.25	THO	807	SK3255	3.20	THO	806	SK3575	6.15	THO	808
SB80L186EB-16	20.26	ITL	716	SK3009	8.30	THO	807	SK3259	2.65	THO	807	SK3576	9.25	THO	808
SB80L188	17.40	AMD	669	SK3012	16.58	THO	807	SK3261	2.68	THO	807	SK3577	3.26	THO	808
SB80L188-12	18.15	AMD	669	SK3017B	1.62	THO	808	SK3265	1.88	THO	807	SK3578	3.75	THO	808
SB80L188-16	19.00	AMD	669	SK3018	2.36	THO	807	SK3274	3.05	THO	807	SK3580	8.25	THO	808
SB80L188EB-13	18.36	ITL	716	SK3020	1.91	THO	807	SK3275	1.17	THO	807	SK3581	8.65	THO	808
SB80L188EB-16	19.58	ITL	716	SK3021	3.62	THO	807	SK3279	5.27	THO	806	SK3582	11.50	THO	808
SB80L188EC-13	19.58	ITL	716	SK3022	6.37	THO	806	SK3281	4.81	THO	806	SK3583	2.47	THO	808
SB87C51SLAL	31.62	ITL	717	SK3026	3.10	THO	807	SK3282	11.60	THO	806	SK3584	5.27	THO	806
SC141D	0.84	MOT	—	SK3027	4.10	THO	807	SK3283	4.61	THO	806	SK3585	6.73	THO	808
SC311-4	0.46	COL	685	SK3028	5.90	THO	807	SK3284	13.19	THO					

Manufacturer's Code Log

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SK3603	3.54	THO	808	SK3745	6.20	THO	807	SK4023B	0.77	THO	—	SK745	0.66	THO	—	SK9000	1.26	THO	808	SK9010	2.73	THO	808	SK9067	12.45	THO	—	SK9093	4.10	THO	—
SK3604	3.10	THO	808	SK3746	1.90	THO	—	SK4025B	0.77	THO	—	SK7V5	0.97	THO	—	SK9003	0.54	THO	—	SK9012	5.23	THO	—	SK9075	2.10	THO	—	SK9094	5.02	THO	—
SK3605	6.02	THO	808	SK3747	2.54	THO	807	SK4027B	2.00	THO	—	SK847	1.26	THO	—	SK9004	0.80	THO	—	SK9016	10.47	THO	—	SK9085	7.93	THO	808	SK9101	8.70	THO	—
SK3606	4.12	THO	808	SK3762	3.83	THO	807	SK4030B	1.47	THO	—	SK859	1.20	THO	—	SK9005	1.30	THO	—	SK9039	18.10	THO	—	SK9088	8.40	THO	—	SK9103	10.85	THO	—
SK3607	4.32	THO	808	SK3763	5.07	THO	807	SK4040B	3.95	THO	—	SK869	1.32	THO	—	SK9007	1.30	THO	808	SK9041	2.06	THO	808	SK9089	4.10	THO	808	SK9105	12.50	THO	—
SK3608	5.55	THO	808	SK3764	20.20	THO	807	SK4049B	1.49	THO	—	SK876	1.32	THO	—	SK9011	3.15	THO	—	SK9042	1.89	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3609	4.98	THO	808	SK3828	3.57	THO	807	SK4050B	1.87	THO	—	SK882	0.66	THO	—	SK9012	2.99	THO	—	SK9067	12.45	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3610	4.32	THO	808	SK3829	6.90	THO	807	SK4051B	4.10	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3615	6.25	THO	808	SK3831	2.21	THO	—	SK4053B	2.73	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3617	3.75	THO	806	SK3832	5.38	THO	807	SK4066B	1.70	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3619	23.10	THO	807	SK3833	10.63	THO	—	SK4069B	0.87	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3620	5.75	THO	807	SK3835	1.92	THO	807	SK4071B	0.96	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3621	12.70	THO	807	SK3836	9.97	THO	807	SK4081B	0.77	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3625	5.25	THO	807	SK3839	4.32	THO	807	SK4098B	2.93	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3626	4.65	THO	807	SK3840	8.54	THO	807	SK4510B	2.84	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3627	1.39	THO	808	SK3841	1.81	THO	807	SK4538B	1.43	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3628	3.37	THO	—	SK3842	1.37	THO	807	SK4826	3.83	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3629	5.99	THO	—	SK3845	4.16	THO	807	SK4908	7.00	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3630	3.92	THO	808	SK3846	9.85	THO	807	SK4909	5.50	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3631	3.74	THO	808	SK3848	1.62	THO	808	SK4930	6.95	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3633	7.30	THO	808	SK3849	1.82	THO	807	SK4A7	0.66	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3634	11.39	THO	808	SK3853	10.45	THO	807	SK5010A	1.62	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3638	1.24	THO	808	SK3854	1.29	THO	807	SK5014	2.52	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3639	1.57	THO	808	SK3858	8.40	THO	807	SK5028	2.47	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3640	3.03	THO	808	SK3859	8.50	THO	807	SK5030	3.64	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3641	2.25	THO	806	SK3860	1.38	THO	807	SK5101	8.35	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3642	15.60	THO	807	SK3861	5.16	THO	807	SK5188	2.13	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3643	2.30	THO	806	SK3862	4.87	THO	807	SK5189	2.25	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3645	8.45	THO	806	SK3865A	5.45	THO	807	SK5237	3.13	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3647	2.61	THO	808	SK3866A	3.05	THO	807	SK551	9.13	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3648	2.54	THO	808	SK3867A	3.57	THO	807	SK5538	2.99	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3649	4.95	THO	808	SK3870	10.71	THO	—	SK5545	4.12	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3650	12.00	THO	808	SK3876	4.50	THO	807	SK5551	5.50	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3651	16.79	THO	808	SK3878	5.80	THO	807	SK5552	6.90	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3652	8.90	THO	808	SK3879	6.21	THO	807	SK5555	1.43	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3654	9.38	THO	808	SK3882	4.15	THO	—	SK5556	2.03	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3655	13.09	THO	808	SK3885	15.73	THO	807	SK5579	15.32	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3656	12.95	THO	808	SK3892	3.36	THO	807	SK5A6	0.62	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3657	15.85	THO	808	SK3893	2.51	THO	—	SK5V1	0.97	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3658	3.99	THO	808	SK3894	6.20	THO	807	SK5V6	0.97	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3659	4.90	THO	808	SK3895	11.50	THO	807	SK5X1	2.29	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3660	5.65	THO	808	SK3896	2.15	THO	808	SK554	48.60	THO	—	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—
SK3661	14.32	THO	808	SK3897	2.81	THO	808	SK6629	10.40	THO	808	SK882	0.66	THO	—	SK9016	10.47	THO	—	SK9075	2.10	THO	—	SK9091	1.20	THO	808	SK9111	18.99	THO	—

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SK9378	1.66	THO	—	SMBJ15CA	1.31	GIS	692	SMCJ22A	1.54	GIS	692	SN7414D	0.72	TIS	796
SK9379	11.05	THO	—	SMBJ160A	1.42	GIS	692	SMCJ22CA	2.09	GIS	692	SN7414N	0.70	TIS	796
SK9381	14.45	THO	—	SMBJ160CA	1.26	GIS	692	SMCJ24A	1.54	GIS	692	SN74150N	2.35	TIS	796
SK9384	5.38	THO	—	SMBJ16A	1.22	GIS	692	SMCJ24CA	2.09	GIS	692	SN74154N	2.12	TIS	796
SK9391	4.02	THO	—	SMBJ170A	1.42	GIS	692	SMCJ26A	1.70	GIS	692	SN74156N	1.13	TIS	796
SK9403	5.74	THO	—	SMBJ170CA	1.26	GIS	692	SMCJ26CA	2.09	GIS	692	SN74157N	1.42	TIS	796
SK9411	7.54	THO	—	SMBJ17A	1.22	GIS	692	SMCJ28A	1.54	GIS	692	SN74159N	2.75	TIS	796
SK9415	4.60	THO	—	SMBJ17CA	1.18	GIS	692	SMCJ28CA	2.09	GIS	692	SN74161N	1.77	TIS	—
SK9422	6.60	THO	808	SMBJ18A	1.10	GIS	692	SMCJ30A	1.54	GIS	692	SN74164N	1.90	TIS	796
SK9435	3.10	THO	—	SMBJ18CA	1.18	GIS	692	SMCJ30CA	2.09	GIS	692	SN7416D	0.72	TIS	796
SK9436	1.74	THO	—	SMBJ20A	1.10	GIS	692	SMCJ33CA	2.31	GIS	692	SN7416N	0.70	TIS	796
SK9438	4.55	THO	—	SMBJ20CA	1.18	GIS	692	SMCJ36A	1.54	GIS	692	SN74175N	1.12	TIS	796
SK9439	5.80	THO	—	SMBJ22A	1.10	GIS	692	SMCJ36CA	2.09	GIS	692	SN7417D	0.67	TIS	796
SK9440	8.38	THO	—	SMBJ22CA	1.26	GIS	692	SMCJ40A	1.54	GIS	692	SN7417N	0.65	TIS	796
SK9441	7.65	THO	—	SMBJ24A	1.10	GIS	692	SMCJ40CA	2.09	GIS	692	SN74180N	2.61	TIS	—
SK9442	3.31	THO	—	SMBJ24CA	1.26	GIS	692	SMCJ43A	1.54	GIS	692	SN74193N	2.10	TIS	—
SK9443	1.16	THO	—	SMBJ26A	1.10	GIS	692	SMCJ43CA	2.09	GIS	692	SN74221N	2.61	TIS	—
SK9446	7.75	THO	—	SMBJ26CA	1.26	GIS	692	SMCJ45A	1.54	GIS	692	SN74251N	3.15	TIS	—
SK9447	11.75	THO	—	SMBJ28A	1.10	GIS	692	SMCJ45CA	2.09	GIS	692	SN74259N	4.77	TIS	—
SK9452	4.04	THO	—	SMBJ28CA	1.26	GIS	692	SMCJ48A	1.54	GIS	692	SN7425N	1.17	TIS	—
SK9453	0.79	THO	—	SMBJ30A	1.22	GIS	692	SMCJ48CA	2.09	GIS	692	SN74265N	1.49	TIS	—
SK9455A	1.06	THO	—	SMBJ30CA	1.39	GIS	692	SMCJ5.0A	1.58	GIS	692	SN74273N	3.25	TIS	—
SK9461	2.16	THO	—	SMBJ33A	1.10	GIS	692	SMCJ5.0CA	1.73	GIS	692	SN74279N	2.00	TIS	796
SK9468	1.54	THO	—	SMBJ33CA	1.39	GIS	692	SMCJ51A	2.31	GIS	692	SN7430N	1.39	TIS	796
SK9470	1.35	THO	—	SMBJ36A	1.10	GIS	—	SMCJ51CA	2.09	GIS	692	SN7432N	0.85	TIS	796
SK9476	7.10	THO	—	SMBJ36CA	1.26	GIS	692	SMCJ54A	1.54	GIS	692	SN74367AN	1.37	TIS	—
SK948	1.20	THO	—	SMBJ40A	1.10	GIS	692	SMCJ54CA	2.09	GIS	692	SN74368AN	1.51	TIS	—
SK9487	6.10	THO	—	SMBJ40CA	1.26	GIS	692	SMCJ58A	1.54	GIS	692	SN74376N	3.42	TIS	—
SK9489	6.49	THO	—	SMBJ43A	1.10	GIS	692	SMCJ58CA	2.09	GIS	692	SN7437N	0.90	TIS	796
SK9503	3.47	THO	—	SMBJ43CA	1.26	GIS	692	SMCJ6.0A	1.58	GIS	692	SN7438D	0.67	TIS	796
SK9509	10.20	THO	—	SMBJ45A	1.10	GIS	692	SMCJ6.0CA	1.73	GIS	692	SN7438N	0.55	TIS	796
SK952	1.32	THO	—	SMBJ45CA	1.26	GIS	692	SMCJ6.5A	1.74	GIS	692	SN74393N	4.07	TIS	—
SK9667	2.10	THO	—	SMBJ48A	1.10	GIS	692	SMCJ6.5CA	1.73	GIS	692	SN7445N	1.35	TIS	796
SK9708	2.86	THO	—	SMBJ48CA	1.26	GIS	692	SMCJ60A	1.54	GIS	692	SN7447AN	1.09	TIS	796
SK9A1	0.66	THO	—	SMBJ5.0A	1.22	GIS	692	SMCJ60CA	2.09	GIS	692	SN7474N	0.65	TIS	796
SK9V1	0.97	THO	—	SMBJ5.0CA	1.18	GIS	692	SMCJ64A	1.54	GIS	692	SN7486N	1.44	TIS	796
SKF426	36.90	THO	—	SMBJ51A	1.10	GIS	692	SMCJ64CA	2.09	GIS	692	SN7490AN	3.50	TIS	796
SKMV150K	3.05	THO	—	SMBJ51CA	1.26	GIS	692	SMCJ7.0A	1.58	GIS	692	SN7497N	3.45	TIS	—
SKMV250J	2.70	THO	—	SMBJ54A	1.10	GIS	692	SMCJ7.0CA	1.73	GIS	692	SN74ACT16646DL	8.25	TIS	796
SMAJ100A	0.75	GIS	692	SMBJ54CA	1.26	GIS	692	SMCJ7.5A	1.58	GIS	692	SN74ALS00AD SMALL OUTL	0.42	TIS	796
SMAJ110A	0.75	GIS	692	SMBJ58A	1.10	GIS	692	SMCJ7.5CA	1.73	GIS	692	SN74ALS00AN	0.40	TIS	796
SMAJ120A	0.75	GIS	692	SMBJ58CA	1.26	GIS	692	SMCJ70A	1.54	GIS	692	SN74ALS02AD	0.42	TIS	796
SMAJ130A	0.75	GIS	692	SMBJ6.0A	1.22	GIS	692	SMCJ70CA	2.09	GIS	692	SN74ALS04BD	0.42	TIS	796
SMAJ13A	0.63	GIS	692	SMBJ6.0CA	1.18	GIS	692	SMCJ75A	1.54	GIS	692	SN74ALS04BN	0.42	TIS	796
SMAJ14A	0.63	GIS	692	SMBJ6.5A	1.22	GIS	692	SMCJ75CA	2.09	GIS	692	SN74ALS05AD	0.60	TIS	796
SMAJ150A	0.75	GIS	692	SMBJ6.5CA	1.31	GIS	692	SMCJ78A	1.54	GIS	692	SN74ALS05AN	0.55	TIS	796
SMAJ15A	0.63	GIS	692	SMBJ6A	1.10	GIS	692	SMCJ78CA	2.09	GIS	692	SN74ALS08AD	0.42	TIS	—
SMAJ160A	0.75	GIS	692	SMBJ60CA	1.26	GIS	692	SMCJ8.0A	1.58	GIS	692	SN74ALS08N	0.42	TIS	796
SMAJ16A	0.63	GIS	692	SMBJ64A	1.10	GIS	692	SMCJ8.0CA	1.73	GIS	692	SN74ALS1005D	0.90	TIS	796
SMAJ170A	0.75	GIS	692	SMBJ64CA	1.26	GIS	692	SMCJ8.5A	1.58	GIS	692	SN74ALS1005N	0.66	TIS	796
SMAJ17A	0.63	GIS	692	SMBJ7.0A	1.10	GIS	692	SMCJ8.5CA	1.92	GIS	692	SN74ALS1034N	1.39	TIS	796
SMAJ18A	0.63	GIS	692	SMBJ7.0CA	1.18	GIS	692	SMCJ85A	1.54	GIS	692	SN74ALS1035D	0.90	TIS	796
SMAJ20A	0.63	GIS	692	SMBJ7.5A	1.10	GIS	692	SMCJ85CA	2.09	GIS	692	SN74ALS1035N	0.66	TIS	796
SMAJ22A	0.63	GIS	692	SMBJ7.5CA	1.18	GIS	692	SMCJ9.0A	1.58	GIS	692	SN74ALS109AD	0.67	TIS	796
SMAJ24A	0.63	GIS	692	SMBJ70A	1.10	GIS	692	SMCJ9.0CA	1.73	GIS	692	SN74ALS109AN	0.60	TIS	796
SMAJ26A	0.63	GIS	692	SMBJ70CA	1.26	GIS	692	SMCJ90A	1.38	GIS	692	SN74ALS10AD	0.42	TIS	796
SMAJ28A	0.63	GIS	692	SMBJ75A	1.10	GIS	692	SMCJ90CA	2.09	GIS	692	SN74ALS10AN	0.40	TIS	796
SMAJ30A	0.63	GIS	692	SMBJ75CA	1.26	GIS	692	SMJA10A	0.63	GIS	—	SN74ALS112AN	0.62	TIS	—
SMAJ32A	0.63	GIS	692	SMBJ78A	1.10	GIS	692	SMPD4EP	9.38	ADI	677	SN74ALS11AN	0.53	TIS	796
SMAJ36A	0.63	GIS	692	SMBJ78CA	1.26	GIS	692	SMPD4ES	5.93	ADI	677	SN74ALS1244AN	2.23	TIS	—
SMAJ40A	0.63	GIS	692	SMBJ8.0A	1.10	GIS	692	SMPD8EP	9.38	ADI	677	SN74ALS1245AN	2.49	TIS	—
SMAJ43A	0.63	GIS	692	SMBJ8.0CA	1.18	GIS	692	SMPD8FS	9.38	ADI	677	SN74ALS133N	1.83	TIS	—
SMAJ45A	0.63	GIS	692	SMBJ8.5A	1.10	GIS	692	SMP10EY	30.19	ADI	—	SN74ALS139D	0.97	TIS	796
SMAJ48A	0.63	GIS	692	SMBJ8.5CA	1.18	GIS	692	SMP11EY	26.25	ADI	—	SN74ALS139N	0.95	TIS	796
SMAJ5.0A	0.67	GIS	692	SMBJ85A	1.10	GIS	692	SMP18FP	10.43	ADI	677	SN74ALS151D	0.97	TIS	796
SMAJ51A	0.63	GIS	692	SMBJ85CA	1.39	GIS	692	SMP18FS	10.43	ADI	677	SN74ALS151N	0.95	TIS	796
SMAJ54A	0.63	GIS	692	SMBJ9.0A	1.10	GIS	692	SN64BCT240N	3.50	TIS	—	SN74ALS153D	0.97	TIS	796
SMAJ58A	0.63	GIS	692	SMBJ9.0CA	1.31	GIS	692	SN64BCT241N	3.00	TIS	—	SN74ALS153N	0.95	TIS	796
SMAJ6.0A	0.67	GIS	692	SMBJ90A	1.42	GIS	692	SN64BCT244N	3.00	TIS	—	SN74ALS157AD	0.97	TIS	796
SMAJ6.5A	0.67	GIS	692	SMBJ90CA	1.26	GIS	692	SN64BCT245N	3.12	TIS	—	SN74ALS157AN	0.95	TIS	796
SMAJ6A	0.63	GIS	692	SMCJ100A	1.38	GIS	692	SN64BCT25245NT	6.87	TIS	—	SN74ALS161BD	0.92	TIS	796
SMAJ64A	0.63	GIS	692	SMCJ100CA	2.09	GIS	692	SN64BCT306P	1.58	TIS	—	SN74ALS161BN	0.92	TIS	796
SMAJ7.0A	0.67	GIS	692	SMCJ10A	1.54	GIS	692	SN65176BD	3.50	TIS	802	SN74ALS163BD	0.92	TIS	796
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SMAJ70A	0.63	GIS	692	SMCJ110A	1.38	GIS	692	SN65518N	7.37	TIS	—	SN74ALS1645ADW	3.57	TIS	796
SMAJ75A	0.63	GIS	692	SMCJ110CA	2.09	GIS	692	SN65ALS176P	3.62	TIS	802	SN74ALS1645AN	3.57	TIS	796
SMAJ78A	0.63	GIS	692	SMCJ11A	1.54	GIS	692	SN65ALS180D	2.87	TIS	802	SN74ALS165N	3.28	TIS	796
SMAJ8.0A	0.67	GIS	692	SMCJ11CA	1.73	GIS	692	SN65C188D	2.50	TIS	802	SN74ALS166N	3.12	TIS	—
SMAJ8.5A	0.67	GIS	692	SMCJ120A	1.53	GIS	692	SN65C188N	2.50	TIS	802	SN74ALS169BN	0.92	TIS	—
SMAJ85A	0.63	GIS	692	SMCJ120CA	2.09	GIS	692	SN72257N	0.74	TIS	—	SN74ALS174D	0.80	TIS	796
SMAJ9.0A	0.67	GIS	692	SMCJ12A	1.54	GIS	692	SN72258N	0.76	TIS	—	SN74ALS174N	0.79	TIS	796
SMAJ90A	0.63	GIS	692	SMCJ12CA	1.73	GIS	692	SN72286N	0.95	TIS	—	SN74ALS175D	0.80	TIS	796
SMBJ100A	1.57	GIS	692	SMCJ130CA	2.09	GIS	692	SN72457N	1.05	TIS	—	SN74ALS175N	0.79	TIS	796
SMBJ100CA	1.39	GIS	692	SMCJ13A	1.54	GIS	692	SN72462N	1.26	TIS	—	SN74ALS240A-1N	1.84	TIS	—
SMBJ10A	1.22	GIS	692	SMCJ13CA	1.73	GIS	692	SN72580N	0.61	TIS	—	SN74ALS240ADW	1.05	TIS	796
SMBJ10CA	1.31	GIS	692	SMCJ14A	1.54	GIS	692	SN7400D	0.62	TIS	796	SN74ALS240AN	1.10	TIS	796
SMBJ110CA	1.39	GIS	692	SMCJ14CA	1.73	GIS	692	SN7400N	0.60	TIS	796	SN74ALS241BDW	1.05	TIS	

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ADI AMD COL DLS GIS HAR	Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor	IDT ITL LAT MIC MXM MOS	Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitellic	MOT NSC NTE PHI SEM SIE	Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc.	TIS THO UNI XLX	Texas Instruments Thomson Consumer Electronics Uniflore Integrated Circuits Xilinx
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SN74ALS2982ZDW	5.12	TIS	796	SN74AS1000AD	1.20	TIS	796	SN74BCT2240DW	2.75	TIS	796	SN74F32D	0.42	TIS	797
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SN74ALS520DW	3.62	TIS	796	SN74AS138N	1.27	TIS	796	SN74BCT25245NT	4.00	TIS	796	SN74F573DW	1.45	TIS	797
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SN74LS224AN	15.00	TIS	797
SN74LS240DW	0.75	TIS	797
SN74LS240DW	0.60	MOT	737
SN74LS240N	0.70	TIS	797
SN74LS240N	0.56	MOT	737
SN74LS241DW	0.75	TIS	797
SN74LS241N	0.74	TIS	797
SN74LS241N	0.56	MOT	737
SN74LS242N	0.60	MOT	737
SN74LS243D	0.64	MOT	737
SN74LS243N	0.60	MOT	737
SN74LS244DW	0.75	TIS	797
SN74LS244DW	0.60	MOT	737
SN74LS244N	0.70	TIS	797
SN74LS244N	0.56	MOT	737
SN74LS244N	3.87	NTE	782
SN74LS245DW	0.77	TIS	797
SN74LS245DW	0.62	MOT	737
SN74LS245N	0.70	TIS	797
SN74LS245N	0.58	MOT	737
SN74LS247D	0.71	MOT	737
SN74LS247N	0.95	TIS	—
SN74LS247N	0.71	MOT	737
SN74LS251D	0.57	TIS	797
SN74LS251N	0.50	TIS	797
SN74LS251N	0.38	MOT	737
SN74LS253D	0.57	TIS	797
SN74LS253N	0.50	TIS	797
SN74LS253N	0.38	MOT	737
SN74LS256N	0.93	MOT	737
SN74LS257BD	0.57	TIS	797
SN74LS257BD	0.41	MOT	737
SN74LS257BN	0.50	TIS	797
SN74LS257BN	0.38	MOT	737
SN74LS258BD	0.41	MOT	737
SN74LS258BN	0.38	MOT	737
SN74LS259BD	0.87	TIS	797
SN74LS259BN	0.77	TIS	797
SN74LS259D	0.62	MOT	737
SN74LS259N	0.58	MOT	737
SN74LS260N	0.34	MOT	737
SN74LS266N	0.50	TIS	—
SN74LS266N	0.36	MOT	737
SN74LS266N	0.53	TIS	—
SN74LS266N	0.28	MOT	737
SN74LS273DW	0.85	TIS	797
SN74LS273DW	0.62	MOT	737
SN74LS273N	0.67	TIS	797
SN74LS279AN	0.62	TIS	—
SN74LS279N	0.38	MOT	737
SN74LS27N	0.50	TIS	—
SN74LS27N	0.28	MOT	737
SN74LS280D	0.95	TIS	797
SN74LS280N	0.85	TIS	797
SN74LS280N	0.60	MOT	737
SN74LS283D	0.80	TIS	797
SN74LS283N	0.70	TIS	797
SN74LS283N	0.52	MOT	737
SN74LS290N	0.58	MOT	737
SN74LS292N	17.50	TIS	797
SN74LS293N	0.80	MOT	737
SN74LS298N	0.87	TIS	—
SN74LS298N	0.65	MOT	737
SN74LS299DW	1.87	TIS	797
SN74LS299DW	1.28	MOT	737
SN74LS299N	1.72	TIS	797
SN74LS299N	1.28	MOT	737
SN74LS300D	0.37	TIS	797
SN74LS300D	0.32	MOT	737
SN74LS300N	0.32	TIS	797
SN74LS30N	0.28	MOT	737
SN74LS31N	1.24	TIS	—
SN74LS322AN	2.23	MOT	737
SN74LS323N	3.15	TIS	—
SN74LS32D	0.37	TIS	797
SN74LS32D	0.32	MOT	737
SN74LS32N	0.37	TIS	797
SN74LS32N	0.28	MOT	737
SN74LS33D	0.32	MOT	738
SN74LS33N	0.28	MOT	738
SN74LS348N	2.92	TIS	—
SN74LS348N	0.95	MOT	738
SN74LS366AD	1.05	TIS	797
SN74LS366AD	0.47	MOT	738
SN74LS366AN	0.43	MOT	738
SN74LS366AN	0.60	TIS	—
SN74LS366AN	0.43	MOT	738
SN74LS367AD	0.67	TIS	797

Manufacturer's Code Log

ADI
AMD
COL
DLS
GHS
HARAnalog Devices Inc.
Advanced Micro Devices
Collmer Semiconductors, Inc.
Dallas Semiconductor
General Instrument
Harris SemiconductorIDT
ITL
LAT
MIC
MXM
MOSIntegrated Device Technology, Inc.
Intel
Lattice
Micron
Maxim
Mosel-VitelcoMOT
NSC
NTE
PHI
SEM
SIEMotorola Semiconductor
National Semiconductor
NTE Electronics
Philips Semiconductors
Semiconductors Inc.
Siemens Components, Inc.TIS
THO
UNI
XLXTexas Instruments
Thomson Consumer Electronics
Unifrode Integrated Circuits
Xilinx

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SN74LS688DW	2.32	TIS	797	SN74S37N	0.90	TIS	—	SN75452BP	0.87	TIS	802	T61-C350	3.52	SIE	792
SN74LS688DW	1.62	MOT	738	SN74S381N	7.50	TIS	—	SN75453BP	0.87	TIS	802	T80C31BH	4.25	ITL	—
SN74LS688N	1.87	TIS	797	SN74S38D	0.90	TIS	798	SN75454BD	0.95	TIS	802	TA80C186XL-12	43.70	ITL	715
SN74LS688N	1.62	MOT	738	SN74S38N	0.85	TIS	798	SN75454BP	0.95	TIS	802	TA80C188XL-20	47.30	ITL	715
SN74LS697N	3.75	TIS	—	SN74S51N	0.60	TIS	—	SN75462P	1.12	TIS	802	TA80C188XL-12	42.50	ITL	715
SN74LS73AN	1.17	TIS	—	SN74S64N	0.84	TIS	—	SN75468D	1.62	TIS	803	TCA0372DP1	1.15	MOT	744
SN74LS73AN	0.39	MOT	738	SN74S74D	0.72	TIS	798	SN75468N	1.62	TIS	803	TCM1030P	2.10	TIS	—
SN74LS74AD	0.40	TIS	797	SN74S74N	0.67	TIS	798	SN75469N	1.80	TIS	—	TCM1060P	2.37	TIS	—
SN74LS74AD	0.36	MOT	738	SN74S85D	1.67	TIS	798	SN75471D	1.07	TIS	802	TCM129C13ADW	5.17	TIS	—
SN74LS74AN	0.35	TIS	797	SN74S85N	1.62	TIS	798	SN75471P	1.07	TIS	802	TCM129C13DW	5.17	TIS	—
SN74LS74AN	0.32	MOT	738	SN74S86N	0.67	TIS	—	SN75472P	1.62	TIS	802	TCM1501BP	1.18	TIS	801
SN74LS75N	1.15	TIS	—	SN75107AD	1.20	TIS	802	SN75477D	0.92	TIS	802	TCM1520AP	1.22	TIS	801
SN74LS75N	0.39	MOT	738	SN75107AN	1.20	TIS	802	SN75477P	0.75	TIS	802	TCM1536P	1.24	TIS	—
SN74LS76AN	0.38	MOT	738	SN75107BD	1.20	TIS	802	SN75512CN	4.12	TIS	802	TCM29C13AN	4.42	TIS	—
SN74LS795N	0.93	MOT	738	SN75107BN	1.20	TIS	802	SN75513BN	4.50	TIS	802	TCM29C13N	4.17	TIS	—
SN74LS85D	0.67	TIS	797	SN75108AN	1.26	TIS	—	SN75518FN	8.67	TIS	802	TCM29C14ADW	5.32	TIS	801
SN74LS85D	0.47	MOT	738	SN75108BD	1.20	TIS	802	SN75518N	6.40	TIS	802	TCM29C16AN	4.25	TIS	801
SN74LS85N	0.57	TIS	797	SN75108BN	1.20	TIS	802	SN75ALS056DW	11.25	TIS	802	TCM29C16DW	4.17	TIS	801
SN74LS85N	0.43	MOT	738	SN75110AN	1.20	TIS	802	SN75ALS056N	11.25	TIS	802	TCM29C16N	4.00	TIS	801
SN74LS86AD	0.57	TIS	797	SN75112D	3.12	TIS	802	SN75ALS085NT	12.50	TIS	802	TCM29C18N	4.05	TIS	—
SN74LS86AN	0.35	TIS	797	SN75112N	3.12	TIS	802	SN75ALS160DW	6.75	TIS	802	TCM3105DW	8.75	TIS	801
SN74LS86D	0.38	MOT	738	SN75113D	3.12	TIS	802	SN75ALS160N	6.75	TIS	802	TCM3105N	8.50	TIS	801
SN74LS86N	0.38	MOT	738	SN75113N	3.12	TIS	802	SN75ALS170DW	6.75	TIS	802	TB80C31BH	6.40	ITL	716
SN74LS90N	1.32	TIS	—	SN75114D	2.50	TIS	802	SN75ALS170J	6.75	TIS	802	TB80C51FA	8.84	ITL	716
SN74LS90N	0.47	MOT	738	SN75114N	2.50	TIS	802	SN75ALS171DW	8.00	TIS	802	TB80C51FA-1	8.84	ITL	716
SN74LS92N	0.47	MOT	738	SN75115N	2.50	TIS	802	SN75ALS171J	8.00	TIS	802	TB87C51	23.40	ITL	716
SN74LS93D	1.32	TIS	—	SN75116N	4.37	TIS	802	SN75ALS173N	4.30	TIS	—	TB87C51FA	29.38	ITL	716
SN74LS93N	1.32	TIS	—	SN75117P	4.37	TIS	802	SN75ALS175N	4.30	TIS	802	TB87C51FA-1	30.33	ITL	716
SN74LS93N	0.43	MOT	738	SN75118N	4.37	TIS	802	SN75ALS176AD	3.62	TIS	802	TB87C51FB	36.04	ITL	717
SN74LS958N	0.52	MOT	738	SN75119P	4.37	TIS	802	SN75ALS176AP	3.80	TIS	802	TB87C51FC	42.57	ITL	717
SN74S00D	0.60	TIS	797	SN75121N	2.63	TIS	—	SN75ALS176BD	4.75	TIS	802	TB87C51FC-1	43.52	ITL	717
SN74S00N	0.57	TIS	797	SN75123N	2.50	TIS	—	SN75ALS176BP	4.75	TIS	802	TB87C54	31.80	ITL	716
SN74S02N	0.57	TIS	797	SN75124N	2.63	TIS	—	SN75ALS176D	2.87	TIS	802	TD41541AN	14.62	PHI	789
SN74S04D	0.60	TIS	797	SN75126N	5.50	TIS	802	SN75ALS176P	3.01	TIS	802	TD48702N	3.46	PHI	789
SN74S04N	0.57	TIS	797	SN75128N	3.75	TIS	802	SN75ALS180D	2.87	TIS	802	TD48702TD	3.46	PHI	789
SN74S05D	0.60	TIS	797	SN75129DW	3.75	TIS	802	SN75ALS180N	3.01	TIS	802	TD48703N	11.85	PHI	788
SN74S05N	0.60	TIS	797	SN75129N	3.75	TIS	802	SN75ALS192D	2.12	TIS	802	TD48703TD	11.85	PHI	788
SN74S08N	0.67	TIS	—	SN75130D	5.50	TIS	802	SN75ALS192N	2.34	TIS	802	TD48708AN	12.82	PHI	788
SN74S1050D	1.87	TIS	797	SN75130N	5.50	TIS	802	SN75ALS193N	2.00	TIS	802	TD48708ATD	12.82	PHI	788
SN74S1050N	1.97	TIS	797	SN75138N	2.89	TIS	802	SN75ALS194N	2.34	TIS	802	TD48709AN	12.82	PHI	788
SN74S1051D	1.87	TIS	797	SN75150D	1.00	TIS	802	SN75ALS195N	2.00	TIS	802	TD48709ATD	12.82	PHI	788
SN74S1051N	1.97	TIS	797	SN75150P	1.00	TIS	802	SN75ALS197D	2.00	TIS	802	TIBPAL16L8-10CFN	2.50	TIS	798
SN74S1053DW	1.87	TIS	797	SN75154D	1.25	TIS	802	SN75C1154N	3.03	TIS	—	TIBPAL16L8-10CN	2.50	TIS	798
SN74S1053N	1.97	TIS	797	SN75154N	1.25	TIS	802	SN75C1406N	2.34	TIS	—	TIBPAL16L8-15CFN	1.32	TIS	798
SN74S1056D	2.62	TIS	797	SN75155D	1.25	TIS	802	SN75C185DW	3.12	TIS	802	TIBPAL16L8-15CN	1.32	TIS	798
SN74S1056SC	3.12	TIS	797	SN75155P	1.39	TIS	802	SN75C185N	3.28	TIS	802	TIBPAL16L8-25CFN	1.20	TIS	798
SN74S101N	0.57	TIS	—	SN75157P	2.00	TIS	802	SN75C186D	1.50	TIS	802	TIBPAL16L8-25CN	1.20	TIS	798
SN74S112AD	0.72	TIS	797	SN75158D	5.00	TIS	802	SN75C186N	1.66	TIS	802	TIBPAL16L8-5CFN	11.87	TIS	798
SN74S112AN	0.76	TIS	797	SN75158P	5.00	TIS	802	SN75C189AD	1.50	TIS	802	TIBPAL16L8-5CN	11.87	TIS	798
SN74S111N	0.57	TIS	—	SN75159D	5.00	TIS	802	SN75C189AN	1.58	TIS	802	TIBPAL16L8-7CFN	4.37	TIS	798
SN74S112D	4.37	TIS	797	SN75159N	5.00	TIS	802	SN75C189D	1.50	TIS	802	TIBPAL16L8-7CN	4.37	TIS	798
SN74S124N	4.37	TIS	797	SN75160BDW	6.75	TIS	802	SN75C189N	1.58	TIS	802	TIBPAL16R4-10CFN	2.50	TIS	798
SN74S132N	2.65	TIS	—	SN75160BN	5.62	TIS	802	SN75BC176P	2.94	TIS	—	TIBPAL16R4-10CN	2.50	TIS	798
SN74S133N	0.74	TIS	—	SN75161BN	5.62	TIS	802	SP600	6.00	HAR	699	TIBPAL16R4-15CFN	1.32	TIS	798
SN74S138AN	1.17	TIS	797	SN75162BN	5.50	TIS	802	SP601	6.00	HAR	699	TIBPAL16R4-15CN	1.32	TIS	798
SN74S139AN	1.05	TIS	—	SN75163BN	6.62	TIS	—	SP710AS	5.00	HAR	699	TIBPAL16R4-25CFN	1.20	TIS	798
SN74S140N	1.46	TIS	—	SN75164BN	5.50	TIS	—	SP720AP	2.29	HAR	699	TIBPAL16R4-25CN	1.20	TIS	798
SN74S151N	1.17	TIS	—	SN75172N	2.75	TIS	802	SP721AB	1.71	HAR	699	TIBPAL16R4-5CFN	11.87	TIS	798
SN74S153N	1.05	TIS	—	SN751730D	4.37	TIS	802	SP721AP	1.71	HAR	699	TIBPAL16R4-5CN	11.87	TIS	798
SN74S157N	1.17	TIS	—	SN751730N	4.37	TIS	802	SSM2015P	6.38	ADI	—	TIBPAL16R4-7CFN	4.37	TIS	798
SN74S158N	1.05	TIS	—	SN75173D	3.17	TIS	802	SSM2017P	2.84	ADI	680	TIBPAL16R4-7CN	4.37	TIS	798
SN74S163D	3.05	TIS	797	SN75173N	2.50	TIS	802	SSM2018P	4.50	ADI	680	TIBPAL16R6-10CFN	2.50	TIS	798
SN74S163N	3.05	TIS	797	SN75173N	1.45	MOT	740	SSM2024P	4.28	ADI	680	TIBPAL16R6-10CN	2.50	TIS	798
SN74S169N	4.80	TIS	—	SN75174DW	3.75	TIS	802	SSM2110P	5.25	ADI	—	TIBPAL16R6-15CFN	1.32	TIS	798
SN74S174N	1.17	TIS	—	SN75174N	2.75	TIS	802	SSM2120P	6.23	ADI	680	TIBPAL16R6-15CN	1.32	TIS	798
SN74S175D	1.07	TIS	797	SN75175D	3.17	TIS	802	SSM2122P	6.00	ADI	—	TIBPAL16R6-25CFN	1.20	TIS	798
SN74S175N	1.17	TIS	797	SN75175N	2.50	TIS	802	SSM2131P	3.08	ADI	—	TIBPAL16R6-25CN	1.20	TIS	798
SN74S181N	4.75	TIS	—	SN75175N	1.45	MOT	737	SSM2135FS	3.53	ADI	—	TIBPAL16R6-5CFN	11.87	TIS	798
SN74S182N	4.15	TIS	—	SN75176AD	1.37	TIS	802	SSM2135P	3.15	ADI	680	TIBPAL16R6-5CN	11.87	TIS	798
SN74S19															

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TIBPAL20R4-15CFN	2.50	TIS	798	TIP31B	0.54	MOT	753	TL084ACN	0.99	MOT	744	TLC2201AMP	7.12	TIS	—
TIBPAL20R4-15CNT	2.50	TIS	798	TIP31C	0.68	SEM	790	TL084BCN	2.12	TIS	804	TLC2201BCD	7.62	TIS	803
TIBPAL20R4-25CFN	1.75	TIS	798	TIP31C	0.54	MOT	—	TL084CD	1.25	TIS	804	TLC2201BCP	7.62	TIS	803
TIBPAL20R4-25CNT	1.75	TIS	798	TIP32	0.57	SEM	790	TL084CN	1.25	TIS	804	TLC2201BIP	8.32	TIS	—
TIBPAL20R4-5CFN	17.50	TIS	798	TIP32A	0.54	MOT	—	TL084CN	0.91	MOT	744	TLC2201BMP	9.75	TIS	—
TIBPAL20R4-5CNT	17.50	TIS	798	TIP32A	0.63	SEM	790	TL084IN	1.93	TIS	—	TLC2201CP	4.12	TIS	803
TIBPAL20R4-7CFN	7.50	TIS	798	TIP32A	0.54	MOT	753	TL1431CLP	1.66	TIS	—	TLC2201CP	4.12	TIS	803
TIBPAL20R4-7CNT	7.50	TIS	798	TIP32B	0.66	SEM	790	TL16C450FN	5.00	TIS	802	TLC2201IP	4.50	TIS	—
TIBPAL20R6-10CFN	5.00	TIS	798	TIP32B	0.54	MOT	753	TL16C450N	4.37	TIS	802	TLC2202ACD	8.10	TIS	804
TIBPAL20R6-10CNT	5.00	TIS	798	TIP32C	0.68	SEM	790	TL16C451FN	6.25	TIS	802	TLC2202ACP	8.10	TIS	804
TIBPAL20R6-15CFN	2.50	TIS	798	TIP32C	0.54	MOT	—	TL16C452FN	7.50	TIS	802	TLC2202AIP	8.85	TIS	—
TIBPAL20R6-15CNT	2.50	TIS	798	TIP33C	1.30	MOT	753	TL16C550AFN	12.50	TIS	802	TLC2202AMP	10.35	TIS	—
TIBPAL20R6-25CFN	1.75	TIS	—	TIP35B	2.08	MOT	753	TL16C550AN	11.25	TIS	802	TLC2202BCD	11.10	TIS	804
TIBPAL20R6-25CNT	1.75	TIS	798	TIP36A	1.68	MOT	753	TL16C550BFN	4.50	TIS	802	TLC2202BCP	11.10	TIS	804
TIBPAL20R6-5CFN	17.50	TIS	798	TIP41	0.78	SEM	790	TL16C550BN	6.75	TIS	802	TLC2202BIP	12.12	TIS	—
TIBPAL20R6-5CNT	17.50	TIS	798	TIP41A	0.80	SEM	790	TL16C552FN	14.37	TIS	802	TLC2202BMP	14.20	TIS	—
TIBPAL20R6-7CFN	7.50	TIS	798	TIP41A	0.64	MOT	753	TL2217-285N	2.27	TIS	—	TLC2202BCP	6.00	TIS	804
TIBPAL20R6-7CNT	7.50	TIS	798	TIP41B	0.82	SEM	790	TL3170CLP	0.87	TIS	805	TLC2202CP	6.00	TIS	804
TIBPAL20R6-10CFN	5.00	TIS	—	TIP41B	0.64	MOT	753	TL3695D	2.00	TIS	802	TLC2202IP	6.55	TIS	—
TIBPAL20R8-10CNT	5.00	TIS	798	TIP41C	0.84	SEM	790	TL3695P	2.21	TIS	802	TLC2227ACD	2.32	TIS	804
TIBPAL20R8-15CFN	2.50	TIS	798	TIP41C	0.64	MOT	753	TL430CLP	0.80	TIS	805	TLC2227ACP	2.32	TIS	804
TIBPAL20R8-15CNT	2.63	TIS	798	TIP42	0.78	SEM	790	TL431ACD	1.10	TIS	805	TLC2227CD	1.72	TIS	804
TIBPAL20R8-25CFN	1.75	TIS	—	TIP42	0.62	MOT	—	TL431ACD	0.56	MOT	747	TLC2227CP	1.72	TIS	804
TIBPAL20R8-25CNT	1.75	TIS	798	TIP42A	0.80	SEM	790	TL431ACLP	0.79	TIS	805	TLC2227CN	2.75	TIS	—
TIBPAL20R8-5CFN	17.50	TIS	798	TIP42A	0.62	MOT	753	TL431ACLP	0.56	MOT	747	TLC251BCP	2.50	TIS	803
TIBPAL20R8-5CNT	17.50	TIS	798	TIP42B	0.82	SEM	790	TL431ACP	1.10	TIS	805	TLC252ACD	3.25	TIS	804
TIBPAL20R8-7CFN	7.50	TIS	798	TIP42B	0.62	MOT	753	TL431ACP	0.56	MOT	747	TLC252BCD	4.10	TIS	804
TIBPAL20R8-7CNT	7.50	TIS	798	TIP42C	0.84	SEM	790	TL431CD	0.50	MOT	747	TLC252BCP	4.10	TIS	804
TIBPAL22V10-10CFN	10.62	TIS	798	TIP47	0.56	MOT	753	TL431CP	0.75	TIS	805	TLC252CD	2.62	TIS	804
TIBPAL22V10-10CNT	10.62	TIS	798	TIP48	0.66	MOT	753	TL431CLP	0.50	MOT	747	TLC252CP	2.62	TIS	804
TIBPAL22V10-15BCFN	6.87	TIS	798	TIP49	0.74	MOT	753	TL431CP	0.97	TIS	805	TLC254CD	4.27	TIS	804
TIBPAL22V10-15BCNT	6.87	TIS	798	TIP50	0.76	MOT	753	TL431CP	0.50	MOT	747	TLC254CN	4.27	TIS	804
TIBPAL22V10-7CFN	22.00	TIS	—	TIS75	0.51	NSC	—	TL431LP	1.49	TIS	—	TLC2652CP	4.20	TIS	—
TIBPAL22V10-7CNT	22.00	TIS	—	TIS97	0.36	NSC	—	TL4810BDW	3.37	TIS	802	TLC2654CN	3.42	TIS	—
TIBPAL22V10ACFN	4.12	TIS	798	TIS98	0.40	NSC	—	TL4810BN	2.75	TIS	802	TLC2654CP	3.59	TIS	—
TIBPAL22V10ACNT	4.12	TIS	798	TL031CD	0.85	TIS	803	TL494CD	1.00	TIS	805	TLC271ACP	0.87	TIS	—
TIBPAL22V10-20CFN	6.87	TIS	—	TL031CP	0.90	TIS	803	TL494CN	1.10	TIS	805	TLC271AIP	1.10	TIS	—
TIBPAL22V10-20CNT	6.87	TIS	798	TL032ACD	2.75	TIS	804	TL494CN	1.45	MOT	746	TLC271CD	0.70	TIS	803
TIL111	0.44	MOT	749	TL032ACP	2.75	TIS	804	TL497ACD	2.50	TIS	805	TLC271CP	0.70	TIS	803
TIL113	0.46	MOT	749	TL032CD	1.15	TIS	804	TL497ACN	2.61	TIS	805	TLC272ACP	1.68	TIS	—
TIL117	0.90	TIS	—	TL032CP	1.27	TIS	804	TL499ACP	1.75	TIS	805	TLC272CD	2.62	TIS	804
TIL117	0.52	MOT	—	TL034ACN	5.07	TIS	804	TL5812FN	4.47	TIS	802	TLC272CP	1.15	TIS	804
TIL119	0.52	MOT	—	TL034CD	1.75	TIS	804	TL5812N	4.47	TIS	802	TLC272IP	1.68	TIS	—
TIL311	14.32	TIS	—	TL034CN	1.93	TIS	804	TL594CN	1.51	TIS	805	TL274ACD	2.32	TIS	804
TIP100	0.70	MOT	753	TL034IN	2.00	TIS	—	TL594IN	2.89	TIS	—	TL274ACN	2.32	TIS	804
TIP101	0.70	MOT	753	TL051CD	1.10	TIS	803	TL598CN	1.93	TIS	—	TL274BCD	2.92	TIS	804
TIP102	0.70	MOT	753	TL051CP	1.10	TIS	803	TL712CD	1.25	TIS	803	TL274BCN	3.07	TIS	—
TIP105	0.70	MOT	753	TL052ACD	6.47	TIS	804	TL712CP	1.25	TIS	803	TL274CD	1.87	TIS	804
TIP106	0.70	MOT	753	TL052ACP	5.17	TIS	804	TL750L05CD	1.12	TIS	805	TL274CN	2.07	TIS	—
TIP107	0.70	MOT	753	TL052CD	1.72	TIS	804	TL750L05CLP	1.29	TIS	805	TLC277CD	1.87	TIS	804
TIP110	0.74	SEM	790	TL054ACD	8.10	TIS	804	TL750L10CP	1.22	TIS	—	TLC277CP	2.07	TIS	804
TIP110	0.60	MOT	753	TL054ACN	6.97	TIS	804	TL751L08CP	1.57	TIS	—	TLC279CN	3.41	TIS	804
TIP111	0.74	SEM	790	TL061ACD	1.12	TIS	803	TL751M10CKC	2.25	TIS	—	TLC27L2ACP	1.58	TIS	804
TIP111	0.60	MOT	753	TL061BCD	1.50	TIS	803	TL751M12CKC	2.25	TIS	—	TLC27L2AIP	1.76	TIS	—
TIP112	0.74	SEM	790	TL061BCP	1.50	TIS	803	TL7702ACD	1.75	TIS	805	TLC27L2CD	1.15	TIS	804
TIP112	0.60	MOT	753	TL061CD	0.80	TIS	803	TL7702ACP	1.75	TIS	805	TL27L2CP	1.27	TIS	804
TIP115	0.74	SEM	790	TL061CP	0.80	TIS	803	TL7702AIP	2.25	TIS	—	TL27L4ACD	2.32	TIS	804
TIP115	0.47	MOT	753	TL062ACP	1.39	TIS	804	TL7702BCP	1.82	TIS	—	TL27L4ACN	2.56	TIS	804
TIP116	0.74	SEM	790	TL062BCD	1.75	TIS	804	TL7705ACD	1.75	TIS	805	TL27L4CD	1.87	TIS	804
TIP116	0.48	MOT	753	TL062CD	0.87	TIS	804	TL7705ACP	1.93	TIS	805	TL27L4CN	1.87	TIS	804
TIP117	0.74	SEM	790	TL062CP	0.87	TIS	804	TL7705BCD	1.95	TIS	805	TL27L4IN	2.34	TIS	—
TIP117	0.51	MOT	753	TL062CP	0.91	MOT	743	TL7705BCP	1.82	TIS	805	TL27L7CD	2.37	TIS	804
TIP120	0.84	SEM	790	TL062IP	1.25	TIS	—	TL7712ACP	1.93	TIS	—	TL27L7CP	2.49	TIS	804
TIP120	0.60	MOT	753	TL064ACD	1.62	TIS	804	TL7715ACP	1.93	TIS	—	TL27L7IP	2.57	TIS	—
TIP121	0.84	SEM	790	TL064ACN	1.80	TIS	804	TL7757CLP	1.39	TIS	—	TL27L9CD	3.90	TIS	804
TIP121	0.60	MOT	753	TL064BCD	2.00	TIS	804	TL7757CPK	1.39	TIS	805	TLC27M2ACP	1.58	TIS	804
TIP122	0.84	SEM	790	TL064BCN	2.21	TIS	804	TL7759CD	1.25	TIS	805	TLC27M2CD	1.15	TIS	804
TIP122	0.60	MOT	753	TL064CD	1.12	TIS	804	TL7759CP	1.39	TIS	805	TLC27M2CP	1.15	TIS	804
TIP125	0.84	SEM	790	TL064CN	1.12	TIS	804	TL7770-5CDW	3.15	TIS	805	TL27M4ACD	2.32	TIS	804
TIP125	0.66	MOT	753	TL064IN	1.62	TIS	—	TL7770-5CN	2.28	TIS	—	TL27M4ACN	2.32	TIS	—
TIP126	0.84	SEM	790	TL071ACP	1.24	TIS	803	TL780-05CKC	0.82	MOT	745	TL27M4AIN	2.80	TIS	—
TIP126	0.66	MOT	753	TL071CD	0.80	TIS	803	TL780-12CKC	0.82	MOT	745	TL27M4CD	1.87	TIS	804
TIP127	0.84	SEM	790	TL071CP	0.80	TIS	803	TL780-15CKC	0.82	MOT	745	TL27M4CN	2.07	TIS	804
TIP127	0.66	MOT	753	TL072ACD	1.25	TIS	804	TL783CKC	2.71	TIS	805	TL27M4IN	2.44	TIS	—
TIP140	1.76	MOT	753	TL072ACP	1.25	TIS	804	TL851CN	4.50	TIS	—	TL27M7CD	2.37	TIS	804
TIP141	1.80	MOT	753	TL072BCD	1.75	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP142	1.92	MOT	753	TL072BCP	1.75	TIS	804	TL852CN	3.94	TIS	—	TL27M7CD	2.37	TIS	804
TIP145	1.80	MOT	753	TL072CD	0.87	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP146	1.84	MOT	—	TL072CP	0.87	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP147	1.92	MOT	753	TL074ACD	1.75	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP29	0.57	SEM	790	TL074ACN	1.75	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP29	0.54	MOT	—	TL074BCD	2.05	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP2955	1.32	MOT	753	TL074BCN	2.34	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP29A	0.63	SEM	790	TL074CD	1.25	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP29B	0.66	SEM	790	TL074CN	1.25	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP29B	0.66	SEM	790	TL074CN	1.25	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP29B	0.66	SEM	790	TL074CN	1.25	TIS	804	TL852CN	3.94	TIS	—	TL27M7CP	2.37	TIS	804
TIP29B	0.66	SEM	790	TL074CN	1.25	TIS	804	TL852CN							

Manufacturer's Code Log

AMD COL DLS GIS HAR				Analog Devices Inc. Advanced Micro Devices Collmer Semiconductors, Inc. Dallas Semiconductor General Instrument Harris Semiconductor				DTL ITL LAT MIC MXM MOS				Integrated Device Technology, Inc. Intel Lattice Micron Maxim Mosel-Vitellic				MOT NSC NTE PHI SEM SIE				Motorola Semiconductor National Semiconductor NTE Electronics Philips Semiconductors Semiconductors Inc. Siemens Components, Inc				TIS THO UNI XLX				Texas Instruments Thomson Consumer Electronics Unitrode Integrated Circuits Xilinx						
Mr.'s Type				Price	Mr.'s Code	Page	Mr.'s Type				Price	Mr.'s Code	Page	Mr.'s Type				Price	Mr.'s Code	Page	Mr.'s Type				Price	Mr.'s Code	Page	Mr.'s Type				Price	Mr.'s Code	Page
TLC34075-135AFN				26.67	TIS	—	TLE2141IP				1.32	TIS	—	TMS27PC512-20FML				3.27	TIS	799	TMS320C53SPZ57				51.44	TIS	800	TMS320C53SPZ70				61.48	TIS	800
TLC34075-66AFN				20.95	TIS	—	TLE2142ACP				2.60	TIS	—	TMS27PC512-20NL				3.09	TIS	799	TMS320C53SPZ80				33.05	TIS	800	TMS320LBC51PZ				33.05	TIS	800
TLC34075-85AFN				23.99	TIS	—	TLE2142AIP				2.85	TIS	—	TMS27PC512-2FML				3.27	TIS	799														
TLC34076-110FN				17.68	TIS	—	TLE2142CP				1.65	TIS	—	TMS27PC512-2NL				3.09	TIS	799	TMS320LBC51PZ50				36.05	TIS	800	TMS320LBC51PZ50				36.05	TIS	800
TLC34076-135FN				17.88	TIS	—	TLE2142IP				1.81	TIS	—	TMS27PC512FML				3.27	TIS	799	TMS320LBC52PJ				20.51	TIS	800	TMS320LBC52PJ				20.51	TIS	800
TLC34076-85FN				22.85	TIS	—	TLE2144ACN				4.35	TIS	—	TMS27PC512NL				3.09	TIS	799	TMS320LBC52PZ50				25.08	TIS	800	TMS320LBC52PZ50				25.08	TIS	800
TLC34077-110FN				17.14	TIS	—	TLE2144AIN				4.75	TIS	—	TMS28F010A-10C4FML				6.81	TIS	799	TMS320LBC50PQ				62.84	TIS	800	TMS320LBC50PQ				62.84	TIS	800
TLC34077-135FN				18.46	TIS	—	TLE2144CIN				2.60	TIS	—	TMS28F010A-12C4FML				6.81	TIS	799	TMS320LBC50PQ50				62.84	TIS	800	TMS320LBC50PQ50				62.84	TIS	800
TLC352CD				2.17	TIS	803	TLE2161ACP				1.68	TIS	—	TMS28F010A-15C4FML				6.81	TIS	799	TMS320LBC51PZ				31.48	TIS	800	TMS320LBC51PZ				31.48	TIS	800
TLC352CP				2.17	TIS	803	TLE2161AIP				1.65	TIS	—	TMS28F512A-10C4FML				6.36	TIS	799	TMS320LC52PZ				19.54	TIS	800	TMS320LC52PZ				19.54	TIS	800
TLC3702CD				1.00	TIS	803	TLE2161BCP				2.95	TIS	—	TMS28F512A-12C4FML				6.36	TIS	799	TMS320LC52PZA				21.50	TIS	800	TMS320LC52PZA				21.50	TIS	800
TLC3702CP				1.10	TIS	803	TLE2161BMP				3.77	TIS	—	TMS28F512A-15C4FML				6.36	TIS	799	TMS320LC53SPZ				47.10	TIS	800	TMS320LC53SPZ				47.10	TIS	800
TLC3702IP				1.19	TIS	—	TLE2161CP				1.10	TIS	—	TMS320B0C51PQ				33.05	TIS	800	TMS320P14FNL				23.85	TIS	801	TMS320P14FNL				23.85	TIS	801
TLC3704CN				1.39	TIS	—	TLE2161IP				1.20	TIS	—	TMS320B0C51PQ57				36.05	TIS	800	TMS320P15FNL25				21.44	TIS	—	TMS320P15FNL25				21.44	TIS	—
TLC372CD				0.95	TIS	803	TLE2161MP				1.40	TIS	—	TMS320B0C51PQ80				43.47	TIS	800	TMS320P15NL				17.10	TIS	801	TMS320P15NL				17.10	TIS	801
TLC372CP				0.95	TIS	803	TLE2425CLP				1.46	TIS	—	TMS320B0C51PQA				36.37	TIS	800														
TLC374CN				1.20	TIS	803	TLE2426CLP				1.29	TIS	—	TMS320B0C51PQA57				39.65	TIS	800	TMS320P17FNL				18.81	TIS	801	TMS320P17FNL				18.81	TIS	801
TLC393CD				0.90	TIS	803	TSL1521FN				123.75	TIS	—	TMS320B0C51PQA80				46.20	TIS	800	TMS320P17NL				18.81	TIS	801	TMS320P17NL				18.81	TIS	801
TLC393CP				0.95	TIS	803	TMS3200051				123.75	TIS	—	TMS320B0C51PZ				33.05	TIS	800	TMS320P25FNL				40.00	TIS	801	TMS320P25FNL				40.00	TIS	801
TLC393MP				1.27	TIS	—	TMS27C010A-10JL				4.90	TIS	799	TMS320B0C51PZ57				36.05	TIS	800	TN3019				0.44	NSC	—	TN3019				0.44	NSC	—
TLC541IN				2.89	TIS	—	TMS27C010A-12JL				4.90	TIS	799	TMS320B0C51PZ80				43.47	TIS	800	TN80C186EB-20				16.46	ITL	715	TN80C186EB-20				16.46	ITL	715
TLC542CDW				2.75	TIS	801	TMS27C010A-15JL				4.90	TIS	799	TMS320B0C51PZA				36.37	TIS	800	TN80C186XL-12				14.00	ITL	715	TN80C186XL-12				14.00	ITL	715
TLC542CN				2.75	TIS	801	TMS27C010A-20JL				4.90	TIS	799	TMS320B0C52PJ				19.53	TIS	800	TN80C186XL-20				14.90	ITL	715	TN80C186XL-20				14.90	ITL	715
TLC545CFN				10.25	TIS	—	TMS27C020-15JL				7.27	TIS	799	TMS320B0C52PJ57				21.58	TIS	800	TN80C188EA-13				11.15	ITL	715	TN80C188EA-13				11.15	ITL	715
TLC545CN				10.25	TIS	—	TMS27C040-10JL				13.18	TIS	799	TMS320B0C52PJ80				27.22	TIS	800	TN80C188EA-20				12.51	ITL	715	TN80C188EA-20				12.51	ITL	715
TLC548IP				3.12	TIS	—	TMS27C040-12JL				13.72	TIS	799	TMS320B0C52PJA				21.49	TIS	800	TN80C188XL-12				12.90	ITL	715	TN80C188XL-12				12.90	ITL	715
TLC549CD				1.75	TIS	801	TMS27C040-12JL				13.18	TIS	799	TMS320B0C52PJA57				24.91	TIS	800	TN80C188XL-20				18.00	ITL	715	TN80C188XL-20				18.00	ITL	715
TLC549CP				1.93	TIS	801	TMS27C040-15JL				13.72	TIS	799	TMS320B0C52PZ				20.51	TIS	800	TN80C31BH-1				4.70	ITL	716	TN80C31BH-1				4.70	ITL	716
TLC549IP				2.25	TIS	—	TMS27C040-15JL				13.18	TIS	799	TMS320B0C52PZ57				22.67	TIS	800	TN80C32				5.70	ITL	716	TN80C32				5.70	ITL	716
TLC555CD				0.70	TIS	—	TMS27C128-12JL				4.72	TIS	—	TMS320B0C52PZ80				27.22	TIS	800	TN80C32-1				3.94	ITL	716	TN80C32-1				3.94	ITL	716
TLC555CP				0.70	TIS	—	TMS27C128-12JL				5.18	TIS	798	TMS320B0C52PZA				22.57	TIS	800	TN80C51FA				6.53	ITL	716	TN80C51FA				6.53	ITL	716
TLC555IP				1.12	TIS	—	TMS27C128-15JL				4.72	TIS	798	TMS320B0C52PZA57				24.91	TIS	800	TN80C51FA-1				6.66	ITL	716	TN80C51FA-1				6.66	ITL	716
TLC556CD				1.35	TIS	—	TMS27C128-1JL				4.45	TIS	798	TMS320B0C53PQ				49.45	TIS	800	TN80C51GB				11.15	ITL	717	TN80C51GB				11.15	ITL	717
TLC556CN				1.38	TIS	—	TMS27C128-20JL				4.27	TIS	798	TMS320B0C53PQ57				54.01	TIS	800	TN80C51GB-1				11.15	ITL	717	TN80C51GB-1				11.15	ITL	717
TLC5602CN				4.50	TIS	—	TMS27C128-25JL				4.09	TIS	798	TMS320B0C53PQ80				64.55	TIS	800	TN80L186EA-13				13.06	ITL	716	TN80L186EA-13				13.06	ITL	716
TLC7135CN				6.25	TIS	801	TMS27C128-2JL				4.27	TIS	798	TMS320B0C53PQA				54.40	TIS	800	TN80L186EB-13				16.86	ITL	716	TN80L186EB-13				16.86	ITL	716
TLC7524CFN				3.75	TIS	—	TMS27C128JL				4.09	TIS	798	TMS320C10FNL				5.43	TIS	—	TN80L186EA-13				12.24	ITL	716	TN80L186EA-13				12.24	ITL	716
TLC7524CN				3.43	TIS	801	TMS27C210A-12JE				7.18	TIS	799	TMS320C10FNL25				6.51	TIS	—	TN80L186EB-13				16.46	ITL	716	TN80L186EB-13				16.46	ITL	716
TLC7528CDW				3.75	TIS	801	TMS27C210A-12JL				6.63	TIS	799	TMS320C10NL				5.43	TIS	799	TN80X186EB-13				-15.23	ITL	—	TN80X186EB-13				-15.23	ITL	—
TLC7528CFN				3.50	TIS	801	TMS27C210A-15JL				6.63	TIS	799	TMS320C10NL-14				5.43	TIS	799	TN87C51				13.70	ITL	716	TN87C51				13.70	ITL	716
TLC7528CN				3.75	TIS	801	TMS27C240-10JL				17.45	TIS	799	TMS320C10NL-25				6.51	TIS	—	TN87C51-1				14.40	ITL	716	TN87C51-1				14.40	ITL	716
TLC7628CN				3.50	TIS	—	TMS27C240-12JL				17.45	TIS	799	TMS320C15FNL				6.93	TIS	—	TN87C51FA				20.26	ITL	716	TN87C51FA				20.26	ITL	716
TLE2021ACP				1.65	TIS	—	TMS27C240-15JL				17.45	TIS	799	TMS320C15FNL25				7.59	TIS	—	TN87C51FA-1				21.22	ITL	716	TN87C51FA-1				21.22	ITL	716
TLE2021AIP				1.81	TIS	—	TMS27C256-10JL				3.18	TIS	798	TMS320C15NL				6.93	TIS	—	TN87C51FB				25.02	ITL	717	TN87C51FB				25.02	ITL	717
TLE2021CP				1.10	TIS	—	TMS27C256-120JL				3.34	TIS	798	TMS320C15NL-25				7.59	TIS	—	TN87C51FB-1				25.98	ITL	717	TN87C51FB-1				25.98	ITL	717
TLE2021IP				1.16	TIS	—	TMS27C256-12JL				3.18	TIS	798	TMS320C15PEL																				

Mfr.'s Type	Price	Mfr.'s Code	Page
TPC1010BFN-044H1	13.37	TIS	—
TPC1010BFN-068C	11.62	TIS	—
TPC1010BFN-068C1	12.80	TIS	—
TPC1010BFN-068C2	13.37	TIS	—
TPC1010BFN-068H	12.80	TIS	—
TPC1010BFN-068H1	13.37	TIS	—
TPC1010BVE-100C	12.72	TIS	—
TPC1010BVE-100C1	14.00	TIS	—
TPC1010BVE-100C2	14.62	TIS	—
TPC1010BVE-100H	14.00	TIS	—
TPC1010BVE-100H1	14.62	TIS	—
TPC1020AFN-044C	27.14	TIS	—
TPC1020AFN-044C1	32.57	TIS	—
TPC1020AFN-044H	32.57	TIS	—
TPC1020AFN-044H1	39.08	TIS	—
TPC1020AFN-068C	27.14	TIS	—
TPC1020AFN-068C1	32.57	TIS	—
TPC1020AFN-068H	32.57	TIS	—
TPC1020AFN-068H1	39.08	TIS	—
TPC1020AFN-084C	27.14	TIS	—
TPC1020AFN-084C1	32.57	TIS	—
TPC1020AFN-084H	32.57	TIS	—
TPC1020AVE-100C	39.08	TIS	—
TPC1020AVE-100C1	29.57	TIS	—
TPC1020AVE-100H	35.48	TIS	—
TPC1020AVE-100H1	35.48	TIS	—
TPC1225AFN-084C	50.41	TIS	—
TPC1225AFN-084C1	55.44	TIS	—
TPC1225AFN-084H	55.44	TIS	—
TPC1225AFN-084H1	57.97	TIS	—
TPC1225AVE-100C	52.21	TIS	—
TPC1225AVE-100C1	57.42	TIS	—
TPC1225AVE-100H	57.42	TIS	—
TPC1225AVE-100H1	60.04	TIS	—
TPC1240GB-133C	213.28	TIS	—
TPC1240GB-133H	255.85	TIS	—
TPC1240VE-144C	107.14	TIS	—
TPC1240VE-144H	128.57	TIS	—
TPC1280GB-176C	246.30	TIS	—
TPC1280GB-176C1	270.92	TIS	—
TPC1280GB-176H	246.30	TIS	—
TPC1280GB-177C	270.92	TIS	—
TPC1280GB-177C1	270.92	TIS	—
TPC1280GB-177H	270.92	TIS	—
TPC1280GB-177H1	270.92	TIS	—
TPC1280VB-160C	155.10	TIS	—
TPC1280VB-160C1	170.61	TIS	—
TPC1280VB-160H	170.61	TIS	—
TPC1280VB-160H1	178.37	TIS	—
TPC2404KN	6.62	TIS	—
TR80C186XL-12	27.10	ITL	715
TR80C186XL-20	30.70	ITL	715
TR80C186XL-12	12.90	ITL	715
TR80C186XL-20	29.50	ITL	715
TR80C186EA-20	14.14	ITL	715
TS80C186E-13	15.78	ITL	715
TS80C186EC-20	19.72	ITL	715
TS80C186XL-20	15.70	ITL	715
TS80C186EA-13	11.70	ITL	715
TS80C186EA-20	13.06	ITL	715
TS80C186EC-13	17.95	ITL	715
TS80C186EC-13	18.63	ITL	715
TS80C186XL-12	13.60	ITL	715
TS80C186XL-20	14.60	ITL	715
TS80C31BH	4.25	ITL	716
TS80C31BH-1	4.70	ITL	716
TS80C32	5.70	ITL	716
TS80C32-1	7.05	ITL	716
TS80C512FA-1	6.66	ITL	—
TS80C51FA	6.53	ITL	716
TS80L186E-13	17.41	ITL	716
TS80L186EC-13	18.09	ITL	716
TS80L186E-13	17.00	ITL	716
TS80L186EC-13	17.14	ITL	716
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TS87051FA-1	21.76	ITL	716
TS1213	10.12	TIS	—
TS1220	7.50	TIS	—
TS1250	1.93	TIS	—
TS1252	1.93	TIS	—
TS1253	8.12	TIS	—
TS1253C30AN2L	10.85	TIS	—
TS1253C30AN2L	11.94	TIS	—
TS1253C30AN2L	31.25	TIS	—
TS1253C30AN2L	0.77	TIS	805
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UA741CN	0.36	PHI	787
UA741CP	0.66	TIS	803
UA747CN	0.62	PHI	787
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UA78L05ACLP	0.53	TIS	805
UA78L05CD	0.70	TIS	805
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UA78L06ACD	0.75	TIS	805
UA78L06ACLP	0.53	TIS	805
UA78L08ACD	0.75	TIS	805
UA78L08ACLP	0.53	TIS	805
UA78L10ACD	0.75	TIS	805
UA78L10ACLP	0.53	TIS	805
UA78L12ACD	0.75	TIS	805
UA78L12ACLP	0.50	TIS	805

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UA78L15CD	0.70	TIS	805
UA78L15CLP	0.50	TIS	805
UA9636ACD	1.35	TIS	802
UA9636ACP	1.71	TIS	802
UA9637ACD	1.87	TIS	802
UA9637ACP	2.07	TIS	802
UA9638CP	2.07	TIS	802
UA9639CP	2.07	TIS	802
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UC2577T-12	8.84	UNI	811
UC2577T-15	8.84	UNI	811
UC2577T-ADJ	9.78	UNI	811
UC2823ADW	8.95	UNI	—
UC2823AJ	10.18	UNI	—
UC2823AN	8.75	UNI	—
UC2823AQ	8.95	UNI	—
UC2823BDW	8.95	UNI	—
UC2823DW	7.79	UNI	—
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UC2823Q	7.79	UNI	—
UC2824N	10.36	UNI	—
UC2825ADW	11.19	UNI	—
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UC2825AN	10.18	UNI	—
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UC2825N	7.98	UNI	—
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UC2828N	9.69	UNI	—
UC2840J	20.24	UNI	—
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UC3177Q	11.05	UNI	810
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UC3623V	15.60	UNI	810
UC3623VH	15.60	UNI	810
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UC3655V	14.16	UNI	—
UC3655VH	14.16	UNI	—
UC3705N	3.42	UNI	809

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UC3707N	4.06	UNI	809
UC3708N	4.99	UNI	809
UC3708NE	5.90	UNI	—
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UC3711N	5.50	UNI	809
UC3711NE	5.92	UNI	—
UC3714N	5.48	UNI	809
UC3715N	4.75	UNI	809
UC3717N	5.80	UNI	810
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UC3726N	7.82	UNI	809
UC3727N	7.14	UNI	809
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UC3823BN	6.93	UNI	811
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UC3825BN	8.28	UNI	811
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UC3841N	6.53	UNI	811
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UC3845AN	2.51	UNI	811
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UC3846DW	5.42	UNI	811
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UC3851N	6.79	UNI	811
UC3852N	2.36	UNI	810
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UC5172N	7.93	UNI	809
UC5180CN	8.98	UNI	809
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UC5181CN	9.70	UNI	809
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UC5661N	4.37	UNI	—
UC5670N	7.39	UNI	—
UC5680N	8.58	UNI	—
UC5680D	7.54	UNI	—
UC5680E	6.58	UNI	—
UC5680F	9.71	UNI	—
UC5680G	9.71	UNI	—
UC5680H	9.71	UNI	—
UC5680I	8.58	UNI	—

Manufacturer's Code Log

ADI Analog Devices Inc.
 AMD Advanced Micro Devices
 COL Colimer Semiconductors, Inc.
 DLS Dallas Semiconductor
 GIS General Instrument
 HAR Harris Semiconductor

IDT Integrated Device Technology, Inc.
 ITL Intel
 LAT Lattice
 MIC Micron
 MXM Maxim
 MOS Mosel-Vitelc

MOT Motorola Semiconductor
 NSC National Semiconductor
 NTE NTE Electronics
 PHI Philips Semiconductors
 SEM Semiconductors Inc.
 SIE Siemens Components, Inc.

TIS Texas Instruments
 THO Thomson Consumer Electronics
 UNI Uniltron Integrated Circuits
 XLX Xilinx

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V180ZA05	0.56	HAR	708	V53C100FP70	12.50	MOS	727	XC3030A-6PQ100C	27.25	XLX	817	XC5210-5PQ223C	423.95	XLX	—
V180ZA1	0.67	HAR	708	V53C104DK60	11.30	MOS	727	XC3030A-7PC68C	17.90	XLX	817	XC5210-5PQ160C	149.40	XLX	—
V180ZA10	1.16	HAR	708	V53C104DK70	11.30	MOS	727	XC3030A-7PC84C	17.90	XLX	817	XC5210-5PQ208C	158.55	XLX	—
V180ZA5	0.94	HAR	708	V53C104FK70	10.90	MOS	727	XC3030A-7PQ100C	20.75	XLX	817	XC5210-5PQ240C	169.60	XLX	—
V182A05	0.56	HAR	707	V53C104FL60L	11.30	MOS	—	XC3042-100PC84C	26.45	XLX	817	XC5210-5TQ144C	152.20	XLX	—
V182A1	0.34	HAR	707	V53C104FP60L	11.30	MOS	727	XC3042-100PQ100C	29.50	XLX	817	XC5210-6PC84C	136.45	XLX	—
V182A2	0.94	HAR	707	V53C104FP70	10.90	MOS	727	XC3042-125PC84C	30.75	XLX	817	XC5210-6PQ223C	326.20	XLX	—
V182A3	1.16	HAR	707	V53C104HK45	13.10	MOS	727	XC3042-125PQ100C	34.35	XLX	—	XC5210-6PQ160C	114.80	XLX	—
V182A40	1.30	HAR	707	V53C16258HK50	51.00	MOS	727	XC3042-70PC84C	26.45	XLX	817	XC5210-6PQ208C	121.95	XLX	—
V220MA2A	0.34	HAR	—	V53C400CK70	42.50	MOS	727	XC3042-70PQ100C	29.50	XLX	817	XC5210-6PQ240C	130.45	XLX	—
V220ZA05	0.56	HAR	708	V53C400K60L	42.50	MOS	727	XC3042A-6PQ100C	33.15	XLX	817	XC5210-6TQ144C	116.95	XLX	—
V222A05	0.56	HAR	707	V53C400K70	42.50	MOS	727	XC3042A-7PC84C	23.35	XLX	817	XC56002FC66	61.58	MOT	730
V222A1	0.39	HAR	707	V53C404FK60	42.50	MOS	727	XC3042A-7PQ100C	26.00	XLX	817	XC56004FJ50	46.92	MOT	730
V222A2	0.94	HAR	707	V53C464AP10L	5.60	MOS	—	XC3042A-7TQ144C	37.20	XLX	817	XC56005PV50	95.14	MOT	730
V222A3	1.04	HAR	707	V53C664AK70	22.50	MOS	727	XC3064-100PC84C	47.50	XLX	817	XC56156FE60	75.32	MOT	730
V230LA10	1.04	HAR	708	V53C664AK80	21.30	MOS	727	XC3064-125PQ160C	74.70	XLX	817	XC56166FE60	59.44	MOT	730
V230LA20A	1.04	HAR	708	V53C8256HK45	25.00	MOS	727	XC3064-70PC84C	47.50	XLX	817	XC68HC705B32CB	30.40	MOT	733
V230LA20C	1.06	HAR	709	V53C8256HP45	25.00	MOS	727	XC3064A-7PC84C	42.20	XLX	817	XC68HC705B32CFN	29.51	MOT	733
V230LA4	0.67	HAR	708	V53C8257HK45	30.00	MOS	727	XC3064A-7PQ160C	56.85	XLX	817	XC68HC705B32CFU	30.40	MOT	733
V230LA40C	1.27	HAR	709	V53C8257HP45	30.00	MOS	727	XC3090-100PC84C	72.30	XLX	—	XC68HC705C5CFN	21.15	MOT	733
V230LA40CX570	1.27	HAR	709	V53C8258HK45	30.00	MOS	727	XC3090-100PQ175C	143.30	XLX	817	XC68HC705C5CFP	21.15	MOT	733
V242A50	1.44	HAR	707	V53C8258HP45	30.00	MOS	727	XC3090-100PQ160C	85.25	XLX	817	XC68HC705C9CFN	21.05	MOT	733
V250LA10	1.16	HAR	708	V56ZA05	0.56	HAR	707	XC3090-125PQ160C	96.95	XLX	—	XC68HC705C9CFP	21.05	MOT	733
V250LA2	0.59	HAR	708	V56ZA2	0.38	HAR	707	XC3090-70PC84C	72.30	XLX	817	XC7236A-16PC44C	21.45	XLX	818
V250LA20A	0.71	HAR	708	V56ZA3	0.94	HAR	707	XC3090A-6PQ160C	86.55	XLX	817	XC7236A-25PC44C	10.70	XLX	818
V250LA20C	1.06	HAR	709	V56ZA8	1.16	HAR	707	XC3090A-7PC84C	68.90	XLX	817	XC7272A-16PC84C	57.35	XLX	818
V250LA4	0.67	HAR	708	V575LA40A	2.70	HAR	708	XC3090A-7PQ160C	73.15	XLX	817	XC7272A-20PC84C	45.80	XLX	818
V250LA40A	1.69	HAR	708	V575LA80B	4.68	HAR	708	XC3130A-5PC84C	24.00	XLX	817	XC7272A-25PC84C	38.25	XLX	818
V250LA40B	1.85	HAR	708	V680LA100B	4.68	HAR	708	XC3130A-5PQ100C	26.55	XLX	817	XC73108-12PC84C	62.35	XLX	818
V250LA40C	1.34	HAR	709	V680LA50A	2.70	HAR	708	XC3142A-3PQ100C	47.55	XLX	817	XC73108-15PC84C	46.20	XLX	818
V250LA40CX620	1.27	HAR	709	V68ZA05	0.56	HAR	707	XC3142A-4PQ100C	39.55	XLX	817	XC73108-20PC84C	33.00	XLX	818
V270ZA05	0.56	HAR	708	V68ZA10	1.16	HAR	708	XC3142A-5PC84C	28.45	XLX	817	XC73144-10PQ160C	157.50	XLX	—
V275LA10	1.16	HAR	708	V68ZA2	0.37	HAR	708	XC3142A-5PQ100C	31.65	XLX	817	XC73144-15PQ160C	90.00	XLX	—
V275LA2	0.59	HAR	708	V68ZA3	0.94	HAR	708	XC3164A-3PC84C	72.00	XLX	817	XC7336-10PC44C	9.70	XLX	818
V275LA20A	0.59	HAR	708	V82ZA05	0.56	HAR	708	XC3164A-5PC84C	47.75	XLX	817	XC7336-15PC44C	6.90	XLX	818
V275LA20C	1.06	HAR	709	V82ZA12	1.16	HAR	708	XC3164A-5PQ160C	60.00	XLX	817	XC7336-5PC44C	30.48	XLX	818
V275LA4	0.67	HAR	708	V82ZA2	0.67	HAR	708	XC3190A-3PP175C	186.95	XLX	817	XC7336-7PC44C	15.20	XLX	818
V275LA40A	1.69	HAR	708	V82ZA4	0.94	HAR	708	XC3190A-3PQ160C	108.80	XLX	817	XC7354-10PC68C	31.70	XLX	818
V275LA40B	1.85	HAR	708	V8ZA05	0.72	HAR	707	XC3190A-4PQ160C	90.75	XLX	817	XC7354-15PC44C	16.00	XLX	818
V275LA40C	1.27	HAR	709	V8ZA1	0.52	HAR	707	XC3190A-5PC84C	69.15	XLX	817	XC7354-15PC68C	16.80	XLX	818
V275LA40CX680	1.27	HAR	709	V8ZA2	0.99	HAR	707	XC3190A-5PQ160C	72.70	XLX	817	XC7372-15PC68C	26.05	XLX	818
V27ZA05	0.56	HAR	707	VN10LM	0.70	MOT	754	XC3195A-3PP175C	228.05	XLX	817	XC7372-15PC84C	27.35	XLX	818
V27ZA1	0.67	HAR	707	VN2222LL	0.50	MOT	754	XC3195A-5PC84C	95.00	XLX	817	—	—	—	—
V27ZA2	0.94	HAR	707	VN2406L	0.90	MOT	754	XC3195A-5PQ160C	109.75	XLX	817	—	—	—	—
V27ZA4	1.16	HAR	707	W005G	0.22	GIS	693	XC3195A-5PQ208C	117.25	XLX	817	—	—	—	—
V27ZA60	1.30	HAR	707	W005M	0.42	COL	687	XC4002A-5PC84C	41.60	XLX	818	—	—	—	—
V300LA2	0.56	HAR	708	W01G	0.23	GIS	693	XC4002A-6PQ100C	39.40	XLX	818	—	—	—	—
V300LA20C	1.06	HAR	709	W01M	0.45	COL	687	XC4002A-6VQ100C	44.15	XLX	818	—	—	—	—
V300LA4	0.67	HAR	708	W02G	0.26	GIS	693	XC4003-5PC84C	69.15	XLX	818	—	—	—	—
V300LA40C	1.27	HAR	709	W02M	0.47	COL	687	XC4003-5PQ100C	74.85	XLX	818	—	—	—	—
V300LA40CX745	1.27	HAR	709	W04G	0.29	GIS	693	XC4003-6PC84C	60.25	XLX	—	—	—	—	—
V320LA20A	1.35	HAR	708	W04M	0.49	COL	687	XC4003-6PQ100C	65.10	XLX	818	—	—	—	—
V330ZA05	0.56	HAR	708	W06G	0.35	GIS	693	XC4003A-5PC84C	57.75	XLX	818	—	—	—	—
V33ZA05	0.56	HAR	707	W08G	0.39	GIS	693	XC4003A-5PQ100C	60.90	XLX	818	—	—	—	—
V33ZA1	0.67	HAR	707	W10G	0.46	GIS	693	XC4003A-6PC84C	49.85	XLX	818	—	—	—	—
V33ZA2	0.94	HAR	707	W10M	0.62	COL	—	XC4003A-6PQ100C	52.75	XLX	818	—	—	—	—
V33ZA5	0.46	HAR	707	XC1718DP2C0C	5.83	XLX	818	XC4003H-5PQ208C	97.15	XLX	818	—	—	—	—
V33ZA70	1.44	HAR	707	XC1718DPD8C	4.30	XLX	818	XC4003H-6PQ208C	83.25	XLX	818	—	—	—	—
V36RA22	3.66	HAR	—	XC1718DS08C	7.58	XLX	818	XC4004A-5PC84C	82.50	XLX	818	—	—	—	—
V36ZA80	1.30	HAR	707	XC1718LPD8C	5.54	XLX	818	XC4004A-5PQ160C	96.90	XLX	818	—	—	—	—
V390ZA05	0.56	HAR	708	XC1736DP2C0C	7.89	XLX	818	XC4004A-6PC84C	71.10	XLX	818	—	—	—	—
V39ZA05	0.56	HAR	707	XC1736DPD8C	5.78	XLX	818	XC4004A-6PQ160C	83.65	XLX	818	—	—	—	—
V39ZA1	0.30	HAR	707	XC1736DS08C	5.78	XLX	818	XC4005-4PQ160C	145.10	XLX	818	—	—	—	—
V39ZA3	0.94	HAR	707	XC1765DP2C0C	10.47	XLX	818	XC4005-5PC84C	104.10	XLX	818	—	—	—	—
V39ZA6	1.16	HAR	707	XC1765DPD8C	7.75	XLX	818	XC4005-5PG156C	192.25	XLX	818	—	—	—	—
V400J8S70	400.00	MOS	728	XC1765DS08C	9.32	XLX	818	XC4005-5PQ160C	128.75	XLX	818	—	—		

Microcontrollers

80C188, 80L188, 80C186, and 80L186 Features

Clocking Scheme*	CPU						Peripherals								Power Save				
	Internal Bus Width (Bits)	External Bus Width (Bits)	Demux'd Bus	Mux'd Bus	Address Space (MBytes)	Cache Size	Timers	Watch Dog	DMA Channels	External Interrupts	Internal Interrupts	Synchronous/Asynchronous Ports	Peripheral Chip Selects	Memory Chip Selects	Power Save Factor	Power Down and Idle	Icc Max. @ 0 Mhz	Icc Max. @ 5V	Icc Max. @ 3.3V***
2X	16	8, 16**	No	Yes	1	—	3	No	2	5	5	0	7	6	1-256	No	100 µA	5 mA/MHz	2.5 mA/MHz

*2X: Frequency = OSC Clock/2. **16 Bit External Bus Width on 80C186 and 80L186. ***80L188 and 80L186 Only

80C188, CMOS High Integration 16-Bit Microcontroller (8-Bit Bus)

Mfr.'s Type			Operating Frequency		Temperature Range (°C)
68 Lead PLCC	80 Lead PQFP	80 Lead TQFP	@ 5 V (MHz)	@ 3.3 V (MHz)	
IN80C188	—	—	10	—	-40 to +85
IN80C188-12	—	—	12	—	-40 to +85
IN80C188-16	—	—	16	—	-40 to +85
IN80C188-20	—	—	20	—	-40 to +85
80C188	S80C188	SB80C188	10	—	0 to +70
N80C188-12	S80C188-12	SB80C188-12	12	—	0 to +70
N80C188-16	S80C188-16	SB80C188-16	16	—	0 to +70
N80C188-20	S80C188-20	SB80C188-20	20	—	0 to +70
N80C188-25	S80C188-25	SB80C188-25	25	—	0 to +70

80C186, CMOS High Integration 16-Bit Microcontroller (16-Bit Bus)

Mfr.'s Type			Operating Frequency		Temperature Range (°C)
68 Lead PLCC	80 Lead PQFP	80 Lead TQFP	@ 5 V (MHz)	@ 3.3 V (MHz)	
IN80C186	—	—	10	—	-40 to +85
IN80C186-12	—	—	12	—	-40 to +85
IN80C186-16	—	—	16	—	-40 to +85
IN80C186-20	—	—	20	—	-40 to +85
N80C186	S80C186	SB80C186	10	—	0 to +70
N80C186-12	S80C186-12	SB80C186-12	12	—	0 to +70
N80C186-16	S80C186-16	SB80C186-16	16	—	0 to +70
N80C186-20	S80C186-20	SB80C186-20	20	—	0 to +70
N80C186-25	S80C186-25	SB80C186-25	25	—	0 to +70

80L188, 3 V CMOS High Integration 16-Bit Microcontroller (8-Bit Bus)

N80L188	—	—	10	10	0 to +70
N80L188-12	—	—	12	12	0 to +70
N80L188-16	—	—	16	16	0 to +70
—	S80L188	—	10	10	0 to +70
—	S80L188-12	—	12	12	0 to +70
—	S80L188-16	—	16	16	0 to +70
—	—	SB80L188	10	10	0 to +70
—	—	SB80L188-12	12	12	0 to +70
—	—	SB80L188-16	16	16	0 to +70

80L186, 3 V CMOS High Integration 16-Bit Microcontroller (16-Bit Bus)

N80L186	—	—	10	10	0 to +70
N80L186-12	—	—	12	12	0 to +70
N80L186-16	—	—	16	16	0 to +70
—	S80L186	—	10	10	0 to +70
—	S80L186-12	—	12	12	0 to +70
—	S80L186-16	—	16	16	0 to +70
—	—	SB80L186	10	10	0 to +70
—	—	SB80L186-12	12	12	0 to +70
—	—	SB80L186-16	16	16	0 to +70

Am188EM and Am186EM Features

Clocking Scheme*	CPU						Peripherals										Power Save			
	Internal Bus Width (Bits)	External Bus Width (Bits)	Demux'ed Bus	Mux'ed Bus	Address Space (MBytes)	Cache Size	Timers	Watch Dog	DMA Channels	External Interrupts	Internal Interrupts	Synchronous/Asynchronous Ports	Reset Config. Reg.	PiO Pins	Peripheral Chip Selects	Memory Chip Selects	Power Save Factor	Power Down and Idle	Icc Max. @ 0 Mhz	Icc Max. @ 5V
1X	16	8, 16**	Yes	Yes	1	—	3	Yes	2	6	7	1/1	Yes	32	6	6	1-128	No	100 µA	5.4 mA/MHz

*1X: Frequency = OSC Clock. **16 Bit External Bus Width on Am186EM

Am188EM, Second Generation 188 Controller with De-multiplexer Bus and Increased Integration (8-Bit External Bus)

Mfr.'s Type		Operating Frequency @ 5 V (MHz)	Memory Interface					Temperature Range (°C)
100 Lead PQFP	100 Lead TQFP		Glueless SRAM	Glueless PSRAM	Glueless Flash	Glueless EPROM	Glueless DRAM	
Am188EM-20KCW	Am188EM-20VCW	20	Yes	Yes	Yes	Yes	No	0 to +70
Am188EM-25KCW	Am188EM-25VCW	25	Yes	Yes	Yes	Yes	No	0 to +70
Am188EM-33KCW	Am188EM-33VCW	33	Yes	Yes	Yes	Yes	No	0 to +70
Am188EM-40KCW	Am188EM-40VCW	40	Yes	Yes	Yes	Yes	No	0 to +70
Am186EM-20KCW	Am186EM-20VCW	20	Yes	Yes	Yes	Yes	No	0 to +70
Am186EM-25KCW	Am186EM-25VCW	25	Yes	Yes	Yes	Yes	No	0 to +70
Am186EM-33KCW	Am186EM-33VCW	33	Yes	Yes	Yes	Yes	No	0 to +70
Am186EM-40KCW	Am186EM-40VCW	40	Yes	Yes	Yes	Yes	No	0 to +70

Embedded Microprocessors

Am386SE and Am386DE Embedded Microprocessor Features

Clocking Scheme*	CPU				Peripherals								Power Save				
	Internal Bus Width (Bits)	Demux'd Bus	Mux'd Bus	Cache Size	Timers	Watch Dog	DMA Channels	External Interrupts	Internal Interrupts	Synchronous/Asynchronous Ports	Peripheral Chip Selects	Memory Chip Selects	Power Save Factor	Power Down and Idle	Icc Max. @ 0 Mhz	Icc Max. @ 5V	Icc Max. @ 3.3V
2X	32	Yes	No	—	0	No	0	0	0	0	0	0	—	No	150 µA	7.4 mA/MHz	4.6 mA/MHz

*2X: Frequency = OSC Clock / 2.

Am386SE, High Performance 32-Bit Embedded Processor

Mfr.'s Type		Operating Frequency @ 5 V (MHz)	External Bus Width (Bits)	Address Space (MBytes)	Temperature Range (°C)
100 Lead PQFP	100 Lead TQFP				
Am386SE-25KCW	—	20	16	16	0 to +70
Am386SE-33KCW	—	25	16	16	0 to +70

Am386DE, High Performance 32-Bit Embedded Processor

Mfr.'s Type		Operating Frequency @ 5 V (MHz)	External Bus Width (Bits)	Address Space (MBytes)	Temperature Range (°C)
132 Lead PQFP	132 Lead TQFP				
Am386DE-33GC	Am386DE-33KCW	33	32	4G	0 to +70

CPLD — MACH (Macro Array CMOS High-Density) Family

MACH 1: Performance Architecture

MACH 1: Performance Architecture											
Mfr.'s Type	Technology	I/Ps	I/Os	Buried Cells	PTs Per O/P	Ratings @				Ice (mA)	Package Type
						0 to +70°C		-40 to +85°C			
						t _{PO} (ns)	t _{MAX} (MHz)	t _{PO} (ns)	t _{MAX} (MHz)		
MACH110-12JC	EE CMOS	6	32	—	0-12	12.0	67.0	14.0	53.5	95	44 Lead PLCC
MACH110-15JC	EE CMOS	6	32	—	0-12	15.0	50.0	18.0	40.0	95	44 Lead PLCC
MACH110-20JC	EE CMOS	6	32	—	0-12	20.0	40.0	24.0	32.0	95	44 Lead PLCC
MACH120-12JC	EE CMOS	8	48	—	0-12	12.0	66.7	—	—	85	68 Lead PLCC
MACH120-15JC	EE CMOS	8	48	—	0-12	15.0	50.0	18.0	40.0	85	68 Lead PLCC
MACH120-20JC	EE CMOS	8	48	—	0-12	20.0	40.0	24.0	32.0	85	68 Lead PLCC
MACH130-15JC	EE CMOS	6	64	—	0-12	15.0	50.0	18.0	40.0	190	84 Lead PLCC
MACH130-20JC	EE CMOS	6	64	—	0-12	20.0	40.0	24.0	32.0	190	84 Lead PLCC

MACH 1: Performance Plus Architecture

MACH111-7JC	EE CMOS	6	32	—	0-12	7.5	100.0	—	—	90	44 Lead PLCC
MACH111-10JC	EE CMOS	6	32	—	0-12	10.0	80.0	—	—	90	44 Lead PLCC
MACH111-12JC	EE CMOS	6	32	—	0-12	12.0	66.7	—	—	95	44 Lead PLCC
MACH111-15JC	EE CMOS	6	32	—	0-12	15.0	50.0	—	—	95	44 Lead PLCC
MACH111-20JC	EE CMOS	6	32	—	0-12	20.0	40.0	—	—	95	44 Lead PLCC
MACH131-7JC	EE CMOS	6	64	—	0-12	7.5	100.0	—	—	90	68 Lead PLCC
MACH131-10JC	EE CMOS	6	64	—	0-12	10.0	80.0	—	—	90	68 Lead PLCC
MACH131-12JC	EE CMOS	6	64	—	0-12	12.0	66.7	—	—	90	68 Lead PLCC
MACH131-15JC	EE CMOS	6	64	—	0-12	15.0	50.0	—	—	90	68 Lead PLCC
MACH131-20JC	EE CMOS	6	64	—	0-12	20.0	40.0	—	—	90	68 Lead PLCC

MACH 2: Performance Architecture

MACH210A-7JC	EE CMOS	6	32	32	0-16	7.5	100.0	—	—	130	44 Lead PLCC
MACH210A-10JC	EE CMOS	6	32	32	0-16	10.0	80.0	12.0	64.0	135	44 Lead PLCC
MACH210A-12JC	EE CMOS	6	32	32	0-16	12.0	67.0	14.0	53.0	120	44 Lead PLCC
MACH210-15JC	EE CMOS	6	32	32	0-16	15.0	50.0	18.0	40.0	120	44 Lead PLCC
MACH210-20JC	EE CMOS	6	32	32	0-16	20.0	40.0	24.0	32.0	120	44 Lead PLCC
MACH210AQ-12JC	EE CMOS	6	32	32	0-16	12.0	56.0	—	—	45	44 Lead PLCC
MACH210AQ-15JC	EE CMOS	6	32	32	0-16	15.0	50.0	18.0	40.0	45	44 Lead PLCC
MACH210AQ-20JC	EE CMOS	6	32	32	0-16	20.0	40.0	24.0	32.0	45	44 Lead PLCC
MACHLV210-12JC	EE CMOS	6	32	32	0-16	12.0	59.0	—	—	45	44 Lead PLCC
MACHLV210-15JC	EE CMOS	6	32	32	0-16	15.0	50.0	18.0	40.0	60	44 Lead PLCC
MACHLV210-20JC	EE CMOS	6	32	32	0-16	20.0	38.5	24.0	30.5	60	44 Lead PLCC
MACH220-10JC	EE CMOS	8	48	48	0-16	10.0	80.0	—	—	205	68 Lead PLCC
MACH220-12JC	EE CMOS	8	48	48	0-16	12.0	67.0	14.0	53.0	205	68 Lead PLCC
MACH220-15JC	EE CMOS	8	48	48	0-16	15.0	50.0	18.0	40.0	205	68 Lead PLCC
MACH220-20JC	EE CMOS	8	48	48	0-16	20.0	40.0	24.0	32.0	205	68 Lead PLCC
MACH230-10JC	EE CMOS	6	64	64	0-16	10.0	77.0	—	—	235	84 Lead PLCC
MACH230-15JC	EE CMOS	6	64	64	0-16	15.0	50.0	18.0	40.0	235	84 Lead PLCC
MACH230-20JC	EE CMOS	6	64	64	0-16	20.0	40.0	24.0	32.0	235	84 Lead PLCC

MACH 2: Synchronous/Asynchronous Performance Architecture

MACH215-12JC	EE CMOS	6	32	32 Input Cells	0-12	12.0	52.6	14.0	42.0	95	44 Lead PLCC
MACH215-15JC	EE CMOS	6	32	32 Input Cells	0-12	15.0	41.7	18.0	33.0	95	44 Lead PLCC
MACH215-20JC	EE CMOS	6	32	32 Input Cells	0-12	20.0	33.3	24.0	26.5	95	44 Lead PLCC

MACH 3: Super Set Architecture

MACH355-15YC	EE CMOS	6	96	—	0-20	15.0	50.0	—	—	230	144 Lead PQFP
MACH355-20YC	EE CMOS	6	96	—	0-20	20.0	40.0	—	—	230	144 Lead PQFP

MACH 4: Super Set Architecture

MACH435-12JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	12.0	66.7	—	—	255	84 Lead PLCC
MACH435-15JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	15.0	50.0	—	—	255	84 Lead PLCC
MACH435-20JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	20.0	40.0	—	—	255	84 Lead PLCC
MACH435Q-20JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	20.0	40.0	—	—	115	84 Lead PLCC
MACH435Q-25JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	25.0	31.3	—	—	115	84 Lead PLCC
MACH445-12JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	12.0	66.7	—	—	255	100 Lead PQFP
MACH445-15JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	15.0	50.0	—	—	255	100 Lead PQFP
MACH445-20JC	EE CMOS	6	64	64 Buried and 64 Input Cells	0-20	20.0	40.0	—	—	255	100 Lead PQFP
MACH465-15YC	EE CMOS	14	128	128 Buried and 128 Input	0-20	15.0	50.0	—	—	—	208 Lead PQFP
MACH465-20YC	EE CMOS	14	128	128 Buried and 128 Input	0-20	20.0	40.0	—	—	—	208 Lead PQFP

Non-Volatile Memory

UV EPROMs and One Time Programmable (OTP) EPROMs

Windowed CERDIP	Mfr.'s Type	PDIP (OTP)	Organization	Access Time (ns)	Temperature Range (°C)	No. of Leads
Am27C64-90DC	—	—	8 K × 8	90	0 to +70	28
Am27C64-120DC	—	—	8 K × 8	120	0 to +70	28
Am27C64-150DC	—	—	8 K × 8	150	0 to +70	28
Am27C64-200DC	—	—	8 K × 8	200	0 to +70	28
Am27C128-90DC	—	—	16 K × 8	90	0 to +70	28
Am27C128-120DC	—	—	16 K × 8	120	0 to +70	28
Am27C128-150DC	—	—	16 K × 8	150	0 to +70	28
Am27C128-200DC	—	—	16 K × 8	200	0 to +70	28
Am27C256-90DC	—	—	32 K × 8	90	0 to +70	28
Am27C256-120DC	—	—	32 K × 8	120	0 to +70	28
Am27C256-150DC	—	—	32 K × 8	150	0 to +70	28
Am27C256-200DC	—	—	32 K × 8	200	0 to +70	28
Am27C512-75DC	—	—	64 K × 8	70	0 to +70	28
Am27C512-90DC	—	—	64 K × 8	90	0 to +70	28
Am27C512-120DC	—	—	64 K × 8	120	0 to +70	28
Am27C512-150DC	—	—	64 K × 8	150	0 to +70	28
Am27C512-200DC	—	—	64 K × 8	200	0 to +70	28

Non-Volatile Memory (continued)

UV EPROMs and One Time Programmable (OTP) EPROMs (continued)

Mfr.'s Type		Organization	Access Time (ns)	Temperature Range (°C)	No. of Leads
Windowed CERDIP	PDIP (OTP)				
Am27C010-120DC Am27C010-150DC Am27C010-200DC	Am27C010-120PC Am27C010-150PC Am27C010-200PC	128 K × 8 128 K × 8 128 K × 8	120 150 200	0 to +70 0 to +70 0 to +70	32 32 32
Am27C1024-90DC Am27C1024-120DC Am27C1024-150DC Am27C1024-200DC	— — — Am27C1024-200PC	64 K × 16 64 K × 16 64 K × 16 64 K × 16	90 120 150 200	0 to +70 0 to +70 0 to +70 0 to +70	40 40 40 40
Am27C020-120DC Am27C020-150DC Am27C020-200DC	— — Am27C020-200PC	256 K × 8 256 K × 8 256 K × 8	120 150 200	0 to +70 0 to +70 0 to +70	32 32 32
Am27C048-120DC Am27C048-150DC	— —	128 K × 16 128 K × 16	120 150	0 to +70 0 to +70	40 40
Am27C040-120DC Am27C040-150DC Am27C040-200DC	— — —	512 K × 8 512 K × 8 512 K × 8	120 150 200	0 to +70 0 to +70 0 to +70	32 32 32
Am27C4096-120DC Am27C4096-150DC Am27C4096-200DC	— — —	256 K × 16 256 K × 16 256 K × 16	120 150 200	0 to +70 0 to +70 0 to +70	40 40 40

Universal PAL Devices

16V8 Family

Mfr.'s Type		Technology	I/Ps	I/Os	PTs Per O/P	Features	Ratings @		I _{cc} (mA)	No. of Leads
							0 to +70°C			
PLCC	PDIP						t _{PO} (ns)	f _{MAX} (MHz)		
PALCE16V8H-5JC/5	—	EE CMOS	8	8	8	GAL Device Equivalent	5.0	142.8	125,000	20
PALCE16V8H-7JC/5	PALCE16V8H-7PC/5	EE CMOS	8	8	8	GAL Device Equivalent	7.5	100.0	115,000	20
PALCE16V8H-10JC/4	PALCE16V8H-10PC/4	EE CMOS	8	8	8	GAL Device Equivalent	10.0	66.7	115,000	20
PALCE16V8Q-10JC/5	—	EE CMOS	8	8	8	GAL Device Equivalent	10.0	66.7	55,000	20
PALCE16V8H-15JC/4	PALCE16V8H-15PC/4	EE CMOS	8	8	8	GAL Device Equivalent	15.0	45.5	90,000	20
PALCE16V8Q-15JC/4	PALCE16V8Q-15PC/4	EE CMOS	8	8	8	GAL Device Equivalent	15.0	45.5	55,000	20
PALCE16V8H-25JC/4	PALCE16V8H-25PC/4	EE CMOS	8	8	8	GAL Device Equivalent	25.0	37.0	90,000	20
PALCE16V8Q-25JC/4	PALCE16V8Q-25PC/4	EE CMOS	8	8	8	GAL Device Equivalent	25.0	37.0	50,000	20
PALCE16V8Z-25JC	PALCE16V8Z-25PC	EE CMOS	8	8	8	Zero Power	25.0	33.3	0.015	20

20V8 Family

PALCE20V8H-5JC/5	—	EE CMOS	12	8	8	GAL Device Equivalent	5.0	142.8	125,000	28
PALCE20V8H-7JC/5	PALCE20V8H-7PC/5	EE CMOS	12	8	8	GAL Device Equivalent	7.5	100.0	115,000	28/24
PALCE20V8H-10JC/4	PALCE20V8H-10PC/4	EE CMOS	12	8	8	GAL Device Equivalent	10.0	66.7	115,000	28/24
—	PALCE20V8Q-10PC/5	EE CMOS	12	8	8	GAL Device Equivalent	10.0	66.7	55,000	24
PALCE20V8H-15JC/4	PALCE20V8H-15PC/4	EE CMOS	12	8	8	GAL Device Equivalent	15.0	45.5	90,000	28/24
PALCE20V8Q-15JC/4	PALCE20V8Q-15PC/4	EE CMOS	12	8	8	GAL Device Equivalent	15.0	45.5	55,000	28/24
PALCE20V8H-25JC/4	PALCE20V8H-25PC/4	EE CMOS	12	8	8	GAL Device Equivalent	25.0	37.0	90,000	28/24
PALCE20V8Q-25JC/4	PALCE20V8Q-25PC/4	EE CMOS	12	8	8	GAL Device Equivalent	25.0	37.0	55,000	28/24

22V10 Family

PAC22V10-7JC	PAL22V10-7PC	TTL	12	10	8-16	Varied Term Distribution	7.5	91.0	220,000	28/24
PAC22V10-10JC	PAL22V10-10PC	TTL	12	10	8-16	Varied Term Distribution	10.0	71.0	180,000	28/24
PAC22V10-15JC	PAL22V10-15PC	TTL	12	10	8-16	Varied Term Distribution	15.0	50.0	180,000	28/24
AmPAL22V10AJC	AmPAL22V10APC	TTL	12	10	8-16	Varied Term Distribution	25.0	28.5	180,000	28/24
PALCE22V10H-5JC/5	—	EE CMOS	12	10	8-16	Varied Term Distribution	5.0	142.8	115,000	28
PALCE22V10H-7JC/5	PALCE22V10H-7PC/5	EE CMOS	12	10	8-16	Varied Term Distribution	7.5	100.0	115,000	28/24
PALCE22V10H-10JC/5	PALCE22V10H-10PC/5	EE CMOS	12	10	8-16	Varied Term Distribution	10.0	83.3	120,000	28/24
PALCE22V10Q-10JC/5	PALCE22V10Q-10PC/5	EE CMOS	12	10	8-16	Varied Term Distribution	10.0	83.3	120,000	28/24
PALCE22V10H-15JC/4	PALCE22V10H-15PC/4	EE CMOS	12	10	8-16	Varied Term Distribution	15.0	50.0	90,000	28/24
PALCE22V10Q-15JC/4	PALCE22V10Q-15PC/4	EE CMOS	12	10	8-16	Varied Term Distribution	15.0	50.0	55,000	28/24
PALCE22V10H-25JC/4	PALCE22V10H-25PC/4	EE CMOS	12	10	8-16	Varied Term Distribution	25.0	33.3	90,000	28/24
PALCE22V10Q-25JC/4	PALCE22V10Q-25PC/4	EE CMOS	12	10	8-16	Varied Term Distribution	25.0	33.3	55,000	28/24
PALCE22V10Z-25JC	PALCE22V10Z-25PC	EE CMOS	12	10	8-16	Zero Power	25.0	33.3	0.015	28/24

24V10 Family

PALCE24V10H-15JC	PALCE24V10H-15PC	EE CMOS	14	10	8	GAL Type	15.0	45.5	115,000	28
PALCE24V10H-25JC	PALCE24V10H-25PC	EE CMOS	14	10	8	GAL Type	25.0	37.0	115,000	28

26V12 Family

PALCE26V12H-7JC/4	—	EE CMOS	14	12	8-16	Advanced 22V10 Macrocell	7.5	105.3	115,000	28
PALCE26V12H-10JC/4	PALCE26V12H-10PC/4	EE CMOS	14	12	8-16	Advanced 22V10 Macrocell	10.0	71.4	115,000	28
PALCE26V12H-15JC/4	PALCE26V12H-15PC/4	EE CMOS	14	12	8-16	Advanced 22V10 Macrocell	15.0	50.0	105,000	28
PALCE26V12H-20JC/4	PALCE26V12H-20PC/4	EE CMOS	14	12	8-16	Advanced 22V10 Macrocell	20.0	40.0	105,000	28

29M16 Family

PALCE29M16H25JC/4	PALCE29M16H25PC/4	EE CMOS	5	16	8-16	Advanced Macrocell	25.0	28.5	100,000	28/24
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Asynchronous PAL Devices

610 Family

Mfr.'s Type		Technology	I/Ps	I/Os	PTs Per O/P	Features	Ratings @		I _{cc} (mA)	No. of Leads
							0 to +70°C			
PLCC	PDIP						I _{PO} (ns)	f _{max} (MHz)		
PALCE610H-15JC PALCE610H-25JC	PALCE610H-15PC PALCE610H-25PC	EE CMOS EE CMOS	4 4	16 16	8 8	J-K Flip-Flops, Programmable Clock J-K Flip-Flops, Programmable Clock	15.0 27.0	45.5 37.0	90 90	28/24 28/24

20RA10 Family

PALCE20RA10H-7JC PALCE20RA10H-10JC PALCE20RA10H-15JC PALCE20RA10H-20JC	— PALCE20RA10H-10PC PALCE20RA10H-15PC PALCE20RA10H-20PC	EE CMOS EE CMOS EE CMOS EE CMOS	10 10 10 10	10 10 10 10	4 4 4 4	Programmable Clock Programmable Clock Programmable Clock Programmable Clock	7.5 10.0 15.0 20.0	100.0 76.9 52.6 37.0	100 100 100 90	28 28/24 28/24 28/24
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29MA16 Family

PALCE29MA16H25JC/4	PALCE29MA16H25PC/4	EE CMOS	5	16	4-12	Programmable Clock, Adv. Macrocell	25.0	28.5	100	28/24
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Standard PAL Devices

Mfr.'s Type		Technology	I/Ps	I/Os	O/Ps	PTs Per O/P	Ratings @		Icc (mA)	No. of Leads
							0 to +70°C			
							t _{PO} (ns)	f _{max} (MHz)		
PLCC	PDIP									
PAL16L8-4JC	—	TTL	10	6 Comb	2 Comb	7	4.5	125.0	210	28
PAL16R8-4JC	—	TTL	8	—	8 Reg	8	4.5	125.0	210	28
PAL16R6-4JC	—	TTL	8	2 Comb	6 Reg	7, 8	4.5	125.0	210	28
PAL16R4-4JC	—	TTL	8	4 Comb	4 Reg	7, 8	4.5	125.0	210	28
PAL16L8-5JC	PAL16L8-5PC	TTL	10	6 Comb	2 Comb	7	5.0	117.0	210	20
PAL16R8-5JC	PAL16R8-5PC	TTL	8	—	8 Reg	8	5.0	117.0	210	20
PAL16R6-5JC	PAL16R6-5PC	TTL	8	2 Comb	6 Reg	7, 8	5.0	117.0	210	20
PAL16R4-5JC	PAL16R4-5PC	TTL	8	4 Comb	4 Reg	7, 8	5.0	117.0	210	20
PAL16L8-7JC	PAL16L8-7PC	TTL	10	6 Comb	2 Comb	7	7.5	74.0	180	20
PAL16R8-7JC	PAL16R8-7PC	TTL	8	—	8 Reg	8	7.5	74.0	180	20
PAL16R6-7JC	PAL16R6-7PC	TTL	8	2 Comb	6 Reg	7, 8	7.5	74.0	180	20
PAL16R4-7JC	PAL16R4-7PC	TTL	8	4 Comb	4 Reg	7, 8	7.5	74.0	180	20
PAL16L8D/2JC	PAL16L8D/2PC	TTL	10	6 Comb	2 Comb	7	10.0	58.8	180	20
PAL16R8D/2JC	PAL16R8D/2PC	TTL	8	—	8 Reg	8	10.0	58.8	180	20
PAL16R6D/2JC	PAL16R6D/2PC	TTL	8	2 Comb	6 Reg	7, 8	10.0	58.8	180	20
PAL16R4D/2JC	PAL16R4D/2PC	TTL	8	4 Comb	4 Reg	7, 8	10.0	58.8	180	20
PAL16L8BCNL	PAL16L8BCN	TTL	10	6 Comb	2 Comb	7	15.0	37.0	180	20
PAL16R8BCNL	PAL16R8BCN	TTL	8	—	8 Reg	8	15.0	37.0	180	20
PAL16R6BCNL	PAL16R6BCN	TTL	8	2 Comb	6 Reg	7, 8	15.0	37.0	180	20
PAL16R4BCNL	PAL16R4BCN	TTL	8	4 Comb	4 Reg	7, 8	15.0	37.0	180	20
PAL16L8B2CNL	PAL16L8B2CN	TTL	10	6 Comb	2 Comb	7	25.0	25.0	90	20
PAL16R8B2CNL	PAL16R8B2CN	TTL	8	—	8 Reg	8	25.0	25.0	90	20
PAL16R6B2CNL	PAL16R6B2CN	TTL	8	2 Comb	6 Reg	7, 8	25.0	25.0	90	20
PAL16R4B2CNL	PAL16R4B2CN	TTL	8	4 Comb	4 Reg	7, 8	25.0	25.0	90	20
PAL16L8ACNL	PAL16L8ACN	TTL	10	6 Comb	2 Comb	7	25.0	25.0	180	20
PAL16R8ACNL	PAL16R8ACN	TTL	8	—	8 Reg	8	25.0	25.0	180	20
PAL16R6ACNL	PAL16R6ACN	TTL	8	2 Comb	6 Reg	7, 8	25.0	25.0	180	20
PAL16R4ACNL	PAL16R4ACN	TTL	8	4 Comb	4 Reg	7, 8	25.0	25.0	180	20
—	PAL16L8B4CN	TTL	10	6 Comb	2 Comb	7	35.0	16.0	55	20
—	PAL16R8B4CN	TTL	8	—	8 Reg	8	35.0	16.0	55	20
—	PAL16R6B4CN	TTL	8	2 Comb	6 Reg	7, 8	35.0	16.0	55	20
—	PAL16R4B4CN	TTL	8	4 Comb	4 Reg	7, 8	35.0	16.0	55	20

20R8 Family

PAL20L8-5JC PAL20R8-5JC PAL20R6-5JC PAL20R4-5JC	PAL20L8-5PC PAL20R8-5PC PAL20R6-5PC PAL20R4-5PC	TTL TTL TTL TTL	14 12 12 12	6 Comb — 2 Comb 4 Comb	2 Comb 8 Reg 6 Reg 4 Reg	7 8 7, 8 7, 8	5.0 5.0 5.0 5.0	117.0 117.0 117.0 117.0	210 210 210 210	28/24 28/24 28/24 28/24
PAL20L8-7JC PAL20R8-7JC PAL20R6-7JC PAL20R4-7JC	PAL20L8-7PC PAL20R8-7PC PAL20R6-7PC PAL20R4-7PC	TTL TTL TTL TTL	14 12 12 12	6 Comb — 2 Comb 4 Comb	2 Comb 8 Reg 6 Reg 4 Reg	7 8 7, 8 7, 8	7.5 7.5 7.5 7.5	74.0 74.0 74.0 74.0	210 210 210 210	28/24 28/24 28/24 28/24
PAL20L8-10/2JC PAL20R8-10/2JC PAL20R6-10/2JC PAL20R4-10/2JC	PAL20L8-10/2PC PAL20R8-10/2PC PAL20R6-10/2PC PAL20R4-10/2PC	TTL TTL TTL TTL	14 12 12 12	6 Comb — 2 Comb 4 Comb	2 Comb 8 Reg 6 Reg 4 Reg	7 8 7, 8 7, 8	10.0 10.0 10.0 10.0	55.5 55.5 55.5 55.5	210 210 210 210	28/24 28/24 28/24 28/24
PAL20L8BCNL PAL20R8BCNL — —	PAL20L8BCNS PAL20R8BCNS PAL20R6BCNS PAL20R4BCNS	TTL TTL TTL TTL	14 12 12 12	6 Comb — 2 Comb 4 Comb	2 Comb 8 Reg 6 Reg 4 Reg	7 8 7, 8 7, 8	15.0 15.0 15.0 15.0	37.0 37.0 37.0 37.0	210 210 210 210	28/24 28/24 24 24
PAL20L8ACNL — — —	PAL20L8ACNS PAL20R8ACNS PAL20R6ACNS PAL20R4ACNS	TTL TTL TTL TTL	14 12 12 12	6 Comb — 2 Comb 4 Comb	2 Comb 8 Reg 6 Reg 4 Reg	7 8 7, 8 7, 8	25.0 25.0 25.0 25.0	25.0 25.0 25.0 25.0	210 210 210 210	28/24 24 24 24

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Ordering Information

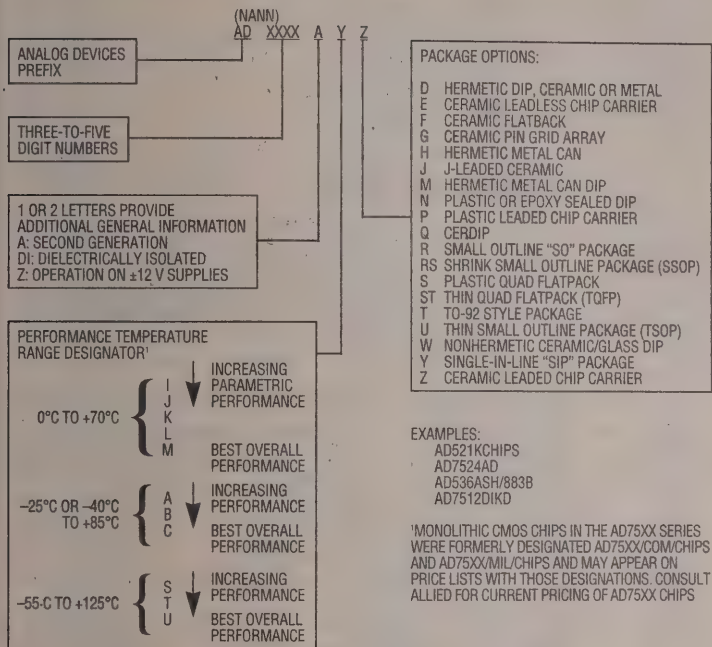


Figure 1 — Model-Number Designations for Standard Analog Devices Monolithic and Hybrid IC Products. S, T and U Grades Have the Added Suffix /883B for Devices that Qualify to the Latest Revision of MIL-STD-883, Level B.

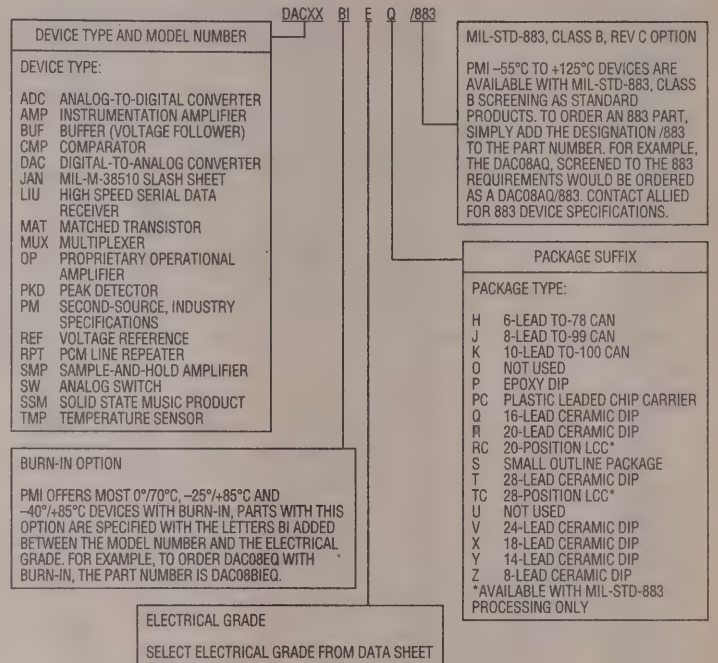


Figure 2 — Precision Monolithics Division's Product Designations

Two model numbering schemes are used by Analog Devices. The first model numbering scheme is used for designating standard Analog Devices monolithic and hybrid products. The second scheme is used by our Precision Monolithics Division (formerly PMI) as designators for its product line.

Figure 2 shows a different numbering scheme used by our Precision Monolithics Division. This numbering scheme starts with a prefix which designates the device type and model number. It is then followed by a suffix consisting of alphabetic designators (as applicable) to indicate additional functional designations or options and packaging options.

Figure 1 shows the form of model number used for our proprietary standard monolithic ICs and many of our hybrids. It consists of an "AD" (Analog Devices) prefix, a 3-to-5 digit number, an alphabetic performance/temperature-range designator and a package designator. One or two additional letters may immediately follow the digits ("A" for second-generation redesigned ICs, "DI" for dielectrically isolated CMOS, e.g., AD536AJH, AD7512DIKID).

For some models, the combination (digit) (letter) (two or three digits) is used instead of ADXXXX, e.g., 2S80.

Digital Signal Processors

32-Bit Code Fixed-Point Digital Signal Processors

Mfr.'s Type	MIPS	Input Voltage Supply (V)	PM RAM	PM ROM	DM RAM	Serial Ports	Host Port	On-Chip AD and D/A	Package Type
ADSP-2105KP-55	13.8	5	1 K	—	0.5 K	1	—	—	68 Lead PLCC
ADSP-2115KP-80	20.0	5	1 K	—	0.5 K	2	—	—	68 Lead PLCC
ADSP-2171KS-133	33.0	5	2 K	8 K	2.0 K	2	Yes	—	128 Lead PLCC

Digital Signal Processor Development Tools

The EZ-KIT packages provide everything a designer needs to start designing a DSP system — an EZ-LAB development board and a complete set of development software.

Mfr.'s Type	Description
ADDS-2101-EZ-KIT	Supports ADSP2100 Family 16-Bit Fixed-Point DSP Designs.
ADDS-2106X-EZ-KIT	Supports ADSP21000/SHARC Family 32-Bit Floating Point Designs.

Analog-to-Digital Converters

This section contains selection guides for stand alone, general — and special purpose — analog-to-digital converters (ADCs), including many sampling types.

High Speed ADCs

Mfr.'s Type	Resolution in Bits	Throughput Rate MSPS Max.	Linearity Error (LSB @ TA = +25°C)	Full Power BW MHz Typ.	Bus Interface Bits*	Reference Voltage Int/Ext†	Comments
AD9000JD	6	50.00	1/2	20	6	0.5-2 V, Ext	MIL-STD-883, Rev. C, Devices Available; Low Error Rate
AD9002AD	8	125.00	3/4	160	8	0.1 (-2.1) Ext	Single Supply, Low Power, Low Input Capacitance, MIL-STD-883, Rev. C
AD9012AQ	8	75.00	3/4	160	8	-2 V, Ext	TTL Outputs, Low Power, Low Input Capacitance
AD9012BQ	8	75.00	1/2	160	8	-2 V, Ext	TTL Outputs, Low Power, Low Input Capacitance
AD9048JQ	8	35.00	3/4	15	8, μ P	-2 V, Ext	35 MSPS, 8-Bit Video ADC, 16 pF Input Capacitance
AD9048KQ	8	35.00	1/2	15	8, μ P	-2 V, Ext	35 MSPS, 8-Bit Video ADC, 16 pF Input Capacitance
AD9058JD	8	50.00	1.3	175	8	+2 V, Int	Dual 8-Bit, TTL Output
AD875JST	10	15.00	± 2.5	175	10	+2 V, +4 V/Ext	CMOS, 165 mW, 10-Bit, 15 MHz ADC
AD9020JE	10	60.00	2	175	10	+1.75 V, Ext	Fastest 10-Bit TTL Monolithic ADC
AD9060JE	10	75.00	2	175	10	+1.75 V, Ext	Fastest 10-Bit ECL Monolithic ADC
AD9060KE	10	75.00	1.5	175	10	+1.75 V, Ext	Fastest 10-Bit ECL Monolithic ADC
AD7886JD	12	0.75	NS	1	12, μ P	+5 V, Ext	CMOS, 12-Bit 750 kSPS Sampling ADC
AD7886KD	12	0.75	± 2	1	12, μ P	+5 V, Ext	CMOS, 12-Bit 750 kSPS Sampling ADC
AD9032AD	12	25.00	1.25	150	12	Int	World's Fastest Complete 12-Bit ADC

*This column lists the data format for the bus with "uP" indicating microprocessor capability — i.e., for a 12-bit converter 8/12, uP indicates that the data can be formatted for an 8-bit bus or can be in parallel (12 bits) and is microprocessor compatible. †Ext. indicates external reference with the range of voltages listed where applicable. Ext.(M) indicates external reference with multiplying capability. Int. indicates reference is internal. A voltage value is given if the reference is pinned out.

Analog-to-Digital Converters — Continued
Sampling Analog-to-Digital Converters

Mfr.'s Type	Resolution in Bits	Throughput Rate KSPS Max.	Linearity Error (LSB @ TA = +25°C)	SHA BW kHz Typ.	Bus Interface Bits*	Reference Voltage Int./Ext.†	Comments
AD7575JN	8	190	±1	50	8, μ P	1.23 V, Ext	CMOS, Low Cost
AD7821KN	8	1000	±1	100	8, μ P	0-5 V, Ext	CMOS, Bipolar or Unipolar Operation
AD7821KP	8	1000	±1	100	8, μ P	0-5 V, Ext	CMOS, Bipolar or Unipolar Operation
AD7821KR	8	1000	±1	100	8, μ P	0-5 V, Ext	CMOS, Bipolar or Unipolar Operation
AD7824KN	8	400	±1	10	8, μ P	0-5 V, Ext	CMOS, 4-Channel, 8-Bit Sampling ADC
AD7824KR	8	400	±1	10	8, μ P	0-5 V, Ext	CMOS, 4-Channel, 8-Bit Sampling ADC
AD7824LN	8	400	±1/2	10	8, μ P	0-5 V, Ext	CMOS, 4-Channel, 8-Bit Sampling ADC
AD7828KN	8	400	±1	10	8, μ P	0-5 V, Ext	CMOS, 8-Channel, 8-Bit Sampling ADC
AD7828KP	8	400	±1	10	8, μ P	0-5 V, Ext	CMOS, 8-Channel, 8-Bit Sampling ADC
AD7828LN	8	400	±1/2	10	8, μ P	0-5 V, Ext	CMOS, 8-Channel, 8-Bit Sampling ADC
AD7828LP	8	400	±1/2	10	8, μ P	0-5 V, Ext	CMOS, 8-Channel, 8-Bit Sampling ADC
AD1671JP	12	1.25	±2.5	2	2.5 V, Int	12	Complete, Monolithic 12-Bit, 1.25 MSPS ADC
AD1671JQ	12	1.25	±2.5	2	2.5 V, Int	12	Complete, Monolithic 12-Bit, 1.25 MSPS ADC
AD1671KP	12	1.25	±1.5	2	2.5 V, Int	12	Complete, Monolithic 12-Bit, 1.25 MSPS ADC
AD1674AD	12	100	±1	500	8/12, μ P	10 V, Int	Complete AD574A Pinout Compatible, Sampling Input, AC/DC Tested
AD1674JN	12	100	±1	500	8/12, μ P	10 V, Int	Complete AD574A Pinout Compatible, Sampling Input, AC/DC Tested
AD1674KN	12	100	±1/2	500	8/12, μ P	10 V, Int	Complete AD574A Pinout Compatible, Sampling Input, AC/DC Tested
AD678JD	12	200	±1 Typ.	1000	8/12, μ P	5 V, Int	BiMOS, High Impedance High Bandwidth Sampling Input, 10 V Range, AC/DC Tested
AD678JN	12	200	±1 Typ.	1000	8/12, μ P	5 V, Int	BiMOS, High Impedance High Bandwidth Sampling Input, 10 V Range, AC/DC Tested
AD678KD	12	200	±1	1000	8/12, μ P	5 V, Int	BiMOS, High Impedance High Bandwidth Sampling Input, 10 V Range, AC/DC Tested
AD678KN	12	200	±1	1000	8/12, μ P	5 V, Int	BiMOS, High Impedance High Bandwidth Sampling Input, 10 V Range, AC/DC Tested
AD7870JN	12	100	±1/2 Typ.	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input
AD7870JP	12	100	±1/2 Typ.	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input
AD7870KN	12	100	±1	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input
AD7870KP	12	100	±1	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input
AD7870LN	12	100	±1/2	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input
AD7870LP	12	100	±1/2	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input
AD7874AN	12	29	±1	500	12, μ P	Int (+3 V), Ext	CMOS, Simultaneous Sampling 4-Channel ADC for +10 V Input Signals
AD7875KN	12	100	±1	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, 0-5 V Input
AD7876BN	12	100	±1	500	8/12/Serial, μ P	3 V, Int	CMOS, 100 kHz Throughput, +10 V Input
AD7878JN	12	100	±1/2 Typ.	500	12, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input, On-Chip FIFO
AD7878JP	12	100	±1/2 Typ.	500	12, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input, On-Chip FIFO
AD7878KN	12	100	±1/4 Typ.	500	12, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input, On-Chip FIFO
AD7878KP	12	100	±1/4 Typ.	500	12, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input, On-Chip FIFO
AD7878LN	12	100	±1/4 Typ.	500	12, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input, On-Chip FIFO
AD7878LP	12	100	±1/4 Typ.	500	12, μ P	3 V, Int	CMOS, 100 kHz Throughput, +3 V Input, On-Chip FIFO
AD7880BN	12	66	±1	33	12, μ P	5 V, Ext	Single +5 V Supply, Low Power Shutdown
AD7880BR	12	66	±1	33	12, μ P	5 V, Ext	Single +5 V Supply, Low Power Shutdown
AD7880CN	12	66	±1	33	12, μ P	5 V, Ext	Single +5 V Supply, Low Power Shutdown
AD7880CR	12	66	±1	33	12, μ P	5 V, Ext	Single +5 V Supply, Low Power Shutdown
AD7890AN-10	12	100	±1	1000	Serial	2.5 V, Ext	8-Channel Single Supply Sampling ADC
AD7890AN-2	12	100	±1	1000	Serial	2.5 V, Ext	8-Channel Single Supply Sampling ADC
AD7890AN-4	12	100	±1	1000	Serial	2.5 V, Ext	8-Channel Single Supply Sampling ADC
AD7893AN-10	12	140	±1	1000	Serial	2.5 V, Ext	CMOS, Single Supply Sampling ADC in 8-Pin Package
AD7893AN-2	12	140	±1	1000	Serial	2.5 V, Ext	CMOS, Single Supply Sampling ADC in 8-Pin Package
AD679JN	14	128	±2 Typ.	1000	8, μ P	5 V, Int	BiMOS, High Impedance, High Bandwidth Sampling Input, 10 V Input Range, AC/DC Tested
AD679KN	14	128	±2	1000	8, μ P	5 V, Int	BiMOS, High Impedance, High Bandwidth Sampling Input, 10 V Input Range, AC/DC Tested
AD779JD	14	128	±2 Typ.	1000	14, μ P	5 V, Int	BiMOS, High Impedance, High Bandwidth Sampling Input, 10 V Input Range, AC/DC Tested
AD779JN	14	128	±2 Typ.	1000	14, μ P	5 V, Int	BiMOS, High Impedance, High Bandwidth Sampling Input, 10 V Input Range, AC/DC Tested
AD779KD	14	128	±2	1000	14, μ P	5 V, Int	BiMOS, High Impedance, High Bandwidth Sampling Input, 10 V Input Range, AC/DC Tested
AD7869JN	14	83	±2	500	Serial	3 V, Int	CMOS, Complete I/O Port with 14-Bit DAC and 14-Bit ADC
AD7869JR	14	83	±2	500	Serial	3 V, Int	CMOS, Complete I/O Port with 14-Bit DAC and 14-Bit ADC
AD7872JN	14	83	±2	500	Serial, μ P	3 V, Int	CMOS, Complete, Serial Interface, 16-Pin DIP/SOIC
AD1382KD	16	500	±0.0015% FSR Typ.	2200	8, μ P	10 V, Int	High Speed, Guaranteed Dynamic Performance
AD1385KD	16	500	±0.0015% FSR Typ.	2200	8, μ P	10 V, Int	Similar to AD1382 with Autocalibration Ability, Guaranteed Dynamic Performance
AD676JD	16	100	±1.5	1000	16	3-10 V, Ext	Autocalibrating, 28-Pin DIP, Parallel Output
AD676KD	16	100	±1.5	1000	16	3-10 V, Ext	Autocalibrating, 28-Pin DIP, Parallel Output
AD677JN	16	100	±1 Typ.	1000	Serial	3-10 V, Ext	Autocalibrating, 16-Pin Narrow DIP, Serial Output
AD677JN	16	100	±1 Typ.	1000	Serial	3-10 V, Ext	Autocalibrating, 16-Pin Narrow DIP, Serial Output
AD677KN	16	100	±1.5	1000	Serial	3-10 V, Ext	Autocalibrating, 16-Pin Narrow DIP, Serial Output
AD677KR	16	100	±1.5	1000	Serial	3-10 V, Ext	Autocalibrating, 16-Pin Narrow DIP, Serial Output
AD7884AN	16	166	±0.003% FSR Typ.	83	16, μ P	3 V, Ext	CMOS, Low Power (250 mW), 5.3 μ s Conversion
AD7884AP	16	166	±0.003% FSR Typ.	83	16, μ P	3 V, Ext	CMOS, Low Power (250 mW), 5.3 μ s Conversion
AD7884BN	16	166	±0.006% FSR Max.	83	16, μ P	3 V, Ext	CMOS, Low Power (250 mW), 5.3 μ s Conversion
AD7884BP	16	166	±0.006% FSR Max.	83	16, μ P	3 V, Ext	CMOS, Low Power (250 mW), 5.3 μ s Conversion
AD7885AAP	16	166	±0.003% FSR Typ.	83	8, μ P	3 V, Ext	Similar to AD7884, 28-Pin Package, Byte Output
AD7885ABP	16	166	±0.006% FSR Max.	83	8, μ P	3 V, Ext	Similar to AD7884, 28-Pin Package, Byte Output
AD7885AN	16	166	±0.003% FSR Typ.	83	8, μ P	3 V, Ext	Similar to AD7884, 28-Pin Package, Byte Output
AD7885BN	16	166	±0.006% FSR Max.	83	8, μ P	3 V, Ext	Similar to AD7884, 28-Pin Package, Byte Output

Non-Sampling Analog-to-Digital Converters

Mfr.'s Type	Resolution in Bits	Conv. Rate μ s Max.	Linearity Error (LSB @ TA = +25°C)	Bus Interface Bits*	Reference Voltage Int./Ext.†	Comments
AD570JD	8	25.00	±1/2	8	Int	Complete 8-Bit ADC
AD670JN	8	10.00	±1/2	8, μ P	Int	Single +5 V Supply, Including In-Amp and Reference
AD673JN	8	30.00	±1/2	8, μ P	Int	Complete 8-Bit ADC with Reference, Clock and Comparator
AD571JD	10	25.00	±1	10	Int	Complete 10-Bit ADC
AD571KD	10	25.00	±1	10	Int	Complete 10-Bit ADC
AD573JN	10	30.00	±1	8/10, μ P	Int	Complete 10-Bit ADC, Byte or Parallel Interface
AD573KN	10	30.00	±1/2	8/10, μ P	Int	Complete 10-Bit ADC, Byte or Parallel Interface
AD574AJD	12	35.00	±1	8/12, μ P	10 V, Int	Complete ADC with Reference and Clock; Industry Standard
AD574AJN	12	35.00	±1	8/12, μ P	10 V, Int	Complete ADC with Reference and Clock; Industry Standard
AD574AKD	12	35.00	±1/2	8/12, μ P	10 V, Int	Complete ADC with Reference and Clock; Industry Standard
AD574AKN	12	35.00	±1/2	8/12, μ P	10 V, Int	Complete ADC with Reference and Clock; Industry Standard
AD671JD-500	12	0.50	±4	12	5 V, Ext	12-Bit 500 ns Monolithic ADC
AD671JD-750	12	0.75	±2	12	5 V, Ext	12-Bit 750 ns Monolithic ADC
AD671KD-500	12	0.50	±2	12	5 V, Ext	12-Bit 500 ns Monolithic ADC
AD671KD-750	12	0.75	±1.5	12	5 V, Ext	12-Bit 750 ns Monolithic ADC
AD6748AD	12	15.00	±1	8/12, μ P	10 V, Int	Complete Monolithic 12-Bit A/D Converter with Reference, Clock, and 3-State Output Buffers
AD6748BD	12	15.00	±1/2	8/12, μ P	10 V, Int	Complete Monolithic 12-Bit A/D Converter with Reference, Clock, and 3-State Output Buffers
AD6748JN	12	15.00	±1	8/12, μ P	10 V, Int	Complete Monolithic 12-Bit A/D Converter with Reference, Clock, and 3-State Output Buffers
AD6748KN	12	15.00	±1/2	8/12, μ P	10 V, Int	Complete Monolithic 12-Bit A/D Converter with Reference, Clock, and 3-State Output Buffers

*This column lists the data format for the bus with " μ P" indicating microprocessor capability — i.e., for a 12-bit converter 8/12, μ P indicates that the data can be formatted for an 8-bit bus or can be in parallel (12 bits) and is microprocessor compatible. †Ext. indicates external reference with the range of voltages listed where applicable. Ext. (M) indicates external reference with multiplying capability. Int. indicates reference is internal. A voltage value is given if the reference is pinned out.

Analog-to-Digital Converters — Continued

Sigma Delta Analog-to-Digital Converters

Mfr.'s Type	Resolution in Bits	Throughput Rate kHz	Linearity Error (LSB @ TA = +25°C)	Input BW kHz	Bus Interface Bits*	Reference Voltage Int/Ext†	Comments
AD7701AN	16	4	NS	10 Hz	Serial, μ P	2.5 V, Ext	16-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7701AR	16	4	NS	10 Hz	Serial, μ P	2.5 V, Ext	16-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7701BN	16	4	$\pm 0.0007\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	16-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7701BR	16	4	$\pm 0.0007\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	16-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD776AQ	16	100 to 400	$\pm 1/2$ Typ.	50	Serial	2 V, Int	16-Bit 100 kSPS Oversampling ADC, Single Supply
AD7703AN	20	4	$\pm 0.0015\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	20-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7703AR	20	4	$\pm 0.0015\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	20-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7703BN	20	4	$\pm 0.0007\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	20-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7703BR	20	4	$\pm 0.0007\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	20-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7703CN	20	4	$\pm 0.0003\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	20-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7703CR	20	4	$\pm 0.0003\%$ FSR Typ.	10 Hz	Serial, μ P	2.5 V, Ext	20-Bit Sigma-Delta ADC, 0.1-10 Hz Input Bandwidth
AD7711AN	21	0.01 to 1	$\pm 0.0045\%$ FSR	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	Similar to AD7710 but 24-Bit Sigma-Delta ADC with 1 Differential, 1 Single-Ended Input and RTD Current Sources
AD7711AR	21	0.01 to 1	$\pm 0.0045\%$ FSR	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	Similar to AD7710 but 24-Bit Sigma-Delta ADC with 1 Differential, 1 Single-Ended Input and RTD Current Sources
AD7712AN	21	0.01 to 1	$\pm 0.0045\%$ FSR Typ.	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	24-Bit ADC with 1 Differential Input Channel and 1 High Voltage Input Channel
AD7712AQ	21	0.01 to 1	$\pm 0.0045\%$ FSR Typ.	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	24-Bit ADC with 1 Differential Input Channel and 1 High Voltage Input Channel
AD7712AR	21	0.01 to 1	$\pm 0.0045\%$ FSR Typ.	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	24-Bit ADC with 1 Differential Input Channel and 1 High Voltage Input Channel
AD7713AN	21	2.0 to 200 Hz	$\pm 0.0045\%$ FSR	0.52 to 52.4 Hz	Serial, μ P	2.5 V, Ext	Loop Powered 24-Bit Sigma-Delta Signal Conditioning ADC
AD7713AR	21	2.0 to 200 Hz	$\pm 0.0045\%$ FSR	0.52 to 52.4 Hz	Serial, μ P	2.5 V, Ext	Loop Powered 24-Bit Sigma-Delta Signal Conditioning ADC
AD7710AN	24	0.01 to 1	$\pm 0.0045\%$ FSR Typ.	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	24-Bit Sigma-Delta Signal Conditioning ADC with 2 Differential Input Channels
AD7710AQ	24	0.01 to 1	$\pm 0.0045\%$ FSR Typ.	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	24-Bit Sigma-Delta Signal Conditioning ADC with 2 Differential Input Channels
AD7710AR	24	0.01 to 1	$\pm 0.0045\%$ FSR Typ.	2.62 to 262 Hz	Serial, μ P	2.5 V, Int	24-Bit Sigma-Delta Signal Conditioning ADC with 2 Differential Input Channels

*This column lists the data format for the bus with "µP" indicating microprocessor capability — i.e., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus or can be in parallel (12 bits) and is microprocessor compatible.

Digital-to-Analog Converters

A Digital-to-Analog (DAC) Converter accepts a digital input and produces an analog output. The basic DAC consists of a voltage or current reference, binary weighted precision resistors, a set of electronic switches and a means of summing the weighted currents.

Three important criteria are required for selecting the right DAC: resolution, accuracy and speed. Other requirements to be considered are temperature stability, input coding, output format, reference requirements and power consumption.

Single DACs, Current Output

Mfr.'s Type	Resolution in Bits	Settling Time μ s Typ.	Linearity Error (LSB @ TA = +25°C)	Bus Interface Bits*	Reference Voltage Int/Ext (M)†	Comments
AD7524JN	8	0.100	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Low Cost, 8-Bit Multiplying DAC with Latch
AD7524JR	8	0.100	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Low Cost, 8-Bit Multiplying DAC with Latch*
AD7524AQ	8	0.100	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Low Cost, 8-Bit Multiplying DAC with Latch
AD7524JP	8	0.100	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Low Cost, 8-Bit Multiplying DAC with Latch
AD7524KN	8	0.100	$\pm 1/4$	8, μ P	Ext (M)	CMOS, Low Cost, 8-Bit Multiplying DAC with Latch
AD9701BQ	8	8.000	$\pm 1/2$	8	Int	250MHz Video Digital-to-Analog Converter
DAC08CP	8	0.085	$\pm 0.39\%$ FS	8	Ext (M)	8-Bit High Speed Multiplying DAC
DAC08CS	8	0.085	$\pm 0.39\%$ FS	8	Ext (M)	8-Bit High Speed Multiplying DAC
DAC08EP	8	0.085	$\pm 0.19\%$ FS	8	Ext (M)	8-Bit High Speed Multiplying DAC
DAC08HP	8	0.085	$\pm 0.1\%$ FS	8	Ext (M)	8-Bit High Speed Multiplying DAC
AD9720BN	10	0.010	1	10	Int	Ultrahigh Speed, ECL Compatible, Low Power, 10 pV-s Glitch
AD9720BR	10	0.010	1	10	Int	Ultrahigh Speed, ECL Compatible, Low Power, 10 pV-s Glitch
AD9721BN	10	0.010	1	10	Int	Ultrahigh Speed, TTL Compatible, Low Power, 10 pV-s Glitch
AD9721BR	10	0.010	1	10	Int	Ultrahigh Speed, TTL Compatible, Low Power, 10 pV-s Glitch
AD565AJD	12	0.250	$\pm 1/2$	12	10 V, Int	Industry Workhorse High Speed, JAN Part Available
AD565AKD	12	0.250	$\pm 1/4$	12	10 V, Int	Industry Workhorse High Speed, JAN Part Available
AD566AJD	12	0.250	$\pm 1/2$	12	10 V, Int	Industry Workhorse High Speed, JAN Part Available
AD566AKD	12	0.250	$\pm 1/4$	12	10 V, Int	Industry Workhorse High Speed, JAN Part Available
AD568JQ	12	0.035	$\pm 1/2$	12	Int	Highest Accuracy 12-Bit Ultrahigh Speed DAC
AD568KQ	12	0.035	$\pm 1/4$	12	Ext (M)	Highest Accuracy 12-Bit Ultrahigh Speed DAC
AD668JQ	12	0.050	$\pm 1/2$	12	Ext (M)	Multiplying 12-Bit Ultrahigh Speed DAC
AD668KQ	12	0.050	$\pm 1/4$	12	Ext (M)	Multiplying 12-Bit Ultrahigh Speed DAC
ADDAC80N-CBI-V	12	4 (max)	$\pm 1/2$	12	6.3, $\pm 2\%$	Low cost, 12-Bit Digital-to-Analog Converter
DAC312FR	12	0.250	$\pm 0.05\%$ FS	12	Ext (M)	Low Cost, High Speed 12-Bit Multiplying DAC
DAC312HP	12	0.250	$\pm 0.05\%$ FS	12	Ext (M)	Low Cost, High Speed 12-Bit Multiplying DAC
DAC312HS	12	0.250	$\pm 0.05\%$ FS	12	Ext (M)	Low Cost, High Speed 12-Bit Multiplying DAC
DAC8043FP	12	0.250	1	Serial, μ P	Ext (M)	8-Pin DIP Serial Input 12-Bit CMOS Multiplying DAC
DAC8043GP	12	0.250	$\pm 1/2$	Serial, μ P	Ext (M)	8-Pin DIP Serial Input 12-Bit CMOS Multiplying DAC
DAC8143FP	12	0.380	± 1	Serial, μ P	Ext (M)	CMOS, Serial Load 12-Bit Multiplying DAC, Daisy Chain
DAC8143FS	12	0.380	± 1	Serial, μ P	Ext (M)	CMOS, Serial Load 12-Bit Multiplying DAC, Daisy Chain
AD7538KN	14	1.500	± 1	14, μ P	Ext (M)	CMOS, Parallel Load
AD7538KR	14	1.500	± 1	14, μ P	Ext (M)	CMOS, Parallel Load
AD7538AQ	14	1.500	± 2	14, μ P	Ext (M)	CMOS, Parallel Load
AD7538BQ	14	1.500	± 1	14, μ P	Ext (M)	CMOS, Parallel Load
AD7538JR	14	1.500	± 2	14, μ P	Ext (M)	CMOS, Parallel Load
AD7538JN	14	1.500	± 2	14, μ P	Ext (M)	CMOS, Parallel Load
AD420AN	16	3.000	$\pm 0.012\%$ FS	Serial, μ P	5, $\pm 1\%$	Serial Input 16-Bit 4-20mA, 0-20mA DAC
AD420AR	16	3.000	$\pm 0.012\%$ FS	Serial, μ P	5, $\pm 1\%$	Serial Input 16-Bit 4-20mA, 0-20mA DAC
DAC16EP	16	0.500	± 2	16	Ext (M)	16-Bit High Speed Multiplying DAC
DAC16ES	16	0.500	± 2	16	Ext (M)	16-Bit High Speed Multiplying DAC
DAC16FP	16	0.500	± 4	16	Ext (M)	16-Bit High Speed Multiplying DAC
DAC16FS	16	0.500	± 4	16	Ext (M)	16-Bit High Speed Multiplying DAC

Single DACs, Voltage Output

AD557JN	8	0/8	1	8, μ P	Int	Lowest Cost 8-Bit DACPORT; Single +5 V Supply
AD557JP	8	0/8	1	8, μ P	Int	Lowest Cost 8-Bit DACPORT; Single +5 V Supply
AD558JN	8	3/0	$\pm 1/2$	8, μ P	Int	10 V Out DACPORT, Single or Dual Supply
AD558KN	8	3/0	$\pm 1/4$	8, μ P	Int	10 V Out DACPORT, Single or Dual Supply
AD558JN	8	3/0	$\pm 1/2$	8, μ P	Int	10 V Out DACPORT, Single or Dual Supply
AD558KD	8	3/0	$\pm 1/4$	8, μ P	Int	10 V Out DACPORT, Single or Dual Supply
AD558JP	8	3/0	$\pm 1/2$	8, μ P	Int	10 V Out DACPORT, Single or Dual Supply
AD558KP	8	3/0	$\pm 1/4$	8, μ P	Int	10 V Out DACPORT, Single or Dual Supply
AD7224KN	8	5/0 (max.)	± 2	8, μ P	2-12.5 V, Ext	CMOS, Low Cost 8-Bit DAC
AD7224LN	8	5/0 (max.)	± 1	8, μ P	2-12.5 V, Ext	CMOS, Low Cost 8-Bit DAC
AD7569JN	8	1/0	± 1	8, μ P	Int	CMOS, Complete 8-Bit DAC/ADC/SHA Reference
AD7569KN	8	1/0	$\pm 1/2$	8, μ P	Int	CMOS, Complete 8-Bit DAC/ADC/SHA Reference
AD667JN	12	3/0	$\pm 1/2$	4/8/12, μ P	10 V, Int	Highest Accuracy Complete 12-Bit DAC
AD667KN	12	3/0	$\pm 1/4$	4/8/12, μ P	10 V, Int	Highest Accuracy Complete 12-Bit DAC
AD7243AN	12	1/0 (max.)	± 1	Serial	Int (+5 V), Ext	Low Cost 12-Bit Serial DACPORT in 16-Pin SOP
AD7243AR	12	1/0 (max.)	± 1	Serial	Int (+5 V), Ext	Low Cost 12-Bit Serial DACPORT in 16-Pin SOP
AD7243BN	12	1/0 (max.)	$\pm 1/2$	Serial	Int (+5 V), Ext	Low Cost 12-Bit Serial DACPORT in 16-Pin SOP

* This column lists the data format for the bus with "µP" indicating microprocessor capability — i.e., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus or can be in parallel (12 bits) and is microprocessor compatible.

Digital-to-Analog Converters — Continued
Single DACs, Voltage Output

Mfr.'s Type	Resolution in Bits	Settling Time μ s Typ.	Linearity Error (LSB @ TA = +25°C)	Bus Interface Bits*	Reference Voltage Int/Ext (M)†	Comments
AD7243BR	12	10 (max.)	$\pm 1/2$	Serial	Int (+5 V), Ext	Low Cost 12-Bit Serial DACPORT in 16-Pin SOP
AD767JN	12	3	± 1	12, μ P	10 V, Int	Fastest Interface Complete 12-Bit DAC
AD767KN	12	3	$\pm 1/2$	12, μ P	10 V, Int	Fastest Interface Complete 12-Bit DAC
AD7845JN	12	2.5	± 1	12, μ P	Ext (M)	CMOS, 12-Bit Multiplying DAC with Output Amplifier
AD7845KN	12	2.5	$\pm 1/2$	12, μ P	Ext (M)	CMOS, 12-Bit Multiplying DAC with Output Amplifier
AD7233AN	12	10 (max.)	± 1	Serial, μ P	Int	Smallest 12-Bit Serial DACPORT (8-Pin) Bipolar ± 5 V Output Range
AD7233BN	12	10 (max.)	$\pm 1/2$	Serial, μ P	Int	Smallest 12-Bit Serial DACPORT (8-Pin) Bipolar ± 5 V Output Range
AD7840JN	14	2	± 2	14/Serial, μ P	Int (+3 V), Ext	CMOS, 14-Bit Complete DAC, Parallel or Serial Load
AD7840KN	14	2	± 1	14/Serial, μ P	Int (+3 V), Ext	CMOS, 14-Bit Complete DAC, Parallel or Serial Load
AD569JN	16	3	$\pm 0.04\%$ FS	8/16, μ P	+5 V, Ext (M)	Monolithic, 16-Bit Monotonic DAC
AD569KN	16	3	$\pm 0.024\%$ FS	8/16, μ P	+5 V, Ext (M)	Monolithic, 16-Bit Monotonic DAC
AD569AD	16	3	$\pm 0.04\%$ FS	8/16, μ P	+5 V, Ext (M)	Monolithic, 16-Bit Monotonic DAC
AD669AN	16	8	± 4	16, μ P	10 V, Int	Monolithic, Complete 16-Bit DAC
AD669AR	16	8	± 4	16, μ P	10 V, Int	Monolithic, Complete 16-Bit DAC
AD669BR	16	8	± 2	16, μ P	10 V, Int	Monolithic, Complete 16-Bit DAC
AD766AN	16	1.5	$\pm 2\%$ FSR Typ.	Serial, μ P	Int	Zero-Chip Interface 16-Bit DSP DACPORT
AD766JN	16	1.5	$\pm 2\%$ FSR Typ.	Serial, μ P	Int	Zero-Chip Interface 16-Bit DSP DACPORT
AD7846JN	16	6	± 16	16, μ P	Ext (M)	CMOS, 16-Bit Multiplying DAC with Readback Capability
AD7846KN	16	6	± 8	16, μ P	Ext (M)	CMOS, 16-Bit Multiplying DAC with Readback Capability

Multiple DACs, Voltage Output

AD7225KN	8	5.0 (max.)	± 2	8, μ P	2-12.5 V, Ext	CMOS, Separate References for Each DAC
AD7225KR	8	5.0 (max.)	± 2	8, μ P	2-12.5 V, Ext	CMOS, Separate References for Each DAC
AD7225LN	8	5.0 (max.)	± 1	8, μ P	2-12.5 V, Ext	CMOS, Separate References for Each DAC
AD7225LR	8	5.0 (max.)	± 1	8, μ P	2-12.5 V, Ext	CMOS, Separate References for Each DAC
AD7226KN	8	3	± 2	8, μ P	2-12.5 V, Ext	CMOS, No User Trims, Specified with Single or Dual Supplies
AD7226KR	8	3	± 2	8, μ P	2-12.5 V, Ext	CMOS, No User Trims, Specified with Single or Dual Supplies
AD7226KP	8	3	± 2	8, μ P	2-12.5 V, Ext	CMOS, No User Trims, Specified with Single or Dual Supplies
AD7228ABN	8	5.0 (max.)	± 2	8, μ P	2-10 V, Ext	CMOS, Specified for Single or Dual Supply, 5 V to 15 V Skinny 24-Pin SOPIDIP
AD7228ACN	8	5.0 (max.)	± 1	8, μ P	2-10 V, Ext	CMOS, Specified for Single or Dual Supply, 5 V to 15 V Skinny 24-Pin SOPIDIP
DAC8228FP	8	5 (max.)	$\pm 1/2$	8, μ P	Ext	Dual 8-Bit CMOS DAC with Voltage Output
DAC8228FS	8	5 (max.)	$\pm 1/2$	8, μ P	Ext	Dual 8-Bit CMOS DAC with Voltage Output
DAC8229FP	8	2	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Single or Dual Supply Operation
DAC8229FS	8	2	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Single or Dual Supply Operation
DAC8426FP	8	3	± 2	8, μ P	10 V, Int	CMOS, Complete with 10 V Reference, Improved Timing
DAC8426FS	8	3	± 2	8, μ P	10 V, Int	CMOS, Complete with 10 V Reference, Improved Timing
DAC8800FP	8	0.8	$\pm 1/2$	8, Serial	DC, Ext	Octal 8-Bit CMOS DAC (TrimDACQV)
DAC8800FS	8	0.8	$\pm 1/2$	8, Serial	DC, Ext	Octal 8-Bit CMOS DAC (TrimDACQV)
DAC8840FP	8	3.5	± 1	Serial	Ext (M)	CMOS, Four-Quadrant Multiplying TrimDACs with Op Amps, 8 Channel
DAC8840FS	8	3.5	± 1	Serial	Ext (M)	CMOS, Four-Quadrant Multiplying TrimDACs with Op Amps, 8 Channel
AD7242JN	12	2	± 2	Serial, μ P	3 V, Int	Complete +5 V 12-Bit Dual DAC
AD7245AAN	12	10 (max.)	± 1	12, μ P	5 V, Int	Faster Interface, 12 V and 15 V AD7245
AD7245ABN	12	10 (max.)	$\pm 1/2$	12, μ P	5 V, Int	Faster Interface, 12 V and 15 V AD7245
AD7245AAR	12	10 (max.)	± 1	12, μ P	5 V, Int	Faster Interface, 12 V and 15 V AD7245
AD7249AN	12	10 (max.)	± 1	Serial, μ P	Ext	LC2MOS, Dual 12-Bit Serial DACPORT
AD7837AN	12	5	± 1	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
AD7837AR	12	5	± 1	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
AD7837BN	12	5	$\pm 1/2$	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
AD7837BR	12	5	$\pm 1/2$	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
DAC8412EP	12	6	$\pm 1/2$	12, μ P	Ext	Readback, Reset to Midscale, Low Power Quad DAC, +5 V to +15 V Operation
DAC8412FP	12	6	± 1	12, μ P	Ext	Readback, Reset to Midscale, Low Power Quad DAC, +5 V to +15 V Operation
AD7248AAN	12	10 (Max.)	± 1	8, μ P	5V, Int	Faster Interface, 12V and 15V AD7248
AD7248AAR	12	10 (Max.)	± 1	8, μ P	5V, Int	Faster Interface, 12V and 15V AD7248
AD7248ABN	12	10 (Max.)	$\pm 1/2$	8, μ P	5V, Int	Faster Interface, 12V and 15V AD7248
AD7248ABR	12	10 (Max.)	$\pm 1/2$	8, μ P	5V, Int	Faster Interface, 12V and 15V AD7248
AD7237JN	12	5	± 1	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
AD7237JR	12	5	± 1	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
AD7237KN	12	5	$\pm 1/2$	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
AD7237KR	12	5	$\pm 1/2$	8, μ P	Ext (M)	CMOS, MDAC, Byte Load, Double Buffered
AD7247JN	12	5	± 1	12, μ P	Ext (M)	CMOS MDAC, Parallel Load
AD7247KN	12	5	$\pm 1/2$	12, μ P	Ext (M)	CMOS MDAC, Parallel Load
AD7247JR	12	5	± 1	12, μ P	Ext (M)	CMOS MDAC, Parallel Load
AD7247KR	12	5	$\pm 1/2$	12, μ P	Ext (M)	CMOS MDAC, Parallel Load
AD664BD-BIP	12	10	$\pm 1/2$	12, μ P	Ext (M)	Readback, Reset, Low Power Quad DAC
AD664JN-BIP	12	10	$\pm 1/4$	12, μ P	Ext (M)	Readback, Reset, Low Power Quad DAC
AD664KN-BIP	12	10	$\pm 1/2$	12, μ P	Ext (M)	Readback, Reset, Low Power Quad DAC
AD664BD-UNI	12	10	$\pm 1/2$	12, μ P	Ext (M)	Readback, Reset, Low Power Quad DAC
AD664JN-UNI	12	10	$\pm 1/4$	12, μ P	Ext (M)	Readback, Reset, Low Power Quad DAC
AD664KN-UNI	12	10	$\pm 1/2$	12, μ P	Ext (M)	Readback, Reset, Low Power Quad DAC

Multiple DACs, Current Output

AD7528JN	8	0.18	± 1	8, μ P	Ext (M)	CMOS, +5 V to +15 V Operation, TTL Compatible at VDD = +5 V
AD7528JR	8	0.18	± 1	8, μ P	Ext (M)	CMOS, +5 V to +15 V Operation, TTL Compatible at VDD = +5 V
AD7528KN	8	0.18	$\pm 1/2$	8, μ P	Ext (M)	CMOS, +5 V to +15 V Operation, TTL Compatible at VDD = +5 V
AD7528JP	8	0.18	± 1	8, μ P	Ext (M)	CMOS, +5 V to +15 V Operation, TTL Compatible at VDD = +5 V
AD7528LN	8	0.18	$\pm 1/2$	8, μ P	Ext (M)	CMOS, +5 V to +15 V Operation, TTL Compatible at VDD = +5 V
AD7628KN	8	0.35	$\pm 1/2$	8, μ P	Ext (M)	CMOS, +12 V to +15 V Operation, TTL Compatible at VDD = 12 V to 15 V
AD7628KP	8	0.35	$\pm 1/2$	8, μ P	Ext (M)	CMOS, +12 V to +15 V Operation, TTL Compatible at VDD = 12 V to 15 V
AD7628KR	8	0.35	$\pm 1/2$	8, μ P	Ext (M)	CMOS, +12 V to +15 V Operation, TTL Compatible at VDD = 12 V to 15 V
DAC8408GP	8	0.19	$\pm 1/4$	8, μ P	Ext (M)	CMOS, Data Readback Memory Function, Separate VREF
DAC8408FP	8	0.19	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Data Readback Memory Function, Separate VREF
DAC8408FS	8	0.19	$\pm 1/2$	8, μ P	Ext (M)	CMOS, Data Readback Memory Function, Separate VREF
AD7537JN	12	1.5 (max.)	± 1	8, μ P	Ext (M)	CMOS, Byte Load, Double Buffered
AD7537KN	12	1.5 (max.)	± 1	8, μ P	Ext (M)	CMOS, Byte Load, Double Buffered
AD7568BS	12	0.20	$\pm 1/2$	Serial, μ P	Ext (M)	Single +5 V Supply, Separate References, 44-Pin PQFP and PLCC
DAC8221FP	12	0.45	± 1	12, μ P	Ext (M)	CMOS, Buffered Inputs, +5 V Operation
DAC8222FP	12	1.0 (max.)	± 1	12, μ P	Ext (M)	CMOS, Double Buffered Inputs, Parallel Load
DAC8222GP	12	1.0 (max.)	$\pm 1/2$	12, μ P	Ext (M)	CMOS, Double Buffered Inputs, Parallel Load
DAC8248FP	12	1.0 (max.)	± 1	8, μ P	Ext (M)	CMOS, Double Buffered Inputs, Byte Load

*This column lists the data format for the bus with "μP" indicating microprocessor capability — i.e., for a 12-bit converter 8/12, μP indicates that the data can be formatted for an 8-bit bus or can be in parallel (12 bits) and is microprocessor compatible.
†Ext. indicates external reference with the range of voltages listed where applicable. Ext.(M) indicates external reference with multiplying capability. Int. indicates reference is internal. A voltage value is given if the reference is pinned out.

Analog Switches and Multiplexers

Analog Devices offers a complete line of monolithic analog multiplexers and switches which are well suited for a wide range of applications including data acquisition, process control, instrumentation, video systems and telephony systems. Solid-state analog multiplexers and switches provide the ability to control and select a specified transmission path for an

analog signal. In selecting analog multiplexers and switches attention must be paid to several key specifications which affect system performance, including ON Resistance (R_{on}) and Analog Input Leakage Current (I_{off}).

Mfr.'s Type	Function	Analog Input Leakage Current (nA max)	ON Resistance Ohms Max.	Latched	Comments
ADG201HSJN	Quad SPST	1	50	No	LC ² MOS Quad High Speed SPST Switch
ADG201HSKN	Quad SPST	1	50	No	LC ² MOS Quad Higher Speed SPST Switch
ADG202AKN	Quad SPST	2	90	No	LC ² MOS Quad SPST Switch
ADG202AKR	Quad SPST	2	90	No	LC ² MOS Quad SPST Switch
ADG201AKN	Quad SPST	2	90	No	LC ² MOS Quad SPST Switch
ADG201AKR	Quad SPST	2	90	No	LC ² MOS Quad SPST Switch
ADG211AKN	Quad SPST	5	115	No	LC ² MOS Quad SPST Switch
ADG211AKR	Quad SPST	5	115	No	LC ² MOS Quad SPST Switch
ADG212AKN	Quad SPST	5	115	No	LC ² MOS Quad SPST Switch
ADG212AKR	Quad SPST	5	115	No	LC ² MOS Quad SPST Switch
ADG511BN	Quad SPST	±0.1	50	No	DI LC ² MOS Precision 5 V/3 V Quad SPST Switch
ADG511BR	Quad SPST	±0.1	50	No	DI LC ² MOS Precision 5 V/3 V Quad SPST Switch
ADG512BN	Quad SPST	±0.1	50	No	DI LC ² MOS Precision 5 V/3 V Quad SPST Switch
ADG512BR	Quad SPST	±0.1	50	No	DI LC ² MOS Precision 5 V/3 V Quad SPST Switch
ADG513BN	Quad SPST	±0.1	50	No	DI LC ² MOS Precision 5V/3V Quad SPST Switch
ADG513BR	Quad SPST	±0.1	50	No	DI LC ² MOS Precision 5 V/3 V Quad SPST Switch
ADG431BN	Quad SPST	±0.25	24	No	DI LC ² MOS Quad SPST Switch
ADG431BR	Quad SPST	±0.25	24	No	DI LC ² MOS Quad SPST Switch
ADG432BN	Quad SPST	±0.25	24	No	DI LC ² MOS Quad SPST Switch
ADG432BR	Quad SPST	±0.25	24	No	DI LC ² MOS Quad SPST Switch
ADG433BN	Quad SPST	±0.25	24	No	DI LC ² MOS Quad SPST Switch
ADG433BR	Quad SPST	±0.25	24	No	DI LC ² MOS Quad SPST Switch
ADG441BN	Quad SPST	±0.5	70	No	LC ² MOS Quad SPST Switch
ADG441BR	Quad SPST	±0.5	70	No	LC ² MOS Quad SPST Switch
ADG442BN	Quad SPST	±0.5	70	No	LC ² MOS Quad SPST Switch
ADG442BR	Quad SPST	±0.5	70	No	LC ² MOS Quad SPST Switch
ADG444BN	Quad SPST	±0.5	70	No	LC ² MOS Quad SPST Switch
ADG444BR	Quad SPST	±0.5	70	No	LC ² MOS Quad SPST Switch
ADG407BN	Diff. 8:1 Mux	±20	80	No	LC ² MOS Differential 8 Channel Analog Multiplexer
ADG407BP	Diff. 8:1 Mux	±20	80	No	LC ² MOS Differential 8 Channel Analog Multiplexer
ADG429BN	Diff. 4:1 Mux	±0.5	100	Yes	LC ² MOS Differential 4 Channel Analog Multiplexer with address decoder and control latches

Mfr.'s Type	Function	Analog Input Leakage Current (nA max)	ON Resistance Ohms Max.	Latched	Comments
ADG429BP	Diff. 4:1 Mux	±0.5	100	Yes	LC ² MOS Differential 4 Channel Analog Multiplexer with address decoder and control latches
ADG509AKN	Diff. 4:1	1	300	No	Superior Second Source to DG509A
ADG409BN	Diff. 4:1	±0.5	100	No	LC ² MOS Differential 4 Channel Analog Multiplexer
ADG409BR	Diff. 4:1	±0.5	100	No	LC ² MOS Differential 4 Channel Analog Multiplexer
ADG508AKR	8:1 Mux	1	300	No	Superior Second Source to DG508A
ADG508AKN	8:1 Mux	1	300	No	Superior Second Source to DG508A
ADG428BN	8:1 Mux	±0.5	100	Yes	LC ² MOS 8 Channel Analog Multiplexer with address decoder and control latches
ADG428BP	8:1 Mux	±0.5	100	Yes	LC ² MOS 8 Channel Analog Multiplexer with address decoder and control latches
ADG408BN	8:1 Mux	±0.5	100	No	LC ² MOS 8 Channel Analog Multiplexer
ADG408BR	8:1 Mux	±0.5	100	No	LC ² MOS 8 Channel Analog Multiplexer
MUX08EP	8:1 JFET Mux	1	300	No	JFET Analog Multiplexer with Overvoltage and Power Supply Loss Protection
MUX08FP	8:1 JFET Mux	2	400	No	JFET Analog Multiplexer with Overvoltage and Power Supply Loss Protection
ADG406BN	16:1 Mux	±20	80	No	LC ² MOS 16 Channel Analog Multiplexer
ADG406BP	16:1 Mux	±20	80	No	LC ² MOS 16 Channel Analog Multiplexer
ADG426BN	16:1 Mux	±20	80	Yes	LC ² MOS 16 Channel Analog Multiplexer with address decoder and control latches
ADG426BRS	16:1 Mux	±20	80	Yes	LC ² MOS 16 Channel Analog Multiplexer with address decoder and control latches
MUX16ET	16:1 JFET MUX	1	380	No	JFET Analog Multiplexer with Overvoltage Protection
SW06GP	Quad SPST JFET	60	175	No	Quad Analog Switch
SW06GS	Quad SPST JFET	60	175	No	Quad Analog Switch
SSM2402P	Dual SPST	10	85	No	Clickless Bilateral Dual Audio Switch
SSM2402S	Dual SPST	10	85	No	Clickless Bilateral Dual Audio Switch

Mfr.'s Type	Function	Fullpower Bandwidth MHz Min.	Crosstalk Rejection I=10MHz	Comments
AD9300KP	4:1 Video Mux	27	70 dB	4 × 1 Wideband Video Mux
AD9300KQ	4:1 Video Mux	27	70 dB	4 × 1 Wideband Video Mux

Isolation Amplifiers

AD202/AD204 Miniature Input Isolation Amplifier

AD202 — Single-Channel; AD204 — Multi-Channel.

Mfr.'s Type	Peak Volt I_{in} V pk	Gain Range V/V	Gain Nonlin. % Max.	Freq. Resp. kHz	Comments
AD202JN	1000	1-100	±0.050	2	Lowest Cost, Small Size, Single Channel
AD202JY	1000	1-100	±0.050	2	Lowest Cost, Small Size, Single Channel
AD202KN	2000	1-100	±0.025	2	Lowest Cost, Small Size, Single Channel
AD202KY	2000	1-100	±0.025	2	Lowest Cost, Small Size, Single Channel
AD204JN	1000	1-100	±0.050	5	Lowest Cost, Small Size, Multichannel
AD204JY	1000	1-100	±0.050	5	Lowest Cost, Small Size, Multichannel
AD204KN	2000	1-100	±0.025	5	Lowest Cost, Small Size, Multichannel
AD204KY	2000	1-100	±0.025	5	Lowest Cost, Small Size, Multichannel

AD203 Military Temperature Range Isolation Amplifier

Full Power Bandwidth: 10 kHz.

AD203SN	2000	1-100	±0.025	10	Rugged, Military Temperature Range, Wide 10 kHz Bandwidth
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AD208 Precision, mV Input Isolation Amplifier

Gain Range: 1 to 1000 V/V. Input Offset Voltage: 0.27 mV max.

Mfr.'s Type	Peak Volt I_{in} V pk	Gain Range V/V	Gain Nonlin. % Max.	Freq. Resp. kHz	Comments
AD208AY	1000	1-1000	±0.030	0.4-4 kHz	Precision, Low Cost, Single Channel, mV Input
AD208BY	2000	1-1000	±0.015	0.4-4 kHz	Precision, Low Cost, Single Channel, mV Input

AD210 Precision, 3-Port Input and Output Isolation Amplifier

Input, output power ports. Isolated Power: ±15 V at 5 mA.

AD210AN	3500	1-100	±0.025	20	Precision, 3-Port Isolation, Wide Bandwidth
AD210BN	3500	1-100	±0.012	20	Precision, 3-Port Isolation, Wide Bandwidth
AD210JN	1500	1-100	±0.025	20	Precision, 3-Port Isolation, Wide Bandwidth

Sample/Track-and-Hold Amplifiers

A sample/track-and-hold amplifier (SHA/THA) is a device that samples an analog input signal then holds the instantaneous value upon the command of a logic control signal. This device is basically an analog memory where a capacitor serves as the storage element.

Popular applications utilizing the sample-and-hold function include data acquisition in which the SHA is used to capture the last instantaneous sampled analog input voltage prior to a conversion and hold this sample with minimal degradation

during the conversion process. SHAs/THAs are also popular in signal processing applications using ADCs with a subranging or successive approximation architecture.

Significant improvement in dynamic performance can be made by placing fast SHAs with low aperture jitter ahead of flash ADCs. SHAs are also useful in applications including D/A deglitchers, simultaneous sampling systems, peak detectors, pulse stretchers, delay lines and data distribution systems.

Mfr.'s Type	Nonlinearity % FS Max.	Acquisition Time (to 0.01%)	Aperture Time ns Typ.	Aperture Jitter Typ.	Droop Rate $\mu V/\mu s$ Max.	Comments
AD9100AD	0.01	23 ns max	+800 ps	<1 ps	±6mV/ μs	Ultrahigh Speed Monolithic Track-and-Hold
AD9100JD	0.01	23 ns max	+800 ps	<1 ps	±6mV/ μs	Ultrahigh Speed Monolithic Track-and-Hold
AD9101AR	0.01	23 ns max	+800 ps	<1 ps	±6mV/ μs	Ultrahigh Speed Monolithic Track-and-Hold
AD585AQ	0.3	3 μs max	35	0.5 ns	1 mV/ms	High Speed, Precision Sample-and-Hold Amplifier
AD585JP	0.3	3 μs max	35	0.5 ns	1 mV/ms	High Speed, Precision Sample-and-Hold Amplifier
SMP04EP	0.01 typ	9 μs typ	NS	NS	25 mV/s	CMOS Quad Sample-and-Hold Amplifier
SMP04ES	0.01 typ	9 μs typ	NS	NS	25 mV/s	CMOS Quad Sample-and-Hold Amplifier
SMP08FP	0.01 typ	7 μs typ	NS	NS	20 mV/s	Octal Sample-and-Hold with Multiplexed Input
SMP08FS	0.01 typ	7 μs typ	NS	NS	20 mV/s	Octal Sample-and-Hold with Multiplexed Input
SMP18FP	0.01 typ	3.5 μs typ	NS	NS	40 mV/s	Octal Sample-and-Hold with Multiplexed Input
SMP18FS	0.01 typ	3.5 μs typ	NS	NS	40 mV/s	Octal Sample-and-Hold with Multiplexed Input
AD684AQ	±0.003	1 μs max	-25	50 ps	1	Four Channel Sample-and-Hold Amplifier
AD684JQ	±0.003	1 μs max	-25	50 ps	1	Four Channel Sample-and-Hold Amplifier
AD781JN	±0.003	700 ns max	-25	50 ps	1	Complete 700 ns Sample-and-Hold Amplifier
AD781AN	±0.003	700 ns max	-25	50 ps	1	Complete 700 ns Sample-and-Hold Amplifier
AD783AR	±0.005 typ	375 ns max	15	20 ps	1 $\mu V/\mu s$	Complete Very High Speed Sample-and-Hold Amplifier
AD783JQ	±0.005 typ	375 ns max	15	20 ps	1 $\mu V/\mu s$	Complete Very High Speed Sample-and-Hold Amplifier
AD783JR	±0.005 typ	375 ns max	15	20 ps	1 $\mu V/\mu s$	Complete Very High Speed Sample-and-Hold Amplifier

Amplifiers

Analog Devices, Inc. offers the full range of Instrumentation Amplifiers from resistor to software programmable, single supply, low noise, low lb, and, of course, high accuracy. No more need to "roll your own"!

Instrumentation Amplifiers

Mfr.'s Type	Gain Range	Gain Error ±% Max. (G=1)	Gain TC ppm/°C Max. (G=1)	Nonlinearity % Max. (G=1)	Input Offset V μV Max.	Input Offset Current nA Max.	Voltage Noise @1kHz nV/√Hz RTI Typ.	Slew Rate V/μs Typ.	Power Supply Range ±V
AD524CD	1-1 k	0.02	5	0.003	50	±10	7	5.00	6 to 18
AD524BD	1-1 k	0.03	5	0.005	100	±15	7	5.00	6 to 18
AD524AD	1-1 k	0.05	5	0.010	250	±35	7	5.00	6 to 18
AD524SD	1-1 k	0.05	5	0.010	100	±35	7	5.00	6 to 18
AD526BD	1, 2, 4, 8, 16	0.01	2	0.005	500	—	30	6.00	4.5 to 16.5
AD526JN	1, 2, 4, 8, 16	0.05	2	0.005	1500	—	30	6.00	4.5 to 16.5
AD620BN	1-10 k	0.02	-50 (G≤1 k)	0.004 (G≤1 k)	50	0.5	9	1.20	2.3 to 18
AD620BR	1-10 k	0.02	-50 (G≤1 k)	0.004 (G≤1 k)	50	0.5	9	1.20	2.3 to 18
AD620AN	1-10 k	0.10	-50 (G≤1 k)	0.004 (G≤1 k)	125	1	9	1.20	2.3 to 18
AD620AR	1-10 k	0.10	-50 (G≤1 k)	0.004 (G≤1 k)	125	1	9	1.20	2.3 to 18
AD621BN	10-100	0.05 (G=10 or 100)	5 (G=10)	0.001 (G=10)	125	0.5	13	1.20	2.3 to 18
AD621BR	10-100	0.05 (G=10 or 100)	5 (G=10)	0.001 (G=10)	125	0.5	13	1.20	2.3 to 18
AD621AN	10-100	0.15 (G=10 or 100)	5 (G=10)	0.001 (G=10)	250	1	13	1.20	2.3 to 18
AD621AR	10-100	0.15 (G=10 or 100)	5 (G=10)	0.001 (G=10)	250	1	13	1.20	2.3 to 18
AD624CD	1-1 k	0.02	5	0.001	25	±10	4	5.00	6 to 18
AD624BD	1-1 k	0.03	5	0.003	75	±15	4	5.00	6 to 18
AD624AD	1-1 k	0.05	5	0.005	200	±35	4	5.00	6 to 18
AD625CD	1-10 k	0.02	5 (G≤1 k)	0.001 (G≤256)	25	±5	4	5.00	6 to 18
AD625BD	1-10 k	0.03	5 (G≤1 k)	0.002 (G≤256)	50	±15	4	5.00	6 to 18
AD625KN	1-10 k	0.03	5 (G≤1 k)	0.002 (G≤256)	50	±15	4	5.00	6 to 18
AD625AD	1-10 k	0.05	5 (G≤1 k)	0.005 (G≤256)	200	±35	4	5.00	6 to 18
AD625JN	1-10 k	0.05	5 (G≤1 k)	0.005 (G≤256)	200	±35	4	5.00	6 to 18
AD626BN	10-100	0.6 (G=10)	30 (G=10)	0.016 (G=10)	250	—	250	0.22	ds ±1.2-±6
AD626AN	10-100	1 (G=10)	50 (G=10)	0.016 (G=10)	250	—	250	0.22	ss 2.4-10
AD626AR	10-100	1 (G=10)	50 (G=10)	0.016 (G=10)	250	—	250	0.22	ds ±1.2-±6
AMP01EX	0.1-10 k	0.6 (G=1-1 k)	10 (G=1 k)	0.010	50	1	5	4.50	4.5 to 18
AMP01FX	0.1-10 k	0.8 (G=1-1 k)	15 (G=1 k)	0.015	100	1	5	4.50	4.5 to 18
AMP01GS	0.1-10 k	0.8 (G=1-1 k)	15 (G=1 k)	0.015	100	1	5	4.50	4.5 to 18
AMP02EP	1-10 k	0.02	50 (G≤1 k)	0.006 (G≤1 k)	100	5	9	6.00	4.5 to 18
AMP02FP	1-10 k	0.05	50 (G≤1 k)	0.006 (G≤1 k)	200	10	9	6.00	4.5 to 18
AMP02FS	1-10 k	0.05	50 (G≤1 k)	0.006 (G≤1 k)	200	10	9	6.00	4.5 to 18
AMP04EP	1-1 k	0.50	30	0.005 typ.	150	5	270	0.12	+4.5 to +36
AMP04ES	1-1 k	0.50	30	0.005 typ.	150	5	270	0.12	+4.5 to +36
AMP04FP	1-1 k	0.75	50	0.005 typ.	300	10	270	0.12	+4.5 to +36
AMP04FS	1-1 k	0.75	50	0.005 typ.	300	10	270	0.12	+4.5 to +36

Low Current Noise Amplifier

These amplifiers offer both low current noise and low input bias current specs. Products are available in single and dual configurations.

Mfr.'s Type	Ib pA Max.	In f=1 kHz I _A /√Hz	Input Impedance Differential Ω||pF Typ.	Input Impedance Common Mode Ω||pF Typ.	CMRR dB f=1 kHz Typ.	Vos mV max	Vos TC μV/°C Max.	BW MHz Typ.	single dual
AD549LH	0.06	0.11	10E13||1	10E15||0.8	100	0.50	10.0	1.0	s
AD549KH	0.10	0.16	10E13||1	10E15||0.8	100	0.25	5.0	1.0	s
AD549JH	0.25	0.22	10E13||1	10E15||0.8	90	1.00	20.0	1.0	s
AD546JN	1.00	0.40	10E13||1	10E15||0.8	90	2.00	100.0	1.0	s
AD795JR	2.00	0.60	10E12||1	10E14||2.2	110	0.50	10.0	1.6	s
AD795KN	1.00	0.60	10E12||1	10E14||2.2	110	0.25	3.0	1.6	s
AD645AH	5.00	0.60	10E12||1	10E14||2.2	110	0.50	5.0	2.0	s
AD645JN	3.00	0.60	10E12||1	10E14||2.2	110	0.50	10.0	2.0	s
AD548JN	20.00	1.80	1X10E12||3	3X10E12||3	90	2.00	20.0	1.0	s
AD548JR	20.00	1.80	1X10E12||3	3X10E12||3	90	2.00	20.0	1.0	s
AD548KN	10.00	1.80	1X10E12||3	3X10E12||3	92	0.50	5.0	1.0	s
AD548SH	20.00	1.80	1X10E12||3	3X10E12||3	90	2.00	20.0	1.0	s
AD648JN	20.00	1.80	1X10E12||3	3X10E12||3	76	2.00	20.0	1.0	d
AD648JR	20.00	1.80	1X10E12||3	3X10E12||3	76	2.00	20.0	1.0	d
AD648KR	10.00	1.80	1X10E12||3	3X10E12||3	82	1.00	10.0	1.0	d
OP249FZ	75.00	3.00	10E12||6	—	90	0.70	6.0	4.7	d
OP249GP	75.00	3.00	10E12||6	—	90	2.00	25.0	4.7	d
OP249GS	75.00	3.00	10E12||6	—	90	2.00	25.0	4.7	d
AD744JN	100.00	10.00	3X10E12||5.5	3X10E12||5.5	88	1.00	20.0	13.0	s
AD744JR	100.00	10.00	3X10E12||5.5	3X10E12||5.5	88	1.00	20.0	13.0	s
AD746JN	250.00	10.00	2.5X10E11||5.5	2.5X10E11||5.5	88	1.50	20.0	13.0	d
AD746JR	250.00	10.00	2.5X10E11||5.5	2.5X10E11||5.5	88	1.50	20.0	13.0	d

Low/Micro Power Amplifiers

Low power amplifiers are typically 0.1 mA<I_S<1 mA while micropower amplifiers are I_S<0.1 mA. Analog Devices, Inc. has a complete offering of single, dual and quad amplifiers to meet your needs.

Mfr.'s Type	I _S Max. mA	Vos Max. mV	Ib Max. nA	GBW Typ. MHz	SR Typ. V/μs	single dual quad	Mfr.'s Type	I _S Max. mA	Vos Max. mV	Ib Max. nA	GBW Typ. MHz	SR Typ. V/μs	single dual quad
OP90GP	0.015	0.450	25	0.02	—	s	OP97EZ	0.600	0.075	±0.15	0.9	0.20	s
OP90GS	0.015	0.450	25	0.02	—	s	OP97FP	0.600	0.075	±0.15	0.9	0.20	s
OP290FZ	0.030	0.300	20	0.02	—	d	OP297FZ	0.625	0.100	±0.15	0.5	0.15	d
OP290GP	0.030	0.500	25	0.02	—	d	OP297GP	0.625	0.200	±0.2	0.5	0.15	d
OP290GS	0.030	0.500	25	0.02	—	d	OP297GS	0.625	0.200	±0.2	0.5	0.15	d
OP490FY	0.060	0.750	20	0.02	—	q	OP497GP	2.500	0.150	0.2	0.5	0.15	q
OP490GP	0.060	1.000	25	0.02	—	q	OP497GS	2.500	0.150	0.2	0.5	0.15	q
OP490GS	0.060	1.000	25	0.02	—	q	OP482GP	1.000	4.000	0.1	4.0	9.00	q
OP282GP	0.500	3.000	0.1	4.00	9.00	d	OP482GS	1.000	4.000	0.1	4.0	9.00	q
OP282GS	0.500	3.000	0.1	4.00	9.00	d	AD706JN	1.200	0.100	0.2	0.8	0.15	d
AD705JN	0.600	0.090	0.15	0.80	0.15	s	AD706JR	1.200	0.100	0.2	0.8	0.15	d
AD705JR	0.600	0.090	0.15	0.80	0.15	s	AD704JN	2.400	0.150	0.27	0.8	0.10	q
OP97EP	0.600	0.025	±0.1	0.90	0.20	s	AD704JR-16	2.400	0.150	0.27	0.8	0.10	q

Low Voltage Noise Amplifiers

The market for low noise amplifiers are growing. Our performance specifications combined with low noise features allows ADI to provide you with a vast selection.

Mfr.'s Type	Voltage Noise on Typ. 1 kHz nV/√Hz	Voltage Noise on Typ. 10 kHz nV/√Hz	Current Noise Insn- Typ. 1 kHz pA/√Hz	Ib Typ. nA	Vos mV Typ.	GBW MHz Typ.	SR V/μs Typ.	single dual quad	Mfr.'s Type	Voltage Noise on Typ. 1 kHz nV/√Hz	Voltage Noise on Typ. 10 kHz nV/√Hz	Current Noise Insn- Typ. 1 kHz pA/√Hz	Ib Typ. nA	Vos mV Typ.	GBW MHz Typ.	SR V/μs Typ.	single dual quad
AD797AN	0.9	0.9	2.000	800	0.025	110.0	18.0	s	OP27EZ	3.0	3.5	0.400	±10	0.010	8.0	2.8	s
AD797AR	0.9	0.9	2.000	800	0.025	110.0	18.0	s	OP27FP	3.0	3.5	0.400	±12	0.020	8.0	2.8	s
OP27AZ	3.0	3.5	0.400	±10	0.010	8.0	2.8	s	OP27FZ	3.0	3.5	0.400	±12	0.020	8.0	2.8	s
OP27EJ	3.0	3.5	0.400	±10	0.010	8.0	2.8	s	OP27GP	3.2	3.5	0.400	±15	0.030	8.0	2.8	s
OP27EP	3.0	3.5	0.400	±10	0.010	8.0	2.8	s	OP27GS	3.2	3.5	0.400	±15	0.030	8.0	2.8	s

Amplifiers — Continued

Low Voltage Noise Amplifiers — Continued

Mr.'s Type	Voltage Noise on Typ. 1 kHz nV/√Hz	Voltage Noise on Typ. 10 kHz nV/√Hz	Current Noise In/In- Typ. 1 kHz pA/√Hz	Ib Typ. nA	Vos mV Typ.	GBW MHz Typ.	SR V/μs Typ.	single dual quad
OP27GZ	3.2	3.5	0.400	±15	0.03	8.0	2.8	s
OP27CZ	3.2	3.5	0.400	±15	0.03	8.0	2.8	s
OP37EP	3.0	3.5	0.400	±10	0.01	63.0	17.0	s
OP37EZ	3.0	3.5	0.400	±10	0.01	63.0	17.0	s
OP37GP	3.2	3.5	0.400	±15	0.03	63.0	17.0	s
OP37GS	3.2	3.5	0.400	±15	0.03	63.0	17.0	s
AD743AN	3.2	2.9	0.007	0.15	0.25	4.5	2.8	s
AD743BO	3.2	2.9	0.007	0.15	0.10	4.5	2.8	s
AD743JR-16	3.2	2.9	0.007	0.15	0.25	4.5	2.8	s
AD743KN	3.2	2.9	0.007	0.15	0.10	4.5	2.8	s
AD745AN	3.2	2.9	0.007	0.15	0.25	20.0	12.5	s
AD745BO	3.2	2.9	0.007	0.15	0.10	20.0	12.5	s
AD745JR-16	3.2	2.9	0.007	0.15	0.25	20.0	12.5	s

Mr.'s Type	Voltage Noise on Typ. 1 kHz nV/√Hz	Voltage Noise on Typ. 10 kHz nV/√Hz	Current Noise In/In- Typ. 1 kHz pA/√Hz	Ib Typ. nA	Vos mV Typ.	GBW MHz Typ.	SR V/μs Typ.	single dual quad
AD745KN	3.2	2.9	0.007	0.15	0.10	20.0	12.5	s
OP270EZ	3.2	3.6	0.600	5.00	0.01	5.0	2.4	d
OP270FZ	3.2	3.6	0.600	10.00	0.02	5.0	2.4	d
OP270GP	3.2	3.6	0.600	15.00	0.05	5.0	2.4	d
OP470AY	3.2	3.8	0.400	6.00	0.10	6.0	2.0	q
OP470EY	3.2	3.8	0.400	6.00	0.10	6.0	2.0	q
OP470FY	3.2	3.8	0.400	15.00	0.20	6.0	2.0	q
OP470GP	3.2	3.8	0.400	25.00	0.40	6.0	2.0	q
OP470GS	3.2	3.8	0.400	25.00	0.40	6.0	2.0	q
OP471AY	6.5	9.0	0.400	7.00	0.25	6.0	8.0	q
OP471GP	6.5	9.0	0.400	25.00	0.25	6.0	8.0	q
OP271GP	7.6	16.0	0.600	12.00	0.02	5.0	8.5	d

Precision Amplifiers

Analog Devices, Inc. leads the market in precision amplifiers. Below are listed products from the highest precision to the most affordable. Our goal is "Affordable Performance!"

Mr.'s Type	Vos μV Max.	Vos TC μV/°C Max.	Noise μVp-p 0.1-10 Hz Typ.	GBW MHz Typ.	Slow Rate V/μs Typ.	Ib nA Max.	CMRR dB f=1 kHz Typ.	single dual quad
AD707JN	90	1.0	0.23	0.9	0.3	2.500	140	s
AD707JR	90	1.0	0.23	0.9	0.3	2.500	140	s
AD707KR	25	0.3	0.23	0.9	0.3	1.500	140	s
OP177EZ	25	0.3	0.35	0.6	0.3	2.000	140	s
OP177FP	25	0.3	0.35	0.6	0.3	2.000	140	s
OP177GP	25	0.3	0.35	0.6	0.3	2.000	140	s
OP177GS	25	0.3	0.35	0.6	0.3	2.000	140	s
OP77EP	25	0.6	0.35	0.6	0.3	2.000	105	s
OP77EZ	25	0.3	0.35	0.6	0.3	2.000	105	s
OP77FJ	60	0.6	0.38	0.6	0.3	2.800	105	s
OP77FP	60	1.0	0.38	0.6	0.3	2.800	105	s
OP77GP	100	1.2	0.38	0.6	0.3	2.800	105	s
OP77GS	100	1.2	0.38	0.6	0.3	2.800	105	s
AD708BQ	50	0.4	0.23	0.9	0.3	1.000	140	d
AD708JN	100	1.0	0.23	0.9	0.3	2.500	140	d
AD711JN	1000	3.0	2.00	4.0	20.0	0.050	88	s
AD711JR	1000	3.0	2.00	4.0	20.0	0.050	88	s
AD711KN	500	1.0	2.00	4.0	20.0	0.050	88	s
AD712JN	3000	20.0	2.00	4.0	20.0	0.025	88	d
AD712JR	3000	20.0	2.00	4.0	20.0	0.025	88	d
AD712KN	1000	10.0	2.00	4.0	20.0	0.020	88	d
AD713JN	1500	5.0	2.00	4.0	20.0	0.150	88	q

Mr.'s Type	Vos μV Max.	Vos TC μV/°C Max.	Noise μVp-p 0.1-10 Hz Typ.	GBW MHz Typ.	Slow Rate V/μs Typ.	Ib nA Max.	CMRR dB f=1 kHz Typ.	single dual quad
AD713JR-16	1500	5.0	2.00	4.0	20.0	0.15	88	q
AD713KN	500	20.0	2.00	4.0	20.0	0.075	94	q
OP285GP	250	5.0	1.00	150.0	20.0	150	86	d
OP285GS	250	5.0	1.10	150.0	20.0	150	86	d
OP07AZ	25	0.6	0.35	0.6	0.30	±2	126	s
OP07CJ	75	1.3	0.35	0.6	0.30	±3	126	s
OP07CP	75	1.3	0.35	0.6	0.30	±3	126	s
OP07CS	75	1.3	0.35	0.6	0.30	±3	126	s
OP07CZ	75	1.3	0.35	0.6	0.30	±3	126	s
OP07DP	75	1.3	0.35	0.6	0.30	±3	126	s
OP07EJ	75	1.3	0.35	0.6	0.30	±3	126	s
OP07EP	75	1.3	0.35	0.6	0.30	±3	126	s
OP07EZ	75	1.3	0.35	0.6	0.30	±3	126	s
OP200AZ	75	0.5	0.50	0.5	0.15	2	135	s
OP200EZ	75	0.5	0.50	0.5	0.15	2	135	s
OP200FZ	150	1.5	0.50	0.5	0.15	4	135	s
OP200GP	200	2.0	0.50	0.5	0.15	5	130	s
OP400AY	150	1.2	0.50	0.5	0.15	3	140	q
OP400EY	150	1.2	0.50	0.5	0.15	3	140	q
OP400FY	230	2.0	0.50	0.5	0.15	6	140	q
OP400GP	300	2.5	0.50	0.5	0.15	7	135	q
OP400GS	300	2.5	0.50	0.5	0.15	7	135	q

Single Supply Amplifiers

You've demanded single supply operation at lower and lower supplies and WE'VE listened. Ask about current new offerings in this product family. If we don't have what you need right now, it's probably on its way!

Mr.'s Type	ISY Max. mA	Vos Max. mV	Supply Voltage Range V	GBW Typ. MHz	SR Typ. V/μs	single dual quad
OP220EZ	0.115	0.150	+5 to +30	0.200	0.05	d
OP220FZ	0.125	0.300	+5 to +30	0.200	0.05	d
OP220GP	0.135	0.750	+5 to +30	0.200	0.05	d
OP220GS	0.135	0.750	+5 to +30	0.200	0.05	d
OP220GZ	0.135	0.750	+5 to +30	0.200	0.05	d
OP295GP	0.300	0.300	+3 to +36	0.075	0.03	d
OP295GS	0.300	0.300	+3 to +36	0.075	0.03	d
OP420GY	0.300	4.000	+5 to +30	0.150	0.05	q
OP221AZ	0.550	0.150	+5 to +30	0.600	0.30	d
OP221EZ	0.550	0.150	+5 to +30	0.600	0.30	d
OP495GP	0.600	0.300	+3 to +36	0.075	0.03	q
OP495GS	0.600	0.300	+3 to +36	0.075	0.03	q
OP221GZ	0.650	0.500	+5 to +30	0.600	0.30	d
AD820AN	0.700	1.000	+4 to +36	2.000	3.50	s
AD820AR-3V	0.700	1.000	+4 to +36	2.000	3.50	s
AD822AN	0.700	1.000	+4 to +36	2.000	3.50	d
AD822AR	0.700	1.000	+4 to +36	2.000	3.50	d
AD822AR-3V	0.700	1.000	+4 to +36	2.000	3.50	d
AD822BN	0.700	0.500	+4 to +36	2.000	3.50	d
OP291GP	0.700	0.700	+2.7 to +12	3.000	1.00	d

Mr.'s Type	ISY Max. mA	Vos Max. mV	Supply Voltage Range V	GBW Typ. MHz	SR Typ. V/μs	single dual quad
OP291GS	0.700	0.700	+2.7 to +12	3.0	1.0	d
OP491GP	1.400	0.700	+2.7 to +12	3.0	1.0	q
OP491GS	1.400	0.700	+2.7 to +12	3.0	1.0	q
OP183GP	1.500	1.000	+3 to +18	5.0	10.0	s
OP183GS	1.500	1.000	+3 to +18	5.0	10.0	s
OP283GP	1.500	1.000	+3 to +18	5.0	10.0	d
OP283GS	1.500	1.000	+3 to +18	5.0	10.0	d
OP213EZ	1.750	0.150	+4 to +18	3.5	0.9	d
OP213FP	1.750	0.300	+4 to +18	3.5	—	d
OP213FS	1.750	0.300	+4 to +18	3.5	—	d
OP113EZ	2.000	0.075	+4 to +18	3.4	1.2	s
OP113FP	2.000	0.150	+4 to +18	3.4	1.2	s
OP113FS	2.000	0.150	+4 to +18	3.4	1.2	s
OP413FP	2.000	0.150	+4 to +18	3.4	1.2	q
OP413FS	2.000	0.150	+4 to +18	3.4	1.2	q
OP292GP	2.400	0.800	+4.5 to +33	4.0	3.0	d
OP292GS	2.400	0.800	+4.5 to +33	4.0	3.0	d
OP492GP	4.800	1.000	+4.5 to +33	4.0	3.0	q
OP492GS	4.800	1.000	+4.5 to +33	4.0	3.0	q

Current Feedback High Speed Amplifiers

Analog Devices leads the market in high speed amplifiers. The listings below show our offering of a very full line of both current and voltage feedback products.

Mr.'s Type	Slow Rate V/μs Typ.	GBW MHz Typ.	Settling Time ns-% Typ.	Vos mV Typ.	Iout mA Min.	Supply Current mA Typ.	single dual quad
AD811AN	2500	1000	65-0.01	0.500	100 typ.	16.5	s
AD811AR-16	2500	1000	65-0.01	0.500	100 typ.	16.5	s
AD811JR	2500	1000	65-0.01	0.500	100 typ.	16.5	s
AD844AN	2000	60	100-0.10	0.050	60	6.5	s
AD844JR-16	2000	60	100-0.10	0.050	60	34.0	s
AD9617JR	1600	190	10-0.10	0.500	60	4.5	d
AD812AN	1600	100	40	2.000	40	3.0	d
AD8001AN	1200	880	10	2.000	50	5.0	s

Mr.'s Type	Slow Rate V/μs Typ.	GBW MHz Typ.	Settling Time ns-% Typ.	Vos mV Typ.	Iout mA Min.	Supply Current mA Typ.	single dual quad
AD8001AR	1200	880	10	2.000	50	5.0	s
AD810AN	1000	650	50-0.10	1.500	40	6.8	s
AD810AR	1000	650	50-0.10	1.500	40	6.8	s
ADEL2020AN	500	300	60-0.10	1.500	30	6.8	s
ADEL2020AR-20	500	300	60-0.10	1.500	30	6.8	s
AD846AN	450	80	110-0.01	0.025	65	5.0	s
AD846BN	450	80	110-0.01	0.025	65	5.0	s
AD813AN	250	100	40	2.000	30	4.5	t
AD813AR-14	250	100	40	2.000	30	4.5	t

Voltage Feedback High Speed Amplifiers

Mr.'s Type	Slow Rate V/μs Typ.	GBW MHz Typ.	Settling Time ns-% Typ.	Vos mV Typ.	Iout mA Min.	Supply Current mA Typ.	single dual quad
AD9624AN	2200	1800	14-0.01	2.000	60	23.0	s
AD9624AQ	2200	1800	14-0.01	2.000	60	23.0	s
AD9624AR	2200	1800	14-0.01	2.000	60	23.0	s
AD9624SQ	2200	1800	14-0.01	2.000	60	23.0	s
AD9623AN	2100	1080	14-0.01	2.000	60	23.0	s
AD9623AQ	2100	1080	14-0.01	2.000	60	23.0	s
AD9623AR	2100	1080	14-0.01	2.000	60	23.0	s
AD9623SQ	2100	1080	14-0.01	2.000	60	23.0	s
AD9622AN	1500	440	14-0.01	2.000	60	23.0	s
AD9622AR	1500	440	14-0.01	2.000	60	23.0	s
AD9621AN	1200	350	11-0.01	2.000	60	23.0	s

AD9621AR	1200	350	11-0.01	2.000	60	23.0	s
AD818AN	500	260	80-0.01	0.500	50	7.0	s
AD818AR	500	260	80-0.01	0.500	50	7.0	s
AD828AN	500	260	80-0.01	0.500	50	7.0	d
AD828AR	500	260	80-0.01	0.500	50	7.0	d
AD840JN	400	400	100-0.01	0.200	50	10.5	s
AD840JQ	400	400	100-0.01	0.200	50	10.5	s
AD840KN	400	400	100-0.01	0.100	50	10.5	s
AD842JH	375	80	100-0.01	0.500	100	13.0	s
AD842JN	375	80	100-0.01	0.500	100	13.0	s
AD842JQ	375	80	100-0.01	0.500	100	13.0	s

Amplifiers — Continued

Voltage Feedback High Speed Amplifiers — Continued

Mr.'s Type	Slew Rate V/μs Typ.	GBW MHz Typ.	Settling Time ns-% Typ.	Vos mV Typ.	Iout mA Min.	Supply Current mA Typ.	single dual quad
AD842KN	375	80	100-0.01	0.300	100	13.0	s
AD817AN	350	50	70-0.01	0.500	50	7.0	s
AD817AR	350	50	70-0.01	0.500	50	7.0	s
AD826AN	350	50	70-0.01	0.500	50	7.0	d
AD826AR	350	50	70-0.01	0.500	50	7.0	d
AD827JN	300	50	120-0.1	0.500	20 typ.	10.5	d
AD827JR-16	300	50	120-0.1	0.500	20 typ.	10.5	d
AD841JN	300	40	110-0.01	0.800	50	11.0	s
AD841JN	300	40	110-0.01	0.800	50	11.0	s
AD841JQ	300	40	110-0.01	0.800	50	11.0	s
AD841KN	300	40	110-0.01	0.500	50	11.0	s
AD847JN	300	50	120-0.01	0.500	32	5.3	s
AD847JR	300	50	120-0.01	0.500	32	5.3	s

Difference Amplifiers

AD830AN	530	100	25-0.1	1.500	50	14.5	s
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Buffer Amplifiers

Mr.'s Type	-3 dB BW MHz Typ.	SR V/μs Min.	Settling Time to 0.02% ns Typ.	Rise Time 1 V Step ns Typ.	Iout mA Min.	Vos mV Typ.	Iss mA Max.
AD9630AN	750	700	8	1.1	50	±3	26.0
AD9630AR	750	700	8	1.1	50	±3	26.0
AD9620AD	600	1500	8	0.8	40	±2	48.0

Audio Amplifiers

ADI offers a full line of products for high-end audio applications. Below are listed a sampling of the audio amplifier products. Other listings show audio switches, matched transistors, DACs, and others. Featured here are the OP176 and OP275 with excellent noise specs, low power consumption and small packaging.

Mr.'s Type	Description
OP176GP	The OP176 is a low noise, high output drive op amp with a combination bipolar and JFET front end.
OP176GS	Noise = 6 nV/√Hz, SR = 25 V/μs, ISY = 2.5 mA, GBW = 10 MHz-excellent for high performance applications.
OP275GP	The OP275 is a dual, bipolar/JFET amplifier featuring low distortion (0.0006%) at low supply current (5 mA). Noise = 6 nV/√Hz, SR = 22 V/μs, GBW = 9 MHz. 8-pin DIP and SOIC.
OP275GS	The OP275 is a dual, bipolar/JFET amplifier featuring low distortion (0.0006%) at low supply current (5 mA). Noise = 6 nV/√Hz, SR = 22 V/μs, GBW = 9 MHz. 8-pin DIP and SOIC.
SSM2017P	The SSM2017, ultralow noise audio preamplifier features 0.95 nV/√Hz at 20 kHz BW and low cost.
SSM2018P	The SSM2018 Voltage Controlled Amplifier has the highest performance available. No external amp req'd.
SSM2024P	The SSM2024 quad is a low cost current controlled amplifier.
SSM2120P	The SSM2120 dual VCA also encompasses 2 level detectors on board for dynamic range processing.
SSM2135P	The SSM2135 is a dual, single supply amplifier offering high output drive capability with excellent sonic characteristics. 5.2 nV/√Hz, 0.001% THD+N, 8-pin SOIC and PDIP.
SSM2135S	The SSM2135 is a dual, single supply amplifier offering high output drive capability with excellent sonic characteristics. 5.2 nV/√Hz, 0.001% THD+N, 8-pin SOIC and PDIP.
SSM2141P	The SSM2141 is a high CMR differential line receiver complementing the SSM2142 line driver.
SSM2142P	The SSM2142 is a balanced differential line drivers, capable of driving 10 V RMS into a 600 Ω load.
SSM2143P	The SSM2143 is a -6 dB differential line receiver. CMR = 90 dB typ. with ultralow THD (0.0006% typ.).

Comparators

Mr.'s Type	Propagation Delay ns Max.	Dispersion ps	Logic	Vos mV Max.	single dual quad
AD96685BH	3.5	50	ECL	2.0	s
AD96687BQ	3.5	50	ECL	2.0	d
AD9696KN	7	100	TTL	2.0	s
AD9696KR	7	100	TTL	2.0	s
AD9698KN	7	100	TTL	2.0	d
AD9698KR	7	100	TTL	2.0	d

Mr.'s Type	Slew Rate V/μs Typ.	GBW MHz Typ.	Settling Time ns-% Typ.	Vos mV Typ.	Iout mA Min.	Supply Current mA Typ.	single dual quad
AD848JN	300	175	100-0.1	0.200	20 typ.	5.1	s
AD848JR	300	175	100-0.1	0.200	20 typ.	5.1	s
AD849JN	300	725	80-0.1	0.300	20 typ.	5.1	s
AD849JR	300	725	80-0.1	0.300	20 typ.	5.1	s
AD843AQ	250	34	135-0.01	1.000	50	12.0	s
AD843JN	250	34	135-0.01	1.000	50	12.0	s
AD843JR-16	250	34	135-0.01	1.000	50	12.0	s
AD843KN	250	34	135-0.01	0.500	50	12.0	s
AD829JN	230	750	65-0.1	0.200	20 typ.	5.3	s
AD829JR	230	750	65-0.1	0.200	20 typ.	5.3	s
OP467GP	170	25	170-0.01	0.200	10	8.0	q
OP467GS	170	25	170-0.01	0.200	10	8.0	q
AD845KN	100	16	350-0.01	0.100	50	10.0	s

AD830JR	530	100	25-0.1	1.500	50	14.5	s
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Mr.'s Type	-3 dB BW MHz Typ.	SR V/μs Min.	Settling Time to 0.02% ns Typ.	Rise Time 1 V Step ns Typ.	Iout mA Min.	Vos mV Typ.	Iss mA Max.
BUF04GP	110	2000	60 (0.1%)	0.5	±65	0.3	8.5
BUF04GS	110	2000	60 (0.1%)	0.5	±65	0.3	8.5
BUF03AJ	50	220	100 (0.1%)	7 (1/2 V)	70	10	25.0

Analog Multipliers/Dividers

Analog Multipliers/Dividers are devices that can accept analog voltages and multiply, divide, square and/or square-root them. These devices can process signals over a wide frequency range (from DC to over 500MHz) and with varying degrees of accuracy, (from 0.4% full scale to 2% full scale), depending on the device selected. Most of these devices are referred to as "4-quadrant multipliers," meaning that these devices can accept any combination of input signal polarity

and provide output signals of appropriate polarity. Analog Multipliers can be used to implement a wide variety of signal processing functions including modulation and demodulation, fixed and variable remote gain adjustment, power measurement and mathematical operations in analog computing, curve fitting and linearizing.

Mr.'s Type	BW MHz Typ.	Total Error % FS Max.	Supply Voltage Range	Output Voltage Swing Min.	Comments
AD534JD	1	±1	±8 V to ±18 V	±11 V	High Accuracy, 4 Quadrant Mult/Div
AD534JH	1	±1	±8 V to ±18 V	±11 V	High Accuracy, 4 Quadrant Mult/Div
AD534KH	1	±0.5	±8 V to ±18 V	±11 V	High Accuracy, 4 Quadrant Mult/Div
AD534LD	1	±0.25	±8 V to ±18 V	±11 V	High Accuracy, 4 Quadrant Mult/Div
AD633JN	1	±2	±8 V to ±18 V	±11 V	Low Cost, 4-Quadrant Multiplier
AD633JR	1	±2	±8 V to ±18 V	±11 V	Low Cost, 4-Quadrant Multiplier
MLT04GP	8	±5	±4.75 V to ±5.25 V	±3 V	4-Channel, 4-Quadrant Multiplier
MLT04GS	8	±5	±4.75 V to ±5.25 V	±3 V	4-Channel, 4-Quadrant Multiplier

Mr.'s Type	BW MHz Typ.	Total Error % FS Max.	Supply Voltage Range	Output Voltage Swing Min.	Comments
AD734AN	10	±0.4	±8 V to ±16.5 V	±12 V	Very High Accuracy Replacement for AD534
AD734AQ	10	±0.4	±8 V to ±16.5 V	±12 V	Very High Accuracy Replacement for AD534
AD734BQ	10	±0.25	±8 V to ±16.5 V	±12 V	Very High Accuracy Replacement for AD534
AD835AN	250	NS	±4.5 to ±5.5 V	±2.2 V	High Speed, Voltage Output, 4-Quadrant Mult
AD835AR	250	NS	±4.5 to ±5.5 V	±2.2 V	High Speed, Voltage Output, 4-Quadrant Mult
AD834JN	>500	±2	±4 V to ±9 V	Current O/P	Very High Speed, 4-Quadrant Mult/Div
AD834JR	>500	±2	±4 V to ±9 V	Current O/P	Very High Speed, 4-Quadrant Mult/Div
AD834AQ	>500	±2	±4 V to ±9 V	Current O/P	Very High Speed, 4-Quadrant Mult/Div

Modulator/Demodulator

This category is unusual in that it includes a single product, the AD630. The AD630 is a fast, flexible switched dual-input op amp with an on-chip comparator. The AD630 is intended to operate in wide-band, low level and wide-dynamic range instrumentation applications and coherent systems. The AD630 is capable of many analog signal processing functions such as balanced modulation and demodulation, phase detection, square-wave multiplication, absolute-value

amplification, and two-channel precision multiplexing. It can also be used as a lock-in amplifier, synchronous detector, rectifier, and much more. The AD630 essentially provides a complete, solution, with on-chip scaling resistors and requires little or no additional circuitry.

Mr.'s Type	Unity Gain Channel BW MHz Typ.*	Open Loop Gain Min./dB	Input Offset Voltage Max./μV	Output Voltage Swing Min.	Comments
AD630JN	2	90	500	+10 V	Balanced Modulator/Demodulator with 10 V FS Output
AD630KN	2	100	100	+10 V	Balanced Modulator/Demodulator with 10 V FS Output
AD630AD	2	90	500	+10 V	Balanced Modulator/Demodulator with 10 V FS Output
AD630BD	2	100	100	+10 V	Balanced Modulator/Demodulator with 10 V FS Output

*Unity gain small signal bandwidth.

RMS-to-DC Converters

RMS-to-DC converters continuously compute the instantaneous square of an input signal, average it, and take the square root of the result, to provide a dc voltage proportional to the rms of the input. Some of these devices, like the AD536A and the AD636, also provide an auxiliary dc output voltage that is proportional to the logarithm of the rms value, for dB measurements.

True rms devices like these are widely used for the measurement of electrical signals derived from mechanical phenomena, such as strain, stress, vibration, shock, expansion, bearing noise, thermal noise and acoustical noise. The electrical signals produced by these mechanical actions are often noisy, nonperiodic, nonsinusoidal, and superimposed

on dc levels, and require true rms measurement for consistent, valid and accurate measurements. RMS converters are also useful for accurate measurements on low-repetition-rate pulse trains having high crest factors (ratio of peak to rms value), and for the measurements of Silicon Controlled Rectifier waveforms at different firing angles.

These devices provide excellent pre-trimmed performance, improvable by simple optional trims, making them ideal for all types of laboratory and OEM rms instrumentation where amplitude measurements must be made with high accuracy and independent of wave shape.

Mfr.'s Type	Conversion Accuracy mV $\pm$ % Read Max.	Full-Scale Range V RMS	dB Output Error dB Max	Comments
AD737KN	$\pm 0.2 \pm 0.3$	0.2	—	Low Cost, Low Power, Power Down
AD737KR	$\pm 0.2 \pm 0.3$	0.2	—	Low Cost, Low Power, Power Down
AD636KD	$\pm 0.2 \pm 0.5$	0.2	± 0.2	Low Power
AD736KN	$\pm 0.3 \pm 0.3$	0.2	—	General Purpose, Low Cost, Low Power
AD736KR	$\pm 0.3 \pm 0.3$	0.2	—	General Purpose, Low Cost, Low Power
AD737JN	$\pm 0.4 \pm 0.5$	0.2	—	Low Cost, Low Power, Power Down
AD737JR	$\pm 0.4 \pm 0.5$	0.2	—	Low Cost, Low Power, Power Down
AD737AQ	$\pm 0.4 \pm 0.5$	0.2	—	Low Cost, Low Power, Power Down
AD637KD	$\pm 0.5 \pm 0.2$	7.0	± 0.3 typ.	High Accuracy, Wide Bandwidth
AD637KQ	$\pm 0.5 \pm 0.2$	7.0	± 0.3 typ.	High Accuracy, Wide Bandwidth
AD637KR	$\pm 0.5 \pm 0.2$	7.0	± 0.3 typ.	High Accuracy, Wide Bandwidth
AD736JN	$\pm 0.5 \pm 0.5$	0.2	—	General Purpose, Low Cost, Low Power
AD736JR	$\pm 0.5 \pm 0.5$	0.2	—	General Purpose, Low Cost, Low Power

Mfr.'s Type	Conversion Accuracy mV $\pm$ % Read Max.	Full-Scale Range V RMS	dB Output Error dB Max	Comments
AD736AQ	$\pm 0.5 \pm 0.5$	0.2	—	General Purpose, Low Cost, Low Power
AD636JD	$\pm 0.5 \pm 1.0$	0.2	± 0.5	Low Power
AD636JH	$\pm 0.5 \pm 1.0$	0.2	± 0.5	Low Power
AD637JQ	$\pm 1 \pm 0.5$	7.0	± 0.5 typ.	High Accuracy, Wide Bandwidth
AD637JD	$\pm 1 \pm 0.5$	7.0	± 0.5 typ.	High Accuracy, Wide Bandwidth
AD637JR	$\pm 1 \pm 0.5$	7.0	± 0.5 typ.	High Accuracy, Wide Bandwidth
AD637AQ	$\pm 1 \pm 0.5$	7.0	± 0.5 typ.	High Accuracy, Wide Bandwidth
AD637AR	$\pm 1 \pm 0.5$	7.0	± 0.5 typ.	High Accuracy, Wide Bandwidth
AD536AKQ	$\pm 2 \pm 0.2$	7.0	± 0.3	General Purpose
AD536AKD	$\pm 2 \pm 0.2$	7.0	± 0.3	General Purpose
AD536AJQ	$\pm 5 \pm 0.5$	7.0	± 0.6	General Purpose
AD536AJD	$\pm 5 \pm 0.5$	7.0	± 0.6	General Purpose
AD536AJH	$\pm 5 \pm 0.5$	7.0	± 0.6	General Purpose

Signal Compression

Signal compression products fall into two categories: variable gain amplifiers and logarithmic amplifiers. Logarithmic amplifiers like the AD606 and the AD640 provide an output voltage proportional to the logarithm of the input voltage for signals from dc to 120 MHz. Variable gain amplifiers like the AD600/602 and AD603 use a patented (X-AMP) technology which allows the amplifier gain to be varied as the dynamic range of the input signal changes.

Logarithmic amplifiers are excellent in all applications that require compression of wide-range analog input data. Variable gain amplifiers are typically employed as fast-response automatic gain control (AGC) elements in RF and IF systems. Alternatively, they can be used to provide time gain control (TGC) in applications such as commercial sonar.

Variable Gain Amplifiers

Mfr.'s Type	Gain Range	Gain Accuracy Max.	Bandwidth MHz Typ.	Comments
AD600JN	0 dB to +40 dB	± 0.5 dB*	35	Dual 0 to +40 dB Variable Gain Amplifier
AD600JR	0 dB to +40 dB	± 0.5 dB*	35	Dual 0 to +40 dB Variable Gain Amplifier
AD600AQ	0 dB to +40 dB	± 1.0 dB*	35	Dual 0 to +40 dB Variable Gain Amplifier
AD600AR	0 dB to +40 dB	± 1.0 dB*	35	Dual 0 to +40 dB Variable Gain Amplifier
AD602JN	-10 dB to +30 dB	± 0.5 dB*	35	Dual -10 dB to +30 dB Variable Gain Amplifier

Mfr.'s Type	Gain Range	Gain Accuracy Max.	Bandwidth MHz Typ.	Comments
AD602JR	-10 dB to +30 dB	± 0.5 dB*	35	Dual -10 dB to +30 dB Variable Gain Amplifier
AD602AQ	-10 dB to +30 dB	± 1.0 dB*	35	Dual -10 dB to +30 dB Variable Gain Amplifier
AD602AR	-10 dB to +30 dB	± 1.0 dB*	35	Dual -10 dB to +30 dB Variable Gain Amplifier
AD603AQ	-11 dB to +31 dB	± 1.0 dB	90	Single Channel Variable Gain Amplifier
AD603AR	-11 dB to +31 dB	± 1.0 dB	90	Single Channel Variable Gain Amplifier

*Gain accuracy measured over the 3 dB to 37 dB gain range.

Logarithmic Amplifiers

Mfr.'s Type	Input Range	Log Conformity RTI Max.	Bandwidth MHz Typ.	Comments
AD606JN	-80 to +10 dBm (50 Ω)	± 1.5 dB	50	50 MHz, 80 dB Demodulating Logarithmic Amplifier with Limiter Output
AD606JR	-80 to +10 dBm (50 Ω)	± 1.5 dB	50	50 MHz, 80 dB Demodulating Logarithmic Amplifier with Limiter Output
AD640JN	± 0.75 mV to ± 200 mV	± 1.2 dB	dc-120	120 MHz, 45 dB DC Coupled, Demodulating Logarithmic Amplifier
AD640JR	± 0.75 mV to ± 200 mV	± 1.2 dB	dc-120	120 MHz, 45 dB DC Coupled, Demodulating Logarithmic Amplifier
AD640BD	± 0.75 mV to ± 200 mV	± 0.6 dB	dc-120	120 MHz, 45 dB DC Coupled, Demodulating Logarithmic Amplifier
AD640BP	± 0.75 mV to ± 200 mV	± 0.6 dB	dc-120	120 MHz, 45 dB DC Coupled, Demodulating Logarithmic Amplifier

Special Function

Analog RGB-to-NTSC/PAL encoders like the AD720 encode red, green and blue (RGB) component video signals into National Television Standards Committee (NTSC) or Phase Alternating Line (PAL) luminance (brightness), chrominance (color), and composite (luminance summed with chrominance) baseband signals. This device can be used to perform

video signal encoding in many OEM systems including personal computers, CATV converters, flight simulators, CD ROMs and medical ultrasound systems. The AD720 is a highly integrated, cost-effective video encoding system, which offers substantially better video picture quality than that of other analog video encoders available today.

Mfr.'s Type	Video Output BW Typ.	Supply Voltage	Power Consumption mW	Comments
AD720JP	5 MHz	± 5 V	200	RGB to NTSC/PAL Encoder

Interface Products

The ADM2XXL family is designed to meet the EIA-232E specifications while operating from a single +5 V power supply. This is achieved by the use of an on-chip voltage doubler. Older generation RS-232 drivers required three separate power supplies: +5 V, +12 V, and -12 V, resulting in large bulky power supply units. Linear voltage regulators tend to be inefficient and are wasteful of power. This is especially a problem in today's portable equipment which operates with

battery powered supplies. Ideally the single power supply should be used which can easily be derived from a battery pack. A new design, Analog Devices' process for the 5 V RS-232 market offers lowest ICC, lowest I shutdown and the highest speed in its class. Our ADM23XL series of line drivers/receivers are major upgrades.

Line Drivers/Receivers

Mfr.'s Type	Power Supply Voltage (V)	No. of Drivers	No. of Receivers	External Capacitors	Low Power Shutdown	TTL Three- State Enable	Comments
ADM202JN	+5	2	2	Y	N	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM202JR	+5	2	2	Y	N	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM202JRN	+5	2	2	Y	Y	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM230LJN	+5	5	0	Y	Y	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM222AN	+5	2	2	Y	Y	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM222AR	+5	2	2	Y	Y	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM230LJR	+5	5	0	Y	Y	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM230LAN	+5	5	0	Y	Y	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM230LAR	+5	5	0	Y	Y	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM231LJN	+5 and +7.5 to +13.2	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM231LJR	+5 and +7.5 to +13.2	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM231LAN	+5 and +7.5 to +13.2	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM231LAR	+5 and +7.5 to +13.2	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM232LJN	+5	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM232LJR	+5	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM232LAN	+5	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM232LAR	+5	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM232AAN	+5	2	2	Y	N	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM232AARN	+5	2	2	Y	N	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM232ARW	+5	2	2	N	N	N	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM233LJN	+5	2	2	N	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM233LAN	+5	2	2	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM234LJN	+5	4	0	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver

Interface Products — Continued

Line Drivers/Receivers — Continued

Mfr.'s Type	Power Supply Voltage (V)	No. of Drivers	No. of Receivers	External Capacitors	Low Power Shutdown	TTL Three-State Enable	Comments
ADM234LJR	+5	4	0	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM234LAN	+5	4	0	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM234LAR	+5	4	0	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM235LJN	+5	5	5	N	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM235LAN	+5	5	5	N	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM236LJN	+5	4	3	Y	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM236LJR	+5	4	3	Y	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM236LAN	+5	4	3	Y	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM236LAR	+5	4	3	Y	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM237LJN	+5	5	3	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM237LJR	+5	5	3	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM237LAN	+5	5	3	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM237LAR	+5	5	3	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM238LJN	+5	4	4	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM238LJR	+5	4	4	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM238LAN	+5	4	4	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM238LAR	+5	4	4	Y	N	N	+5 V Powered CMOS RS-232 Driver/Receiver
ADM239LJN	+5 and +7.5 to +13.2	3	5	Y	N	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM239LJR	+5 and +7.5 to +13.2	3	5	Y	N	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM239LAN	+5 and +7.5 to +13.2	3	5	Y	N	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM239LAR	+5 and +7.5 to +13.2	3	5	Y	N	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM241LJR	+5	4	5	Y	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM241LAR	+5	4	5	Y	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM241LARS	+5	4	5	Y	Y	Y	+5 V Powered CMOS RS-232 Driver/Receiver
ADM242AN	+5	2	2	Y	Y	Y	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM242AR	+5	2	2	Y	Y	Y	High Speed, +5 V, 0.1 μ F CMOS RS-232 Driver/Receiver
ADM5170JN	+5	8	0	N	N	Y	Octal, RS-232/RS-423 Line Driver
ADM5170AN	+5	8	0	N	N	Y	Octal, RS-232/RS-423 Line Driver
ADM5180JN	+5	8	0	N	N	Y	Octal, RS-232/RS-423 Line Receiver
ADM5180AN	+5	8	0	N	N	Y	Octal, RS-232/RS-423 Line Receiver

Transceivers

Mfr.'s Type	Transmission Type	Drivers/Receivers Per Line	Max. Cable Length (ft.)	Min. Driver Output Voltage	Driver Load Impedance	Receiver Input Resistance	Receiver Input Sensitivity	Receiver Input Voltage Range	Comments
ADM485JN	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 5 Mb/s Data Rate, Low Power EIA RS-485 Transceiver
ADM485JR	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 5 Mb/s Data Rate, Low Power EIA RS-485 Transceiver
ADM485AN	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 5 Mb/s Data Rate, Low Power EIA RS-485 Transceiver
ADM485AR	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 5 Mb/s Data Rate, Low Power EIA RS-485 Transceiver
ADM1485JN	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 30 Mb/s Data Rate, Low Power EIA RS-485 Transceiver
ADM1485JR	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 30 Mb/s Data Rate, Low Power EIA RS-485 Transceiver
ADM1485AN	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 30 Mb/s Data Rate, Low Power EIA RS-485 Transceiver
ADM1485AR	Differential	32/32	4000	± 1.5 V	54 Ω	12 K Ω min.	± 200 mV	-7 V to +12 V	+5 V, 30 Mb/s Data Rate, Low Power EIA RS-485 Transceiver

Power Management Products

μ Processor Supervisory Circuits

The ADM69X series are CMOS Microprocessor Supervisory Circuits that operate from a single 5 V supply. This family of parts are monitor circuits that take emergency action when the main V_{CC} supply or other system monitors to the processor drop below a precisely defined level. These products are superior upgrades to other manufacturers, with five times less supply current to deliver twice the output current. Chip Enable (CE) propagation delay an order of magnitude

faster, a V_{CC} to reset comparator response time an order of magnitude faster and a guaranteed valid reset down to 1 V V_{CC} . These benefits over other manufacturer's products will extend battery life, allow for a wider application base and offer faster response times allowing for more accurate system supervision at competitive prices.

Mfr.'s Type	Operating Voltage Range	V_{CC} Timeout Delay (ms)	Reset (mA Max.)	I_{DD} (Norm. Oper.)	R_{ON}^* (Battery 8 U.)	Output Current Drive	Valid RESET @ 1 V	Specified Over Temp.	CE Propagation Delay	Comments
ADM690AN	4.75 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	4-Function, 8-pin, 4.65 V Reset, 50 ms Reset Pulse Width
ADM691AN	4.75 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	5-Function, 16-pin, 4.4 V Reset
ADM691AR	4.75 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	5-Function, 16-pin, 4.4 V Reset
ADM692AN	4.50 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	4-Function, 8-pin, 4.4 V Reset, 50 ms Reset Pulse Width
ADM693AN	4.50 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	5-Function, 16-pin, 4.4 V Reset
ADM693AR	4.50 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	5-Function, 16-pin, 4.4 V Reset
ADM694AN	4.75 V to 5.5 V	140 to 280	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	4-Function, 8-pin, 200 ms Reset Pulse Width
ADM695AN	4.75 V to 5.5 V	140 to 280	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	5-Function, 16-pin, 200 ms Reset Pulse Width
ADM695AR	4.75 V to 5.5 V	140 to 280	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	5-Function, 16-pin, 200 ms Reset Pulse Width
ADM696AN	3.00 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	4-Function, 16-pin, Adjustable Reset Threshold, with automatic battery backup switching
ADM696AR	3.00 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	4-Function, 16-pin, Adjustable Reset Threshold, with automatic battery backup switching
ADM697AN	3.00 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	4-Function, 16-pin, Adjustable Reset Threshold, with fast gating of CE signals
ADM697AR	3.00 V to 5.5 V	35 to 70	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	4-Function, 16-pin, Adjustable Reset Threshold, with fast gating of CE signals
ADM698AN	3.00 V to 5.5 V	140 to 280	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	Single Function, 8-pin, Reset Only
ADM698AR	3.00 V to 5.5 V	140 to 280	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	Single Function, 16-pin, Reset Only
ADM699AN	3.00 V to 5.5 V	140 to 280	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	Dual Function, 8-pin, Reset and Watchdog
ADM699AR	3.00 V to 5.5 V	140 to 280	1.95	1.5 Ω	20 Ω	100 mA	50 mA	Yes	9 ns	Dual Function, 16-pin, Reset and Watchdog

* R_{ON} =VDROP/10UT.

Voltage-to-Frequency/Frequency-to-Voltage Converters

Voltage-to-Frequency Converters (VFCs) convert analog voltage or current levels to pulse trains or square waves in logic compatible form (usually TTL) at frequencies that are accurately proportional to the analog quantity. The output continuously tracks the input signal, responding directly to changes in the input signal. Frequency-to-Voltage Converters (FVCs) perform the inverse operation; they accept a wide variety of periodic waveforms and produce an analog output

proportional to frequency. Combining adjustable threshold, gain and output offset with low linearity error, F/V converters offer economical solutions to a wide variety of applications where it is required to convert frequency to an analog voltage. Applications of both forms of conversion, as appropriate to specific device types, are illustrated with varying degrees of detail on the individual product datasheets.

Voltage-to-Frequency Converters

Mfr.'s Type	Full-Scale Frequency MHz	Linearity % Max.	FS Calib. Error % Typ.	Output Format	Input Range V	Comments
AD652AQ	2.00	± 0.02	0.5	Pulse Train	0 to 10, ± 5 , 0 to ± 10	Synchronous, Multiple Input Ranges V-F Converter
AD652BQ	2.00	± 0.01	0.25	Pulse Train	0 to 10, ± 5 , 0 to ± 10	Synchronous, Multiple Input Ranges V-F Converter
AD650JN	1.00	0.005	5	Pulse Train	0 to 10, ± 5 , 0 to -10	Low Nonlinearity, Multiple Input Ranges V-F Converter
AD650KN	1.00	0.005	5	Pulse Train	0 to 10, ± 5 , 0 to -10	Low Cost, Monolithic, Single Supply V-F Converter
AD654JN	0.50	0.1	10 max.	Square Wave	0 to (Vs)	Low Cost, Monolithic, Single Supply V-F Converter
AD654JR	0.50	0.1	10 max.	Square Wave	0 to (Vs)	Low Cost V-F Converter
AD537JD	0.15	0.15	5	Square Wave	-Vs to -(Vs-4)	Low Cost V-F Converter
AD537JH	0.15	0.15	5	Square Wave	-Vs to -(Vs-4)	Low Cost V-F Converter
AD537KH	0.15	0.07	5	Square Wave	-Vs to -(Vs-4)	Low Cost V-F Converter
AD537KD	0.15	0.07	5	Square Wave	-Vs to -(Vs-4)	Low Cost V-F Converter

Voltage-to-Frequency/Frequency-to-Voltage Converters — Continued

Frequency-to-Voltage Converters

Mfr.'s Type	Linearity Input Range kHz	Response Time % Max.	Comments
AD650JN	0-1000	0.005	Low Nonlinearity Multiple Input Ranges F-V Converter

Mfr.'s Type	Linearity Input Range kHz	Response Time % Max.	Comments
AD650KN	0-1000	0.005	Low Nonlinearity, Multiple Input Ranges F-V Converter

Voltage References

The Voltage Reference's main purpose is to resist any change in the output of a circuit. Therefore, the ideal reference maintains a constant output voltage, independent of load changes, temperature, or variations in input voltage and time.

Mfr.'s Type	Output Voltage V	Initial Accuracy mV Max.	Output Voltage Drift ppm/°C	Comments
AD589JH	+1.235	5	100	Two Terminal, 1.2 V Reference
AD589JR	+1.235	5	100	Two Terminal, 1.2 V Reference
AD589KH	+1.235	5	50	Two Terminal, 1.2 V Reference
AD589LH	+1.235	5	25	Two Terminal, 1.2 V Reference
AD589MH	+1.235	5	10	Two Terminal, 1.2 V Reference
AD580JH	+2.5	±7.5	15	Precision, Three Terminal, 2.5 V Reference
AD580KH	+2.5	±25	7	Precision, Three Terminal, 2.5 V Reference
AD580LH	+2.5	±10	4.3	Precision, Three Terminal, 2.5 V Reference
AD580MH	+2.5	±10	1.75	Precision, Three Terminal, 2.5 V Reference
AD580JN	+2.5	±10	25	Low Cost, Low Power 2.5 V Reference
AD580JR	+2.5	±10	25	Low Cost, Low Power 2.5 V Reference
AD580JT	+2.5	±10	30	Low Cost, Low Power 2.5 V Reference
AD580AN	+2.5	±5	20	Low Cost, Low Power 2.5 V Reference
AD1403N	+2.5	25	40	Second Source, 2.5 V Reference
AD1403AN	+2.5	10	25	Second Source, 2.5 V Reference
REF43FZ	+2.5	±1.5	10	Precision Bandgap Reference
REF43GP	+2.5	±2.5	25	Precision Bandgap Reference
REF43GS	+2.5	±2.5	25	Precision Bandgap Reference
REF43GZ	+2.5	±2.5	25	Precision Bandgap Reference
AD780AN	+2.5/±3.0	5	7	Ultra High Precision +2.5 V/±3.0 V Bandgap Reference
AD780AR	+2.5/±3.0	5	7	Ultra High Precision +2.5 V/±3.0 V Bandgap Reference
AD780BN	+2.5/±3.0	1	3	Ultra High Precision +2.5 V/±3.0 V Bandgap Reference
AD780BR	+2.5/±3.0	1	3	Ultra High Precision +2.5 V/±3.0 V Bandgap Reference
AD586JQ	+5	±20	25	Precision, Buried Zener 5 V Reference
AD586JR	+5	±20	25	Precision, Buried Zener 5 V Reference
AD586KQ	+5	±5	15	Precision, Buried Zener 5 V Reference
AD586KR	+5	±5	15	Precision, Buried Zener 5 V Reference
AD586LN	+5	±2.5	5	Precision, Buried Zener 5 V Reference
AD586LQ	+5	±2.5	5	Precision, Buried Zener 5 V Reference
AD586MN	+5	±2.5	2	Precision, Buried Zener 5 V Reference
REF02DP	+5	±10	250	Precision Voltage Reference/Temperature Transducer
REF02CS	+5	±5	65	Precision Voltage Reference/Temperature Transducer

Mfr.'s Type	Output Voltage V	Initial Accuracy mV Max.	Output Voltage Drift ppm/°C	Comments
REF02CP	+5	±5	65	Precision Voltage Reference/Temperature Transducer
REF02CJ	+5	±5	65	Precision Voltage Reference/Temperature Transducer
REF02CZ	+5	±5	65	Precision Voltage Reference/Temperature Transducer
REF02HP	+5	±2.5	25	Precision Voltage Reference/Temperature Transducer
REF195EP	+5	±2	5	Low Dropout, Micropower, Precision +5 V Reference
REF195ES	+5	±2	5	Low Dropout, Micropower, Precision +5 V Reference
REF195FP	+5	±5	20	Low Dropout, Micropower, Precision +5 V Reference
REF195FS	+5	±5	20	Low Dropout, Micropower, Precision +5 V Reference
REF195GP	+5	±10	20	Low Dropout, Micropower, Precision +5 V Reference
REF195GS	+5	±10	20	Low Dropout, Micropower, Precision +5 V Reference
AD581JH	+10	±30	30	Three Terminal 10 V Bandgap Reference
AD581KH	+10	±10	15	Three Terminal 10 V Bandgap Reference
AD581LH	+10	±5	5	Three Terminal 10 V Bandgap Reference
AD587JN	+10	±10	20	Precision 10 V Buried Zener Reference
AD587JR	+10	±10	20	Precision 10 V Buried Zener Reference
AD587KN	+10	±5	10	Precision 10 V Buried Zener Reference
AD587KR	+10	±5	10	Precision 10 V Buried Zener Reference
AD587LN	+10	±5	5	Precision 10 V Buried Zener Reference
AD587LQ	+10	±5	5	Precision 10 V Buried Zener Reference
AD688AQ	+10	5	3	High Precision Monolithic +10 V Reference
AD688BQ	+10	2	3	High Precision Monolithic +10 V Reference
REF01CP	+10	±10	65	Precision Bandgap Reference
REF01CS	+10	±10	65	Precision Bandgap Reference
REF01HP	+10	±5	25	Precision Bandgap Reference
REF01CJ	+10	±10	65	Precision Bandgap Reference
REF01CZ	+10	±10	65	Precision Bandgap Reference
AD584JH	Selectable	±7.5*	30	Precision, Programmable Bandgap Reference
AD584JN	Selectable	±7.5*	30	Precision, Programmable Bandgap Reference
AD584KH	Selectable	±3.5*	15	Precision, Programmable Bandgap Reference
AD584KN	Selectable	±3.5*	15	Precision, Programmable Bandgap Reference
AD584LH	Selectable	±2.5*	5	Precision, Programmable Bandgap Reference
AD588JQ	Selectable	+3	+3	Ultra High Precision, Monolithic Programmable Reference

*Based on maximum error for nominal outputs of 2.5 V at Pin 1.

Micropower Linear Voltage Regulators

The ADM663/ADM666 contains a micropower bandgap reference voltage source, an error amplifier, two comparators and a series pass output transistor. A P-Channel Fet and NPN transistor are used on the ADM663 while the ADM666 uses an NPN output transistor.

Mfr.'s Type	VTC Sink Current, ITC	LBI Input Threshold, VLBI	Dropout Voltage	Load Regulation*	Line Regulation	Quiescent Current @ TA=25°C	Maximum Power Dissipation	Comments
ADM663AN	2.0 mA min	NS	1.4 V min	7 Ω max	0.35% V max.	12 μA	625 mW	+5 V Fixed or +1.3 V to +16 V Adjustable Output
ADM663AR	2.0 mA min	NS	1.4 V min	7 Ω max	0.35% V max.	12 μA	450 mW	+5 V Fixed or +1.3 V to +16 V Adjustable Output
ADM666AN	NS	1.21 V to 1.37 V	1.4 V min	7 Ω max	0.35% V max.	12 μA	625 mW	+5 V Fixed or +1.3 V to +16 V Adjustable Output, with low battery detector
ADM666AR	NS	1.21 V to 1.37 V	1.4 V min	7 Ω max	0.35% V max.	12 μA	450 mW	+5 V Fixed or +1.3 V to +16 V Adjustable Output, with low battery detector

*Test Condition=1 mA slout ≤20 mA.

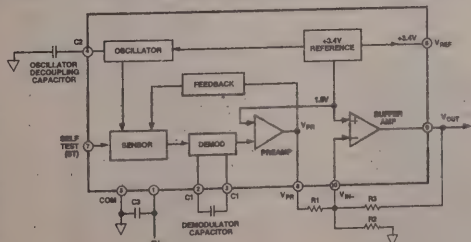
Temperature Sensor with Signal Conditioning

Monolithic temperature sensor with on-chip signal conditioning. The signal conditioning eliminates the need for any trimming, buffering, or linearization circuitry, greatly simplifying the system design and reducing the overall system cost. Operating Voltage Range: 4.0-6.0 V.

Mfr.'s Type	Temperature Range	Initial Error TA=25°C	Error Over Temperature	Package
AD22100KT	Commercial	±2.0	±2.0	T0-92
AD22100AT	Industrial	±2.0	±3.7	T0-92

Accelerometers

- Full Scale Measurement Range: ADXL05 — ±5 g; ADXL50 — ±50 g
- Self-Test on Digital Command
- Single Supply Operation
- Sensitivity Precalibrated to 200 mV/g (ADXL05), to 19 mV/g (ADXL50)
- Internal Voltage Reference
- Internal Output Buffer Amplifier for User Adjustable Span and Zero-g Levels
- Post Filtering with External Passive Components
- Complete Acceleration Measurement System on a Single Monolithic IC
- Frequency Response: ADXL05 — DC to 4 kHz; ADXL50 — DC to 10 kHz
- High Shock Survival: ADXL05 — >1000 g; ADXL50 — >2000 g
- Internally Temperature Compensated



Temperature Sensor/Controller

TMP01 is a temperature sensor which generates a voltage output proportional to absolute temperature and a control signal from one of two outputs when the device is either above or below a specific temperature range. Both the high/low temperature trip points and hysteresis (overshoot) band are determined by user-selected external resistors.

Mfr.'s Type	Operating Voltage Range (V)	Accuracy Typ.	Vos mV	Package	Temperature Range
TMP01EP	4.5-13.2	±0.5°C	0.25	Plastic DIP	-55 to +125°C
TMP01FP	4.5-13.2	±1.0°C	0.25	Plastic DIP	-55 to +125°C
TMP01ES	4.5-13.2	±0.5°C	0.25	SOIC	-55 to +125°C
TMP01FS	4.5-13.2	±1.0°C	0.25	SOIC	-55 to +125°C
TMP01FJ	4.5-13.2	±1.0°C	0.25	CAN	-55 to +125°C

ADXL05 ±1 to ±5 g Single Chip Accelerometer with Signal Conditioning

Low g designed for ±1 and ±2 g applications. **Tilt Measurement:** Virtual reality headsets, pointing devices/joysticks, compass correction. **Inertial Measurement:** GPS navigation systems, missile guidance and control, stabilized platforms. **Vibration and Shock:** Machine health, instrumentation. **Resolution:** 0.005 g.

Mfr.'s Type	Measurement Range	Typical 0 g Bias Drift*	Temperature Range (°C)	Package Type
ADXL05JH	±1 to ±5 g	±0.5	0 to +70	10 Lead Header (T0-100)
ADXL05AH	±1 to ±5 g	±0.5	-40 to +85	10 Lead Header (T0-100)
ADXL05SP†	±1 to ±5 g	±0.5	0 to +70	10 Lead Header (T0-100)

ADXL50 0 to ±50 g Monolithic Accelerometer with Signal Conditioning

Mfr.'s Type	Measurement Range	Typical 0 g Bias Drift*	Temperature Range (°C)	Package Type
ADXL50JH	0 to ±50 g	±15 mV	0 to +70	10 Lead Header (T0-100)
ADXL50AH	0 to ±50 g	±35 mV	-40 to +85	10 Lead Header (T0-100)
ADXL50SP†	0 to ±50 g	±35 mV	-40 to +85	10 Lead Header (T0-100)

*% of reading, specification refers to the maximum change in parameter from its initial at +25°C to its worst case value at Tmin. to Tmax. †Sample Pack. Contains two ADXL05 plus circuit boards and application notes. ‡Sample Pack. Contains two ADXL50AH and application notes.



Diode and Rectifier Kits

CEC-115
1 Watt Zener Diode Kit

- ▶ 12 of the Most Popular 1 Watt Design Voltages
- ▶ Double Plug Package, Highly Reliable and Rugged
- ▶ Low Leakage Current
- ▶ Uniform Sharp Reverse Breakdown Voltages
- ▶ Uniform Heat Dissipation
- ▶ Easy to Read Label Clearly Shows Zener Type and Voltage
- ▶ Total of 120 Zener Diodes

Zener Types Contained in CEC-115 Kit

Mfr.'s Type	Nominal Voltage	Case	Quantity
1N4730	3.9V	DO-41	10
1N4732	4.7V	DO-41	10
1N4734	5.6V	DO-41	10
1N4736	6.8V	DO-41	10
1N4738	8.2V	DO-41	10
1N4740	10V	DO-41	10
1N4742	12V	DO-41	10
1N4744	15V	DO-41	10
1N4746	18V	DO-41	10
1N4748	22V	DO-41	10
1N4750	27V	DO-41	10
1N4751	30V	DO-41	10

777-0115.....EACH 42.50

CEC-116
.5 Watt Zener Diode Kit

- ▶ 12 of the Most Requested .5 Watt Design Voltages
- ▶ Double Plug Package, Highly Reliable and Rugged
- ▶ Uniform Heat Dissipation
- ▶ Long Life
- ▶ Uniform Sharp Reverse Breakdown Voltages
- ▶ Total of 120 Zener Diodes
- ▶ Low Leakage Current

Zener Types Contained in CEC-116 Kit

Mfr.'s Type	Nominal Voltage	Case	Quantity
1N5230	4.7V	DO-35	10
1N5232	5.6V	DO-35	10
1N5235	6.8V	DO-35	10
1N5238	8.7V	DO-35	10
1N5240	10V	DO-35	10
1N5242	12V	DO-35	10
1N5244	14V	DO-35	10
1N5246	16V	DO-35	10
1N5248	18V	DO-35	10
1N5250	20V	DO-35	10
1N5253	25V	DO-35	10
1N5256	30V	DO-35	10

777-0116.....EACH 36.95

CEC-117
.4 Watt Zener Diode Kit

- ▶ Double Plug Package, Highly Reliable and Rugged
- ▶ Uniform Sharp Reverse Breakdown Voltages
- ▶ Long Life
- ▶ 12 of the Most Requested .4 Watt Design Voltages
- ▶ Uniform Heat Dissipation
- ▶ Total of 120 Zener Diodes
- ▶ Low Leakage Current

Zener Types Contained in CEC-117 Kit

Mfr.'s Type	Nominal Voltage	Case	Quantity
1N746	3.3V	DO-35	10
1N748	3.9V	DO-35	10
1N750	4.7V	DO-35	10
1N751	5.1V	DO-35	10
1N752	5.6V	DO-35	10
1N753	6.2V	DO-35	10
1N754	6.8V	DO-35	10
1N755	7.5V	DO-35	10
1N756	8.2V	DO-35	10
1N757	9.1V	DO-35	10
1N758	10V	DO-35	10
1N759	12V	DO-35	10

777-0117.....EACH 40.80

CEC-640
Zener Diode Kit

- ▶ 400mW and 500mW, DO-35 Package
- ▶ 1 Watt, DO-41 Package
- ▶ Low Leakage
- ▶ Uniform Sharp Reverse Breakdown Voltages
- ▶ Uniform Heat Dissipation
- ▶ Total 640 Pieces, 64 Types

Mfr.'s Type	Nom. Voltage	Watts	Case	Quantity
1N746	3.3	400mW	DO-35	10
1N747	3.6	400mW	DO-35	10
1N748	3.9	400mW	DO-35	10
1N749	4.3	400mW	DO-35	10
1N750	4.7	400mW	DO-35	10
1N751	5.1	400mW	DO-35	10
1N752	5.6	400mW	DO-35	10
1N753	6.2	400mW	DO-35	10
1N754	6.8	400mW	DO-35	10
1N755	7.5	400mW	DO-35	10
1N756	8.2	400mW	DO-35	10
1N757	9.1	400mW	DO-35	10
1N758	10.0	400mW	DO-35	10
1N759	12.0	400mW	DO-35	10
1N5229	4.3	500mW	DO-35	10
1N5230	4.7	500mW	DO-35	10
1N5231	5.1	500mW	DO-35	10
1N5232	5.6	500mW	DO-35	10
1N5233	6.0	500mW	DO-35	10
1N5234	6.2	500mW	DO-35	10
1N5235	6.8	500mW	DO-35	10
1N5236	7.5	500mW	DO-35	10
1N5237	8.2	500mW	DO-35	10
1N5238	8.7	500mW	DO-35	10
1N5239	9.1	500mW	DO-35	10
1N5240	10.0	500mW	DO-35	10
1N5241	11.0	500mW	DO-35	10
1N5242	12.0	500mW	DO-35	10
1N5243	13.0	500mW	DO-35	10
1N5244	14.0	500mW	DO-35	10
1N5245	15.0	500mW	DO-35	10
1N5246	16.0	500mW	DO-35	10
1N5247	17.0	500mW	DO-35	10
1N5248	18.0	500mW	DO-35	10
1N5249	19.0	500mW	DO-35	10
1N5250	20.0	500mW	DO-35	10
1N5251	22.0	500mW	DO-35	10
1N5252	24.0	500mW	DO-35	10
1N5253	25.0	500mW	DO-35	10
1N5254	27.0	500mW	DO-35	10
1N5255	28.0	500mW	DO-35	10
1N5256	30.0	500mW	DO-35	10
1N4730	3.9	1W	DO-41	10
1N4731	4.3	1W	DO-41	10
1N4732	4.7	1W	DO-41	10
1N4733	5.1	1W	DO-41	10
1N4734	5.6	1W	DO-41	10
1N4735	6.2	1W	DO-41	10
1N4736	6.8	1W	DO-41	10
1N4737	7.5	1W	DO-41	10
1N4738	8.2	1W	DO-41	10
1N4739	9.1	1W	DO-41	10
1N4740	10.0	1W	DO-41	10
1N4741	11.0	1W	DO-41	10
1N4742	12.0	1W	DO-41	10
1N4743	13.0	1W	DO-41	10
1N4744	15.0	1W	DO-41	10
1N4745	16.0	1W	DO-41	10
1N4746	18.0	1W	DO-41	10
1N4747	20.0	1W	DO-41	10
1N4748	22.0	1W	DO-41	10
1N4749	24.0	1W	DO-41	10
1N4750	27.0	1W	DO-41	10
1N4751	30.0	1W	DO-41	10

777-6400.....EACH 116.45

CEC-BD83
Bridge and High Voltage Rectifier Kit

- ▶ 15 Quick-Select Pre-Organized Drawers
- ▶ Dimensions: 10" x 6" x 6 1/2"
- ▶ Most Popular Full Wave Bridges
- ▶ Most Popular High Voltage Diodes
- ▶ 15 of the Highest Quality Types Manufactured by Electronics Devices, Inc.
- ▶ 2mA to 40 Amp Current Range
- ▶ Voltage Ranges up to 20,000 Volts

Mfr.'s Type	Amps	Description	Quantity
PL40	1	DIP Package/P.C. Board	4
PF40	1.5	Full Wave Gen. Pur. Bridge	8
PD60	2	Full Wave Bridge/P.C. Board	4
PE40	5	Full Wave Bridge/P.C. Board	4
PK40	10	Full Wave Bridge Gen Pur.	4
MPI-14060	40	Full Wave Bridge Gen Pur.	4
PKR-20	8	Full Wave Bridge/Fast Recovery	4
EC100	2	1000V Gen. Pur. Diode	8
HAB100	3	1000V Gen. Pur. Diode	8
YAB060	6	600V Gen. Pur. Diode	4
EP200	500mA	2000 V High Voltage Diode	5
EK600	150mA	6000 V High Voltage Diode	5
DL1000	25mA	10000 V High Voltage Diode	8
RUS540	1.5A	50NS Super Fast Switch/Diode	4
TVR20	2mA	20000V CRT Rectifier	5

777-0083.....EACH 199.00

CEC-118
Fast Recovery Diode Kit

- ▶ 1 AMP, DO-41 Package
- ▶ 3 AMP, DO-27 Package
- ▶ 6 AMP, R-6 Package
- ▶ 100 PIV to 1000 PIV
- ▶ Low Leakage
- ▶ Low Forward Voltage Drop
- ▶ High Current Capability
- ▶ High Reliability
- ▶ Total of 120 Diodes
- ▶ 12 Types

Diode Types Contained in CEC-118 Kit

Mfr.'s Type	PIV (Volts)	AMP	Quantity
FR-102	100	1	10
FR-104	400	1	10
FR-106	800	1	10
FR-107	1000	1	10
FR-302	100	3	10
FR-304	400	3	10
FR-306	800	3	10
FR-307	1000	3	10
FR-602	100	6	10
FR-604	400	6	10
FR-605	600	6	10
FR-606	800	6	10

777-0118.....EACH 62.25

CEC-119
Silicon Rectifier Diode Kit

- ▶ 1 AMP, DO-41 Package
- ▶ 3 AMP, DO-27 Package
- ▶ 6 AMP, R-6 Package
- ▶ 100 PIV to 1000 PIV
- ▶ Low Leakage
- ▶ Low Forward Voltage Drop
- ▶ High Current Capability
- ▶ High Reliability
- ▶ Total of 120 Diodes
- ▶ Molded Plastic Cases

Rectifier Types Contained in CEC-119 Kit

Mfr.'s Type	PIV (Volts)	AMP	Quantity
1N4002	100	1	10
1N4004	400	1	10
1N4006	800	1	10
1N4007	1000	1	10
1N5401	100	3	10
1N5404	400	3	10
1N5407	800	3	10
1N5408	1000	3	10
6A10	100	6	10
6A40	400	6	10
6A80	800	6	10
6A100	1000	6	10

777-0119.....EACH 52.70

CEC-136
Standard and Fast Recovery Kit

- ▶ 1 AMP, DO-41 Package
- ▶ 3 AMP, DO-27 Package
- ▶ 6 AMP, R-6 Package
- ▶ Low Leakage
- ▶ Low Forward Voltage Drop
- ▶ High Current Capability

Mfr.'s Type	Nom. Voltage	Watts	Diode Type	Quantity
1N4001	50	1	Std Silicon	10
1N4002	100	1	Std Silicon	10
1N4003	200	1	Std Silicon	10
1N4004	400	1	Std Silicon	10
1N4005	600	1	Std Silicon	10
1N4006	800	1	Std Silicon	10
1N4007	1000	1	Std Silicon	10
1N5400	50	3	Std Silicon	10
1N5401	100	3	Std Silicon	10
1N5402	200	3	Std Silicon	10
1N5404	400	3	Std Silicon	10
1N5406	600	3	Std Silicon	10
1N5407	800	3	Std Silicon	10
1N5408	1000	3	Std Silicon	10
6A05	50	6	Std Silicon	10
6A10	100	6	Std Silicon	10
6A20	200	6	Std Silicon	10
6A40	400	6	Std Silicon	10
6A60	600	6	Std Silicon	10
6A80	800	6	Std Silicon	10
6A100	1000	6	Std Silicon	10
FR101	50	1	Fast Recovery	10
FR102	100	1	Fast Recovery	10
FR103	200	1	Fast Recovery	10
FR104	400	1	Fast Recovery	10
FR105	600	1	Fast Recovery	10
FR106	800	1	Fast Recovery	10
FR107	1000	1	Fast Recovery	10
FR301	50	3	Fast Recovery	10
FR302	100	3	Fast Recovery	10
FR303	200	3	Fast Recovery	10
FR304	400	3	Fast Recovery	10
FR305	600	3	Fast Recovery	10
FR306	800	3	Fast Recovery	10
FR307	1000	3	Fast Recovery	10
FR601	50	6	Fast Recovery	10
FR602	100	6	Fast Recovery	10
FR603	200	6	Fast Recovery	10
FR604	400	6	Fast Recovery	10
FR605	600	6	Fast Recovery	10
FR606	800	6	Fast Recovery	10

777-0136.....EACH 189.95

Packages

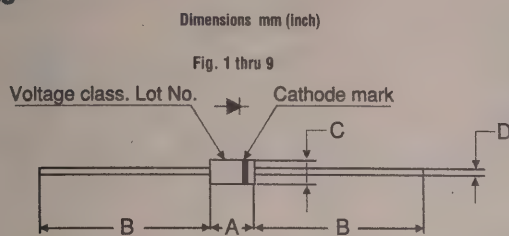


Fig. 10

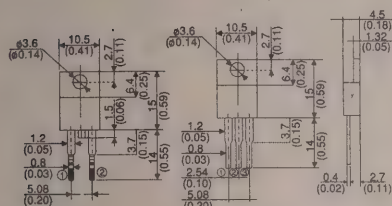


Fig. 11

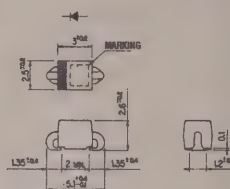


Fig. 12

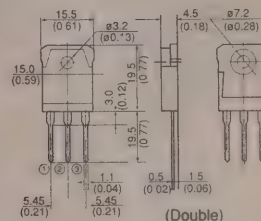


Fig. 13

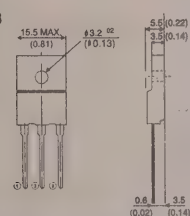
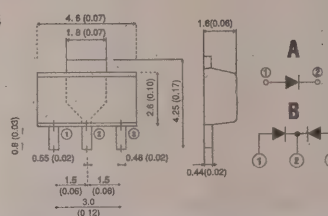


Fig. 14



Full molded package eliminates the need for isolating hardware and greatly reduces your cost as compared with mounting non-isolated package. Contact Allied for information on complete line availability.

Schottky Barrier Rectifiers

Mfr.'s Type	Maximum Ratings		IFRM *2 Amps	Thermal Ratings T _a = 25°C °C	Characteristics (T _a = 25°C) V _{RM} Max. Volts	I _{RRM} *3 Max. mA	Dimensions Figure
	V _{RRM} Volts	I _o *1 Amps					
ERA82-004	45	0.6 (T _a = 60°C)	a25	-40 to +125	0.55 (I _F = 0.6 A)	1.0	1
ERA83-006	60	1.0 (T _a = 111°C)	30	-40 to +125	0.58 (I _F = 1.0 A)	2.0	1
ERA81-004	45	1.0 (T _a = 25°C)	50	-40 to +125	0.55 (I _F = 1.0 A)	2.0	2
ERA84-009	90	1.0 (T _a = 25°C)	30	-40 to +125	0.90 (I _F = 1.0 A)	1.0	2
ERB81-004	45	2.0 (T _a = 25°C)	100	-40 to +125	0.55 (I _F = 2.0 A)	5.0	4
ERB84-009	90	2.0 (T _a = 25°C)	60	-40 to +125	0.90 (I _F = 2.0 A)	2.0	4
ERC81-004	45	3.0 (T _a = 25°C)	120	-40 to +125	0.55 (I _F = 3.0 A)	5.0	5
ERC81-006	60	3.0 (T _a = 104°C)	80	-40 to +125	0.58 (I _F = 3.0 A)	5.0	5
ERC81S-004	45	5.0 (T _a = 25°C)	120	-40 to +125	0.55 (I _F = 3.0 A)	5.0	5
ERC84-009	90	3.0 (T _a = 85°C)	80	-40 to +125	0.80 (I _F = 3.0 A)	5.0	5
ERC62-004	45	10.0 (T _a = 110°C)	250	-40 to +125	0.60 (I _F = 10 A)	2.0	10
ESAB82-004†	45	5.0 (T _a = 103°C)	100	-40 to +125	0.55 (I _F = 2.0 A)	5.0	10
ESAC82-004K†	45	15.0 (T _a = 97°C)	120	-40 to +125	0.55 (I _F = 4.0 A)	5.0	10
ESAC83-004	45	20.0 (T _a = 95°C)	120	-40 to +125	0.55 (I _F = 8.0 A)	15.0	12
ESAC63-004†	45	20.0 (T _a = 92°C)	120	-40 to +125	0.60 (I _F = 10.0 A)	15.0	10
ESAD85-009	90	25.0 (T _a = 90°C)	150	-40 to +125	0.90 (I _F = 10.0 A)	20.0	12
ESAD83-004K	45	30.0 (T _a = 90°C)	250	-40 to +125	0.55 (I _F = 12.5 A)	20.0	12
ESAD83M-006	60	30.0 (T _a = 75°C)	200	-40 to +125	0.58 (I _F = 12.5 A)	20.0	13
ESAE83-004	45	60.0 (T _a = 84°C)	500	-40 to +125	0.55 (I _F = 25.0 A)	50.0	12
SE014	40	1.0 (T _a = 25°C)	10	-40 to +125	0.55 (I _F = 1.0 A)	2.0	14A
SE024	40	.95 (T _a = 25°C)	5	-40 to +125	0.55 (I _F = 0.3 A)	2.0	14B
SC802-04	45	1.0 (T _a = 115°C)	40	-40 to +125	0.55 (I _F = 1.0 A)	2.0	11
SC802-06	60	1.0 (T _a = 111°C)	30	-40 to +125	0.58 (I _F = 1.0 A)	2.0	11
SC802-09	90	1.0 (T _a = 110°C)	30	-40 to +125	0.85 (I _F = 1.0 A)	1.0	11

Notes: () indicates conditions. Other conditions: *1 Square wave duty 1/2. *2 Sine wave, 10 ms. *3 $V_R = V_{RRM}$. *4 $T_J = 125^\circ\text{C}$. *Single. † = Dual Chip TO 220.

Fast Recovery Rectifiers

Mfr.'s Type	Maximum Ratings		I _{RM} *2 Amps	Thermal Ratings T _J and T _{stg} °C	Characteristics (T _a = 25°C)		I _r μS	Dimensions Figure
	V _{RM} Volts	I _O *1 Amps			V _{RM} Max. Volts	I _{RM} *3 Max. μA		
ERB38-04	400	0.8 (T _a = 25°C)	20	-40 to +150	2.50 (I _F = 0.8 A)	50	0.050 (I _F = 0.1 A, I _{IR} = 0.2 A)	6
ERA32-01	100	1.0 (T _a = 40°C)	40	-40 to +150	0.92 (I _F = 1.0 A)	10	0.100 (I _F = I _{IR} = 0.1 A)	6
ERA34-10	1000	0.1 (T _a = 60°C)	2	-40 to +150	3.00 (I _F = 0.1 A)	50	0.150 (I _F = I _{IR} = 0.1 A)	1
ERB91-02	200	1.0 (T _a = 50°C)	20	-40 to +150	0.95 (I _F = 1.0 A)	50	0.035 (I _F = 0.1 A, I _{IR} = 0.1 A)	6
ERB44-10	1000	1.0 (T _a = 25°C)	30	-40 to +150	1.50 (I _F = 1.0 A)	10	0.400 (I _F = I _{IR} = 0.1 A)	2
ERC38-04	400	1.0 (T _a = 25°C)	40	-40 to +150	2.50 (I _F = 1.0 A)	50	0.050 (I _F = 0.1 A, I _{IR} = 0.2 A)	5
ERB06-15	1500	1.0 (T _a = 40°C)	50	-40 to +150	1.50 (I _F = 4.0 A)	10	4.000 (I _F = I _{IR} = 0.1 A)	6
ERC30-01	100	1.5 (T _a = 40°C)	60	-40 to +150	0.92 (I _F = 1.5 A)	10	0.100 (I _F = I _{IR} = 0.1 A)	8
ERB93-02	200	1.5 (T _a = 40°C)	25	-40 to +150	0.95 (I _F = 1.5 A)	100	0.035 (I _F = 0.1 A, I _{IR} = 0.2 A)	8
ERD38-04	400	1.5 (T _a = 25°C)	80	-40 to +150	2.50 (I _F = 1.5 A)	100	0.050 (I _F = 0.1 A, I _{IR} = 0.2 A)	5
ERD38-05	500	1.5 (T _a = 25°C)	80	-40 to +150	2.50 (I _F = 1.5 A)	100	0.050 (I _F = 0.1 A, I _{IR} = 0.2 A)	5
ERD38-06	600	1.5 (T _a = 25°C)	80	-40 to +150	2.50 (I _F = 1.5 A)	100	0.050 (I _F = 0.1 A, I _{IR} = 0.2 A)	5
ERC06-15	1500	1.5 (T _a = 40°C)	50	-40 to +150	1.50 (I _F = 4.0 A)	10	4.000 (I _F = I _{IR} = 0.1 A)	5
ERD32-01	100	3.0 (T _a = 25°C)	150	-40 to +150	0.92 (I _F = 3.0 A)	10	0.100 (I _F = I _{IR} = 0.1 A)	5
ERD32-02	200	3.0 (T _a = 25°C)	150	-40 to +150	0.92 (I _F = 3.0 A)	50	0.100 (I _F = I _{IR} = 0.1 A)	5
ERC91-02	200	3.0 (T _a = 25°C)	50	-40 to +150	0.95 (I _F = 3.0 A)	100	0.035 (I _F = 0.1 A, I _{IR} = 0.2 A)	5
SC902-2	200	1.0 (T _a = 25°C)	25	-40 to +150	1.05 (I _F = 1.0 A)	50	0.035 (I _F = 0.1 A, I _{IR} = 0.2 A)	11
SC311-4	400	0.5 (T _a = 25°C)	10	-40 to +150	2.50 (I _F = 0.5 A)	50	0.050 (I _F = 0.1 A, I _{IR} = 0.2 A)	11
SC311-6	600	0.5 (T _a = 25°C)	10	-40 to +150	2.50 (I _F = 0.5 A)	50	0.050 (I _F = 0.1 A, I _{IR} = 0.2 A)	11

Notes: () Indicates conditions. Other conditions: ¹Single phase, sine half wave. ²1/2 cycle, 50 Hz. ³ V_R = V_{RRM}. Additional full molded packages

1 and 3 Amp Silicon Rectifiers



Fig. 1

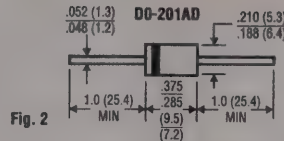


Fig. 2

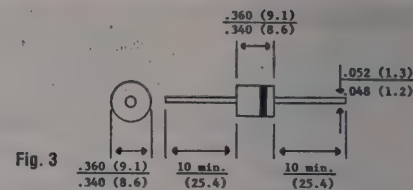


Fig. 3

Mfr.'s Type	V _{RM} V _{RRM} V _{RRM}	V _R (RMS)	I _O	I _{FMS}	T _{RR} nSec*	Figure
1N4001	50 V	35 V	1.0 A	30 A	—	1
1N4002	100 V	70 V	1.0 A	30 A	—	1
1N4003	200 V	140 V	1.0 A	30 A	—	1
1N4004	400 V	280 V	1.0 A	30 A	—	1
1N4005	600 V	420 V	1.0 A	30 A	—	1
1N4006	800 V	560 V	1.0 A	30 A	—	1
1N4007	1000 V	700 V	1.0 A	30 A	—	1
1N5400	50 V	35 V	3.0 A	200 A	—	2
1N5401	100 V	70 V	3.0 A	200 A	—	2
1N5402	200 V	140 V	3.0 A	200 A	—	2
1N5404	400 V	280 V	3.0 A	200 A	—	2
1N5406	600 V	420 V	3.0 A	200 A	—	2
1N5407	800 V	560 V	3.0 A	200 A	—	2
1N5408	1000 V	700 V	3.0 A	200 A	—	2
PR3001	50 V	35 V	3.0 A	150 A	150	2
PR3002	100 V	70 V	3.0 A	150 A	150	2
PR3003	200 V	140 V	3.0 A	150 A	150	2
PR3004	400 V	250 V	3.0 A	150 A	150	2
PR3005	600 V	420 V	3.0 A	150 A	150	2
PX6A01	50 V	35 V	6.0 A	400 A	250	3
PX6A02	100 V	70 V	6.0 A	400 A	—	3
PX6A03	200 V	140 V	6.0 A	400 A	—	3
PX6A04	400 V	280 V	6.0 A	400 A	—	3
PX6A05	600 V	420 V	6.0 A	400 A	—	3
PX6A06	800 V	560 V	6.0 A	400 A	—	3
PX6A07	1000 V	700 V	6.0 A	400 A	—	3

T_JT_{STG} = -65 to +175°C. 6 Amp standard and fast recovery rectifiers also available. *I_F = 0.5 A, I_R = -1.0 A, I_{RR} = -0.25 A.

Standard Recovery — 3 Phase Full Wave Bridges

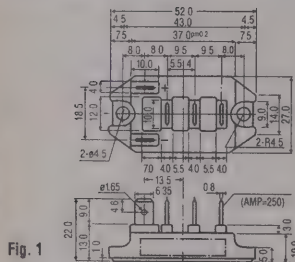


Fig. 1

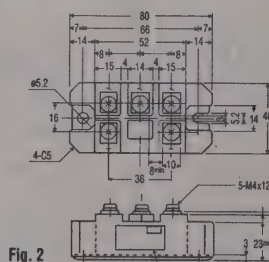


Fig. 2

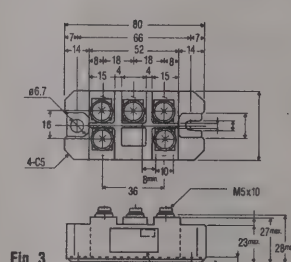


Fig. 3

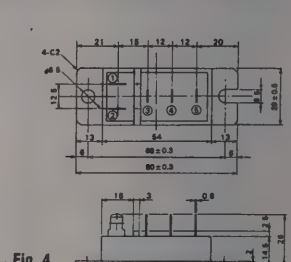


Fig. 4

- ▶ Glass Passivated Chip
- ▶ Ideal For Inverters, DC Motors and Battery Chargers

Mfr.'s Type	Ratings and Characteristics							Figure
	Rated Voltage (V)	Rated Current (A)	Surge Current (A)	Junction Temperature (°C)	Insulation Voltage (V)	Forward Voltage (V)	Thermal Resistance (°C/W)	
6RI30E-060	600	30	360	150	2000	1.10	0.80	1
6RI50E-060	600	50	480	150	2000	1.20	0.42	2
6RI75E-060	600	75	1000	150	2000	1.15	0.30	3
6RI100E-060	600	100	1200	150	2000	1.15	0.22	3
6RI30G-120	1200	30	320	150	2500	1.30	0.80	4
6RI75G-120	1200	75	1000	150	2500	1.30	0.30	3
6RI100G-120	1200	100	1200	150	2500	1.25	0.22	3

800, 1200 and 1600 V Versions also available.

Silicon Bridge Rectifiers

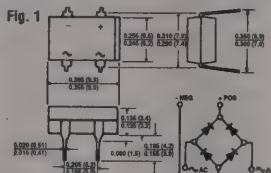


Fig. 1

Mfr.'s Type	V _{RM} V _{RRM} V _{RRM}	V _R (RMS)	I _{FMS}	I _O	T _{RR} nSec	V _{FM}	I _{RM} T _A = 100°C	Figure
DF005	50 V	35 V	30 A	1.0 A @ T _A = 40° C	—	1.1 V	0.5 mA	1
RDF005	50 V	35 V	30 A	1.0 A @ T _A = 40° C	200	1.3 V	0.5 mA	1
DF01	100 V	70 V	30 A	1.0 A @ T _A = 40° C	—	1.1 V	0.5 mA	1
RDF01	100 V	70 V	30 A	1.0 A @ T _A = 40° C	200	1.3 V	0.5 mA	1
DF02	200 V	140 V	30 A	1.0 A @ T _A = 40° C	—	1.1 V	0.5 mA	1
RDF02	200 V	140 V	30 A	1.0 A @ T _A = 40° C	200	1.3 V	0.5 mA	1

T_{STG} = -55 to +150°C. Recovery Test Conditions — I_F = 0.5 A, I_R = -1.0 A, I_{RR} = -0.25 A. T_J = -55 to +125°C.

Dimensions — inches and (millimeters)

POS. LEAD $\frac{0.032 (0.81)}{0.000 (0.70)}$ DIA.

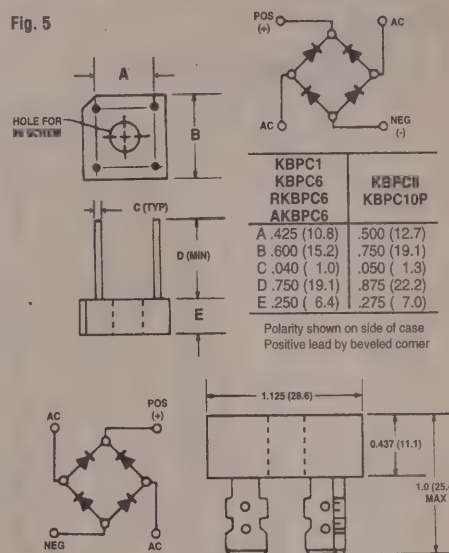
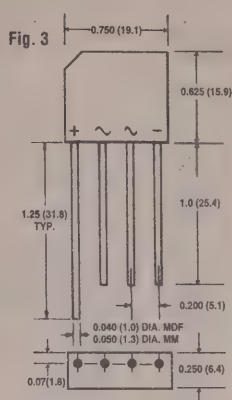


Fig. 6

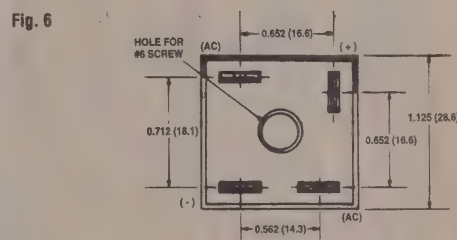


Fig. 7

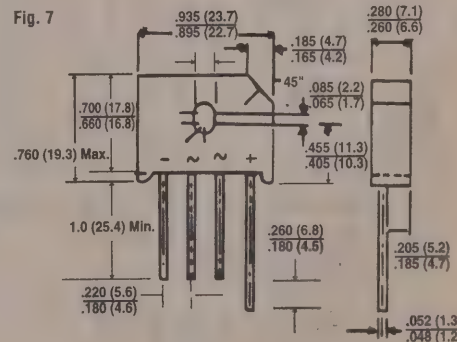
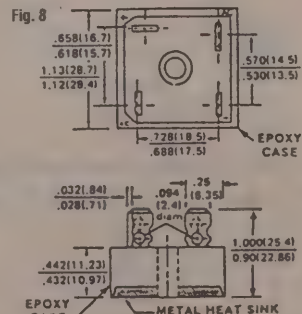


Fig. 8



*Molded plastic case with heatsink internally mounted in bridge encapsulation.

N-Channel Silicon Power MOS-FET

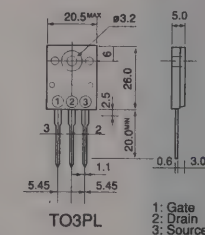
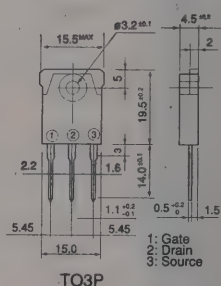
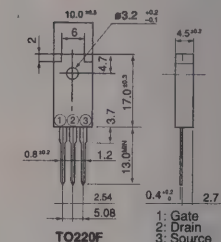
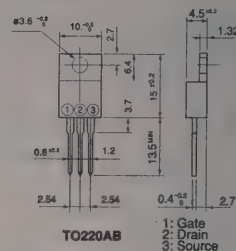
- ▶ High Speed Switching
- ▶ Low On-Resistance
- ▶ Low Driving Power
- ▶ Useful in Switching Regulators, UPS, DC-DC Converters and General Purpose Power Amplifiers

- ▶ F-I Series = Low $R_{DS(on)}$
- ▶ F-II Series = $V_{GS} \pm 30$ V, Reduced Turn Off Time
- ▶ FAP-II Series = High Avalanche Ruggedness
- ▶ F-III Series = Logic Level, High g_m

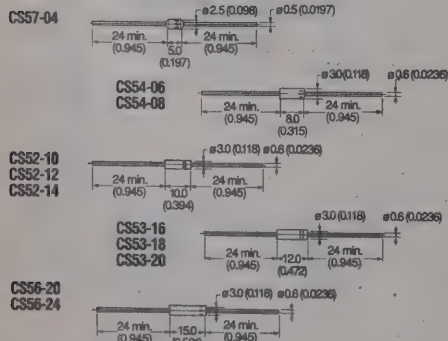
Mfr.'s Type	Series	Ratings			Characteristics ($T_c = 25^\circ\text{C}$)				Package
		V_{DS} (V)	I_D (A)	P_D (W)	$R_{DS(on)}$ (Ω)	g_m (S)*	t_{on} (ns)*	t_{off} (ns)*	
2SK905	F-I	50	45.0	125	0.03	25.0	160	550	T03P
2SK906	F-I	100	32.0	125	0.06	20.0	120	470	T03P
2SK900	F-I	250	12.0	80	0.30	9.0	75	260	T0220
2SK947M	F-I	250	12.0	40	0.30	9.0	75	260	T0220F15
2SK901	F-I	250	20.0	125	0.15	15.0	100	520	T03P
2SK902	F-I	250	30.0	150	0.10	20.0	200	1000	T03P
2SK949M	F-I	500	6.0	40	1.20	7.0	65	260	T0220F15
2SK724	F-I	500	10.0	100	0.67	10.0	130	440	T03P
2SK725	F-I	500	15.0	125	0.38	16.0	130	440	T03P
2SK899	F-I	500	18.0	125	0.33	16.0	130	440	T03P
2SK897M	F-I	550	4.0	40	1.50	5.0	65	240	T0220F15
2SK903M	F-I	800	3.0	40	4.00	4.0	60	210	T0220F15
2SK904	F-I	800	3.0	80	4.00	4.0	60	210	T0220
2SK1105	F-I	800	3.0	80	4.00	4.0	60	210	T03PF
2SK955	F-I	800	5.0	125	2.00	6.0	110	420	T03P
2SK960M	F-I	900	3.0	40	5.00	4.0	60	210	T0220F15
2SK961	F-I	900	3.0	80	5.00	4.0	60	210	T0220
2SK727-01	FAP-II	900	5.0	125	2.50	6.0	110	420	T03P
2SK1009-01	F-II	450	7.0	80	1.30	4.0	110	200	T0220
2SK1017-01	F-II	450	20.0	150	0.35	14.0	375	740	T03P
2SK1020	F-II	500	30.0	300	0.25	20.0	540	1350	T03PL
2SK951M	F-II	800	2.5	40	7.00	1.8	90	170	T0220F15
2SK952	F-II	800	2.5	45	7.00	1.8	90	170	T0220
2SK1008-01	FAP-II	500	4.5	60	2.20	3.0	95	200	T0220
2SK1503-01	FAP-II	500	10.0	80	0.90	6.5	45	124	T0220
2SK1018-01	FAP-II	500	18.0	125	0.45	10.0	260	500	T03P
2SK1023-01	FAP-II	800	4.0	60	4.50	4.0	145	225	T0220
2SK1081-01	FAP-II	800	7.0	125	2.20	4.5	225	380	T03P
2SK956-01	FAP-II	800	9.0	150	1.50	6.0	425	690	T03P
2SK1024-01	FAP-II	900	3.5	60	5.50	4.0	145	225	T0220
2SK1082-01	FAP-II	900	6.0	125	2.80	4.5	225	380	T03P
2SK962-01	FAP-II	900	8.0	150	2.00	6.0	425	690	T03P

Mfr.'s Type	Series	Ratings			Characteristics					Package
		V _{DS} (V)	I _O (A)	P _D (W)	R _{DS(on)} (Ω) (max.)		g _m (S)*	t _{on} (ns)*	t _{off} (ns)*	
					VGS=4V	VGS=10V				
2SK1505M	F-III	30	35	40	0.037	0.022	17.0	238	720	T0220F15
2SK1388	F-III	30	35	60	0.037	0.022	17.0	188	720	T0220
2SK1083M	F-III	60	8	20	0.350	0.220	6.0	55	105	T0220F15
2SK1086M	F-III	60	20	35	0.110	0.070	15.0	75	310	T0220F15
2SK1387M	F-III	60	35	40	0.056	0.035	—	99	760	T0220F15
2SK1089	F-III	60	35	80	0.056	0.035	18.0	99	760	T03P
2SK1508	F-III	60	35	60	0.056	0.035	18.0	9	530	T0220
2SK1389	F-III	60	50	125	0.040	0.025	36.0	230	850	T03P
2SK2049	F-III	60	50	80	0.040	0.025	—	230	850	T0220
2SK1509	F-III	100	20	60	0.120	0.080	20.0	83	680	T0220
2SK1506	F-III	120	50	150	0.045	0.030	—	345	2025	T03P
2SK1088M	F-III	150	9	35	0.400	0.300	10.0	75	275	T0220F15

*Typical.



Fast Recovery High Voltage Silicon Rectifiers



Mfr.'s Type†	Repetitive Peak Reverse Voltage V_{RRM}	Average Forward Current I_A *	Non-Repetitive Peak Surge Current I_{FSM} **	Maximum Forward Voltage Drop (at 10 mA, $T_a = 25^\circ\text{C}$) V_{FM}	Maximum Reverse Current Repetitive (at V_{RRM} , $T_a = 25^\circ\text{C}$) I_{RRM}
	kV	mA	A	Volts	μA
CS57-04	4	25	1.0	12.5	1
CS54-06	6	25	1.0	20.0	1
CS54-08	8	25	1.0	25.0	1
CS52-10	10	10	0.5	30.0	1
CS52-12	12	10	0.5	37.5	1
CS52-14	14	10	0.5	42.5	1
CS53-16	16	10	0.5	50.0	1
CS53-18	18	10	0.5	55.0	1
CS53-20	20	10	0.5	62.5	1
CS56-24	24	10	0.5	75.0	1

Notes: *Single phase; half sine wave at ambient temperature 25°C . **1/2 cycle, 50 Hz at full load. †Epoxy Package. Reverse Recovery Time: $T_a = 25^\circ\text{C}$, $I_F = 2$ mA, $I_R = 1$ mA, 100 nsec max. Maximum Junction Capacitance: $V = 0$, $T_a = 25^\circ\text{C}$, @ 1 MHz, 2 pF. Storage and Operating Junction Temperature, T_j : -65°C to $+150^\circ\text{C}$.

X-Ray, Microwave and Power Supply Diodes

Mfr.'s Type	V_{RRM} (KV)	I_D (mA)	VF (V)	T_r (μsec)	Pkg. L (in.)	Pkg. Dia. (in.)	Wire Dia. (in.)
ESJC04-05*	5.0	420	8.4	1.0	.394	.236	.047
ESJC01-09B	9.0	350	12.0	—	.866	.295	.047†
ESJC03-09*	9.0	280	18.0	1.0	.591	.117	.031
ESJC01-12B	12.0	350	12.0	—	.866	.295	.047†
ESJC30-08	7.2	300	16.0	0.3	.860	.290	.047
ESJC07-09B	9.0	450 (in oil)	10 V @ 450 mA	—	—	—	—
ESJC07-12B	12.0	400 (in oil)	12 V @ 400 mA	—	—	—	—

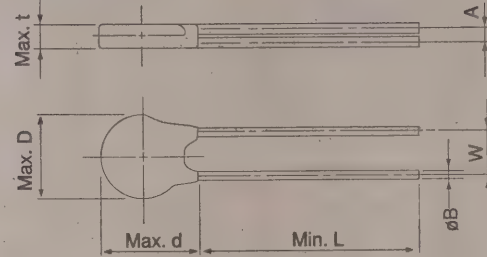
* = Rating in oil. † = Ring terminal on cathode, fast-on terminal on anode.

Features

- ▶ Excellent Clamping Characteristics
- ▶ High Discharge Current Capability — Up to 4000 Amps
- ▶ Fast Response Time — Under 50 Nanoseconds
- ▶ Wide Operating Temperature Range
- ▶ Eliminate Follow-On Current
- ▶ Improve Product Safety
- ▶ Protect Circuit Insulation and Improve System Reliability
- ▶ Low Installation Cost
- ▶ UL Recognized (UL1414, UL1449)
- ▶ Lead Wire: High Temperature Solder Plated Mild Copper Wire
- ▶ Molded Material: Flame Resistant Epoxy Resin (UL, 94V0 Equivalent)

Dimensions, MM	5 mm	7 mm	10 mm	14 mm	20 mm
Max "D"	7.5	9.0	14.0	17.5	24.0
Max "d"	10.0	12.0	17.0	21.0	28.0
Min "L"	35.0	35.0	35.0	35.0	30.0
W (±1)	5.0	5.0	7.5	7.5	10.0
øB	0.6	0.6	0.8	0.8	1.0

Dimensions mm



Mfr.'s Type	Maximum Ratings				Characteristics		
	Applied Voltage ¹		Transient		Nominal Varistor Voltage ¹	Max Clamping Voltage ⁴ @ Test Current (8/20 µs)	Ip (Amps)
	RMS 50/60 Hz (25°C)	DC (25°C)	Energy ²	Average Power Dissipation			
	Vacm (Volts)	Vdcm (Volts)	Wtm (Joules)	Ptam (Watts)	Vnom (Volts)	Vc (Volts)	Ip (Amps)
ENC220D-05B	14	18	0.4	0.01	22	48	1.0
ENC220D-07B	14	18	0.9	0.02	22	43	2.5
ENC220D-10B	14	18	2.0	0.05	22	43	5.0
ENC220D-14B	14	18	4.0	0.10	22	43	10.0
ENC220D-20B	14	18	13.0	0.20	22	43	20.0
ENC270D-05B	17	22	0.5	0.01	27	60	1.0
ENC270D-07B	17	22	1.0	0.02	27	53	2.5
ENC270D-10B	17	22	2.5	0.05	27	53	5.0
ENC270D-14B	17	22	5.5	0.10	27	53	10.0
ENC270D-20B	17	22	15.0	0.20	27	53	20.0
ENC330D-05B	20	26	0.6	0.01	33	73	1.0
ENC330D-07B	20	26	1.2	0.02	33	65	2.5
ENC330D-10B	20	26	3.0	0.05	33	65	5.0
ENC330D-14B	20	26	6.0	0.10	33	65	10.0
ENC330D-20B	20	26	20.0	0.20	33	65	20.0
ENC390D-05B	25	31	0.8	0.01	39	86	1.0
ENC390D-07B	25	31	1.5	0.02	39	77	2.5
ENC390D-10B	25	31	3.5	0.05	39	77	5.0
ENC390D-14B	25	31	7.0	0.10	39	77	10.0
ENC390D-20B	25	31	24.0	0.20	39	77	20.0
ENC470D-05B	30	38	1.0	0.01	47	104	1.0
ENC470D-07B	30	38	1.8	0.02	47	93	2.5
ENC470D-10B	30	38	4.5	0.05	47	93	5.0
ENC470D-14B	30	38	8.5	0.10	47	93	10.0
ENC470D-20B	30	38	30.0	0.20	47	93	20.0
ENC560D-05B	35	45	1.0	0.01	56	123	1.0
ENC560D-07B	35	45	2.2	0.02	56	110	2.5
ENC560D-10B	35	45	5.5	0.05	56	110	5.0
ENC560D-14B	35	45	10.0	0.10	56	110	10.0
ENC560D-20B	35	45	35.0	0.20	56	110	20.0
ENC680D-05B	40	56	1.2	0.01	68	150	1.0
ENC680D-07B	40	56	2.5	0.02	68	135	2.5
ENC680D-10B	40	56	6.5	0.05	68	135	5.0
ENC680D-14B	40	56	12.0	0.10	68	135	10.0
ENC680D-20B	40	56	40.0	0.20	68	135	20.0
ENC820D-05A	50	65	1.7	0.01	82	145	5.0
ENC820D-07A	50	65	3.5	0.02	82	135	10.0
ENC820D-10A	50	65	8.0	0.05	82	135	25.0
ENC820D-14A*	50	65	14.0	0.10	82	135	50.0
ENC820D-20A*	50	65	27.0	0.20	82	135	100.0
ENC1010D-05A	60	85	2.0	0.01	100	175	5.0
ENC1010D-07A	60	85	4.0	0.02	100	165	10.0
ENC1010D-10A	60	85	10.0	0.05	100	165	25.0
ENC1010D-14A*	60	85	18.0	0.10	100	165	50.0
ENC1210D-05A	60	85	30.0	0.20	100	165	100.0
ENC1210D-07A	75	100	2.5	0.01	120	210	5.0
ENC1210D-10A	75	100	5.0	0.02	120	200	10.0
ENC1210D-14A*	75	100	12.0	0.05	120	200	25.0
ENC1510D-05A	75	100	20.0	0.10	120	200	50.0
ENC1510D-07A	75	100	40.0	0.20	120	200	100.0
ENC1510D-10A	95	125	3.0	0.01	150	260	5.0
ENC1510D-14A*	95	125	6.0	0.02	150	250	10.0

Mfr.'s Type	Maximum Ratings				Characteristics		
	Applied Voltage ¹		Transient		Nominal Varistor Voltage ¹	Max Clamping Voltage ⁴ @ Test Current (8/20 µs)	Ip (Amps)
	RMS 50/60 Hz (25°C)	DC (25°C)	Energy ²	Average Power Dissipation			
	Vacm (Volts)	Vdcm (Volts)	Wtm (Joules)	Ptam (Watts)	Vnom (Volts)	Vc (Volts)	Ip (Amps)
ENC151D-10A	95	125	16.0	0.40	150	250	25.0
ENC151D-14A*	95	125	25.0	0.60	150	250	50.0
ENC151D-20A*	95	125	50.0	1.00	150	250	100.0
ENC201D-05A*	130	170	4.0	0.10	200	355	5.0
ENC201D-07A*	130	170	10.0	0.25	200	340	10.0
ENC201D-10A*	130	170	20.0	0.40	200	340	25.0
ENC201D-14A*	130	170	35.0	0.60	200	340	50.0
ENC201D-20A*	130	170	70.0	1.00	200	340	100.0
ENC221D-05A*	140	180	4.5	0.10	220	380	5.0
ENC221D-07A*	140	180	10.0	0.25	220	360	10.0
ENC221D-10A*	140	180	23.0	0.40	220	360	25.0
ENC221D-14A*	140	180	40.0	0.60	220	360	50.0
ENC221D-20A*	140	180	75.0	1.00	220	360	100.0
ENC241D-05A*	150	200	5.0	0.10	240	415	5.0
ENC241D-07A*	150	200	10.0	0.25	240	395	10.0
ENC241D-10A*	150	200	25.0	0.40	240	395	25.0
ENC241D-14A*	150	200	40.0	0.60	240	395	50.0
ENC241D-20A*	150	200	80.0	1.00	240	395	100.0
ENC271D-05A*	175	225	6.0	0.10	270	475	5.0
ENC271D-07A*	175	225	12.0	0.25	270	455	10.0
ENC271D-10A*	175	225	30.0	0.40	270	455	25.0
ENC271D-14A*	175	225	50.0	0.60	270	455	50.0
ENC271D-20A*	175	225	90.0	1.00	270	455	100.0
ENC361D-05A*	230	300	7.5	0.10	360	620	5.0
ENC361D-07A*	230	300	15.0	0.25	360	595	10.0
ENC361D-10A*	230	300	35.0	0.40	360	595	25.0
ENC361D-14A*	230	300	65.0	0.60	360	595	50.0
ENC361D-20A*	230	300	120.0	1.00	360	595	100.0
ENC391D-05A*	250	320	8.0	0.10	390	675	5.0
ENC391D-07A*	250	320	17.0	0.25	390	650	10.0
ENC391D-10A*	250	320	40.0	0.40	390	650	25.0
ENC391D-14A*	250	320	70.0	0.60	390	650	50.0
ENC391D-20A*	250	320	130.0	1.00	390	650	100.0
ENC431D-05A*	275	350	9.0	0.10	430	745	5.0
ENC431D-07A*	275	350	20.0	0.25	430	710	10.0
ENC431D-10A*	275	350	45.0	0.40	430	710	25.0
ENC431D-14A*	275	350	75.0	0.60	430	710	50.0
ENC431D-20A*	275	350	140.0	1.00	430	710	100.0
ENC471D-05A*	300	385	10.0	0.10	470	810	5.0
ENC471D-07A*	300	385	20.0	0.25	470	775	10.0
ENC471D-10A*	300	385	45.0	0.40	470	775	25.0
ENC471D-14A*	300	385	80.0	0.60	470	775	50.0
ENC471D-20A*	300	385	150.0	1.00	470	775	100.0
ENC621D-10A*	385	505	45.0	0.40	620	1025	25.0
ENC621D-14A*	385	505	85.0	0.60	620	1025	50.0
ENC621D-20A*	385	505	150.0	1.00	620	1025	100.0
ENC681D-10A*	420	560	45.0	0.40	680	1120	25.0
ENC681D-14A*	420	560	90.0	0.60	680	1120	50.0
ENC681D-20A*	420	560	160.0	1.00	680	1120	100.0
ENC102D-10A*	625	825	65.0	0.40	1000	1650	25.0
ENC102D-14A*	625	825	130.0	0.60	1000	1650	50.0
ENC102D-20A*	625	825	230.0	1.00	1000	1650	100.0

*Indicates UL listed.

Notes: The waveform of the maximum DC applied voltage is flat. When a ripple voltage as from a rectifier source is applied, make sure that the peak voltage is within the Vdcm rating.

The AC applied voltage (50/60 Hz) is sine waveform.

When waveform distortion is extensive, make sure that the peak voltage is less than $\sqrt{2}$ times the Vacm rating.

*Energy, Wtm.

Transient energy ratings are given in the Wtm column in Joules (watt-second). The rating is the maximum allowable energy of a single 2 ms square-waveform impulse current continuously applied. Energy ratings are based on a shift of

Vnom of less than $\pm 10\%$ of the initial value.

*Nominal varistor voltage: Vnom.

Indicates the varistor terminal voltage measured with 1 mA DC applied.

*Maximum clamping voltage: Vc.

Indicates the peak terminal voltage.

Operating Ambient Temperature: -40°C to $+85^{\circ}\text{C}$.

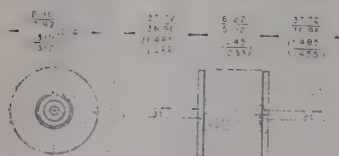
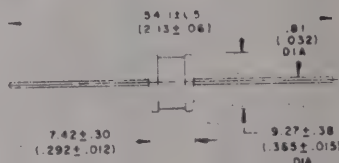
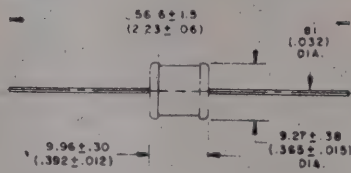
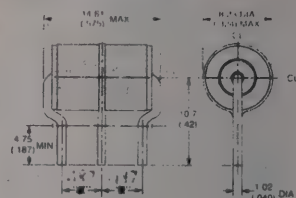
Storage Temperature: -40°C to $+125^{\circ}\text{C}$.

Series CG, CG2 and PMT3 (310)

- ▶ Fastest surge arresting response.
- ▶ High peak surge current capability.
- ▶ Lowest interelectrode capacitance.
- ▶ Rugged ceramic construction.
- ▶ Available on tape and reel for automatic insertion for some product types.
- ▶ Hermetically sealed.
- ▶ Meets the requirements of REA PE-80, IEEE 587 and CCITT K12.
- ▶ UL recognition on some products.

Clare surge arrestors protect personnel and equipment from damaging high-voltage surges from lightning, inductive switching, nuclear electromagnetic generation, or electrostatic discharge. Through ongoing research and engineering improvements, Clare has developed a family of surge arrestors that offer impressive characteristics for a variety of applications.

Engineering Specifications	AC	CG/CG2	PMT 3 (310)
Surge Life (No. of Operations) 10 A 10/1000 surge life 500 A 10/1000 surge life	N/A N/A	2500 1000	N/A 400
Surge Current 8/20 (kA)	10	20	20
AC Current 10 operations 60 Hz for 1 sec, with 3 minute intervals	N/A	20	N/A
AC Current 11 cycles 60 Hz (a)	N/A	20	130
Insulation Resistance 100 VDC, except 50 VDC for units with DC breakdown less than 150 V (MOhms)	10000	10000	10000
Temperature-Stabilize at temp for 1 hour then measure DC, IR, impulse Minimum operating temp Maximum operating temp	-65°C + 125°C	-65°C + 125°C	-65°C + 125°C
Weight	2.0g	1.0g	3.5g

Fig. 4
Fig. 1

Fig. 2

Fig. 3

PMT3 (310) Series


Stock No.	Mfr.'s Type	Fig. No.	DC Breakdown Voltage			Impulse Breakdown @ (100 V/μs) Maximum Voltage	Maximum Capacitance Between Electrodes @ 1 MHz (pF)	EACH		
			Nominal Voltage (VDC)	Min. Volts	Max. Volts			1-24	25-49	50-99
681-0122	CG75L	1	75	60	90	400	1.0	3.30	2.75	2.25
681-0123	CG90L	1	90	72	108	400	1.0	3.30	2.75	2.25
681-0124	CG110L	1	110	88	132	450	1.0	3.30	2.75	2.25
681-0125	CG2-145L	1	145	116	174	500	1.0	3.30	2.75	2.25
681-0126	CG2-230L	1	230	195	265	600	1.0	3.30	2.75	2.25
681-0127	CG2-300L	1	300	255	345	700	1.0	3.30	2.75	2.25
681-0128	CG2-350L	1	350	297	403	750	1.0	3.30	2.75	2.25
681-0129	CG2-470L	1	470	400	540	850	1.0	3.30	2.75	2.25
681-0130	CG2-600L	1	600	510	690	1000	1.0	3.95	3.25	2.75
681-0131	CG2-800L	1	800	680	920	1200	1.0	3.95	3.25	2.75
681-0132	CG2-1000L	1	1000	850	1150	1500	1.0	3.95	3.25	2.75
681-1301	CG3-1.5L	2	1500	1275	1725	2200	1.0	5.60	4.76	3.90
681-1302	CG3-7.5L	3	7500	6375	8625	10000	1.0	5.90	5.02	4.12
681-0133	PMT3(310)25010	4	250	200	350	600	1.0	6.60	4.80	3.80
681-0134	PMT3(310)40010	4	400	300	500	750	1.0	6.60	4.80	3.80
681-1215	AC120L	1	N/A	225	N/A	700	1.0	3.30	2.75	2.25
681-1220	AC240L	1	N/A	425	N/A	800	1.0	3.30	2.75	2.25

Application	Protected Equipment	Clare Part No.
CATV	Trunk Amplifier Cable Extender Splitter Grounding Block Converter Box 30, 60 VAC Power Supply	CG2-145L CG2-230L
AC Line Protection	117 VAC Line 220 VAC Line All AC Loads	CG2-300L CG2-600L
Communication	Modem Antenna Connected Equipment	CG2-350L PMT3(310)40010 CG2-145L CG90L & CG2-230L
Power Supplies	Voltage Doubler Capacitors Voltage Regulator Rectifier Diodes	CG2-230L, CG2-470L
Computer	Data Lines	CG90L, CG2-230L, PMT3(310)40010

Application	Protected Equipment	Clare Part No.
Test Equipment	Meter Inputs	CG75L, CG2-300L
CRT Terminal	Focus Electrode	CG2-800L, CG3-7.5L
Capacitive Discharge	Ignition Circuit Components Pulse Generator Components	CG2-230L, CG2-350L
Signal Lines (single ended)	Alarm Circuits	CG75L
Signal Lines (balanced)	Alarm Circuits Paging Systems	PMT3(310)40010 PMT3(310)25010
Telephone Line (simultaneous common mode & normal mode protection)	Telephone Interface Cards Telephone Line Cards Repeaters In-Line & Remote Phone Line Test Equipment Center Office Protector Modules	PMT3(310)40010
Medical Electronics	Defibrillator	CG2-800L, CG75L
Process Control (24MA Signal Loop)	Instrumentation Circuits	CG75L, CG90L

Transient Voltage Suppressors

500 Watt Glass Passivated Transient Voltage Suppressors

Case Type: DO-204AC. Tolerance: $\pm 5\%$. For bidirectional types having V_{BR} of 10 volts and less, the I_o limit is doubled.

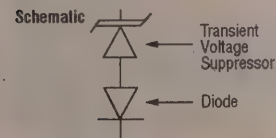
Mfr.'s Type		Breakdown Voltage		Reverse Stand-Off Voltage (V_{WM}) Volts	Max. Rev. Leakage (I_o) at V_{WM} μA	Max. Peak Impulse Current (I_{PPM}) Amps	Max. Clamping Voltage at I_{PPM} (Vc) Volts
Unidirectional	Bidirectional	V_{BR} Volts Min.	at I_r mA				
SA5.0A	SA5.0CA	6.85	10.0	5.0	600.0	52.0	9.6
SA6.0A	SA6.0CA	7.41	10.0	6.0	600.0	43.9	11.4
SA6.5A	SA6.5CA	8.02	10.0	6.5	400.0	40.7	12.3
SA7.0A	SA7.0CA	8.65	10.0	7.0	150.0	37.8	13.3
SA7.5A	SA7.5CA	9.27	1.0	7.5	50.0	35.0	14.3
SA8.0A	SA8.0CA	9.90	1.0	8.0	25.0	33.3	15.0
SA8.5A	SA8.5CA	10.47	1.0	8.5	10.0	31.4	15.9
SA9.0A	SA9.0CA	11.10	1.0	9.0	5.0	29.5	16.9
SA10A	SA10CA	12.35	1.0	10.0	3.0	26.6	18.8
SA11A	SA11CA	13.55	1.0	11.0	3.0	24.9	20.1
SA12A	SA12CA	14.80	1.0	12.0	3.0	22.7	22.0
SA13A	SA13CA	16.00	1.0	13.0	3.0	21.0	23.8
SA14A	SA14CA	17.35	1.0	14.0	3.0	19.4	25.8
SA15A	SA15CA	18.55	1.0	15.0	3.0	18.8	26.9
SA16A	SA16CA	19.80	1.0	16.0	3.0	17.6	28.8
SA17A	SA17CA	21.00	1.0	17.0	3.0	16.4	30.5
SA18A	SA18CA	22.20	1.0	18.0	3.0	15.5	32.2
SA20A	SA20CA	24.65	1.0	20.0	3.0	13.9	35.8
SA22A	SA22CA	27.10	1.0	22.0	3.0	12.7	39.4
SA24A	SA24CA	29.65	1.0	24.0	3.0	11.6	43.0
SA26A	SA26CA	32.10	1.0	26.0	3.0	10.7	46.6
SA28A	SA28CA	34.55	1.0	28.0	3.0	9.9	50.1
SA30A	SA30CA	37.00	1.0	30.0	3.0	9.3	53.5
SA33A	SA33CA	40.80	1.0	33.0	3.0	8.5	59.0
SA36A	SA36CA	44.45	1.0	36.0	3.0	7.8	64.3
SA40A	SA40CA	49.35	1.0	40.0	3.0	7.0	71.4
SA43A	SA43CA	53.10	1.0	43.0	3.0	6.5	76.7
SA45A	SA45CA	55.55	1.0	45.0	3.0	6.2	80.3
SA48A	SA48CA	59.20	1.0	48.0	3.0	5.8	85.5
SA51A	SA51CA	63.00	1.0	51.0	3.0	5.5	91.1
SA54A	SA54CA	66.65	1.0	54.0	3.0	5.2	96.3
SA58A	SA58CA	71.55	1.0	58.0	3.0	4.9	103.0
SA60A	SA60CA	74.10	1.0	60.0	3.0	4.7	107.0
SA64A	SA64CA	79.00	1.0	64.0	3.0	4.4	114.0
SA70A	SA70CA	86.45	1.0	70.0	3.0	4.0	125.0
SA75A	SA75CA	92.65	1.0	75.0	3.0	3.7	134.0
SA78A	SA78CA	96.35	1.0	78.0	3.0	3.6	139.0
SA85A	SA85CA	104.70	1.0	85.0	3.0	3.3	151.0
SA90A	SA90CA	111.00	1.0	90.0	3.0	3.1	160.0
SA100A	SA100CA	123.50	1.0	100.0	3.0	2.8	179.0
SA110A	SA110CA	135.50	1.0	110.0	3.0	2.6	196.0
SA120A	SA120CA	148.00	1.0	120.0	3.0	2.3	214.0
SA130A	SA130CA	160.00	1.0	130.0	3.0	2.2	231.0
SA150A	SA150CA	185.50	1.0	150.0	3.0	1.9	268.0
SA160A	SA160CA	198.00	1.0	160.0	3.0	1.7	287.0
SA170A	SA170CA	210.00	1.0	170.0	3.0	1.6	304.0

500 Watt Transient Voltage Suppressors

Case Type: DO-240AC. Tolerance: $\pm 10\%$.

Mfr.'s Type		Breakdown Voltage		Reverse Stand-Off Voltage (V_{WM}) Volts	Max. Rev. Leakage (I_o) at V_{WM} μA	Max. Peak Impulse Current (I_{PPM}) Amps	Max. Clamping Voltage at I_{PPM} (Vc) Volts
Unidirectional		V_{BR} Volts Min.	at I_r mA				
SAB5.0		6.0	1.0	5.0	300.0	53.7	9.3
SAB10		11.1	1.0	10.0	3.0	30.3	16.5
SAB12		13.8	1.0	12.0	3.0	23.8	21.0
SAB15		16.7	1.0	15.0	3.0	19.8	25.2
SAB18		20.4	1.0	18.0	3.0	16.3	30.5
SAB24		28.4	1.0	24.0	3.0	11.9	42.0
SAB28		30.7	1.0	28.0	3.0	10.7	46.5

500 Watt Low Capacitance Transient Voltage Suppressors



Case Type: DO-204AC. Tolerance: $\pm 10\%$.

Mfr.'s Type		Breakdown Voltage		Reverse Stand-Off Voltage (V_{WM}) Volts	Max. Rev. Leakage (I_o) at V_{WM} μA	Max. Peak Impulse Current (I_{PPM}) Amps	Max. Clamping Voltage at $I_{PPM} = 5.0$ A (Vc) Volts	Max. Junction Capacitance at 0 Volts 1.0 MHz (Cj) pF
Unidirectional		V_{BR} Volts Min.	at I_r mA					
SAC5.0		7.60	1.0	5.0	300.0	44.0	10.0	50.0
SAC6.0		7.90	1.0	6.0	300.0	41.0	11.2	50.0
SAC7.0		8.33	1.0	7.0	300.0	38.0	12.6	50.0
SAC8.0		8.89	1.0	8.0	100.0	36.0	13.4	50.0
SAC8.5		9.44	1.0	8.5	50.0	34.0	14.0	50.0
SAC10		11.10	1.0	10.0	5.0	29.0	16.3	50.0
SAC12		13.30	1.0	12.0	5.0	25.0	19.0	50.0
SAC15		16.70	1.0	15.0	5.0	20.0	23.6	50.0
SAC18		20.00	1.0	18.0	5.0	15.0	28.8	50.0
SAC22		24.40	1.0	22.0	5.0	14.0	35.4	50.0
SAC26		28.90	1.0	26.0	5.0	11.1	42.3	50.0
SAC30		33.30	1.0	30.0	5.0	10.0	48.6	50.0
SAC36		40.00	1.0	36.0	5.0	8.6	60.0	50.0
SAC45		50.00	1.0	45.0	5.0	6.8	77.0	50.0
SAC50		55.50	1.0	50.0	5.0	5.8	88.0	50.0

600 Watt Transient Voltage Suppressors

Case Type: DO-204AC. Tolerance: $\pm 5\%$. Peak Impulse Current Waveform: 10/1000 μs at $T_A = 25^\circ C$.

For bidirectional types having V_{BR} of 10 volts and less, the I_o limit is doubled.

Mfr.'s Type		Breakdown Voltage		Reverse Stand-Off Voltage (V_{WM}) Volts	Max. Rev. Leakage (I_o) at V_{WM} μA	Max. Peak Impulse Current (I_{PPM}) Amps	Max. Clamping Voltage at I_{PPM} (Vc) Volts
Unidirectional	Bidirectional	V_{BR} Volts Min.	at I_r mA				
P6KE6.8A	P6KE6.8CA	6.8	10.0	5.5	1000.0	56.00	10.8
P6KE7.5A	P6KE7.5CA	7.5	10.0	6.1	500.0	51.00	11.7
P6KE8.2A	P6KE8.2CA	8.2	10.0	6.6	200.0	48.00	12.5
P6KE9.1A	P6KE9.1CA	9.1	10.0	7.4	50.0	44.00	13.8
P6KE10A	P6KE10CA	10.0	1.0	8.1	10.0	40.00	15.0
P6KE11A	P6KE11CA	11.0	1.0	8.9	5.0	37.00	16.2
P6KE12A	P6KE12CA	12.0	1.0	9.7	5.0	35.00	17.3
P6KE13A	P6KE13CA	13.0	1.0	10.5	5.0	32.00	19.0
P6KE15A	P6KE15CA	15.0	1.0	12.1	5.0	27.00	22.0
P6KE16A	P6KE16CA	16.0	1.0	12.9	5.0	26.00	23.5
P6KE18A	P6KE18CA	18.0	1.0	14.5	5.0	23.00	26.5
P6KE20A	P6KE20CA	20.0	1.0	16.2	5.0	21.00	29.1
P6KE22A	P6KE22CA	22.0	1.0	17.8	5.0	19.00	31.9
P6KE24A	P6KE24CA	24.0	1.0	19.4	5.0	17.00	34.7
P6KE27A	P6KE27CA	27.0	1.0	21.8	5.0	15.00	39.1
P6KE30A	P6KE30CA	30.0	1.0	24.3	5.0	14.00	43.5
P6KE33A	P6KE33CA	33.0	1.0	26.8	5.0	12.60	47.7
P6KE36A	P6KE36CA	36.0	1.0	29.1	5.0	11.60	52.0
P6KE39A	P6KE39CA	39.0	1.0	31.6	5.0	10.60	56.4
P6KE43A	P6KE43CA	43.0	1.0	34.8	5.0	9.60	61.9
P6KE47A	P6KE47CA	47.0	1.0	38.1	5.0	8.90	67.8
P6KE51A	P6KE51CA	51.0	1.0	41.3	5.0	8.20	73.5
P6KE56A	P6KE56CA	56.0	1.0	45.4	5.0	7.40	80.5
P6KE62A	P6KE62CA	62.0	1.0	50.2	5.0	6.80	89.0
P6KE68A	P6KE68CA	68.0	1.0	55.1	5.0	6.10	98.0
P6KE75A	P6KE75CA	75.0	1.0	60.7	5.0	5.50	108.0
P6KE82A	P6KE82CA	82.0	1.0	66.4	5.0	5.10	118.0
P6KE92A	P6KE92CA	91.0	1.0	73.7	5.0	4.50	131.0
P6KE100A	P6KE100CA	100.0	1.0	81.0	5.0	4.20	144.0
P6KE110A	P6KE110CA	110.0	1.0	89.2	5.0	3.80	158.0
P6KE120A	P6KE120CA	120.0	1.0	97.2	5.0	3.50	173.0
P6KE130A	P6KE130CA	130.0	1.0	105.0	5.0	3.20	187.0
P6KE150A	P6KE150CA	150.0	1.0	121.0	5.0	2.80	215.0
P6KE160A	P6KE160CA	160.0	1.0	130.0	5.0	2.60	230.0
P6KE170A	P6KE170CA	170.0	1.0	138.0	5.0	2.50	244.0
P6KE180A	P6KE180CA	180.0	1.0	146.0	5.0	2.30	258.0
P6KE200A	P6KE200CA	200.0	1.0	162.0	5.0	2.10	287.0
P6KE220A	P6KE220CA	220.0	1.0	175.0	5.0	1.75	344.0
P6KE250A	P6KE250CA	250.0	1.0	202.0	5.0	1.67	360.0
P6KE300A	P6KE300CA	300.0	1.0	243.0	5.0	1.40	430.0
P6KE350A	P6KE350CA	350.0	1.0	284.0	5.0	1.20	504.0
P6KE400A	P6KE400CA	400.0	1.0	324.0	5.0	1.05	574.0
P6KE440A	P6KE440CA	440.0	1.0	356.0	5.0	0.95	631.0

1500 Watt Transient Voltage Suppressors

Case Type: 1.5KE. Tolerance: $\pm 5\%$. Peak Impulse Current Waveform: 10/1000 μs at $T_A = 25^\circ C$. For bidirectional types having V_{BR} of 10 volts and less, the I_o limit is doubled.

Mfr.'s Type		Breakdown Voltage		Reverse Stand-Off Voltage (V_{WM}) Volts	Max. Rev. Leakage (I_o) at V_{WM} mA	Max. Peak Impulse Current (I_{PPM}) Amps	Max. Clamping Voltage at I_{PPM} (Vc) Volts
Unidirectional	Bidirectional	V_{BR} Volts Min.	at I_r mA				
1.5KE6.8A	1.5KE6.8CA	6.8	10.0	5.5	1000.0	139.00	10.8
1.5KE7.5A	1.5KE7.5CA	7.5	10.0	6.1	500.0	128.00	11.7
1.5KE8.2A	1.5KE8.2CA	8.2	10.0	6.6	200.0	120.00	12.5
1.5KE9.1A	1.5KE9.1CA	9.1	10.0	7.4	50.0	109.00	13.8
1.5KE10A	1.5KE10CA	10.0	1.0	8.1	10.0	100.00	15.0
1.5KE11A	1.5KE11CA	11.0	1.0	8.9	5.0	93.00	16.2
1.5KE12A	1.5KE12CA	12.0	1.0	9.7	5.0	87.00	17.3
1.5KE13A	1.5KE13CA	13.0	1.0	10.5	5.0	79.00	19.0
1.5KE15A	1.5KE15CA	15.0	1.0	12.1	5.0	68.00	22.0
1.5KE16A	1.5KE16CA	16.0	1.0	12.9	5.0	64.00	23.5
1.5KE18A	1.5KE18CA	18.0	1.0	14.5	5.0	56.50	26.5
1.5KE20A	1.5KE20CA	20.0	1.0	16.2	5.0	51.50	29.1
1.5KE22A	1.5KE22CA	22.0	1.0	17.8	5.0	47.00	31.9
1.5KE24A	1.5KE24CA	24.0	1.0	19.4	5.0	43.00	34.7
1.5KE27A	1.5KE27CA	27.0	1.0	21.8	5.0	38.50	39.1
1.5KE30A	1.5KE30CA	30.0	1.0	24.3	5.0	34.50	43.5
1.5KE33A	1.5KE33CA	33.0	1.0	26.8	5.0	31.50	47.7

Transient Voltage Suppressors — Continued

300 Watt Surface Mount Transient Voltage Suppressors

Case Type: SMA/DO214AC. Tolerance: $\pm 5\%$. Peak Impulse Current Waveform: 10/1000 μ s at $T_A = 25^\circ\text{C}$.

Mfr.'s Type	Breakdown Voltage		Device Marking Codes	Reverse Stand-Off Voltage (V _{WM}) Volts	Max. Rev. Leakage (I ₀) at V _{WM} μ A	Max. Peak Impulse Current (I _{PPM}) Amps	Max. Clamping Voltage at I _{PPM} (V _C) Volts
	V _{BR} Volts Min.	at I _r mA					
Unidirectional							
SMAJ5.0A	6.40	10.0	AD	5.0	800.0	31.20	9.6
SMAJ6.0A	6.67	10.0	AF	6.0	800.0	26.30	11.4
SMAJ6.5A	7.22	10.0	AH	6.5	500.0	24.40	12.3
SMAJ7.0A	7.78	10.0	AL	7.0	400.0	22.60	13.3
SMAJ7.5A	8.33	1.0	AN	7.5	100.0	20.90	14.3
SMAJ8.0A	8.89	1.0	AQ	8.0	50.0	20.00	15.0
SMAJ8.5A	9.44	1.0	AS	8.5	10.0	18.90	15.9
SMAJ9.0A	10.00	1.0	AU	9.0	5.0	17.70	16.9
SMAJ10A	11.10	1.0	AW	10.0	5.0	15.90	18.8
SMAJ11A	12.20	1.0	AY	11.0	5.0	14.90	20.1
SMAJ12A	13.30	1.0	BD	12.0	5.0	13.60	22.0
SMAJ13A	14.40	1.0	BF	13.0	5.0	12.60	23.8
SMAJ14A	15.60	1.0	BH	14.0	5.0	11.60	25.8
SMAJ15A	16.70	1.0	BL	15.0	5.0	11.10	26.9
SMAJ16A	17.80	1.0	BN	16.0	5.0	10.40	28.8
SMAJ17A	18.90	1.0	BQ	17.0	5.0	9.80	30.5
SMAJ18A	20.00	1.0	BS	18.0	5.0	9.30	32.2
SMAJ20A	22.20	1.0	BU	20.0	5.0	8.40	35.8
SMAJ22A	24.40	1.0	BW	22.0	5.0	7.60	39.4
SMAJ24A	26.70	1.0	BY	24.0	5.0	7.00	43.0
SMAJ26A	28.90	1.0	CD	26.0	5.0	6.40	46.6
SMAJ28A	31.10	1.0	CF	28.0	5.0	6.00	50.0
SMAJ30A	31.10	1.0	CH	28.0	5.0	5.60	50.0
SMAJ33A	33.30	1.0	CL	30.0	5.0	5.10	53.5



600 Watt Surface Mount Transient Voltage Suppressors

Case Type: SMB/DO214AA. Tolerance: $\pm 5\%$. Peak Impulse Current Waveform: 10/1000 μ s at $T_A = 25^\circ\text{C}$. Modified J-Bend Leads (C-Bend). For bidirectional types having V_{BR} of 10 volts and less, the I₀ limit is doubled.

Mfr.'s Type	Breakdown Voltage		Device Marking Codes	Reverse Stand-Off Voltage (V _{WM}) Volts	Max. Rev. Leakage (I ₀) at V _{WM} μ A	Max. Peak Impulse Current (I _{PPM}) Amps	Max. Clamping Voltage at I _{PPM} (V _C) Volts
	V _{BR} Volts Min.	at I _r mA					
Unidirectional							
SMBJ5.0A	6.40	10.0	KD	5.0	800.0*	62.5	9.6
SMBJ6.0A	6.67	10.0	KF	6.0	800.0*	52.6	11.4
SMBJ6.5A	7.22	10.0	KH	6.5	500.0*	48.7	12.3
SMBJ7.0A	7.78	10.0	KL	7.0	400.0*	45.1	13.3
SMBJ7.5A	8.33	1.0	KN	7.5	100.0*	42.0	14.3
SMBJ8.0A	8.89	1.0	KQ	8.0	50.0*	40.0	15.0
SMBJ8.5A	9.44	1.0	KS	8.5	10.0*	37.7	15.9
SMBJ9.0A	10.00	1.0	KU	9.0	5.0*	35.5	16.9
SMBJ10A	11.10	1.0	KW	10.0	5.0	31.9	18.8
SMBJ11A	12.20	1.0	KY	11.0	5.0	29.9	20.1
SMBJ12A	13.30	1.0	LD	12.0	5.0	27.3	22.0
SMBJ13A	14.40	1.0	LF	13.0	5.0	25.2	23.8
SMBJ14A	15.60	1.0	LH	14.0	5.0	23.3	25.8
SMBJ15A	16.70	1.0	LL	15.0	5.0	22.3	26.9
SMBJ16A	17.80	1.0	LN	16.0	5.0	20.8	28.8
SMBJ17A	18.90	1.0	LQ	17.0	5.0	19.7	30.5
SMBJ18A	20.00	1.0	LS	18.0	5.0	18.6	32.2
SMBJ20A	22.20	1.0	LU	20.0	5.0	16.7	35.8
SMBJ22A	24.40	1.0	LW	22.0	5.0	15.2	39.4
SMBJ24A	26.70	1.0	LV	24.0	5.0	14.0	43.0
SMBJ26A	28.90	1.0	MD	26.0	5.0	12.4	46.6
SMBJ28A	31.10	1.0	MF	28.0	5.0	12.0	50.0
SMBJ30A	31.10	1.0	MH	28.0	5.0	12.0	50.0
SMBJ33A	33.30	1.0	ML	30.0	5.0	11.2	53.5

*For bidirectional types these I₀ limits are doubled.

1500 Watt Surface Mount Transient Voltage Suppressors

Case Type: DO-214AA. Tolerance: $\pm 5\%$. Peak Impulse Current Waveform: 10/1000 μ s at $T_A = 25^\circ\text{C}$. Modified J-Bend Leads (C-Bend). For bidirectional types having V_{BR} of 10 volts and less, the I₀ limit is doubled.

Mfr.'s Type	Breakdown Voltage		Device Marking Codes	Reverse Stand-Off Voltage (V _{WM}) Volts	Max. Rev. Leakage (I ₀) at V _{WM} μ A	Max. Peak Impulse Current (I _{PPM}) Amps	Max. Clamping Voltage at I _{PPM} (V _C) Volts
	V _{BR} Volts Min.	at I _r mA					
Unidirectional							
SMCJ5.0A	6.40	10.0	GDD	5.0	1000.0*	156.2	9.6
SMCJ6.0A	6.67	10.0	GDF	6.0	1000.0*	131.6	11.4
SMCJ6.5A	7.22	10.0	GDH	6.5	500.0*	122.0	12.3
SMCJ7.0A	7.78	10.0	GDL	7.0	200.0*	112.8	13.3
SMCJ7.5A	8.33	1.0	GDN	7.5	100.0*	104.9	14.3
SMCJ8.0A	8.89	1.0	GDO	8.0	50.0*	100.0	15.0
SMCJ8.5A	9.44	1.0	GDS	8.5	25.0*	94.3	15.9
SMCJ9.0A	10.00	1.0	GDU	9.0	10.0*	88.7	16.9
SMCJ10A	11.10	1.0	GDW	10.0	5.0	79.8	18.8
SMCJ11A	12.20	1.0	GDY	11.0	5.0	74.6	20.1
SMCJ12A	13.30	1.0	GED	12.0	5.0	68.2	22.0
SMCJ13A	14.40	1.0	GEF	13.0	5.0	63.0	23.8
SMCJ14A	15.60	1.0	GEH	14.0	5.0	58.1	25.8
SMCJ15A	16.70	1.0	GEL	15.0	5.0	55.8	26.9
SMCJ16A	17.80	1.0	GEN	16.0	5.0	52.1	28.8
SMCJ17A	18.90	1.0	GEQ	17.0	5.0	49.2	30.5
SMCJ18A	20.00	1.0	GES	18.0	5.0	46.6	32.2
SMCJ20A	22.20	1.0	GEU	20.0	5.0	41.9	35.8
SMCJ22A	24.40	1.0	GEW	22.0	5.0	39.4	39.4
SMCJ24A	26.70	1.0	GEY	24.0	5.0	36.0	43.0
SMCJ26A	28.90	1.0	GFD	26.0	5.0	32.4	46.6
SMCJ28A	31.10	1.0	GFF	28.0	5.0	30.0	50.0
SMCJ30A	33.30	1.0	GFF	30.0	5.0	28.0	53.5

*For bidirectional types these I₀ limits are doubled.

Mfr.'s Type	Breakdown Voltage		Device Marking Codes	Reverse Stand-Off Voltage (V _{WM}) Volts	Max. Rev. Leakage (I ₀) at V _{WM} μ A	Max. Peak Impulse Current (I _{PPM}) Amps	Max. Clamping Voltage at I _{PPM} (V _C) Volts
	V _{BR} Volts Min.	at I _r mA					
Unidirectional							
SMAJ36A	36.70	1.0	CN	33.0	5.0	4.70	59.0
SMAJ58A	40.00	1.0	CQ	36.0	5.0	4.20	64.3
SMAJ40A	44.40	1.0	CQ	40.0	5.0	4.20	71.4
SMAJ43A	44.40	1.0	CS	40.0	5.0	3.90	71.4
SMAJ45A	47.80	1.0	CU	43.0	5.0	3.70	76.6
SMAJ48A	50.00	1.0	CW	45.0	5.0	3.50	80.3
SMAJ51A	53.30	1.0	CY	48.0	5.0	3.30	85.5
SMAJ54A	56.10	1.0	RD	51.0	5.0	3.10	91.1
SMAJ58A	60.00	1.0	RF	54.0	5.0	2.90	96.3
SMAJ60A	64.40	1.0	RH	58.0	5.0	2.80	103.0
SMAJ64A	66.70	1.0	RL	60.0	5.0	2.60	107.0
SMAJ70A	71.10	1.0	RN	64.0	5.0	2.40	114.0
SMAJ75A	77.60	1.0	RQ	70.0	5.0	2.20	125.0
SMAJ78A	86.70	1.0	RS	78.0	5.0	2.00	139.0
SMAJ85A	94.90	1.0	RU	85.0	5.0	1.90	151.0
SMAJ90A	100.00	1.0	RW	90.0	5.0	1.70	160.0
SMAJ100A	111.00	1.0	RY	100.0	5.0	1.50	179.0
SMAJ110A	122.00	1.0	SD	110.0	5.0	1.40	196.0
SMAJ120A	133.00	1.0	SF	120.0	5.0	1.40	214.0
SMAJ130A	144.00	1.0	SH	130.0	5.0	1.30	231.0
SMAJ150A	167.00	1.0	SL	150.0	5.0	1.10	268.0
SMAJ160A	178.00	1.0	SN	160.0	5.0	1.04	287.0
SMAJ170A	189.00	1.0	SQ	170.0	5.0	0.99	304.0



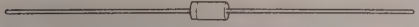
Mfr.'s Type	Breakdown Voltage		Device Marking Codes	Reverse Stand-Off Voltage (V _{WM}) Volts	Max. Rev. Leakage (I ₀) at V _{WM} μ A	Max. Peak Impulse Current (I _{PPM}) Amps	Max. Clamping Voltage at I _{PPM} (V _C) Volts
	V _{BR} Volts Min.	at I _r mA					
Unidirectional							
SMBJ36A	36.70	1.0	MN	33.0	5.0	10.2	59.0
SMBJ58A	40.00	1.0	MQ	36.0	5.0	9.3	64.3
SMBJ40A	44.40	1.0	MQ	40.0	5.0	8.4	71.4
SMBJ43A	44.40	1.0	MS	40.0	5.0	8.4	71.4
SMBJ45A	47.80	1.0	MU	43.0	5.0	7.8	76.6
SMBJ48A	50.00	1.0	MW	45.0	5.0	7.5	80.3
SMBJ51A	53.30	1.0	MY	48.0	5.0	7.0	85.5
SMBJ54A	56.10	1.0	ND	51.0	5.0	6.6	91.1
SMBJ58A	60.00	1.0	NF	54.0	5.0	6.2	96.3
SMBJ60A	64.40	1.0	NH	58.0	5.0	5.8	103.0
SMBJ64A	66.70	1.0	NL	60.0	5.0	5.6	107.0
SMBJ70A	71.10	1.0	NN	64.0	5.0	5.3	114.0
SMBJ75A	77.60	1.0	NQ	70.0	5.0	4.8	125.0
SMBJ78A	86.70	1.0	NS	78.0	5.0	4.3	139.0
SMBJ85A	94.90	1.0	NU	85.0	5.0	3.9	151.0
SMBJ90A	100.00	1.0	NW	90.0	5.0	3.8	160.0
SMBJ100A	111.00	1.0	NY	100.0	5.0	3.4	179.0
SMBJ110A	122.00	1.0	PD	110.0	5.0	3.0	196.0
SMBJ120A	133.00	1.0	PF	120.0	5.0	2.8	214.0
SMBJ130A	144.00	1.0	PH	130.0	5.0	2.6	231.0
SMBJ150A	167.00	1.0	PL	150.0	5.0	2.2	268.0
SMBJ160A	178.00	1.0	PN	160.0	5.0	2.1	287.0
SMBJ170A	189.00	1.0	PQ	170.0	5.0	2.0	304.0



Mir.'s Type		Breakdown Voltage		Device Marking Codes	Reverse Stand-Off Voltage (V _{WM}) Volts	Max. Rev. Leakage (I ₀) at V _{WM} μ A	Max. Peak Impulse Current (I _{PPM}) Amps	Max. Clamping Voltage at I _{PPM} (V _C) Volts
Unidirectional	Bidirectional	V _{BR} Volts Min.	at I _r mA					
SMCJ33A	SMCJ33CA	36.70	1.0	GFL	33.0	5.0	10.2	59.0
SMCJ36A	SMCJ36CA	40.00	1.0	GFN	36.0	5.0	9.3	64.3
SMCJ40A	SMCJ40CA	44.40	1.0	GFQ	40.0	5.0	8.4	71.4
SMCJ43A	SMCJ43CA	47.80	1.0	GFS	43.0	5.0	7.8	76.7
SMCJ45A	SMCJ45CA	50.00	1.0	GFU	45.0	5.0	7.5	80.3
SMCJ48A	SMCJ48CA	53.30	1.0	GFW	48.0	5.0	7.0	85.5
SMCJ51A	SMCJ51CA	56.10	1.0	GFY	51.0	5.0	6.6	91.1
SMCJ54A	SMCJ54CA	60.00	1.0	GGD	54.0	5.0	6.2	96.3
SMCJ58A	SMCJ58CA	64.40	1.0	GGF	58.0	5.0	5.8	103.0
SMCJ60A	SMCJ60CA	66.70	1.0	GGH	60.0	5.0	5.6	107.0
SMCJ64A	SMCJ64CA	71.10	1.0	GGL	64.0	5.0	5.3	114.0
SMCJ70A	SMCJ70CA	77.60	1.0	GGN	70.0	5.0	4.8	125.0
SMCJ75A	SMCJ75CA	83.30	1.0	GGQ	75.0	5.0	4.5	134.0
SMCJ78A	SMCJ78CA	86.70	1.0	GGS	78.0	5.0	4.3	139.0
SMCJ85A	SMCJ85CA	94.90	1.0	GGU	85.0	5.0	3.9	151.0
SMCJ90A	SMCJ90CA	100.00	1.0	GGW	90.0	5.0	3.8	160.0
SMCJ100A	SMCJ100CA	111.00	1.0	GGY	100.0	5.0	3.4	179.0
SMCJ110A	SMCJ110CA	122.00	1.0	GHD	110.0	5.0	3.0	196.0
SMCJ120A	SMCJ120CA	133.00	1.0	GHF	120.0	5.0	2.8	214.0
SMCJ130A	SMCJ130CA	144.00	1.0	GHH	130.0	5.0	2.6	231.0
SMCJ150A	SMCJ150CA	167.00	1.0	GHL	150.0	5.0	2.2	268.0
SMCJ160A	SMCJ160CA	178.00	1.0	GHN	160.0	5.0	2.1	287.0
SMCJ170A	SMCJ170CA	189.00	1.0	GHQ	170.0	5.0	2.0	304.0

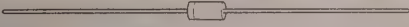
Rectifiers

Standard Rectifiers

	Case Type	Io (A)	V _{RRM} (Volts)											Surge (A)
			50	100	200	300	400	500	600	800	1000	1300	1600	
	DO-213AA Mini-Melf	0.5	GL34A*	GL34B*	GL34D*	—	GL34G*	—	GL34J*	—	—	—	—	10.0
	DO-204AL	1.0	1N4001†	1N4002†	1N4003†	—	1N4004†	—	1N4005†	1N4006†	1N4007†	—	—	30.0
	DO-213AB Melf	1.0	GL41A*	GL41B*	GL41D*	—	GL41G*	—	GL41J*	GL41K*	GL41M*	GL41T*	GL41Y*	30.0/25.0*
	DO-214BA Modified	1.5	GF1A*	GF1B*	GF1D*	—	GF1G*	—	GF1J*	GF1K*	GF1M*	—	—	30.0
	DO-201AD	3.0	1N5400	1N5401	1N5402	1N5403	1N5404	1N5405	1N5406	1N5407	1N5408	—	—	200.0

*Indicates superectifier. †Also available in superectifier by adding "GP" suffix, or with .026/.023" (.66/.58 mm) lead diameters by adding suffix letters "GPE". *25 A surge applies to GL41T and GL41Y only.

Fast Recovery Rectifiers

	Case Type	Io (A)	V _{RRM} (Volts)					Surge (A)	trr (ns)
			50	100	200	400	600		
	DO-204AL	1.0	1N4933*	1N4934*	1N4935*	1N4936*	1N4937*	30.0	200 (ckt #2)

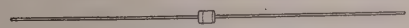
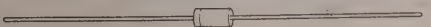
*Also available in superectifier by adding "GP" suffix.

Fast Efficient Rectifiers

	Case Type	I _o (A)	V _{RRM} (Volts)										Max. V _F (Volts)	t _{rr} (ns)	I _n (mA) T _A = +25°C	I _n (mA) T _A = +100°C	I _n (mA) T _A = +150°C	Surge (A)
			50	100	150	200	300	400	500	600	800	1000						
	DO-204AL	1.0	UF4001*	UF4002*	—	UF4003*	—	UF4004*	—	UF4005*	UF4006*	UF4007*	1.000/1.7	50.0/75.0 (ckt #1)	10.0	50.0	—	30.0
	DO-204AP	1.0	FE1A	FE1B	FE1C	FE1D	—	—	—	—	—	—	0.950	35.0 (ckt #1)	2.0	50.0	—	30.0
	DO-204AP	2.0	FE2A	FE2B	FE2C	FE2D	—	—	—	—	—	—	0.950	35.0 (ckt #1)	2.0	50.0	50.0	50.0
	DO-201AD	3.0	UF5400*	UF5401*	—	UF5402*	UF5403*	UF5404*	UF5405*	UF5406*	UF5407*	UF5408*	1.000/17.0	50.0/75.0 (ckt #1)	10.0	50.0	—	150.0
	G4	3.0	FE3A	FE3B	FE3C	FE3D	—	—	—	—	—	—	0.950	35.0 (ckt #1)	5.0	50.0	50.0	125.0
	G4	6.0	FE6A	FE6B	FE6C	FE6D	—	—	—	—	—	—	0.975	35.0 (ckt #1)	5.0	50.0	50.0	150.0

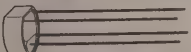
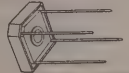
*Uses glass passivated chips. Also available in higher current TO-220 package — FRS and FRP type.

Schottky Rectifiers

	Case Type	Io (A)	V _{RRM} (Volts)					Max. V _F (Volts)	I _n (mA) T _A = +25°C	I _n (mA) T _A = +100°C	Surge (A)
			20	30	40	50	60				
	MPG06	0.6	SB020	SB030	SB040	—	—	0.55	0.50	10.0	20.0
	DO-204AL	1.0 1.0	SB120 1N5817	SB130 1N5818	SB140 1N5819	SB150 —	SB160 —	0.50/0.70 0.45/0.60	0.50 1.00	10.0/5.0 10.0	40.0 25.0
	DO-201AD DO-201AD	3.0 5.0	SB320 SB520	SB330 SB530	SB340 SB540	SB350 SB550	SB360 SB560	0.50/0.74 0.55/0.67	0.50 0.50	20.0 50.0/25.0	80.0 150.0

Also available in higher current TO-220 package — MBR type.

Single Phase Bridge Rectifiers*

	Case Type	Io (A)	V _{RRM} (Volts)							Surge (A)
			50	100	200	400	600	800	1000	
	DFM/DFS Surface Mount DFM/DFS Surface Mount	1.0 1.0	DF005M DF005S†	DF01M DF01S†	DF02M DF02S†	DF04M DF04S†	DF06M DF06S†	DF08M DF08S†	DF10M DF10S†	50.0 50.0
	WG	1.5	W005G	W01G	W02G	W04G	W06G	W08G	W10G	50.0
	GBPC1 GBPC6	3.0 6.0	GBPC1005 GBPC6005	GBPC101 GBPC601	GBPC102 GBPC602	GBPC104 GBPC604	GBPC106 GBPC606	GBPC108 GBPC608	GBPC110 GBPC610	60.0 175.0
	GBPC12-35/GBPC12-35W GBPC12-35/GBPC12-35W GBPC12-35/GBPC12-35W GBPC12-35/GBPC12-35W	12.0 15.0 25.0 35.0	GBPC12005† GBPC15005† GBPC25005† GBPC35005†	GBPC1201† GBPC1501† GBPC2501† GBPC3501†	GBPC1202† GBPC1502† GBPC2502† GBPC3502†	GBPC1204† GBPC1504† GBPC2504† GBPC3504†	GBPC1206† GBPC1506† GBPC2506† GBPC3506†	GBPC1208† GBPC1508† GBPC2508† GBPC3508†	GBPC1210† GBPC1510† GBPC2510† GBPC3510†	200.0 300.0 300.0 400.0

*All bridge series are UL recognized under component index, file number E54214. All bridge series are made with glass passivated chip junctions. †Surface mountable bridge rectifiers. ‡Add W to part number for wire leads.

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Harris Semiconductor 1994 Product Selection Guide

This 320 page product selection guide offers key product information on all Harris Semiconductor Devices. Sectioned (Analog, Data Acquisition, Digital, Application Specific, Power, Hi-Rel and Rad-Hard, ASIC) for easy use and includes cross references and alphanumeric part number index. To obtain your copy, simply fax your name and mailing address to: Harris Fulfillment, FAX# (610) 265-2520, Attn: Laurie Malantonio. Request Publication Number: PSG2091.20.

80Cxx Microprocessors

80C286, 16 Bit High Performance Microprocessor with Memory Management and Protection

Fully compatible with NMOS 80286. **Static CMOS Design for Low Power Operation:** ICCSB = 5 mA max., ICCOP = 220 mA (80C286-12). **Large Address Space:** 16 Mbytes physical, 1 Gbyte virtual per task. **High Bandwidth Bus Interface:** 25 Mbytes.

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CS80C286-12	12.5	5.0	68 Lead PLCC	0 to +70	2947
CS80C286-16	16.0	5.0	68 Lead PLCC	0 to +70	2947
CS80C286-20	20.0	5.0	68 Lead PLCC	0 to +70	2947
CS80C286-25	25.0	5.0	68 Lead PLCC	0 to +70	2947

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IS80C286-12	12.5	5.0	68 Lead PLCC	-40 to +85	2947
IS80C286-16	16.0	5.0	68 Lead PLCC	-40 to +85	2947
IS80C286-20	20.0	5.0	68 Lead PLCC	-40 to +85	2947

80C86, CMOS 16 Bit High Performance Microprocessor

Fully compatible with NMOS 8086. **Static CMOS Design for Low Power Operation:** ICCSB = 500 µA max., ICCOP = 10 mA at 10 MHz Typ. 1 Mbyte of direct memory addressing capability, 24 operand addressing modes.

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP80C86	5.0	5.0	40 Lead PDIP	0 to +70	2957
CP80C86-2	8.0	5.0	40 Lead PDIP	0 to +70	2957
CS80C86	5.0	5.0	44 Lead PLCC	0 to +70	2957
CS80C86-2	8.0	5.0	44 Lead PLCC	0 to +70	2957

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP80C86	5.0	5.0	40 Lead PDIP	-40 to +85	2957
IP80C86-2	8.0	5.0	40 Lead PDIP	-40 to +85	2957
IS80C86	5.0	5.0	44 Lead PLCC	-40 to +85	2957
IS80C86-2	8.0	5.0	44 Lead PLCC	-40 to +85	2957

80C88, CMOS 8/16 Bit High Performance Microprocessor

Fully compatible with NMOS 8088. Direct software compatibility with 80C86, 8086, 8088. 8-Bit data bus interface, 16 bit internal architecture. **Completely Static CMOS Design for Low Power Operation:** ICCSB = 500 µA max., ICCOP = 10 mA

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP80C88	5.0	5.0	40 Lead PDIP	0 to +70	2949
CP80C88-2	8.0	5.0	40 Lead PDIP	0 to +70	2949
CS80C88	5.0	5.0	44 Lead PLCC	0 to +70	2949
CS80C88-2	8.0	5.0	44 Lead PLCC	0 to +70	2949

at 10 MHz max. 1Mbyte of direct memory addressing capability.

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP80C88	5.0	5.0	40 Lead PDIP	-40 to +85	2949
IP80C88-2	8.0	5.0	40 Lead PDIP	-40 to +85	2949
IS80C88	5.0	5.0	44 Lead PLCC	-40 to +85	2949
IS80C88-2	8.0	5.0	44 Lead PLCC	-40 to +85	2949

CDP18xx Microprocessors, 8 Bit Microprocessors with 64 K Memory Addressing

16 × 16 matrix of registers for use as multiple program counters, data pointers or data registers. Single phase clock; optional on chip crystal controlled oscillator. Flexible programmed I/O mode. 8 bit parallel organization with bidirectional

data bus and multiplexed address bus.

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CDP1802ACD	3.2	5.0	40 Lead CDIP	-40 to +85	1305
CDP1802ACE	3.2	5.0	40 Lead PDIP	-40 to +85	1305
CDP1802ACQ	3.2	5.0	44 Lead PLCC	-40 to +85	1305
CDP1802BCE	5.0	5.0	40 Lead PDIP	-40 to +85	1305
CDP1802BCQ	5.0	5.0	44 Lead PLCC	-40 to +85	1305
CDP1802CD	2.5	5.0	40 Lead CDIP	-40 to +85	1305
CDP1802CE	5.0	5.0	40 Lead PDIP	-40 to +85	1305

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CDP1805ACD	5.0	5.0	40 Lead CDIP	-40 to +85	1370
CDP1805ACE	5.0	5.0	40 Lead PDIP	-40 to +85	1370
CDP1805ACQ	5.0	5.0	44 Lead PLCC	-40 to +85	1370
CDP1806ACE	5.0	5.0	40 Lead PDIP	-40 to +85	1370
CDP1806ACQ	5.0	5.0	40 Lead PDIP	-40 to +85	1370
CDP1806ACQ	5.0	5.0	44 Lead PLCC	-40 to +85	1370

Microprocessor Peripherals (82Cxx)

82C37A, CMOS High Performance Programmable DMA Controller

Fully compatible with the NMOS 8237A. Four independent maskable channels with autoinitialization capability. Cascadable to any number of channels. **High Speed Data Transfers:** Up to 4 Mbytes/sec. with 8 MHz clock, up to 6.25 Mbytes/sec

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP82C37A	8.0	5.0	40 Lead PDIP	0 to +70	2967
CP82C37A-12	12.5	5.0	40 Lead PDIP	0 to +70	2967
CS82C37A	8.0	5.0	44 Lead PLCC	0 to +70	2967
CS82C37A-12	12.5	5.0	44 Lead PLCC	0 to +70	2967

with 12.5 MHz clock. Memory to memory transfers. **Static CMOS Design for Low Power Operation:** ICCSB = 10 µA max., ICCOP = 2 mA/MHz max. Fully TTL/CMOS compatible.

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP82C37A	8.0	5.0	40 Lead PDIP	-40 to +85	2967
IP82C37A-12	12.5	5.0	40 Lead PDIP	-40 to +85	2967
IS82C37A	8.0	5.0	44 Lead PLCC	-40 to +85	2967
IS82C37A-12	12.5	5.0	44 Lead PLCC	-40 to +85	2967

82C237A, Enhanced CMOS High Performance Programmable DMA Controller

Optimized for 10 MHz and 12.5 MHz 80C286 Systems. Fully compatible with Harris 82C37A. Special mode permits 16 bit, zero wait state DMA transfers. **High Speed Data Transfers:** Up to 6.25 Mbytes/sec. with 12.5 MHz clock, up to 12.5 Mbytes/sec. with 12.5 MHz clock in 16 bit mode. Memory to memory transfers. Compatible with the NMOS 8237A.

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP82C237	8.0	5.0	40 Lead PDIP	0 to +70	2965
CP82C237-12	12.5	5.0	40 Lead PDIP	0 to +70	2965
CS82C237	8.0	5.0	44 Lead PLCC	0 to +70	2965
CS82C237-12	12.5	5.0	44 Lead PLCC	0 to +70	2965

Four independent maskable channels with autoinitialization capability. Cascadable to any number of channels. **Static CMOS Design For Low Power Operation:** ICCSB = 10 µA max., ICCOP = 2 mA/MHz max. Fully TTL/CMOS compatible.

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP82C237	8.0	5.0	40 Lead PDIP	-40 to +85	2965
IP82C237-12	12.5	5.0	40 Lead PDIP	-40 to +85	2965
IS82C237	8.0	5.0	44 Lead PLCC	-40 to +85	2965
IS82C237-12	12.5	5.0	44 Lead PLCC	-40 to +85	2965

82C54, CMOS Programmable Interval Timer

Fully compatible with NMOS 8254, enhanced version of NMOS 8253. Three independent 16 bit counters. Six programmable counter modes. Binary or BCD counting. Status read back command. **Static CMOS Design For Low**

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP82C54	8.0	5.0	24 Lead PDIP	0 to +70	2970
CP82C54-12	12.5	5.0	24 Lead PDIP	0 to +70	2970
CS82C54	8.0	5.0	28 Lead PLCC	0 to +70	2970
CS82C54-12	12.5	5.0	28 Lead PLCC	0 to +70	2970

Power: ICCSB = 10 µA, ICCOP = 10 mA at 8 MHz.

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP82C54	8.0	5.0	24 Lead PDIP	-40 to +85	2970
IP82C54-12	12.5	5.0	24 Lead PDIP	-40 to +85	2970
IS82C54	8.0	5.0	28 Lead PLCC	-40 to +85	2970
IS82C54-12	12.5	5.0	28 Lead PLCC	-40 to +85	2970

82C55A, CMOS Programmable Peripheral Interface

Fully compatible with NMOS 8255A. 24 programmable I/O pins. High speed, no wait state operation with 5 MHz and 8 MHz 80C86 and 80C88. Direct bit set/reset compatibility. Enhanced control word read capability. 2.5 mA drive capability

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP82C55A	8.0	5.0	40 Lead PDIP	0 to +70	2969
CS82C55A	8.0	5.0	44 Lead PLCC	0 to +70	2969

on all I/O ports. **Static CMOS Design For Low Power:** ICCSB = 10 µA. Fully TTL compatible.

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP82C55A	8.0	5.0	40 Lead PDIP	-40 to +85	2969
IS82C55A	8.0	5.0	44 Lead PLCC	-40 to +85	2969

82C59A, CMOS Priority Interrupt Controller

Fully compatible with the NMOS 8259A. Eight level priority controller, expandable to 64 levels. Programmable interrupt modes, individual request mask capability. **Static CMOS Design For Low Power Operation:** ICCSB = 20 µA max.,

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP82C59A	8.0	5.0	28 Lead PDIP	0 to +70	2784
CP82C59A-12	12.5	5.0	28 Lead PDIP	0 to +70	2784
CS82C59A	8.0	5.0	28 Lead PLCC	0 to +70	2784
CS82C59A-12	12.5	5.0	28 Lead PLCC	0 to +70	2784

ICCOP = 1 mA/MHz max. Fully TTL compatible.

Mfr.'s Type	Max. Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP82C59A	8.0	5.0	28 Lead PDIP	-40 to +85	2784
IP82C59A-12	12.5	5.0	28 Lead PDIP	-40 to +85	2784
IS82C59A	8.0	5.0	28 Lead PLCC	-40 to +85	2784
IS82C59A-12	12.5	5.0	28 Lead PLCC	-40 to +85	2784

Microprocessor Peripherals (82Cxx) — Continued

82C84A, CMOS Clock Generator Driver

Fully compatible with the NMOS 8284A. Generates the system clock for CMOS or NMOS microprocessors up to 25 MHz operation. Uses a parallel mode crystal circuit or external frequency source. Provides read synchronization. Generates

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CP82C84A	25	5.0	18 Lead PDIP	0 to +70	2974
CS82C84A	25	5.0	20 Lead PLCC	0 to +70	2974

system reset output from schmitt trigger input. TTL compatible inputs/outputs. Very low power consumption.

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
IP82C84A	25	5.0	18 Lead PDIP	-40 to +85	2974
IS82C84A	25	5.0	20 Lead PLCC	-40 to +85	2974

CDP18xx Series CMOS Peripherals — Can be used with CMOS and NMOS Processors

CDP1851, 20 Line Programmable Input/Output Interface

Programmable for Operation in Four Modes: Input, output, bidirectional, bit-programmable. Operates in either I/O or memory space.

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CDP1851CD	8	5.0	40 Lead CDIP	-40 to +85	1056
CDP1851CE	8	5.0	40 Lead PDIP	-40 to +85	1056

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CDP1851E	16	10.0	40 Lead PDIP	-40 to +85	1056

CDP1852, High Reliability Byte Wide Input/Output Port

Parallel 8 bit data register and buffer. Handshaking via service request. Low quiescent and operating power. Single voltage supply. Static silicon gate CMOS circuitry.

CDP1852CD	2	5.0	24 Lead CDIP	-40 to +85	1166
CDP1852CE	2	5.0	24 Lead PDIP	-40 to +85	1166

CDP1852D	5	10.0	24 Lead CDIP	-40 to +85	1166
CDP1852E	5	10.0	24 Lead PDIP	-40 to +85	1166

CDP1853, High Reliability CMOS N-Bit 1 of 8 Decoder

Provides direct control of up to 7 input and 7 output devices when used with a CDP18xx Series microprocessor. Chip Enable (CE) allows easy expansion for multi-level I/O systems.

CDP1853CD	—	5.0	16 Lead CDIP	-40 to +85	1189
CDP1853CE	—	5.0	16 Lead PDIP	-40 to +85	1189

CDP1853D	—	10.0	16 Lead CDIP	-40 to +85	1189
CDP1853E	—	10.0	16 Lead PDIP	-40 to +85	1189

CDP1854A, Programmable Universal Asynchronous Receiver/Transmitter (UART)

Two Operating Modes: Mode 0 — Functionally compatible with industry types such as the TR1602A; Mode 1 — Interfaces directly with CDP18xx Series microprocessors without additional components. Full or half duplex operation.

CDP1854ACD	0.2	5.0	40 Lead CDIP	-40 to +85	1193
CDP1854ACE	0.2	5.0	40 Lead PDIP	-40 to +85	1193
CDP1854ACQ	0.2	5.0	44 Lead PLCC	-40 to +85	1193

Parity framing and overrun error detection. False start bit detection. **Baud Rate:** DC to 200 KBits/s at $V_{DD} = 5$ V. DC to 400 KBits/s at $V_{DD} = 10$ V.

CDP1854AD	0.4	10.0	40 Lead CDIP	-40 to +85	1193
CDP1854AE	0.4	10.0	40 Lead PDIP	-40 to +85	1193
CDP1854AQ	0.4	10.0	44 Lead PLCC	-40 to +85	1193

CDP1855, 8-Bit Programmable Multiply/Divide Unit

Cascadable up to 4 units for 32-bit by 32-bit multiply or 64÷32 bit divide. 8-bit by 8-bit multiply or 16÷8 bit divide in 5.6 μ s at 5 V or 2.8 μ s at 10 V. Significantly increases throughput of microprocessor used for arithmetic calculations.

CDP1855CD	—	5.0	28 Lead CDIP	-40 to +85	1053
CDP1855CE	—	5.0	28 Lead PDIP	-40 to +85	1053

CDP1855D	—	10.0	28 Lead CDIP	-40 to +85	1053
CDP1855E	—	10.0	28 Lead PDIP	-40 to +85	1053

CDP1857C, 4-Bit Bus Buffer/Separator

Provides easy connection of I/O to CDP18xx Series microprocessors data bus. Non-inverting fully buffered data transfer.

CDP1857CD	—	5.0	16 Lead CDIP	-40 to +85	1192
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CDP1857CE	—	5.0	16 Lead PDIP	-40 to +85	1192
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CDP1871, CMOS Keyboard Encoder

Scans and generates code for 53 key ASCII keyboard plus 32 HEX keys (SPST mechanical contacts switches). Shift, control, and alpha lock input. RC-controlled debounce circuitry. N-key lockout. 3-state outputs. Low power dissipation.

CDP1871ACD	—	5.0	40 Lead CDIP	-40 to +85	1374
CDP1871ACE	—	5.0	40 Lead PDIP	-40 to +85	1374
CDP1871ACQ	—	5.0	44 Lead PLCC	-40 to +85	1374

CDP1871AD	—	10.0	40 Lead CDIP	-40 to +85	1374
CDP1871AE	—	10.0	40 Lead PDIP	-40 to +85	1374

CDP1874C, CDP1875C, High Speed 8-Bit Input and Output Ports

Parallel 8-bit input/output register with buffered outputs. High speed data-in to data-out, 85 ns (max.) at $V_{DD} = 5$ V. 3-state output.

CDP1874CE	—	5.0	22 Lead CDIP	-40 to +85	1255
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CDP1875CE	—	5.0	22 Lead PDIP	-40 to +85	1255
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CDP1877, Programmable Interrupt Controller (PIC)

Programmable long branch vector address and vector interval. 8 levels of interrupt per chip. Latched interrupt requests. Hard wired interrupt priorities. Memory mapped. Multiple chip select inputs to minimize address space requirements.

CDP1877CE	—	5.0	28 Lead PDIP	-40 to +85	1319
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CDP1877E	—	10.0	28 Lead PDIP	-40 to +85	1319
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CDP1878C, CMOS Dual Counter-Timer

Two 16-bit down counters and two 8-bit control registers. Programmable gate level select. Two complemented output pins for each counter-timer.

CDP1878CD	1	5.0	28 Lead CDIP	-40 to +85	1341
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CDP1878CE	1	5.0	28 Lead PDIP	-40 to +85	1341
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CDP1879, CMOS Real-Time Clock

Time of day/calendar. Reads seconds, minutes, hours, day of month and month. Alarm circuit with seconds, minutes or hours operation. Power down mode. On-board oscillator. Separate clock output selects 1 of 15 square wave signals.

CDP1879CD1	4.19 MHz, 2.09 MHz, 1.048 MHz, or 32 KHz	5.0	24 Lead CDIP	-40 to +85	1360
CDP1879CE1	4.19 MHz, 2.09 MHz, 1.048 MHz, or 32 KHz	5.0	24 Lead PDIP	-40 to +85	1360

Interrupt Output Activated By Clock Output and/or Alarm Circuit.

CDP1879E	4.19 MHz, 2.09 MHz, or 1.048 MHz	10.0	24 Lead PDIP	-40 to +85	1360
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CDP1881, CDP1882, CMOS 6-Bit Latch and Decoder Memory Interfaces

Performs memory address latch and decoder functions multiplexed or non-multiplexed. Decodes up to 16 Kbytes of memory. Can replace CDP1866 and CDP1867 (upward speed and function capability).

CDP1881CE	—	5.0	20 Lead PDIP	-40 to +85	1367
CDP1882CE	—	5.0	18 Lead PDIP	-40 to +85	1367

CDP1882D	—	10.0	18 Lead CDIP	-40 to +85	1367
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CDP1883, CMOS 7-Bit Latch and Decoder Memory Interfaces

Performs memory address latch and decoder functions multiplexed or non-multiplexed. Decodes up to 32 Kbytes of memory. Can replace CDP1866.

CDP1883CE	200 KHz	5.0	20 Lead PDIP	-40 to +85	1507
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CDP1883E	400 KHz	10.0	20 Lead PDIP	-40 to +85	1507
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Data Communications

HS-3182, ARNIC 429 Bus Interface Line Driver Circuit

TTL and CMOS compatible inputs. Adjustable rise and fall times via two external capacitors. Programmable output differential voltage via VREF input. Operates at data rates up to 100 KBits/s. Output short circuit proof and contains

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
HS1-3182-8	—	+15, -15, +5	16 Lead CDIP	-55 to +125	2963

HS-3282, CMOS ARNIC Bus Interface Circuit

ARNIC Specification 429 compatible. Data rates of 100 KBits or 12 KBits. Separate receiver and transmitter section. Dual independent receivers, connecting directly to ARNIC bus. Serial to parallel receiver conversion. Parallel to serial

HS1-3282-8	—	5.0	40 Lead CDIP	-55 to +125	2964
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HD-4702, CMOS Programmable Bit Rate Generator

Provides 13 commonly used bit rates. Uses a 2.4576 MHz crystal/input for standard frequency Output (16 times bit rate). Conforms to EIA RS-404. One HD-4702 controls up to eight transmission channels. Initialization circuit facilitates

HD1-4702-9	—	5.0	16 Lead CDIP	-40 to +85	2954
HD3-4702-9	—	5.0	16 Lead PDIP	-40 to +85	2954

CDP6402, CMOS Universal Asynchronous Receiver/Transmitter (UART)

Low Power CMOS Circuitry: 7.5 mW (typ.) at 3.2 MHz (max freq.) at VDD = 5V. Baud Rate: DC to 200 KBits/s (max.) at 5 V, DC to 400 KBits/s (max.) at 10 V. Automatic data formatting and status generation. Fully programmable with

CDP6402CE	3.20	5.0	40 Lead PDIP	-40 to +85	1328
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HD-6402, CMOS Universal Asynchronous Receiver/Transmitter (UART)

Low power CMOS design. Programmable word length, stop bits, and parity. Automatic data formatting and status generation.

HD1-6402B-9	8.00	5.0	40 Lead CDIP	-40 to +85	2956
HD1-6402R-9	2.00	5.0	40 Lead CDIP	-40 to +85	2956
HD3-6402B-9	8.00	5.0	40 Lead PDIP	-40 to +85	2956

HD-6408, CMOS Asynchronous Serial Manchester Adapter (ASMA)

Low bit error rate. **Data Rate:** 1 MBits/s. Sync identification and lock-in. Clock recovery. Manchester II encoder, decoder. Separate encode and decode. **Low Operating Power:** 50 mW at 5 V. Single power supply.

HD1-6408-9	1.25	5.0	24 Lead CDIP	-40 to +85	2952
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HD-6409, CMOS Manchester Encoder/Decoder

Converter or repeater mode. Independent manchester encoder and decoder operation. Static 1 MBits/s data rate guaranteed. Low bit error rate. Digital PLL clock recovery. On chip oscillator. **Low Operating Power:** 50 mW (typ.) at 5 V.

HD3-6409-9	1.00	5.0	20 Lead PDIP	-40 to +85	2951
HD4-6409-9	1.00	5.0	20 Lead LCC	-40 to +85	2951

HD-15530, CMOS Manchester Encoder/Decoder

Support of MIL-STD-1553. **Data Rate:** 1.25 MBits/s. Sync identification and lock-in. Clock recovery. Manchester II encode and decode. Separate encode and decode. **Low Operating Power:** 50 mW at 5 V.

HD1-15530-9	1.25	5.0	24 Lead CDIP	-40 to +85	2960
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HD-15531, CMOS Manchester Encoder/Decoder

Support of MIL-STD-1553. **Data Rate:** 15531B — 2.5 MBits/s; 15531 — 1.25 MBits/s. Variable frame length to 32-bits. Sync identification and lock-in. Separate manchester II encode, decode. **Low Operating Power:** 50 mW at 5 V.

HD1-15531B-9	1.25	5.0	40 Lead CDIP	-40 to +85	2961
HD1-15531B-9	2.50	5.0	40 Lead CDIP	-40 to +85	2961

overvoltage protection. Requires 3 power supplies.

Mfr.'s Type	Operating Frequency (MHz)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
HS4-3182-8	—	+15, -15, +5	28 Lead LCC	-55 to +125	2963

transmitter conversion. Word lengths of 25 or 32 bits. Parity status of received data. Generate parity of transmitted data. Automatic word gap timer. Single 5 volt supply.

HS4-3282-8	—	5.0	44 Lead LCC	-55 to +125	2964
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diagnostic fault isolation. On chip input pull-up circuit.

HD4-4702-9	—	5.0	18 Lead LCC	-40 to +85	2954
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externally selectable word length (5-8 bits), parity inhibit, even/odd parity, and 1, 1 1/2, or 2 stop bits. Replaces industry type IM6402.

CDP6402E	3.20	10.0	40 Lead PDIP	-40 to +85	1328
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Compatible with industry standard UARTs. Single 5 V power supply. CMOS/TTL Compatible inputs.

HD3-6402C-9	1.00	5.0	40 Lead PDIP	-40 to +85	2956
HD3-6402R-9	2.00	5.0	40 Lead PDIP	-40 to +85	2956

HD3-6408-9	1.25	5.0	24 Lead PDIP	-40 to +85	2952
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HD9P6409-9	1.00	5.0	20 Lead SOIC	-40 to +85	2951
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HD4-15530-9	1.25	5.0	28 Lead LCC	-40 to +85	2960
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HD3-15531B-9	2.50	5.0	40 Lead PDIP	-40 to +85	2961
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CMOS Memory

<1 K — Asynchronous RAMs

Mfr.'s Type	Description	Speed (ns)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CDP1822CD	256 × 4 RAM	450	5.0	22 Lead CDIP	-40 to +85	1074
CDP1822CE	256 × 4 RAM	450	5.0	22 Lead PDIP	-40 to +85	1074
CDP1822D	256 × 4 RAM	250	10.0	22 Lead CDIP	-40 to +85	1074
CDP1822E	256 × 4 RAM	250	10.0	22 Lead PDIP	-40 to +85	1074
CDP1823CD	128 × 8 RAM	450	5.0	24 Lead CDIP	-40 to +85	1198
CDP1823CE	128 × 8 RAM	450	5.0	24 Lead PDIP	-40 to +85	1198
CDP1823D	128 × 8 RAM	250	10.0	24 Lead CDIP	-40 to +85	1198

1 K — Synchronous RAMs

HM1-6508-9	1024 × 1 RAM	250	5.0	16 Lead CDIP	-40 to +85	2984
HM1-6508B-9	1024 × 1 RAM	180	5.0	16 Lead CDIP	-40 to +85	2984
HM3-6508-9	1024 × 1 RAM	250	5.0	16 Lead PDIP	-40 to +85	2984
HM3-6508B-9	1024 × 1 RAM	180	5.0	16 Lead PDIP	-40 to +85	2984
HM1-6518-9	1024 × 1 RAM	250	5.0	18 Lead CDIP	-40 to +85	2987
HM1-6518B-9	1024 × 1 RAM	180	5.0	18 Lead CDIP	-40 to +85	2987

4 K — Synchronous RAMs

HM1-6504-9	4096 × 1 RAM	300	5.0	18 Lead CDIP	-40 to +85	2994
HM1-6504B-9	4096 × 1 RAM	200	5.0	18 Lead CDIP	-40 to +85	2994
HM1-6504S-9	4096 × 1 RAM	120	5.0	18 Lead CDIP	-40 to +85	2994
HM3-6504-9	4096 × 1 RAM	300	5.0	18 Lead PDIP	-40 to +85	2994
HM3-6504B-9	4096 × 1 RAM	200	5.0	18 Lead PDIP	-40 to +85	2994
HM4-6504-9	4096 × 1 RAM	300	5.0	18 Lead LCC	-40 to +85	2994

16 K — Synchronous RAMs

HM1-6516-9	2048 × 8 RAM	200	5.0	24 Lead CDIP	-40 to +85	2998
HM1-6516B-9	2048 × 8 RAM	120	5.0	24 Lead CDIP	-40 to +85	2998

16 K — Asynchronous RAMs

HM1-65162-9	40 μA 2048 × 8 RAM	90	5.0	24 Lead CDIP	-40 to +85	3000
HM1-65162B-9	20 μA 2048 × 8 RAM	70	5.0	24 Lead CDIP	-40 to +85	3000
HM1-65162C-9	300 μA 2048 × 8 RAM	90	5.0	24 Lead CDIP	-40 to +85	3000
HM4-65162-9	40 μA 2048 × 8 RAM	90	5.0	32 Lead LCC	-40 to +85	3000

64 K — Asynchronous RAM

HM1-65642-9	150 μA 8192 × 8 RAM	150	5.0	28 Lead CDIP	-40 to +85	3005
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Mfr.'s Type	Description	Speed (ns)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
CDP1823E	128 × 8 RAM	250	10.0	24 Lead PDIP	-40 to +85	1198
CDP1824CD	32 × 8 RAM	710	5.0	18 Lead CDIP	-40 to +85	1103
CDP1824CE	32 × 8 RAM	710	5.0	18 Lead PDIP	-40 to +85	1103
CDP1824D	32 × 8 RAM	320	10.0	18 Lead CDIP	-40 to +85	1103
CDP1824E	32 × 8 RAM	320	10.0	18 Lead PDIP	-40 to +85	1103
CDP1826CE	64 × 8 RAM	1000	5.0	22 Lead PDIP	-40 to +85	1311

HM1-6551-9	256 × 4 RAM	300	5.0	22 Lead CDIP	-40 to +85	2989
HM1-6551B-9	256 × 4 RAM	220	5.0	22 Lead CDIP	-40 to +85	2989
HM3-6551-9	256 × 4 RAM	300	5.0	22 Lead PDIP	-40 to +85	2989
HM3-6551B-9	256 × 4 RAM	220	5.0	22 Lead PDIP	-40 to +85	2989
HM1-6561-9	256 × 4 RAM	300	5.0	18 Lead CDIP	-40 to +85	2991
HM1-6561B-9	256 × 4 RAM	220	5.0	18 Lead CDIP	-40 to +85	2991

HM1-6514-9	1024 × 4 RAM	300	5.0	18 Lead CDIP	-40 to +85	2995
HM1-6514B-9	1024 × 4 RAM	200	5.0	18 Lead CDIP	-40 to +85	2995
HM1-6514S-9	1024 × 4 RAM	120	5.0	18 Lead CDIP	-40 to +85	2995
HM3-6514-9	1024 × 4 RAM	300	5.0	18 Lead PDIP	-40 to +85	2995
HM3-6514B-9	1024 × 4 RAM	200	5.0	18 Lead PDIP	-40 to +85	2995
HM3-6514S-9	1024 × 4 RAM	120	5.0	18 Lead PDIP	-40 to +85	2995

HM4-6516-9	2048 × 8 RAM	200	5.0	24 Lead LCC	-40 to +85	2998
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HM4-65162B-9	20 μA 2048 × 8 RAM	70	5.0	32 Lead LCC	-40 to +85	3000
HM4-65162C-9	300 μA 2048 × 8 RAM	90	5.0	32 Lead LCC	-40 to +85	3000
HM1-65262-9	20 μA 16384 × 1 RAM	85	5.0	20 Lead CDIP	-40 to +85	3002
HM1-65262B-9	20 μA 16384 × 1 RAM	70	5.0	20 Lead CDIP	-40 to +85	3002



CMOS Memory — Continued

CMOS PROMs

Mfr.'s Type	Description	Speed (ns)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
HM1-6617-9	2048 × 8 PROM	120	5.0	24 Lead CDIP	-40 to +85	3017
HM1-6617B-9	2048 × 8 PROM	90	5.0	24 Lead CDIP	-40 to +85	3017
HM4-6617-9	2048 × 8 PROM	120	5.0	32 Lead LCC	-40 to +85	3017
HM4-6617B-9	2048 × 8 PROM	90	5.0	32 Lead LCC	-40 to +85	3017
HM6-6617-9	2048 × 8 PROM	120	5.0	24 Lead SDIP	-40 to +85	3017
HM6-6617B-9	2048 × 8 PROM	90	5.0	24 Lead SDIP	-40 to +85	3017

Mfr.'s Type	Description	Speed (ns)	Operating Voltage (V)	Package Type	Temperature Range (°C)	AnswerFax® (Doc. #)
HM1-6642-9	512 × 8 PROM	200	5.0	24 Lead CDIP	-40 to +85	3012
HM1-6642B-9	512 × 8 PROM	120	5.0	24 Lead CDIP	-40 to +85	3012
HM4-6642-9	512 × 8 PROM	200	5.0	28 Lead LCC	-40 to +85	3012
HM6-6642-9	512 × 8 PROM	200	5.0	24 Lead SDIP	-40 to +85	3012
HM6-6642B-9	512 × 8 PROM	120	5.0	24 Lead SDIP	-40 to +85	3012

DSP Filters

Mfr.'s Type	Description	Data (Bits)	Clock Speed (MHz)	Max. Atten. (dB)	TAPS	Coeff. (Bits)	Decim. Length	Package	AnswerFax® (Doc. #)
HSP43124SC-45	Serial Filter	24	45	140	up to 256	32	1 to 256	28 SOIC	3555
HSP43168JC-33	Dual FIR Filter	10	33	60	16	10 or 20	1 to 16	84 PLCC	3177
HSP43168JC-40	Dual FIR Filter	10	40	60	16	10 or 20	1 to 16	84 PLCC	3177
HSP43168JC-45	Dual FIR Filter	10	45	60	16	10 or 20	1 to 16	84 PLCC	3177
HSP43168VC-33	Dual FIR Filter	10	33	60	16	10 or 20	1 to 16	100 PQFP	3177
HSP43168VC-40	Dual FIR Filter	10	40	60	16	10 or 20	1 to 16	100 PQFP	3177
HSP43168VC-45	Dual FIR Filter	10	45	60	16	10 or 20	1 to 16	100 PQFP	3177
HSP43216VC-52	Half Band Filter	16	52	90	67	20	—	100 PQFP	3365
HSP43220JC-25	Decimating Filter	16	25	96	512	20	up to 16,384	84 PLCC	2486
HSP43220JC-33	Decimating Filter	16	33	96	512	20	up to 16,384	84 PLCC	2486
HSP43220VC-33	Decimating Filter	16	33	96	512	20	up to 16,384	100 PQFP	2486
HSP43881JC-25	Video FIR	8	25	48	8	8	1 to 4	84 PLCC	2758
HSP43881JC-30	Video FIR	8	30	48	8	8	1 to 4	84 PLCC	2758
HSP43891JC-25	Video FIR	8	25	54	9	9	1 to 4	84 PLCC	2785
HSP43891JC-30	Video FIR	8	30	54	9	9	1 to 4	84 PLCC	2785

Digital Signal Synthesis

Mfr.'s Type	Description	Size (Bits)	Clock Speed (MHz)	Dynamic Range (dBc)	Output (Bits)	Modulation Techniques	Res. at Max. (Hz)	Package	AnswerFax® (Doc. #)
HSP45102SC-40	Oscillator	12	40	69	12 Sin	QPSK, FSK	0.012	28 SOIC	2810
HSP45102SI-33	Oscillator	12	33	69	12 Sin	QPSK, FSK	0.012	28 SOIC	2810
HSP45102SI-40	Oscillator	12	40	69	12 Sin	QPSK, FSK	0.012	28 SOIC	2810
HSP45106JC-33	Oscillator	16	33	90	16 Sin/Cos	FM, PSK, FSK	0.010	84 PLCC	2809
HSP45116AVC-52	Oscillator/Modulator	16	52	90	20 Sin /Cos	AM, FM, PSK, QAM	0.008	160 PQFP	2485
HSP45116GC-25	Oscillator/Modulator	16	25	90	20 Sin /Cos	AM, FM, PSK, QAM	0.008	145 PGA	2485
HSP45116GC-33	Oscillator/Modulator	16	33	90	20 Sin /Cos	AM, FM, PSK, QAM	0.008	145 PGA	2485
HSP45116VC-25	Oscillator/Modulator	16	25	90	20 Sin /Cos	AM, FM, PSK, QAM	0.008	160 PQFP	2485

Digital Imaging Products

Mfr.'s Type	Description	Data (Bits)	Clock Speed (MHz)	Frame or Kernel Size (Bits)	Output	Package	AnswerFax® (Doc. #)
HSP48212JC-40	Video Mixer	12	40	—	13 Bit	68 PLCC	3627
HSP48212VC-40	Video Mixer	12	40	—	13 Bit	64 PQFP	3627
HSP48410JC-33	Histogrammer	10	33	4 k × 4 k	24 Bit	84 PLCC	3185
HSP48410JC-40	Histogrammer	10	40	4 k × 4 k	24 Bit	84 PLCC	3185
HSP48908JC-20	2-D Convolver	8	20	3 × 3	20 Bit	84 PLCC	2456
HSP48908JC-32	2-D Convolver	8	32	3 × 3	20 Bit	84 PLCC	2456
HSP48908VC-20	2-D Convolver	8	20	3 × 3	20 Bit	100 PQFP	2456
HSP48908VC-32	2-D Convolver	8	32	3 × 3	20 Bit	100 PQFP	2456
HSP9501JC-25	Data Buffer	10	25	—	10 Bit	44 PLCC	2786
HSP9501JC-32	Data Buffer	10	32	—	10 Bit	44 PLCC	2786

High Speed Data Converters

Analog to Digital Converters

Mfr.'s Type	Features	Resolution (bits)	Conversion Rate Min. (MSPS)	Input Bandwidth (MHz)	INL (LSB)	DNL (LSB)	SINAD @ f _{in} (dB)	Power Dissipation (mW)	Logic Type	Supply Voltage (V)	AnswerFax® (Doc. #)
HI5800KCD	12 Bit A/D Conversion System	12	3	20	0.7	0.40	68.0 @ 1.00 MHz	1800	CMOS/TTL	±5.0	2938
HI5702KCB	Low Power, High Accuracy, Wide BW	10	40	250	1.0	0.50	55.0 @ 10.00 MHz	550	TTL	5	3745
HI5704KCB	Low Power, High Accuracy	10	40	250	1.0	0.50	56.0 @ 10.00 MHz	400	TTL	1.515151515	3950
HI5710JCQ	Low Power, Power Down Mode	10	20	100	1.3	0.50	54.0 @ 3.00 MHz	140	CMOS/TTL	+5.0/+3.3	3921
HI5714KCB	Low Power, 7-7 ENOB, 75MSPS	8	40, 60, 25	15	0.5	0.35	62.0 @ 4.43 MHz	375	TTL	5	3973
HI1276AIL	Wideband Flash A/D	8	500	300 (min.)	0.3	0.30	37.0 @ 100.00 MHz	2800	ECL	-5.2	3578
HI1166AIL	Low Power, Wideband Flash A/D	8	250	250	0.3	0.30	37.0 @ 60.00 MHz	1400	ECL	-5.2	3579
HI1396JCP	Wideband Flash A/D	8	125	200 (min.)	0.3	0.30	40.0 @ 32.00 MHz	870	ECL	-5.2	3576
HI1386JCP	Wideband Flash A/D	8	75	150 (min.)	0.3	0.30	41.0 @ 19.00 MHz	580	ECL	-5.2	3583
HI1179JCQ	Low Power, DC Restore, V-Ref	8	35	25	0.5	0.30	47.0 @ 3.58 MHz	80	TTL	-5.0	3666
HI1175JCQ	Low Power, DC Restore, V-Ref	8	20	18	0.5	0.30	46.0 @ 3.58 MHz	60	TTL	5.0	3582
HI1175JCQ	HI1175 with DC Restore, Clamp Pulse Generator	8	20	18	0.5	0.30	46.0 @ 3.58 MHz	60	TTL	5.0	3577
HI1175JCQ	Very Low Power A/D, V-Ref	8	15	5	1.5	1.00	35.0 @ 4.00 MHz	150	TTL	5.0	3103
CA3318CE	Rugged 8 Bit A/D	8	15	30	0.2	0.20	33.4 @ 5.00 MHz	70	TTL	5.0	3102
CA3306CE	Low Power Flash A/D	6	15	40	0.1	0.10	22.8 @ 5.00 MHz	25	TTL	5.0	1790
CA3304E	Low Power Flash A/D	4	25	40	0.1	0.10	22.8 @ 5.00 MHz	25	TTL	5.0	1790

Digital to Analog Converters

Mfr.'s Type	Features	Resolution (bits)	Update Rate (MHz)	Glitch Area (pV-s)	INL (LSB)	DNL (LSB)	Settling Time (ns)	Power Dissipation (mW)	Logic Type	Supply Voltage (V)	AnswerFax® (Doc. #)
HI20201JCP	Voltage Output, Analog Multiplying Function	10	160	15.0	1.00	0.50	5.2	420	ECL	-5.2	3581
HI5721BIP	10 Bit Communications DAC	10	115	1.5	1.50	0.50	4.5	800	CMOS/TTL	5.0-5.2	3949
HI3050JCQ	Triple Video DAC	10	50	50.0	2.00	0.50	10.0	500	TTL	5.0	3936
HI20203JCP	8 Bit Version of HI20201	8	160	15.0	0.50	0.50	4.3	420	ECL	-5.2	3581
HI1171JCB	8 Bit Video DAC with Current Output	8	40	30.0	1.30	0.25	10.0	65	TTL	5.0	3662
CA3338AE	8 Bit Video DAC with Voltage Output	8	50	150.0	0.75	0.50	20.0	100	TTL/CMOS	5.0	1850

Analog to Digital Converters with Display Outputs

3 Digit with LED Drivers

Mfr.'s Type	Features	Display Type	Display Drive	Conversion Type	Conversion Time (μs)	Technology	Range Min.	Linearity Counts	No. of Leads	AnswerFax® (Doc. #)
CA3162E	BCD to 7 Segment Converter, 2 Chip Set Makes a Complete DPM	BCD	Common Anode	Integrating	10,250	Bipolar-JI	+999 mV to -99 mV	±1	16	1080

3 1/2 Digit with LED/LCD Drivers

ICL7106CPL	Low Noise, Low Power, True Differential Input and Reference	LCD	Direct Drive	Auto-Zero Integrating	333 Typ.	CMOS-JI	±0.2 V	±1	40	3082
ICL7107CPL	Low Noise, Low Power, True Differential Input and Reference	LED	Direct Drive	Auto-Zero Integrating	333 Typ.	CMOS-JI	±0.2 V	±1	40	3082
ICL7117CPL	Display Hold Version of the ICL7107	LED	Direct Drive	Auto-Zero Integrating	333 Typ.	CMOS-JI	±0.2 V	±1	40	3083
ICL7136CPL	Overrange Recovery Version of the ICL7106	LCD	Direct Drive	Auto-Zero Integrating	333 Typ.	CMOS-JI	±0.2 V	±1	40	3086
ICL7137CPL	Overrange Recovery Version of the ICL7107	LED	Direct Drive	Auto-Zero Integrating	333 Typ.	CMOS-JI	±0.2 V	±1	40	3086

Sample and Hold Amplifiers

Mfr.'s Type			Description	Acquisition Time (to 0.01%)	Droop Rate (μV/μS)	Hold Step Error (mV)	Hold Mode Settling Time (ns to ±1 mV)	Aperture Uncertainty (ps)	Gain Bandwidth Product (MHz)	Input offset Voltage (mV Max.)	Supply Voltage (±VDC)	Supply Current (mA/Amp)	No. of Leads	AnswerFax® (Doc. #)
CDIP Package	PDIP Package	SOIC Package												
HA1-2425-5	HA3-2425-5	HA9P2425-5	3.2 μs Acquisition Time Sample and Hold Amplifier	3200	—	10.0	860	5000	2.5	6.0	15.0	3	14	2856
HA1-5320-5	HA3-5320-5	HA9P5320-5	1.0 μs Precision Monolithic Sample and Hold Amplifier	1000	0.08	1.0	165	300	2.0	1.5	13.5 to 20	11	14	2857
HA1-5330-5	HA3-5330-5	—	650 ns Precision Monolithic Sample and Hold Amplifier	650	0.01	0.5	100	100	4.5	1.5	13.5 to 20	18	14	2858
HA1-5340-9	HA3-5340-5	HA9P5340-5	Low Distortion Sample and Hold Amplifier	700	0.10	15.0	200	200	10.0	1.5	13.5 to 20	19	14	2859
—	HA5351P	HA5351B	70 ns Acquisition Time Sample and Hold Amplifier	64	0.30	10.0	50	10	40.0	2.0	4.5 to 5.5	20	8	3690
—	HA5352P	HA5352B	Dual 70 ns Acquisition Time Sample and Hold Amplifier	64	0.30	10.0	50	10	40.0	2.0	4.5 to 5.5	20	14	3394

Display Drivers

Mfr.'s Type	Description	No. of Digits	No. of Decimal Points	Display Type	Font	Interface	Cycle Time (ns)	Package Type	AnswerFax® (Doc. #)
CA3161E	BCD to 7 Segment Decoder/Driver	1	0	LED Common Anode Non-MUX	Code B	MUX BCD	2600	16 Lead PDIP	1079
ICM7211A/PL	7 Segment Non-MUX LCD Display Outputs with Backplane Driver	4	0	LCD Direct Drive	Code B	MUX BCD	1000	40 Lead PDIP	3158
ICM7211AM/PL	7 Segment Non-MUX LCD Display Outputs with Backplane Driver	4	0	LCD Direct Drive	Code B	Random Access	200	40 Lead PDIP	3158
ICM7212A/PL	7 Segment Non-MUX LED Display Driver	4	0	LED Common Anode Non-MUX	Code B	Random Access	200	40 Lead PDIP	3158
ICM7228A/PL	8-Digit μProcessor Compatible LED Display Decoder Driver	8	8	LED Common Anode MUX	HEX/Code B	Bit Parallel, Digit Serial	550	28 Lead PDIP	3160
ICM7243B/PL	8-Character μProcessor Compatible LED Display Decoder Driver	8*	8	LED Common Cathode MUX	ASCII	Random Access/Bit Parallel, Digit Serial	250	40 Lead PDIP	3162

*Alpha Numeric.

Interface

Transceivers

0.1 μF, RS-232 Transceivers

Mfr.'s Type			Power Supply (V)	No. of RS-232 Drivers	No. of RS-232 Receivers	No. of External 0.1 μF Capacitors	Low Power Shutdown	Tri-State	No. of Leads	AnswerFax® (Doc. #)
PDIP Package	SOIC Package	SSOP Package								
—	HIN200CB	—	+5.0	5	0	4	Yes	No	20	3980
—	HIN201CB	—	+5.0 and +7.5 to 13.2	2	2	2	No	No	16	3980
HIN202CP	HIN202CB	—	+5.0	2	2	4	No	No	16	3980
—	HIN204CB	—	+5.0	4	0	4	No	No	16	3980
HIN206CP	HIN206CB	HIN206CA	+5.0	4	3	4	Yes	Yes	24	3980
HIN207CP	HIN207CB	HIN207CA	+5.0	5	3	4	No	No	24	3980
HIN208CP	HIN208CB	HIN208CA	+5.0	4	4	4	No	No	24	3980
HIN209CP	HIN209CB	—	+5.0 and +7.5 to 13.2	3	5	2	No	Yes	24	3980
—	HIN211CB	HIN211CA	+5.0	4	5	4	Yes	Yes	28	3980
—	HIN213CB	HIN213CA	+5.0	4	5	4	Yes*	Yes	28	3980

*2 Channels Active During Shutdown.

1 μF, RS-232 Transceivers

Mfr.'s Type			Power Supply (V)	No. of RS-232 Drivers	No. of RS-232 Receivers	No. of External 1.0 μF Capacitors	Low Power Shutdown	Tri-State	No. of Leads	AnswerFax® (Doc. #)
PDIP Package	SOIC Package	MQFP Package								
—	HIN230CB	—	+5.0	5	0	4	Yes	No	20	3138
HIN231CB	HIN231CB*	—	+5.0 and +7.5 to 13.2	2	2	2	No	No	16	3138
HIN232CP	HIN232CB*	—	+5.0	2	2	4	No	No	16	3138
HIN234CB	HIN234CB*	—	+5.0	4	0	4	No	No	16	3138
HIN236CP	HIN236CB	—	+5.0	4	3	4	Yes	Yes	24	3138
HIN237CP	HIN237CB	—	+5.0	5	3	4	No	No	24	3138
HIN238CP	HIN238CB	—	+5.0	4	4	4	No	No	24	3138
HIN239CP	HIN239CB	—	+5.0 and +7.5 to 13.2	3	5	2	No	Yes	24	3138
—	—	HIN240CN	+5.0	5	5	4	Yes	Yes	44	3138
—	HIN241CB	—	+5.0	4	5	4	Yes	Yes	28	3138

*Wide Body SOIC.

Multiplexers

Mfr.'s Type	Device Type*	R _{DS(ON)} (Ω Max.)	V _{OH} Min. (V)	V _{OL} Max. (V)	I _{OFF} Typ. (±nA)	T _{ON} Typ. (ns)	T _{OFF} Typ. (ns)	Features	AnswerFax® (Doc. #)
DG408DJ	Single 8 Channel Mux	40	2.4	0.8	1	115	105	Low R _{DS(ON)}	3283

Mfr.'s Type	Device Type*	R _{DS(ON)} (Ω Max.)	V _{OH} Min. (V)	V _{OL} Max. (V)	I _{OFF} Typ. (±nA)	T _{ON} Typ. (ns)	T _{OFF} Typ. (ns)	Features	AnswerFax® (Doc. #)
DG409DJ	Dual 4 Channel Mux	40	2.4	0.8	1	115	105	Low R _{DS(ON)}	3283

Switches

Mfr.'s Type	Device Type*	R _{DS(ON)} (Ω Max.)	Switch "ON" (V)	Switch "OFF" (V)	I _{OFF} Typ. (±nA)	T _{ON} Typ. (ns)	T _{OFF} Typ. (ns)	Features	AnswerFax® (Doc. #)
DG401DJ	Dual Single Pole Single Throw	45	2.4	0.8	-0.01	100	60	Very Low R _{DS(ON)}	3284
DG403DJ	Dual Single Pole Double Throw	45	2.4	0.8	-0.01	100	60	Very Low R _{DS(ON)}	3284
DG405DJ	Dual Double Pole Single Throw	45	2.4	0.8	-0.01	100	60	Very Low R _{DS(ON)}	3284
DG411DJ	Quad Single Pole Single Throw	35	2.4	0.8	-0.10	110	100	Very Low R _{DS(ON)}	3282
DG412DJ	Quad Single Pole Single Throw	35	0.8	2.4	-0.10	110	100	Very Low R _{DS(ON)}	3282

Mfr.'s Type	Device Type*	R _{DS(ON)} (Ω Max.)	Switch "ON" (V)	Switch "OFF" (V)	I _{OFF} Typ. (±nA)	T _{ON} Typ. (ns)	T _{OFF} Typ. (ns)	Features	AnswerFax® (Doc. #)
DG413DJ	Quad Single Pole Single Throw	35	2.4	0.8	-0.10	110	100	Very Low R _{DS(ON)}	3282
DG441DJ	Quad Single Pole Single Throw	85	0.8	2.4	0.01	150	90	Low R _{DS(ON)}	3281
DG442DJ	Quad Single Pole Single Throw	85	2.4	0.8	0.01	150	110	Low R _{DS(ON)}	3281
DG444DJ	Quad Single Pole Single Throw	85	0.8	2.4	0.01	150	110	Low R _{DS(ON)}	3586
DG445DJ	Quad Single Pole Single Throw	85	2.4	0.8	0.01	150	118	Low R _{DS(ON)}	3586

*Technology: 44 V CMOS-JI.

Low Side Switches

Bipolar Types

Mfr.'s Type	Description	Max. Output Voltage No Load (V)	Max. Rated DC Load Current (A)	Max. V _{CEAT} Output Voltage	Max. Load Switching V _{CEUS} or V _{CLAMP} Limited (V)	Output Current Limiting and/or Shutdown Protection (A)	Output Thermal Limiting and/or Shutdown Protection (Temperature T _J)	Thermal Shutdown Hysteresis	Fault Indicator Flag	Diagnostic Feedback	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
CA3242E	Quad-Gated Inverting Power Driver for Interfacing Low-Level Logic to High Current Load	50	0.6	0.8 V at 0.6 A	35	1.4†	No	No	No	No	-40 to +105	16 Lead DIP	1561
CA3262E	Quad-Gated Inverting Power Drivers	60	0.7	0.6 V at 0.6 A	40	1.6	+150°C	No	No	No	-40 to +85	16 Lead DIP	1836
CA3262AE	Quad-Gated Inverting Power Drivers	60	0.7	0.5 V at 0.6 A	40	1.3	+155°C	No	No	No	-40 to +125	16 Lead DIP	1836
CA3272Q	Quad-Gated Inverting Power Drivers with Fault Mode Diagnostic Flag Output	60	0.6	0.4 V at 0.5 A	40	1.2	+165°C	+15°C	Yes	No	-40 to +125	28 Lead PLCC	2223
CA3272AQ	Quad-Gated Inverting Power Drivers with Fault Mode Diagnostic Flag Output	60	0.6	0.4 V at 0.5 A	40	1.2	+165°C	+15°C	Yes	No	-40 to +125	28 Lead PLCC	2223
CA3292AQ	Quad-Gated Inverting Power Drivers with Fault Mode Diagnostic Flag Output	32 Typ.*	0.6	0.4 V at 0.5 A	28	1.2	+165°C	+15°C	Yes	No	-40 to +125	28 Lead PLCC	2223

MOSFET Types

Mfr.'s Type	Description	Max. Output Voltage No Load (V)	Max. Rated DC Load Current (A)	Max. R _{DS(on)} Output Voltage	Max. Load Switching V _{CEUS} or V _{CLAMP} Limited (V)	Output Current Limiting and/or Shutdown Protection (A)	Output Thermal Limiting and/or Shutdown Protection (Temperature T _J)	Thermal Shutdown Hysteresis	Fault Indicator Flag	Diagnostic Feedback	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
HIP0080AM	Quad Inverting Power Driver with Serial Diagnostic Interface	36 Typ.*	1	1.00 Ω at 0.5 A	27	1.8†	+150°C	+15°C	Yes	Yes	-40 to +125	28 Lead PLCC	3018
HIP0081AS1	Quad Inverting Power Driver with Serial Diagnostic Interface	80 Typ.*	2	0.50 Ω at 1.0 A	73	3.5†	+150°C	+15°C	Yes	Yes	-40 to +125	15 Lead SIP	3018
HIP0082AS1	Quad Power Driver with Serial Diagnostic Interface	80 Typ.*	2 and 5	0.57 Ω at 2.0 A	72	2.7 and 5.7†	+165°C	+15°C	Yes	Yes	-40 to +125	15 Lead SIP	3643

*Clamp. †Latches Off.

High Side Switches

Protected Power Switches Recommended for Solenoid, Relay, Lamp and Motor Applications

Mfr.'s Type	Description	Function	Max. Supply (V)	DC Supply Range (V)	Peak Max. Current (A)	DC Max. Current (A)	Package Type	AnswerFax® (Doc. #)
HIP1030AS	1A High Side Driver with Overload Protection	Single Power	35	4.5 to 25	2.5	1.1	5 Lead TS-001AA	2788
HIP1031AS	Half Amp High Side Driver with Overload Protection	Single Power	35	4.5 to 25	1.7	0.7	5 Lead TS-001AA	3596

MOSFET Types Recommended for SMPS, FET Drivers and Motor Control Applications

Mfr.'s Type	Description	Function	Max Supply (V)	DC Supply Range (V)	Peak Max. Current (A)	Max. Frequency	Package Type	AnswerFax® (Doc. #)
ICL7667CPA	Dual Power MOSFET Driver	Dual Power	15	4.5 to 15	1.5 (Pulsed Gate)	200 KHz	8 Lead PDIP	2853
ICL7667CTV	Dual Power MOSFET Driver	Dual Power	15	4.5 to 15	1.5 (Pulsed Gate)	200 KHz	8 Lead TO-99	2853

Half Bridge MOSFET Drivers

Mfr.'s Type	Description	Max. Bus Voltage (Voc)	Recommended Supply Voltage (Voc)	Max. Pulsed Gate Current (A)	Max. PWM Frequency (KHz)	Shoot Thru Protection	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
HIP2030IM	P-Channel 30 V MCT/IGBT Gate Driver for Motor Control	30	8.0 to 15.0	6.0	180	Yes	-40 to +85	28 Lead PDIP	3691
HIP2500IP	N-Channel Half Bridge for Motor Control	500	10.0 to 15.0	2.0	400	No	-40 to +85	14 Lead PDIP	2801
HIP5500IP	N-Channel Half Bridge for SMPS	500	10.0 to 15.0	2.3	300	Yes	-40 to +85	20 Lead PDIP	3210
SP600	N-Channel Half Bridge for Motor Control	500	14.5 to 16.5	0.5	20	Yes	-40 to +85	22 Lead PDIP	2428
SP601	N-Channel Half Bridge for Motor Control	500	14.5 to 16.5	0.5	20	Yes	-40 to +85	22 Lead PDIP	2428

Full Bridge Drivers

Mfr.'s Type	Description	Peak Output Current Each Drive	Supply Voltage Bias/Bus (V)	No Load Maintenance Supply Current (mA)	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
CA3275E	Dual Full Bridge Driver for Instrumentation	150.0 mA	8.0 to 16.0	20.0	-40 to +85	14 Lead PDIP	2159
HIP4080IP	FET Driver with Comparator, High Performance for Class D Amps, Voice Coils, and Motor Control	2.5 A	Bias: 8.0 to 16.0 Bus: 1.0 to 80.0	18.0	-40 to +85	20 Lead PDIP	3178
HIP4080AIP	FET Driver with Comparator, Under Voltage, for Class D Amps, Voice Coils, and Motor Control	2.5 A	Bias: 9.5 to 16.0 Bus: 1.0 to 80.0	18.5	-40 to +85	20 Lead PDIP	3658
HIP4081IP	FET Driver, High Performance, for DC-DC Converters, UPS, and Motor Control	2.5 A	Bias: 6.0 to 16.0 Bus: 1.0 to 80.0	16.0	-40 to +85	20 Lead PDIP	3556
HIP4081AIP	FET Driver with Under Voltage, High Performance for DC-DC Converters, UPS and Motor Control	2.5 A	Bias: 9.5 to 16.0 Bus: 1.0 to 80.0	16.5	-40 to +85	20 Lead PDIP	3659

AC to DC Converters

Mfr.'s Type	Description	AC Input Voltage At 50-60 Hz and 400 Hz (VAC)	Max. DC Supply Voltage (V)	Max. Output Current (mA)	Sensor Range (RX) (K _Ω)	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
CA3059	Zero Voltage Switch Ac Power Control System on a Chip	24, 120, 208/230, 277	14	124	2 to 100	-55 to +125	14 Lead PDIP	490
CA3079	Zero Voltage Switch Ac Power Control System on a Chip	24, 120, 208/230, 277	10	124	2 to 50	-55 to +125	14 Lead PDIP	490
HV3-2405E-5	World-Wide Single Chip Power Supply, UL Recognized E130808	15 to 275	Output 5 to 24	50	—	0 to +75	8 Lead PDIP	2487

Protection Circuits

Mfr.'s Type	Description	Supply Voltage Range (V)	Over Voltage Turn-On Threshold (V)	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
SP710AS	Protected Power Switch with Transient Suppression	4.0 to 16	16 to 18.5	-40 to +105	3 Lead TO-220	2789
SP720AB	Electronic Protection Array for ESD and Overvoltage Protection	4.5 to 30	+V _{BE} Above V _{CC} or -V _{BE} Below GND	-40 to +105	16 Lead SOIC	2791
SP720AP	Electronic Protection Array for ESD and Overvoltage Protection	4.5 to 30	+V _{BE} Above V _{CC} or -V _{BE} Below GND	-40 to +105	16 Lead PDIP	2791
SP721AB	Electronic Protection Array for ESD and Overvoltage Protection	4.5 to 30	+V _{BE} Above V _{CC} or -V _{BE} Below GND	-40 to +105	8 Lead SOIC	3590
SP721AP	Electronic Protection Array for ESD and Overvoltage Protection	4.5 to 30	+V _{BE} Above V _{CC} or -V _{BE} Below GND	-40 to +105	8 Lead PDIP	3590

Power Supply Circuits

Mfr.'s Type	Description	Input Voltage Range (V)	Output Voltage Range (V)	Maximum Output Current	Switching Frequency (KHz)	Quiescent Current	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
CA723E	Linear Voltage Regulator	9.5 to 40	2.0 to 37	150 mA	—	3.5 mA	-55 to +125	14 Lead PDIP	788
CA723T	Linear Voltage Regulator	9.5 to 40	2.0 to 37	150 mA	—	3.5 mA	-55 to +125	10 Lead Metal Can	788
CA723CE	Linear Voltage Regulator	9.5 to 40	2.0 to 37	150 mA	—	3.5 mA	0 to +70	14 Lead PDIP	788
CA723CT	Linear Voltage Regulator	9.5 to 40	2.0 to 37	150 mA	—	3.5 mA	0 to +70	10 Lead Metal Can	788
CA1523E	Variable Internal Pulse Regulator for Switch Mode Power Supplies	11.0 to 15	5.9 to 7.5*	50 mA	200	34.0 mA	0 to +70	14 Lead PDIP	1785
CA1524E	Pulse Width Modulator	8.0 to 40	4.8 to 5.2*	100 mA	1 to 300	10.0 mA	-55 to +125	16 Lead PDIP	1239
CA2524E	Pulse Width Modulator	8.0 to 40	4.8 to 5.2*	100 mA	1 to 300	10.0 mA	0 to +70	16 Lead PDIP	1239
CA3524E	Pulse Width Modulator	8.0 to 40	4.6 to 5.4*	100 mA	1 to 300	10.0 mA	0 to +70	16 Lead PDIP	1239
CA3277E	Microprocessor Interface Controller, Dual Fixed 5 V Regulator, Overvoltage Shutdown, Thermal Shutdown Current Limited	6.2 to 18	—	—	—	500.0 µA	-40 to +85	16 Lead PDIP	2792
HIP5600IS	Thermally Protected High Voltage Linear Regulator	50.0 to 400	1.2 to 350	30 mA	—	65.0 µA	-40 to +100	3 Lead PSIP	3270
ICL7660SCPA	Super Voltage Converter (Charge Pump Type)	1.5 to 12	-1.5 to ±22.8	45 mA	10 to 35	180.0 µA	0 to +70	8 Lead PDIP	3179
ICL7660SIPA	Super Voltage Converter (Charge Pump Type)	1.5 to 12	-1.5 to ±22.8	45 mA	10 to 35	180.0 µA	-40 to +85	8 Lead PDIP	3179
ICL7662CPA	Voltage Converter (Charge Pump Type)	4.5 to 20	-4.5 to ±38.8	90 mA	10	200.0 µA	0 to +70	8 Lead PDIP	3181
ICL7662MTV	Voltage Converter (Charge Pump Type)	4.5 to 20	-4.5 to ±38.8	90 mA	10	250.0 µA	-55 to +125	8 Lead Metal Can	3181
ICL7663SCPA	Linear Voltage Regulator	1.6 to 16	1.3 to 16	—	—	12.0 µA	0 to +70	8 Lead PDIP	3180

*Reference Voltages: Output voltage limited by external device. †40 mA — V_{OUT2} ; R_{ON} — 100 — V_{OUT2} . *Output 1: Full time 5 V; Output 2: Switched 5 V. *Output 1: 100 mA; Output 2: 100 mA.

Voltage Monitoring Circuits

Mfr.'s Type	Description	Voltage Range (V)	Quiescent Current (µA)	Output Current (mA)	Input Trip Voltage (V)	Temperature Range (°C)	Package Type	AnswerFax® (Doc. #)
ICL7665SACPA	CMOS Micropower Over/Under Voltage Detector	1.8 to 16	10	2	1.30 ±8%	0 to +70	8 Lead PDIP	3182
ICL7665SAIPA	CMOS Micropower Over/Under Voltage Detector	1.8 to 16	10	2	1.30 ±2%	-40 to +85	8 Lead PDIP	3182
ICL7665SCPA	CMOS Micropower Over/Under Voltage Detector	1.8 to 16	10	2	1.30 ±8%	0 to +70	8 Lead PDIP	3182
ICL7665SIPA	CMOS Micropower Over/Under Voltage Detector	1.8 to 16	10	2	1.30 ±2%	-40 to +85	8 Lead PDIP	3182
ICL7673CPA	Automatic Battery Back-Up Switch	2.5 to 15	5	38	50.00 mV*	0 to +70	8 Lead SOIC	3183
ICL7673CPA	Automatic Battery Back-Up Switch	2.5 to 15	5	38	50.00 mV*	0 to +70	8 Lead PDIP	3183
ICL8211CBA	Programmable Voltage Detectors	1.8 to 30	350	3	1.15 - 6%	0 to +70	8 Lead SOIC	3184
ICL8211CPA	Programmable Voltage Detectors	1.8 to 30	350	3	1.15 - 6%	0 to +70	8 Lead PDIP	3184
ICL8212CBA	Programmable Voltage Detectors	1.8 to 30	350	9	1.15 - 13%	0 to +70	8 Lead SOIC	3184
ICL8212CPA	Programmable Voltage Detectors	1.8 to 30	350	9	1.15 - 13%	0 to +70	8 Lead PDIP	3184

*Primary to Back-Up Source Voltage Differential.

HIP2030EVAL Isolated MCT/IGBT Gate Driver Evaluation Board

The Harris HIP2030EVAL is a printed circuit board developed to help evaluate the performance of the HIP2030 in power switching circuits. The component layout of the HIP2030EVAL circuit enable the user to conveniently utilize either photocoupled or fiber-optic receivers. In addition, the PCB layout has provisions for "on board prototyping" and special function components.

The HIP2030 is a medium voltage integrated circuit capable of driving large capacitive loads at high voltages slow rates. This device is optimized for driving 60 nF of MOS gate capacitance at 30 Vp-p in less than 200 ns. The half bridge gate driver is ideal for driving MOS Controlled Thyristor and IGBT modules.

HIP2030EVAL. AnswerFax® Doc. # 3918

HSP50016-EV DDC Evaluation Platform

The HSP50016-EV is the evaluation board for the HSP50016 Digital Down Converter (DDC). It provides a mechanism for rapid evaluation and prototyping. The HSP50016-EV consists of a series of busses which provide input, output, and control to the DDC. These busses are brought out through dual 96 Pin connectors to support daisy chaining HSP50016-EVs with other Harris evaluation boards for multichip prototyping and evaluation.

The HSP50016-EV was built into a 3U Euro-Card form factor with dual 96-pin Input/Output connectors. The I/O connectors conform to the VME J2/P2 connector standard.

HSP50016-EV. AnswerFax® Doc. # 3637

HIP5600 Evaluation Boards

The HIP5600IS used on the HIP5600 evaluation boards is an adjustable 3-terminal positive linear voltage regulator. Protection within the HIP5600 is provided by the on chip thermal shutdown and output current limiting circuitry.

Evaluation boards are fused to protect board when improperly connected.

HIP5600EVAL1 High Voltage DC to DC Evaluation Board

- ▶ Operates from 50 VDC to 400 VDC
- ▶ Adjustable Output Voltage 1.2 VDC to V_{IN} — 50 VDC
- ▶ Output Current to 10 mA at 400 VDC Input

HIP5600EVAL1. AnswerFax® Doc. # 3747

HIP5600EVAL2 High Voltage AC to DC Evaluation Board

- ▶ Operates from 80 VRMS to 132 VRMS
- ▶ Adjustable Output Voltage 1.2 VDC to V_{IN} — 50 VDC
- ▶ Output Current to 10 mA at 400 VDC Input

HIP5600EVAL2. AnswerFax® Doc. # 3748

HIP5600EVAL3 High Voltage AC to DC Evaluation Board

- ▶ Operates from 80 VRMS to 320 VRMS
- ▶ Adjustable Output Voltage 1.2 VDC to V_{IN} — 50 VDC
- ▶ Output Current to 10 mA at 400 VDC Input

HIP5600EVAL3. AnswerFax® Doc. # 3749

Comparators

Single

Mfr.'s Type	Description	V_{IO} Max. (mV)	I_I Max. (nA)	I_O Max. (mA)	Max. V_{+} , V_{-}	A_{OL} Min. (dB)	Response Time	Package Type	AnswerFax® (Doc. #)
CA3098E	Programmable Schmitt Trigger with Memory, Dual Input Precision Level Detectors	15	100	0.8	±8	—	900 ns	8 Lead PDIP	896

Dual

CA3290E	BIMOS Dual Voltage Comparator with MOSFET Input/Bipolar Output	20	50 pA	3.0	±18	88	$t_{R1} = 1.2 \mu s$, $t_{R2} = 200 ns$	8 Lead PDIP	1049
CA3290AE	BIMOS Dual Voltage Comparator with MOSFET Input/Bipolar Output	10	40 pA	3.0	±18	88	$t_{R1} = 1.2 \mu s$, $t_{R2} = 200 ns$	8 Lead PDIP	1049

Quad

CA139E	Quad Voltage Comparator	5	100	8.0	±18	—	$t_{R1} = 1.3 \mu s$, $t_{R2} = 750 ns$	14 Lead PDIP	795
CA239E	Quad Voltage Comparator	5	250	2.0	±18	—	$t_{R1} = 1.3 \mu s$, $t_{R2} = 750 ns$	14 Lead PDIP	795
CA339E	Quad Voltage Comparator	5	250	2.0	±18	94	$t_{R1} = 1.3 \mu s$, $t_{R2} = 750 ns$	14 Lead PDIP	795

Precision Quad

Mfr.'s Type	Description	V_{IO} Max. (mV)	I_O Max. (nA)	Response Time (ns)	Package Type	AnswerFax® (Doc. #)
HA1-4900-2	Precision Quad Comparator, Single or Dual Supply. Separate Analog and Logic Supplies	2	10	130	16 Lead CDIP	2855
HA1-4902-2	Precision Quad Comparator, Single or Dual Supply. Separate Analog and Logic Supplies	2	10	130	16 Lead CDIP	2855
HA1-4905-5	Precision Quad Comparator, Single or Dual Supply. Separate Analog and Logic Supplies	4	25	130	16 Lead CDIP	2855

High Performance Buffers

Single

Mfr.'s Type		Description	-3 dB Bandwidth @ Min. Acl (MHz)	Slew Rate (V/μs)	Settling Time (ns to %)	Input Offset Voltage (mV)	Bias Current (μA)	Output Current (mA/Amp)	Supply Range (±Voc)	Supply Current (mA/Amp)	AnswerFax® (Doc. #)
PDIP	SOIC										
HFA1112IP	HFA1112IB	850 MHz Programmable Gain (+2, ±1)	850	2050	11-0.10	8	25.0	60	4.5 to 5.5	21.0	2992
HFA1113IP	HFA1113IB	850 MHz Programmable Gain and Output Limiting	850	2020	11-0.10	8	25.0	60	4.5 to 5.5	21.0	1342
HFA1114IP	HFA1114IB	850 MHz Programmable Gain and Summing Node	850	2400	11-0.10	8	25.0	60	4.5 to 5.5	21.0	3151
HFA1110IP	HFA1110IB	750 MHz Unity Gain	750	1300	11-0.10	8	10.0	60	4.5 to 5.5	21.0	2944
HFA1115IP	HFA1115IB	350 MHz Programmable Gain and Output Limiting	350	1100	12-0.10	2	6.0	60	4.5 to 5.5	6.9	3606
HA3-5033-5	HA9P5033-5	250 MHz Video Buffer	250	1100	50-0.10	5	20.0	100	5.0 to 16.0	21.0	2924
HA3-5002-5	HA9P5002-5	110 MHz High Output Current	110	1300	50-0.10	5	2.0	220	6.0 to 16.0	8.3	2921

Dual

HFA1212IP	HFA1212IB	Dual 350 MHz Programmable Gain (+2, ±1)	350	1100	12-0.10	2	6.0	60	4.5 to 5.5	5.9	3607
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Quad

HFA1412IP	HFA1412IB	Quad 350 MHz Programmable Gain (+2, ±1)	350	1100	12-0.10	2	6.0	60	4.5 to 5.5	5.9	3607
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High Performance Op-Amps

Single

Mfr.'s Type		Description*	-3 dB Bandwidth @ Min. Acl (MHz)	Slew Rate (V/μs)	Settling Time (ns to %)	Input Offset Voltage (mV)	Bias Current (μA)	Output Current (mA/Amp)	Supply Range (±Voc)	Supply Current (mA/Amp)	AnswerFax® (Doc. #)
PDIP	SOIC										
HFA1100IP	HFA1100IB	850 MHz CFB	850	2300	11-0.10	2.0	12.0	65	4.5 to 5.5	21.0	2945
HFA1120IP	HFA1120IB	850 MHz CFB with Balance Adjust	850	2300	11-0.10	2.0	12.0	65	4.5 to 5.5	21.0	2945
HFA1130IP	HFA1130IB	850 MHz CFB with Output Limiting	850	2300	11-0.10	2.0	12.0	65	4.5 to 5.5	21.0	3369
HFA1102IP	HFA1102IB	600 MHz CFB with Compensation	600	2000	11-0.10	2.0	12.0	65	4.5 to 5.5	21.0	3597
HFA1105IP	HFA1105IB	350 MHz CFB	350	1100	12-0.10	2.0	6.0	60	4.5 to 5.5	5.9	3395
HFA1135IP	HFA1135IB	350 MHz CFB with Output Limiting	350	1100	12-0.10	2.0	6.0	60	4.5 to 5.5	5.9	3653
HFA1145IP	HFA1145IB	350 MHz CFB with Disable/Enable	350	1100	12-0.10	2.0	6.0	60	4.5 to 5.5	5.9	3395
HFA1106IP	HFA1106IB	350 MHz CFB with Compensation	315	700	49-0.02	2.0	6.0	60	4.5 to 5.5	5.8	3395
CA3450E	—	185 MHz VFB Video Line Driver (Acl=1)	185	160	35-0.10	8.0	0.1	100	6.0 to 14.5	30.0	1732
HA3-5020-5	HA9P5020-5	100 MHz CFB Video Op-Amp	100	800	90-0.10	2.0	3.0	65	5.0 to 15.0	7.5	2845
HA3-2842-5	HA9P2842-5	80 MHz VFB High Output Current Video Op-Amp	80	400	100-0.10	1.0	5.0	100	6.5 to 15.0	14.0	2766
HA3-2840-5	HA9P2840-5	600 MHz VFB Wideband (Acl=+10)	600	625	180-0.10	0.6	5.0	20	7.0 to 15.0	13.0	2842
HA3-2841-5	HA9P2841-5	50 MHz VFB Fast Settling Video Op-Amp	50	240	90-0.10	1.0	5.0	30	6.5 to 15.0	10.0	2843
HA3-2850-5	HA9P2850-5	470 MHz VFB Low Power, Wide Band (Acl=+10)	470	340	200-0.10	0.6	5.0	20	6.0 to 15.0	7.5	2844
HA3-2544-5	HA9P2544-5	45 MHz VFB Video Op-Amp	45	150	120-0.10	6.0	7.0	35	5.0 to 15.0	10.0	2900

Dual

HFA1205IP	HFA1205IB	350 MHz Current Feedback	350	1100	12-0.10	2.0	6.0	60	4.5 to 5.5	5.9	3605
HFA1245IP	HFA1245IB	350 MHz Current Feedback with Disable/Enable	350	1100	12-0.10	2.0	6.0	60	4.5 to 5.5	5.9	3682
HA5022IP	HA5022IB	100 MHz Current Feedback with Disable/Enable	100	475	130-0.10	0.8	3.0	20	5.0 to 15.0	7.5	3392
HA5023IP	HA5023IB	100 MHz Current Feedback	100	475	130-0.10	0.8	3.0	20	5.0 to 15.0	7.5	3393

Triple

HA5013IP	HA5013IB	125 MHz Current Feedback Video Op-Amp	125	475	130-0.10	0.8	3.0	20	5.0 to 15.0	7.5	3654
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Quad

HFA1405IP	HFA1405IB	350 MHz Current Feedback	350	1100	12-0.10	2.0	6.0	60	4.5 to 5.5	5.9	3604
HA5024IP	HA5024IB	125 MHz Current Feedback with Disable/Enable	125	475	130-0.10	0.8	3.0	20	5.0 to 15.0	7.5	3550
HA5025IP	HA5025IB	125 MHz Current Feedback	125	475	130-0.10	0.8	3.0	20	5.0 to 15.0	7.5	3591
HA3-2444-5	HA9P2444-5	45 MHz Selectable 4 Channel Video Op-Amp	45	160	120-0.10	4.0	9.0	40	15.0 to 20.0	20.0	2490

*Architecture: CFB = Current Feedback; VFB = Voltage Feedback.

General Purpose Op-Amps

Single

Mfr.'s Type		Description	Minimum Stable Gain	GBWP (MHz)	Slew Rate (V/μs)	Offset Voltage (mV)	Bias Current (μA)	Maximum Supply Voltage (±V)	Supply Current (mA/Amp)	No. of Leads	AnswerFax® (Doc. #)
DIP	SOIC										
CA3100E	CA3100M	Wideband Op-Amp	1	38.0	70.0	1.0	0.700	18.0	8.50	8	625
CA3130AE	CA3130AM	BIMOS Op-Amp with MOSFET Input/CMOS Output	1	15.0	30.0	2.0	5.000 pA	8.0	2.00	8	817
CA3130E	CA3130M	BIMOS Op-Amp with MOSFET Input/CMOS Output	1	15.0	30.0	8.0	5.000 pA	8.0	2.00	8	817
CA3130AE	—	BIMOS Microprocessor Op-Amp with MOSFET Input/CMOS Output	1	15.0	30.0	2.0	5.000 pA	8.0	2.00	8	1923
CA3130E	—	BIMOS Microprocessor Op-Amp with MOSFET Input/CMOS Output	1	15.0	30.0	8.0	5.000 pA	8.0	2.00	8	1923
CA3140AE	CA3140AM	BIMOS Op-Amp with MOSFET Input/Bipolar Output	1	4.5	9.0	2.0	10.000 pA	18.0	4.00	8	975
CA3140E	CA3140M	BIMOS Op-Amp with MOSFET Input/Bipolar Output	1	4.5	9.0	5.0	10.000 pA	18.0	4.00	8	975
HA7-2645-5	—	High Voltage Op-Amp	1	4.0	5.0	2.0	0.012	50.0	3.20	8	2904
CA3160AE	—	BIMOS Op-Amp with MOSFET Input/CMOS Output	1	4.0	10.0	2.0	5.000 pA	8.0	2.00	8	976
CA3160E	—	BIMOS Op-Amp with MOSFET Input/CMOS Output	1	4.0	10.0	6.0	5.000 pA	8.0	2.00	8	976
CA3080E	CA3080M	Operational Transconductance Amplifier (OTA)	1	2.0	75.0	0.4	2.000	18.0	1.00	8	475
CA741E	—	High Gain	1	1.0	0.5	1.0	0.080	22.0	1.70	8	531
HA3-2525-5	HA9P2525-5	Uncompensated High Slew Rate Op-Amp	3	20.0	120.0	5.0	0.125	20.0	4.00	8	2894
HA3-2625-5	HA9P2625-5	Very Wideband, Uncompensated Op-Amp	5	100.0	35.0	3.0	0.005	22.5	3.00	8	2903

Dual

CA3280AE	—	Dual Variable Op-Amp	1	9.0	125.0	0.25	1.800	18.0	2.00	16	1174
CA3280E	—	Dual Variable Op-Amp	1	9.0	125.0	0.7	1.800	18.0	2.00	16	1174
HA3-5102-5	HA9P5102-5	Low Noise, High Performance Op-Amp	1	8.0	3.0	0.5	0.130	20.0	1.50	8	2925
CA3240AE	—	Dual BIMOS Op-Amp with MOSFET Input/Bipolar Output	1	4.5	9.0	2.0	10.000 pA	18.0	4.00	8	1050
CA3240E	—	Dual BIMOS Op-Amp with MOSFET Input/Bipolar Output	1	4.5	9.0	5.0	10.000 pA	18.0	4.00	8	1050
CA5260AE	CA5260AM	BIMOS Microprocessor Op-Amp with MOSFET Input/CMOS Output	1	3.0	5.0	2.0	5.000 pA	8.0	0.60	8	1929
CA5260E	CA5260M	BIMOS Microprocessor Op-Amp with MOSFET Input/CMOS Output	1	3.0	5.0	6.0	5.000 pA	8.0	0.60	8	1929
CA1458E	—	High Gain	1	1.0	0.5	1.0	0.080	22.0	1.70	8	531

Quad

HA3-5104-5	HA9P5104-5	Low Noise, High Performance Op-Amp	1	8.0	3.0	0.5	0.130	20.0	1.25	14	2925
HA3-5114-5	HA9P5114-5	Low Noise, High Performance Op-Amp	10	60.0	20.0	0.5	0.130	20.0	1.25	14	2925

Differential Amplifiers

Mfr.'s Type	Description	Frequency Range, DC to (MHz)	A (dB)	BW (3 dB Point) (GHz)	1/F NF (dB)	AGC Range (dB) Type	Package (Doc. #)	AnswerFax® (Doc. #)
CA3028AE CA3102E	Balanced Differential Cascade Amplifier with Controlled Constant Current Source Dual High Frequency Differential Amplifier for Low Power Applications	120 500	40* 22	— 1.35	7.2 1.5	62.0 7.5	8 Lead PDIP 14 Lead PDIP	382 611

*GP Min. at 100 MHz; Cascade=16 dB; Differential=14 dB.

Transistor Arrays

Mfr.'s Type	Description	V _{BE(CEO)} Min. (V)	V _{BE(CBO)} Min. (V)	h _{FE} Min.	I _C Max. (mA)	Package Type	AnswerFax® (Doc. #)
CA3081	7 Common Emitter General Purpose NPN High Current Transistors	16	20	40	100	16 Lead PDIP	480
CA3082	7 Common Collector General Purpose NPN High Current Transistors	16	20	40	100	16 Lead PDIP	480
CA3083	5 Independent NPN Transistors. Q1 and Q2 Matched; I _o (at 1 mA) 2.5 µA Max.	15	20	40	100	16 Lead PDIP	481
CA3086	3 Isolated NPN Transistors Plus a Differential Pair. f _T >500 MHz Typ. from DC to 120 MHz	15	20	40	50	14 Lead PDIP	483
CA3127E	5 Independent High Frequency NPN Transistors. f _T >1 GHz from DC to 500 MHz	15	20	40	20	16 Lead PDIP	662
CA3183E	5 High Current/High Voltage NPN Transistors. Q1 and Q2 Matched at 1 mA	30	40	40	75	16 Lead PDIP	532
CA3183AE	5 High Current/High Voltage NPN Transistors. Q1 and Q2 Matched at 1 mA	40	50	40	75	16 Lead PDIP	532

Mfr.'s Type	Description	V _{BE(CEO)} Min. (V) NPN/PNP	V _{BE(CBO)} Min. (V) NPN/PNP	h _{FE} Min. NPN/PNP	I _C Max. (mA) NPN/PNP	Package Type	AnswerFax® (Doc. #)
CA3096E	5 Independent Transistors, 3 NPN and 2 PNP	35/-40	45/-40	150/20	50/-10	16 Lead PDIP	595
CA3096AE	5 Independent Transistors, 3 NPN and 2 PNP	35/-40	45/-40	150/20	50/-10	16 Lead PDIP	595
CA3096CE	5 Independent Transistors, 3 NPN and 2 PNP	24/-24	30/-24	100/15	50/-10	16 Lead PDIP	595

Diode Array

Mfr.'s Type	Description	V _{ON} Min. (V)	I _N Max. (µA)	C _O Typ. (pF)	V _{F1} -V _{F2} Max. (mV)	Package Type	AnswerFax® (Doc. #)
CA3039	6 Individual Ultra-Fast Low Capacitance Matched Diodes	5	0.1	0.65	5 (I _F =1 mA)	12 Lead TO-5	343

Timers/Oscillators

Mfr.'s Type	Description	Max. Output Frequency (Astable)	Power Supply Requirement	Package Type	AnswerFax® (Doc. #)
CA555E	Timer for Time Delays and Oscillator Applications	10 KHz (Typ.)	+4.5 V to +18 V @ 15 mA	8 Lead PDIP	834
CA555T	Timer for Time Delays and Oscillator Applications	10 KHz (Typ.)	+4.5 V to +18 V @ 15 mA	8 Lead TO-5	834
LM555CN	Timer for Time Delays and Oscillator Applications	10 KHz (Typ.)	+4.5 V to +18 V @ 15 mA	8 Lead PDIP	834
ICM7555IBA	Low Power CMOS Equivalent of Industry Standard 555. 80 µA Supply Current.	1 MHz (Typ.)	+2.0 V to +18 V @ 300 µA	8 Lead SOIC	2867
ICM7555IPA	Low Power CMOS Equivalent of Industry Standard 555. 80 µA Supply Current.	1 MHz (Typ.)	+2.0 V to +18 V @ 300 µA	8 Lead PDIP	2867
ICM7555MTV	Low Power CMOS Equivalent of Industry Standard 555. 80 µA Supply Current.	1 MHz (Typ.)	+2.0 V to +18 V @ 300 µA	8 Lead TO-99	2867
ICM7555IPD	Dual ICM7555, Low Power CMOS Equivalent of Industry Standard 555.	1 MHz (Typ.)	+2.0 V to +18 V @ 300 µA	14 Lead PDIP	2867
ICM7242IPA	Long Range Fixed Timer. RC Oscillator +8 Bit Counter. Fixed 256 Count. Cascadable.	2 MHz (Typ.)	+2.0 V to +16 V @ 800 µA	8 Lead PDIP	2866
HA7210IB	32.768 KHz Micropower Clock Oscillator. Externally Programmed to Operate 10 KHz to 10 MHz	10 MHz	+2.0 V to +7 V @ 5 µA	8 Lead SOIC	3389
HA7210IP	32.768 KHz Micropower Clock Oscillator. Externally Programmed to Operate 10 KHz to 10 MHz	10 MHz	+2.0 V to +7 V @ 5 µA	8 Lead PDIP	3389

HC and HCT CMOS Logic

Mfr.'s Type				Description	No. of Leads	AnswerFax® (Doc. #)
HC		HCT				
DIP Package	SOIC Package	DIP Package	SOIC Package			
CD74HC00E	CD74HC00M	CD74HCT00E	CD74HCT00M	Quad 2-Input NAND Gate	14	1464
CD74HC02E	CD74HC02M	CD74HCT02E	CD74HCT02M	Quad 2-Input NOR Gate	14	1647
CD74HC03E	CD74HC03M	CD74HCT03E	CD74HCT03M	Quad 2-Input NAND Gate with Open Drain	14	1832
CD74HC04E	CD74HC04M	CD74HCT04E	CD74HCT04M	Hex Inverter/Buffer	14	1471
CD74HC08E	CD74HC08M	CD74HCT08E	CD74HCT08M	Quad 2-Input AND Gate	14	1549
CD74HC10E	CD74HC10M	CD74HCT10E	CD74HCT10M	Triple 3-Input NAND Gate	14	1551
CD74HC11E	CD74HC11M	CD74HCT11E	CD74HCT11M	Triple 3-Input AND Gate	14	1475
CD74HC14E	CD74HC14M	CD74HCT14E	CD74HCT14M	Hex Inverting Schmitt Trigger	14	1781
CD74HC20E	CD74HC20M	CD74HCT20E	CD74HCT20M	Dual 4-Input NAND Gate	14	1601
CD74HC21E	CD74HC21M	CD74HCT21E	CD74HCT21M	Dual 4-Input AND Gate	14	1782
CD74HC27E	CD74HC27M	CD74HCT27E	CD74HCT27M	Triple 3-Input NOR Gate	14	1648
CD74HC30E	CD74HC30M	CD74HCT30E	CD74HCT30M	8-Input NAND Gate	14	1652
CD74HC32E	CD74HC32M	CD74HCT32E	CD74HCT32M	Quad 2-Input OR Gate	14	1643
CD74HC42E	CD74HC42M	CD74HCT42E	CD74HCT42M	BCD-to-Decimal Decoder (1-to-10)	16	1689
CD74HC73E	CD74HC73M	CD74HCT73E	CD74HCT73M	Dual J-K Flip-Flop with Reset	14	1721
CD74HC74E	CD74HC74M	CD74HCT74E	CD74HCT74M	Dual D Flip-Flop with Set and Reset	14	1476
CD74HC75E	CD74HC75M	CD74HCT75E	CD74HCT75M	Dual 2-Bit Bistable Transparent Latch	16	1666
CD74HC85E	CD74HC85M	CD74HCT85E	CD74HCT85M	4-Bit Magnitude Comparator	16	1770
CD74HC86E	CD74HC86M	CD74HCT86E	CD74HCT86M	Quad 2-Input EXCLUSIVE-OR Gate	14	1644
CD74HC93E	CD74HC93M	CD74HCT93E	CD74HCT93M	4-Bit Binary Ripple Counter	14	1849
CD74HC107E	CD74HC107M	CD74HCT107E	CD74HCT107M	Dual J-K Flip-Flop with Reset	14	1722
CD74HC109E	CD74HC109M	CD74HCT109E	CD74HCT109M	Dual J-K Flip-Flop with Set and Reset	16	1667
CD74HC112E	CD74HC112M	CD74HCT112E	CD74HCT112M	Dual J-K Flip-Flop with Set and Reset	16	1843
CD74HC123E	CD74HC123M	CD74HCT123E	CD74HCT123M	Dual Retriggerable Monostable Multivibrator with Reset	16	1708
CD74HC125E	CD74HC125M	CD74HCT125E	CD74HCT125M	Quad 3-State Buffer	14	1771
CD74HC126E	CD74HC126M	CD74HCT126E	CD74HCT126M	Quad 3-State Buffer	14	1772
CD74HC132E	CD74HC132M	CD74HCT132E	CD74HCT132M	Quad 2-Input NAND Schmitt Trigger	14	1649
CD74HC137E	CD74HC137M	CD74HCT137E	CD74HCT137M	3-to-8-Line Decoder with Latch, Inverting	16	1886
CD74HC138E	CD74HC138M	CD74HCT138E	CD74HCT138M	3-to-8-Line Decoder/Demultiplexer, Inverting	16	1477
CD74HC139E	CD74HC139M	CD74HCT139E	CD74HCT139M	Dual 2-to-4-Line Decoder/Demultiplexer	16	1545
CD74HC147E	CD74HC147M	CD74HCT147E	CD74HCT147M	10-to-4-Line Priority Encoder	16	1773
CD74HC151E	CD74HC151M	CD74HCT151E	CD74HCT151M	8-Input Multiplexer	16	1645
CD74HC153E	CD74HC153M	CD74HCT153E	CD74HCT153M	Dual 4-Input Multiplexer	16	1774
CD74HC154E	CD74HC154M	CD74HCT154E	CD74HCT154M	4-to-16-Line Decoder/Demultiplexer	24	1657
CD74HC157E	CD74HC157M	CD74HCT157E	CD74HCT157M	Quad 2-Input Multiplexer	16	1642
CD74HC158E	CD74HC158M	CD74HCT158E	CD74HCT158M	Quad 2-Input Multiplexer, Inverting	16	1642
CD74HC160E	CD74HC160M	CD74HCT160E	CD74HCT160M	Synchronous BCD Decade Counter, Asynchronous Reset	16	1550
CD74HC161E	CD74HC161M	CD74HCT161E	CD74HCT161M	Synchronous 4-Bit Binary Counter, Asynchronous Reset	16	1550

HC and HCT CMOS Logic — Continued

HC		HCT		Description	No. of Leads	AnswerFax* (Doc. #)
DIP Package	SOIC Package	DIP Package	SOIC Package			
CD74HC162E	CD74HC162M	CD74HCT162E	CD74HCT162M	Synchronous BCD Decade Counter, Synchronous Reset	16	1550
CD74HC163E	CD74HC163M	CD74HCT163E	CD74HCT163M	Synchronous 4-Bit Binary Counter, Synchronous Reset	16	1550
CD74HC164E	CD74HC164M	CD74HCT164E	CD74HCT164M	8-Bit Serial-In/Parallel-Out Shift Register	14	1658
CD74HC165E	CD74HC165M	CD74HCT165E	CD74HCT165M	8-Bit Parallel-In/Serial-Out Shift Register	16	1672
CD74HC166E	CD74HC166M	CD74HCT166E	CD74HCT166M	8-Bit Parallel-In/Serial-Out Shift Register *	16	1501
CD74HC173E	CD74HC173M	CD74HCT173E	CD74HCT173M	Quad D Flip-Flop, Three-State	16	1641
CD74HC174E	CD74HC174M	CD74HCT174E	CD74HCT174M	Hex D-Type Flip-Flop with Reset	16	1608
CD74HC175E	CD74HC175M	CD74HCT175E	CD74HCT175M	Quad D-Type Flip-Flop with Reset	16	1474
CD74HC181E	—	CD74HCT181E	—	4-Bit Arithmetic Logic Unit	24	1829
CD74HC190E	CD74HC190M	CD74HCT190E	CD74HCT190M	Presetable Synchronous BCD Decade Up/Down Counter	16	1662
CD74HC191E	CD74HC191M	CD74HCT191E	CD74HCT191M	Synchronous 4-Bit Binary Up/Down Counter	16	1662
CD74HC192E	CD74HC192M	CD74HCT192E	CD74HCT192M	Synchronous BCD Decade Up/Down Counter	16	1674
CD74HC193E	CD74HC193M	CD74HCT193E	CD74HCT193M	Synchronous 4-Bit Binary Up/Down Counter	16	1674
CD74HC194E	CD74HC194M	CD74HCT194E	CD74HCT194M	4-Bit Bidirectional Universal Shift Register	16	1668
CD74HC195E	CD74HC195M	CD74HCT195E	CD74HCT195M	4-Bit Parallel Access Shift Register	16	1482
CD74HC221E	CD74HC221M	CD74HCT221E	CD74HCT221M	Dual Monostable Multivibrator with Reset	16	1670
CD74HC237E	CD74HC237M	CD74HCT237E	CD74HCT237M	3-to-8-Line Decoder/Demultiplexer with Address Latches	16	1886
CD74HC238E	CD74HC238M	CD74HCT238E	CD74HCT238M	3-to-8-Line Decoder/Demultiplexer	16	1477
CD74HC240E	CD74HC240M	CD74HCT240E	CD74HCT240M	Octal Buffer Line Driver, Three-State, Inverting	20	1656
CD74HC241E	CD74HC241M	CD74HCT241E	CD74HCT241M	Octal Buffer Line Driver, Three-State	20	1656
CD74HC242E	CD74HC242M	CD74HCT242E	CD74HCT242M	Quad-Bus Transceiver, Three-State, Inverting	14	1488
CD74HC243E	CD74HC243M	CD74HCT243E	CD74HCT243M	Quad-Bus Transceiver, Three-State	14	1488
CD74HC244E	CD74HC244M	CD74HCT244E	CD74HCT244M	Octal-Buffer Line Driver, Three-State	20	1656
CD74HC245E	CD74HC245M	CD74HCT245E	CD74HCT245M	Octal-Bus Transceiver, Three-State	20	1651
CD74HC251E	CD74HC251M	CD74HCT251E	CD74HCT251M	8-Input Multiplexer, Three-State	16	1489
CD74HC253E	CD74HC253M	CD74HCT253E	CD74HCT253M	Dual 4-Input Multiplexer, Three-State	16	1673
CD74HC257E	CD74HC257M	CD74HCT257E	CD74HCT257M	Quad 2-Input Multiplexer, Three-State; Non-Inverting Outputs	16	1650
CD74HC258E	CD74HC258M	CD74HCT258E	CD74HCT258M	Quad 2-Input Multiplexer, Three-State; Inverting Outputs	16	1775
CD74HC259E	CD74HC259M	CD74HCT259E	CD74HCT259M	8-Bit Addressable Latch	16	1727
CD74HC273E	CD74HC273M	CD74HCT273E	CD74HCT273M	Octal D-Type Flip-Flop with Reset	20	1479
CD74HC280E	CD74HC280M	CD74HCT280E	CD74HCT280M	9-Bit Odd/Even Parity Generator/Checker	14	1669
CD74HC283E	CD74HC283M	CD74HCT283E	CD74HCT283M	4-Bit Adder with Fast Carry	16	1848
CD74HC297E	—	CD74HCT297E	—	Digital Phase-Locked Loop Filter	16	1852
CD74HC299E	CD74HC299M	CD74HCT299E	CD74HCT299M	8-Bit Universal Shift Register Three-State	20	1485
CD74HC354E	—	CD74HCT354E	—	8-Input Multiplexer/Register, Three-State	20	1690
CD74HC356E	—	CD74HCT356E	—	8-Input Multiplexer/Register, Three-State	20	1690
CD74HC365E	CD74HC365M	CD74HCT365E	CD74HCT365M	Hex Buffer/Line Driver, Three-State	16	1539
CD74HC366E	CD74HC366M	CD74HCT366E	CD74HCT366M	Hex Buffer/Line Driver, Three-State, Inverting	16	1539
CD74HC367E	CD74HC367M	CD74HCT367E	CD74HCT367M	Hex Buffer/Line Driver, Three-State	16	1538
CD74HC368E	CD74HC368M	CD74HCT368E	CD74HCT368M	Hex Buffer/Line Driver, Three-State, Inverting	16	1538
CD74HC373E	CD74HC373M	CD74HCT373E	CD74HCT373M	Octal Transparent Latch, Three-State	20	1679
CD74HC374E	CD74HC374M	CD74HCT374E	CD74HCT374M	Octal D Flip-Flop, Three-State	20	1663
CD74HC377E	CD74HC377M	CD74HCT377E	CD74HCT377M	Octal D-Type Flip-Flop with Data Enable	20	1675
CD74HC390E	CD74HC390M	CD74HCT390E	CD74HCT390M	Dual Decade Ripple Counter	16	1838
CD74HC393E	CD74HC393M	CD74HCT393E	CD74HCT393M	Dual 4-Bit Binary Ripple Counter	14	1653
CD74HC423E	CD74HC423M	CD74HCT423E	CD74HCT423M	Dual Retriggerable Monostable Multivibrator with Reset	16	1708
CD74HC533E	—	CD74HCT533E	—	Octal Transparent Latch, Three-State, Inverting	20	1599
CD74HC534E	CD74HC534M	CD74HCT534E	CD74HCT534M	Octal D Flip-Flop, Three-State, Inverting	20	1640
CD74HC540E	CD74HC540M	CD74HCT540E	CD74HCT540M	Octal Buffer Line Driver, Three-State, Inverting	20	1659
CD74HC541E	CD74HC541M	CD74HCT541E	CD74HCT541M	Octal Buffer Line Driver, Three-State	20	1659
CD74HC563E	CD74HC563M	CD74HCT563E	CD74HCT563M	Octal Transparent Latch, Three-State, Inverting	20	1599
CD74HC564E	CD74HC564M	CD74HCT564E	CD74HCT564M	Octal D Flip-Flop, Three-State, Inverting	20	1640
CD74HC573E	CD74HC573M	CD74HCT573E	CD74HCT573M	Octal Transparent Latch, Three-State	20	1679
CD74HC574E	CD74HC574M	CD74HCT574E	CD74HCT574M	Octal D Flip-Flop, Three-State	20	1663
CD74HC583E	—	CD74HCT583E	—	4-Bit BCD Full Adder with Fast Carry	16	1828
CD74HC597E	CD74HC597M	CD74HCT597E	CD74HCT597M	8-Bit Shift Register with Input Storage	16	1915
CD74HC640E	CD74HC640M	CD74HCT640E	CD74HCT640M	Octal Bus Transceiver, Three-State, Inverting	20	1677
CD74HC643E	—	CD74HCT643E	—	Octal Bus Transceiver, Three-State, True/Inverting	24	1677
CD74HC646E	CD74HC646M	CD74HCT646E	CD74HCT646M	Octal Bus Transceiver/Register, Three-State	20	1664
CD74HC648E	CD74HC648M	CD74HCT648E	CD74HCT648M	Octal Bus Transceiver/Register, Three-State, Inverting	24	1664
CD74HC651E	CD74HC651M	CD74HCT651E	CD74HCT651M	Octal Bus Transceiver/Register, Three-State, Inverting	24	2229
CD74HC652E	CD74HC652M	CD74HCT652E	CD74HCT652M	Octal Bus Transceiver/Register, Three-State, Non-Inverting	24	2229
CD74HC670E	CD74HC670M	CD74HCT670E	CD74HCT670M	4 x 4 Register File, Three-State	16	1660
CD74HC688E	CD74HC688M	CD74HCT688E	CD74HCT688M	8-Bit Magnitude Comparator	20	1646
CD74HC4002E	CD74HC4002M	CD74HCT4002E	CD74HCT4002M	Dual 4-Input NOR Gate	14	1776
CD74HC4015E	CD74HC4015M	CD74HCT4015E	CD74HCT4015M	Dual 4-Stage Static Shift Register	14	1917
CD74HC4016E	—	CD74HCT4016E	—	Dual Bilateral Switch	16	1639
CD74HC4017E	CD74HC4017M	CD74HCT4017E	CD74HCT4017M	Decade Counter/Divider with 10 Decoded Outputs	16	1484
CD74HC4020E	CD74HC4020M	CD74HCT4020E	CD74HCT4020M	14-Stage Binary Ripple Counter	16	1638
CD74HC4024E	CD74HC4024M	CD74HCT4024E	CD74HCT4024M	7-Stage Binary Ripple Counter	16	1483
CD74HC4040E	CD74HC4040M	CD74HCT4040E	CD74HCT4040M	12-Bit Binary Counter	16	1854
CD74HC4046AE	CD74HC4046AM	CD74HCT4046AE	CD74HCT4046AM	Phase-Locked Loop with VCO	16	1543
CD54HC4049E	CD54HC4049M	CD74HC4049E	CD74HC4049M	Hex Inverting High-to-Low Level Shifter	16	1543
CD54HC4050E	CD54HC4050M	CD74HC4050E	CD74HC4050M	Hex High-to-Low Level Shifter	16	1543
CD74HC4051E	CD74HC4051M	CD74HCT4051E	CD74HCT4051M	8-Channel Analog Multiplexer/Demultiplexer	16	1676
CD74HC4052E	CD74HC4052M	CD74HCT4052E	CD74HCT4052M	Dual 4-Channel Analog Multiplexer/Demultiplexer	16	1676
CD74HC4053E	CD74HC4053M	CD74HCT4053E	CD74HCT4053M	Triple 2-Channel Analog Multiplexer/Demultiplexer	24	1853
CD74HC4059E	CD74HC4059M	CD74HCT4059E	CD74HCT4059M	Programmable Divide by "N" Counter	16	1654
CD74HC4060E	CD74HC4060M	CD74HCT4060E	CD74HCT4060M	14-Stage Binary Counter with Oscillator	16	1777
CD74HC4066E	CD74HC4066M	CD74HCT4066E	CD74HCT4066M	Quad Bilateral Switch	14	1783
CD74HC4067E	CD74HC4067M	CD74HCT4067E	CD74HCT4067M	16-Channel Analog Multiplexer/Demultiplexer	24	1778
CD74HC4075E	CD74HC4075M	CD74HCT4075E	CD74HCT4075M	Triple 3-Input OR Gate	14	1778
CD74HC4094E	CD74HC4094M	CD74HCT4094E	CD74HCT4094M	8-Stage Shift-and-Store Bus Register	16	1779
CD74HC4316E	CD74HC4316M	CD74HCT4316E	CD74HCT4316M	Quad Analog Switch	16	1916
CD74HC4351E	CD74HC4351M	CD74HCT4351E	CD74HCT4351M	Analog MUX with Latch	20	2145
CD74HC4352E	CD74HC4352M	CD74HCT4352E	CD74HCT4352M	Analog MUX with Latch	20	2145
CD74HC4353E	—	CD74HCT4353E	—	Analog MUX with Latch	20	2145
CD74HC4510E	CD74HC4510M	CD74HCT4510E	CD74HCT4510M	Up/Down Counter, BCD	16	1823
CD74HC4511E	CD74HC4511M	CD74HCT4511E	CD74HCT4511M	BCD-to-7 Segment Latch/Decoder/Driver	16	1786
CD74HC4514E	CD74HC4514M	CD74HCT4514E	CD74HCT4514M	4-to-16-Line Decoder/Demultiplexer with Input Latch	24	1597
CD74HC4515E	CD74HC4515M	CD74HCT4515E	CD74HCT4515M	4-to-16-Line Decoder with Input Latches	24	1597
CD74HC4516E	CD74HC4516M	CD74HCT4516E	CD74HCT4516M	Up/Down Counter, Binary	16	1823
CD74HC4518E	CD74HC4518M	CD74HCT4518E	CD74HCT4518M	Dual Synchronous BCD Counter	16	1665
CD74HC4520E	CD74HC4520M	CD74HCT4520E	CD74HCT4520M	Dual 4-Bit Synchronous Binary Counter	16	1665
CD74HC4538E	CD74HC4538M	CD74HCT4538E	CD74HCT4538M	Quad Precision Monostable Multivibrator	16	1671
CD74HC4543E	—	CD74HCT4543E	—	BCD-to-7 Segment Latch Decoder/Driver for LCDs	16	1822
CD74HC7030E	—	CD74HCT7030E	—	9-Bit x 64 Word FIFO Register, Three-State	28	2122
CD74HC7046AE	CD74HC7046AM	CD74HCT7046AE	CD74HCT7046AM	Phase-Locked Loop with In-Lock Detection	16	1920
CD54HC7266E	CD54HC7266M	CD74HC7266E	CD74HC7266M	Quad EXCLUSIVE-NOR Gate	14	1780
CD74HC40102E	CD74HC40102M	CD74HCT40102E	CD74HCT40102M	8-Bit Synchronous BCD Down Counter	16	1596
CD74HC40103E	CD74HC40103M	CD74HCT40103E	CD74HCT40103M	8-Bit Binary Down Counter	16	1596
—	CD74HC40104M	—	CD74HCT40104M	4-Bit Bidirectional Universal Shift Register, Three-State	16	1661
CD74HC40105E	CD74HC40105M	CD74HCT40105E	CD74HCT40105M	4 Bits x 16 Words FIFO Register	16	1834

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AC and ACT CMOS Logic

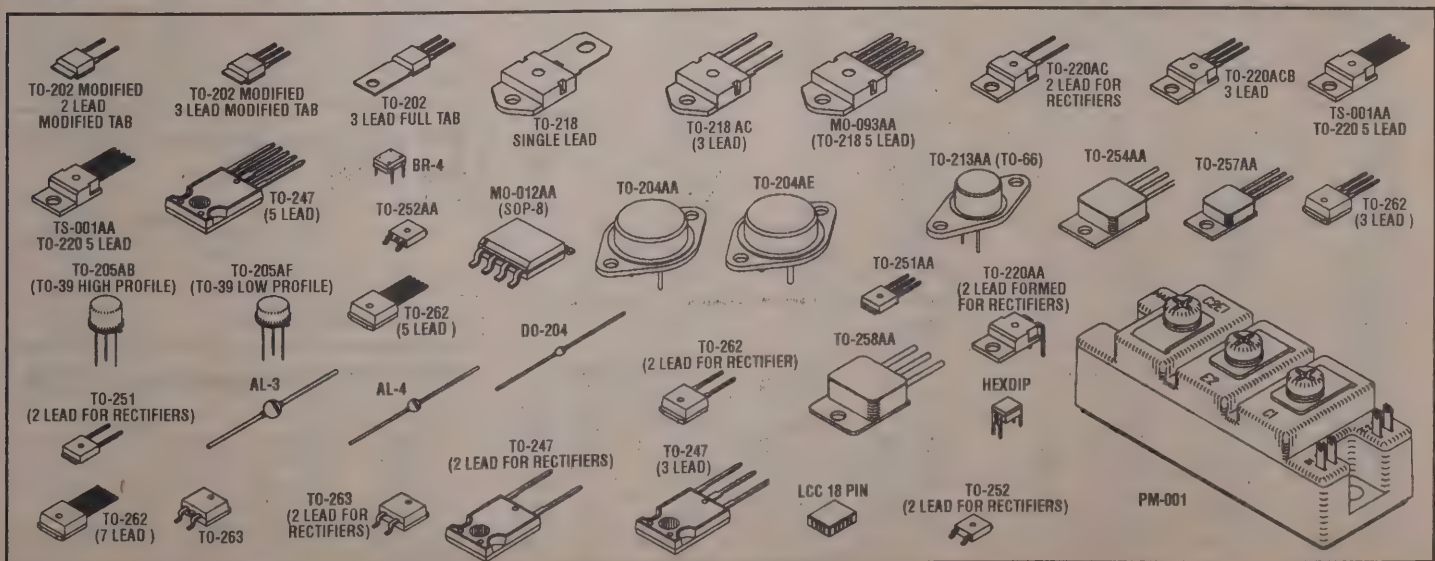
Mfr.'s Type				Description	No. of Leads	AnswerFax® (Doc. #)
AC		ACT				
DIP Package	SOIC Package	DIP Package	SOIC Package			
CD74AC00E	CD74AC00M	CD74ACT00E	CD74ACT00M	Quad 2-Input NAND Gate	14	1855
CD74AC02E	CD74AC02M	CD74ACT02E	CD74ACT02M	Quad 2-Input NOR Gate	14	1978
CD74AC04E	CD74AC04M	CD74ACT04E	CD74ACT04M	Hex Inverter/Buffer	14	1945
CD74AC05E	CD74AC05M	CD74ACT05E	CD74ACT05M	Hex Inverter/Buffer with Open-Drain Outputs	14	1945
CD74AC08E	CD74AC08M	CD74ACT08E	CD74ACT08M	Quad 2-Input AND Gate	14	1950
CD74AC10E	CD74AC10M	CD74ACT10E	CD74ACT10M	Triple 3-Input NAND Gate	14	1977
CD74AC14E	CD74AC14M	CD74ACT14E	CD74ACT14M	Hex Inverting Schmitt Trigger	14	1984
CD74AC20E	CD74AC20M	CD74ACT20E	CD74ACT20M	Dual 4-Input NAND Gate	14	1976
CD74AC32E	CD74AC32M	CD74ACT32E	CD74ACT32M	Quad 2-Input OR Gate	14	1951
CD74AC74E	CD74AC74M	CD74ACT74M	CD74ACT74M	Dual D Flip-Flop with Set and Reset	14	1881
CD74AC86E	CD74AC86M	CD74ACT86E	CD74ACT86M	Quad 2-Input Exclusive-OR Gate	14	1952
CD74AC109E	CD74AC109M	CD74ACT109E	CD74ACT109M	Dual J-K Flip-Flop with Set and Reset	16	1967
CD74AC112E	CD74AC112M	CD74ACT112E	CD74ACT112M	Dual J-K Flip-Flop with Set and Reset	16	1967
CD74AC138E	CD74AC138M	CD74ACT138E	CD74ACT138M	3-to-8-Line Decoder/Demultiplexer, Inverting	16	1909
CD74AC139E	CD74AC139M	CD74ACT139E	CD74ACT139M	Dual 2-to-4-Line Decoder/Demultiplexer	16	1953
CD74AC151E	CD74AC151M	CD74ACT151E	CD74ACT151M	8-Input Multiplexer	16	1980
CD74AC153E	CD74AC153M	CD74ACT153E	CD74ACT153M	Dual 4-Input Multiplexer	16	1966
CD74AC157E	CD74AC157M	CD74ACT157E	CD74ACT157M	Quad 2-Input Multiplexer	16	1910
CD74AC158E	CD74AC158M	CD74ACT158E	CD74ACT158M	Quad 2-Input Multiplexer, Inverting	16	1910
CD74AC161E	CD74AC161M	CD74ACT161E	CD74ACT161M	Synchronous 4-Bit Binary Counter, Asynchronous Reset	16	1959
CD74AC163E	CD74AC163M	CD74ACT163E	CD74ACT163M	Synchronous 4-Bit Binary Counter, Synchronous Reset	16	1959
CD74AC164E	CD74AC164M	CD74ACT164E	CD74ACT164M	8-Bit Serial-In/Parallel-Out Shift Register	14	1954
CD74AC174E	CD74AC174M	CD74ACT174E	CD74ACT174M	Hex D-Type Flip-Flop with Reset	16	1973
CD74AC175E	CD74AC175M	CD74ACT175E	CD74ACT175M	Quad D-Type Flip-Flop with Reset	16	1964
CD74AC191E	CD74AC191M	CD74ACT191E	CD74ACT191M	Synchronous 4-Bit Binary Up/Down Counter	16	1911
CD74AC193E	CD74AC193M	CD74ACT193E	CD74ACT193M	Synchronous 4-Bit Binary Up/Down Counter	16	1947
CD74AC238E	CD74AC238M	CD74ACT238E	CD74ACT238M	3-to-8-Line Decoder/Demultiplexer	16	1909
CD74AC240E	CD74AC240M	CD74ACT240E	CD74ACT240M	Octal Buffer/Line Driver, Three-State, Inverting	20	1856
CD74AC241E	CD74AC241M	CD74ACT241E	CD74ACT241M	Octal Buffer/Line Driver, Three-State	20	1856
CD74AC244E	CD74AC244M	CD74ACT244E	CD74ACT244M	Octal-Buffer/Line Driver, Three-State	20	1856
CD74AC245E	CD74AC245M	CD74ACT245E	CD74ACT245M	Octal-Bus Transceiver, Three-State	20	1907
CD74AC251E	—	CD74ACT251E	—	8-Input Multiplexer, Three-State	16	1981
CD74AC253E	CD74AC253M	CD74ACT253E	CD74ACT253M	Dual 4-Input Multiplexer, Three-State	16	1985
CD74AC257E	CD74AC257M	CD74ACT257E	CD74ACT257M	Quad 2-Input Multiplexer, Three-State	16	1955
CD74AC258E	CD74AC258M	CD74ACT258E	CD74ACT258M	Quad 2-Input Multiplexer, Three-State	16	1955
CD74AC273E	CD74AC273M	CD74ACT273E	CD74ACT273M	Octal D-Type Flip-Flop with Reset	20	1979
CD74AC280E	CD74AC280M	CD74ACT280E	CD74ACT280M	8-Bit Odd/Even Parity Generator/Checker	14	1957
CD74AC283E	CD74AC283M	CD74ACT283E	CD74ACT283M	4-Bit Full Adder with Fast Carry	16	1912
—	CD74AC297M	—	CD74ACT297M	Digital Phase-Locked Loop	16	2195
CD74AC299E	CD74AC299M	CD74ACT299E	CD74ACT299M	8-Bit Universal Shift Register, Three-State	20	1958
CD74AC323E	—	CD74ACT323E	—	8-Bit Universal Shift Register, Three-State	20	1958
CD74AC373E	CD74AC373M	CD74ACT373E	CD74ACT373M	Octal Transparent Latch, Three-State	20	1882
CD74AC374E	CD74AC374M	CD74ACT374E	CD74ACT374M	Octal D Flip-Flop, Three-State	20	1883
CD74AC533E	CD74AC533M	CD74ACT533E	CD74ACT533M	Octal Transparent Latch, Three-State, Inverting	20	1882
CD74AC534E	CD74AC534M	CD74ACT534E	CD74ACT534M	Octal D Flip-Flop, Three-State, Inverting	20	1883
CD74AC540E	CD74AC540M	CD74ACT540E	CD74ACT540M	Octal Buffer/Line Driver, Three-State, Inverting	20	1857
CD74AC541E	CD74AC541M	CD74ACT541E	CD74ACT541M	Octal Buffer/Line Driver, Three-State	20	1857
CD74AC563E	CD74AC563M	CD74ACT563E	CD74ACT563M	Octal Inverting Transparent Latch, Three-State	20	1956
CD74AC564E	CD74AC564M	CD74ACT564E	CD74ACT564M	Octal D-Type Flip-Flop, Three-State, Inverting	20	1948
CD74AC573E	CD74AC573M	CD74ACT573E	CD74ACT573M	Octal Transparent Latch, Three-State	20	1966
CD74AC574E	CD74AC574M	CD74ACT574E	CD74ACT574M	Octal D-Type Flip-Flop, Three-State	20	1948
CD74AC623E	CD74AC623M	CD74ACT623E	CD74ACT623M	Octal-Bus Transceiver, Three-State, Non-Inverting	20	1968
CD74AC646E	CD74AC646M	CD74ACT646E	CD74ACT646M	Octal-Bus Transceiver/Register, Three-State	24	1970
—	CD74AC647M	—	CD74ACT647M	Octal-Bus Transceiver/Register with Open Drain, Non-Inverting	24	1982
CD74AC648E	CD74AC648M	CD74ACT648E	CD74ACT648M	Octal Bus Transceiver/Register, Three-State, Inverting	24	1970
CD74AC651E	CD74AC651M	CD74ACT651E	CD74ACT651M	Octal-Bus Transceiver/Register, Three-State, Inverting	24	1974
CD74AC652E	CD74AC652M	CD74ACT652E	CD74ACT652M	Octal-Bus, Transceiver/Register, Three-State, Non-Inverting	24	1974
—	CD74AC653M	—	CD74ACT653M	Octal-Bus Transceiver/Register, Open-Drain (A-Side), Three-State (B Side), Inverting	24	1975
CD74AC654E	CD74AC654M	CD74ACT654E	CD74ACT654M	Octal-Bus Transceiver/Register, Open-Drain (A-Side), Three-State (B Side), Non-Inverting	24	1975
CD74AC7060E	CD74AC7060M	CD74ACT7060E	CD74ACT7060M	14-Stage Binary Counter with Oscillator	20	2062
CD74ACT7623E	CD74ACT7623M	CD74ACT7623E	CD74ACT7623M	Octal-Bus Transceiver/Register, Open-Drain (A-Side), Three-State (B Side), Non-Inverting	20	1969

FCT CMOS Logic

Mfr.'s Type		Description	No. of Leads	AnswerFax® (Doc. #)
FCT				
DIP Package	SOIC Package			
CD74FCT240E	CD74FCT240M	Octal Buffer/Line Driver, Three-State, Inverting	20	2227
CD74FCT241E	CD74FCT241M	Octal Buffer/Line Driver, Three-State	20	2227
CD74FCT244E	CD74FCT244M	Octal Buffer/Line Driver, Three-State	20	2227
CD74FCT245E	CD74FCT245M	Octal-Bus Transceiver, Three-State	20	2301
CD74FCT273E	CD74FCT273M	Octal D Flip-Flop with Reset	20	2303
CD74FCT373E	CD74FCT373M	Octal Transparent Latch, Three-State	20	2230
CD74FCT374E	CD74FCT374M	Octal D-Type Flip-Flop, Three-State	20	2305
—	CD74FCT533M	Octal Transparent Latch, Three-State, Inverting	20	2230
CD74FCT740E	CD74FCT540M	Octal Buffer/Line Driver, Three-State, Inverting	20	2383
CD74FCT741E	CD74FCT541M	Octal Buffer/Line Driver, Three-State	20	2383
CD74FCT743E	CD74FCT543M	Octal Register/Transceiver, Three-State	24	2399
CD74FCT564E	CD74FCT564M	Octal D-Type Flip-Flop, Three-State, Inverting	20	2295
CD74FCT573E	CD74FCT573M	Octal Transparent Latch, Three-State	20	2304
CD74FCT574E	CD74FCT574M	Octal D-Type Flip-Flop, Three-State	20	2295
—	CD74FCT623M	Octal Bus Transceiver, Three-State	24	2302
CD74FCT646E	CD74FCT646M	Octal Bus Transceiver/Register, Three-State	24	2393
CD74FCT651E	CD74FCT651M	Octal Bus Transceiver/Register, Three-State, Inverting	24	2394
CD74FCT652E	CD74FCT652M	Octal Bus Transceiver/Register, Three-State	24	2394
CD74FCT653E	CD74FCT653M	Octal Bus Transceiver/Register, Open-Drain (A Side), Three-State (B Side), Inverting	24	2403
CD74FCT674E	CD74FCT654M	Octal Bus Transceiver/Register, Open-Drain (A Side), Three-State (B Side)	24	2403
CD74FCT821AE	CD74FCT821AM	10-Bit D-Type Flip-Flop, Three-State	24	2390
CD74FCT822AE	—	10-Bit D-Type Flip-Flop, Three-State, Inverting	24	2390
CD74FCT823AE	—	9-Bit D-Type Flip-Flop, Three-State	24	2389
CD74FCT824AE	—	9-Bit D-Type Flip-Flop, Three-State, Inverting	24	2389
CD74FCT841AE	CD74FCT841AM	10-Bit Transparent Latch, Three-State	24	2397
—	CD74FCT842AM	10-Bit Transparent Latch, Three-State, Inverting	24	2397
—	CD74FCT843AM	9-Bit Transparent Latch, Three-State	24	2396
CD74FCT843AE	—	9-Bit Transparent Latch, Three-State, Inverting	24	2396
CD74FCT844AE	—	10-Bit Bus Transceiver, Three-State	24	2392
—	CD74FCT861AM	9-Bit Bus Transceiver, Three-State	24	2391
—	CD74FCT863AM	Octal Register/Transceiver, Three-State	24	2400
—	CD74FCT2952AM	Octal Bus Transceiver, Three-State (B Side), Open-Drain (A Side)	20	2358
—	CD74FCT7623M			

CD4000 CMOS Logic

Mfr.'s Type	Description	No. of Leads	AnswerFax® (Doc. #)	Mfr.'s Type	Description	No. of Leads	AnswerFax® (Doc. #)
DIP				DIP			
CD4001BE	CMOS NOR Gate	14	985	CD4086BE	CMOS Expandable 4-Wide 2-Input AND-OR-INVERT Gate	14	812
CD4001UBE	CMOS Quad 2-Input NOR Gate	14	945	CD4089BE	CMOS Binary Rate Multiplier	16	1003
CD4002BE	CMOS NOR Gate	14	985	CD4093BE	CMOS Quad 2-Input NAND Schmitt Trigger	14	836
CD4006BE	CMOS 18-Stage Static Shift Register	14	1033	CD4094BE	CMOS 8-Stage Shift-and-Store Bus Register	16	3707
CD4007UBE	CMOS Dual Complementary Pair Plus Inverter	14	977	CD4095BE	CMOS Gated J-K Master-Slave Flip-Flop	14	879
CD4008BE	CMOS 4-Bit Full Adder	16	951	CD4096BE	CMOS Gated J-K Master-Slave Flip-Flop	14	879
CD4009UBE	CMOS Hex Buffer/Converter	16	940	CD4097BE	CMOS Analog Multiplexer/Demultiplexer	24	3719
CD4010BE	CMOS Hex Buffer/Converter	16	940	CD4098BE	CMOS Dual Monostable Multivibrator	16	979
CD4011BE	CMOS NAND Gate	14	3718	CD4099BE	CMOS 8-Bit Addressable Latch	16	948
CD4011UBE	CMOS Quad 2-Input NAND Gate	14	947	CD4502BE	CMOS Strobed Hex Inverter/Buffer	16	1002
CD4012BE	CMOS NAND Gate	14	3718	CD4503BE	CMOS Hex Buffer	16	1224
CD4013BE	CMOS Dual D-Type Flip-Flop	14	936	CD4504BE	CMOS Hex Voltage-Level Shifter for TTL-to-CMOS or CMOS-to-CMOS Operation	16	1846
CD4014BE	CMOS 8-Stage Static Shift Register	16	1043	CD4508BE	CMOS Dual 4-Bit Latch	24	1009
CD4015BE	CMOS Dual 4-Stage Static Shift Register	16	1024	CD4510BE	CMOS Presettable Up/Down Counter	16	899
CD4016BE	CMOS Quad Bilateral Switch	14	953	CD4511BE	CMOS BCD-to-7-Segment Latch Decoder Driver	16	901
CD4017BE	CMOS Counter/Divider	16	1113	CD4512BE	CMOS 8-Channel Data Selector	16	1032
CD4018BE	CMOS Presettable Divide-By-N Counter	16	1034	CD4514BE	CMOS 4-Bit Latch/4-to-16-Line Decoder	24	3721
CD4019BE	CMOS Quad AND/OR Select Gate	16	1045	CD4515BE	CMOS 4-Bit Latch/4-to-16-Line Decoder	24	3721
CD4020BE	CMOS Ripple-Carry Binary Counter/Divider (14 Stage)	16	1063	CD4516BE	CMOS Presettable Up/Down Counter	16	899
CD4021BE	CMOS 8-Stage Static Shift Register	16	1043	CD4517BE	CMOS Dual 64-Stage Static Shift Register	16	1148
CD4022BE	CMOS Counter/Divider	16	1113	CD4518BE	CMOS Dual Up Counter	16	808
CD4023BE	CMOS NAND Gate	14	3718	CD4519BE	CMOS 4-Bit AND/OR Selector, Quad 2-Channel Data Selector, or Quad Exclusive NOR Gate	16	1723
CD4024BE	CMOS Ripple-Carry Binary Counter/Divider (7 Stage)	14	1063	CD4520BE	CMOS Dual Up Counter	16	808
CD4025BE	CMOS NOR Gate	14	985	CD4521BE	CMOS 24-Stage Frequency Divider	16	1735
CD4026BE	CMOS Decade Counter/Divider	16	1118	CD4522BE	CMOS Programmable BCD Divide-By-N Counter	16	1710
CD4027BE	CMOS Dual J-K Master-Slave Flip-Flop	16	942	CD4527BE	CMOS BCD Rate Multiplier	16	1006
CD4028BE	CMOS BCD-to-Decimal Decoder	16	1016	CD4529BE	CMOS Dual 4-Channel Analog Data Selector	16	1720
CD4029BE	CMOS Presettable Up/Down Counter	16	1028	CD4532BE	CMOS 8-Bit Priority Encoder	16	876
CD4030BE	CMOS Quad Exclusive-OR Gate	14	1055	CD4536BE	CMOS Programmable Timer	16	1186
CD4031BE	CMOS 64-Stage Static Shift Register	16	1073	CD4541BE	CMOS Programmable Timer	14	1378
CD4033BE	CMOS Decade Counter/Divider	16	1118	CD4543BE	CMOS BCD-to-7-Segment Latch/Decoder/Driver for Liquid-Crystal Display	16	1327
CD4034BE	CMOS 8-Stage Static Bidirectional Parallel/Serial Input/Output Bus Register	24	1062	CD4555BE	CMOS Dual Binary-to-1-to-4 Decoder/Demultiplexer	16	858
CD4035BE	CMOS 4-Stage Parallel-In/Parallel-Out Shift Register	16	1101	CD4556BE	CMOS Dual Binary-to-1-to-4 Decoder/Demultiplexer	16	858
CD4040BE	CMOS Ripple-Carry Binary Counter/Divider (12 Stage)	16	1063	CD4560BE	CMOS NBDC Adder	16	1711
CD4041UBE	CMOS Quad True/Complement Buffer	14	934	CD4566BE	CMOS Industrial Time-Based Generator	16	1728
CD4042BE	CMOS Quad Clocked D Latch	16	954	CD4572UBE	CMOS Hex Gate	16	1704
CD4043BE	CMOS Quad Three-State R/S Latch	16	956	CD4585BE	CMOS 4-Bit Magnitude Comparator	16	1146
CD4044BE	CMOS Quad Three-State R/S Latch	16	956	CD4724BE	CMOS 8-Bit Addressable Latch	16	1111
CD4045BE	CMOS 21-Stage Counter	16	1119	CD7211E	CMOS 4-Digit LCD Decoder/Driver	40	1725
CD4046BE	CMOS Micropower Phase-Locked Loop	16	1099	CD7211AE	CMOS 4-Digit LCD Decoder/Driver	40	1725
CD4047BE	CMOS Low-Power Monostable/Astable Multivibrator	14	1123	CD7211ME	CMOS 4-Digit LCD Decoder/Driver	40	1726
CD4048BE	CMOS Multifunction Expandable 8-Input Gate	16	1124	CD14538BE	CMOS Dual Precision Monostable Multivibrator	16	3737
CD4049UBE	CMOS Hex Buffer/Converter	16	926	CD22402E	CMOS LSI Sync Generator	24	1686
CD4050BE	CMOS Hex Buffer/Converter	16	926	CD22777E	CMOS 32kHz Quartz Analog Clock Circuit	8	1869
CD4051BE	CMOS Analog Multiplexer/Demultiplexer	16	902	CD40100BE	CMOS 32-Stage Static Left/Right Shift Register	16	980
CD4052BE	CMOS Analog Multiplexer/Demultiplexer	16	902	CD40102BE	CMOS 8-Stage Presettable Synchronous Down Counter	16	984
CD4053BE	CMOS Analog Multiplexer/Demultiplexer	16	902	CD40103BE	CMOS 8-Stage Presettable Synchronous Down Counter	16	984
CD4054BE	CMOS Liquid-Crystal Display Driver	16	634	CD40105BE	CMOS FIFO Register	16	1044
CD4055BE	CMOS Liquid-Crystal Display Driver	16	634	CD40106BE	CMOS Hex Schmitt Trigger	14	1017
CD4056BE	CMOS Liquid-Crystal Display Driver	16	634	CD40107BE	CMOS Dual 2-Input NAND Buffer/Driver	8, 14	1015
CD4059AE	CMOS Programmable Divide-By-N Counter	24	898	CD40109BE	CMOS Quad Low-to-High Voltage Level Shifter	16	3722
CD4060BE	CMOS 14-Stage Ripple-Carry Binary Counter/Divider and Oscillator	16	1120	CD40110BE	CMOS Decade Up-Down Counter/Latch/Display Driver	16	1125
CD4063BE	CMOS 4-Bit Magnitude Comparator	16	805	CD40111BE	CMOS High Speed 8-Bit Bidirectional CMOS/TTL Interfaced Level Converter	22	1234
CD4066BE	CMOS Quad Bilateral Switch	14	1114	CD40116E	Programmable Dual 4-Bit Terminator	14	1333
CD4067BE	CMOS Analog Multiplexer/Demultiplexer	24	3719	CD40117BE	10-Line to 4-Line BCD Priority Encoder	16	1117
CD4068BE	CMOS 8-Input NAND/AND Gate	14	809	CD40147BE	CMOS Synchronous Programmable 4-Bit Counter	16	1047
CD4069UBE	CMOS Hex Inverter	14	804	CD40160BE	CMOS Synchronous Programmable 4-Bit Counter	16	1047
CD4070BE	CMOS Quad Exclusive-OR Gate	14	910	CD40161BE	CMOS Synchronous Programmable 4-Bit Counter	16	1047
CD4071BE	CMOS OR Gate	14	807	CD40163BE	CMOS Synchronous Programmable 4-Bit Counter	16	1047
CD4072BE	CMOS OR Gate	14	807	CD40174BE	CMOS Hex D-Type Flip-Flop	16	1031
CD4073BE	CMOS AND Gate	14	806	CD40175BE	CMOS Quad D-Type Flip-Flop	16	1326
CD4075BE	CMOS OR Gate	14	807	CD40192BE	CMOS Presettable Up/Down Counter (Dual Clock with Reset)	16	993
CD4076BE	CMOS 4-Bit D-Type Register	16	903	CD40193BE	CMOS Presettable Up/Down Counter (Dual Clock with Reset)	16	993
CD4077BE	CMOS Quad Exclusive-NOR Gate	14	910	CD40194BE	CMOS 4-Bit Bidirectional Universal Shift Register	16	1220
CD4078BE	CMOS 8-Input NOR/OR Gate	14	810	CD40257BE	CMOS Quad 2-Line-to-1-Line Data Selector/Multiplexer	16	982
CD4081BE	CMOS AND Gate	14	806				
CD4082BE	CMOS AND Gate	14	806				
CD4085BE	CMOS Dual 2-Wide AND-OR-INVERT Gate	14	811				



RF and BUZ Series MOSFETs

N-Channel

Mfr.'s Type	Package Type	Maximum Ratings		
		BV _{DS} (V)	I _{DS} (A)	R _{DS(on)} (Ω)
RFL1N08	TO-205AF	80	1.0	1.20
RFL1N10	TO-205AF	100	1.0	1.20
RFL4N12	TO-205AF	120	4.0	0.40
RFL1N15	TO-205AF	150	1.0	1.90
RFM12N20	TO-204	200	12.0	0.25
RFK25N20	TO-204	200	25.0	0.15
RFM3N45	TO-204	450	3.0	3.00
BUZ45	TO-204	500	9.6	0.60
RF4N05	TO-220AB	50	13.0	0.12
BUZ71A	TO-220AB	50	13.0	0.12
BUZ71	TO-220AB	50	14.0	0.10
RFL15N05	TO-220AB	50	15.0	0.14
BUZ11	TO-220AB	50	30.0	0.04
RF4N06	TO-220AB	60	4.0	0.80
RFP15N06	TO-220AB	60	15.0	0.14
RFP25N06	TO-220AB	60	25.0	0.07
RFP2N08	TO-220AB	80	2.0	1.05
RFP12N08	TO-220AB	80	12.0	0.20
RFP18N08	TO-220AB	80	18.0	0.10
RFP2N10	TO-220AB	100	2.0	1.05
RFP12N10, BUZ20	TO-220AB	100	12.0	0.20
RFP18N10	TO-220AB	100	18.0	0.10
RFP2N12	TO-220AB	120	2.0	1.75
RFP10N12	TO-220AB	120	10.0	0.30
RFP2N15	TO-220AB	150	2.0	1.75
RFP10N15	TO-220AB	150	10.0	0.30
RFP15N15	TO-220AB	150	15.0	0.15
RFP12N20	TO-220AB	200	12.0	0.25
RFP7N40	TO-220AB	400	7.0	0.75
RFP3N45	TO-220AB	450	3.0	3.00
BUZ41A	TO-220AB	500	4.5	1.50
RFK25N20	TO-218AC	200	25.0	0.15

P-Channel

Mfr.'s Type	Package Type	Maximum Ratings		
		BV _{DS} (V)	I _{DS} (A)	R _{DS(on)} (Ω)
RFL1P08	TO-205AF	80	1.0	3.65
RFM12P08	TO-204	80	12.0	0.30
RFM8P10	TO-204	100	8.0	0.40
RFM10P12	TO-204	120	10.0	0.50
RFM10P15	TO-204	150	10.0	0.50
RFP2P08	TO-220AB	80	2.0	3.50
RFP6P08	TO-220AB	80	6.0	0.60
RFP8P08	TO-220AB	80	8.0	0.40
RFP12P08	TO-220AB	80	12.0	0.30
RFP2P10	TO-220AB	100	2.0	3.50
RFP6P10	TO-220AB	100	6.0	0.60
RFP8P10	TO-220AB	100	8.0	0.40
RFP12P10	TO-220AB	100	12.0	0.30
RFH25P08	TO-218AC	80	25.0	0.15
RFH25P10	TO-218AC	100	25.0	0.15

JEDEC MOSFETs

P-Channel, QPL Approved

Mfr.'s Type	Package Type	Maximum Ratings		
		BV _{DS} (V)	I _{DS} (A)	R _{DS(on)} (Ω)
2N6895	TO-205AF	100	1.16	3.65
2N6849	TO-205AF	100	6.50	0.30

Ultra-Fast Recovery Rectifiers

Mfr.'s Type	Package Type	Ratings	
		V _{RRM} (V)	I _{F(AVG)} (A)
RURD420	TO-251	200	4
RURD460	TO-251	600	4
MUR810	TO-220AC	100	8
MUR840	TO-220AC	400	8
RURP860	TO-220AC	600	8
RURP8120	TO-220AC	1200	8
MUR1510	TO-220AC	100	15
MUR1515	TO-220AC	150	15
MUR1520	TO-220AC	200	15
RURP1560	TO-220AC	600	15
RURP15120	TO-220AC	1200	15
RURP3060	TO-220AC	600	30
RURP30120	TO-220AC	1200	30
RURG30120	TO-247	1200	30
RUG5080	TO-247	800	50
RURU5040	TO-218†	400	50
RURU75120	TO-218†	1200	75
RURU8040	TO-218†	400	80
RURU8060	TO-218†	600	80
RURU80100	TO-218†	1000	80
RURU10060	TO-218†	600	100
RURU15060	TO-218†	600	150
RURU150100	TO-218†	1000	150
MUR1620CT	TO-220AB	200	8 × 2
RUR3020PT	TO-218AC	200	15 × 2
RUR3020CC	TO-218AC	200	30 × 2
RURG1520CC	TO-247	200	15 × 2

*2-Lead. †Single Lead.

Logic Level MOSFETs

N-Channel

Mfr.'s Type	Package Type	Maximum Ratings			
		BV _{DS} (V)	I _{DS} (A)	R _{DS(on)} (Ω)	E _{AS} (mJ)
RFL2N05L	TO-205AF	50	2.00	0.950	†‡
RFL1N08L	TO-205AF	80	1.00	1.200	†‡
RFL1N10L	TO-205AF	100	1.00	1.200	†‡
2N6901†	TO-205AF	100	1.69	1.400	†‡
RFL1N12L	TO-205AF	120	1.00	1.900	†‡
RFL1N15L	TO-205AF	150	1.00	1.900	†‡
RFL1N18L	TO-205AF	180	1.00	3.650	†‡
RFL1N20L	TO-205AF	200	0.98	3.650	†‡
RFD14N05L	TO-251AA	50	14.00	0.100	100
RFD7N10LE	TO-251AA	100	7.00	0.300	†‡
RFD14N05LSM	TO-252AA	50	14.00	0.100	100
RFD16N05LSM	TO-252AA	50	16.00	0.047	200
RFD12N06RLES	TO-252AA	60	12.00	0.135	†‡
RFP4N05L	TO-220AB	50	4.00	0.800	†‡
RFP14N05L	TO-220AB	50	14.00	0.100	100
RFP15N05L	TO-220AB	50	15.00	0.140	†‡
RFP25N05L	TO-220AB	50	25.00	0.047	200
RFP50N05L	TO-220AB	50	50.00	0.022	†‡
RFP4N06L	TO-220AB	60	4.00	0.800	†‡
RFP17N06L	TO-220AB	60	17.00	0.100	†‡
RFP25N06L	TO-220AB	60	25.00	0.085	†‡
RFP1N08L	TO-220AB	80	1.00	1.200	†‡
RFP2N08L	TO-220AB	80	2.00	1.050	†‡
RFP12N08L	TO-220AB	80	12.00	0.200	†‡
RFP2N10L	TO-220AB	100	2.00	1.050	†‡
RFP12N10L	TO-220AB	100	12.00	0.200	†‡
RFP2N12L	TO-220AB	120	2.00	1.750	†‡
RFP10N12L	TO-220AB	120	10.00	0.300	†‡
RFP10N15L	TO-220AB	150	10.00	0.300	†‡
RFP2N18L	TO-220AB	180	2.00	3.500	†‡
RFP8N18L	TO-220AB	180	8.00	0.500	†‡
RFP2N20L	TO-220AB	200	2.00	3.500	†‡
RFP8N20L	TO-220AB	200	8.00	0.500	†‡

*More complete ruggedness capability now specified; UIS current vs. time in avalanche graph on data sheet. †Not Avalanche rated for UIS capability. ‡QPL Approved.

Hyper-Fast Recovery Rectifiers

Mfr.'s Type	Package Type	Ratings	
		V _{RRM} (V)	I _{F(AVG)} (A)
RHRP1560	TO-220AC	600	15
RHRU10060	TO-218†	600	100
RHRU15060	TO-218†	600	150

†Single Lead.

Standard and Fast Recovery Rectifiers

Mfr.'s Type	Package Type	Ratings		
		V _{RRM} (V)	I _{F(AVG)} (A)	t _{rr} (μs)
A14F	DO-204	50	1	5/6
A14A	DO-204	100	1	5/6
1N5059	DO-204	200	1	5/6
1N5060	DO-204	400	1	5/6
1N5061	DO-204	600	1	5/6
1N5062	DO-204	800	1	5/6
A14P	DO-204	1000	1	5/6
1N4245	DO-204	200	1	5.00
A114A	DO-204	100	1	0.20
A114B	DO-204	200	1	0.20
A114D	DO-204	400	1	0.20
A114M	DO-204	600	1	0.20
A15F	AL-3	50	3	5.00
A15A	AL-3	100	3	5.00
1N5624	AL-3	200	3	5.00
1N5625	AL-3	400	3	5.00
1N5626	AL-3	600	3	5.00
A115A	AL-3	100	3	0.15/0.25
A115B	AL-3	200	3	0.15/0.25
A115C	AL-3	300	3	0.15/0.25
A115M	AL-3	600	3	0.15/0.25
DB1F	BR-4	50	1	—
DB1B	BR-4	200	1	—
DB1M	BR-4	600	1	—
DB1N	BR-4	800	1	—

IGBTs

Mfr.'s Type	Package Type	Maximum Ratings			
		BV _{CE(s)} (V)	I _{CS} (A)	I _{CM} (A)	t _F (μs)
HGTD6N40E1	TO-251AA	400	6	7.5	1.00
HGTD6N50E1	TO-252AA	500	6	7.5	1.00
HGTP10N50C1	TO-220AB	500	10	17.5	0.50
HGTP15N50C1	TO-220AB	500	15	35.0	0.50
HGTP20N50C1	TO-220AB	600	20	48.0	0.20
HGTP20N60B3	TO-220AB	600	20	160.0	0.60
HGTM24N60D1	TO-24AA	600	24	96.0	0.60
HGTD20N100D2	TO-247	1000	20	100.0	0.68

MEGAFET MOSFETs

N-Channel

Mfr.'s Type	Package Type	Maximum Ratings			
		BV _{DS} (V)	I _{DS} (A)	R _{DS(on)} (Ω)	E _{AS} (mJ)
RFD14N05	TO-251AA	50	14	0.100	100
RFD16N05	TO-251AA	50	16	0.047	200
RFD3055	TO-251AA	60	12	0.150	—
RFD14N05SM	TO-252AA	50	14	0.100	100
RFD16N05SM	TO-252AA	50	16	0.047	200
RFP7N03	TO-220AB	30	70	0.010	—
RFP14N05	TO-220AB	50	14	0.100	100
RFP25N05	TO-220AB	50	25	0.047	200
RFP50N05	TO-220AB	50	50	0.022	400
RFP4N06	TO-220AB	60	45	0.028	—
RFP50N06	TO-220AB	60	50	0.022	—
RFP70N06	TO-220AB	60	70	0.014	—
RFP40N10	TO-220AB	100	40	0.040	—
RFG75N05E	TO-247	50	75	0.008	800
RFG45N06	TO-247	60	45	0.028	—
RFG70N06	TO-247	60	70	0.014	—
RFG75N05E	TO-218	50	75	0.008	800

P-Channel

Mfr.'s Type	Package Type	Maximum Ratings			
		BV _{DS} (V)	I _{DS} (A)	R _{DS(on)} (Ω)	E _{AS} (mJ)
RFD8P05	TO-251AA	50	8	0.300	†
RFD15P05	TO-251AA	50	15	0.150	†
RFD8P05SM	TO-252AA	50	8	0.300	†
RFD15P05SM	TO-252AA	50	15	0.150	†
RFP8P05	TO-220AB	50	8	0.300	†
RFP15P05	TO-220AB	50	15	0.150	†
RFP30P05	TO-220AB	50	30	0.065	†
RFP30P06	TO-220AB	60	30	0.074	†
RFG60P05E	TO-247	50	60	0.026	†
RFG60P06E	TO-247	60	60	0.030	†

*More complete ruggedness capability now specified; UIS current vs. time in avalanche graph on data sheet.

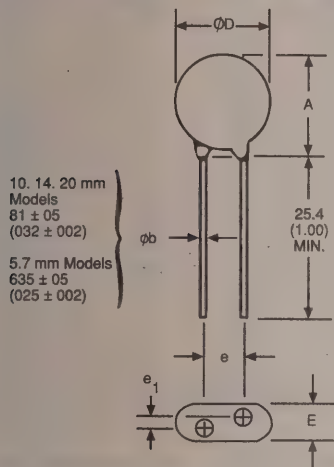
MOSFETs

N-Channel

Mfr.'s Type	Package Type	Maximum Ratings			
		BV _{DS} (V)	I _{AS} (A)	R _{DS(on)} @ 5 V (Ω)	R _{DS(on)} @ 10 V (Ω)
RF1K49090†	SOP-8	12	3.5	0.050	—
RF1K49086†	SOP-8	30	3.5	0.135	0.060
RF1K49088†	SOP-8	30	3.5	0.060	—
RLP03N06CLe†	TO-220	60	0.3*	6.000	—
RLD03N06CLe†	TO-251	60	0.3*	6.000	—
RLD03N06CLeSM†	TO-252	60	0.3*	6.000	—
RF1S45N03L†	TO-262	30	45.0	0.022	—
RF1S70N03†	TO-262	30	70.0	—	0.010
RF1S45N06†	TO-262	60	45.0	—	0.028
RF1S50N06†	TO-262	60	50.0	—	0.022
RF1S70N06†	TO-262	60	70.0	—	0.014
RF1S45N03L5M†	TO-263	30	45.0	0.022	—
RF1S70N03SM†	TO-263	30	70.0	—	0.010
RF1S45N06SM†	TO-263	60	45.0	—	0.028
RF1S50N06SM†	TO-263	60	50.0	—	0.022
RF1S70N06SM†	TO-263	60	70.0	—	0.014

Varistor Product Family Selection Guide

Peak Pulse Current (Amps)	Energy (Joules)	Maximum Steady-State Applied Voltage												Disc Sizes/Packages	
		Volts AC RMS													
		4	10	25	130	150	250	264	275	460	660	750	1000		6000
		Volts DC													
		3.5	14	35	175	200	330	365	369	615	850	970	1200		7000
25-4500	0.1-35		ZA Series											5, 7, 10, 14, 20 mm	
150-1000	0.2-25		ML Series											5 × 8, 1206, 1210, 1812	
1200-9000	11-360				"C" III, LA Series									7, 10, 14, 20 mm	



Dimensions: mm (in.)

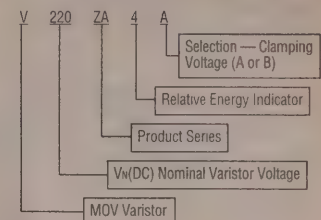
Symbol	Varistor Model Size				
	5 mm	7 mm	10 mm	14 mm	20 mm
A (Max.)†	10.0 (0.394)	11.7 (0.461)	16.0 (0.630)	18.9 (0.744)	25.5 (1.01)
ØD (Max.)	7.0 (0.296)	8.7 (0.343)	12.5 (0.492)	16.4 (0.646)	22.5 (0.886)
e ± 1 mm (.039)	5.0 (0.197)	5.0 (0.197)	7.5 (0.296)	7.5 (0.296)	7.5 (0.296)
Typ. Weight (g)	0.4	0.5	1.2	2	3

†For Models V420LA-V1000LA, A (max.) for 10, 14, 20 mm is 17.0 (.669), 20.0 (.787), 28.0 (1.10) respectively.

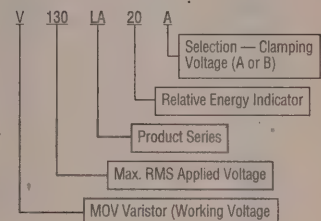
ZA and LA Series

Symbol	Varistor Model				
	V8ZA-V56ZA V120ZA-V180ZA	V66ZA-V100ZA V130LA-V320LA	V420LA V660LA	V1000LA	
e1 ± 1 mm (.039)	2.0 (.079)	2.5 (.098)	—	—	
e1 ± 1.5 mm (.059)	—	—	4.0 (.157)	7.3 (.287)	
E (Max.)	5.0 (.197)	5.6 (.220)	7.3 (.287)	10.8 (.425)	

ZA Series



LA Series



ML Series. Operating Ambient Temperature (without Derating): -55° to +125°C. Storage Temperature: -55° to +150°C. HiPot Encapsulation: NA. Voltage Temperature Coefficient (Vc at Specified Test Current): <.01%/°C. Insulation Resistance (MΩ): NA.

LA, ZA Series. Operating Ambient Temperature (without Derating): -55° to +85°C. Storage Temperature: -55° to +125°C. HiPot Encapsulation: 2500. Voltage Temperature Coefficient (Vc at Specified Test Current): <.01%/°C. Insulation Resistance (MΩ): >1000.

ZA Series

► Average Power Dissipation of Transients Not to Exceed 0.2 W, 0.25 W, 0.4 W, 0.6 W, or 1 W for Model Sizes 5 mm, 7 mm, 10 mm, 14 mm, and 20 mm Respectively

► ZA Series Varistors Are Listed Under UL File No. E135010 as a UL Recognized Component

Mfr.'s Type	Model Size Disc Dia. (mm)	Device Marking	Maximum Rating (85°C)				Characteristics (25°C)				
			Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current		Maximum Clamping Voltage 8 × 20 µs		Typical Capacitance
			RMS Volts	DC Volts	Energy 10 × 1000 µs	Peak Current 8 × 20 µs	V _{NOM} Min.	V _{NOM} Max.	V _C	I _{PK}	f=1 MHz
			Volts	Volts	Joules	Amps	Volts	Volts	Volts	Amps	Picofarads
V8ZA05	5	Z08	4	5.5	0.10	50	6.0	11.0	30	1.0	1400
V8ZA1	7	08Z1	4	5.5	0.40	100	6.0	11.0	22	2.5	3000
V8ZA2	10	08Z2	4	5.5	0.80	250	6.0	11.0	20	5.0	7500
V12ZA05	5	Z12	6	8.0	0.14	50	9.0	16.0	37	1.0	1200
V12ZA1	7	12Z1	6	8.0	0.60	100	9.0	16.0	34	2.5	2500
V12ZA2	10	12Z2	6	8.0	1.20	250	9.0	16.0	30	5.0	6000
V18ZA05	5	Z18	10	14.0	0.17	100	14.4	21.6	36	1.0	1000
V18ZA1	7	18Z1	10	14.0	0.80	250	14.4	21.6	36	2.5	2000
V18ZA2	10	18Z2	10	14.0	1.50	500	14.4	21.6	36	5.0	5000
V18ZA3	14	18Z3	10	14.0	3.50	1000	14.4	21.6	36	10.0	11000
V18ZA40	20	18Z40	10	14.0	80.00 ¹	2000	14.4 ²	21.6	37	20.0	22000
V22ZA05	5	Z22	14	18.0	0.20	100	18.7	26.0	43	1.0	800
V22ZA1	7	22Z1	14	18.0	0.90	250	18.7	26.0	43	2.5	1600
V22ZA2	10	22Z2	14	18.0	2.00	500	18.7	26.0	43	5.0	4000
V22ZA3	14	22Z3	14	18.0	4.00	1000	18.7	26.0	43	10.0	9000
V24ZA50	20	24Z50	14	18.0 ³	100.00 ¹	2000	19.2 ²	26.0	43	20.0	15000
V27ZA05	5	Z27	17	22.0	0.25	100	23.0	31.1	53	1.0	600
V27ZA1	7	27Z1	17	22.0	1.00 ¹	250	23.0	31.1	53	2.5	1300
V27ZA2	10	27Z2	17	22.0	2.50	500	23.0	31.1	53	5.0	3000
V27ZA4	14	27Z4	17	22.0	5.00	1000	23.0	31.1	53	10.0	7000
V27ZA60	20	27Z60	17	22.0	120.00 ¹	2000	23.0 ²	31.1	50	20.0	13000
V33ZA05	5	Z33	20	26.0	0.30	100	29.5	38.0	65	1.0	500
V33ZA1	7	33Z1	20	26.0	1.20	250	29.5	36.5	65	2.5	1100
V33ZA2	10	33Z2	20	26.0	3.00	500	29.5	36.5	65	5.0	2700
V33ZA5	14	33Z5	20	26.0	6.00	1000	29.5	36.5	65	10.0	6000
V33ZA70	20	33Z70	21	27.0	150.00 ¹	2000	29.5 ²	36.5	58	20.0	13000
V36ZA80	20	36Z80	23	31.0	160.00 ¹	1000	32.0 ²	40.0	63	20.0	12000
V39ZA05	5	Z39	25	31.0	0.30	250	35.0	46.0	79	1.0	500
V39ZA1	7	39Z1	25	31.0	1.20	500	35.0	43.0	79	2.5	1100
V39ZA3	10	39Z3	25	31.0	3.00	1000	35.0	43.0	76	5.0	2700
V39ZA6	14	39Z6	25	31.0	6.00	100	42.0	55.0	93	1.0	400
V47ZA05	5	Z47	30	38.0	0.40	250	42.0	52.0	93	2.5	800
V47ZA1	7	47Z1	30	38.0	1.80	500	42.0	52.0	93	5.0	2000
V47ZA3	10	47Z3	30	38.0	4.50	1000	42.0	52.0	93	10.0	4500
V47ZA7	14	47Z7	30	38.0	8.80	100	50.0	66.0	110	1.0	360
V56ZA05	5	Z56	35	45.0	0.50	250	50.0	62.0	110	2.5	700
V56ZA2	7	56Z2	35	45.0	2.30	500	50.0	62.0	110	5.0	1800
V56ZA3	10	56Z3	35	45.0	5.50	1000	50.0	62.0	110	10.0	3900
V56ZA8	14	56Z8	35	45.0	10.00	100	61.0	80.0	135	1.0	300
V68ZA05	5	Z68	40	45.0	0.60						

NOTES: ¹Energy rating for impulse duration of 30 ms minimum to one half of peak current. ²10 mA DC test current. ³Also rated to withstand 24 V for five minutes.

ZA Series (Continued)

Mfr.'s Type	Model Size Disc Dia. (mm)	Device Marking	Maximum Rating (85°C)				Characteristics (25°C)				
			Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current		Maximum Clamping Voltage 8 × 20 μs		Typical Capacitance
			RMS Volts	DC Volts	Energy 10 × 1000 μs	Peak Current 8 × 20 μs					
			V _{M(AC)}	V _{M(DC)}	W _{TM}	I _{TM}	V _{NOM} Min.	V _{NOM} Max.	V _C	I _{PK}	f=1 MHz
			Volts	Volts	Joules	Amps	Volts	Volts	Volts	Amps	Picofarads
V68ZA2	7	68Z2	40	45.0	3.00	250	61.0	75.0	135	2.5	600
V68ZA3	10	68Z3	40	68.0	6.50	500	61.0	75.0	135	5.0	1500
V68ZA10	14	68Z10	40	68.0	13.00	1000	61.0	75.0	135	10.0	3300
V82ZA05	5	Z82	50	82.0	2.00	400	73.0	97.0	135	5.0	240
V82ZA2	7	82Z2	50	82.0	4.00	1200	73.0	91.0	135	10.0	500
V82ZA4	10	82Z4	50	82.0	8.00	2500	73.0	91.0	135	25.0	1100
V82ZA12	14	82Z12	50	82.0	15.00	4500	73.0	91.0	145	50.0	2500
V100ZA05	5	Z100	60	100.0	2.50	400	90.0	117.0	165	5.0	180
V100ZA3	7	100Z	60	100.0	5.00	1200	90.0	110.0	165	10.0	400
V100ZA4	10	100Z4	60	100.0	10.00	2500	90.0	110.0	165	25.0	900
V100ZA15	14	100Z15	60	100.0	20.00	4500	90.0	110.0	175	50.0	2000
V120ZA05	5	Z120	75	26.0	3.00	400	108.0	138.0	205	5.0	140
V120ZA1	7	120Z	75	26.0	6.00	1200	108.0	132.0	205	10.0	300
V120ZA4	10	120Z4	75	26.0	12.00	2500	108.0	132.0	200	25.0	750
V120ZA6	14	120Z6	75	26.0	22.00	4500	108.0	132.0	210	50.0	1700
V150ZA05	5	Z150	92	127.0	4.00	400	135.0	173.0	250	5.0	120
V150ZA1	7	Z051	95	127.0	8.00	1200	135.0	165.0	250	10.0	250
V150ZA4	10	150Z4	95	127.0	15.00	2500	135.0	165.0	250	25.0	600
V50ZA8	14	150Z8	95	127.0	20.00	4500	135.0	165.0	250	50.0	1400
V180ZA05	5	Z180	110	153.0	5.00	400	162.0	207.0	295	5.0	100
V180ZA1	7	180Z	115	153.0	10.00	1200	162.0	198.0	300	10.0	200
V180ZA5	10	180Z5	115	153.0	18.00	2500	162.0	198.0	300	25.0	500
V180ZA10	14	180Z10	115	153.0	35.00	4500	162.0	198.0	300	50.0	1100
V220ZA05	5	Z220	140	180.0	6.00	400	198.0	253.0	360	5.0	90
V270ZA05	5	Z270	175	225.0	7.50	400	243.0	311.0	455	5.0	70
V330ZA05	5	Z330	210	275.0	9.00	400	297.0	380.0	540	5.0	60
V390ZA05	5	Z390	250	330.0	10.00	400	351.0	449.0	650	5.0	50
V430ZA05	5	Z430	275	369.0	11.00	400	387.0	495.0	710	5.0	45

LA Series

► LA Series Varistors Are Listed Under UL File No. E75961 and E56529 as a UL Recognized Component
 ► LA Series Varistors Are Listed Under CSA File No. LR91768 as a CSA Recognized Component

► Average Power Dissipation of Transients Not to Exceed 0.25 W, 0.4 W, 0.6 W or 1 W for Model Sizes 7 mm, 10 mm, 14 mm, and 20 mm Respectively

Mfr.'s Type	Model Size Disc Dia. (mm)	Device Marking	Maximum Rating (85°C)				Characteristics (25°C)				
			Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current		Maximum Clamping Voltage 8 × 20 μs		Typical Capacitance
			RMS Volts	DC Volts	Energy 10 × 1000 μs	Peak Current 8 × 20 μs					
			V _{M(AC)}	V _{M(DC)}	W _{TM}	I _{TM}	V _{NOM} Min.	V _{NOM} Max.	V _C	I _{PK}	f=1 MHz
			Volts	Volts	Joules	Amps	Volts	Volts	Volts	Amps	Picofarads
V130LA1	7	1301	130	175	11	1200	184	255	390	10	180
V130LA2	7	1302	130	175	11	1200	184	228	340	10	180
V130LA5	10	1305	130	175	20	2500	184	228	340	25	450
V130LA10A	14	130L10	130	175	38	4500	184	228	340	50	1000
V130LA20A	20	130L20	130	175	70	6500	184	228	340	100	1900
V130LA20B	20	130L20B	130	175	70	6500	184	220	325	100	1900
V140LA2	7	1402	140	180	12	1200	198	242	360	10	160
V140LA5	10	1405	140	180	22	2500	198	242	360	25	400
V140LA10A	14	140L10	140	180	42	4500	198	242	360	50	900
V150LA1	7	1501	150	200	13	1200	212	284	430	10	150
V150LA2	7	1502	150	200	13	1200	212	268	395	10	150
V150LA5	10	1505	150	200	25	2500	212	268	395	25	360
V150LA10A	14	150L10	150	200	45	4500	212	268	395	50	800
V150LA20A	20	150L20	150	200	80	6500	212	268	395	100	1600
V150LA20B	20	150L20B	150	200	80	6500	212	243	360	100	1600
V175LA2	7	1752	175	225	15	1200	247	303	455	10	130
V175LA5	10	1755	175	225	30	2500	247	303	455	25	350
V175LA10A	14	175L10	175	225	55	4500	247	303	455	50	700
V230LA4	7	2304	230	300	20	1200	324	396	595	10	100
V230LA10	10	230L	230	300	35	2500	324	396	595	25	250
V320LA20A	14	230L20	230	300	70	4500	324	396	595	50	550
V250LA2	7	2502	250	330	21	1200	354	473	730	10	90
V250LA4	7	2504	250	330	21	1200	354	429	650	10	90
V250LA10	10	250L	250	330	40	2500	354	429	650	25	220
V250LA20A	14	250L20	250	330	72	4500	354	429	650	50	500
V250LA40A	20	250L40	250	330	130	6500	354	429	650	100	1000
V250LA40B	20	250L40B	250	330	130	6500	354	413	620	100	1000
V275LA2	7	2752	275	369	23	1200	389	515	775	10	80
V275LA4	7	2754	275	369	23	1200	389	473	710	10	80
V275LA10	10	275L	275	369	45	2500	389	473	710	25	200
V275LA20A	14	275L20	275	369	75	4500	389	473	710	50	450
V275LA40A	20	275L40	275	369	140	6500	389	473	710	100	900
V275LA40B	20	275L40B	275	369	140	6500	389	453	680	100	900
V300LA2	7	3002	300	405	25	1200	420	565	870	10	70
V300LA4	7	3004	300	405	25	1200	420	517	775	10	70
V320LA20A	14	320L20	320	420	80	4500	462	565	850	50	380
V320LA40B	20	320L40	320	420	150	6500	462	540	810	100	750
V420LA10	10	420L	420	560	55	2500	610	748	1120	25	140
V420LA20A	14	420L20	420	560	90	4500	610	748	1120	50	300
V420LA40B	20	420L40	420	560	160	6500	610	720	1060	100	600
V480LA40A	14	480L40	480	640	105	4500	670	825	1240	50	270
V480LA80B	20	480L80	480	640	180	6500	670	790	1160	100	550
V510LA40A	14	510L40	510	675	110	4500	735	910	1350	50	250
V510LA80B	20	510L80	510	675	190	6500	735	860	1280	100	500
V575LA40A	14	575L40	575	730	120	4500	805	1000	1500	50	220
V575LA80B	20	575L80	575	730	220	6500	805	960	1410	100	450
V660LA10	14	660L	660	850	70	4500	940	1210	1820	50	70
V660LA50A	14	660L50	660	850	140	4500	940	1210	1820	50	200
V660LA100B	20	660L100	660	850	250	6500	940	1100	1650	100	400
V1000LA80A	14	1000L80	1000	1200	220	4500	1425	1800	2700	50	130
V1000LA160B	20	1000L160	1000	1200	360	6500	1425	1600	2420	100	250

"C" III Series

Radial Lead Metal-Oxide Varistors for the TVSS Environment

- ▶ Recognized as "Transient Voltage Surge Suppressors" to UL 1449; File #E75961
- ▶ Recognized as "Transient Voltage Surge Suppressors" to CSA C22.2, No. 1; File #LR91788
- ▶ High Energy Absorption Capability W_{tm} : 45 J to 240 J (2 ms)

The expanded version of the LA series of metal-oxide varistors, designation "C" III series, consists of AC line voltage rated MOVs with extremely high current and energy handling capabilities. This new "C" III series of MOVs were primarily designed for the transient voltage surge suppressor (TVSS) environment. They provide the increased level of protection now deemed to be necessary for the transients expected in this environment. The occurrence of high voltage transients in

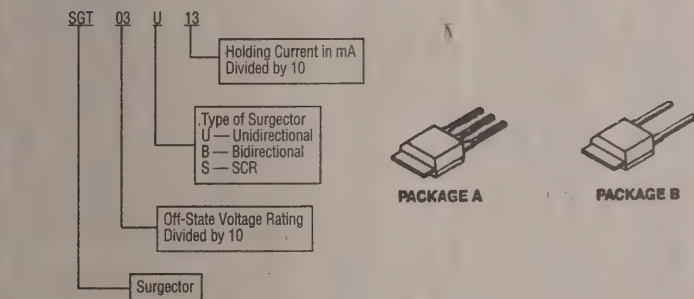
- ▶ High Peak Pulse Current Capability I_{tm} : 6000 A to 9000 A (8/20 μ s)
- ▶ Wide Operating Voltage Range $V_{M(AC)RMS}$: 130 V to 300 V
- ▶ Available in Tape and Reel for Automatic Insertion; Also Available Crimped and/or Trimmed

the AC power network can be detrimental to the associated line equipment. Such transient occurrences may cause product failure and the subsequent faulty operation of the electrical systems. This new expanded version of the Harris 20 mm LA series of metal oxide varistors is also available with 10 mm lead spacing, in tape and reel and in a variety of distinctive crimped and trimmed offerings.

Mfr.'s Type	Model Size Disc Dia. (mm)	Device Marking	Maximum Rating (85°C)				Characteristics (25°C)					
			Continuous	Transient*			Varistor Voltage @ 1 mA DC Test Current		Maximum Clamping Voltage 8 x 20 μ s		Duty Cycle Surge Rating	
			RMS Volts	Withstanding Energy (2 ms)	Peak Current 8 x 20 μ s							
			$V_{M(AC)}$	W_{tm} (J)	I_{tm1} 1 Pulse	I_{tm2} 2 Pulses	V_{nom} Min.	V_{nom} Max.	V_c	I_{pk}	3 KA (8 x 20 μ s)	750 A (8 x 20 μ s)
			Volts	Joules	Amps	Amps	Volts	Volts	Volts	Amps	# Pulses	# Pulses
V130LA10C	14	130L10C	130	45	6000	5000	184	228	340	50	10	80
V130LA20C	20	130L20C	130	90	9000	7000	184	228	340	100	20	120
V130LA20CX325	20	130LA20CX325	130	90	9000	7000	184	220	325	100	20	120
V140LA10C	14	140L10C	140	50	6000	5000	198	242	360	50	10	80
V140LA20C	20	140L20C	140	100	9000	7000	198	242	360	100	20	120
V140LA20CX340	20	140L20CX340	140	100	9000	7000	198	230	340	100	20	120
V150LA10C	14	150L10C	150	55	6000	5000	212	268	395	50	10	80
V150LA20C	20	150L20C	150	110	9000	7000	212	268	395	100	20	120
V150LA20CX360	20	150L20CX360	150	110	9000	7000	212	243	360	100	20	120
V175LA10C	14	175L10C	175	60	6000	5000	247	303	455	50	10	80
V175LA20C	20	175L20C	175	120	9000	7000	247	303	455	100	20	120
V175LA20CX425	20	175L20CX425	175	120	9000	7000	247	285	425	100	20	120
V230LA20C	14	230L20C	230	80	6000	5000	324	396	595	50	10	80
V230LA40C	20	230L40C	230	160	9000	7000	324	396	595	100	20	120
V230LA40CX570	20	230L40CX570	230	160	9000	7000	324	384	570	100	20	120
V250LA20C	14	250L20C	250	100	6000	5000	354	429	650	50	10	80
V250LA40C	20	250L40C	250	200	9000	7000	354	429	650	100	20	120
V250LA40CX620	20	250L40CX620	250	200	9000	7000	354	413	620	100	20	120
V275LA20C	14	275L20C	275	110	6000	5000	389	473	710	40	10	80
V275LA40C	20	275L40C	275	220	9000	7000	389	473	710	100	20	120
V275LA40CX680	20	275L40CX680	275	220	9000	7000	389	453	680	100	20	120
V300LA20C	14	300L20C	300	120	6000	5000	400	540	775	50	10	80
V300LA40C	20	300L40C	300	240	9000	7000	400	540	775	100	20	120
V300LA40CX745	20	300L40CX745	300	240	9000	7000	400	520	745	100	20	120

*Note: Average power dissipation of transients not to exceed 0.6 W and 1 W for model sizes 14 mm and 20 mm, respectively.

Surgecutor Products



- ▶ High Input Impedance Until Breakdown (i.e., Low Leakage)
- ▶ Repeatable Breakdown/Threshold Voltage
- ▶ High Surge Current Handling Capability
- ▶ Withstand and Respond to Rapidly Recurring Surges
- ▶ Fast Recover to High Impedance State (Turn Off)
- ▶ Dual Polarity Protection
- ▶ No Degradation of Essential Characteristics with Use
- ▶ Zener (Avalanche) Diode and SCR-Type Thyristor
- ▶ Zener Provides Continuous Low Voltage Protection
- ▶ Thyristor Provides Instantaneous Protection Against Fast Rising Transients

Provide transient protection for central office equipment, repeaters, supervisory equipment, line concentrator, switchgear equipment, receivers, data transmission, headsets, handsets, modem, EPABX, PABX, PBX, and PCM. Two bidirectional Surgecutor devices are placed between the tip and ring lines just after lines enter the telephone to protect delicate telecommunications equipment.

Mfr.'s Type	Function	V_2 Min. (V)	V_{ao} Max. (100 V/ μ s)	I_{TSM} (1 x 2 μ s)	I_{TSM} (10 x 1000 μ s)	I_n (mA)	Package Style
SGT27S10 ¹²	Var Clamp	270	1	300	100	>100	A
SGT27S23 ¹	Var Clamp	270	1	300	100	>230	A
SGT03U13 ¹	Unidirectional	30	<50	300	100	>130	B
SGT06U13 ¹	Unidirectional	60	<85	300	100	>130	B
SGT23U13 ¹	Unidirectional	230	<275	300	100	>130	B
SGT21B13	Bidirectional	210	270	300	100	>130	B
SGT23B13	Bidirectional	230	290	300	100	>130	B
SGT27B13	Bidirectional	270	345	300	100	>130	B
SGT27B13A ¹	Bidirectional	270	360	300	100	>270	B
SGT27B27 ¹	Bidirectional	270	345	600	200	>270	B
SGT27B27A ¹	Bidirectional	270	360	600	200	>270	B

NOTES: ¹Dependent on trigger circuit. ²Devices UL recognized to 497B — File Number E135010.

ML Series

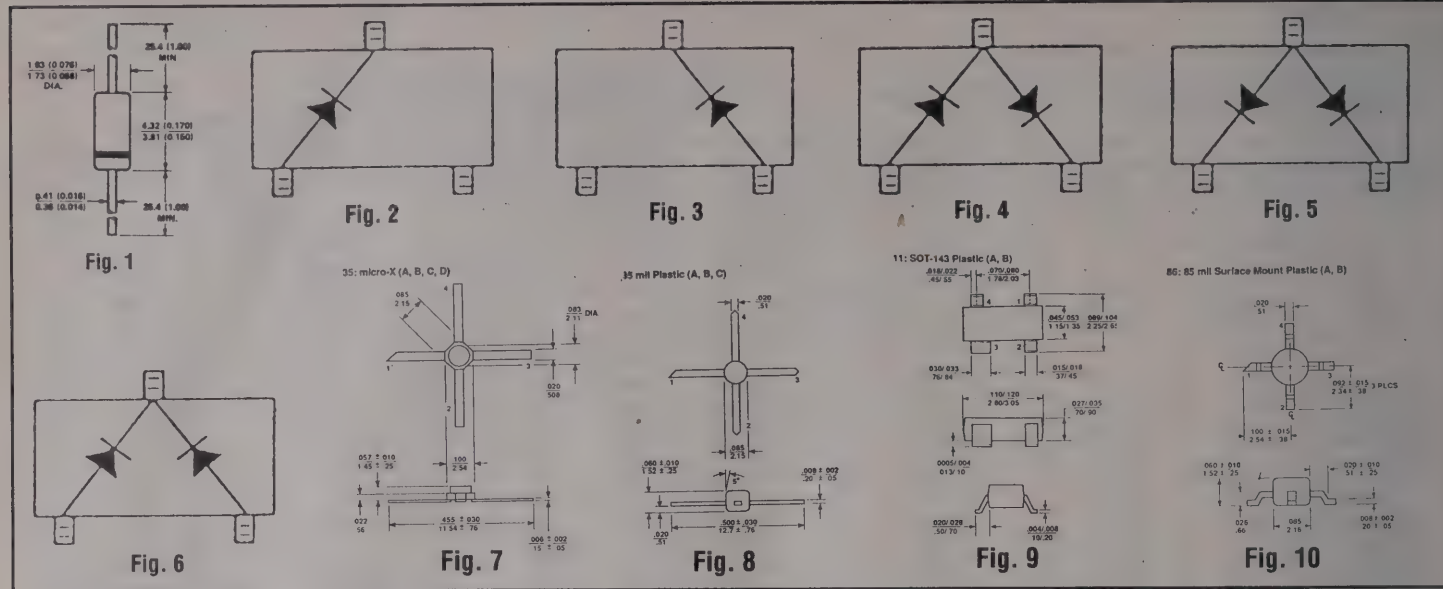
Features

- ▶ Leadless Chip Form — "Zero" Lead Inductance
 - ▶ Multilayer Construction Technology
 - ▶ -55°C to +125°C Operating Temperature Range
 - ▶ Wide Operating Voltage Range $V_{M(OC)} = 3.5$ V to 68 V
 - ▶ Broad Range of Energy Handling Capabilities
 - ▶ Low Profile, Compact Industry Standard Chip Sizes
 - ▶ Inherent Bidirectional Clamping
 - ▶ Low Capacitance Models Available
 - ▶ No Plastic or Epoxy Packaging Assures Better than 94V-0 Flammability Rating
- Applications
- ▶ On-Board Transient Voltage Protection for ICs and Transistors
 - ▶ ESD Protection for Components Sensitive to EIC 801-2, MIL-STD-3015.7
 - ▶ Replace Larger Surface Mount Zener Diodes

ML Series transient surge suppressors are designed to protect sensitive electronic devices from destruction by high voltage transients. These suppressors are designed to fail short when overstressed and protect the associated equipment. The ML suppressor is manufactured from semiconducting ceramics which offer rugged protection, excellent transient energy absorption and increased internal heat dissipation. The devices are in chip form, eliminating lead inductance and assuring fast speed of response to transient surges. These transient suppression devices have significantly smaller footprints and lower profiles than traditional TVS diodes or radial MOV's (metal oxide varistors), thus allowing designers to reduce size and weight while increasing system reliability.

Mfr.'s Type	Maximum Rating (125°C)					Characteristics (25°C)		
	Maximum Continuous Working Voltage	Maximum Nonrepetitive Surge Current (8/20 μ s)	Maximum Nonrepetitive Surge Energy (10/1000 μ s)	Max. Clamping Voltage at 10A or as noted (8/20 μ s)	Nominal Voltage @ 1 mA D-Test Current	Typical Capacitance @ f=1 MHz		
	$V_{M(OC)}$	V_M (AC)	I_{TM}	W_{TM}	V_c	$V_{M(OC)}$ Min.	$V_{M(OC)}$ Max.	C
	Volts	Volts	Amps	Joules	Volts	Volts	Volts	(pF)
V3.5MLA0805	3.5	2.5	120	0.3	10 at 5 A	3.7	5.5	2750
V3.5MLA0805L	3.5	2.5	40	0.1	10 at 2 A	3.7	5.5	1200
V3.5MLA1206	3.5	2.5	100	0.3	14	5.0	7.0	6000
V5.5MLA0805	5.5	4.0	120	0.3	15.5 at 5 A	7.1	9.3	2500
V5.5MLA0805L	5.5	4.0	40	0.1	15.5 at 2 A	7.1	9.3	1100
V5.5MLA1206	5.5	4.0	150	0.4	15.5	7.1	8.7	4500
V14MLA0805	14.0	10.0	120	0.3	30 at 5 A	15.9	20.3	1200
V14MLA0805L	14.0	10.0	40	0.1	30 at 2 A	15.9	20.3	450
V14MLA1206	14.0	10.0	150	0.4	30	16.4	20.0	2100
V18MLA0805	18.0	14.0	120	0.3	40 at 5 A	22.5	28.0	650
V18MLA0805L	18.0	14.0	40	0.1	40 at 2 A	22.5	28.0	350
V18MLA1206	18.0	14.0	150	0.4	40	22.0	27.0	1700
V18MLA1210	18.0	14.0	250	0.8	40	22.0	27.0	1900
V26MLA1206	26.0	20.0	150	0.6	56	29.5	38.5	800
V26MLA1210	26.0	20.0	250	1.2	54	29.5	38.5	1000
V33MLA1206	33.0	26.0	180	0.8	72	38.0	45.0	500
V42MLA1206	42.0	30.0	180	0.8	86	46.0	56.0	450
V56MLA1206	56.0	40.0	180	1.0	110	61.0	76.0	350
V68MLA1206	68.0	50.0	180	1.0	130	76.0	90.0	150

Notes: L suffix is a low capacitance and energy version. Typical leakage at +25°C < 50 μ A, maximum Leakage 100 μ A. Average power dissipation of transients for 0805, 1206 and 1210 sizes not to exceed 0.10 W, 0.10 W and 0.15 W, respectively. Devices specifically characterized for automotive applications also available. (See AUMLA Series).



Diodes

Stock No.	Mfr.'s Type	Fig.	Min. V_{BR} (V) @ 10 μ A	Max. Cr (pF) @ $V_R = 50V$ $\uparrow \uparrow V_R = 20V$ $\uparrow \uparrow V_R = 5V$	Max. R_s (Ω) $f = 100$ MHz $\uparrow I_F = 10mA$ $\uparrow I_F = 5mA$	Typical Lifetime t (ns) $I_F = 50mA$ $I_R = 250mA$ $I_R = 6mA$	EACH
782-6240	5082-3080	1	100	0.40	2.5	1300	1.84
782-6242	HSMP-3800*	2	100	0.35	2.5	1800	.90
782-6244	HSMP-3801*	3	100	0.35	2.5	1800	.90
782-6246	5082-3081	1	100	0.40	3.5	2500	1.99
782-6248	HSMP-3810*	2	100	0.35	4.0	1500	.51
782-6250	HSMP-3811*	3	100	0.35	4.0	1500	.51
782-6252	5082-3188	1	35	1.00 $\uparrow$	0.6 $\uparrow$	70 $\uparrow$	.71
782-6254	HSMP-3820*	2	35	1.00 $\uparrow$	0.6 $\uparrow$	70 $\uparrow$	.45
782-6256	HSMP-3821*	3	35	1.00 $\uparrow$	0.6 $\uparrow$	70 $\uparrow$	.45
782-6258	HSMP-3822*	4	35	1.00 $\uparrow$	0.6 $\uparrow$	70 $\uparrow$	.77
782-6260	HSMP-3823*	5	35	1.00 $\uparrow$	0.6 $\uparrow$	70 $\uparrow$	.77
782-6262	HSMP-3824*	6	35	1.00 $\uparrow$	0.6 $\uparrow$	70 $\uparrow$	.77
782-6264	5082-3077	1	200	0.30	1.5	100	4.20
782-6266	HSMP-3830*	2	200	0.30	1.5	500	1.85
782-6268	HSMP-3831*	3	200	0.30	1.5	500	1.85
782-6270	HSMP-3880*	2	100	0.40	6.5 $\uparrow\uparrow$	2500	2.60
782-6273	HSMP-3881*	3	100	0.40	6.5 $\uparrow\uparrow$	2500	2.60
782-6274	HSMP-3890*	2	35	0.30 $\uparrow\uparrow$	2.5 $\uparrow\uparrow$	200	.65
782-6276	HSMP-3891*	3	35	0.30 $\uparrow\uparrow$	2.5 $\uparrow\uparrow$	200	.65
782-6278	HSMP-3892*	4	35	0.30 $\uparrow\uparrow$	2.5 $\uparrow\uparrow$	200	1.05
782-6281	HSMP-3893*	5	35	0.30 $\uparrow\uparrow$	2.5 $\uparrow\uparrow$	200	1.05
782-6282	HSMP-3894*	6	35	0.30 $\uparrow\uparrow$	2.5 $\uparrow\uparrow$	200	1.05

* Stocking Items Are SOT 23 Pkg., Low Profile, Option #L30, Standard Profile, Option #T30 Is Also Available On Special Order.

Stock No.	Mfr.'s Type	Fig.	Min. V_{BR} (V) @ 10 μ A $I_{IR} = 100\mu$ A	Max. Cr (pF) @ $V_R = 0V$	Max. V_F @ 1mA (mV)	EACH
782-6284	5082-2800	1	70	2.0	410	.62
782-6286	HSMS-2800*	2	70	2.0	410	.35
782-6288	HSMS-2801*	3	70	2.0	410	.35
782-6290	HSMS-2802*	4	70	2.0	410	.50
782-6292	HSMS-2803*	5	70	2.0	410	.50
782-6294	HSMS-2804*	6	70	2.0	410	.50
782-6296	1N5711	1	70	2.0	410	.52
782-6298	5082-2810	1	20	1.2	410	1.96
782-6300	HSMS-2810*	2	20	1.2	410	.44
782-6302	HSMS-2811*	3	20	1.2	410	.44
782-6304	HSMS-2812*	4	20	1.2	410	.66
782-6306	HSMS-2813*	5	20	1.2	410	.66
782-6308	HSMS-2814*	6	20	1.2	410	.66
782-6310	1N5712	1	20	1.2	550	1.79
782-6312	5082-2835	1	8 $\uparrow$	1.0	450	.53
782-6314	HSMS-2820*	2	8 $\uparrow$	1.0	340	.35
782-6316	HSMS-2821*	3	8 $\uparrow$	1.0	340	.35
782-6318	HSMS-2822*	4	8 $\uparrow$	1.0	340	.50
782-6320	HSMS-2823*	5	8 $\uparrow$	1.0	340	.50
782-6322	HSMS-2824*	6	8 $\uparrow$	1.0	340	.50
782-6324	HSMS-2840*	2	50	2.2	410	.30
782-6326	HSMS-2841*	3	50	2.2	410	.30

Transistors

Low Noise Transistors

Stock No.	Mfr.'s Type	NF @ GHz (db)	P1dB (dBm)	Ga 1 @ GHz (dB)	Package	Fig.	EACH
782-6328	AT-41435	1.7	+19.0	17.5	micro-X Ceramic	7	5.95
782-6330	AT-41485	1.4	+18.5	17.5	85 mil Plastic	8	2.30
782-6332	AT-41411	1.4	+17.5	16.5	SOT-143 SM Plastic	9	5.95
782-6334	AT-41486	1.4	+18.5	17.5	85 mil SM Plastic	10	2.30

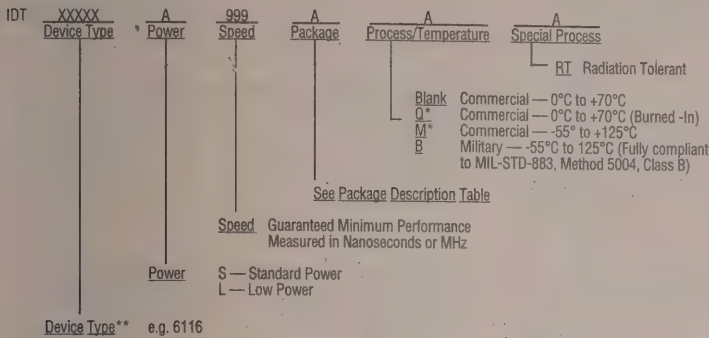
Medium Power and General Purpose Transistors

Stock No.	Mfr.'s Type	NF @ GHz (db)	P1dB (dBm)	Ga 1 @ GHz (dB)	Package	Fig.	EACH
782-6338	AT-01635	3.0	+19.0	12.0	micro-X Ceramic	7	4.30
782-6340	AT-42035	1.9	+19.0	17.0	micro-X Ceramic	7	5.25
782-6342	AT-42085	1.4	+19.0	17.0	85 mil Plastic	8	2.20
782-6346	AT-42086-BLK	1.4	+19.0	17.0	85 mil SM Plastic	10	1.30
782-6347	AT-42086-TR1	1.4	+19.0	17.0	85 mil SM Plastic	10	.78

SRAM and Dual-Port RAMs

Part Number Description

A = Alpha Character N = Numeric Character



Package Description Table

C	Ceramic Sidebraze	ML	Medium-Pitch LCC
D	Cerdip	PF	Plastic Flatpack
E	Cerpack	PG	Plastic Pin Grid Array
F	Flatpack	PQ	Plastic (Com'1 Burn-In)
G	Pin Grid Array	SO	Plastic Small Outline IC
J	Plastic Leaded Chip Carrier	TC	Sidebraze Thindip (300 MIL)
L	Leadless Chip Carrier	TD	Cerdip Thindip (300 MIL)
P	Plastic Dip	TP	Plastic Thin Dual In-Line
R	Leaded Multilayer Chip Carrier	QE	Cerquad Gull Wing
S	Sip	QJ	Cerquad J-Lead
T	Thindip (300 MIL)	XC	Sidebraze Shrink-Dip
Y	SOJ	XE	Cerpack (F11 Config. Only)
DS	Dual Sip	XL	Fine-Pitch LCC

* Consult Factory

** For Logic, the "54" Series (e.g. IDT54FCT138) — -55°C to +125°C; the "74" Series (e.g. IDT74FCT138) — 0°C to +70°C

SRAM Components

In order to provide SRAM products that meet the varying needs of its customers, IDT uses both CMOS and BiCMOS process technologies and offers 16K, 64K, 256K and 1 Meg density SRAMs in a number of speed, power and packaging configurations. SRAM cache memory provides intermediate storage between fast microprocessors and relatively slow

DRAM main memory. This serves to significantly increase overall system speed and performance in systems like personal computers based on the Intel Pentium microprocessor and the PowerPC microprocessor. IDT's new products are being designed to operate at higher speeds and provide greater levels of integration in smaller sizes.

Static RAM (SRAM)

2K × 8 High-Speed, Low-Power 16K CMOS Static RAM

Mfr.'s Type	Temperature	Speed (nS)	Package
IDT6116LA25P	C	25	24 600MIL PDIP
IDT6116LA35P	C	35	24 600MIL PDIP
IDT6116LA45P	C	45	24 600MIL PDIP
IDT6116LA20TP	C	20	24 300MIL PDIP
IDT6116LA25TP	C	25	24 300MIL PDIP
IDT6116LA35TP	C	35	24 300MIL PDIP
IDT6116LA45TP	C	45	24 300MIL PDIP

2K × 8 High-Speed, Standard-Power 16K CMOS Static RAM

IDT6116SA20P	C	20	24 600MIL PDIP
IDT6116SA25P	C	25	24 600MIL PDIP
IDT6116SA35P	C	35	24 600MIL PDIP
IDT6116SA45P	C	45	24 600MIL PDIP
IDT6116SA15TP	C	15	24 300MIL PDIP
IDT6116SA20TP	C	20	24 300MIL PDIP
IDT6116SA25TP	C	25	24 300MIL PDIP
IDT6116SA35TP	C	35	24 300MIL PDIP
IDT6116SA45TP	C	45	24 300MIL PDIP

16K × 1 High-Speed, Low-Power 16K CMOS Static RAM

IDT6167LA25P	C	25	20 300MIL PDIP
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16K × 1 High-Speed, Standard-Power 16K CMOS Static RAM

Mfr.'s Type	Temperature	Speed (nS)	Package
IDT6167SA15P	C	15	20 300MIL PDIP
IDT6167SA20P	C	20	20 300MIL PDIP
IDT6167SA25P	C	25	20 300MIL PDIP

4K × 4 High-Speed, Low-Power 16K CMOS Static RAM

IDT6168LA25P	C	25	20 300MIL PDIP
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4K × 4 High-Speed, Standard-Power 16K CMOS Static RAM

IDT6168SA15P	C	15	20 300MIL PDIP
IDT6168SA20P	C	20	20 300MIL PDIP
IDT6168SA25P	C	25	20 300MIL PDIP

8K × 8 High-Speed, Low-Power 64K CMOS Static RAM

IDT7164LA25P	C	25	28 600MIL PDIP
IDT7164LA20TP	C	20	28 300MIL PDIP

8K × 8 High-Speed, Standard-Power 64K CMOS Static RAM

Mfr.'s Type	Temperature	Speed (nS)	Package
IDT7164S25P	C	25	28 600MIL PDIP
IDT7164S15TP	C	15	28 300MIL PDIP
IDT7164S20TP	C	20	28 300MIL PDIP

32K × 8 High-Speed, Low-Power 256K CMOS Static RAM

IDT71256L35P	C	35	28 600MIL PDIP
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32K × 8 High-Speed, Standard-Power 256K CMOS Static RAM

IDT71256S25P	C	25	28 600MIL PDIP
IDT71256S35P	C	35	28 600MIL PDIP

32K × 8 High-Speed, Standard-Power 256K CMOS Static RAM

IDT71256SA12TP	C	12	28 300MIL PDIP
IDT71256SA15TP	C	15	28 300MIL PDIP

64K (8K × 8) BiCMOS SRAM

IDT71874S12TP	C	12	28 300MIL PDIP
IDT71874S15TP	C	15	28 300MIL PDIP
IDT71874S20TP	C	20	28 300MIL PDIP

Special Memory Products

Complex electronic systems which have different data transfer rates within the system or use multiple microprocessors may utilize specialty memory products, such as FIFOs and multi-port memory devices, to enhance performance. Specialty memories are frequently used to improve the flexibility and throughput of systems, including LANs and WANs.

Dual-Port RAMs

1K × 8 High-Speed, Low-Power 8K CMOS Dual-Port RAM (Master)

Mfr.'s Type	Temperature	Speed (nS)	Package
IDT7130LA35P	C	35	48 600MIL PDIP
IDT7130LA55P	C	55	48 600MIL PDIP
IDT7130LA20J	C	20	52 PLCC
IDT7130LA25J	C	25	52 PLCC
IDT7130LA35J	C	35	52 PLCC
IDT7130LA55J	C	55	52 PLCC
IDT7130LA100J	C	100	52 PLCC
IDT7130LA100PF	C	100	64 TQFP

1K × 8 High-Speed, Standard-Power 8K CMOS Dual-Port RAM (Master)

IDT7130SA35P	C	35	48 600MIL PDIP
IDT7130SA100P	C	100	48 600MIL PDIP
IDT7130SA100C	C	100	48 600MIL SDBRZ
IDT7130SA20J	C	20	52 PLCC
IDT7130SA25J	C	25	52 PLCC
IDT7130SA35J	C	35	52 PLCC
IDT7130SA55J	C	55	52 PLCC
IDT7130SA100J	C	100	52 PLCC

2K × 8 High-Speed, Low-Power 16K Dual-Port (Master) with INT

IDT7132LA25J	C	25	52 PLCC
IDT7132LA35J	C	35	52 PLCC
IDT7132LA55J	C	55	52 PLCC

2K × 8 High-Speed, Standard-Power 16K Dual-Port (Master) with INT

Mfr.'s Type	Temperature	Speed (nS)	Package
IDT7132LA25J	C	25	52 PLCC
IDT7132LA55J	C	55	52 PLCC

2K × 8 High-Speed, Low-Power 16K Dual-Port RAM (Master)

IDT7132LA35P	C	35	48 600MIL PDIP
IDT7132LA55P	C	55	48 600MIL PDIP
IDT7132LA100P	C	100	48 600MIL PDIP
IDT7132LA35C	C	35	48 600MIL SDBRZ
IDT7132LA20J	C	20	52 PLCC
IDT7132LA25J	C	25	52 PLCC
IDT7132LA35J	C	35	52 PLCC
IDT7132LA55J	C	55	52 PLCC
IDT7132LA100J	C	100	52 PLCC

2K × 8 High-Speed, Standard-Power 16K Dual-Port RAM (Master)

IDT7132SA35P	C	35	48 600MIL PDIP
IDT7132SA55P	C	55	48 600MIL PDIP
IDT7132SA100P	C	100	48 600MIL PDIP
IDT7132SA55C	C	55	48 600MIL SDBRZ
IDT7132SA100C	C	100	48 600MIL SDBRZ
IDT7132SA25J	C	25	52 PLCC
IDT7132SA35J	C	35	52 PLCC
IDT7132SA55J	C	55	52 PLCC
IDT7132SA100J	C	100	52 PLCC

2K × 16 High-Speed, Low-Power 32K Dual-Port RAM (Master)

IDT7133LA70G	C	70	68 PGA
IDT7133LA90G	C	90	68 PGA
IDT7133LA35J	C	35	68 PLCC
IDT7133LA45J	C	45	68 PLCC
IDT7133LA55J	C	55	68 PLCC
IDT7133LA90J	C	90	68 PLCC

2K × 16 High-Speed, Standard-Power 32K Dual-Port RAM (Master)

Mfr.'s Type	Temperature	Speed (nS)	Package
IDT7133SA90G	C	90	68 PGA
IDT7133SA35J	C	35	68 PLCC
IDT7133SA55J	C	55	68 PLCC
IDT7133SA70J	C	70	68 PLCC
IDT7133SA90J	C	90	68 PLCC

4K × 8 High-Speed, Low-Power 32K Dual-Port RAM with SEMAPHORE

IDT7134LA70J	C	70	52 PLCC
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4K × 8 High-Speed, Standard-Power 32K Dual-Port RAM with SEMAPHORE

IDT7134SA35J	C	35	52 PLCC
IDT7134SA45J	C	45	52 PLCC
IDT7134SA55J	C	55	52 PLCC
IDT7134SA70J	C	70	52 PLCC
IDT7134SA25PF	C	25	64 TQFP
IDT7134SA35PF	C	35	64 TQFP
IDT7134SA55PF	C	55	64 TQFP

4K × 8 High-Speed, Low-Power 32K CMOS Static RAM

IDT7134LA35P	C	35	48 600MIL PDIP
IDT7134LA45P	C	45	48 600MIL PDIP
IDT7134LA55P	C	55	48 600MIL PDIP
IDT7134LA70P	C	70	48 600MIL PDIP
IDT7134LA35J	C	35	52 PLCC
IDT7134LA45J	C	45	52 PLCC
IDT7134LA55J	C	55	52 PLCC
IDT7134LA70J	C	70	52 PLCC



Integrated Device Technology, Inc.

Dual-Port RAMs

Special Memory Products — continued

4K × 8 High-Speed, Standard-Power 32K CMOS Static RAM

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7134SA35P	C	35	48 600MIL PDip
IDT7134SA45P	C	45	48 600MIL PDip
IDT7134SA55P	C	55	48 600MIL PDip
IDT7134SA70P	C	70	48 600MIL PDip
IDT7134SA25J	C	25	52 PLCC
IDT7134SA35J	C	35	52 PLCC
IDT7134SA45J	C	45	52 PLCC
IDT7134SA55J	C	55	52 PLCC
IDT7134SA70J	C	70	52 PLCC

1K × 8 High-Speed, Low-Power 8K CMOS Dual-Port RAM (Slave)

IDT7140LA35P	C	35	48 600MIL PDip
IDT7140LA55P	C	55	48 600MIL PDip
IDT7140LA100P	C	100	48 600MIL PDip
IDT7140LA35J	C	35	52 PLCC

1K × 8 High-Speed, Standard-Power 8K CMOS Dual-Port RAM (Slave)

IDT7140SA35P	C	35	48 600MIL PDip
IDT7140SA55P	C	55	48 600MIL PDip
IDT7140SA100P	C	100	48 600MIL PDip
IDT7140SA100C	C	100	48 600MIL SDBRZ
IDT7140SA25J	C	25	52 PLCC
IDT7140SA35J	C	35	52 PLCC
IDT7140SA55J	C	55	52 PLCC
IDT7140SA100J	C	100	52 PLCC

2K × 8 High-Speed, Low-Power 16K Dual-Port (Slave) with INT

IDT7142LA35J	C	35	52 PLCC
IDT7142LA55J	C	55	52 PLCC

2K × 8 High-Speed, Standard-Power 16K Dual-Port (Slave) with INT

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7142LA35J	C	25	52 PLCC
IDT7142LA35J	C	35	52 PLCC
IDT7142LA55J	C	55	52 PLCC

2K × 8 High-Speed, Low-Power 16K Dual-Port RAM (Slave)

IDT7142LA35P	C	35	48 600MIL PDip
IDT7142LA55P	C	55	48 600MIL PDip
IDT7142LA100P	C	100	48 600MIL PDip
IDT7142LA35C	C	35	48 600MIL SDBRZ
IDT7142LA25J	C	25	52 PLCC
IDT7142LA35J	C	35	52 PLCC
IDT7142LA55J	C	55	52 PLCC
IDT7142LA100J	C	100	52 PLCC

2K × 8 High-Speed, Standard-Power 16K Dual-Port RAM (Slave)

IDT7142SA35P	C	35	48 600MIL PDip
IDT7142SA55P	C	55	48 600MIL PDip
IDT7142SA100P	C	100	48 600MIL PDip
IDT7142SA100C	C	100	48 600MIL SDBRZ
IDT7142SA25J	C	25	52 PLCC
IDT7142SA35J	C	35	52 PLCC
IDT7142SA55J	C	55	52 PLCC
IDT7142SA100J	C	100	52 PLCC

2K × 16 High-Speed, Low-Power 32K CMOS Dual-Port RAM (Slave)

IDT7143LA35J	C	35	68 PLCC
IDT7143LA55J	C	55	68 PLCC

8K × 8 High-Speed, Standard-Power 64K CMOS Dual-Port RAM

IDT7005S35G	C	35	68 PGA
IDT7005S35J	C	35	68 PLCC

2K × 9 High-Speed, Low-Power 18K Dual-Port (Master) with INT

IDT70121L25J	C	25	52 PLCC
IDT70121L35J	C	35	52 PLCC
IDT70121L55J	C	55	52 PLCC

2K × 9 High-Speed, Standard-Power 18K Dual-Port (Master) with INT

IDT70121S25J	C	25	52 PLCC
IDT70121S35J	C	35	52 PLCC
IDT70121S55J	C	55	52 PLCC

2K × 9 High-Speed, Low-Power 18K Dual-Port (Slave) with INT

IDT70125L25J	C	25	52 PLCC
IDT70125L35J	C	35	52 PLCC

2K × 9 High-Speed, Standard-Power 18K Dual-Port (Slave) with INT

IDT70125S55J	C	55	52 PLCC
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FIFOs

IDT is leading supplier of both synchronous and asynchronous FIFOs. Synchronous FIFOs are faster and provide an easier user interface than asynchronous FIFOs, which make them ideal for many of the newer networking products. IDTs offers an ultra-high performance 83MHz unidirectional sync FIFO and a 40 MHz bidirectional sync FIFO in the new space-saving 64-pin Thin Quad Flat Pack (TQFP) package.

Synchronous FIFOs

512 × 9 CMOS Synchronous FIFO W/PROG Flags

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7221L15J	C	15	32 PLCC
IDT7221L20J	C	20	32 PLCC
IDT7221L25J	C	25	32 PLCC
IDT7221L50J	C	50	32 PLCC

1K × 9 Synchronous FIFO

IDT7222L120J	C	20	32 PLCC
IDT7222L125J	C	25	32 PLCC
IDT7222L135J	C	35	32 PLCC

2K × 9 Synchronous FIFO

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7223L125J	C	25	32 PLCC
IDT7223L150J	C	50	32 PLCC

4K × 9 Synchronous FIFO

IDT7224L15J	C	15	32 PLCC
IDT7224L120J	C	20	32 PLCC
IDT7224L125J	C	25	32 PLCC
IDT7224L150J	C	50	32 PLCC

Asynchronous Unidirectional FIFOs

64 × 4 CMOS FIFO

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7240L110P	C	10 MHz	16 PDIP
IDT7240L115P	C	15 MHz	16 PDIP
IDT7240L125P	C	25 MHz	16 PDIP

64 × 5 CMOS FIFO

IDT7240L10P	C	10 MHz	18 PDIP
IDT7240L25P	C	25 MHz	18 PDIP
IDT7240L35P	C	35 MHz	18 PDIP
IDT7240L45P	C	45 MHz	18 PDIP

64 × 4 CMOS FIFO with OE

IDT7240L10P	C	10 MHz	16 PDIP
IDT7240L15P	C	15 MHz	16 PDIP
IDT7240L25P	C	25 MHz	16 PDIP

64 × 5 CMOS FIFO with OE

IDT7240L15P	C	15 MHz	18 PDIP
IDT7240L25P	C	25 MHz	18 PDIP
IDT7240L35P	C	35 MHz	18 PDIP
IDT7240L45P	C	45 MHz	18 PDIP

64 × 5 CMOS FIFO with OE and Flags

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7241L325P	C	25 MHz	20 PDIP
IDT7241L335P	C	35 MHz	20 PDIP
IDT7241L345P	C	45 MHz	20 PDIP

256 × 9 CMOS FIFO with HF Flag

IDT7200L20TP	C	20	28 300-MIL PDIP
IDT7200L25TP	C	25	28 300-MIL PDIP
IDT7200L35TP	C	35	28 300-MIL PDIP
IDT7200L50TP	C	50	28 300-MIL PDIP
IDT7200L15J	C	15	32 PLCC
IDT7200L20J	C	20	32 PLCC
IDT7200L25J	C	25	32 PLCC
IDT7200L35J	C	35	32 PLCC
IDT7200L50J	C	50	32 PLCC

512 × 9 CMOS FIFO with HF Flag

IDT7201LA15P	C	15	28 PLASTIC
IDT7201LA20P	C	20	28 PLASTIC
IDT7201LA25P	C	25	28 PLASTIC
IDT7201LA35P	C	35	28 PLASTIC
IDT7201LA50P	C	50	28 PLASTIC
IDT7201LA15TP	C	15	28 300-MIL PDIP
IDT7201LA25TP	C	25	28 300-MIL PDIP
IDT7201LA35TP	C	35	28 300-MIL PDIP

256K × 18 Synchronous FIFO

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7220SLB15J	C	15	68 PLCC
IDT7220SLB20J	C	20	68 PLCC
IDT7220SLB35J	C	35	68 PLCC
IDT7220SLB50J	C	50	68 PLCC

512 × 18 CMOS Synchronous FIFO

IDT7221SLB20J	C	20	68 PLCC
IDT7221SLB50J	C	50	68 PLCC

1K × 18 CMOS Synchronous FIFO

IDT7222SLB15J	C	15	68 PLCC
IDT7222SLB20J	C	20	68 PLCC
IDT7222SLB25J	C	25	68 PLCC
IDT7222SLB25PF	C	25	64 TQFP
IDT7222SLB35PF	C	35	64 TQFP

512 × 9 CMOS FIFO with HF Flag, Continued

Mr.'s Type	Temperature	Speed (nS)	Package
IDT7201LA50TP	C	50	28 300-MIL PDIP
IDT7201LA25D	C	25	28 CERDIP
IDT7201LA50D	C	50	28 CERDIP
IDT7201LA15J	C	15	32 PLCC
IDT7201LA25J	C	25	32 PLCC
IDT7201LA35J	C	35	32 PLCC
IDT7201LA50J	C	50	32 PLCC

1K × 9 CMOS FIFO with HF Flag

IDT7202LA15P	C	15	28 PLASTIC
IDT7202LA20P	C	20	28 PLASTIC
IDT7202LA25P	C	25	28 PLASTIC
IDT7202LA35P	C	35	28 PLASTIC
IDT7202LA50P	C	50	28 PLASTIC
IDT7202LA15TP	C	15	28 300-MIL PDIP
IDT7202LA20TP	C	20	28 300-MIL PDIP
IDT7202LA25TP	C	25	28 300-MIL PDIP
IDT7202LA35TP	C	35	28 300-MIL PDIP
IDT7202LA50TP	C	50	28 300-MIL PDIP
IDT7202LA20D	C	20	28 CERDIP
IDT7202LA25D	C	25	28 CERDIP
IDT7202LA50D	C	50	28 CERDIP
IDT7202LA15J	C	15	32 PLCC
IDT7202LA35J	C	35	32 PLCC
IDT7202LA50J	C	50	32 PLCC

2K × 9 CMOS FIFO with HF Flag

2K x 9 CMOS FIFO with HF Flag4K × 9 CMOS FIFO with HF Flag

4K × 9 CMOS FIFO with HF Flag

8K x 9 CMOS FIFO with HF Flag

16K×9 CMOS Parallel FIFO

256 × 16 CMOS Parallel-to-Serial FIFO

512 x 16 CMOS Parallel-to-Serial FIFO

1Kx16 CMOS Parallel-to-Serial FIFO

2K × 9 CMOS Parallel-In-Serial FIFO

2K x 9 CMOS Parallel-to-Serial FIFO

4K × 9 CMOS Parallel-to-Serial FIFO

4K×9 CMOS Parallel-to-Serial FIFO

High-speed, high-performance logic devices interconnect the various elements of a microprocessor-based system. IDT's 16-bit family of logic products is available in small packages, enabling board area to be reduced. These products are designed for new applications requiring high speed, small size, low power and extra low noise. IDT also has a series of 8-bit and 16-bit 3.3V logic products and a 3.3V to 5V translator circuit directed at the growing notebook and laptop computer markets.

FCT Logic

FCT Logic — Continued

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Logic Circuits — continued

FCT Logic — continued

Mr.'s Type	Description	Temp.	Package	Mr.'s Type	Description	Temp.	Package
IDT74FCT299ATP	CMOS Octal Universal Shift Register TTL VOH Levels	C	20 DIP	IDT74FCT621TP	Octal Bus Transceiver Open Collector TTL VOH Levels	C	20 DIP
IDT74FCT373P	Non-Inverting Octal Latch - CMOS VOH Levels	C	20 DIP	IDT74FCT621ATP	Octal Bus Transceiver Open Collector TTL VOH Levels	C	20 DIP
IDT74FCT373TP	Non-Inverting Octal Latch - TTL VOH Levels	C	20 DIP	IDT74FCT623TP	Octal Bus Transceiver - TTL VOH Levels	C	20 DIP
IDT74FCT373AP	Non-Inverting Octal Latch - CMOS VOH Levels	C	20 DIP	IDT74FCT623ATP	Octal Bus Transceiver - TTL VOH Levels	C	20 DIP
IDT74FCT373CTP	Non-Inverting Octal Latch - TTL VOH Levels	C	20 DIP	IDT74FCT623CTP	Octal Bus Transceiver - TTL VOH Levels	C	20 DIP
IDT74FCT373DTP	Non-Inverting Octal Latch - TTL VOH Levels	C	20 DIP	IDT74FCT640TP	Octal Bus Transceiver - TTL VOH Levels	C	20 DIP
IDT74FCT374P	Non-Inverting Octal Register CMOS VOH Levels	C	20 DIP	IDT74FCT640ATP	Inverting Octal Transceiver TTL VOH Levels	C	20 DIP
IDT74FCT374TP	Non-Inverting Octal Register TTL VOH Levels	C	20 DIP	IDT74FCT640CTP	Inverting Octal Transceiver CMOS VOH Levels	C	20 DIP
IDT74FCT374AP	Non-Inverting Octal Register CMOS VOH Levels	C	20 DIP	IDT74FCT640ATP	Inverting Octal Transceiver TTL VOH Levels	C	20 DIP
IDT74FCT374ATP	Non-Inverting Octal Register TTL VOH Levels	C	20 DIP	IDT74FCT640CTP	Inverting Octal Transceiver CMOS VOH Levels	C	20 DIP
IDT74FCT374CP	Non-Inverting Octal Register CMOS VOH Levels	C	20 DIP	IDT74FCT645P	Non-Inverting Octal Transceiver CMOS VOH Levels	C	20 DIP
IDT74FCT374CTP	Non-Inverting Octal Register TTL VOH Levels	C	20 DIP	IDT74FCT645TP	Non-Inverting Octal Transceiver TTL VOH Levels	C	20 DIP
IDT74FCT374DTP	Non-Inverting Octal Register TTL VOH Levels	C	20 DIP	IDT74FCT645AP	Non-Inverting Octal Transceiver CMOS VOH Levels	C	20 DIP
IDT74FCT377P	Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT645ATP	Non-Inverting Octal Transceiver TTL VOH Levels	C	20 DIP
IDT74FCT377TP	Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT645CP	Non-Inverting Octal Transceiver CMOS VOH Levels	C	20 DIP
IDT74FCT377AP	Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT645CTP	Non-Inverting Octal Transceiver TTL VOH Levels	C	20 DIP
IDT74FCT377ATP	Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT646P	Non-Inv. Octal Registered Transceiver CMOS VOH Levels	C	24 DIP
IDT74FCT377CTP	Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT646TP	Non-Inv. Octal Registered Transceiver TTL VOH Levels	C	24 DIP
IDT74FCT399P	Quad Dual-Port Register - CMOS VOH Levels	C	16 DIP	IDT74FCT646AP	Non-Inv. Octal Registered Transceiver CMOS VOH Levels	C	24 DIP
IDT74FCT399TP	Quad Dual-Port Register - TTL VOH Levels	C	16 DIP	IDT74FCT646ATP	Non-Inv. Octal Registered Transceiver TTL VOH Levels	C	24 DIP
IDT74FCT399AP	Quad Dual-Port Register - CMOS VOH Levels	C	16 DIP	IDT74FCT646CP	Non-Inv. Octal Registered Transceiver CMOS VOH Levels	C	24 DIP
IDT74FCT399ATP	Quad Dual-Port Register - TTL VOH Levels	C	16 DIP	IDT74FCT646CTP	Non-Inv. Octal Registered Transceiver TTL VOH Levels	C	24 DIP
IDT74FCT399CTP	Quad Dual-Port Register - TTL VOH Levels	C	16 DIP	IDT74FCT648CTP	Inverting Octal Registered Transceiver TTL VOH Levels	C	24 DIP
IDT74FCT521P	8-Bit Identity Comparator CMOS VOH Levels	C	20 DIP	IDT74FCT652TP	Octal Transceiver/Register TTL VOH Levels	C	24 DIP
IDT74FCT521TP	8-Bit Identity Comparator - TTL VOH Levels	C	20 DIP	IDT74FCT652ATP	Octal Transceiver/Register - TTL VOH Levels	C	24 DIP
IDT74FCT521AP	8-Bit Identity Comparator CMOS VOH Levels	C	20 DIP	IDT74FCT821AP	Non-Inverting 10-Bit Register CMOS VOH Levels	C	24 DIP
IDT74FCT521ATP	8-Bit Identity Comparator - TTL VOH Levels	C	20 DIP	IDT74FCT821ATP	Non-Inverting 10-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT521BP	8-Bit Identity Comparator CMOS VOH Levels	C	20 DIP	IDT74FCT821BP	Non-Inverting 10-Bit Register CMOS VOH Levels	C	24 DIP
IDT74FCT521BTP	8-Bit Identity Comparator - TTL VOH Levels	C	20 DIP	IDT74FCT821BTP	Non-Inverting 10-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT521CTP	8-Bit Identity Comparator - TTL VOH Levels	C	20 DIP	IDT74FCT821CTP	Non-Inverting 10-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT533P	Inverting Octal Transparent Latch CMOS VOH Levels	C	20 DIP	IDT74FCT823AP	Non-Inverting 9-Bit Register CMOS VOH Levels	C	24 DIP
IDT74FCT533TP	Inverting Octal Transparent Latch TTL VOH Levels	C	20 DIP	IDT74FCT823ATP	Non-Inverting 9-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT533AP	Inverting Octal Transparent Latch CMOS VOH Levels	C	20 DIP	IDT74FCT823BP	Non-Inverting 9-Bit Register CMOS VOH Levels	C	24 DIP
IDT74FCT533ATP	Inverting Octal Transparent Latch TTL VOH Levels	C	20 DIP	IDT74FCT823BTP	Non-Inverting 9-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT534P	Inverting Octal Register-CMOS VOH Levels	C	20 DIP	IDT74FCT823CTP	Non-Inverting 9-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT534TP	Inverting Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT824AP	Inverting 9-Bit Register - CMOS VOH Levels	C	24 DIP
IDT74FCT534AP	Inverting Octal Register - CMOS VOH Levels	C	20 DIP	IDT74FCT824BP	Inverting 9-Bit Register - CMOS VOH Levels	C	24 DIP
IDT74FCT534ATP	Inverting Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT825AP	Non-Inverting 8-Bit Register CMOS VOH Levels	C	24 DIP
IDT74FCT534CTP	Inverting Octal Register - TTL VOH Levels	C	20 DIP	IDT74FCT825ATP	Non-Inverting 8-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT540P	Inverting Octal Buffer/Line Driver CMOS VOH Levels	C	20 DIP	IDT74FCT825BP	Non-Inverting 8-Bit Register CMOS VOH Levels	C	24 DIP
IDT74FCT540TP	Inverting Octal Buffer/Line Driver TTL VOH Levels	C	20 DIP	IDT74FCT825BTP	Non-Inverting 8-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT540AP	Inverting Octal Buffer/Line Driver CMOS VOH Levels	C	20 DIP	IDT74FCT825CTP	Non-Inverting 8-Bit Register TTL VOH Levels	C	24 DIP
IDT74FCT540ATP	Inverting Octal Buffer/Line Driver TTL VOH Levels	C	20 DIP	IDT74FCT827AP	Non-Inverting 10-Bit Buffer CMOS VOH Levels	C	24 DIP
IDT74FCT540CTP	Inverting Octal Buffer/Line Driver TTL VOH Levels	C	20 DIP	IDT74FCT827ATP	Non-Inverting 10-Bit Buffer TTL VOH Levels	C	24 DIP
IDT74FCT541P	Non-Inverting Octal Buffer/Line Driver CMOS VOH Levels	C	20 DIP	IDT74FCT827BP	Non-Inverting 10-Bit Buffer CMOS VOH Levels	C	24 DIP
IDT74FCT541TP	Non-Inverting Octal Buffer/Line Driver TTL VOH Levels	C	20 DIP	IDT74FCT827BTP	Non-Inverting 10-Bit Buffer - TTL VOH Levels	C	24 DIP
IDT74FCT541AP	Non-Inverting Octal Buffer/Line Driver CMOS VOH Levels	C	20 DIP	IDT74FCT827CTP	Non-Inverting 10-Bit Buffer - TTL VOH Levels	C	24 DIP
IDT74FCT541ATP	Non-Inverting Octal Buffer/Line Driver TTL VOH Levels	C	20 DIP	IDT74FCT827DTP	8-Bit Transceiver W/Parity CMOS VOH Levels	C	24 DIP
IDT74FCT541CTP	Non-Inverting Octal Buffer/Line Driver TTL VOH Levels	C	20 DIP	IDT74FCT833AP	8-Bit Transceiver W/Parity - CMOS VOH Levels	C	24 DIP
IDT74FCT543P	Non-Inverting Octal Latched Transceiver CMOS VOH Levels	C	20 DIP	IDT74FCT833BP	Non-Inverting 10-Bit Latch - CMOS VOH Levels	C	24 DIP
IDT74FCT543TP	Non-Inverting Octal Latched Transceiver TTL VOH Levels	C	24 DIP	IDT74FCT841AP	Non-Inverting 10-Bit Latch - TTL VOH Levels	C	24 DIP
IDT74FCT543AP	Non-Inverting Octal Latched Transceiver CMOS VOH Levels	C	24 DIP	IDT74FCT841ATP	Non-Inverting 10-Bit Latch - CMOS VOH Levels	C	24 DIP
IDT74FCT543ATP	Non-Inverting Octal Latched Transceiver TTL VOH Levels	C	24 DIP	IDT74FCT841BP	Non-Inverting 10-Bit Latch - TTL VOH Levels	C	24 DIP
IDT74FCT543CTP	Non-Inverting Octal Latched Transceiver TTL VOH Levels	C	24 DIP	IDT74FCT841BTP	Non-Inverting 10-Bit Latch - CMOS VOH Levels	C	24 DIP
IDT74FCT573P	Non-Inverting Octal Transparent Latch CMOS VOH Levels	C	20 DIP	IDT74FCT841CTP	Non-Inverting 10-Bit Latch - TTL VOH Levels	C	24 DIP
IDT74FCT573TP	Non-Inverting Octal Transparent Latch TTL VOH Levels	C	20 DIP	IDT74FCT861AP	Non-Inverting 10-Bit Transceiver CMOS VOH Levels	C	24 DIP
IDT74FCT573AP	Non-Inverting Octal Transparent Latch CMOS VOH Levels	C	20 DIP	IDT74FCT861BP	Non-Inverting 10-Bit Transceiver CMOS VOH Levels	C	24 DIP
IDT74FCT573ATP	Non-Inverting Octal Transparent Latch TTL VOH Levels	C	20 DIP	IDT74FCT863AP	Non-Inverting 9-Bit Transceiver CMOS VOH Levels	C	24 DIP
IDT74FCT573CTP	Non-Inverting Octal Transparent Latch TTL VOH Levels	C	20 DIP	IDT74FCT863BP	Non-Inverting 9-Bit Transceiver CMOS VOH Levels	C	24 DIP
IDT74FCT573DTP	Non-Inverting Octal Transparent Latch TTL VOH Levels	C	20 DIP				
IDT74FCT574P	Octal D Register (3-State)-CMOS VOH Levels	C	20 DIP				
IDT74FCT574TP	Octal D Register (3-State) - TTL VOH Levels	C	20 DIP				
IDT74FCT574AP	Octal D Register (3-State)-CMOS VOH Levels	C	20 DIP				
IDT74FCT574ATP	Octal D Register (3-State) - TTL VOH Levels	C	20 DIP				
IDT74FCT574CTP	Octal D Register (3-State) - TTL VOH Levels	C	20 DIP				
IDT74FCT574DTP	Octal D Register (3-State) - TTL VOH Levels	C	20 DIP				

For More Information on Intel's Embedded Processors, call Intel's FaxBACK® Service at 1-800-628-2283 or Intel's Literature Center at 1-800-548-4725.

Intel Architecture Embedded Processors

The Intel architecture embedded processors offer high performance and high integration, and they are well suited for the embedded market segment.

Intel386™ Processor Family

Mfr.'s Type			Operating Frequency (MHz)	No. of I/O Pins	No. of Serial Ports	No. of Timers / Counters	Static Design	Add. Space	No. of DMA Channels	Clock Generator	Power Options	Chip Select	Interrupt Controller	DRAM Re-fresh	Operating Voltage (V)	Temperature Range (°C)	No. of Leads
Ceramic PGA	Plastic QFP	Shrink QFP															
—	NG80386SX-16	—	16	0	0	0	No	16 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	NG80386SX-20	—	20	0	0	0	No	16 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	NG80386SX-25	—	25	0	0	0	No	16 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	NG80386SX-33	—	33	0	0	0	No	16 M	0	—	—	0	—	—	5.0 V	0 to +70	100
A80386DX-16	NG80386DX-16	—	16	0	0	0	No	4 G	0	—	—	0	—	—	5.0 V	0 to +70	132
A80386DX-20	NG80386DX-20	—	20	0	0	0	No	4 G	0	—	—	0	—	—	5.0 V	0 to +70	132
A80386DX-25	NG80386DX-25	—	25	0	0	0	No	4 G	0	—	—	0	—	—	5.0 V	0 to +70	132
A80386DX-33	NG80386DX-33	—	33	0	0	0	No	4 G	0	—	—	0	—	—	5.0 V	0 to +70	132
—	KD80386SXSA-25	—	25	0	0	0	Yes	16 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	KD80386SXSA-33	—	33	0	0	0	Yes	16 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	KD80386SXSA-40	—	40	0	0	0	Yes	16 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	KD80386CXSA-25	—	25	0	0	0	Yes	64 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	KD80386CXSA-33	—	33	0	0	0	Yes	64 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	KD80386CXSA-40	—	40	0	0	0	Yes	64 M	0	—	—	0	—	—	5.0 V	0 to +70	100
—	KD80386CXSB-25	—	25	0	0	0	Yes	64 M	0	—	—	0	—	—	3.3 V	0 to +70	100
—	—	SB80386CXTA-25	25	0	0	0	Yes	64 M	0	—	—	0	—	—	5.0 V	-40 to +85	100
—	—	SB80386CXTA-33	33	0	0	0	Yes	64 M	0	—	—	0	—	—	5.0 V	-40 to +85	100
—	—	SB80386CXTB-25	25	0	0	0	Yes	64 M	0	—	—	0	—	—	3.3 V	-40 to +85	100

Intel386™ Integrated Processor Family

Mfr.'s Type		Operating Frequency (MHz)	No. of I/O Pins	No. of Serial Ports	No. of Timers / Counters	Static Design	Add. Space	No. of DMA Channels	Clock Generator	Power Options*	Chip Select	Interrupt Controller	DRAM Re-fresh	Operating Voltage (V)	Temperature Range (°C)	No. of Leads
TQFP	Plastic QFP															
FA80386EXSA-25	KU80386EXSA-25	16, 20, 25	24	3	3	Yes	64 M	2	—	PD, I	8	Yes (8259A)	Yes	3.0, 3.5, 5.0	0 to +70	FA144, KU132

*PD=Power Down, PS=Power Save, I=Idle.

Intel 186 Standard Product Family

80C186, 16-Bit External Data Bus. Includes clock generator, interrupt controller and DRAM re-fresh.

Mfr.'s Type					Operating Frequency (MHz)	No. of I/O Pins	No. of Serial Ports	No. of Timers / Counters	Static Design	Add. Space	No. of DMA Channels	Power Options*	Chip Select	Operating Voltage (V)	Temperature Range (°C)	No. of Leads
Ceramic PGA	PLCC	Ceramic LCC	QFP	SQFP												
A80C186XL-12	N80C186XL-12	R80C186XL-12	S80C186XL-12	SB80C186XL-12	12	0	0	3	Yes	1 M	2	PS	13	5.0 V	0 to +70	A68, N68, R68, S80, SB80
TA80C186XL-12	TN80C186XL-12	TR80C186XL-12	TS80C186XL-12	—	12	0	0	3	Yes	1 M	2	PS	13	5.0 V	-40 to +85	A68, N68, R68, S80
A80C186XL-20	N80C186XL-20	R80C186XL-20	S80C186XL-20	SB80C186XL-20	20	0	0	3	Yes	1 M	2	PS	13	5.0 V	0 to +70	A68, N68, R68, S80, SB80
TA80C186XL-20	TN80C186XL-20	TR80C186XL-20	TS80C186XL-20	—	20	0	0	3	Yes	1 M	2	PS	13	5.0 V	-40 to +85	A68, N68, R68, S80
A80C186XL-25	N80C186XL-25	R80C186XL-25	S80C186XL-25	SB80C186XL-25	25	0	0	3	Yes	1 M	2	PS	13	5.0 V	0 to +70	S80, SB80

80C188, 8-Bit External Data Bus. Includes clock generator, interrupt controller and DRAM re-fresh.

Ceramic PGA	PLCC	Ceramic LCC	QFP	SQFP	Operating Frequency (MHz)	No. of I/O Pins	No. of Serial Ports	No. of Timers / Counters	Static Design	Add. Space	No. of DMA Channels	Power Options*	Chip Select	Operating Voltage (V)	Temperature Range (°C)	No. of Leads
A80C188XL-12	N80C188XL-12	R80C188XL-12	S80C188XL-12	SB80C188XL-12	12	0	0	3	Yes	1 M	2	PS	13	5.0 V	0 to +70	A68, N68, R68, S80, SB80
TA80C188XL-12	TN80C188XL-12	TR80C188XL-12	TS80C188XL-12	—	12	0	0	3	Yes	1 M	2	PS	13	5.0 V	-40 to +85	A68, N68, R68, S80
A80C188XL-20	N80C188XL-20	R80C188XL-20	S80C188XL-20	SB80C188XL-20	20	0	0	3	Yes	1 M	2	PS	13	5.0 V	0 to +70	A68, N68, R68, S80, SB80
TA80C188XL-20	TN80C188XL-20	TR80C188XL-20	TS80C188XL-20	—	20	0	0	3	Yes	1 M	2	PS	13	5.0 V	-40 to +85	A68, N68, R68, S80
A80C188XL-25	N80C188XL-25	R80C188XL-25	S80C188XL-25	SB80C188XL-25	25	0	0	3	Yes	1 M	2	PS	13	5.0 V	0 to +70	S80, SB80

*PD=Power Down, PS=Power Save, I=Idle.

Intel 186 Enhanced Product Family

80C186, 16-Bit External Data Bus. Includes clock generator and DRAM re-fresh.

Mfr.'s Type				Operating Frequency (MHz)	No. of I/O Pins	No. of Serial Ports	No. of Timers / Counters	Static Design	Add. Space	No. of DMA Channels	Power Options*	Chip Select	Interrupt Controller	Operating Voltage (V)	Temperature Range (°C)	No. of Leads
PLCC	QFP	Shrink QFP	Plastic QFP													
TN80C186EA-13	TS80C186EA-13	SB80C186EA-13	—	13	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	5.0 V	-40 to +85	N68, S80, SB80
TN80C186EA-20	TS80C186EA-20	SB80C186EA-20	—	20	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	5.0 V	-40 to +85	N68, S80, SB80
N80C186EA-25	SB80C186EA-25	SB80C186EA-25	—	25	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	5.0 V	0 to +70	N68, S80, SB80
TN80C186EB-13	TS80C186EB-13	SB80C186EB-13	—	13	16	2	3	Yes	1 M	0	PD, I	10	Yes	5.0 V	-40 to +85	N68, S80, SB80
TN80C186EB-20	TS80C186EB-20	SB80C186EB-20	—	20	16	2	3	Yes	1 M	0	PD, I	10	Yes	5.0 V	-40 to +85	N68, S80, SB80
N80C186EB-25	SB80C186EB-25	SB80C186EB-25	—	25	16	2	3	Yes	1 M	0	PD, I	10	Yes	5.0 V	0 to +70	N68, S80, SB80
—	TS80C186EC-13	SB80C186EC-13	KU80C186EC-13	13	22	2	3	Yes	1 M	4	PS, PD, I	10	Yes (8259A)	5.0 V	-40 to +85	S100, SB100, KU100
—	TS80C186EC-20	SB80C186EC-20	KU80C186EC-20	20	22	2	3	Yes	1 M	4	PS, PD, I	10	Yes (8259A)	5.0 V	-40 to +85	S100, SB100, KU100

80C188, 8-Bit External Data Bus. Includes clock generator and DRAM re-fresh.

TN80C188EA-13	TS80C188EA-13	SB80C188EA-13	—	13	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	5.0 V	-40 to +85	N68, S80, SB80
TN80C188EA-20	TS80C188EA-20	SB80C188EA-20	—	20	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	5.0 V	-40 to +85	N68, S80, SB80
N80C188EA-25	SB80C188EA-25	SB80C188EA-25	—	25	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	5.0 V	0 to +70	N68, S80, SB80
—	TS80C188EC-13	SB80C188EC-13	KU80C188EC-13	13	22	2	3	Yes	1 M	4	PS, PD, I	10	Yes (8259A)	5.0 V	-40 to +85	S100, SB100, KU100
—	TS80C188EC-20	SB80C188EC-20	KU80C188EC-20	20	22	2	3	Yes	1 M	4	PS, PD, I	10	Yes (8259A)	5.0 V	-40 to +85	S100, SB100, KU100
—	SB80C188EC-25	SB80C188EC-25	KU80C188EC-25	25	22	2	3	Yes	1 M	4	PS, PD, I	10	Yes (8259A)	5.0 V	0 to +70	S100, SB100, KU100

*PD=Power Down, PS=Power Save, I=Idle.

Intel Architecture Embedded Processors (Continued)

Intel 186 Enhanced Product Family

80L186, Low Operating Voltage, 16-Bit External Data Bus. Includes Clock Generator and DRAM re-fresh.

Mfr.'s Type				Operating Frequency (MHz)	No. of I/O Pins	No. of Serial Ports	No. of Timers / Counters	Static Design	Add. Space	No. of DMA Channels	Power Options*	Chip Select	Interrupt Controller	Operating Voltage (V)	Temperature Range (°C)	No. of Leads
PLCC	QFP	Shrink QFP	Plastic QFP													
TN80L186EA-13	TS80L186EA-13	SB80L186EA-13	—	13	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	3.0 V to 5.0 V	-40 to +85	N68, S80, SB80
TN80L186EB-13	TS80L186EB-13	SB80L186EB-13	—	13	16	2	3	Yes	1 M	0	PD, I	10	Yes	3.0 V to 5.0 V	-40 to +85	N84, S80, SB80
N80L186EB-16	TS80L186EB-16	SB80L186EB-16	—	16	16	2	3	Yes	1 M	0	PD, I	10	Yes	3.0 V to 5.0 V	0 to +70	N84, S80, SB80
—	TS80L186EC-13	SB80L186EC-13	KU80L186EC-13	13	22	2	3	Yes	1 M	4	PS, PD, I	10	Yes (8259A)	3.0 V to 5.0 V	-40 to +85	S100, SB100, KU100

80L188, Low Operating Voltage, 8-Bit External Data Bus. Includes Clock Generator and DRAM re-fresh.

Mfr.'s Type				Operating Frequency (MHz)	No. of I/O Pins	No. of Serial Ports	No. of Timers / Counters	Static Design	Add. Space	No. of DMA Channels	Power Options*	Chip Select	Interrupt Controller	Operating Voltage (V)	Temperature Range (°C)	No. of Leads
PLCC	QFP	Shrink QFP	Plastic QFP													
TN80L188EA-13	TS80L188EA-13	SB80L188EA-13	—	13	0	0	3	Yes	1 M	2	PS, PD, I	13	Yes	3.0 V	-40 to +85	N68, S80, SB80
N80L188EB-16	TS80L188EB-16	SB80L188EB-16	—	16	16	2	3	Yes	1 M	0	PD, I	10	Yes	3.0 V to 5.0 V	0 to +70	N84, S80, SB80
—	TS80L188EC-13	SB80L188EC-13	KU80L188EC-13	13	22	2	3	Yes	1 M	4	PS, PD, I	10	Yes (8259A)	3.0 V to 5.0 V	-40 to +85	S100, SB100, KU100

*PD=Power Down, PS=Power Save, I=Idle.

MCS® 251 and MCS 51 Microcontrollers

Intel's 6-bit MCS 251 and MCS 51 Microcontrollers have become an industry standard for embedded control. The architecture is optimized for control oriented applications.

MCS® 251 New Architecture

Mfr.'s Type				EPROM (Bytes)	Register Ram (Bytes)	No. of Timers / Counters	No. of Serial Ports	No. of I/O Pins	Operating Frequency (MHz)	Temperature Range (°C)	Key Features
40 Lead CERDIP	44 Lead PLCC	40 Lead PDIP	44 Lead QFP								
—	N80C251SB-16	—	—	ROMLess	1 K	3	1	32	16	0 to +70	High Performance MCS251 Architecture, PCA, H/W WDT
—	N87C251SB-16	—	—	16K OTP	1 K	3	1	32	16	0 to +70	High Performance MCS251 Architecture, PCA, H/W WDT

MCS® 51 Classic

D80C31BH	N80C31BH	P80C31BH	S80C31BH	ROMLess	128	2	1	32	3.5 to 12	0 to +70	Power Save Modes
D80C31BH-1	N80C31BH-1	P80C31BH-1	S80C31BH-1	ROMLess	128	2	1	32	3.5 to 16	0 to +70	Power Save Modes
—	N80C31BH-24	P80C31BH-24	S80C31BH-24	ROMLess	128	2	1	32	3.5 to 24	0 to +70	Power Save Modes
—	N80C31BH-33	P80C31BH-33	S80C31BH-33	ROMLess	128	2	1	32	3.5 to 33	0 to +70	Power Save Modes
TD80C31BH	TN80C31BH	TP80C31BH	TS80C31BH	ROMLess	128	2	1	32	3.5 to 12	-40 to +85	Power Save Modes
—	TN80C31BH-1	TP80C31BH-1	TS80C31BH-1	ROMLess	128	2	1	32	3.5 to 16	-40 to +85	Power Save Modes
D87C51	N87C51	P87C51	S87C51	4 K EPROM	128	2	1	32	3.5 to 12	0 to +70	Three Level Memory Lock
D87C51-1	N87C51-1	P87C51-1	S87C51-1	4 K EPROM	128	2	1	32	3.5 to 16	0 to +70	Three Level Memory Lock
D87C51-20	N87C51-20	P87C51-20	S87C51-20	4 K EPROM	128	2	1	32	3.5 to 20	0 to +70	Three Level Memory Lock
TD87C51	TN87C51	TP87C51	TS87C51	4 K EPROM	128	2	1	32	3.5 to 12	-40 to +85	Three Level Memory Lock
—	TN87C51-1	TP87C51-1	TS87C51-1	4 K EPROM	128	2	1	32	3.5 to 16	-40 to +85	Three Level Memory Lock
TD87C51-20	—	—	—	4 K EPROM	128	2	1	32	3.5 to 20	-40 to +85	Three Level Memory Lock
—	N80C32	P80C32	S80C32	ROMLess	256	3	1	32	3.5 to 12	0 to +70	Up-Down Timer/Counter
—	N80C32-1	P80C32-1	S80C32-1	ROMLess	256	3	1	32	3.5 to 16	0 to +70	Up-Down Timer/Counter
—	N80C32-20	P80C32-20	—	ROMLess	256	3	1	32	3.5 to 20	0 to +70	Up-Down Timer/Counter
—	N80C32-24	P80C32-24	S80C32-24	ROMLess	256	3	1	32	3.5 to 24	0 to +70	Up-Down Timer/Counter
—	N80C32-33	P80C32-33	S80C32-33	ROMLess	256	3	1	32	3.5 to 33	0 to +70	Up-Down Timer/Counter
—	TN80C32	TP80C32	TS80C32	ROMLess	256	3	1	32	3.5 to 12	-40 to +85	Up-Down Timer/Counter
—	TN80C32-1	—	TS80C32-1	ROMLess	256	3	1	32	3.5 to 16	-40 to +85	Up-Down Timer/Counter
D87C52	N87C52	P87C52	S87C52	8 K EPROM	256	3	1	32	3.5 to 12	0 to +70	Up-Down Timer/Counter
D87C52-1	N87C52-1	P87C52-1	S87C52-1	8 K EPROM	256	3	1	32	3.5 to 16	0 to +70	Up-Down Timer/Counter
D87C52-20	N87C52-20	P87C52-20	S87C52-20	8 K EPROM	256	3	1	32	3.5 to 20	0 to +70	Up-Down Timer/Counter
—	N87C52-24	P87C52-24	S87C52-24	8 K EPROM	256	3	1	32	3.5 to 24	0 to +70	Up-Down Timer/Counter
—	N87C52-33	P87C52-33	S87C52-33	8 K EPROM	256	3	1	32	3.5 to 33	0 to +70	Up-Down Timer/Counter
TD87C52	TN87C52	—	—	8 K EPROM	256	3	1	32	3.5 to 12	-40 to +85	Up-Down Timer/Counter
—	TN87C52-1	—	—	8 K EPROM	256	3	1	32	3.5 to 16	-40 to +85	Up-Down Timer/Counter
D87C54	N87C54	P87C54	S87C54	16 K EPROM	256	3	1	32	3.5 to 12	0 to +70	Up-Down Timer/Counter
D87C54-1	N87C54-1	P87C54-1	S87C54-1	16 K EPROM	256	3	1	32	3.5 to 16	0 to +70	Up-Down Timer/Counter
D87C54-20	N87C54-20	P87C54-20	S87C54-20	16 K EPROM	256	3	1	32	3.5 to 20	0 to +70	Up-Down Timer/Counter
—	N87C54-24	P87C54-24	S87C54-24	16 K EPROM	256	3	1	32	3.5 to 24	0 to +70	Up-Down Timer/Counter
—	N87C54-33	P87C54-33	S87C54-33	16 K EPROM	256	3	1	32	3.5 to 33	0 to +70	Up-Down Timer/Counter
TD87C54	TN87C54	TP87C54	—	16 K EPROM	256	3	1	32	3.5 to 12	-40 to +85	Up-Down Timer/Counter
TD87C54-1	—	TP87C54-1	—	16 K EPROM	256	3	1	32	3.5 to 16	-40 to +85	Up-Down Timer/Counter
D87C58	N87C58	P87C58	S87C58	32 K EPROM	256	3	1	32	3.5 to 12	0 to +70	Up-Down Timer/Counter
D87C58-1	N87C58-1	P87C58-1	S87C58-1	32 K EPROM	256	3	1	32	3.5 to 16	0 to +70	Up-Down Timer/Counter
D87C58-20	N87C58-20	P87C58-20	S87C58-20	32 K EPROM	256	3	1	32	3.5 to 20	0 to +70	Up-Down Timer/Counter
—	N87C58-24	P87C58-24	S87C58-24	32 K EPROM	256	3	1	32	3.5 to 24	0 to +70	Up-Down Timer/Counter
—	N87C58-33	P87C58-33	S87C58-33	32 K EPROM	256	3	1	32	3.5 to 33	0 to +70	Up-Down Timer/Counter
—	TN87C58	—	—	32 K EPROM	256	3	1	32	3.5 to 12	-40 to +85	Up-Down Timer/Counter
—	N80C51FA	P80C51FA	S80C51FA	ROMLess	256	3	1	32	3.5 to 12	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N80C51FA-1	P80C51FA-1	S80C51FA-1	ROMLess	256	3	1	32	3.5 to 16	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N80C51FA-24	P80C51FA-24	S80C51FA-24	ROMLess	256	3	1	32	3.5 to 24	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N80C51FA-33	P80C51FA-33	S80C51FA-33	ROMLess	256	3	1	32	3.5 to 33	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
TD80C51FA	TN80C51FA	TP80C51FA	TS80C51FA	ROMLess	256	3	1	32	3.5 to 12	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out
TD80C51FA-1	TN80C51FA-1	TP80C51FA-1	TS80C51FA-1	ROMLess	256	3	1	32	3.5 to 16	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out
D87C51FA	N87C51FA	P87C51FA	S87C51FA	8 K EPROM	256	3	1	32	3.5 to 12	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
D87C51FA-1	N87C51FA-1	P87C51FA-1	S87C51FA-1	8 K EPROM	256	3	1	32	3.5 to 16	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
D87C51FA-20	N87C51FA-20	P87C51FA-20	S87C51FA-20	8 K EPROM	256	3	1	32	3.5 to 20	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N87C51FA-24	P87C51FA-24	S87C51FA-24	8 K EPROM	256	3	1	32	3.5 to 24	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N87C51FA-33	P87C51FA-33	S87C51FA-33	8 K EPROM	256	3	1	32	3.5 to 33	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
TD87C51FA	TN87C51FA	TP87C51FA	TS87C51FA	8 K EPROM	256	3	1	32	3.5 to 12	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out
TD87C51FA-1	TN87C51FA-1	TP87C51FA-1	TS87C51FA-1	8 K EPROM	256	3	1	32	3.5 to 16	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out
D87C51FB	N87C51FB	P87C51FB	S87C51FB	16 K EPROM	256	3	1	32	3.5 to 12	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
D87C51FB-1	N87C51FB-1	P87C51FB-1	S87C51FB-1	16 K EPROM	256	3	1	32	3.5 to 16	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
D87C51FB-20	N87C51FB-20	P87C51FB-20	S87C51FB-20	16 K EPROM	256	3	1	32	3.5 to 20	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N87C51FB-24	P87C51FB-24	S87C51FB-24	16 K EPROM	256	3	1	32	3.5 to 24	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N87C51FB-33	P87C51FB-33	S87C51FB-33	16 K EPROM	256	3	1	32	3.5 to 33	0 to +70	Programmable Counter Array (PCA), Prog. Clock out

MCS® 251 and MCS 51 Microcontrollers (Continued)

Intel's 8-bit MCS 251 and MCS 51 Microcontrollers have become an industry standard for embedded control. The architecture is optimized for control oriented applications.

MCS® 51 Classic (Continued)

Mr.'s Type				EPROM (Bytes)	Register Ram (Bytes)	No. of Timers/Counters	No. of Serial Ports	No. of I/O Pins	Operating Frequency (MHz)	Temperature Range (°C)	Key Features
40 Lead CERPDP	44 Lead PLCC	46 Lead PDIP	44 Lead QFP								
TD87C51FB	TN87C51FB	TP87C51FB	—	16 K EPROM	256	3	1	32	3.5 to 12	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out
TD87C51FB-1	TN87C51FB-1	TP87C51FB-1	TS87C51FB-1	16 K EPROM	256	3	1	32	3.5 to 16	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out
D87C51FC	N87C51FC	P87C51FC	S87C51FC	32 K EPROM	256	3	1	32	3.5 to 12	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
D87C51FC-1	N87C51FC-1	P87C51FC-1	S87C51FC-1	32 K EPROM	256	3	1	32	3.5 to 16	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
D87C51FC-20	N87C51FC-20	P87C51FC-20	S87C51FC-20	32 K EPROM	256	3	1	32	3.5 to 20	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N87C51FC-24	P87C51FC-24	S87C51FC-24	32 K EPROM	256	3	1	32	3.5 to 24	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
—	N87C51FC-33	P87C51FC-33	S87C51FC-33	32 K EPROM	256	3	1	32	3.5 to 33	0 to +70	Programmable Counter Array (PCA), Prog. Clock out
TD87C51FC	TN87C51FC	TP87C51FC	TS87C51FC	32 K EPROM	256	3	1	32	3.5 to 12	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out
TD87C51FC-1	TN87C51FC-1	TP87C51FC-1	—	32 K EPROM	256	3	1	32	3.5 to 16	-40 to +85	Programmable Counter Array (PCA), Prog. Clock out

MCS® 51 Low Voltage

—	N87L52	—	S87L52	8 K OTP	256	3	1	32	12.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L52-1	—	S87L52-1	8 K OTP	256	3	1	32	16.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L52-20	—	S87L52-20	8 K OTP	256	3	1	32	20.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L54	—	S87L54	16 K OTP	256	3	1	32	12.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	—	—	TS87L54	16 K OTP	256	3	1	32	12.0	-40 to +85	Low Voltage, Up-Down Timer/Counter
—	N87L54-1	—	S87L54-1	16 K OTP	256	3	1	32	16.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L54-20	—	S87L54-20	16 K OTP	256	3	1	32	20.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L58	—	S87L58	32 K OTP	256	3	1	32	12.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L58-1	—	S87L58-1	32 K OTP	256	3	1	32	16.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L58-20	—	S87L58-20	32 K OTP	256	3	1	32	20.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N80L51FA	—	S80L51FA	ROMLess	256	3	1	32	12.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N80L51FA-1	—	S80L51FA-1	ROMLess	256	3	1	32	16.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N80L51FA-20	—	S80L51FA-20	ROMLess	256	3	1	32	20.0	0 to +70	Low Voltage, Up-Down Timer/Counter
—	N87L51FA	—	S87L51FA	8 K OTP	256	3	1	32	12.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	N87L51FA-1	—	S87L51FA-1	8 K OTP	256	3	1	32	16.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	N87L51FA-20	—	S87L51FA-20	8 K OTP	256	3	1	32	20.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	N87L51FB	—	S87L51FB	16 K OTP	256	3	1	32	12.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	—	—	TS87L51FB	16 K OTP	256	3	1	32	12.0	-40 to +85	Low Voltage, PCA, Prog. Clock out
—	N87L51FB-1	—	S87L51FB-1	16 K OTP	256	3	1	32	16.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	N87L51FB-20	—	S87L51FB-20	16 K OTP	256	3	1	32	20.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	N87L51FC	—	S87L51FC	32 K OTP	256	3	1	32	12.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	N87L51FC-1	—	S87L51FC-1	32 K OTP	256	3	1	32	16.0	0 to +70	Low Voltage, PCA, Prog. Clock out
—	N87L51FC-20	—	S87L51FC-20	32 K OTP	256	3	1	32	20.0	0 to +70	Low Voltage, PCA, Prog. Clock out

MCS® 51 Expanded RAM

—	N80C51RA	—	—	ROMLess	512	3	1	32	12.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N80C51RA-1	—	—	ROMLess	512	3	1	32	16.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N80C51RA-20	—	—	ROMLess	512	3	1	32	20.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N80C51RA-24	—	—	ROMLess	512	3	1	32	24.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RA	—	—	8 K OTP	512	3	1	32	12.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RA-1	—	—	8 K OTP	512	3	1	32	16.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RA-20	—	—	8 K OTP	512	3	1	32	20.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RA-24	—	—	8 K OTP	512	3	1	32	24.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RB	—	—	16 K OTP	512	3	1	32	12.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RB-1	—	—	16 K OTP	512	3	1	32	16.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RB-20	—	—	16 K OTP	512	3	1	32	20.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RB-24	—	—	16 K OTP	512	3	1	32	24.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RC	—	—	32 K OTP	512	3	1	32	12.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RC-1	—	—	32 K OTP	512	3	1	32	16.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RC-20	—	—	32 K OTP	512	3	1	32	20.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT
—	N87C51RC-24	—	—	32 K OTP	512	3	1	32	24.0	0 to +70	Expanded RAM, PCA, Prog. Clock Out, H/W WDT

MCS 51 Application Specific

—	N80C51GB	—	—	ROMLESS	256	3	1+SEP	48	12.0	0 to +70	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	N80C51GB-1	—	—	ROMLESS	256	3	1+SEP	48	16.0	0 to +70	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	TN80C51GB	—	—	ROMLESS	256	3	1+SEP	48	12.0	-40 to +85	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	TN80C51GB-1	—	—	ROMLESS	256	3	1+SEP	48	16.0	-40 to +85	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	N87C51GB	—	—	8 K OTP	256	3	1+SEP	48	12.0	0 to +70	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	N87C51GB-1	—	—	8 K OTP	256	3	1+SEP	48	16.0	0 to +70	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	N87C51GB-20	—	—	8 K OTP	256	3	1+SEP	48	12.0	-40 to +85	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	N87C51GB-24	—	—	8 K OTP	256	3	1+SEP	48	16.0	0 to +85	8 Channel 8-bit A/D, 2 PCA, 6 I/O Ports
—	TN87C51GB-1	—	—	8 K OTP	256	2	1	40	12.0	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JA	P80C152JA	—	ROMLESS	256	2	1	40	16.5	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JA-1	P80C152JA-1	—	ROMLESS	256	2	1	56	12.0	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JB	—	—	ROMLESS	256	2	1	56	16.5	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JB-1	—	—	ROMLESS	256	2	1	40	12.0	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JC	P80C152JC	—	ROMLESS	256	2	1	40	16.5	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JC-1	P80C152JC-1	—	ROMLESS	256	2	1	56	12.0	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JD	—	—	ROMLESS	256	2	1	56	16.5	0 to +70	Multi-Protocol Serial Communication, Power Save Modes
—	N80C152JD-1	—	—	ROMLESS	256	2	1	56	16.5	0 to +70	Multi-Protocol Serial Communication, Power Save Modes

Mr.'s Type		EPROM (Bytes)	Register Ram (Bytes)	No. of Timers/Counters	No. of Serial Ports	No. of I/O Pins	Operating Frequency (MHz)	Temperature Range (°C)	Key Features
100 Lead PQFP	100 Lead SQFP								
KU80C51SLAH	SB80C51SLAH	ROMLess	256	2	1	24	16	0 to +70	Keyboard Controller, Power Save Modes
KU87C51SLAH	SB87C51SLAH	16 K OTP	256	2	1	24	16	0 to +70	Keyboard Controller, Power Save Modes
—	SB80C51SLAL	ROMLess	256	2	1	24	16	0 to +70	Low voltage, 4 Channel 8-bit A/D, Power Save Modes
—	SB87C51SLAL	16 K OTP	256	2	1	24	16	0 to +70	Low voltage, 4 Channel 8-bit A/D, Power Save Modes

For immediate help with technical questions or access to selected applications, please call the Lattice Applications Hotline.

► GAL Products: 1-800-FASTGAL (1-800-327-8425), FAX (503) 681-3037
► ispLSI and pLSI Products: 1-800-Lattice (1-800-528-8423), FAX (408) 944-8450

Lattice Electronic Bulletin Board.

► GAL Products: (503) 693-0215
► ispLSI and pLSI Products: (408) 980-9814

Generic Gate Array Logic

GAL16V8 and GAL20V8, High Performance E²CMOS PLD Generic Array Logic™

Performance ranges from the industries fastest at 5 ns T_{pd} to the popular 25 ns versions. Low power consumption with Low Power versions rated at 75 mA typical and Quarter power versions rated at 45 mA typical. 8 powerful Output Logic Macrocells (OLMCs) with 8 Product Terms each. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

Mfr.'s Type		T _{pd} (ns)	T _{su} (ns)	T _{co} (ns)	Operating Frequency MHz (max.)	I _{cc} (mA)	Low/Quarter Power	No. of Leads	Description
PLCC	PDIP								
GAL16V8C-5LJ	GAL16V8C-5LP	5.0	3.0	4.0	166.0	115	Low	Universal 20 Pin PLD	20
GAL16V8B-7LJ	GAL16V8B-7LP	7.5	7.0	5.0	100.0	115	Low	Universal 20 Pin PLD	20
GAL16V8B-10LJ	GAL16V8B-10LP	10.0	10.0	7.0	62.5	115	Low	Universal 20 Pin PLD	20
GAL16V8B-15LJ	GAL16V8B-15LP	15.0	12.0	10.0	62.5	90	Low	Universal 20 Pin PLD	20
GAL16V8B-15QJ	GAL16V8B-15QP	15.0	12.0	10.0	62.5	55	Quarter	Universal 20 Pin PLD	20
GAL16V8B-25LJ	GAL16V8B-25LP	25.0	15.0	12.0	41.6	90	Low	Universal 20 Pin PLD	20
GAL16V8B-25QJ	GAL16V8B-25QP	25.0	15.0	12.0	41.6	55	Quarter	Universal 20 Pin PLD	20
GAL20V8C-5LJ	GAL20V8C-5LP	5.0	3.0	4.0	166.0	115	Low	Universal 24 Pin PLD	28
GAL20V8B-7LJ	GAL20V8B-7LP	7.5	7.0	5.0	100.0	115	Low	Universal 24 Pin PLD	28/24
GAL20V8B-10LJ	GAL20V8B-10LP	10.0	10.0	7.0	62.5	115	Low	Universal 24 Pin PLD	28/24
GAL20V8B-15LJ	GAL20V8B-15LP	15.0	12.0	10.0	62.5	90	Low	Universal 24 Pin PLD	28/24
GAL20V8B-15QJ	GAL20V8B-15QP	15.0	12.0	10.0	62.5	55	Quarter	Universal 24 Pin PLD	28/24
GAL20V8B-25LJ	GAL20V8B-25LP	25.0	15.0	12.0	41.7	90	Low	Universal 24 Pin PLD	28/24
GAL20V8B-25QJ	GAL20V8B-25QP	25.0	15.0	12.0	41.7	55	Quarter	Universal 24 Pin PLD	28/24

GAL16V8Z and GAL20V8Z, Zero Power E²CMOS PLD Generic Logic Array™

Zero stand-by power. 50 µA I_{cc} typical stand-by power (100 µA Max.). Two power down modes: Input transition detection (Z) and Dedicated power down pin (ZD).

GAL16V8Z-12QJ	GAL16V8Z-12QP	12.0	10.0	8.0	83.3	55	Quarter	Zero Power 20 Pin PLD	20
GAL16V8Z-15QJ	GAL16V8Z-15QP	15.0	15.0	10.0	62.5	55	Quarter	Zero Power 20 Pin PLD	20
GAL16V8ZD-12QJ	GAL16V8ZD-12QP	12.0	10.0	8.0	83.3	55	Quarter	Zero Power 20 Pin PLD	20
GAL16V8ZD-15QJ	GAL16V8ZD-15QP	15.0	15.0	10.0	62.5	55	Quarter	Zero Power 20 Pin PLD	20
GAL20V8Z-12QJ	GAL20V8Z-12QP	12.0	10.0	8.0	83.3	55	Quarter	Zero Power 24 Pin PLD	28/24
GAL20V8Z-15QJ	GAL20V8Z-15QP	15.0	15.0	10.0	62.5	55	Quarter	Zero Power 24 Pin PLD	28/24
GAL20V8ZD-12QJ	GAL20V8ZD-12QP	12.0	10.0	8.0	83.3	55	Quarter	Zero Power 24 Pin PLD	28/24
GAL20V8ZD-15QJ	GAL20V8ZD-15QP	15.0	15.0	10.0	62.5	55	Quarter	Zero Power 24 Pin PLD	28/24

GAL16VP8 and GAL20VP8, High Speed E²CMOS PLD Generic Logic Array™

High output drive versions of the GAL16V8 and GAL20V8. 10L: 64 mA vs standard 24 mA. Combines GAL architecture with high drive of 74XX244 buffer families. Fast 15 ns/80 MHz performance. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

GAL16VP8-15LJ	GAL16VP8-15LP	15.0	8.0	10.0	80.0	115	Low	64 mA High Output Drive 16V8	20
GAL16VP8-25LJ	GAL16VP8-25LP	25.0	10.0	15.0	50.0	115	Low	64 mA High Output Drive 16V8	20
GAL20VP8-15LJ	GAL20VP8-15LP	15.0	8.0	10.0	80.0	115	Low	64 mA High Output Drive 20V8	28/24
GAL20VP8-25LJ	GAL20VP8-25LP	25.0	10.0	15.0	50.0	115	Low	64 mA High Output Drive 20V8	28/24

GAL22V10, High Performance E²CMOS PLD Generic Array Logic™

Available in industry leading 5 ns/200 MHz versions through 25 ns versions. Low power consumption with Low Power versions at 90 mA and Quarter Power versions at 45 mA typical. 10 OLMCs with variable Product Terms per OLMC ranging from 8 to 16 for increased logic capability. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

GAL22V10C-5LJ	—	5.0	3.0	4.0	200.0	150	Low	Universal PLD	28
GAL22V10C-7LJ	GAL22V10B-7LP	7.5	4.5/5.0	4.5	166.0	140	Low	Universal PLD	28/24
GAL22V10C-10LJ	GAL22V10B-10LP	10.0	7.0	7.0	105.0	130	Low	Universal PLD	28/24
GAL22V10B-15LJ	GAL22V10B-15LP	15.0	10.0	8.0	83.3	130	Low	Universal PLD	28/24
GAL22V10B-15QJ	GAL22V10B-15QP	15.0	10.0	8.0	83.3	55	Quarter	Universal PLD	28/24
GAL22V10B-25LJ	GAL22V10B-25LP	25.0	15.0	15.0	38.5	90	Low	Universal PLD	28/24
GAL22V10B-25QJ	GAL22V10B-25QP	25.0	15.0	15.0	38.5	55	Quarter	Universal PLD	28/24

ispGAL22V10, In-System Programmable E²CMOS PLD Generic Gate Array Logic™

Offers in-system programmability. Popular GAL22V10 architecture. Same 28-pin PLCC as the GAL22V10. Fast 7.5 ns/111 MHz performance. Unprecedented design and manufacturing flexibility. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

ispGAL22V10B-7LJ	—	7.5	6.5	5.0	111.0	140	Low	In-System Programmable 22V10	28
ispGAL22V10B-10LJ	—	10	7.0	7.0	105.0	140	Low	In-System Programmable 22V10	28
ispGAL22V10B-15LJ	—	15	10.0	8.0	83.3	140	Low	In-System Programmable 22V10	28

GAL18V10, High Performance E²CMOS PLD Generic Array Logic™

20-pin space saving subset of the popular GAL22V10. 8 to 10 Product Terms per OLMC. Ideal for printed circuit board area constrained designs. This is the only 20-pin PLD on the market. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

GAL18V10-15LJ	GAL18V10-15LP	15.0	10.0	10.0	62.5	115	Low	GAL22V10 Subset	20
GAL18V10-20LJ	GAL18V10-20LP	20.0	12.0	12.0	62.5	115	Low	GAL22V10 Subset	20

GAL26CV12, High Performance E²CMOS PLD Generic Array Logic™

Expanded logic density in a 28-pin DIP/PLCC. 28-pin superset of the popular GAL22V10. World's fastest 28-pin PLD at 7.5 ns. 26 inputs and 12 outputs. Flexible 22V10 OLMC. Fully utilized 28-pin PLCC package gives added functionality over the 22V10 at no space premium. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

GAL26CV12C-7LJ	GAL26CV12C-7LP	7.5	6.0	4.5	142.8	130	Low	22V10 Superset	28
GAL26CV12B-10LJ	GAL26CV12B-10LP	10.0	8.0	8.0	105.0	130	Low	22V10 Superset	28
GAL26CV12B-15LJ	GAL26CV12B-15LP	15.0	10.0	8.0	83.3	130	Low	22V10 Superset	28
GAL26CV12B-20LJ	GAL26CV12B-20LP	20.0	12.0	12.0	62.5	130	Low	22V10 Superset	28

GAL20RA10, High Speed Asynchronous E²CMOS PLD Generic Logic Array™

Performance ranges from 10 ns T_{pd} to 20 ns versions. Faster and lower power than bipolar PALs. Low power consumption with Low Power versions rated at 75 mA typical. 10 powerful Output Logic Macrocells (OLMCs) with independent product term clocks. 10 independently programmable clocks. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

GAL20RA10B-7LJ	—	7.5	3.0	9.0	83.3	100	Low	Asynchronous, 10 Programmable Clocks	28
GAL20RA10B-10LJ	GAL20RA10B-10LP	10.0	4.0	11.0	71.4	100	Low	Asynchronous, 10 Programmable Clocks	28/24
GAL20RA10B-15LJ	GAL20RA10B-15LP	15.0	7.0	15.0	50.0	100	Low	Asynchronous, 10 Programmable Clocks	28/24
GAL20RA10B-20LJ	GAL20RA10B-20LP	20.0	10.0	20.0	41.7	100	Low	Asynchronous, 10 Programmable Clocks	28/24
GAL20RA10B-30LJ	GAL20RA10B-30LP	30.0	20.0	30.0	25.0	100	Low	Asynchronous, 10 Programmable Clocks	28/24

GAL20XV10, High Speed E²CMOS PLD Generic Logic Array™

Utilizes powerful XOR function for efficient implementation of arithmetic functions. 10 ns/100 MHz performance significantly outperforms bipolar PALs. Perfect for fast counters, decoders, comparators, video, multimedia, and graphics applications. Replaces: PAL20L10, 20X10, 20X8, 20X4, and 20L10. V_{cc}: 5 V ±5%. Temperature Range: 0 to +75°C.

GAL20XV10B-10LJ	GAL20XV10B-10LP	10	6.0	7.0	100.0	90	Low	24 Pin XOR PLD	28/24
GAL20XV10B-15LJ	GAL20XV10B-15LP	15	6.0	7.0	83.3	90	Low	24 Pin XOR PLD	28/24
GAL20XV10B-20LJ	GAL20XV10B-20LP	20	10.0	10.0	71.4	90	Low	24 Pin XOR PLD	28/24

Generic Gate Array Logic

GAL6001 and GAL6002, High Performance E²C²MOS FPLA Generic Array Logic™

The logic density of an FPLA architecture, unprecedented in a 24/28-pin DIP/PLCC. Functional Equivalent Of 2 GAL22V10s. 38 Macrocells: 10 Input, 10 Output, 10 I/O, and 8 Buried Logic. 15 ns/75 MHz performance. Ideal for register intensive applications. The GAL6002 has Active Pull-Ups on all pins. Vcc: 5 V ±5%. Temperature Range: 0 to +75°C.

Mfr.'s Type		Tpd (ns)	Fclk (MHz)	Icc (mA)	Low/Quarter Power	Description	No. of Leads
PLCC	PDIP						
GAL6001B-30LJ	GAL6001B-30LP	30	27	150	Low	FPLA Architecture	28/24
GAL6002B-15LJ	GAL6002B-15LP	15	75	135	Low	FPLA Architecture	28/24
GAL6002B-20LJ	GAL6002B-20LP	20	60	135	Low	FPLA Architecture	28/24

ispGDS14/18/22, in-system programmable Generic Digital Switch™

This new family combines the in-system programmability, high performance and low power of Lattice's GAL programmable logic technology with a switch matrix architecture, resulting in an innovative programmable signal router. The ispGDS is a configurable switch matrix which provides the ability to quickly change p.c. board connections without changing mechanical switches or other system hardware. Vcc: 5 V ±5%. Temperature Range: 0 to +75°C.

Mfr.'s Type		Tpd (ns)	Operating Frequency MHz (max.)	Isb (mA)	Icc (mA)	Matrix Size	No. of I/O Pins	No. of Leads
PLCC	PDIP							
ispGDS14-7J	ispGDS14-7P	7.5	50	25	40	7 x 7 Programmable Switch Matrix	14	20
—	ispGDS18-7P	7.5	50	25	40	9 x 9 Programmable Switch Matrix	18	24
ispGDS22-7J	ispGDS22-7P	7.5	50	25	40	11 x 11 Programmable Switch Matrix	22	28

High Density Programmable Logic

The Lattice programmable Large Scale Integration (pLSI)™ and in-system programmable Large Scale Integration (ispLSI)™ families are the logical choice for your next design project. They're the first programmable logic devices to combine the performance and ease of use of PLDs with the density and flexibility of FPGAs. And at 135 MHz system speed, and up to 14000 PLD gates, they're the worlds fastest and highest density programmable logic devices!

pLSI and ispLSI1000: The Premier High Density Family

Mfr.'s Type		Density (PLD Gates)	Operating Frequency Fmax (MHz)	Speed Tpd (ns)	Icc (mA)	No. of Macrocells	No. of Registers	No. of Inputs and I/Os	Description	No. of Leads
PLCC	QFP									
pLSI1016-60LJ	pLSI1016-60LT*	2000	60	20.0	150	64	96	36	64 Macrocell High Density PLD	44
pLSI1016-80LJ	pLSI1016-80LT*	2000	80	15.0	150	64	96	36	64 Macrocell High Density PLD	44
pLSI1016-90LJ	pLSI1016-90LT*	2000	90	12.0	150	64	96	36	64 Macrocell High Density PLD	44
pLSI1016-110LJ	—	2000	111	10.0	150	64	96	36	64 Macrocell High Density PLD	44
ispLSI1016-60LJ	ispLSI1016-60LT*	2000	60	20.0	150	64	96	36	64 Macrocell High Density PLD	44
ispLSI1016-80LJ	ispLSI1016-80LT*	2000	80	15.0	150	64	96	36	64 Macrocell High Density PLD	44
ispLSI1016-90LJ	ispLSI1016-90LT*	2000	90	12.0	150	64	96	36	64 Macrocell High Density PLD	44
ispLSI1016-110LJ	—	2000	111	10.0	150	64	96	36	64 Macrocell High Density PLD	44
pLSI1024-60LJ	—	4000	60	20.0	190	96	144	54	96 Macrocell High Density PLD	68
pLSI1024-80LJ	—	4000	80	15.0	190	96	144	54	96 Macrocell High Density PLD	68
pLSI1024-90LJ	—	4000	90	12.0	190	96	144	54	96 Macrocell High Density PLD	68
ispLSI1024-60LJ	—	4000	60	20.0	190	96	144	54	96 Macrocell High Density PLD	68
ispLSI1024-80LJ	—	4000	80	15.0	190	96	144	54	96 Macrocell High Density PLD	68
ispLSI1024-90LJ	—	4000	90	12.0	190	96	144	54	96 Macrocell High Density PLD	68
pLSI1032-60LJ	pLSI1032-60LT*	6000	60	20.0	190	128	192	72	128 Macrocell High Density PLD	84/100
pLSI1032-80LJ	pLSI1032-80LT*	6000	80	15.0	190	128	192	72	128 Macrocell High Density PLD	84/100
pLSI1032-90LJ	pLSI1032-90LT*	6000	90	12.0	190	128	192	72	128 Macrocell High Density PLD	84/100
ispLSI1032-60LJ	ispLSI1032-60LT*	6000	60	20.0	190	128	192	72	128 Macrocell High Density PLD	84/100
ispLSI1032-80LJ	ispLSI1032-80LT*	6000	80	15.0	190	128	192	72	128 Macrocell High Density PLD	84/100
ispLSI1032-90LJ	ispLSI1032-90LT*	6000	90	12.0	190	128	192	72	128 Macrocell High Density PLD	84/100
—	pLSI1048-50LQ†	8000	50	24.0	235	192	288	106	192 Macrocell High Density PLD	120
—	pLSI1048-70LQ†	8000	70	18.0	235	192	288	106	192 Macrocell High Density PLD	120
—	pLSI1048-80LQ†	8000	80	15.0	235	192	288	106	192 Macrocell High Density PLD	120
—	ispLSI1048-50LQ†	8000	50	24.0	235	192	288	106	192 Macrocell High Density PLD	120
—	ispLSI1048-70LQ†	8000	70	18.0	235	192	288	106	192 Macrocell High Density PLD	120
—	ispLSI1048-80LQ†	8000	80	15.0	235	192	288	106	192 Macrocell High Density PLD	120
—	pLSI1048C-50LQ†	8000	50	22.0	235	192	288	108	192 Macrocell High Density PLD	128
—	pLSI1048C-70LQ†	8000	70	16.0	235	192	288	108	192 Macrocell High Density PLD	128
—	ispLSI1048C-50LQ†	8000	50	22.0	235	192	288	108	192 Macrocell High Density PLD	128
—	ispLSI1048C-70LQ†	8000	70	16.0	235	192	288	108	192 Macrocell High Density PLD	128

*Thin Quad Flat Pack. †Plastic Quad Flat Pack.

pLSI and ispLSI2000 — Unparalleled System Performance

pLSI2032-80LJ	pLSI2032-80LT*	1000	84	15.0	120	32	32	34	32 Macrocell High Density PLD	44
pLSI2032-110LJ	pLSI2032-110LT*	1000	111	10.0	120	32	32	34	32 Macrocell High Density PLD	44
pLSI2032-135LJ	pLSI2032-135LT*	1000	137	7.5	120	32	32	34	32 Macrocell High Density PLD	44
pLSI2032-150LJ	—	1000	154	5.5	150	32	32	34	32 Macrocell High Density PLD	44
ispLSI2032-80LJ	ispLSI2032-80LT*	1000	84	15.0	120	32	32	34	32 Macrocell High Density PLD	44
ispLSI2032-110LJ	ispLSI2032-110LT*	1000	111	10.0	120	32	32	34	32 Macrocell High Density PLD	44
ispLSI2032-135LJ	ispLSI2032-135LT*	1000	137	7.5	120	32	32	34	32 Macrocell High Density PLD	44
ispLSI2032-150LJ	—	1000	154	5.5	150	32	32	34	32 Macrocell High Density PLD	44
pLSI2064-80LJ	—	2000	81	15.0	175	64	64	68	64 Macrocell High Density PLD	84
pLSI2064-100LJ	—	2000	100	10.0	175	64	64	68	64 Macrocell High Density PLD	84
pLSI2064-125LJ	—	2000	125	7.5	175	64	64	68	64 Macrocell High Density PLD	84
ispLSI2064-80LJ	ispLSI2064-80LT*	2000	81	15.0	175	64	64	68	64 Macrocell High Density PLD	84/100
ispLSI2064-100LJ	ispLSI2064-100LT*	2000	100	10.0	175	64	64	68	64 Macrocell High Density PLD	84/100
ispLSI2064-125LJ	ispLSI2064-125LT*	2000	125	7.5	175	64	64	68	64 Macrocell High Density PLD	84/100

*Thin Quad Flat Pack

pLSI and ispLSI3000 — Density with Performance

—	pLSI3256-50LM**	11000	57	20.0	270	256	384	128	256 Macrocell High Density PLD	160
—	pLSI3256-70LM**	11000	77	15.0	270	256	384	128	256 Macrocell High Density PLD	160
—	ispLSI3256-50LM**	11000	57	20.0	270	256	384	128	256 Macrocell High Density PLD	160
—	ispLSI3256-70LM**	11000	77	15.0	270	256	384	128	256 Macrocell High Density PLD	160

**Metal Quad Flat Pack.

isp-SK2, isp Starter Kit

The isp Starter Kit is designed to make Lattice's innovative in-system programmable device technology available in a single, complete package. The isp Starter Kit contains all the software, hardware, device samples, and information needed to begin designing with Lattice isp products.

Features

- Easy To Use Kit Contains Everything Needed For In-System Programmable Device Design-In
- Supports Lattice's ispLSI1016 and ispLSI2032 Devices
- Supports Lattice's New ispGDS (Generic Digital Switch) For Applications Such As Multiple Dip Switch Replacement

Samples

- ispLSI2032-80LJ Device In 44 Lead PLCC
- ispGAL22V10B-15LJ Device In 28 Lead PLCC
- ispGDS14-7LJ Device In 20 Lead PLCC

Interface Products

Maxim's RS-232 and RS-485 transceivers are designed for communication interfaces where ± 12 V supplies are not available. For our RS-232 devices, on board charge pumps convert the +3 V or +5 V input to the ± 10 V needed for RS-232 levels. For our RS-485 devices, Maxim uses a proprietary low dropout output stage to provide output voltages of 2 V into

110 ohms from either 3 V or 5 V. Maxim has also upgraded the original MAX232 and MAX485 solutions, providing ± 15 KV ESD protection, +3 V and +5 V interoperability, Isolation and Autoshtutdown. Maxim continues to provide value added solutions that offer the highest performance and quality. For samples or literature call Maxim at 1-800-998-8800.

+3 V RS-232 Transceivers with 0.1 μ F External Capacitors

Mfr.'s Type			Power Supply Voltage (V)	Supply Current (μ A)	No. of RS-232 Drivers	No. of RS-232 Receivers	No. of External 0.1 μ F Capacitors	Low Power Shutdown/Three-State	True RS-232	Data Rate (kbps)	No. of Leads
PDIP	SOIC Package	SSOP Package									
MAX3222CPN	—	MAX3222CAP	+3.0 to +5.5	300	2	2	4	Yes/Yes	Yes	230	18/20
MAX3223CPN	—	MAX3223CAP	+3.0 to +5.5	1	2	2	4	Yes/Yes	Yes	230	20
MAX3232CPE	MAX3232CSE	—	+3.0 to +5.5	300	2	2	4	No/Yes	Yes	230	16
—	—	MAX3241CAI	+3.0 to +5.5	300	3	5	4	Yes/Yes	Yes	230	28
—	—	MAX3243CAI	+3.0 to +5.5	1	3	5	4	Yes/Yes	Yes	230	28

+5 V RS-232 Transceivers with 0.1 μ F External Capacitors

Mfr.'s Type			Power Supply Voltage (V)	Supply Current (mA)	No. of RS-232 Drivers	No. of RS-232 Receivers	No. of External 0.1 μ F Capacitors	Low Power Shutdown/Three-State	True RS-232	Data Rate (kbps)	No. of Leads
PDIP	150 mil SOIC	300 mil SOIC									
MAX200CPN	—	MAX200CWP	+5	7	5	0	4	Yes/No	Yes	120	20
MAX201CPD	MAX201CSD	—	+5, +9, and +13.2	400 μ A	2	2	2	No/No	Yes	120	14
MAX202CPE	MAX202CSE	MAX202CWE	+5	5	2	2	4	No/No	Yes	64	16
MAX203CPN	—	MAX203CWP	+5	5	2	2	0	No/No	Yes	120	20
MAX204CPE	—	MAX204CWE	+5	7	4	0	4	No/No	Yes	120	16
MAX205CPN	—	—	+5	7	5	5	0	Yes/Yes	Yes	120	24
MAX206CNG*	—	MAX206CWG	+5	7	4	3	4	Yes/Yes	Yes	120	24
MAX207CNG*	—	MAX207CWG	+5	7	5	3	4	No/No	Yes	120	24
MAX208CNG*	—	MAX208CWG	+5	7	4	4	4	No/No	Yes	120	24
MAX209CNG*	—	MAX209CWG	+5, +9, and +13.2	7	3	5	2	No/Yes	Yes	120	24
—	MAX211CAI**	MAX211CWI	+5	7	4	5	4	Yes/Yes	Yes	120	28
—	MAX213CAI**	MAX213CWI	+5	7	4	5	4	Yes/Yes	Yes	120	28
MAX222CPN	—	MAX222CWN	+5	4	2	2	4	Yes	Yes	200	18
MAX232ACPE	MAX232ACSE	MAX232ACWE	+5	4	2	2	4	No	Yes	200	16
MAX242CPN	—	MAX242CWN	+5	4	2	2	4	Yes	Yes	200	18
MAX243CPE	MAX243CSE	—	+5	4	2	2	4	No	Yes	200	16

*Narrow Plastic DIP. **SSOP (Shrink Small Outline Package).

+5 V RS-232 Transceivers with 1 μ F External Capacitors

Mfr.'s Type			Power Supply Voltage (V)	Supply Current (mA)	No. of RS-232 Drivers	No. of RS-232 Receivers	No. of External 1 μ F Capacitors	Shutdown and Three-State	True RS-232	Data Rate (kbps)	No. of Leads
PDIP	150 mil SOIC	300 mil SOIC									
—	MAX223CAI**	MAX223CWI	+5	7	4	5	4	Yes	Yes	120	28
MAX230CPN	—	MAX230CWP	+5	7	5	0	4	Yes	Yes	120	20
MAX231CPD	MAX231CSD	—	+5, +7.5, and +13.2	400 μ A	2	2	2	No	Yes	120	14
MAX232CPE	MAX232CSE	MAX232CWE	+5	5	2	2	4	No	Yes	120	16
MAX233CPN	—	—	+5	5	2	2	0	No	Yes	120	20
MAX233ACPP	—	MAX233ACWP	+5	4	2	2	0	No	Yes	200	20
MAX234CPE	—	MAX234CWE	+5	7	4	0	4	No	Yes	120	16
MAX235CPN	—	—	+5	7	5	5	0	Yes	Yes	120	24
MAX236CNG*	—	MAX236CWG	+5	7	4	3	4	Yes	Yes	120	24
MAX237CNG*	—	MAX237CWG	+5	7	5	3	4	No	Yes	120	24
MAX238CNG*	—	MAX238CWG	+5	7	4	4	4	No	Yes	120	24
MAX239CNG*	—	MAX239CWG	+5, +7.5, and +13.2	7	3	5	2	No	Yes	120	24
—	MAX240CMH†	—	+5	7	5	5	4	Yes	Yes	120	44
—	MAX241CAI**	MAX241CWI	+5	7	4	5	4	Yes	Yes	120	28
—	MAX248CQH‡	—	+5	11	8	8	4	Yes	Yes	120	44
—	MAX249CQH‡	—	+5	11	6	10	4	Yes	Yes	120	44

*Narrow Plastic DIP. **SSOP (Shrink Small Outline Package). †PQFP (Plastic Quad Flat Pack). ‡PLCC (Plastic Leaded Chip Carrier).

RS-232 Isolation Products

Mfr.'s Type			Power Supply Voltage (V)	Supply Current (mA)	No. of RS-232 Drivers	No. of RS-232 Receivers	No. of External Capacitors	Shutdown and Three-State	True RS-232	Data Rate (kbps)	No. of Leads
PDIP	150 mil SOIC	Module									
MAX250CPD	MAX250CSD	—	+5	100 μ A	2	2	—	Yes	Yes	120	14
MAX251CPD	MAX251CSD	—	+5	100 μ A	2	2	—	Yes	Yes	120	14
—	—	MAX252ACHL	+5	130	2	2	—	Yes	Yes	20	40
—	—	MAX252BCHL	+5	130	2	2	—	Yes	Yes	20	40

High ESD RS-232 Products, Rated at ± 15 kV

Mfr.'s Type			Power Supply Voltage (V)	Supply Current (mA)	No. of RS-232 Drivers	No. of RS-232 Receivers	No. of External Capacitors (μ F)	Shutdown and Three-State	True RS-232	Data Rate (kbps)	No. of Leads
PDIP	150 mil SOIC	300 mil SOIC									
MAX202ECPE	MAX202ECSE	MAX202ECWE	+5	8	2	2	4 $\times$ 0.1	Yes	Yes	120	16
—	MAX211ECAI**	—	+5	14	4	5	4 $\times$ 0.1	Yes	Yes	120	28
—	MAX213ECAI**	—	+5	14	4	5	4 $\times$ 0.1	Yes	Yes	120	28
MAX232ECPE	MAX232ECSE	MAX232ECWE	+5	5	2	2	4 $\times$ 1.0	Yes	Yes	120	16
—	MAX241ECAI**	—	+5	7	4	5	4 $\times$ 1.0	Yes	Yes	120	28

**SSOP (Shrink Small Outline Package).

+5 V RS-485/RS-422 Products

Mfr.'s Type		Power Supply Voltage (V)	Supply Current (μ A)	Shutdown Supply Current (μ A)	No. of RS-485 Drivers	No. of RS-485 Receivers	No. of RX/TX on Bus	Duplex	Data Rate (Mbps)	No. of Leads
PDIP	150 mil SOIC									
MAX1487CPA	MAX1487CSA	+5	250	300	1	1	128	Half	2.50	8
MAX481CPA	MAX481CSA	+5	500	1	1	1	32	Half	2.50	8
MAX483CPA	MAX483CSA	+5	350	1	1	1	32	Half	0.25	8
MAX485CPA	MAX485CSA	+5	500	300	1	1	32	Half	2.50	8
MAX487CPA	MAX487CSA	+5	250	1	1	1	128	Half	0.25	8
MAX488CPA	MAX488CSA	+5	350	—	1	1	32	Full	0.25	8
MAX489CPD	MAX489CSD	+5	350	1	1	1	32	Full	0.25	14
MAX490CPD	MAX490CSD	+5	500	—	1	1	32	Full	2.50	8
MAX491CPD	MAX491CSD	+5	500	300	1	1	32	Full	2.50	14

Interface Products — Continued

+3 V (+3.0 V to 3.6 V) RS-485/RS-422 Products

Mfr.'s Type		Power Supply Voltage (V)	Supply Current (mA)	Shutdown Supply Current (µA)	No. of RS-485 Drivers	No. of RS-485 Receivers	No. of RX/TX on Bus	Duplex	Data Rate (Mbps)	No. of Leads
PDIP	150 mil SOIC									
MAX3483CPA	MAX3483CSA	+3	1	1	1	1	32	Half	0.25	8
MAX3485CPA	MAX3485CSA	+3	1	1	1	1	32	Half	10.00	8
MAX3486CPA	MAX3486CSA	+3	1	1	1	1	32	Half	2.50	8
MAX3488CPA	MAX3488CSA	+3	1	—	1	1	32	Full	0.25	8
MAX3490CPA	MAX3490CSA	+3	1	—	1	1	32	Full	10.00	8
MAX3491CPD	MAX3491CSD	+3	1	1	1	1	32	Full	10.00	14

RS-485 Isolation Products

Mfr.'s Type		Power Supply Voltage (V)	Supply Current (mA)	Shutdown Supply Current (µA)	Isolated Power (mW)	Isolation Voltage (V)	No. of RS-485 Drivers	No. of RS-485 Receivers	Full Duplex	Data Rate (Mbps)	No. of Leads
PDIP	150 mil SOIC										
MAX1480ACP	—	+5	10	1	—	1500	1	1	No	2.50	28
MAX1480BCP	—	+5	10	1	—	1500	1	1	No	0.25	28
—	MAX253CSA	+5	5	1	750	—	—	—	—	—	8

Switches

Mfr.'s Type	Device Type	R _{DS(ON)} (W) Max.	Switch "ON" (V)	Switch "OFF" (V)	Technology	I _{OFF} Typ. (±nA)	T _{ON} Typ. (nS)	T _{OFF} Typ. (nS)	Features
DG401DJ	Dual Single Pole Single Throw	45	2.4	0.8	44 V CMOS	0.01	100	60	Very Low R _{DS(ON)}
DG401DY	Dual Single Pole Single Throw	45	2.4	0.8	44 V CMOS	0.01	100	60	Very Low R _{DS(ON)}
DG403DJ	Dual Single Pole Double Throw	45	2.4	0.8	44 V CMOS	0.01	100	60	Very Low R _{DS(ON)}
DG403DY	Dual Single Pole Double Throw	45	2.4	0.8	44 V CMOS	0.01	100	60	Very Low R _{DS(ON)}
DG405DJ	Dual Double Pole Single Throw	45	2.4	0.8	44 V CMOS	0.01	100	60	Very Low R _{DS(ON)}
DG405DY	Dual Double Pole Single Throw	45	2.4	0.8	44 V CMOS	0.01	100	60	Very Low R _{DS(ON)}
DG411DJ	Quad Single Pole Single Throw	35	2.4	0.8	44 V CMOS	0.01	110	100	Very Low R _{DS(ON)} , Low QJ
DG411DY	Quad Single Pole Single Throw	35	2.4	0.8	44 V CMOS	0.01	110	100	Very Low R _{DS(ON)} , Low QJ
DG412DJ	Quad Single Pole Single Throw	35	0.8	2.4	44 V CMOS	0.01	110	100	Very Low R _{DS(ON)} , Low QJ
DG412DY	Quad Single Pole Single Throw	35	0.8	2.4	44 V CMOS	0.01	110	100	Very Low R _{DS(ON)} , Low QJ
DG413DJ	Quad Single Pole Single Throw	35	2.4	0.8	44 V CMOS	0.01	110	100	Very Low R _{DS(ON)} , Low QJ
DG413DY	Quad Single Pole Single Throw	35	2.4	0.8	44 V CMOS	0.01	110	100	Very Low R _{DS(ON)} , Low QJ
DG441DJ	Quad Single Pole Single Throw	85	0.8	2.4	44 V CMOS	0.01	150	90	Low R _{DS(ON)} , Low QJ
DG441DY	Quad Single Pole Single Throw	85	0.8	2.4	44 V CMOS	0.01	150	90	Low R _{DS(ON)} , Low QJ
DG442DJ	Quad Single Pole Single Throw	85	2.4	0.8	44 V CMOS	0.01	150	110	Low R _{DS(ON)} , Low QJ
DG442DY	Quad Single Pole Single Throw	85	2.4	0.8	44 V CMOS	0.01	150	110	Low R _{DS(ON)} , Low QJ
DG444DJ	Quad Single Pole Single Throw	85	0.8	2.4	44 V CMOS	0.01	150	90	Low R _{DS(ON)} , Low QJ
DG444DY	Quad Single Pole Single Throw	85	0.8	2.4	44 V CMOS	0.01	150	90	Low R _{DS(ON)} , Low QJ
DG445DJ	Quad Single Pole Single Throw	85	2.4	0.8	44 V CMOS	0.01	150	110	Low R _{DS(ON)} , Low QJ
DG445DY	Quad Single Pole Single Throw	85	2.4	0.8	44 V CMOS	0.01	150	110	Low R _{DS(ON)} , Low QJ
MAX320CSA	Dual Single Pole Single Throw	35	3.5	2.5	17 V LVCMOS	0.01	65	35	±5 V Supplies
MAX320CUA	Dual Single Pole Single Throw	35	3.5	2.5	17 V LVCMOS	0.01	65	35	µMAX Package
MAX321CSA	Dual Single Pole Single Throw	35	3.5	2.5	17 V LVCMOS	0.01	65	35	±5 V Supplies
MAX321CUA	Dual Single Pole Single Throw	35	3.5	2.5	17 V LVCMOS	0.01	65	35	µMAX Package
MAX322CSA	Dual Single Pole Single Throw	35	3.5	2.5	17 V LVCMOS	0.01	65	35	±5 V Supplies
MAX322CUA	Dual Single Pole Single Throw	35	3.5	2.5	17 V LVCMOS	0.01	65	35	µMAX Package
MAX323CSA	Dual Single Pole Single Throw	60	2.4	0.8	17 V LVCMOS	0.01	85	25	Single +2.7 V Supply
MAX323CUA	Dual Single Pole Single Throw	60	2.4	0.8	17 V LVCMOS	0.01	85	25	µMAX Package
MAX324CSA	Dual Single Pole Single Throw	60	0.8	2.4	17 V LVCMOS	0.01	85	25	Single +2.7 V Supply
MAX324CUA	Dual Single Pole Single Throw	60	0.8	2.4	17 V LVCMOS	0.01	85	25	µMAX Package
MAX325CSA	Dual Single Pole Single Throw	60	—	—	17 V LVCMOS	0.01	85	25	Single +2.7 V Supply
MAX325CUA	Dual Single Pole Single Throw	60	—	—	17 V LVCMOS	0.01	85	25	µMAX Package
MAX381CPE	Dual Single Pole Single Throw	35	2.4	0.8	17 V LVCMOS	0.01	100	60	Low Voltage +2.7 V or ±5 V
MAX381CSE	Dual Single Pole Single Throw	35	2.4	0.8	17 V LVCMOS	0.01	100	60	Low Voltage +2.7 V or ±5 V
MAX383CPE	Dual Single Pole Double Throw	35	—	—	17 V LVCMOS	0.01	100	60	Low Voltage +2.7 V or ±5 V
MAX383CSE	Dual Single Pole Double Throw	35	—	—	17 V LVCMOS	0.01	100	60	Low Voltage +2.7 V or ±5 V
MAX385CPE	Dual Double Pole Single Throw	35	—	—	17 V LVCMOS	0.01	100	60	Low Voltage +2.7 V or ±5 V
MAX385CSE	Dual Double Pole Single Throw	35	—	—	17 V LVCMOS	0.01	100	60	Low Voltage +2.7 V or ±5 V
MAX391CPE	Quad Single Pole Single Throw	35	0.8	2.4	17 V LVCMOS	0.01	65	35	Low Voltage +2.7 V or ±5 V
MAX391CSE	Quad Single Pole Single Throw	35	0.8	2.4	17 V LVCMOS	0.01	65	35	Low Voltage +2.7 V or ±5 V
MAX392CPE	Quad Single Pole Single Throw	35	2.4	0.8	17 V LVCMOS	0.01	65	35	Low Voltage +2.7 V or ±5 V
MAX392CSE	Quad Single Pole Single Throw	35	2.4	0.8	17 V LVCMOS	0.01	65	35	Low Voltage +2.7 V or ±5 V
MAX393CPE	Quad Single Pole Single Throw	35	—	—	17 V LVCMOS	0.01	65	35	Low Voltage +2.7 V or ±5 V
MAX393CSE	Quad Single Pole Single Throw	35	—	—	17 V LVCMOS	0.01	65	35	Low Voltage +2.7 V or ±5 V

Multiplexers

Mfr.'s Type	Device Type	R _{DS(ON)} (W) Max.	V _{HH} Min. (V)	V _{OL} Max. (V)	Technology	I _{OFF} Typ. (nA)	T _{ON} Typ. (nS)	T _{OFF} Typ. (nS)	Features
DG406DJ	Single 1 × 16	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
DG406DY	Single 1 × 16	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
DG407DJ	Dual 2 × 16	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
DG407DY	Dual 2 × 16	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
DG408DJ	Single 1 × 8	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
DG408DY	Single 1 × 8	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
DG409DJ	Dual 2 × 8	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
DG409DY	Dual 2 × 8	100	2.4	0.8	44 V CMOS	—	—	—	Low R _{DS(ON)} , Low QJ
MAX382EPI	Single 1 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	Latched, Low R _{DS(ON)}
MAX382EWI	Single 1 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	Latched, Low R _{DS(ON)}
MAX384EPI	Dual 2 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	Latched, Low R _{DS(ON)}
MAX384EWI	Dual 2 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	Latched, Low R _{DS(ON)}
MAX396EPI	Single 1 × 16	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}
MAX396EWI	Single 1 × 16	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}
MAX397EPI	Dual 2 × 16	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}
MAX397EWI	Dual 2 × 16	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}
MAX398EJE	Single 1 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}
MAX398ESE	Single 1 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}
MAX399EJE	Dual 2 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}
MAX399ESE	Dual 2 × 8	100	2.4	0.8	17 V LVCMOS	—	—	—	+3 V, +5 V, ±5 V; Low R _{DS(ON)}

Analog-to-Digital Converters

Maxim offers a wide range of analog-to-digital converters that provide benefits in many applications, including instrumentation, industrial, medical and telecommunications. The resolutions range from 8-bits to 16-bits, and the speeds

range from DC to 500 MHz. Each device has features that add value, such as high-accuracy, a high level of integration, low-power, shutdown, a serial interface, etc. Evaluation kits are also available for most of these ADCs.

Mfr.'s Type	Resolution (Bits)	Speed (ksp/s)	Interface	Input Channels	Features
MAX100CFR*	8	250000.00	Parallel	1	50 ohm input resistance. ECL-compatible I/O
MAX101CFR*	8	500000.00	Parallel	1	50 ohm input resistance. ECL-compatible I/O
MAX110ACPE	14	0.05	Serial	2	Sigma-delta, no external components, ± 5 V supplies
MAX111ACPE	14	0.05	Serial	2	Sigma-delta, no external components, single ± 5 V supply
MAX120CNG	12	500.00	μ P/12	1	High-speed complete sampling ADC
MAX121CPE	14	308.00	Serial	1	High-speed complete sampling ADC with DSP interface
MAX132CNG	18	0.10	Serial	1	Integrating ADC, <1 mW, 3 LSBs used for averaging
MAX138CPL	± 2000 counts	0.01	LCD output	1	Integrating ADC, 2.75 V to 7 V single supply, $\pm$ inputs
MAX152CPE	8	400.00	μ P/8	1	3 V ADC with 1 μ A power-down
MAX153CPE	8	1000.00	μ P/8	1	5 V high-speed ADC with 1 μ A power-down
MAX176ACPA	12	250.00	Serial	1	Includes T/H in 8-pin mini-DIP
MAX180ACPE	12	100.00	μ P/8 or 12	8	Complete data acquisition system
MAX186ACPP	12	133.00	Serial	8	Low-power (7 mW) with 10 μ A power-down, internal reference
MAX188ACPP	12	133.00	Serial	8	MAX186 without the reference
MAX187ACPA	12	75.00	Serial	1	7 mW, 8-pin package
MAX189ACPA	12	75.00	Serial	1	MAX187 without the reference
MAX191ACNG	12	100.00	Serial and μ P/8	1	15 mW, 20 μ A power-down, ± 5 V or ± 5 V supplies
MAX192ACPP	10	133.00	Serial	8	Low power, low cost, available in small (SSOP) package
MAX194ACPE	14	85.00	Serial	1	14-bit high-speed ADC with 10 μ A shutdown
MAX195BCPE	16	85.00	Serial	1	High-speed 16-bit ADC with 10 μ A shutdown
MAX197ACNI	12	100	μ P/8	8	Range-switching provides 14-bits effective dynamic range, fault protected inputs

*84-pin ceramic flat pack. The parts listed above are the plastic DIP package devices, but the devices are also available in surface mount (SO) CERDIP, and some are available in a shrink-small outline (SSOP). Many are available in more than 1 performance grade.

Digital-to-Analog Converters

Maxim's digital-to-analog converters provide the required performance with minimum power usage. The DACs range from low-power devices (140 μ A supply current) to high-speed (4 ns settling time) and high-integration (13 octal DACs in

a single package) devices. The resolutions range from 8-bits to 13-bits.

Mfr.'s Type	Resolution	Settling Time (μ s)	Interface	Reference*	Output Type	Features
MAX503CNG	10	25.000	μ P/8	int/MDAC	Voltage	Ultra-low power complete DAC
MAX504CPD	10	25.000	Serial	int/MDAC	Voltage	Serial version of MAX503
MAX505ACNG	8	6.000	μ P/8	MDAC	Voltage	Quad, rail-to-rail outputs, separate reference inputs
MAX506ACPP	8	6.000	μ P/8	MDAC	Voltage	Quad, rail-to-rail outputs, single reference input
MAX507ACNG	12	5.000	μ P/12	int	Voltage	Complete voltage output DAC
MAX508ACPP	12	5.000	μ P/8	int	Voltage	Complete voltage output DAC
MAX509ACPP	8	6.000	Serial	MDAC	Voltage	5 V or ± 5 V supplies, rail-to-rail outputs, 4 reference inputs
MAX510ACPE	8	6.000	Serial	MDAC	Voltage	5 V or ± 5 V supplies, rail-to-rail outputs, 1 reference input
MAX512CPD	8	60.000	Serial	MDAC	Voltage	Triple, ± 5 V supply, low power with shutdown
MAX513CPD	8	70.000	Serial	MDAC	Voltage	Triple, ± 3 V supply, low power with shutdown
MAX514ACNG	12	1.000	Serial	MDAC	Current	Quad, current output
MAX515CPA	10	25.000	Serial	ext	Voltage	5 V supply, ultra-low power, 8-pin SO
MAX517BCPA	8	6.000	Serial (2-wire)	ext	Voltage	Single ± 5 V DAC with 2-wire interface
MAX518BCPA	8	6.000	Serial (2-wire)	int ($V_{REF}=V_{DD}$)	Voltage	Dual ± 5 V DAC with 2-wire interface in 8-pin DIP/SO package
MAX521ACPP	8	6.000	Serial (2-wire)	ext	Voltage	Octal, 5 reference inputs, 2-wire interface
MAX522CPA	8	70.000	Serial	ext	Voltage	Two Vout DACs in 8-pin DIP/SO package, single 2.7 V to 5.5 V supply
MAX526CCNG	12	3.000	μ P/8	ext	Voltage	Quad, ± 12 V and ± 5 V supplies
MAX527CCNG	12	3.000	μ P/8	ext	Voltage	Quad, ± 5 V supplies
MAX528CPP	8	5.000	Serial	ext	Voltage	μ P-selected buffered and unbuffered output
MAX529CPP	8	5.000	Serial	ext	Voltage	± 5 V version of MAX528
MAX530ACNG	12	25.000	μ P/8	int/MDAC	Voltage	5 V or ± 5 V supplies, ultra low power
MAX531ACPD	12	25.000	Serial	int/MDAC	Voltage	Serial version of MAX530
MAX532ACPE	12	4.000	Serial	MDAC	Voltage	Dual DAC, ± 15 V supplies, 16-pin SO
MAX536ACPE	12	-3.000	Serial	ext	Voltage	Serial version of MAX526
MAX537ACPE	12	3.000	Serial	ext	Voltage	Serial version of MAX527
MAX538ACPA	12	25.000	Serial	ext	Voltage	5 V supply, 8-pin SO, ultra low power, 2 V (max) output
MAX539ACPA	12	25.000	Serial	ext	Voltage	5 V supply, 8-pin SO, ultra low power, 5 V (max) output
MAX543ACPA	12	1.000	Serial	MDAC	Current	8-pin DIP/SO
MAX547ACMH**	13	5.000	μ P/13	ext	Voltage	Unipolar/bipolar outputs, 4 reference inputs
MAX555CQK†	12	0.004	Parallel	ext	Voltage	Ultra-high speed, -5.2 V supply, complementary ECL outputs

*MDAC = 4-quadrant multiplying capability. **Plastic flat pack package. †68-pin thermally enhanced PLCC.

The parts listed above are the plastic DIP package devices, but the devices are also available in surface mount (SO) CERDIP and some are available in a shrink-small outline (SSOP). Many are available in more than 1 performance grade.

 μ P Supervisory Circuits

Maxim has the largest μ Processor Supervisory family available — over 50 unique ICs. These products signal a μ Processor or μ Controller when the power is on and holds the μ Processor or μ Controller in reset when the power is low.

Other functions include watchdog timing, chip enable gating, battery back-up switches, and manual reset.

 μ P Supervisory Circuits in the SOT-23 Package, 2500 Piece Tape and Reels

Mfr.'s Type	Reset Trip Threshold Min./Max. (V)	Minimum Reset Pulse Width (ms)	Active Low Reset	Active High Reset	RESET Valid to Vcc = 1 V	Nominal Watchdog Timeout Period (Sec.)	Separate Watchdog Output	Backup Battery Switch	Vcc to Vout On Resistance Max. (Ω)	V _{BATT} to Vout On Resistance Max. (Ω)	CE Write Protect	Power Fail Comparator	Manual Reset Input	Low Line Output	Battery On Output	ISUPPLY Operating Mode Max. mA(Typ.)	ISUPPLY Backup Mode Max. μ A(Typ.)	No. of Leads
MAX809LEUR-T	4.50/4.75	140	✓		✓											0.06(0.024)		3
MAX809MEUR-T	4.25/4.50	140	✓		✓											0.06(0.024)		3
MAX809REUR-T	2.55/2.70	140	✓		✓											0.06(0.024)		3
MAX809SEUR-T	2.85/3.00	140	✓		✓											0.06(0.024)		3
MAX809TEUR-T	3.00/3.15	140		✓	✓											0.06(0.024)		3
MAX810LEUR-T	4.50/4.75	140		✓	✓											0.06(0.024)		3
MAX810MEUR-T	4.25/4.50	140		✓	✓											0.06(0.024)		3
MAX810REUR-T	2.55/2.70	140		✓	✓											0.06(0.024)		3
MAX810SEUR-T	2.85/3.00	140		✓	✓											0.06(0.024)		3
MAX810TEUR-T	3.00/3.15	140		✓	✓											0.06(0.024)		3

µP Supervisory Circuits — Continued

µP Supervisory Circuits in PDIP and SOIC Packages

Mfr.'s Type			Reset Trip Threshold	Minimum Reset Pulse Width	Active Low Reset	Active High Reset	RESET Valid to Vcc = 1 V	Nominal Watchdog Timeout Period (Sec.)	Separate Watchdog Output	Backup Battery Switch	Vcc to Vout On Resistance Max. (Ω)	Vbatt to Vout On Resistance Max. (Ω)	CE Write Protect	Power Fail Comparator	Manual Reset Input	Low Line Output	ISUPPLY Operating Mode Max. mA (Typ.)	ISUPPLY Backup Mode Max. µA (Typ.)	No. of Leads
PDIP	150 mil SOIC	300 mil SOIC	Min./Max. (V)	(ms)															
MAX1232CPA	MAX1232CSA	MAX1232CWE	4.37/4.62	250	✓	✓	✓	0.15/0.6/1.2									0.20(0.05)		8/16
MAX690ACPA	MAX690ACSA	—	4.65/4.40	140	✓		✓	1.60		✓	10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX692ACPA	MAX692ACSA	—	4.65/4.40	140	✓		✓	1.60		✓	10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX690RCPA	MAX690RCSA	—	2.85/3.00	140	✓		✓	1.60		✓	6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX690SCPA	MAX690SCSA	—	2.85/3.00	140	✓		✓	1.60		✓	6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX690TCPA	MAX690TCSA	—	3.00/3.15	140	✓		✓	1.60		✓	6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX691ACPE*	MAX691ACSE*	MAX691ACWE*	4.65/4.40	140/Adj.	✓	✓	✓	1.60/Adj.	✓	✓	1.2	25	✓	✓			0.10(0.035)	5.0(0.04)	16
MAX693ACPE*	MAX693ACSE*	MAX693ACWE*	4.65/4.40	140/Adj.	✓	✓	✓	1.60/Adj.	✓	✓	1.2	25	✓	✓			0.10(0.035)	5.0(0.04)	16
MAX696CPE*	—	MAX696CWE*	Adj.	35/Adj.	✓	✓	✓	1.60/Adj.	✓	✓			✓	✓					16
MAX697CPE	—	MAX697CWE	Adj.	35/Adj.	✓	✓	✓	1.60/Adj.	✓	✓			✓	✓					16
MAX700CPA	MAX700CSA	—	4.67/Adj.	200	✓	✓	✓								✓		0.20(0.1)		8
MAX703CPA	MAX703CSA	—	4.65/4.40	140	✓		✓			✓	10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX704CPA	MAX704CSA	—	4.65/4.40	140	✓		✓			✓	10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX704RCPA	MAX704RCSA	—	2.55/2.70	140	✓		✓			✓	6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX704SCPA	MAX704SCSA	—	2.85/3.00	140	✓		✓			✓	6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX704TCPA	MAX704TCSA	—	3.00/3.15	140	✓		✓			✓	6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX705CPA	MAX705CSA	—	4.65/4.40	140	✓		✓	1.60						✓			0.35(0.2)		8
MAX706CPA	MAX706CSA	—	4.65/4.40	140	✓		✓	1.60	✓					✓			0.35(0.2)		8
MAX706RCPA	MAX706RCSA	—	2.55/2.70	140	✓		✓	1.60	✓					✓			0.35(0.2)		8
MAX706SCPA	MAX706SCSA	—	2.85/3.00	140	✓		✓	1.60	✓					✓			0.35(0.2)		8
MAX706TCPA	MAX706TCSA	—	3.00/3.15	140	✓		✓	1.60	✓					✓			0.35(0.2)		8
MAX707CPA	MAX707CSA	—	4.65/4.40	140	✓	✓	✓							✓			0.35(0.2)		8
MAX708CPA	MAX708CSA	—	4.65/4.40	140	✓		✓							✓			0.35(0.2)		8
MAX708RCPA	MAX708RCSA	—	2.55/2.70	140	✓		✓							✓			0.35(0.2)		8
MAX708SCPA	MAX708SCSA	—	2.85/3.00	140	✓		✓							✓			0.35(0.2)		8
MAX708TCPA	MAX708TCSA	—	3.00/3.15	140	✓		✓							✓			0.35(0.2)		8
MAX791CPE*	MAX791CSE*	—	4.65	140			✓	1.00	✓	✓	1.2	25	✓	✓		✓	0.15(0.06)	5.0(0.04)	16
MAX792LCPE	MAX792LCSE	—	4.50/4.75	140			✓	1.00					✓	✓			0.15(0.07)		16
MAX792MCPE	MAX792MCSE	—	4.25/4.50	140			✓	1.00					✓	✓			0.15(0.07)		16
MAX792RCPE	MAX792RCSE	—	2.55/2.70	140			✓	1.00					✓	✓			0.15(0.07)		16
MAX792SCPE	MAX792SCSE	—	2.85/3.00	140			✓	1.00					✓	✓			0.15(0.07)		16
MAX792TCPE	MAX792TCSE	—	3.00/3.15	140			✓	1.00					✓	✓			0.15(0.07)		16
MAX793RCPE	MAX793RCSE	—	2.55/2.70	140			✓	1.60		✓	0.4	400		✓			60.00(46)	1.0	16
MAX793SCPE	MAX793SCSE	—	2.85/3.00	140			✓	1.60		✓	0.4	400		✓			60.00(46)	1.0	16
MAX793TCPE	MAX793TCSE	—	3.00/3.15	140			✓	1.60		✓	0.4	400		✓			60.00(46)	1.0	16
MAX794CPE	MAX794CSE	—	Adj.	140		✓	✓	1.60		✓	0.4	400		✓			60.00(46)	1.0	16
MAX795RCPE	MAX795RCSE	—	2.55/2.70	140			✓			✓	0.4	400		✓			60(46)	1.0	16
MAX795SCPE	MAX795SCSE	—	2.85/3.00	140			✓			✓	0.4	400		✓			60(46)	1.0	16
MAX795TCPE	MAX795TCSE	—	3.00/3.15	140			✓			✓	0.4	400		✓			60(46)	1.0	16
MAX800LCPE*	MAX800LCSE*	—	4.50/4.75	140		✓	✓	1.60/Adj.	✓		1.2	25	✓	✓			0.10(0.035)	5.0(0.04)	16
MAX800MCPE*	MAX800MCSE*	—	4.25/4.50	140			✓	1.60/Adj.			1.2	25	✓	✓			0.10(0.035)	5.0(0.04)	16
MAX802LCPA	MAX802LCSA	—	4.50/4.75	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX802MCPA	MAX802MCSA	—	4.25/4.50	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX802RCPA	MAX802RCSA	—	2.55/2.70	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX802SCPA	MAX802SCSA	—	2.85/3.00	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX802TCPA	MAX802TCSA	—	3.00/3.15	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX804RCPA	MAX804RCSA	—	2.55/2.70	140		✓	✓	1.60			6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX804SCPA	MAX804SCSA	—	2.85/3.00	140			✓	1.60			6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX804TCPA	MAX804TCSA	—	3.00/3.15	140			✓	1.60			6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX805LCPA	MAX805LCSA	—	4.50/4.75	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX805RCPA	MAX805RCSA	—	2.55/2.70	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX805SCPA	MAX805SCSA	—	2.85/3.00	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX805TCPA	MAX805TCSA	—	3.00/3.15	140			✓	1.60			10.0	400		✓			0.35(0.2)	5.0(0.05)	8
MAX806RCPA	MAX806RCSA	—	2.55/2.70	140			✓				6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX806SCPA	MAX806SCSA	—	2.85/3.00	140			✓				6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX806TCPA	MAX806TCSA	—	3.00/3.15	140			✓				6.0	400		✓			0.50(0.4)	1.0(0.4)	8
MAX807LCPE*	MAX807LCSE*	—	4.50/4.75	140		✓	✓	1.60	✓		TBD	TBD	✓	✓			TBD	TBD	16
MAX807MCPE*	MAX807MCSE*	—	4.25/4.50	140			✓	1.60			TBD	TBD	✓	✓			TBD	TBD	16
MAX807NCPE*	MAX807NCSE*	—	4.50/4.65	140		✓	✓				TBD	TBD	✓	✓			TBD	TBD	8
MAX808LCPA	MAX808LCSA	—	4.50/4.75	140			✓				TBD	TBD	✓	✓			TBD	TBD	8
MAX808MCPA	MAX808MCSA	—	4.25/4.50	140			✓				TBD	TBD	✓	✓			TBD	TBD	8
MAX808NCPA	MAX808NCSA	—	4.50/4.65	140			✓				TBD	TBD	✓	✓			TBD	TBD	8
MAX813LCPA	MAX813LCSA	—	4.50/4.75	140		✓	✓	1.60	✓					✓			0.35(0.2)		8
MAX814KCPA	MAX814KCSA	—	4.75/4.85	140		✓	✓							✓			TBD	TBD	8
MAX814LCPA	MAX814LCSA	—	4.50/4.75	140		✓	✓							✓			TBD	TBD	8
MAX814NCPA	MAX814NCSA	—	4.50/4.65	140		✓	✓							✓			TBD	TBD	8
MAX814TCPA	MAX814TCSA	—	3.00/3.15	140			✓							✓			TBD	TBD	8
MAX815KCPA	MAX814KCSA	—	4.75/4.85	140		✓	✓							✓			TBD	TBD	8
MAX815LCPA	MAX815LCSA	—	4.50/4.75	140			✓							✓			TBD	TBD	8
MAX815NCPA	MAX815NCSA	—	4.50/4.65	140			✓							✓			TBD	TBD	8
MAX815TCPA	MAX815TCSA	—	3.00/3.15	140			✓							✓			TBD	TBD	8
MAX816CPA	MAX816CSA	—	Adj. ±1%	140		✓	✓							✓					16
MAX820LCPE	MAX820LCSE	—	4.50/4.75	140		✓	✓	1.00						✓			0.15(0.07)		16
MAX820MCPE	MAX820MCSE	—	4.25/4.50	140			✓	1.00						✓			0.15(0.07)		16
MAX820RCPE	MAX820RCSE	—	2.55/2.70	140			✓	1.00						✓			0.15(0.07)		16
MAX820SCPE	MAX820SCSE	—	2.85/3.00	140			✓	1.00						✓			0.15(0.07)		16
MAX820TCPE	MAX820TCSE	—	3.00/3.15	140			✓	1.00						✓			0.15(0.07)		16
MXD1210CPA	MXD1210CSA	MXD1210CWE	4.37/4.62	140							2.5	667	✓	✓			0.50(0.23)	0.1(0.002)	16

* Battery on output. *±1.5%. *±1%. *10 ns.*±2%.

12 V Flash Memory Programming Supplies

Maxim makes the world's smallest 5 V and 12 V flash memory programming supplies, fitting in spaces as small as 0.1 in². Their small size, low supply currents, low input voltage ranges, and high efficiency permit use in applications ranging from host machines to solid state disk drives to PCMCIA applications and memory cards.

Flash-memory power supplies are commonly specified in multiples of 30 mA — the worst-case IPP current drawn by a typical byte-wide flash EEPROM chip during its erase cycle.

Mfr.'s Type	Min. V _{in} (V)	I _{out} (mA)	Package	Comments
MAX761CSA	1.80	35	8 SOIC	200 µA supply current, 1 µA shutdown
MAX717CSE	1.80	120	16 N. SOIC	Dual-Output (5 V and 12 V) system IC
MAX761CSA	3.00	150	8 SOIC	200 µA supply current, 1 µA shutdown
MAX824ISE	3.00	70	16 N. SOIC	Thin components, PCMCIA cards, Dual-Output
MAX606CUA	3.00	70	8 µMAX	<1.1 mm high packages, fits PCMCIA cards

Mfr.'s Type	Min. V _{in} (V)	I _{out}
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Charge-Pumps: Voltage Converters without Inductors

Maxim's charge-pump devices use only capacitors to boost or invert input voltages to useful output voltages. These small circuits save space and cost over inductor-based solutions. They are also free of EMI noise. They provide convenient and

economical circuits to bias small LCD panels, boost low voltages in back-up circuits, bias GaAsFET power amplifiers in RF applications, and program flash memories. Their outputs are either regulated or unregulated.

Mfr.'s Type	V _{IN} Range (V)	V _{OUT} (V)	I _{OUT} (mA)	Package	Comments
MAX1044CSA	1.5 to 10	−V _{IN} or 2 V _{IN}	20	8 SOIC	60 kHz osc. boost mode
MAX660CSA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	100	8 SOIC	6.5 ohm output impedance
MAX860CUA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	50	8 µMAX	1.1 mm high, 130 kHz switch freq.
MAX860CSA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	50	8 SOIC	130 kHz switch freq.
MAX861CUA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	50	8 µMAX	1.1 mm high, 250 kHz switch freq.
MAX861CSA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	50	8 SOIC	250 kHz switch freq.
ICL7660CUA	1.5 to 10	−V _{IN} or 2 V _{IN}	10	8 µMAX	1.1 mm high
ICL7660CSA	1.5 to 10	−V _{IN} or 2 V _{IN}	10	8 SOIC	
MAX680CSA	2.0 to 6	−2 V _{IN} and 2 V _{IN}	10	8 SOIC	Dual-output

Mfr.'s Type	V _{IN} Range (V)	V _{OUT} (V)	I _{OUT} (mA)	Package	Comments
MAX619CSA	2.0 to 3.6	5	60	8 SOIC	Complete 1 µA shutdown, back-up
MAX662ACSA	4.5 to 5.5	12	45	8 SOIC	Flash memory programmer
MAX850CSA	4.5 to 10	−4.1 or Adjust.	5	8 SOIC	GaAsFET bias
MAX852CSA	4.5 to 10	−4.1 or Adjust.	5	8 SOIC	GaAsFET bias, osc. input
MAX853CSA	4.5 to 10	Adjust.	5	8 SOIC	GaAsFET bias, ref. input adjustable
MAX840CSA	2.5 to 10	−2 or Adjust.	4	8 SOIC	GaAsFET bias
MAX843CSA	2.5 to 10	Adjust.	4	8 SOIC	GaAsFET bias, ref. input adjustable
MAX844CSA	2.5 to 10	Adjust.	4	8 SOIC	GaAsFET bias with LCD output

Battery Chargers

Maxim's battery-charging products provide convenient, economical ways to charge and monitor Nickel Metal Hydride (NiMH), Nickel Cadmium (NiCd), and Lithium Ion (Li+) cells. Product offerings include intelligent chargers with built-in

termination algorithms, current-sources that can be used in conjunction with microprocessors, and monolithic charge counters for measuring energy flow into and out of batteries.

Mfr.'s Type	Function	Package	Description
MAX713CSF	Intell. Charger	16 N SOIC	3 A switch-mode charger; 4 term. methods: neg. volt slope, max. volt, max. temp., max time.
MAX713CPE	Intell. Charger	16 PDIP	3 A switch-mode charger; 4 term. methods: neg. volt slope, max. volt, max. temp., max time.
MAX712CSE	Intell. Charger	16 N SOIC	3 A switch-mode charger; 4 term. methods: zero volt slope, max. volt, max. temp., max time.
MAX712CPE	Intell. Charger	16 PDIP	3 A switch-mode charger; 4 term. methods: zero volt slope, max. volt, max. temp., max time.
MAX713CSE	Intell. Charger	16 N SOIC	1 A linear-mode charger; 4 term. methods: neg. volt slope, max. volt, max. temp., max time.
MAX713CPE	Intell. Charger	16 PDIP	1 A linear-mode charger; 4 term. methods: neg. volt slope, max. volt, max. temp., max time.
MAX712CSE	Intell. Charger	16 N SOIC	1 A linear-mode charger; 4 term. methods: zero volt slope, max. volt, max. temp., max time.
MAX712CPE	Intell. Charger	16 PDIP	1 A linear-mode charger; 4 term. methods: zero volt slope, max. volt, max. temp., max time.
MAX2003CSE	Intell. Charger	16 N SOIC	3 A switch-mode charger; 5 term. methods: temp. slope, volt slope, max. volt, max. temp., max time.
MAX2003CPE	Intell. Charger	16 PDIP	3 A switch-mode charger; 5 term. methods: temp. slope, volt slope, max. volt, max. temp., max time.
MAX2003CWE	Intell. Charger	16 W SOIC	3 A switch-mode charger; 5 term. methods: temp. slope, volt slope, max. volt, max. temp., max time.
MAX1651CSA	Current Source	8 SOIC	1 A switch-mode current source, 90% efficiency
MAX471CSA	Charge Gauge	8 SOIC	Current sense amplifier with int. resistor. Monitors both charge and discharge.
MAX472CSA	Charge Gauge	8 SOIC	Current sense amplifier uses ext. resistor. Monitors both charge and discharge.

LCD Power Supplies

Maxim makes compact, high-efficiency LCD bias supplies for every size screen: from low-cost single-line pager displays to the newest TFT color screens used in notebook computers.

Maxim offers both digital and potentiometer adjustable supplies for both positive and negative voltage screens. Choose from higher-power switch mode devices for large screens or low-power charge-pump based circuits for smaller pager-size displays.

Mfr.'s Type	V _{IN} Range (V)	V _{OUT} (V)	Type	Package	Comments
MAX1771CSA	2.0 to 16.5	Adjust. Positive	Pos. LCD	8 SOIC	drives ext. N ch., high efficiency
MAX749CSA	2.0 to 6	Adjust. Positive	Pos. LCD	8 SOIC	drives ext. N ch., digital adjust.
MAX774CSA	3.0 to 16.5	Adjust. Negative	Neg. LCD	8 SOIC	drives ext. P ch., high efficiency
MAX799CSA	4.5 to 30	Adjust. Negative	Neg. LCD	16 N SOIC	aux. output of dual-output Pentium PS
MAX799CSE	4.5 to 30	Adjust. Positive	Pos. LCD	16 N SOIC	aux. output of dual-output Pentium PS
MAX860CSA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	Small LCD	8 SOIC	no inductors, very small, 4.7 µF caps

Mfr.'s Type	V _{IN} Range (V)	V _{OUT} (V)	Type	Package	Comments
MAX860CUA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	Small LCD	8 µMAX	no inductors, 1.1 mm high, 4.7 µF caps
MAX861CSA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	Small LCD	8 SOIC	no inductors, very small, 2.2 µF caps
MAX861CUA	1.5 to 5.5	−V _{IN} or 2 V _{IN}	Small LCD	8 µMAX	no inductors, 1.1 mm high, 2.2 µF caps
MAX1044CSA	1.5 to 10	−V _{IN} or 2 V _{IN}	Small LCD	8 SOIC	no inductors, 60 kHz osc. boost pin
ICL7660CUA	1.5 to 10	−V _{IN} or 2 V _{IN}	Small LCD	8 µMAX	no inductors, 1.1 mm high package

Low-Voltage Boost Converters

Maxim's step-up DC-DC converters provide the best combination of low quiescent current, high efficiency, and small size. They are the perfect choice for battery powered applications. Maxim offers a broad range of low-voltage step-up DC-DC converters that operate from single-battery-cell inputs (0.9 V start-up) to regulated 3.3 V system supply inputs. They are

used to generate main system supplies, 5 V flash supplies, or low-current back-up supplies. They can also be used as local 5 V supplies in otherwise 5 V-only systems.

Mfr.'s Type	V _{IN} (Min.) (V)	V _{OUT} (V)	I _{OUT} (mA)	Package	Comments
MAX866CUA	0.8	3.3 or 5	90	8 µMAX	Guar. 0.9 V start-up, world's smallest
MAX867CUA	0.8	Adj.	90	8 µMAX	Guar. 0.9 V start-up, world's smallest
MAX777CSA	1.0	5	300	8 SOIC	On-chip active diode, complete shutdown
MAX779CSA	1.0	3 or 3.3	300	8 SOIC	On-chip active diode, complete shutdown
MAX779CSE	1.0	Adj.	300	8 SOIC	On-chip active diode, complete shutdown
MAX856CUA	1.8	3.3 or 5	150	8 µMAX	85% efficiency, 25 µA supply current
MAX856CSA	1.8	3.3 or 5	150	8 SOIC	85% efficiency, 25 µA supply current
MAX857CUA	1.8	Adj.	150	8 µMAX	85% efficiency, 25 µA supply current
MAX857CSA	1.8	Adj.	150	8 SOIC	85% efficiency, 25 µA supply current
MAX858CUA	1.8	3.3 or 5	35	8 µMAX	85% efficiency, 25 µA supply current
MAX858CSA	1.8	3.3 or 5	35	8 SOIC	85% efficiency, 25 µA supply current
MAX859CUA	1.8	Adj.	35	8 µMAX	85% efficiency, 25 µA supply current

Mfr.'s Type	V _{IN} (Min.) (V)	V _{OUT} (V)	I _{OUT} (mA)	Package	Comments
MAX859CSA	1.8	Adj.	35	8 SOIC	85% efficiency, 25 µA supply current
MAX619CSA	2.0	5	50	8 SOIC	no inductors, only 4 caps, complete shutdown
MAX756CSA	1.8	3.3 or 5	250	8 SOIC	high efficiency and low supply current
MAX757CSA	1.8	Adj.	250	8 SOIC	high efficiency and low supply current
MAX718CSE	1.8	3.3 or 5	300	16 N SOIC	Dual output: OUT1=3.3 V/5 V, OUT2=5 V/12 V
MAX722CSE	1.8	3.3 or 5	300	16 N SOIC	Dual output: OUT1=3.3 V/5 V, OUT2=neg. LCD
MAX619CSA	2.0	5	50	8 SOIC	no inductors, only 4 caps, complete shutdown
MAX1771CSA	3.0	Adj.	1000	8 SOIC	drives ext. N ch., 0.65 mA supply current
MAX797CSE	3.0	Adj.	1000	16 N SOIC	drives ext. N ch., fixed-freq. PWM operation
MAX606CUA	3.0	12 or adj.	60	8 µMAX	thin, fits PCMCIA cards
MAX607CSA	3.0	12 or adj.	60	8 SOIC	5 V/12 V switchable output
MAX624ISA	3.0	5 and adj.	200	16 N SOIC	Dual output, thin, fits PCMCIA cards

High-Efficiency Step-Down DC-DC Converters

Maxim's step-down converters feature greater than 90% efficiency over wide load current ranges, prolonging battery life at both light loads (10 mA) and heavy loads (up to 10 A). Many of these employ Maxim's proprietary Idle-Mode™ control scheme, which saves battery life automatically changing operating modes depending on load current. Idle-Mode optimizes the converter's performance by responding to changing load demands without software intervention, simplifying system software design.

At heavy and moderate loads, the Idle-Mode products pulse-width modulate (PWM) to diminish resistive losses due to high peak currents. At light loads, they pulse-frequency modulate (PFM) to reduce gate-charging losses and thus reduce quiescent supply current. Additionally, these Idle-Mode controllers drive an external N-channel MOSFET on the high-side as the main switch and also on the low-side as a synchronous rectifier. This dual-N-channel approach improves provides better efficiency and value than P-channel approaches.

Mfr.'s Type	V _{IN} (Max.) (V)	V _{OUT} (V)	I _{OUT} (mA)	Package	Comments
MAX638ACSA	16.5	5 or adj.	75.0	8 SOIC	10 µA supply current
MAX639CSA	11.5	5 or adj.	225.0	8 SOIC	10 µA supply current
MAX640CSA	11.5	3.3 or adj.	225.0	8 SOIC	10 µA supply current
MAX730ACSA	11.0	5	450.0	8 SOIC	fixed-freq. PWM
MAX763ACSA	11.0	3.3	500.0	8 SOIC	fixed-freq. PWM
MAX750ACSA	11.0	Adj.	450.0	8 SOIC	fixed-freq. PWM
MAX744ACWE	16.0	5	750.0	16 W SOIC	fixed-freq. PWM
MAX748ACWE	16.0	3.3	500.0	16 W SOIC	fixed-freq. PWM
MAX758ACWE	16.0	Adj.	750.0	16 W SOIC	fixed-freq. PWM
MAX1649CSA	16.5	5 or adj.	1.5 A	8 SOIC	Drives ext. P Ch., 100 µA supply current

Mfr.'s Type	V _{IN} (Max.) (V)	V _{OUT} (V)	I _{OUT} (mA)	Package	Comments
MAX1651CSA	16.5	3.3 or adj.	1.5 A	8 SOIC	Drives ext. P Ch., 100 µA supply current
MAX747CSD	15.0	5 or adj.	1.5 A	14 N SOIC	Drives ext. P Ch., PWM
MAX767CAP	5.5	3.3	10.0 A	20 SSOP	Idle-Mode controller
MAX796CSE	30.0	3.3 or 5 or adj.	10.0 A	16 N SOIC	Idle-Mode controller, pos. secondary output
MAX797CSE	30.0	3.3 or 5 or adj.	10.0 A	16 N SOIC	Idle-Mode controller, low-noise mode
MAX796CSE	30.0	3.3 or 5 or adj.	10.0 A	16 N SOIC	Idle-Mode controller, neg. secondary output
MAX782CXB	30.0	3.3 and 5	10.0 A	36 SSOP	Idle-Mode controller, with PCMCIA slots
MAX783CXB	30.0	3.3 and 5	10.0 A	36 SSOP	Idle-Mode controller, with PCMCIA slots
MAX786CAI	30.0	3.3 and 5	10.0 A	28 SSOP	Idle-Mode controller

Low Dropout Linear Regulators

Maxim's linear regulators combine low-dropout voltages with very low quiescent currents to give longer battery life. Maxim's MAX603 and MAX882 families save space and permit wide operating ranges by using special high-power packaging that has the same form factor as a standard 8-lead SOIC. They also maintain extremely low supply currents

(even at high output currents) because they use P-channel MOSFET pass transistors. Unlike PNP regulators, these CMOS devices do not draw large base currents (especially in dropout) and permit longer battery life.

Mfr.'s Type	V _{IN} (Max.) (V)	V _{OUT} (V)	Dropout Voltage (mV)	Package	Package Poiss (Watts)	Quiescent Current (μA)	Comments
MAX603CSA	11.5	5.0 or adj.	320 at 500 mA	8 SOIC	1.80	15	P ch. pass transistor
MAX604CSA	11.5	3.3 or adj.	480 at 400 mA	8 SOIC	1.80	15	P ch. pass transistor
MAX663CSA	16.5	5.0 or adj.	900 at 40 mA	8 SOIC	0.47	6	—
MAX666CSA	16.5	5.0 or adj.	900 at 40 mA	8 SOIC	0.47	6	Low-Batt. Detector
MAX667CSA	16.5	5.0 or adj.	150 at 200 mA	8 SOIC	0.47	20	Low-Batt. Detector
MAX882CSA	11.5	3.3 or adj.	250 at 200 mA	8 SOIC	1.50	11	P ch. pass transistor
MAX883CSA	11.5	5.0 or adj.	320 at 250 mA	8 SOIC	1.50	11	P ch. pass transistor
MAX884CSA	11.5	3.3 or adj.	250 at 200 mA	8 SOIC	1.50	11	P ch. pass transistor
MAX664CSA	-16.5	-5.0 or adj.	250 at 40 mA	8 SOIC	0.47	6	Neg. regulator

Op Amps

Mfr.'s Type		No. of Amplifiers	V _{OS} (mV) Max.	TCV _{OS} (μV/°C) Max.	I _{BIAS} (nA) Max.	Unity GBW (MHz)	Supply Voltage (V)	Supply Current/Amp (mA) Max.	No. of Leads
PDIP	SOIC								
MAX400CPA	MAX400CSA	1	10 to 15 μV	0.3	2	0.4	±3 to ±18	4.0	8
MAX402CPA	MAX402CSA	1	2	25.0 typ.	5	2.0	±3 to ±5	75.0 μA	8
MAX403CPA	MAX403CSA	1	2	25.0 typ.	25	10.0	±3 to ±5	375.0 μA	8
MAX406ACPA	MAX406ACSA	1	0.5 to 4.0	10.0	10 pA	80.0 to 40.0 kHz	2.5 to 10	1.2 μA	8
MAX407CPA	MAX407CSA	2	0.5 to 4.0	10.0	10 pA	80.0 to 40.0 kHz	2.5 to 10	1.2 μA	8
MAX418CPD	MAX418CSD	4	0.5 to 4.0	10.0	10 pA	80.0 to 40.0 kHz	2.5 to 10	1.2 μA	14
MAX409ACPA	MAX409ACSA	1	0.5 to 4.0	10.0	10 pA	150.0 kHz	2.5 to 10	1.2 μA	8
MAX417CPA	MAX417CSA	2	0.5 to 4.0	10.0	10 pA	150.0 kHz	2.5 to 10	1.2 μA	8
MAX419CPD	MAX419CSD	4	0.5 to 4.0	10.0	10 pA	150.0 kHz	2.5 to 10	1.2 μA	14
MAX410CPA	MAX410CSA	1	250 μV	1.0 typ.	150	28.0	±2.4 to ±5.25	2.7	8
MAX412CPA	MAX412CSA	2	250 μV	1.0 typ.	150	28.0	±2.4 to ±5.25	2.7	8
MAX414CPD	MAX414CSD	4	320 μV	1.0 typ.	150	28.0	±2.4 to ±5.25	2.7	14
MAX427CPA	MAX427CSA	1	15 μV	0.8	35	8.0/60.0	±15	4.0	8
MAX437CPA	MAX437CSA	1	15 μV	0.8	35	8.0/60.0	±15	4.0	8
MAX438CPA	MAX438CSA	1	2	25.0 typ.	5	6.0±3 to ±5	—	75.0 μA	8
MAX439CPA	MAX439CSA	1	2	25.0 typ.	25	25.0±3 to ±5	—	375.0 μA	8
MAX471CPA	MAX471CSA	1	—	—	—	—	3 to 36	100.0 μA	8
MAX472CPA	MAX472CSA	1	60 μV	—	—	—	3 to 36	100.0 μA	8
MAX473CPA	MAX473CSA	1	1 to 1.5	2.0 typ.	150	10.02.7 to 6	—	3.0	8
MAX474CPA	MAX474CSA	2	1 to 1.5	2.0 typ.	150	10.02.7 to 6	—	3.0	8
MAX475CPD	MAX475CSD	4	1 to 1.5	2.0 typ.	150	10.02.7 to 6	—	3.0	14
MAX478CPA	MAX478CSA	2	70 to 250 μV	4.5	6	60.0 kHz	2.2 to 36, ±1.1 to ±18	17.0 μA	8
MAX479CPD	MAX479CSD	4	70 to 250 μV	4.5	3	60.0 kHz	2.2 to 36, ±1.1 to ±18	17.0 μA	14
MAX480CPA	MAX480CSA	1	70 μV	1.5	6	20.0 kHz	1.6 to 36, ±0.8 to ±18	15.0 μA	8
MAX492CPA	MAX492CSA	1	500 μV	2.0 typ.	60	500.0 kHz	2.7 to +6	150.0 μA	8
MAX494CPD	MAX494CSD	2	500 μV	2.0 typ.	60	500.0 kHz	2.7 to +6	150.0 μA	14
MAX495CPA	MAX495CSA	4	500 μV	2.0 typ.	60	500.0 kHz	2.7 to +6	150.0 μA	8
MXL1013CN8	MXL1013CS8	2	150 to 800 μV	2.0 to 5.0	20 to 30	0.6	+4 to +36, ±2 to ±18	0.5 to 0.55	8
MXL1014CN	MXL1014CS	4	150 to 800 μV	2.0 to 5.0	20 to 30	0.6	+4 to +36, ±2 to ±18	0.5 to 0.55	14

High Speed Video Amplifiers

Mfr.'s Type		No. of Amplifiers	Unity GBW (MHz)	Slew Rate (V/μs)	V _{OS} (mV) Max.	Output Current (mA) Min.	Supply Voltage (V)	I _{BIAS} (μA) Max.	No. of Leads
PDIP	SOIC								
MAX404CPA	MAX404CSA	1	80	500	8	50	±5	3	8
MAX435CPD	MAX435CSD	1	275	800	3	10	±5	3	14
MAX436CPD	MAX436CSD	1	275	800	3	10	±5	3	14
MAX452CPA	MAX452CSA	1	50	300	5	14	±5	10 nA	8
MAX457CPA	MAX457CSA	2	70	300	5	15	±5	1 nA	8
MAX476CPA*	MAX476CSA*	1	300	1600	2	100	±5	3	8

*Future product-Contact Allied for pricing and availability.

High Speed Video Buffers

Mfr.'s Type		No. of Buffers	Unity GBW (MHz)	Slew Rate (V/μs)	V _{OS} (mV) Max.	Output Current (mA) Max.	Supply Voltage (V)	I _{BIAS} (μA) Max.	No. of Leads
PDIP	SOIC								
—	MAX4005CSA	1	950	1000	3	75 Ω	±5	1 nA	8
MAX405CPA	MAX405CSA	1	180	650	5	60	±5	2	8
MAX467CPE	MAX467CWE	3	100	200	10	20	±5	—	16
MAX468CPE	MAX468CWE	4	100	200	10	20	±5	—	16
MAX469CPE	MAX469CWE	3	90	300	10	20	±5	—	16
MAX470CPE	MAX470CWE	4	90	300	2	20	±5	—	16
MAX4177CPA*	MAX4177CSA*	1	300	3000	2	100	±5	3	8
MAX4277CPA*	MAX4277CSA*	1	200	1500	2	100	±5	3	8
MAX496CPE*	MAX496CSE*	4	260	2000	2	100	±5	3	16
MAX497CPE*	MAX497CSE*	4	200	1500	2	100	±5	3	16

*Future product-Contact Allied for pricing and availability.

Comparators

High Speed Comparators

Mr.'s Type		No. of Comparators	Logic	Latched Outputs	Complementary Outputs	Single Supply Operation	Supply Current per Comparator (mA) Max.	Tpd (ns)	No. of Leads
PDIP	SOIC								
MAX516ACNG	MAX516ACWG	4	TTL/CMOS	No	No	Yes	10.01 (Total)	800.0	24
MAX900BCPP	MAX900BCWG	4	TTL	Yes	No	Yes	4.00 (lcc)	8.0	20
MAX901BCPE	MAX901BCSE	4	TTL	No	No	Yes	4.00 (lcc)	8.0	16
MAX902CPD	MAX902CSD	2	TTL	Yes	No	Yes	4.00 (lcc)	8.0	14
MAX903CPA	MAX903CSA	1	TTL	Yes	No	Yes	4.00 (lcc)	8.0	8
MAX907CPA	MAX907CSA	2	TTL	No	No	Yes	1.00	30.0	8
MAX908CPD	MAX908CSD	4	TTL	No	No	Yes	1.00	30.0	14
MAX909CPA	MAX909CSA	1	TTL	Yes	Yes	Yes	1.80	30.0	8
MAX912CPE	MAX912CSE	2	TTL	Yes	Yes	Yes	10.00	10.0	16
MAX913CPA	MAX913CSA	1	TTL	Yes	Yes	Yes	10.00	10.0	8
MAX941CPA	MAX941CSA	1	TTL/CMOS	Yes	No	Yes	600.00 μ A	75.0	8
MAX942CPA	MAX942CSA	2	TTL/CMOS	No	No	Yes	600.00 μ A	75.0	8
MAX944CPD	MAX944CSD	4	TTL/CMOS	No	No	Yes	600.00 μ A	75.0	14
MXL1016CPA	MXL1016CSA	1	TTL	Yes	Yes	Yes	35.00 (lcc)	10.0	8
MXL1116CPA	MXL1116CSA	1	TTL	Yes	Yes	Yes	38.00 (lcc)	12.0	8

Micropower Comparators

MAX921CPA	MAX921CSA	1 +Ref.	TTL/CMOS	No	No	Yes	3.20 μ A (Total)	12.0	8
MAX922CPA	MAX922CSA	2	TTL/CMOS	No	No	Yes	3.20 μ A (Total)	12.0	8
MAX923CPA	MAX923CSA	2 +Ref.	TTL/CMOS	No	No	Yes	4.50 μ A (Total)	12.0	8
MAX924CPE	MAX924CSE	4 +Ref.	TTL/CMOS	No	No	Yes	6.50 μ A (Total)	12.0	16
MAX931CPA	MAX931CSA	1 +Ref.	TTL/CMOS	No	No	Yes	3.20 μ A (Total)	12.0	8
MAX932CPA	MAX932CSA	2 +Ref.	TTL/CMOS	No	No	Yes	4.50 μ A (Total)	12.0	8
MAX933CPA	MAX933CSA	2 +Ref.	TTL/CMOS	No	No	Yes	4.50 μ A (Total)	12.0	8
MAX934CPE	MAX934CSE	4 +Ref.	TTL/CMOS	No	No	Yes	6.50 μ A (Total)	12.0	16

Video Multiplexers/Amplifiers

Mr.'s Type		No. of Mux. Channels	Unity GBW (MHz)	Slew Rate (V/ μ S)	Vos (mV) Max.	Output Current (mA) Min.	Supply Voltage (V)	Ibias (μ A) Max.	No. of Leads
PDIP	SOIC								
MAX440CPI	MAX440CWI	8	160	370	10	35	$\pm$ 5	2	28
MAX441CPP	MAX441CWP	4	160	370	10	35	$\pm$ 5	2	20
MAX442CPA	MAX442CSA	2	140	250	5	35	$\pm$ 5	2	8
MAX453CPA	MAX453CSA	2	50	300	5	14	$\pm$ 5	10 nA	8
MAX454CPD	MAX454CSD	4	50	300	5	14	$\pm$ 5	10 nA	14
MAX455CPP	MAX455CWP	8	50	300	5	14	$\pm$ 5	10	20

RGB Video Switches

Mr.'s Type		Unity GBW (MHz)	Slew Rate (V/ μ S)	Switching Time (ns)	No. of Inputs	No. of Outputs	Buffer Amp Gain (V/V)	Output Current (mA) Min.	No. of Leads
PDIP	SOIC								
MAX463CNG	MAX463CWG	100	300	20	6 (RGBA, RGBB)	3 (RGB)	+1	20	24
MAX465CNG	MAX465CWG	100	300	20	6 (RGBA, RGBB)	3 (RGB)	+2	20	24
MAX464CNI	MAX464CWI	100	300	20	8 (RGBA + Sync., RGBB + Sync.)	3 (RGB)	+1	20	28
MAX466CNI	MAX466CWI	100	300	20	8 (RGBA + Sync., RGBB + Sync.)	3 (RGB)	+2	20	28

Micron DRAMs

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DRAM SIMM Modules, 5 Volt

Mr.'s Type	Memory Configuration	Density (MB)	Optional Access Cycle	Access Time (ns)	Typical Power Dissipation		No. of Pins
					Standby (mW)	Active (mW)	
MT12D436M-6	4 M $\times$ 36	16	—	60 ns	36	2500	72
MT12D436M-7	4 M $\times$ 36	16	—	70 ns	36	2500	72
MT16D232M-6	2 M $\times$ 32	8	—	60 ns	48	1824	72
MT16D232M-6 X	2 M $\times$ 32	8	EDO	60 ns	48	1824	72
MT16D232M-7	2 M $\times$ 32	8	—	70 ns	48	1824	72
MT16D232M-7 X	2 M $\times$ 32	8	EDO	70 ns	48	1824	72
MT16D832M-6	8 M $\times$ 32	32	—	60 ns	48	2024	72
MT16D236M-6	2 M $\times$ 36	8	—	60 ns	54	2052	72
MT16D236M-7	2 M $\times$ 36	8	—	70 ns	54	2052	72
MT24D836M-6	8 M $\times$ 36	32	—	60 ns	72	2536	72
MT24D836M-7	8 M $\times$ 36	32	—	70 ns	72	2536	72
MT2D18M-6	1 M $\times$ 8	1	—	60 ns	6	30	30
MT2D18M-7	1 M $\times$ 8	1	—	70 ns	6	30	30
MT8D132M-6	1 M $\times$ 32	4	—	60 ns	24	1800	72
MT8D132M-6 X	1 M $\times$ 32	4	EDO	60 ns	24	1800	72
MT8D132M-7	1 M $\times$ 32	4	—	70 ns	24	1800	72
MT8D132M-7 X	1 M $\times$ 32	4	EDO	70 ns	24	1800	72
MT8D432M-6	4 M $\times$ 32	16	—	60 ns	24	2000	72
MT8D432M-7	4 M $\times$ 32	16	—	70 ns	24	2000	72
MT9D136M-6	1 M $\times$ 36	4	—	60 ns	27	2025	72
MT9D136M-7	1 M $\times$ 36	4	—	60 ns	27	2025	72

EDO (Extended Data Out) DRAMs, 5 Volt

Mr.'s Type	Memory Configuration	Optional Access Cycle	Access Time (ns)	Typical Power Dissipation		Package Type
				Standby (mW)	Active (mW)	
MT4C16270DJ-6	256 K $\times$ 16	EDO	60 ns	3	300	40 Lead SOJ
MT4C16270DJ-7	256 K $\times$ 16	EDO	70 ns	3	300	40 Lead SOJ
MT4C4007JDJ-6	1 M $\times$ 4	EDO	60 ns	3	175	20/26 Lead SOJ
MT4C4007JDJ-7	1 M $\times$ 4	EDO	70 ns	3	175	20/26 Lead SOJ

FPM (Full Page Mode) DRAMs, 5 Volt

Mr.'s Type	Memory Configuration	Optional Access Cycle	Access Time (ns)	Typical Power Dissipation		Package Type
				Standby (mW)	Active (mW)	
MT4C16257DJ-6	256 K $\times$ 16	Dual CAS	60 ns	3	375	40 Lead SOJ
MT4C16257DJ-7	256 K $\times$ 16	Dual CAS	70 ns	3	375	40 Lead SOJ
MT4C4001JDJ-6	1 M $\times$ 4	—	60 ns	3	225	20/26 Lead SOJ
MT4C4001JDJ-7	1 M $\times$ 4	—	70 ns	3	225	20/26 Lead SOJ
MT4C4001JTG-7	1 M $\times$ 4	—	70 ns	3	225	20/26 Lead TSOP

FPM (Full Page Mode) DRAMs, 3.3 Volt

Mr.'s Type	Memory Configuration	Optional Access Cycle	Access Time (ns)	Typical Power Dissipation		Package Type
				Standby (mW)	Active (mW)	
MT4LC1M16C3TG-7	1 M $\times$ 16	Dual CAS	70 ns	3	250	44/50 Lead TSOP
MT4LC4M4B1DJ-7	4 M $\times$ 4	2 K Refresh	70 ns	1	180	24/26 Lead SOJ



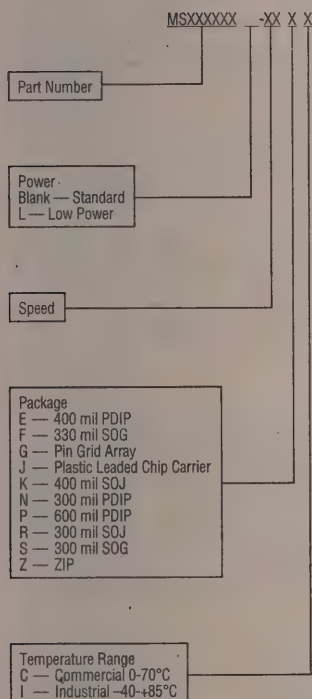
Company Background

Mosel Vitelic designs, develops, manufactures, and markets high performance DRAMs, SRAMs, Video RAMs, SIMMs and application specific memories. Mosel Vitelic's memory products employ proprietary high speed, low power designs with the state-of-the-art CMOS technology. The technology uses CMOS for low power consumption, multi-layer poly-silicon and two layers of metal interconnect for high packing density, and gate lengths of the sub-micron level for high speed

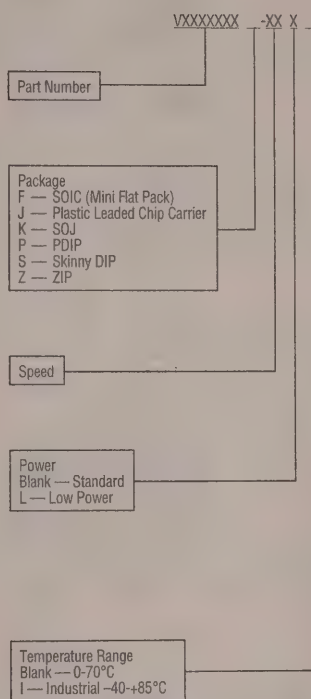
performance. In addition, Mosel Vitelic uses the most advanced state-of-the-art CMOS manufacturing facilities to ensure a high level of performance and reliability. Advanced circuit design techniques and process technology are used to provide high degrees of ESD protection and latch-up immunity.

Ordering Information

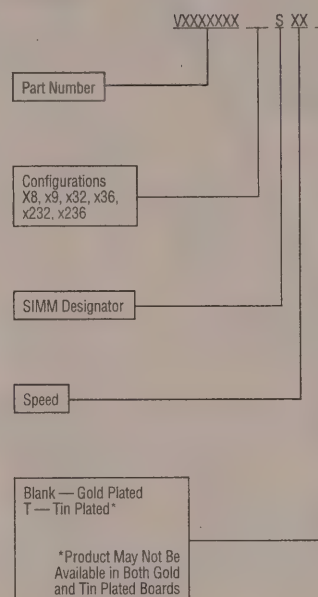
SRAMs



DRAMs



Modules



DRAMs

1 Meg × 1 DRAM

Mr. 's Type	Description	Speed (ns)	Package Style	icc Max. (mA)	lccsb Max. (mA)
V53C100FK60L	High Performance, Low Power Fast Page Mode CMOS DRAM	60	26/20 Lead SOJ	90	2.00
V53C100FK70	High Performance, Low Power Fast Page Mode CMOS DRAM	60	26/20 Lead SOJ	90	2.00
V53C100FP60L	High Performance, Low Power Fast Page Mode CMOS DRAM	70	18 Lead PDIP	80	2.00
V53C100FP70	High Performance, Low Power Fast Page Mode CMOS DRAM	70	18 Lead PDIP	80	2.00

4 Meg × 1 DRAM

V53C400K60L	High Performance, Low Power CMOS DRAM	60	26/20 Lead SOJ	100	1.00
V53C400K70	High Performance, Low Power CMOS DRAM	70	26/20 Lead SOJ	90	1.00
V53C400CK70	High Performance, Low Power CMOS DRAM	70	26/20 Lead SOJ	90	1.00

256 K × 4 DRAM

V53C104DK60	Fast Page Mode, Low Power DRAM	60	26/20 Lead SOJ	90	0.05
V53C104DK70	Fast Page Mode, Low Power DRAM	70	26/20 Lead SOJ	90	0.05
V53C104FK60L	Fast Page Mode, Low Power DRAM	60	26/20 Lead SOJ	90	0.05
V53C104FK70	Fast Page Mode, Low Power DRAM	70	26/20 Lead SOJ	80	0.05
V53C104FP60L	Fast Page Mode, Low Power DRAM	60	20 Lead PDIP	90	0.05
V53C104FP70	Fast Page Mode, Low Power DRAM	70	20 Lead PDIP	80	0.05
V53C104HP45	Fast Page Mode, High Speed DRAM	45	26/20 Lead SOJ	110	0.15

1 Meg × 4 DRAM

V53C404FK60	High Performance, Low Power CMOS DRAM	60	26/20 Lead SOJ	100	1.00
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256 K × 8 DRAM

V53C8256HK45	Fast Page Mode, Low Power, High Speed DRAM	45	26/24 Lead SOJ	160	2.50
V53C8256HP45	Fast Page Mode, Low Power, High Speed DRAM	45	24 Lead PDIP	160	2.50
V53C8257HK45	Fast Page Mode, Low Power, High Speed Burst Mode DRAM	45	26/24 Lead SOJ	160	2.50
V53C8257HP45	Fast Page Mode, Low Power, High Speed Burst Mode DRAM	45	24 Lead PDIP	160	2.50
V53C8258HK45	Page Mode EDO, Ultra High Speed DRAM	45	26/24 Lead SOJ	160	2.50
V53C8258HP45	Page Mode EDO, Ultra High Speed DRAM	45	24 Lead PDIP	160	2.50

64 K × 16 DRAM

V53C664AK70	Fast Page Mode, Upper/Lower Byte Control DRAM	70	40 Lead SOJ	130	3.00
V53C664AK80	Fast Page Mode, Upper/Lower Byte Control DRAM	80	40 Lead SOJ	115	3.00

256 K × 16 DRAM

V53C16258HK50	Page Mode with EDO, High Speed DRAM	50	40 Lead SOJ	190	2.00
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SIMM DRAM Modules

Mfr.'s Type	Description	Speed (ns)	Package Style	Icc Max. (mA)	Iccsb Max. (mA)
V104J8S70	256 K × 8 (2 chips per module)	70	SIMM	130	2
V100J8S60	1 Meg × 8 (8 chips per module)	60	SIMM	480	8
V100J8S70	1 Meg × 8 (8 chips per module)	70	SIMM	480	8
V404J8S70	1 Meg × 8 (2 chips per module)	70	SIMM	140	2
V100J9S60	1 Meg × 9 (9 chips per module)	60	SIMM	540	9
V100J9S70	1 Meg × 9 (9 chips per module)	70	SIMM	540	9
V404J9S70	1 Meg × 9 (3 chips per module)	70	SIMM	160	4
V404J36S70	1 Meg × 36 (12 chips per module)	70	SIMM	900	12
V404J236S70	2 Meg × 36 (24 chips per module)	70	SIMM	3240	40
V400J8S70	4 Meg × 8 (8 chips per module)	70	SIMM	560	8
V400J9S70	4 Meg × 9 (9 chips per module)	70	SIMM	660	13

High Speed SRAMs

256 K × 4 SRAM

Mfr.'s Type	Description	Speed (ns)	Package Style	Icc Max. (mA)	Iccsb Max. (mA)
MS621002A-20KC	CMOS Static Ram	20	28 Lead, 400 mil SOJ	130	1
MS621002A-25KC	CMOS Static Ram	25	28 Lead, 400 mil SOJ	130	1
MS621002A-35KC	CMOS Static Ram	35	28 Lead, 400 mil SOJ	130	1

8 K × 8 SRAM

MS6264H-20NC	High Speed CMOS Static Ram	20	28 Lead, 300 mil PDIP	180	3
MS6264H-20RC	High Speed CMOS Static Ram	20	28 Lead, 300 mil SOJ	180	3

32 K × 8 SRAM

MS62256H-15NC	High Speed CMOS Static Ram	15	28 Lead, 300 mil PDIP	200	2
MS62256H-15RC	High Speed CMOS Static Ram	15	28 Lead, 300 mil SOJ	200	2
MS62256H-20NC	High Speed CMOS Static Ram	20	28 Lead, 300 mil PDIP	200	2
MS62256H-20RC	High Speed CMOS Static Ram	20	28 Lead, 300 mil SOJ	200	2

128 K × 8 SRAM

MS621007A-20KC	CMOS Static Ram	20	32 Lead, 400 mil SOJ	150	2
MS621007A-25KC	CMOS Static Ram	25	32 Lead, 400 mil SOJ	150	2
MS621007A-35KC	CMOS Static Ram	35	32 Lead, 400 mil SOJ	150	2

FIFOs

256 K × 9 FIFO

Mfr.'s Type	Description	Speed (ns)	Package Style	Icc Max. (mA)	Iccsb Max. (mA)
MS7200L-25FC	CMOS FIFOs	25	28 Lead, 330 mil SOIC	125	0.5
MS7200L-25JC	CMOS FIFOs	25	32 Lead, PLCC	125	0.5
MS7200L-25NC	CMOS FIFOs	25	28 Lead, 300 mil PDIP	125	0.5
MS7200L-35FC	CMOS FIFOs	35	28 Lead, 330 mil SOIC	125	0.5
MS7200L-35JC	CMOS FIFOs	35	32 Lead, PLCC	125	0.5
MS7200L-35NC	CMOS FIFOs	35	28 Lead, 300 mil PDIP	125	0.5
MS7200L-50FC	CMOS FIFOs	50	28 Lead, 330 mil SOIC	125	0.5

512 K × 9 FIFO

MS7201AL-25FC	CMOS FIFOs	25	28 Lead, 330 mil SOIC	125	0.5
MS7201AL-25JC	CMOS FIFOs	25	32 Lead, PLCC	125	0.5
MS7201AL-25NC	CMOS FIFOs	25	28 Lead, 300 mil PDIP	125	0.5
MS7201AL-25PC	CMOS FIFOs	25	28 Lead, 600 mil PDIP	125	0.5
MS7201AL-35FC	CMOS FIFOs	35	28 Lead, 330 mil SOIC	125	0.5
MS7201AL-35JC	CMOS FIFOs	35	32 Lead, PLCC	125	0.5
MS7201AL-35NC	CMOS FIFOs	35	28 Lead, 300 mil PDIP	125	0.5
MS7201AL-35PC	CMOS FIFOs	35	28 Lead, 600 mil PDIP	125	0.5

1 K × 9 FIFO

MS7202AL-25FC	CMOS FIFOs	25	28 Lead, 330 mil SOIC	80	0.5
MS7202AL-25JC	CMOS FIFOs	25	32 Lead, PLCC	80	0.5
MS7202AL-25NC	CMOS FIFOs	25	28 Lead, 300 mil PDIP	80	0.5
MS7202AL-35FC	CMOS FIFOs	35	28 Lead, 330 mil SOIC	80	0.5
MS7202AL-35JC	CMOS FIFOs	35	32 Lead, PLCC	80	0.5
MS7202AL-35NC	CMOS FIFOs	35	28 Lead, 300 mil PDIP	80	0.5
MS7202AL-35PC	CMOS FIFOs	35	28 Lead, 600 mil PDIP	80	0.5
MS7202AL-50FC	CMOS FIFOs	50	28 Lead, 330 mil SOIC	80	0.5

2 K × 9 FIFO

MS7203L-25JC	CMOS FIFOs	25	32 Lead PLCC	125	2.0
MS7203L-25NC	CMOS FIFOs	25	28 Lead, 300 mil PDIP	125	2.0
MS7203L-25PC	CMOS FIFOs	25	28 Lead, 600 mil PDIP	125	2.0
MS7203L-35FC	CMOS FIFOs	35	28 Lead, 330 mil SOIC	125	2.0
MS7203L-35JC	CMOS FIFOs	35	32 Lead PLCC	125	2.0
MS7203L-35NC	CMOS FIFOs	35	28 Lead, 300 mil PDIP	125	2.0
MS7203L-35PC	CMOS FIFOs	35	28 Lead, 600 mil PDIP	125	2.0
MS7203L-50FC	CMOS FIFOs	50	28 Lead, 330 mil SOIC	125	2.0

4 K × 9 FIFO

MS7204L-25PC	CMOS FIFOs	25	28 Lead, 600 mil PDIP	125	2.0
MS7204L-35FC	CMOS FIFOs	35	28 Lead, 330 mil SOIC	125	2.0
MS7204L-35JC	CMOS FIFOs	35	32 Lead PLCC	125	2.0
MS7204L-35PC	CMOS FIFOs	35	28 Lead, 600 mil PDIP	125	2.0
MS7204L-50FC	CMOS FIFOs	50	28 Lead, 330 mil SOIC	125	2.0

Video RAMs

128 K × 8 VRAM

Mfr.'s Type	Description	Speed (ns)	Package Style	Icc Max. (mA)	Iccsb Max. (mA)
V52C8126K80	Multiport VRAM, 256K × 4 DRAM, 512 × 4 SAM	80	40 Lead SOJ	115	7
V52C8126Z80	Multiport VRAM, 256K × 4 DRAM, 512 × 4 SAM	80	40 Lead ZIP	115	7
V52C8128K70	Multiport VRAM, 128K × 8 DRAM, 256 × 8 SAM	70	40 Lead SOJ	125	7
V52C8128K80	Multiport VRAM, 128K × 8 DRAM, 256 × 8 SAM	80	40 Lead SOJ	115	7
V52C8128Z80	Multiport VRAM, 128K × 8 DRAM, 256 × 8 SAM	80	40 Lead ZIP	115	7

256 K × 8 VRAM

V52C8256K60	Hyper Page Mode, High Speed, Dual Port Memory	60	40 Lead SOJ	140	8
V52C8256K60	Fast Page Mode, High Speed, Dual Port Memory	60	40 Lead SOJ	140	8

Standard SRAMs

8 K × 8 SRAM

Mfr.'s Type	Description	Speed (ns)	Package Style	Icc Max. (mA)	Iccsb Max. (mA)
MS6264L-70FC	CMOS Static Ram	70	28 Lead, 330 mil SOIC	85	0.100
MS6264L-70PC	CMOS Static Ram	70	28 Lead, 600 mil PDIP	85	0.100
MS6264L-10FC	CMOS Static Ram	100	28 Lead, 330 mil SOIC	85	0.100
MS6264L-10PC	CMOS Static Ram	100	28 Lead, 600 mil PDIP	85	0.100
MS6265-10FC	CMOS Static Ram, Ultra Low Data Retention Current	100	28 Lead, 330 mil SOIC	40	0.001
MS6265-10NC	CMOS Static Ram, Ultra Low Data Retention Current	100	28 Lead, 300 mil PDIP	40	0.001
MS6265-10PC	CMOS Static Ram, Ultra Low Data Retention Current	100	28 Lead, 600 mil PDIP	40	0.001

32 K × 8 SRAM

MS62256CLL-70FC	CMOS Static Ram, Low Low Power	70	28 Lead, 330 mil SOG	80	0.020
MS62256CLL-70PC	CMOS Static Ram, Low Low Power	70	28 Lead, 600 mil PDIP	80	0.020
MS62256CLL-10FC	CMOS Static Ram, Low Low Power	100	28 Lead, 330 mil SOG	80	0.020
MS62256CLL-10PC	CMOS Static Ram, Low Low Power	100	28 Lead, 600 mil PDIP	80	0.020
MS62256L-70FC	CMOS Static Ram	70	28 Lead, 330 mil SOIC	80	0.100
MS62256L-70PC	CMOS Static Ram	70	28 Lead, 600 mil PDIP	80	0.100
MS62256L-10FC	CMOS Static Ram	100	28 Lead, 330 mil SOG	70	0.100
MS62256L-10PC	CMOS Static Ram	100	28 Lead, 600 mil PDIP	70	0.100

Mfr.'s Type	Description	Speed (ns)	Package Style	Icc Max. (mA)	Iccsb Max. (mA)
MS7200L-50JC	CMOS FIFOs	50	32 Lead, PLCC	125	0.5
MS7200L-50NC	CMOS FIFOs	50	28 Lead, 300 mil PDIP	125	0.5
MS7200L-80FC	CMOS FIFOs	80	28 Lead, 330 mil SOIC	125	0.5
MS7200L-80JC	CMOS FIFOs	80	32 Lead, PLCC	125	0.5
MS7200L-80NC	CMOS FIFOs	80	28 Lead, 300 mil PDIP	125	0.5
MS7200L-80PC	CMOS FIFOs	80	28 Lead, 600 mil PDIP	125	0.5

MS7201AL-50FC	CMOS FIFOs	50	28 Lead, 330 mil SOIC	125	0.5
MS7201AL-50JC	CMOS FIFOs	50	32 Lead, PLCC	125	0.5
MS7201AL-50NC	CMOS FIFOs	50	28 Lead, 300 mil PDIP	125	0.5
MS7201AL-50PC	CMOS FIFOs	50	28 Lead, 600 mil PDIP	125	0.5
MS7201AL-80FC	CMOS FIFOs	80	28 Lead, 330 mil SOIC	125	0.5
MS7201AL-80JC	CMOS FIFOs	80	32 Lead, PLCC	125	0.5
MS7201AL-80NC	CMOS FIFOs	80	28 Lead, 300 mil PDIP	125	0.5
MS7201AL-80PC	CMOS FIFOs	80	28 Lead, 600 mil PDIP	125	0.5

MS7202AL-50JC	CMOS FIFOs	50	32 Lead, PLCC	80	0.5
MS7202AL-50NC	CMOS FIFOs	50	28 Lead, 300 mil PDIP	80	0.5
MS7202AL-50PC	CMOS FIFOs	50	28 Lead, 600 mil PDIP	80	0.5
MS7202AL-80FC	CMOS FIFOs	80	28 Lead, 330 mil SOIC	80	0.5
MS7202AL-80JC	CMOS FIFOs	80	32 Lead, PLCC	80	0.5
MS7202AL-80NC	CMOS FIFOs	80	28 Lead, 300 mil PDIP	80	0.5
MS7202AL-80PC	CMOS FIFOs	80	28 Lead, 600 mil PDIP	80	0.5

MS7203L-50JC	CMOS FIFOs	50	32 Lead PLCC	125	2.0
MS7203L-50NC	CMOS FIFOs	50	28 Lead, 300 mil PDIP	125	2.0
MS7203L-50PC	CMOS FIFOs	50	28 Lead, 600 mil PDIP	125	2.0
MS7203L-80FC	CMOS FIFOs	80	28 Lead, 330 mil SOIC	125	2.0
MS7203L-80JC	CMOS FIFOs	80	32 Lead PLCC	125	2.0
MS7203L-80NC	CMOS FIFOs	80	28 Lead, 300 mil PDIP	125	2.0
MS7203L-80PC	CMOS FIFOs	80	28 Lead, 600 mil PDIP	125	2.0

MS7204L-50JC	CMOS FIFOs	50	32 Lead PLCC	125	2.0
MS7204L-50PC	CMOS FIFOs	50	28 Lead, 600 mil PDIP	125	2.0
MS7204L-80FC	CMOS FIFOs	80	28 Lead, 330 mil SOIC	125	2.0
MS7204L-80JC	CMOS FIFOs	80	32 Lead PLCC	125	2.0
MS7204L-80PC	CMOS FIFOs	80	28 Lead, 600 mil PDIP	125	2.0



Data Books

RF Device Data **Rev. 6 Q1/95**
The RF Device Data book presents technical information on Motorola's RF products. The RF portfolio includes bipolar, LDMOS, MOSFET RF Power, RF Integrated Circuits, and gallium arsenide chip technologies. This publication also includes a cross reference, selector guide information, case dimensions, and a list of devices not recommended for new design.
504-9800. DL110/D

Bipolar Power Transistor Data **Rev. 6 Q2/92**
Motorola produces more than 1100 off-the-shelf power transistors covering a very wide range of applications. Their electrical, thermal and mechanical characteristics are presented here in the form of data sheets, with a competitor cross-reference and a selector guide showing devices by package, produce category and major application.
504-9801. DL111/D

Optoelectronics Device Data **Rev. 4 Q3/93**
In the optoelectronics field, Motorola has concentrated on infrared GaAs and GaAlAs emitters, silicon detectors, high-technology optocouplers/isolators, and an innovative approach to fiber optics. This data book contains up-to-date information on the complete product line. A selector guide and industry cross-reference follow a general introduction and quality/reliability data. Data sheets are grouped in sections covering Discrete Emitters/Detectors, Fiber Optic Components, Optoisolators/Optocouplers, Slotted Optical Switches and Opto Chips. Includes 82 pages of application notes.
504-9802. DL118/D

FAST and LS TTL Data **Rev. 5 Q2/92**
Low Power Schottky (LS TTL) has become the industry-standard logic in recent years, replacing the original 7400 TTL with lower power and higher operating speeds. In addition to producing the standard LS TTL circuits, Motorola also offers the FAST™ Schottky TTL family. Complete specifications for both LS and FAST families are provided here in data sheet form. Functional selector guide provides an overview of the principal characteristics of the two families.
504-9803. DL121/D

MECL Device Data **Rev. 5 Q1/93**
Presents full technical data for Motorola's monolithic Emitter Coupled Logic families, including MECL 10H, MECL 10K and MECL III, plus MECL memories and Phase-Locked Loop products. MECL offers very high speeds — with propagating delays down to 1.0 ns — for use in computer systems, high-performance ATE and process control systems, signal processors and navigation systems. The families also offer other advantages which combine to reduce package count and simplify system design. This book includes a technical introduction to MECL and a detailed discussion of system design considerations.
504-9804. DL122/D

Small-Signal Transistors, FETs and Diodes **Rev. 5 Q4/94**
Presents technical information for the several families that make up Motorola's small-signal semiconductor produce range, including bipolars, FETs and diodes. Complete device specifications and typical performance curves are given on individual data sheets, which are grouped by families and by their metal can and plastic/surface mount packages. A selector guide provides a quick comparison of performance characteristics. Additional sections describe package outline drawings and tape and reel specifications, and clarify the Hi-Rel processing and testing procedures.
504-9805. DL126/D

Linear/Interface Integrated Circuits (2 Volume Set) **Rev. 4 Q3/93**
Presents detailed technical information in the form of data sheets on Motorola's broad range of linear and interface ICs. Products are divided into 10 sections, including Amplifiers and Comparators, Power Supply Circuits, Motor Control, Voltage References, Data Conversion, Interface Circuits, Communications, Consumer and Automotive. Each section includes its own comprehensive selector guide, while an industry cross-reference lists over 3000 products with their Motorola direct or similar replacements. Full mechanical data is provided, plus a listing of device availability for surface mount.
504-9806. DL128/D

High Speed CMOS Logic Data **Rev. 5 Q2/93**
For many years, CMOS devices have been used in applications where low power consumption, wide power supply range and high noise immunity are the important factors. For higher speed applications, designers were forced to sacrifice the CMOS benefits and choose families such as LS TTL. Motorola's High Speed CMOS family is fast enough for such applications, while retaining the CMOS features. The HSCMOS Data Book includes a selector guide by function, a discussion of design and handling considerations, and full electrical and performance data in the form of data sheets.
504-9807. DL129/D

CMOS Logic Data **Rev. 3 Q4/91**
Presents technical data for Motorola's broad line of Metal-Gate CMOS Logic ICs. Complete specifications are provided in the form of data sheets. In addition, a produce selector guide and a handling and design guidelines chapter are included for further information. Includes data on all the logic circuits from the MC14000 series.
504-9808. DL131/D

TMOS Power MOSFET Transistor Data **Rev. 5 Q1/95**
Power MOSFETs offer unique characteristics and capabilities that are not available with bipolar power transistors. They have high switching speeds, simpler gate drive requirements, reduced need for snubber circuits, and low ON-voltages. This book provides a comprehensive selector guide by package, and full data on all Motorola's TMOS/9 Power MOSFETs in the form of data sheets. It contains more than 200 pages of theory and applications information in 15 chapters, including Gate Drive Requirements, Paralleling and Characterization, plus a number of specific designs.
504-9809. DL135/D

Communications Device Data **Rev. 3 Q4/93**
Motorola is a major supplier of semiconductors to communications equipment manufacturers worldwide. This book includes complete specifications for a wide variety of devices designed for this market, in the form of over 1300 pages of data sheets. A selector guide is included to simplify the task of choosing appropriate devices for a system. Applications information, handling and design guidelines, and quality and reliability overviews provide additional support for users of these circuits.
504-9810. DL136/D

Thyristor Device Data **Rev. 5 Q3/93**
Thyristors are extremely useful across a broad range of control applications. Compared to a mechanical switch, a thyristor has a long service life and fast switching times; its regenerative action and low ON-resistance allow it to be used to control AC loads as well as for simple switching tasks. Thyristor Device Data presents data sheet information plus a comprehensive selector guide and industry cross-reference on Motorola's thyristor families, including SCRs, Triacs, TGTOS and trigger devices. It includes 252 pages of theory and applications information.
504-9811. DL137/D

FACT Data **Rev. 3 Q4/93**
FACT utilizes a sub 2 micron silicon gate CMOS process to attain speeds similar to that of Advanced Low Power Schottky while retaining the advantages of CMOS logic, namely, ultra low power and high noise immunity. As an added benefit, FACT offers the system designer superior line driving characteristics and excellent ESD and latchup immunity. This data book describes Motorola's produce line with device specifications and a selector guide, plus over 30 pages of design considerations and comparisons with previous technologies.
504-9812. DL138/D

ECLinPS Device Data **Rev. 2 Q1/94**
This data book contains device specifications in the form of data sheets for Motorola's ECLinPS advanced Emitter Coupled Logic family. ECLinPS (ECL in picoseconds) was developed in response to demand for an even higher performance logic family of standard logic functions, especially for the computer, ATE, instrumentation and communications industries. ECLinPS offers a maximum signal gate delay of 500 ps including package delay, and a flip-flop toggle frequency up to 800 MHz. Each function is available with either MECL 10H or 100K compatibility.
504-9813. DL140/D

ECLinPS Lite **Rev. 2 Q2/93**
ECLinPS Lite™ is a family of single, essential logic primitives — gates, muxes, flops, etc. — housed in a space-efficient, cost-effective standard package, the 8-lead SOIC. Packaged gates switch in 250 ps type, with flops toggling at over 2 GHz. Being a single gate family, ECLinPS Lite offers better AC specs and higher speeds than even the ECLinPS™ family. At the same time the family provides superior isolation over multiple gate logic. Its small package size makes it ideal for pin cards and other applications that require density, but not at the expense of signal integrity. This book contains device specifications in the form of data sheets as well as applications information for Motorola's ECLinPS Lite family.
504-9814. BR1330/D

Commercial Plus and Mil/Aero Applications Memory Products **Q2/93**
This book presents technical data for a broad line of Motorola (Commercial Plus and Mil/Aero Applications) Memory products. Complete specifications for the individual circuits are provided in the form of data sheets.
504-9815. DL144/D

TVS/Zener Device Data **Rev. 1 Q2/94**
Presents technical data for Motorola Transient Voltage Suppressors and Zener Diodes. Complete specifications for the individual devices are provided in the form of data sheets. A comprehensive selector guide and industry cross-reference are included to simplify the task of choosing the best of components required for a specific application. For the first time, this data book includes theory and applications information in addition to the actual product-specific data. The actual layout has been revised to be more user friendly with sections on the three major categories of Zener Diodes — Regulation, Temperature Compensation, and Transient Voltage Protection.
504-9816. DL150/D

Rectifier Device Data **Rev. 2 Q1/95**
This book presents technical data for Motorola's broad line of rectifiers. Complete specifications are provided in the form of data sheets, and accompanying selection guides provide a quick comparison of characteristics to simplify the task of choosing the best device for a circuit. Continuing investment in research and development for discrete products has led to a rectifier manufacturing facility that matches the precision and versatility of the most advanced integrated circuits. As a result, Motorola's silicon rectifiers span all applications categories with quality levels capable of passing the most stringent environment tests — including those for automotive under-hood applications.
504-9817. DL151/D

MDA15 CMOS Standard Cell Data **Q4/90**
Motorola's MDA 15 Standard Cell family features a common set of cells and design rules for 1.5 micron geometries. This book provides data sheet information on all the digital and analog cells in the library. It discusses the factors that affect production costs and describes the development cycle. Technical chapters consider timing, design matter, standard input and output configurations, and designing for testability.
504-9818. DL152/D

MDA12 CMOS Standard Cell Data **Q3/91**
Motorola's MDA 12 Standard Cell family features a common set of cells and design rules for 1.2 micron geometries. This book provides data sheet information on all the digital and analog cells in the library. It discusses the factors that affect production costs and describes the development cycle. Technical chapters consider timing, design matter, standard input and output configurations, and designing for testability.
504-9819. DL154/D

Dynamic RAM Data **Rev. 1 Q3/94**
Motorola offers a broad range of reliable dynamic RAMs and DRAM modules for virtually any digital data processing system application. Complete specifications for the individual circuits are provided in the form of data sheets. A selector guide and a cross-reference are included.
504-9820. DL155/D

FAST Static RAM **Rev. 2 Q1/95**
BICMOS, CMOS and Module Data
Motorola offers a broad range of fast SRAMs for virtually any digital data processing system application. This data book contains complete specifications for individual FSRAM circuits in data sheet form, as well as an explanation of Motorola's reliability and quality program and an application's section.
504-9821. DL156/D

Pressure Sensor Device Data **Rev. 1 Q1/94**
Motorola is pleased to introduce their first Pressure Sensor Data Book. This data book provides technical information on Motorola's Pressure and Temperature Sensor products. Specifications are provided in the form of data sheets for individual devices and application notes describe interface circuitry to assist the end user. Additional sections provide reliability information, advanced new product information, package outline drawings, and information on sensor evaluation boards.
504-9822. DL200/D

FPGA Data Fields Programmable Gate Arrays
This data book discusses implementing your design with the Motorola MPA1000 family of FPGAs. These series of high performance, high density, reconfigurable arrays and high quality software meet the multiple demands of ever shrinking development cycles, system emulation, early prototyping and applications that exploit field reconfiguration to competitive advantage.
504-9823. DL201/D

8-Bit MCU Application Manual **Rev. 1**
This manual is a compilation of Application Notes, Article Reprints and other applications literature relating to Motorola's range of 8-bit Microcomputer Units (MCUs). Specific data on all Motorola products, including the 8-bit MCU devices mentioned in this manual, can be obtained from Allied.
504-9824. DL408/D

16/32-Bit Applications Manual **Rev. 1**
This manual is a compilation of Application Notes, Article Reprints and other applications literature relating to Motorola's range of 16- and 32-bit microprocessors and peripherals. Specific data on all Motorola products, including the power devices mentioned in this manual, can be obtained from Allied.
504-9825. DL409/D

Power Applications Manual **Rev. 1**
This manual is a compilation of 60 Application Notes, Article Reprints and other applications literature relating to Motorola's range of power semiconductors. A Device Cross-Reference indicates where specific components are featured in applications documents in the manual; in addition to the index, an abstract of each document is provided as an aid to the location of particular topics.
504-9826. DL410/D

Communications Applications Manual **Rev. 1**
This manual is a compilation of 44 Application Notes, Article Reprints and other applications literature relating to Motorola's semiconductors for Communications and related applications. A Device Cross-Reference indicates where specific components are featured in applications documents in the manual, and an abstract of each document is provided in addition to the index. Topics range from Speakerphones and Key Systems to FM Receivers, from Fiber Optics to DSP, from RS232 to MAP and ISDN.
504-9827. DL411/D

Industrial Control Applications Manual **Rev. 1**
This manual is a compilation of 42 Application Notes, Article Reprints and other applications literature relating to Motorola's semiconductors for Industrial Control Applications. A Device Cross-Reference indicates where specific components are featured in applications documents in the manual, and an abstract of each document is provided in addition to the index. Topics include temperature and pressure measurement, A/D conversion for industrial applications, motor control and industrial interfacing.
504-9828. DL412/D

Radio, RF and Video Applications Manual **Rev. 1**
This manual is a compilation of 37 Application Notes, Article Reprints and other applications literature relating to Motorola's semiconductors for Radio, RF and Video applications. A Device Cross-Reference indicates where specific components are featured in applications documents in the manual, and an abstract of each document is provided in addition to the index. Topics include RF amplifier designs, the application of Motorola's TV ICs, designing for very high speed logic, and PLL fundamentals.
504-9829. DL413/D

FET Applications Manual
This manual is a compilation of 34 applications documents concerned with Motorola's FETs for small signal, audio and power applications. A Device Cross-Reference indicates where specific components are featured in applications documents in the manual, and an abstract of each document is provided in addition to the index. Topics include MOSFET/bipolar comparisons, the application of MOSFETs in motor control and switching power supplies, driving MOSFETs from logic and other sources, and audio and VHF MOSFET-based amplifiers.
504-9830. DL414/D

DSP56100, Digital Signal Processor Family Manual **Q3/93**
The DSP56100 Family Manual provides a description of the components that are common to all DSP56100 family processors and includes a detailed description of the basic DSP56100 family instruction set.
504-9831. DSP56100FM/AD

Timing Solutions **Rev. 4**
With frequencies regularly reaching 33 MHz and approaching 40-50 MHz in today's CISC and RISC microprocessor systems, well controlled and precise clock signals are required to maintain a synchronous system. Many microprocessors also require input clock duty cycles very close to 50%. These stringent timing requirements mandate the use of specially designed, low skew clock distribution circuits or clock drivers. This book contains device specifications in the form of data sheets as well as applications information for Motorola's low skew timing circuits.
504-9832. BR1333/D

Hipercomm **Rev. 1**
This book contains device specifications in the form of data sheets as well as applications information for Motorola's high performance frequency control products. Motorola's portfolio of state-of-the-art low power prescaler includes over 40 different combinations of frequency, divide ratio and power to meet the needs of most designs. Information is also included about Motorola's integrated single chip synthesizers which provide significant savings in power dissipation. Making them ideal for hand-held, battery-operated applications. Of course, the world of RF does not depend on prescalers and synthesizers alone. Motorola's current and future efforts include integrated communication VCOs, as well as higher levels of integration for the transmit and receive sections of various wireless applications.
504-9833. BR1334/D



MOTOROLA

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DSP and High Performance MCUs

For technical assistance on Motorola's complete line of Semiconductor Devices, call the Motorola Applications Hotline: (800) 262-5643.

To obtain the latest data sheets on Motorola Semiconductor Devices, call Motorola's Automated Design-Net FAX Service: (602) 244-6609.

Digital Signal Processing

For technical assistance on Motorola Digital Signal Processing products, call the DSP Applications Hotline: (512) 891-3230.

DSP Development Tools

DSP56100 Software

Mr.'s Type	Description
DSP56100CLASA DSP56100CLASB DSP56100CCA DSP56100CCH	DSP56100 Family Simulator/Assembler/Linker/Library for IBM PC™ DSP56100 Family Simulator/Assembler/Linker/Library for Macintosh II™ DSP56100 Family C Compiler for IBM PC™ DSP56100 Family C Compiler for Hewlett-Packard Series 700

DSP56000 Software

DSP56000CLASA DSP56000CLASF DSP56KCCA DSP56KCCF DSP56KCCCH	DSP56000 Family Simulator/Assembler/Linker/Library for IBM PC™ DSP56000 Family Simulator/Assembler/Linker/Library for SUN-4™ DSP56000 Family C Compiler for IBM PC™ DSP56000 Family C Compiler for SUN-4™ DSP56000 Family C Compiler for Hewlett-Packard Series 700
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DSP56100 Hardware

DSP56156ADSA DSP56156ADSB DSP56156ADSF DSP56156ADM DSP56166ADSA DSP56166ADSB DSP56166ADM	DSP56156 Development System for IBM PC™ DSP56156 Development System for Macintosh II™ DSP56156 Development System for SUN-4™ ADM Board for DSP56156 DSP56166 Development System for IBM PC™ DSP56166 Development System for SUN-4™ ADM Board for DSP56166
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DSP56000 Hardware

DSP56KT2A DSP56KT2F DSP56002ADSA DSP56002ADSF DSP56004ADSA DSP56004ADSF DSP56002ADM DSP56004ADM	DSP56000/1 Development Software for IBM PC™ DSP56000/1 Development Software for SUN-4™ DSP56002 Development System for IBM PC™ DSP56002 Development System for SUN-4™ DSP56004 Development System for IBM PC™ DSP56004 Development System for SUN-4™ ADM Board for DSP56002 ADM Board for DSP56004
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DSP56002EVM Evaluation Module

The DSP56002EVM Evaluation Module (EVM) is a low-cost platform designed to familiarize the user with Motorola's DSP56002 Digital Signal Processor (DSP). The 24-bit precision of the DSP combined with the on-board 32 K words of external SRAM and stereo CD-quality audio codec makes the EVM ideal for implementing and demonstrating many audio processing algorithms as well as for learning the architecture and instruction set of the DSP56002 processor. The user need only supply a 7-9 volt calculator-style power supply and an RS-232 serial cable.

The DSP56002EVM comes with Motorola's DSP56000 cross assembler and Domain Technologies' debug software with windowed user interface. The software runs under MS-DOS on an IBM PC-compatible computer (~386 class or higher) and communicates with the EVM over an RS-232 serial port.

Hardware. Fully assembled and tested printed circuit board containing:

- ▶ 24-Bit DSP56002 Digital Signal Processor Operating at 40 Mhz
- ▶ Up to 20 Million Instructions Per Second (MIPS) — 50 ns Instruction Cycle at 40 Mhz
- ▶ Up to 120 Million Operations Per Second (MOPS) at 40 Mhz
- ▶ Executes A 1024-Point Complex Fast Fourier Transform (FFT) in 59.898 Clocks
- ▶ Four 24-Bit Internal Data Buses and Three 16-Bit Internal Address Buses for Simultaneous Accesses to One Program and Two Data Memories
- ▶ 512 x 24-Bit On-Chip Program RAM with Bootstrap ROM
- ▶ Two 256 x 24-Bit On-Chip Data RAMs
- ▶ Two 256 x 24-Bit On-Chip Data ROMs Containing Sine, A-Law and μ -Law Tables
- ▶ External Memory Expansion with 16-Bit Address and 24-Bit Address and 24-Bit Data Buses
- ▶ Byte-Wide Host Interface (HI) with Direct Memory Access Support
- ▶ Synchronous Serial Interface (SSI) to Communicate with Codecs and Synchronous Serial Devices
- ▶ Serial Communication Interface (SCI) for Full-Duplex Asynchronous Communications
- ▶ 24-Bit Timer/Event Counter also Generates and Measures Digital Waveforms
- ▶ On-Chip Emulation (On_{CE}) Port for Unobtrusive, Processor Speed-Independent Debugging
- ▶ Software-Programmable, Phase-Locked Loop-based (PLL) Frequency Synthesizer
- ▶ 32 K x 24-Bit Zero-Wait-State External Static RAM for Expansion Memory
- ▶ Option for 32 K x 8 Bits of Flash EEPROM for Program Bootstrapping and Stand-alone Operation
- ▶ Crystal Semiconductor's CS4215 Stereo CD-Quality Sigma-Delta Analog-to-Digital and Digital-to-Analog Converter for High Quality Audio
- ▶ 24.576 Mhz Crystal for Audio Sampling Rates 0148, 32, 16, 9.6, Or 8 KHz
- ▶ 16-Bit Linear, 8-Bit μ -Law, 8-Bit A-Law, and 8-Bit Linear Data Formats
- ▶ Option for other Crystals/Frequencies for other Sample Rates, Such As 44.1 KHz
- ▶ MC7805ACT Voltage Regulator
- ▶ RS-232 Interface to On_{CE} Controller and Serial Communications Interface (SCI)
- ▶ Option for A Second RS-232 Connector for Access to The DSP56002 Processor's Serial Communications Port (SCI)
- ▶ MC68HC705K1 Microcontroller Performing RS-232-to-On_{CE} Command Conversion
- ▶ MC33078 Pre-Amp for Analog Buffering
- ▶ Strip Connectors for External Access to the DSP56002's Memory Expansion, Host Interface, and Serial Communications Ports
- ▶ Jacks for Stereo Inputs, Outputs, and Headphones
- ▶ 2.1 mm Jack and Two Screw Terminals for Power Connection
- ▶ Documentation for The DSP56002, CS4215, Assembler, and Debugger, Plus Board Schematics

Software

- ▶ Motorola's DSP5600X Cross Assembler
- ▶ DSP56002 Binary Code From Source Code Using Labels, Line Numbers, Definitions, and Titles Incorporating the Architecture's Complete Instruction Set and Addressing Modes, Memory Spaces, and Parallel Data Transfers
- ▶ Macros, Expression Evaluation, and Functions for Strings, Data Conversion, and Transcendentals
- ▶ Reports for Cross-References, Instruction Cycle Count, and Memory use
- ▶ Extensive Error Checking and Reporting
- ▶ Domain Technologies' Debug Software with Windowed User Interface
- ▶ Symbolic Debugging
- ▶ Four Independent Windows for Data, Disassembly, DSP Register, and Commands
- ▶ Data and Registers Displayed as Fractions, Decimals, or Hexadecimals
- ▶ Symbolic Addressing and Animated ASCII Graphical Display of Memory Segments
- ▶ Up to 8 Simultaneous Breakpoints
- ▶ Built-in Assembler and Disassembler
- ▶ Installation Instructions and User Notes on Disk
- ▶ Demo Software Showing the Advantages of 24-Bits Over 16-Bits in Audio Processing
- ▶ Self-Test Files — Executable and Source Code

Requirements. The user must have the following:

- ▶ Power Supply (7-9 VAC or DC, 700 mA)
- ▶ RS-232 Cable with DB-9 Connectors
- ▶ IBM PC-Compatible Computer (~386 Class or Higher) Running MS-DOS with a Serial Port Capable of Operation at 19,200 Baud

Options. The EVM easily accommodates the following user additions:

- ▶ 32 K x 8-Bit Flash EEPROM for Program Bootstrapping and Stand-Alone Operation
- ▶ A Second Crystal for Other Sample Rates, Such as 44.1 KHz
- ▶ A Second RS-232 Connector to Access the DSP56002's Serial Communications Port (SCI)

Universal Hardware

Mr.'s Type	Description
DSPPHOST DSPMACHOST DSPSUN4HOST DSPCONMMAND	PC Compatible Host Board and Interface Software Macintosh II™ Host Board and Interface Software SUN-4™ Host Board and Interface Software 16-, 24-, 32-Bit Command Converter Board

DSP Product

DSP56100 Family General-Purpose 16-Bit Fixed Point

Ideal for high end speech coding, telecommunications and control applications. The DSP56166 combines the high speed core with 8 K bytes RAM, two serial ports, and one parallel port, codec, phase-locked loop (PLL) and On-Chip Emulation (On_{CE}).

Mr.'s Type	Speed (MHz)	Program ROM/RAM	Data ROM/RAM	Package Type	Peripherals	Comments
XC56156FE60	60	64/2048	0/2048	112 Lead CQFP	SSI x 2, Host, Timer	Codec, On _{CE} and PLL
XC56166FE60	60	64/2048	0/4096	112 Lead CQFP	RSSI x 2, Host, Timer	Codec, On _{CE} and PLL

DSP56002, HCMOS Low Power 24-Bit DSP

With its triple Harvard architecture of seven internal buses and three parallel execution units — Data ALU, Address Generation Unit (AGU) and Program Controller — has set the standard for high end DSP devices. These products are used extensively in telecommunications, control and audio. The DSP56000 family's unique 24-bit architecture has made these products the industry standard for CD-quality sound. The DSP56002 provides clock speeds up to 66 Mhz, a phase locked loop (PLL) and an On-Chip Emulation (On_{CE}). The DSP56L002 is a low voltage implementation of the DSP56002. Its 3.3 V operation effectively extends the battery life of portable applications up to three times longer than 5 V systems.

DSP56002RC40	40	64/512	2 x 256/2 x 256	132 Lead PGA	Host, SSI, SCI, Timer	On _{CE} and PLL
DSP56002FC40	40	64/512	2 x 256/2 x 256	132 Lead PQFP	Host, SSI, SCI, Timer	On _{CE} and PLL
XC56002FC66	66	64/512	2 x 256/2 x 256	132 Lead PQFP	Host, SSI, SCI, Timer	On _{CE} and PLL
XC56002PV40	40	64/512	2 x 256/2 x 256	144 Lead TQFP	Host, SSI, SCI, Timer	On _{CE} and PLL
XC56002PV66	66	64/512	2 x 256/2 x 256	144 Lead TQFP	Host, SSI, SCI, Timer	On _{CE} and PLL
DSP56L002FC40	40	64/512	2 x 256/2 x 256	132 Lead PQFP	Host, SSI, SCI, Timer	On _{CE} and PLL*

*3.3 Volt

DSP56004, HCMOS Low Power 24-Bit DSP

The DSP56004 contains audio peripherals specially designed for consumer and automotive audio applications. The Serial Audio Interface (SAI) provides two stereo inputs and three stereo outputs with I2S Sony or Matsushita formats. The External Memory Interface (EMI) supports a byte-wide data port to DRAM or SRAM. The Serial Host Interface (SHI) provides a low cost microcontroller interface using SPI or I2C.

XC56004FJ50	50	64/512	2 x 256/2 x 256	80 Lead PQFP	SAI, SHI, EMI	On _{CE} and PLL
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DSP56005, HCMOS Low Power 24-Bit DSP with Five PWMs and WDT

XC56005PV50	50	96/4608	2 x 256/2 x 256	144 Lead TQFP	Host, SSI, SCI, Timer	On _{CE} , PLL, 5 x PWM, WDT
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DSP Peripherals

Mr.'s Type	Description	Package Type
DSP56ADC16S	16-Bit Sigma-Delta Analog to Digital Converter	20 Lead CERDIP

On_{CE}=On Chip Emulator, On_{CE} is a Trademark of Motorola. PLL= Phase Locked Loop. PWM=Pulsewidth Modulator. WDT=Watchdog Timer. SSI=Synchronous Serial Interface. SCI=Serial Communication Interface.

Motorola M68000 Family Upward Compatible 16-/32-Bit Microprocessors

MC68HC000, 16-/32-Bit HCMOS Micropower Microprocessor

Completely pin and timing compatible and gives all the functions and performance of the MC68000 at one-tenth the operating power requirements, 0.175 watts. It is designed for large multiprocessing systems and realtime applications with vectored interrupts, seven priority levels and a 16 megabyte addressing space. It offers mainframe-like performance, supporting high-level languages and sophisticated operating systems.

Mr.'s Type		Operating Frequency (MHz)	MIPS	MFLOPS	Address Range (Bytes)	Data Bus (Bit)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Mode	General Purpose Registers	Address Modes	On-Chip MMU	Floating Point Solution
68 Lead PLCC	64 Lead PDIP												
MC68HC000FN8	MC68HC000P8	8	1.6	—	16 M	16	N/A	N/A	N/A	16	14	No	68881
MC68HC000FN10	MC68HC000P10	12	1.6	—	16 M	16	N/A	N/A	N/A	16	14	No	68881
MC68HC000FN12	MC68HC000P12	12	1.6	—	16 M	16	N/A	N/A	N/A	16	14	No	68881
MC68HC000FN16	MC68HC000P16	16	1.6	—	16 M	16	N/A	N/A	N/A	16	14	No	68881
MC68HC000FN20	—	20	1.6	—	16 M	16	N/A	N/A	N/A	16	14	No	68881

Motorola M68000 Family Upward Compatible 16-/32-Bit Microprocessors (Continued)

MC68020, 32-Bit HCMOS Microprocessor

The 020 has a full 32-bit internal and 32-bit external, regular, symmetrical architecture. It offers all the functionality of the M68000 Family MPUs and maintains software user-code compatibility. The unique on-chip instruction cache helps provide burst-mode operation to 12.5 MIPS. The 020 is the proven leader in high performance systems in office automation, engineering workstations, fault tolerant computers, parallel processors, telephone switching systems, and intelligent controllers.

Mfr.'s Type		Operating Frequency (MHz)	MIPS	MFLOPS	Address Range (Bytes)	Data Bus (Bit)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Mode	General Purpose Registers	Address Modes	On-Chip MMU	Floating Point Solution
114 Lead PGA (Gold Lead)	114 Lead PPGA												
MC68020RC16E	MC68020RP16E	16	5.5	0.25	4 G	32	256	N/A	N/A	16	18	No	68882
MC68020RC20E	MC68020RP20E	20	5.5	0.25	4 G	32	256	N/A	N/A	16	18	No	68882
MC68020RC25E	MC68020RP25E	25	5.5	0.25	4 G	32	256	N/A	N/A	16	18	No	68882
MC68020RC33E	—	33	5.5	0.25	4 G	32	256	N/A	N/A	16	18	No	68882

MC68030, Second Generation 32-Bit HCMOS Microprocessor

The 030 contains two independent 32-bit address buses and two 32-bit data buses which allows the CPU, caches, MMU, and the bus controller to operate in parallel. This makes it possible for the 030 to simultaneously access an instruction from the instruction cache, data from the data cache and instruction/data from external memory. Performance is further enhanced by on-chip 256 byte instruction and data caches, on-chip MMU, and enhanced bus controller.

Mfr.'s Type		Operating Frequency (MHz)	MIPS	MFLOPS	Address Range (Bytes)	Data Bus (Bit)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Mode	General Purpose Registers	Address Modes	On-Chip MMU	Floating Point Solution
132 Lead CQFP (Gull Wing)	128 Lead PGA (Gold Lead)												
MC68030FE16B	MC68030RC16B	16	12	0.5	4 G	32	256	256	16 Byte R	16	18	Yes	68882
MC68030FE20B	MC68030RC20B	20	12	0.5	4 G	32	256	256	16 Byte R	16	18	Yes	68882
MC68030FE25B	MC68030RC25B	25	12	0.5	4 G	32	256	256	16 Byte R	16	18	Yes	68882
MC68030FE33B	MC68030RC33B	33	12	0.5	4 G	32	256	256	16 Byte R	16	18	Yes	68882
—	MC68030RC40B	40	12	0.5	4 G	32	256	256	16 Byte R	16	18	Yes	68882
—	MC68030RC50B	50	12	0.5	4 G	32	256	256	16 Byte R	16	18	Yes	68882

MC68040, Third Generation 32-Bit HCMOS Microprocessor

The 040 is a virtual memory microprocessor employing multiple, concurrent execution units and a highly integrated architecture. On a single chip, the 040 integrates a MC68030 compatible integer unit, an IEEE 754 compatible floating point unit (FPU) and fully independent instruction and data demand-paged memory units (MMUs), including independent 4 K-byte instruction and data caches. A high degree of parallelism is achieved through use of multiple independent execution pipelines, multiple internal buses, and a full Harvard architecture, including separate physical caches for instruction and data accesses. The 040 also directly supports cache coherency in multimaster applications with dedicated on-chip bus snooping logic.

Mfr.'s Type		Operating Frequency (MHz)	MIPS	MFLOPS	Address Range (Bytes)	Data Bus (Bit)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Mode	General Purpose Registers	Address Modes	On-Chip MMU	Floating Point Solution
184 Lead CQFP (Gull Wing)	179 Lead PGA (Gold Lead)												
MC68040FE25M	MC68040RC25M	25	35	3.5	4 G	32	4 K	4 K	16 Byte R/W	16	18	Yes*	On-Chip
MC68040FE33M	MC68040RC33M	33	35	3.5	4 G	32	4 K	4 K	16 Byte R/W	16	18	Yes*	On-Chip
—	MC68040RC40M	40	35	3.5	4 G	32	4 K	4 K	16 Byte R/W	16	18	Yes*	On-Chip

*Separate Instruction/Data.

MC68LC040

The MC68LC040 is a compatible integer unit and MMU. It is the ideal solution for cost sensitive computer or sophisticated embedded applications.

MC68LC040FE20B	MC68LC040RC20B	20	22	N/A	4 G	32	4 K	4 K	16 Byte R/W	16	18	Yes	No
MC68LC040FE25B	MC68LC040RC25B	25	27	N/A	4 G	32	4 K	4 K	16 Byte R/W	16	18	Yes	No
MC68LC040FE33B	MC68LC040RC33B	33	36	N/A	4 G	32	4 K	4 K	16 Byte R/W	16	18	Yes	No

MC68882, Enhanced Floating Point Coprocessor

The MC68882 is pin-to-pin hardware and software compatible with the MC68881 Floating Point Coprocessor and implements a variety of performance enhancements including dual-ported registers and an advanced pipeline. Additional enhancements allows execution of multiple instructions in parallel for 2-4 times the Floating Point performance of the MC68881.

Mfr.'s Type		Operating Frequency (MHz)	Mfr.'s Type		Operating Frequency (MHz)	Mfr.'s Type		Operating Frequency (MHz)
68 Lead PLCC	68 Lead PGA (Gold Lead)		184 Lead CQFP (Gull Wing)	179 Lead PGA (Gold Lead)		184 Lead CQFP (Gull Wing)	179 Lead PGA (Gold Lead)	
MC68882FN16A	MC68882RC16A	16	MC68882FN25A	MC68882RC25A	25	MC68882FN40A	MC68882RC40A	40
MC68882FN20A	MC68882RC20A	20	MC68882FN33A	MC68882RC33A	33	—	MC68882RC50A	50

High Performance 68K Embedded Controllers

For technical assistance on Motorola's High Performance 68K Embedded Controllers call the High Performance Embedded Systems Phone Helpline: (512) 891-4524.

MC68EC000, 8-/16-/32-Bit HCMOS Embedded Controller

Low cost embedded control MPU with 8-/16-bit selectable data bus. The EC000 has a flexible data bus that can operate in either 8- or 16-bit modes and a 24-bit address bus that provides 16 Mbytes of memory addressing capability. The EC000 represents the lowest cost entry point to any 32-bit architecture.

Mfr.'s Type		Operating Frequency (MHz)	MIPS	Address Range (Bytes)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Fill Caches (Bytes)	General Purpose Registers	Address Modes	Floating Point Hardware
68 Lead PLCC	64 Lead PQFP (14 × 14 mm)									
MC68EC000FN8	MC68EC000FU8	8	2.5	16 M	N/A	N/A	N/A	16	14	68882
MC68EC000FN10	MC68EC000FU10	10	2.5	16 M	N/A	N/A	N/A	16	14	68882
MC68EC000FN12	MC68EC000FU12	12	2.5	16 M	N/A	N/A	N/A	16	14	68882
MC68EC000FN16	MC68EC000FU16	16	2.5	16 M	N/A	N/A	N/A	16	14	68882
MC68EC000FN20	MC68EC000FU20	20	2.5	16 M	N/A	N/A	N/A	16	14	68882

MC68EC020, 32-Bit Embedded Controller

The EC020, with a complete 32-bit internal implementation, has a 32-bit data bus and an on-chip instruction cache to provide dramatically increased performance over 8- and 16-bit microprocessors. Upward migration to the EC020 is made simple with dynamic bus sizing, allowing 8-, 16-, and 32-bit peripherals to communicate with the microprocessor.

Mfr.'s Type		Operating Frequency (MHz)	MIPS	Address Range (Bytes)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Fill Caches (Bytes)	General Purpose Registers	Address Modes	Floating Point Hardware
100 Lead PQFP	100 Lead PPGA									
MC68EC020FG16	MC68EC020RP16	16	6.5	16 M	256	N/A	N/A	16	18	68882
MC68EC020FG25	MC68EC020RP25	25	6.5	16 M	256	N/A	N/A	16	18	68882

MC68EC030, 32-Bit Enhanced Embedded Controller

32-bit MPU for embedded applications. On-chip 256 byte instruction and data cache provide high speed access for control routines and data. The EC030 utilizes a low cost DRAM bus interface and a burst mode bus interface is provided for efficient DRAM access. Dynamic bus sizing is available for interfacing to 8-, 16-, and 32-bit devices.

Mfr.'s Type		Operating Frequency (MHz)	MIPS	Address Range (Bytes)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Fill Caches (Bytes)	General Purpose Registers	Address Modes	Floating Point Hardware
132 Lead CQFP (Gull Wing)	124 Lead PPGA									
MC68EC030FE25B	MC68EC030RP25B	25	10.7	4 G	256	256	16	16	18	68882
MC68EC030FE40B	MC68EC030RP40B	40	10.7	4 G	256	256	16	16	18	68882



High Performance 68K Embedded Controllers (Continued)

MC68EC040, 32-Bit High Performance Embedded Controller

High performance 32-bit MPU with on-chip instruction and data cache provides high speed access for control routines and data. The EC040 utilizes a low cost DRAM bus interface and also supports multimaster/multiprocessor systems with bus snooping.

Mfr.'s Type		Operating Frequency (MHz)	MIPS	Address Range (Bytes)	Instruction Cache (Bytes)	Data Cache (Bytes)	Burst Fill Caches (Bytes)	General Purpose Registers	Address Modes	Floating Point Hardware
184 Lead CQFP (Gull Wing)	179 Lead PGA (Gold Lead)									
MC68EC040FE20B	MC68EC040RC20B	20	22	4 G	4 K	4 K	16	16	18	68040
MC68EC040FE25B	MC68EC040RC25B	25	27	4 G	4 K	4 K	16	16	18	68040
MC68EC040FE33B	MC68EC040RC33B	33	36	4 G	4 K	4 K	16	16	18	68040

High Performance 68K Integrated Processors

MC68306, Integrated 68EC00 Processor

The 68306 includes a 68EC000 core processor, a 68681 Dual Universal Asynchronous Receiver Transmitter (DUART), system integration functions and a DRAM controller. The on-chip DRAM controller gives the 68306 the simplest interface to DRAM based designs. The DRAM controller easily accommodates 64 Mbytes of memory. The 68306 saves time in the design cycle by providing valuable 68000 system components in one chip.

Mfr.'s Type		Operating Frequency (MHz)	Core Processor	DMA	Serial Processor	Time Processor Unit	Flash EEPROM	Serial I/O	Timers	A/D Converter	SRAM	DRAM Controller	Glue Logic (SiM)
132 Lead PQ (Gull Wing)	144 Lead TQFP												
MC68306FC16	MC68306PV16	16	68EC000	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	Yes	Yes

MC68307, Integrated Multiple Bus Processor

The MC68307 consists of a static EC000 core processor, UART, M-Bus dual timers, 8051 interface and a dynamic 68000 bus.

Mfr.'s Type		Operating Frequency (MHz)	Core Processor	DMA	Serial Processor	Time Processor Unit	Flash EEPROM	Serial I/O	Timers	A/D Converter	SRAM	DRAM Controller	Glue Logic (SiM)
100 Lead PQFP	100 Lead PTQFP												
MC68307FG16	MC68307PU16	16	68EC000	N/A	N/A	N/A	N/A	Yes	2	N/A	N/A	N/A	Yes
MC68307FG8V	—	8	68EC000	N/A	N/A	N/A	N/A	Yes	2	N/A	N/A	N/A	Yes
MC68307FG16V	—	16	68EC000	N/A	N/A	N/A	N/A	Yes	2	N/A	N/A	N/A	Yes

MC68340, Integrated Multiprotocol Processor with DMA

The 68340 features a CPU32 core and a high speed two channel, 32-bit Direct Memory Access (DMA) controller that eliminates the usual bus arbitration and synchronization delays, maximizing data throughput (25-Mbytes per second on a 16-bit bus). It also contains a SIM, a 68681/2681 compatible DUART, two identical counters/timers each with a 16-bit counter and an 8-bit prescaler with 80 ns resolution.

Mfr.'s Type		Operating Frequency (MHz)	Core Processor	DMA	Serial Processor	Time Processor Unit	Flash EEPROM	Serial I/O	Timers	A/D Converter	SRAM	DRAM Controller	Glue Logic (SiM)
144 Lead CQFP (Gull Wing)	144 Lead TQFP												
MC68340FE16C	MC68340PV16C	16	CPU32	Yes	N/A	N/A	N/A	Yes	2	N/A	N/A	N/A	Yes
MC68340FE25C	MC68340PV25C	25	CPU32	Yes	N/A	N/A	N/A	Yes	2	N/A	N/A	N/A	Yes
MC68340FE16VC*	—	25	CPU32	Yes	N/A	N/A	N/A	Yes	2	N/A	N/A	N/A	Yes

*3.3 Volt Version

MC68349, Dragon 1 High Performance Integrated Processor

The 68349 consists of a high performance CPU30 processor (CPU32) 32-bit execution unit, 32-bit data bus, instruction cache, quad data memory module, 32-bit dual DMA controllers and two serial channels.

Mfr.'s Type	Operating Frequency (MHz)	Core Processor	DMA	Serial Processor	Time Processor Unit	Flash EEPROM	Serial I/O	Timers	A/D Converter	SRAM	DRAM Controller	Glue Logic (SiM)
160 Lead PFP (28 x 28 mm)												
MC68349FT16A	16	CPU32+	Yes	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	Yes
MC68349FT25A	25	CPU32+	Yes	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	Yes

High Performance 68K Integrated Data Communication Processors

For technical assistance on Motorola's High Performance 68K Integrated Data Communication Processors, call the Data Communications Phone Helpline: (512) 891-3417.

MC68302, Integrated Multiprotocol Processor

The 68302 is a three channel communications device that may be configured to support a number of popular industry interfaces, including those for the Integrated Services Digital Network (ISDN) basic rate and terminal adapter applications. Through a combination of architectural and programmable features concurrent operation of different protocols (HDLC/SDLC, UART, BISYNC, DDCMP, or transparent modes) can easily be achieved. The 68302 contains on-chip DMA, RAM, timers, I/O, chip select and a wait state interrupt controller.

Mfr.'s Type		Operating Frequency (MHz)	Core Processor	DMA	Serial Processor	Time Processor Unit	Flash EEPROM	Serial I/O	Timers	A/D Converter	SRAM	DRAM Controller	Glue Logic (SiM)
132 Lead PQ (Gull Wing)	132 Lead PGA (Gold Lead)												
MC68302FC16C	MC68302RC16C	16	68000	Yes	Yes	N/A	N/A	Yes	1	N/A	1 K	N/A	Yes
MC68302FC20C	MC68302RC20C	20	68000	Yes	Yes	N/A	N/A	Yes	1	N/A	1 K	N/A	Yes
MC68302FC25C	MC68302RC25C	25	68000	Yes	Yes	N/A	N/A	Yes	1	N/A	1 K	N/A	Yes

MC68360, QUICC Quad Integrated Communications Controller

Mfr.'s Type		Operating Frequency (MHz)	Core Processor	DMA	Serial Processor	Time Processor Unit	Flash EEPROM	Serial I/O	Timers	A/D Converter	SRAM	DRAM Controller	Glue Logic (SiM)
241 Lead CQFP (Gull Wing)	241 Lead PGA (Gold Lead)												
MC68360FE25B	MC68360RC25B	25	CPU32+	Yes	Yes	N/A	N/A	No	4	N/A	N/A	Yes	Yes
MC68360FE25B*	MC68360RC25B*	25	CPU32+	Yes	Yes	N/A	N/A	No	4	N/A	N/A	Yes	Yes

*Two SCCs supports Ethernet on "EN" version.

One-Time Programmable (OTP) Microcontrollers

MC68HC705B5

Mfr.'s Type				ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer	Serial	A/D	PWM	I/O	COP	Comments	Temperature Range (°C)	No. of Leads
Shrink DIP	QFP	PLCC	PDIP												
MC68HC705B5CB	—	MC68HC705B5CFN	—	6 K	176	N/A	16-Bit: (2 IC, 2 OC)	SCI	8-Ch. (8-Bit)	2-Ch. (8-Bit)	24 I/O, 8 I, 2 O	Yes	Programmable Pulldowns (16 pins) EPROM with Protect	-40 to +85	56/52

COP=Computer Operating Properly (Watch Dog Timer). IC=Input Capture. OC=Output Compare. I/O=Bidirectional Input and Output Port Pins. O=Output Only Port Pins. PWM=Pulse Width Modulation. I=Input Only Port Pins. SCI=Serial Communications Interface.



One-Time Programmable (OTP) Microcontrollers (Continued)

MC68HC705B16

Mfr.'s Type				ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer	Serial	A/D	PWM	I/O	COP	Comments	Temperature Range (°C)	No. of Leads
Shrink DIP	QFP	PLCC	PDIP												
—	MC68HC705B16CFU	MC68HC705B16CFN	—	15.0 K	352	255	16-Bit: (2 IC, 2 OC)	SCI	8-Ch. (8-Bit)	2-Ch. (8-Bit)	32 I/O, 2 O	Yes	On-Chip Charge Pump EEPROM Write Protect	-40 to +85	64/52

XC68HC705B32

XC68HC705B32CB	XC68HC705B32CFU	XC68HC705B32CFN	—	32.0 K	528	255	16-Bit: (2 IC, 2 OC)	SCI	8-Ch. (8-Bit)	2-Ch. (8-Bit)	32 I/O	Yes	On-Chip Charge Pump EEPROM Write Protect	-40 to +85	56/64/52
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XC68HC705C5

—	—	XC68HC705C5CFN	XC68HC705C5CP	5.0 K	176	128	16-Bit (1 IC, 1 OC)	SIOP	N/A	N/A	32 I/O	Yes	8 Hi Current Pins (10 mA Sink) LVPI for EEPROM On-Chip Charge Pump	-40 to +85	44/40
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MC68HC705C8

—	MC68HC705C8CFB*	—	MC68HC705C8CP	8.0 K	304	N/A	16-Bit (1 IC, 1 OC)	SPI, SCI	N/A	N/A	28 I/O, 3 I	Yes	—	-40 to +85	44/44/40
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MC68HC705C8A

MC68HC705C8ACB	MC68HC705C8ACFB*	MC68HC705C8ACFN	MC68HC705C8ACP	8.0 K	304	N/A	16-Bit (1 IC, 1 OC)	SPI, SCI	N/A	N/A	24 I/O, 7 I Current Pin (20 mA Sink)	Yes	Mask Option Pullups (8 Pins) KBI, (8 Pins), 1 High	-40 to +85	42/44/44/40
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XC68HC705C9

—	—	XC68HC705C9CFN	XC68HC705C9CP	16.0 K	352	N/A	16-Bit (1 IC, 1 OC)	SPI, SCI	N/A	N/A	31 I/O	Yes	—	-40 to +85	44/40
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MC68HC705E1

MC68HC705E1DW**	—	—	MC68HC705E1P	4.0 K	368	N/A	MFT, RTC, RTI	N/A	N/A	N/A	20 I/O	Yes	32 KHz Phase Locked Loop Synthesizer	0 to +70	28/28
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MC68HC705J2

MC68HC705J2CDW**	—	—	MC68HC705J2CP	2.0 K	112	N/A	MFT, RTI	N/A	N/A	N/A	14 I/O	Yes	—	-40 to +85	20/20
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MC68HC705K1

MC68HC705K1CDW**	—	—	MC68HC705K1CP	2.0 K	112	N/A	MFT, RTI	N/A	N/A	N/A	10 I/O	Yes	4 Hi Current Pins (8 mA Sink), PEP (64 Bits), Programmable Pulldowns (10 Pins)	-40 to +85	16/16
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MC68HC705L5†

—	MC68HC705L5FU	—	—	8.0 K	256	N/A	16-Bit: (1 IC, 1 OC), RTI, 8-Bit: (1 IC, 1 OC)	SIOP	N/A	N/A	14 I/O, 10 I, 15 O	No	KBI (8 Pins), Dual Oscillators, 8 High, Current Pins (10 mA Sink) Programmable Pullups (24 Pins), Open Drain (31 pins)	0 to +70	80
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MC68HC705P6

MC68HC705P6CDW**	—	—	MC68HC705P6CP	4.5 K	176	N/A	16-Bit: (1 IC, 1 OC)	SIOP	4-Ch. (8-Bit)	N/A	20 I/O, 1 I	Yes	—	-40 to +85	28/28
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MC68HC705P9

MC68HC705P9CDW**	—	—	MC68HC705P9CP	2.0 K	128	N/A	16-Bit: (1 IC, 1 OC)	SIOP	4-Ch. (8-Bit)	N/A	20 I/O, 1 I	Yes	—	-40 to +85	28/28
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*QFP (10 × 10) Package. **Wide SOIC Package. †156 Segment LCD: (1.4 × 27.39") display drive. COP=Computer Operating Properly (Watch Dog Timer). O=Output Only Port Pins. DTMF=Dual-Tone Multi-Frequency. OC=Output Compare, IC=Input Capture. PLL=Phase Lock Loop. I/O=Bidirectional Input and Output Port Pins. PWM=Pulse Width Modulation. I=Input Only Port Pins. RTC=Real Time Clock. KBI=Keyboard Interrupt. RTI=Real Time Interrupt. LCD=Liquid Crystal Display. SCI=Serial Communications Interface. LVPI=Low Voltage Program Inhibit. SIOP=Simple Serial I/O Port. MFT=Multi Function Timer. SPI=Serial Peripheral Interface.

Advanced HCMOS Microcontrollers

68HC11A and 68L11A, 8-Bit

Mfr.'s Type			ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer	Serial	A/D	I/O	Bus Speed (MHz)	Bus Types	Operating Voltage (V)	Comments	Temperature Range (°C)	No. of Leads
QFP	PLCC	PDIP													
—	MC68HC11A0FN	MC68HC11A0P	0	256	0	16-Bit: 3 IC, 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	Yes	22	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus	0 to +70	52/48
—	MC68HC11A1FN	MC68HC11A1P			512							3.0 to 5.5	Low Power, 68HC24 PRU, Mux Bus	0 to +70	52/48
—	MC68L11A0FN2	—	0	256	0	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	Yes	22	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus, 4 EEPROM Block Protects	0 to +70	52
—	MC68L11A1FN2	—			512							3.0 to 5.5	Low Power 68HC11	0 to +70	52

68HC11D, 8-Bit

MC68HC11D0FB	MC68HC11D0FN	MC68HC11D0P	192	0	14	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	No	14	0 to 2.0	Mux	4.5 to 5.5	Mux Bus	0 to +70	44/44/40
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68HC11E and 68L11E, 8-Bit

—	MC68HC11E0FN	—	0	512	0	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	Yes	22	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus, 4 EEPROM Block Protects	0 to +70	52
—	MC68HC11E1FN	—			512							3.0 to 5.5	Low Power 68HC11	0 to +70	52
—	MC68L11E0FN2	—	0	512	0	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	Yes	22	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus, 4 EEPROM Block Protects	0 to +70	52
—	MC68L11E1FN2	—			512							3.0 to 5.5	Low Power 68HC11	0 to +70	52

OC=Output Capture. IC=Input Capture. RTC=Real Time Clock. RTI=Real Time Interrupt. PRU=Port Replacement Unit. SCI=Serial Communication Interface. SPI=Serial Peripheral Interface. A/D=Analog to Digital Converter. PWM=Pulse Width Modulation. WDOG=Watchdog Timer.



Advanced HCMOS Microcontrollers (Continued)

68HC11F and 68L11F, 8-Bit

Mfr.'s Type			ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer	Serial	A/D	I/O	Bus Speed (MHz)	Bus Types	Operating Voltage (V)	Comments	Temperature Range (°C)	No. of Leads
QFP	PLCC	PDIP													
—	MC68HC11F1CFN3	—	0	1 K	512	16-Bit: 3 or 4 IC, 4 or 5 OC,	SPI	Yes	30	0 to 3.0	Non-Mux	4.5 to 5.5	Non-Mux Bus Chip Selects,	–40 to +85	68
—	MC68L11F1FN3	—				RTI, WDOG, Pulse Accumulator	SCI					3.0 to 5.5	4 EEPROM Block Protects	0 to +70	68

68HC11K, 8-Bit

—	MC68HC11K0CFN3	—	0	768	0	16-Bit: 3 or 4 IC, 4 or 5 OC, 4 PWM,	SPI	Yes	37	0 to 3.0	Non-Mux	4.5 to 5.5	Non-Mux Bus Chip Selects,	–40 to +85	84
—	MC68HC11K1CFN3	—			640	RTI, WDOG, Pulse Accumulator	SCI+						5 EEPROM Block Protects		

68HC11L, 8-Bit

—	MC68HC11L0CFN2	—	0	512	0	16-Bit: 3 or 4 IC, 4 or 5 OC,	SPI	Yes	30	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus,	–40 to +85	68
—	MC68HC11L1CFN2	—			512	RTI, WDOG, Pulse Accumulator	SCI						4 EEPROM Block Protects		

IC=Input Capture, OC=Output Capture, RTI=Real Time Interrupt, PRU=Port Replacement Unit, SCI=Serial Communication Interface, SCI+=Enhanced SCI, SPI=Serial Peripheral Interface, A/D=Analog to Digital Converter, WDOG=Watchdog Timer.

68HC711D, One Time Programmable 8-Bit

Mfr.'s Type			EPROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer	Serial	A/D	I/O	Bus Speed (MHz)	Bus Types	Operating Voltage (V)	Comments	Temperature Range (°C)	No. of Leads
44 Lead QFP	44 Lead PLCC	40 Lead PDIP													
MC68HC711D3CFB2	MC68HC711D3CFN2	MC68HC711D3CP2	4 K	192	0	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	No	32	0 to 2.0	Mux	4.5 to 5.5	Mux Bus	–40 to +85	44/44/40

8HC711E, One Time Programmable 8-Bit

—	MC68HC711E9CFN2	—	12 K	512	512	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	Yes	38	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus, 4 EEPROM Block Protects	–40 to +85	52
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68HC711L, One Time Programmable 8-Bit

—	MC68HC711L6CFN2	—	16 K	512	512	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	Yes	46	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus, 4 EEPROM Block Protects	–40 to +85	68
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68HC811E and 68SEC811E, 8-Bit

—	MC68HC811E2FN	MC68HC811E2P	0	256	2 K	16-Bit: 3 or 4 IC, 4 or 5 OC, RTI, WDOG, Pulse Accumulator	SPI, SCI	Yes	38	0 to 2.0	Mux	4.5 to 5.5	68HC24 PRU, Mux Bus, 4 EEPROM Block Protects	0 to +70	44/40
—	MC68SEC811E2FN	MC68SEC811E2P											Secured, 68HC24 PRU, Mux Bus, 4 EEPROM Block Protects	0 to +70	44/40

IC=Input Capture, OC=Output Capture, RTI=Real Time Interrupt, PRU=Port Replacement Unit, SCI=Serial Communication Interface, SPI=Serial Peripheral Interface, A/D=Analog to Digital Converter, WDOG=Watchdog Timer.

68HC16Z, 16-Bit Advanced Microcontrollers

Mfr.'s Type	ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer	Serial	ADC	I/O	Clock Speed (MHz)	Modes	Operating Voltage (V)	Comments	Temperature Range (°C)	No. of Leads
PQFP													
MC68HC16Z1CFC16	0	1 K	0	3 or 4 IC, 4 or 5 OC, 2 PWM, PIT, WDOG	QSPI, SCI	10-Bit	46	0 to 16.78	External Bus, Background Debug	4.5 to 5.5	External Bus, 9 Chip Selects, Synthesized Clock, 68HC33 PRU	–40 to +85	132

68331 and 68332, 32-Bit Advanced Microcontrollers

MC68331CFC16	0	0	0	3 or 4 IC, 4 or 5 OC, 2 PWM, PIT, WDOG	QSPI, SCI	No	43	0 to 20.97	External Bus, Background Debug	4.5 to 5.5	External Bus, 12 Chip Selects, Synthesized Clock	–40 to +85	132
MC68332ACFC16	0	2 K	0	16 Channel Programmable TPU, PIT, WDOG	QSPI, SCI	No	47	0 to 20.97	External Bus, Background Debug	4.5 to 5.5	External Bus, 12 Chip Selects, Synthesized Clock	–40 to +85	132

ADC=8/10-Bit Analog to Digital Converter Module, PIT=Programmable Interrupt Timer, IC=Input Capture, OC=Output Capture, PWM=Pulse Width Modulation, SCI=Serial Communication Interface, TPU=Time Processing Unit, DMA=Direct Memory Access, QSPI=Queued SPI, WDOG=Watchdog Timer.

MC14000: Metal Gate CMOS Logic Integrated Circuits

Mfr.'s Type		Description	No. of Leads
PDIP	SOIC		
MC14001BCP	MC14001BD	Quad 2-Input NOR Gate	14
—	MC14001UBD	Quad 2-Input NOR Gate, Inverting/Non-Buffered	14
MC14002BCP	—	Dual 4-Input NOR Gate	16
MC14006BCP	—	18-Bit Static Shift Register	14
MC14007UBCP	MC14007UBD	Dual Complementary Pair Plus Inverter	14
MC14008BCP	—	4-Bit Full Adder	16
MC14011BCP	MC1411BD	Quad 2-Input NAND Gate	14
MC14011UBCP	MC14011UBD	Quad 2-Input NAND Gate, Inverting/Non-Buffered	14
MC14012BCP	—	Dual 4-Input NAND Gate	14
MC14013BCP	MC14013BD	Dual Type D Flip-Flop	14
MC14014BCP	MC14014BD	8-Bit Static Shift Register, Synchronous Parallel Input/Serial Output	16
MC14015BCP	MC14015BD	Dual 4-Bit Static Shift Register, Serial Input/Parallel Output	16
MC14016BCP	MC14016BD	Quad Analog Switch/Quad Multiplexer	14
MC14017BCP	MC14017BD	5-Stage Johnson Decade Counter with Code Converter, Divide by N, Presettable/Resettable Divide By N Johnson Counter	16
MC14018BCP	—	14-Bit Binary Counter	16
MC14020BCP	MC14020BD	8-Bit Static Shift Register, Asynchronous Parallel Input/Serial Output	16
MC14021BCP	MC14021BD	4-Stage Johnson Octal Counter	16
MC14022BCP	—	Triple 3-Input NAND Gate	14
MC14023BCP	MC14023BD	7-Stage Ripple Counter	14
MC14024BCP	MC14024BD	Triple 3-Input NOR Gate	14
MC14025BCP	—	Dual J-K Flip-Flop	16
MC14027BCP	MC14027BD	BCD to Decimal Decoder, Binary to Octal Decoder	16
MC14028BCP	MC14028BD	Binary/Decade Up/Down Counter	16
MC14029BCP	—		

Mfr.'s Type		Description	No. of Leads
PDIP	SOIC		
MC14035BCP	—	4-Bit Parallel-In/Parallel-Out Shift Register	16
MC14040BCP	MC14040BD	12-Bit Binary Counter	16
MC14042BCP	—	Quad Transparent Latch	16
MC14043BCP	MC14043BD	Quad NOR R-S Latch	16
MC14044BCP	—	Quad NAND R-S Latch	16
MC14046BCP	MC14046BDW	Phase Locked Loop	16
MC14049BCP	MC14049BD	Hex Inverter/Buffer	16
MC14049UBCP	MC14049UBD	Hex Inverter/Buffer	16
MC14050BCP	MC14050BD	Hex Non-Inverting Buffer	16
MC14051BCP	MC14051BD	8-Channel Analog Multiplexer/Demultiplexer	16
MC14052BCP	MC14052BD	Dual 4-Channel Analog Multiplexer/Demultiplexer	16
MC14053BCP	MC14053BD	Triple 2-Channel Analog Multiplexer/Demultiplexer	16
MC14060BCP	—	14-Bit Binary Ripple Counter and Oscillator	16
MC14066BCP	MC14066BD	Quad Analog Switch/Quad Multiplexer	14
MC14067BCP	—	16-Channel Analog Multiplexer/Demultiplexer	24
MC14068BCP	—	8-Input NAND Gate	14
MC14069UBCP	MC14069UBD	Hex Inverter	14
MC14070BCP	MC14070BD	Quad Exclusive OR Gate	14
MC14071BCP	MC14071BD	Quad 2-Input OR Gate	14
MC14072BCP	—	Dual 4-Input OR Gate	14
MC14073BCP	—	Triple 3-Input AND Gate	14
MC14075BCP	—	Triple 3-Input OR Gate	14
MC14076BCP	—	4-Bit D-Type Register with Three-State Outputs	16
MC14077BCP	—	Quad Exclusive NOR Gate	14



MC14000: Metal Gate CMOS Logic Integrated Circuits (Continued)

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
PDIP	SOIC			PDIP	SOIC		
MC14078BCP	—	8-Input NOR Gate	14	MC14526BCP	—	Presettable 4-Bit Binary Down Counter	16
MC14081BCP	MC14081BD	Quad 2-Input AND Gate	14	MC14527BCP	—	BCD Rate Multiplier	16
MC14082BCP	—	Dual 4-Input AND Gate	14	MC14528BCP	—	Dual Monostable Multivibrator	16
MC14093BCP	MC14093BD	Quad 2-Input NAND Schmitt Trigger	14	MC14529BCP	MC14529BD	Dual 4-Channel Analog Data Selector	16
MC14094BCP	MC14094BD	8-Bit Shift/Store Register With Three-State Outputs	16	MC14532BCP	—	8-Bit Priority Encoder	16
MC14099BCP	MC14099BDW	8-Bit Addressable Latch	16	MC14534BCP	—	5 Cascaded BCD Counters	24
MC14106BCP	MC14106BD	Hex Schmitt Trigger	14	MC14536BCP	MC14536BDW	Programmable Timer, 24 Stage Binary Ripple Counter	16
MC14161BCP	—	Synchronous Presettable 4-Bit Binary Counter	16	MC14538BCP	MC14538BDW	Dual Precision Retriggerable/Resetttable Monostable Multivibrator	16
MC14174BCP	—	Hex D-Type Flip-Flop	16	MC14539BCP	—	Dual 4-Channel Data Selector/Multiplexer	16
MC14175BCP	MC14175BD	Quad D-Type Flip-Flop	16	MC14541BCP	MC14541BD	Programmable 16 Stage Timer with Oscillator	16
MC14490P	MC14490DW	Hex Contact Bounce Eliminator	16	MC14543BCP	MC14543BD	BCD To Seven Segment Latch/Decoder/Driver For LCDs	16
MC14500BCP	—	1-Bit Industrial Control Unit	16	MC14544BCP	—	BCD To Seven Segment Latch/Decoder/Driver For LCDs With Ripple Blanking	18
MC14501UBCP	—	Dual 4-Input NAND Gate/2-Input NOR/OR Gate, Or 8-Input AND/N AND Gate	16	MC14547BCP	—	High Current BCD To Seven Segment Decoder/Driver	16
MC14502BCP	—	Strobed Hex Inverter/Buffer	16	MC14548BCP	—	8-Bit Successive Approximation Register, Cascadeable	16
MC14503BCP	MC14503BD	Hex Non-Inverting Three-State Buffer	16	MC14551BCP	MC14551BD	Quad 2-Channel Analog Multiplexer/Demultiplexer	16
MC14504BCP	MC14504BD	Hex Level Shifter For TTL To CMOS Or CMOS To CMOS	16	MC14553BCP	—	Synchronous 3-Digit BCD Counter	16
MC14508BCP	—	Dual 4-Bit Latch	24	MC14555BCP	—	Dual Binary To 1 Of 4 Decoder/Demultiplexer, Active High Outputs	16
MC14510BCP	—	BCD Up/Down Counter	16	MC14556BCP	—	Dual Binary To 1 Of 4 Decoder/Demultiplexer, Active Low Outputs	16
MC14511BCP	—	BCD To Seven Segment Latch/Decoder/Driver	16	MC14557BCP	MC14557BDW	1 To 64-Bit Variable Length Shift Register	16
MC14512BCP	—	8-Channel Data Selector	16	MC14559BCP	—	8-Bit Successive Approximation Register With Feed Forward	16
MC14513BCP	—	BCD To Seven Segment Latch/Decoder/Driver With Ripple Blanking	18	MC14560BCP	—	Dual 4-Bit NBCD Adder	16
MC14514BCP	—	4-Bit Transparent Latch/4 To 16 Line Decoder, Active High Output	24	MC14562BCP	—	128-Bit Static Shift Register	14
MC14515BCP	—	4-Bit Transparent Latch/4 To 16 Line Decoder, Active Low Output	24	MC14566BCP	—	Industrial Time Based Generator	16
MC14516BCP	—	Binary Up/Down Counter	16	MC14568BCP	—	Phase Comparator and 4-Bit Presettable Up Binary Counter	16
MC14517BCP	MC14517BDW	Dual 64-Bit Static Shift Register	16	MC14569BCP	—	Programmable Divide By N Dual 4-Bit Binary/BCD Down Counter	16
MC14518BCP	—	Dual BCD Up Counter	16	MC14572UBCP	—	Quad Inverter, 2-Input NOR Gate, 2-Input NAND Gate	16
MC14519BCP	—	4-Bit AND/OR Selector	16	MC14583BCP	—	Dual Schmitt Trigger	16
MC14520BCP	—	Dual Binary Up Counter	16	MC14584BCP	MC14584BD	Hex Schmitt Trigger	14
MC14521BCP	MC14521BD	24-Stage Frequency Divider	16	MC14585BCP	—	4-Bit Magnitude Comparator	16
MC14522BCP	—	Presettable 4-Bit BCD Down Counter	16	MC14599BCP	—	8-Bit Addressable D Latch	18

MC74ACT and MC74ACT: FACT, Very High Speed, Low Power Advanced CMOS Logic Integrated Circuits

Mfr.'s Type				Description	No. of Leads
MC74AC		MC74ACT			
PDIP	SOIC	PDIP	SOIC		
MC74AC00N	MC74AC00D	MC74ACT00N	MC74ACT00D	Quad 2-Input NAND Gate	14
MC74AC02N	MC74AC02D	MC74ACT02N	—	Quad 2-Input NOR Gate	14
MC74AC04N	MC74AC04D	MC74ACT04N	MC74ACT04D	Hex Inverter	14
MC74AC05N	MC74AC05D	MC74ACT05N	MC74ACT05D	Hex Inverter with Open-Drain Outputs	14
MC74AC08N	MC74AC08D	MC74ACT08N	MC74ACT08D	Quad 2-Input AND Gate	14
—	—	MC74ACT109N	MC74ACT109D	Dual JK Positive Edge Triggered Flip-Flop	16
MC74AC112N	MC74AC112D	MC74ACT112N	MC74ACT112D	Dual JK Negative Edge Triggered Flip-Flop	16
MC74AC113N	MC74AC113D	MC74ACT113N	MC74ACT113D	Dual JK Negative Edge Triggered Flip-Flop	14
MC74AC125N	MC74AC125D	MC74ACT125N	MC74ACT125D	Quad Buffer with Three-State Outputs	14
—	—	—	MC74ACT125D	Quad 2-Input NAND Schmitt Trigger	14
MC74AC138N	MC74AC138D	MC74ACT138N	MC74ACT138D	1-of-8 Decoder/Demultiplexer	16
MC74AC139N	MC74AC139D	—	MC74ACT139D	Dual 1-of-4 Decoder/Demultiplexer	16
MC74AC14N	MC74AC14D	MC74ACT14N	MC74ACT14D	Hex Inverter Schmitt Trigger	14
MC74AC151N	MC74AC151D	MC74ACT151N	MC74ACT151D	1-of-8 Decoder/Demultiplexer	16
—	—	—	MC74ACT153D	Dual 4-Input Multiplexer	16
MC74AC157N	MC74AC157D	MC74ACT157N	MC74ACT157D	Quad 2-Input Multiplexer	16
—	—	MC74ACT158N	MC74ACT158D	Quad 2-Input Multiplexer	16
MC74AC160N	MC74AC160D	—	—	Synchronous Presettable BCD Decade Counter	16
MC74AC161N	MC74AC161D	MC74ACT161N	MC74ACT161D	Synchronous Presettable Binary Counter	16
MC74AC163N	MC74AC163D	MC74ACT163N	MC74ACT163D	Synchronous Presettable Binary Counter	16
MC74AC174N	MC74AC174D	MC74ACT174N	MC74ACT174D	Hex D Flip-Flop With Master Reset	16
MC74AC175N	MC74AC175D	MC74ACT175N	MC74ACT175D	Quad D Flip-Flop With Master Reset	16
MC74AC20N	MC74AC20D	—	—	Dual 4-Input NAND Gate	14
MC74AC240N	—	MC74ACT240N	MC74ACT240DW	Octal Buffer/Line Driver With Three-State Outputs	20
MC74AC241N	MC74AC241DW	—	—	Octal Buffer/Line Driver With Three-State Outputs	20
MC74AC244N	MC74AC244DW	MC74ACT244N	MC74ACT244DW	Octal Buffer/Line Driver With Three-State Outputs	20
MC74AC245N	MC74AC245DW	MC74ACT245N	MC74ACT245DW	Octal Bidirectional Transceiver With Three-State Outputs	20
MC74AC251N	MC74AC251D	—	MC74ACT251D	8-Input Multiplexer With Three-State Outputs	16
—	—	—	MC74ACT253D	Dual 4-Input Multiplexer With Three-State Outputs	16
—	—	MC74ACT257N	—	Quad 2-Input Multiplexer With Three-State Outputs	16
—	—	—	MC74ACT257D	Quad 2-Input Multiplexer With Three-State Outputs	16
—	—	—	MC74ACT258D	Quad 2-Input Multiplexer With Three-State Outputs	16
MC74AC273N	MC74AC273DW	MC74ACT273N	MC74ACT273DW	Octal D Flip-Flop	20
—	—	MC74ACT299N	MC74ACT299DW	8-Input Universal Shift/Storage Register With Common Parallel I/O Pins	20
MC74AC323N	MC74AC323DW	MC74ACT323N	MC74ACT323DW	8-Input Universal Shift/Storage Register With Synchronous Reset and Common I/O Pins	20
MC74AC32N	MC74AC32D	MC74ACT32N	MC74ACT32D	Quad 2-Input OR Gate	14
MC74AC373N	MC74AC373DW	MC74ACT373N	MC74ACT373DW	Octal Transparent Latch With Three-State Outputs	20
MC74AC374N	MC74AC374DW	MC74ACT374N	MC74ACT374DW	Octal D-Type Flip-Flop With Three-State Outputs	20
—	—	MC74ACT377N	MC74ACT377DW	Octal D-Type Flip-Flop With Clock Enable	20
—	—	—	MC74ACT378D	Parallel D Register With Enable	16
MC74AC4040N	—	—	—	12-Stage Binary Ripple Counter	16
MC74AC533N	MC74AC533DW	MC74ACT533N	MC74ACT533DW	Octal Transparent Latch with Three-State Outputs	20
MC74AC534N	MC74AC534DW	—	—	Octal D-Type Flip-Flop With Three-State Outputs	20
MC74AC540N	—	MC74ACT540N	MC74ACT540DW	Octal Buffer/Line Driver With Three-State Outputs	20
MC74AC541N	MC74AC541DW	MC74ACT541N	MC74ACT541DW	Octal Buffer/Line Driver With Three-State Outputs, Non-Inverting	20
MC74AC573N	MC74AC573DW	MC74ACT573N	MC74ACT573DW	Octal D-Type Latch With Three-State Outputs	20
MC74AC574N	MC74AC574DW	MC74ACT574N	MC74ACT574DW	Octal D-Type Flip-Flop With Three-State Outputs	20
—	—	MC74ACT640N	—	Octal Bidirectional Transceiver With Three-State Outputs	20
—	—	MC74ACT643N	MC74ACT643DW	Octal Bidirectional Transceiver With Three-State Outputs	20
—	—	MC74ACT646N	MC74ACT646DW	Octal Transceiver/Register With Three-State Outputs, Non-Inverting	24
MC74AC652N	MC74AC652DW	MC74ACT652N	MC74ACT652DW	Octal Transceiver/Register With Three-State Outputs, Non-Inverting	24
MC74AC74N	MC74AC74D	MC74ACT74N	MC74ACT74D	Dual D-Type Positive Edge Triggered Flip-Flop	14
MC74AC86N	MC74AC86D	MC74ACT86N	MC74ACT86D	Quad 2-Input Exclusive OR Gate	14



MC74F: FAST Schottky TTL Logic Integrated Circuits

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
PDIP	SOIC			PDIP	SOIC		
MC74F00N	MC74F00D	Quad 2-Input NAND Gate	14	MC74F269N	MC74F269DW	8-Bit Bidirectional Binary Counter	24
MC74F02N	MC74F02D	Quad 2-Input NOR Gate	14	MC74F280N	MC74F280D	9-Bit Parity Generator/Checker	14
MC74F04N	MC74F04D	Hex Inverter	14	MC74F283N	MC74F283D	4-Bit Binary Full Adder with Fast Carry	16
MC74F08N	MC74F08D	Quad 2-Input AND Gate	14	MC74F299DW	MC74F299D	8-Input Universal Shift Register with Common Parallel I/O Pins	20
MC74F109N	MC74F109D	Dual JK Positive Edge Triggered Flip-Flop	16	MC74F32N	MC74F32D	Quad 2-Input OR Gate	14
MC74F110N	MC74F110D	Triple 3-Input NAND Gate	14	MC74F350N	—	4-Bit Shifter with Three-State Outputs	16
MC74F112N	MC74F112D	Dual JK Negative Edge Triggered Flip-Flop	16	—	MC74F365D	Hex Buffer/Driver Gate Enable Non-Inverting, Three-State	16
MC74F111N	MC74F111D	Triple 3-Input AND Gate	14	MC74F367N	MC74F367D	Hex Buffer/Driver 4-Bit Plus 2-Bit Non-Inverting, Three-State	16
MC74F1245N	—	Octal Bidirectional Transceiver With Three-State Inputs/Outputs	20	MC74F373N	MC74F373DW	Octal Transparent Latch with Three-State Outputs	20
MC74F125N	MC74F125D	Three-State Quad Buffer, Enable Low	14	MC74F374N	MC74F374DW	Octal D-Type Flip-Flop with Three-State Outputs	20
MC74F126N	MC74F126D	Three-State Quad Buffer, Enable High	14	MC74F377N	MC74F377DW	Octal D-Type Flip-Flop with Enable	20
MC74F132N	—	Quad 2-Input NAND Schmitt Trigger	14	MC74F378N	MC74F378D	Parallel D Register with Enable	16
MC74F138N	MC74F138D	1 Of 8 Decoder/Demultiplexer	16	MC74F379N	—	Quad Parallel Register	16
MC74F139N	MC74F139D	Dual 1 Of 4 Decoder	16	MC74F38N	MC74F38D	Quad 2-Input NAND Buffer, Open Collector	14
MC74F148N	MC74F148D	8-Line to 3-Line Priority Encoder	16	MC74F399N	MC74F399D	Quad 2-Port Register	16
MC74F14N	MC74F14D	Hex 2-Input Schmitt Trigger Inverter	14	MC74F51N	—	Dual 2-Wide 2-input, 2-Wide 3-Input AND-OR-Invert Gate	14
MC74F151N	MC74F151D	8-Input Multiplexer	16	MC74F521N	MC74F521DW	8-Bit Identity Comparator	20
MC74F153N	MC74F153D	Dual 4-Input Multiplexer	16	MC74F533N	MC74F533DW	Octal Transparent Latch with Three-State Outputs	20
MC74F157AN	MC74F157AD	Quad 2-Input Multiplexer	16	MC74F534N	—	Octal D-Type Flip-Flop with Three-State Outputs	20
MC74F158AN	MC74F158AD	Quad 2-Input Multiplexer	16	MC74F543N	MC74F543DW	Octal Registered Transceiver, Non-Inverting, Three-State	24
MC74F160AN	—	Synchronous Presettable BCD Decade Counter	16	MC74F544N	MC74F544DW	Octal Registered Transceiver, Inverting, Three-State	24
MC74F161AN	MC74F161AD	Synchronous Presettable 4-Bit Binary Counter	16	—	MC74F568DW	Synchronous 4-bit Bidirectional BCD Decade Counter with Three-State Outputs	20
MC74F163AN	MC74F163AD	Synchronous Presettable 4-Bit Binary Counter	16	MC74F569N	MC74F569DW	Synchronous 4-Bit Bidirectional Binary Counter with Three-State Outputs	20
MC74F164N	MC74F164D	8-Bit Serial-In, Parallel-Out Shift Register	16	MC74F574N	MC74F574DW	Octal D-Type Flip-Flop with Three-State Outputs	20
MC74F169N	MC74F169D	4-Stage Synchronous Bidirectional Modulo-16 Binary Counter	16	MC74F579N	MC74F579DW	8-Bit Bidirectional Binary Counter, Three-State	20
MC74F174N	MC74F174D	Hex D Flip-Flop With Master Reset	16	—	MC74F620DW	Octal Bus Transceiver with Three-State Outputs, Inverting	20
MC74F175N	MC74F175D	Quad D Flip-Flop	16	MC74F623N	—	Octal Bus Transceiver with Three-State Outputs, Non-Inverting	20
MC74F194N	MC74F194D	4-Bit Bidirectional Universal Shift Register	16	MC74F640N	—	Octal Bus Transceiver, Inverting with Three-State Outputs	20
MC74F20N	MC74F20D	Dual 4-Input NAND Gate	14	MC74F646N	MC74F646DW	Octal Transceiver/Register with Three-State Outputs	24
MC74F21N	MC74F21D	Dual 4-Input AND Gate	14	MC74F64N	—	4-2-3-2-Input AND-OR-Invert Gate	14
MC74F240N	MC74F240DW	Octal Inverting Buffer/Line Driver With Three-State Outputs	20	MC74F657AN	MC74F657ADW	Octal Bidirectional Transceiver with 8-Bit Parity Generator Checker	24
MC74F241N	MC74F241DW	Octal Buffer/Line Driver With Three-State Outputs	20	MC74F74N	MC74F74D	Dual D-Type Positive Edge Triggered Flip-Flop	14
—	MC74F243D	Quad Bus Transceiver With Three-State Outputs	14	MC74F779N	MC74F779D	8-Bit Bidirectional Binary Counter, Three-State	16
MC74F244N	MC74F244DW	Octal Buffer/Line Driver With Three-State Outputs, Enable Low	20	MC74F803N	MC74F803D	Clock Driver Quad D-Type Flip-Flop with Matched Propagation Delays	14
MC74F245N	MC74F245DW	Octal Bidirectional Transceiver With Three-State Inputs/Outputs	20	MC74F823N	MC74F823DW	9-Bit D-Type Positive Edge Triggered Flip-Flop	24
MC74F251N	MC74F251D	8-Input Multiplexer With Three-State Outputs	16	MC74F827N	MC74F827DW	10-bit Buffer/Line Driver with Three-State Outputs, Enable Low	16
MC74F253N	MC74F253D	Dual 4-Input Multiplexer With Three-State Outputs	16	MC74F85N	MC74F85D	4-Bit Magnitude Comparator	14
MC74F257AN	MC74F257AD	Quad 2-Input Multiplexer With Three-State Outputs	16	MC74F86N	MC74F86D	Quad 2-Input Exclusive OR Gate	14
MC74F258AN	MC74F258AD	Quad 2-Input Multiplexer With Three-State Outputs, Inverting	16	—	—	—	—
MC74F259N	MC74F259D	8-Bit Addressable Latch	16	—	—	—	—

MC74HC and MC74HCT: High Speed and High Speed-TTL Compatible CMOS Logic Integrated Circuits

Mfr.'s Type				Description	No. of Leads
MC74HC		MC74HCT			
PDIP	SOIC	PDIP	SOIC		
MC74HC00AN	MC74HC00AD	MC74HCT00AN	MC74HCT00AD	Quad 2-Input NAND Gate	14
MC74HC02AN	MC74HC02AD	—	—	Quad 2-Input NOR Gate	14
MC74HC03AN	MC74HC03AD	—	—	Quad 2-Input NAND Gate With Open Drain Outputs	14
MC74HC04AN	MC74HC04AD	MC74HCT04AN	MC74HCT04AD	Hex Inverter	14
MC74HC004N	MC74HC004D	—	—	Hex Unbuffered Inverter	14
MC74HC08AN	MC74HC08AD	MC74HCT08AN	—	Quad 2-Input AND Gate	14
MC74HC107N	MC74HC107D	—	—	Dual JK Flip-Flop With Reset	14
MC74HC109N	MC74HC109D	—	—	Dual JK Flip-Flop With Set and Reset	16
MC74HC110N	MC74HC110D	—	—	Triple 3-Input NAND Gate	14
MC74HC112N	MC74HC112D	—	—	Dual JK Flip-Flop With Set and Reset	16
MC74HC111N	MC74HC111D	—	—	Triple 3-Input AND Gate	14
MC74HC125AN	MC74HC125AD	—	—	Quad Three-State Non-Inverting Buffer, Active Low Enable	14
MC74HC126AN	MC74HC126AD	—	—	Quad Three-State Non-Inverting Buffer, Active High Enable	14
MC74HC132AN	MC74HC132AD	—	—	Quad 2-Input NAND Gate With Schmitt Trigger Inputs	14
MC74HC133N	—	—	—	13-Input NAND Gate	16
MC74HC137N	MC74HC137D	—	—	1 Of 8 Decoder/Demultiplexer With Address Latch	16
MC74HC138AN	MC74HC138AD	MC74HCT138AN	MC74HCT138AD	1 Of 8 Decoder/Demultiplexer	16
MC74HC139AN	MC74HC139AD	—	—	Dual 1 Of 4 Decoder/Demultiplexer	16
MC74HC147N	MC74HC147D	—	—	Decimal To BCD Encoder	16
MC74HC144AN	MC74HC144AD	MC74HCT144AN	MC74HCT144AD	Hex Schmitt Trigger Inverter	14
MC74HC151N	—	—	—	8-Input Data Selector/Multiplexer	16
MC74HC153N	MC74HC153D	—	—	Dual 4-Input Data Selector/Multiplexer	16
MC74HC154N	MC74HC154DW	—	—	1 of 16 Decoder/Demultiplexer	24
MC74HC157AN	MC74HC157AD	MC74HCT157AN	—	Quad 2-Input Data Selectors/Multiplexers	16
MC74HC158N	—	—	—	Quad 2-Input Data Selector/Multiplexer	16
MC74HC160N	—	—	—	Asynchronous Presettable BCD Counter	16
MC74HC161AN	MC74HC161AD	MC74HCT161AN	—	Asynchronous Presettable Binary Counter	16
MC74HC163AN	MC74HC163AD	MC74HCT163AN	—	Synchronous Presettable Binary Counter	16
MC74HC164N	MC74HC164D	—	—	8-Bit Serial-Input/Parallel-Output Shift Register	14
MC74HC165N	MC74HC165D	—	—	8-Bit Serial or Parallel-Input Serial-Output Shift Register	16
MC74HC173N	MC74HC173D	—	—	Quad Three-State D Type Flip-Flop With Common Clock and Reset	16
MC74HC174AN	MC74HC174AD	MC74HCT174AN	MC74HCT174AD	Hex D Type Flip-Flop With Common Clock and Reset	16
MC74HC175N	MC74HC175D	—	—	Quad D Type Flip-Flop With Common Clock and Reset	16
MC74HC194N	—	—	—	4-Bit Bidirectional Universal Shift Register	16
MC74HC195N	—	—	—	4-Bit Universal Shift Register	16
MC74HC20N	—	—	—	Dual 4-Input NAND Gate	14
MC74HC237N	—	—	—	1 Of 8 Decoder/Demultiplexer With Address Latch	16
MC74HC240AN	MC74HC240ADW	MC74HCT240AN	MC74HCT240ADW	Octal Three-State Inverting Buffer/Line Driver	20
MC74HC241AN	MC74HC241ADW	—	—	Octal Three-State Non-Inverting Buffer/Line Driver/Line Receiver	20
MC74HC242N	—	—	—	Quad Three-State Bus Transceiver	14
MC74HC244AN	MC74HC244ADW	MC74HCT244AN	MC74HCT244ADW	Octal Three-State Non-Inverting Buffer/Line Driver/Line Receiver	20
MC74HC245AN	MC74HC245ADW	MC74HCT245AN	MC74HCT245ADW	Octal Three-State Non-Inverting Bus Transceiver	20
MC74HC251N	MC74HC251D	—	—	8-Input Data Selector/Multiplexer With Three-State Outputs	16
MC74HC253N	MC74HC253D	—	—	Dual 4-Input Data Selector/Multiplexer With Three-State Outputs	16
MC74HC257N	MC74HC257D	—	—	Quad 2-Input Data Selector/Multiplexer With Three-State Outputs	16
MC74HC259N	MC74HC259D	—	—	8-Bit Addressable Latch/1 Of 8 Decoder	16
MC74HC273AN	MC74HC273ADW	MC74HCT273AN	MC74HCT273ADW	Octal D Type Flip-Flop With Common Clock and Reset	20
MC74HC27N	—	—	—	Triple 3-Input NOR Gate	14
MC74HC280N	MC74HC280D	—	—	9-Bit Odd/Even Parity Generator/Checker	14
MC74HC299N	MC74HC299DW	—	—	8-Bit Bidirectional Universal Shift Register With Parallel I/O	20
MC74HC30N	MC74HC30D	—	—	8-Input NAND Gate	14
MC74HC32AN	MC74HC32AD	MC74HCT32AN	MC74HCT32AD	Quad 2-Input OR Gate	14



MC74HC and MC74HCT: High Speed and High Speed-TTL Compatible CMOS Logic Integrated Circuits (Continued)

MC74HC		MC74HCT		Description	No. of Leads
PDIP	SOIC	PDIP	SOIC		
MC74HC354N	—	—	—	8-Input Data Selector/Multiplexer With Data and Address Latches and Three-State Outputs	20
MC74HC365N	—	—	—	Hex Three-State Non-Inverting Buffer With Common Enable	16
MC74HC367N	—	—	—	Hex Three-State Non-Inverting Buffer With Separate 2-Bit and 4-Bit Sections	16
MC74HC368N	—	—	—	Hex Three-State Inverting Buffer With Separate 2-Bit and 4-Bit Sections	16
MC74HC373AN	MC74HC373ADW	MC74HCT373AN	MC74HCT373ADW	Octal Three-State Non-Inverting Transparent Latch	20
MC74HC374AN	MC74HC374ADW	MC74HCT374AN	MC74HCT374ADW	Octal Three-State Non-Inverting D Type Flip-Flop	20
MC74HC390N	MC74HC390D	—	—	Dual 4-Stage Binary Ripple Counter With Divide By 2 and Divide By 5 Sections	16
MC74HC393N	MC74HC393D	—	—	Dual 4-Stage Binary Ripple Counter	14
MC74HC4002N	MC74HC4002D	—	—	Dual 4-Input NOR Gate	14
MC74HC4017N	MC74HC4017D	—	—	Decade Counter	16
MC74HC4020N	—	—	—	14-Stage Binary Ripple Counter	16
MC74HC4024N	MC74HC4024D	—	—	7-Stage Binary Ripple Counter	14
MC74HC4040N	—	—	—	12-Stage Binary Ripple Counter	16
MC74HC4046AN	MC74HC4046AD	—	—	Phase Locked Loop	16
MC74HC4049N	MC74HC4049D	—	—	Hex Inverting Buffer	16
MC74HC4050N	MC74HC4050D	—	—	Hex Buffer	16
MC74HC4051N	MC74HC4051D	—	—	8-Channel Single-Ended Break-before-Make Analog Multiplexer/Demultiplexer	16
MC74HC4052N	MC74HC4052D	—	—	4-Channel Differential Break-before-Make Analog Multiplexer/Demultiplexer	16
MC74HC4053N	MC74HC4053D	—	—	Triple 2-Channel Single-Ended Break-before-Make Analog Multiplexer/Demultiplexer	16
MC74HC4060N	—	—	—	14-Stage Binary Ripple Counter With Oscillator	16
MC74HC4066N	MC74HC4066D	—	—	Quad Analog Switch/Multiplexer/Demultiplexer	14
MC74HC4075N	MC74HC4075D	—	—	Triple 3-Input OR Gate	14
MC74HC4078N	MC74HC4078D	—	—	8-Input NOR/OR Gate	14
MC74HC42N	—	—	—	1 of 10 Decoder	16
MC74HC4316N	MC74HC4316D	—	—	Quad Analog Switch/Multiplexer/Demultiplexer With Separate Analog and Digital Power Supplies	16
MC74HC4351N	—	—	—	8-Channel Single-Ended Break-before-Make Analog Multiplexer/Demultiplexer with Address Latch	20
MC74HC4511N	—	—	—	BCD To Seven Segment Latch/Decoder/Display Driver	16
MC74HC4514N	—	—	—	1 Of 16 Decoder/Demultiplexer With Address Latch	24
MC74HC4538AN	MC74HC4538AD	—	—	Dual Precision Monostable Multivibrator, Retriggerable/Resettable	16
MC74HC51N	—	—	—	2-Wide, 2-Input/2-Wide, 3-Input AND-NOR Gates	14
MC74HC534AN	—	—	—	Octal Three-State Inverting D Type Flip-Flop	20
MC74HC540AN	MC74HC540ADW	—	—	Octal Three-State Inverting Buffer/Line Driver/Line Receiver	20
MC74HC541AN	MC74HC541ADW	MC74HCT541AN	MC74HCT541ADW	Octal Three-State Non-Inverting Buffer/Line Driver/Line Receiver	20
MC74HC563N	—	—	—	Octal Three-State Inverting Transparent Latch	20
MC74HC564N	—	—	—	Octal Three-State Inverting D Type Flip-Flop	20
MC74HC573AN	MC74HC573ADW	MC74HCT573AN	MC74HCT573ADW	Octal Three-State Non-Inverting Transparent Latch	20
MC74HC574AN	MC74HC574ADW	MC74HCT574AN	MC74HCT574ADW	Octal Three-State Non-Inverting D Type Flip-Flop	20
MC74HC589N	—	—	—	8-bit Serial Or Parallel-Input/Serial-Output Shift Register With Three-State Output	16
MC74HC58N	—	—	—	2-Wide, 2-Input/2-Wide, 3-Input AND-OR Gates	14
MC74HC595AN	MC74HC595AD	—	—	8-Bit Serial-Input/Serial Or Parallel-Output Shift Register With Latched Three-State Outputs	16
MC74HC597N	MC74HC597D	—	—	8-Bit Serial Or Parallel-Input/Serial-Output Shift Register With Input Latch	16
MC74HC646N	—	—	—	Octal Three-State Bus Transceiver and D Type Flip-Flop, Non-Inverting Outputs	24
MC74HC688N	MC74HC688DW	—	—	8-Bit Equality Comparator	20
MC74HC7266N	—	—	—	Quad 2-Input Exclusive NOR Gate	14
MC74HC73N	—	—	—	Dual JK Flip-Flop with Reset	14
MC74HC74AN	MC74HC74AD	MC74HCT74AN	MC74HCT74AD	Dual D Type Flip-Flop with Set and Reset	14
MC74HC75N	—	—	—	Dual 2-Bit Transparent Latch	16
MC74HC85N	—	—	—	4-Bit Magnitude Comparator	16
MC74HC86N	MC74HC86D	—	—	Quad 2-Input Exclusive OR Gate	14

SN74LS: Low Power Schottky TTL Logic Integrated Circuits

MC74HC		Description	No. of Leads	MC74HCT		Description	No. of Leads
PDIP	SOIC			PDIP	SOIC		
SN74LS00N	SN74LS00D	Quad 2-Input NAND Gate	14	SN74LS164N	SN74LS164D	Serial-In Parallel-Out Shift Register	14
SN74LS01N	—	Quad 2-Input NAND Gate With Open Collector Outputs	14	SN74LS165N	SN74LS165D	8-Bit Parallel-To-Serial Shift Register	16
SN74LS02N	SN74LS02D	Quad 2-Input NOR Gate	14	SN74LS166N	SN74LS166D	8-Bit Shift Register	16
SN74LS03N	—	Quad 2-Input NAND Gate With Open Collector Outputs	14	SN74LS169N	—	Synchronous Presettable Bidirectional 4-Bit Binary Counter	16
SN74LS04N	SN74LS04D	Hex Inverter	14	SN74LS173AN	—	4-Bit D Type Register With Three-State Outputs	16
SN74LS05N	SN74LS05D	Hex Inverter With Open Collector Outputs	14	SN74LS174N	SN74LS174D	Hex D Type Flip-Flop	16
SN74LS08N	SN74LS08D	Quad 2-Input AND Gate	14	SN74LS175N	SN74LS175D	Quad D Type Flip-Flop	16
SN74LS09N	SN74LS09D	Quad 2-Input AND Gate With Open Collector Outputs	14	SN74LS191N	—	Synchronous Presettable 4-Bit Binary Up/Down Counter	16
SN74LS107AN	—	Dual JK Negative Edge-Triggered Flip-Flop	14	SN74LS192N	—	Dual Synchronous Presettable BCD/Decade Up/Down Counter	16
SN74LS109AN	—	Dual JK Positive Edge-Triggered Flip-Flop	16	SN74LS193N	—	Dual Synchronous Presettable 4-Bit Binary Up/Down Counter	16
SN74LS10N	SN74LS10D	Triple 3-Input NAND Gate	14	SN74LS195AN	—	Universal 4-Bit Shift Register	16
SN74LS112AN	—	Dual JK Negative Edge-Triggered Flip-Flop	16	SN74LS197N	—	4-Stage Presettable Ripple Counter	14
SN74LS113AN	—	Dual JK Negative Edge-Triggered Flip-Flop	14	SN74LS20N	—	Dual 4-Input NAND Gate	14
SN74LS11N	—	Triple 3-Input AND Gate	14	SN74LS21N	—	Dual 4-Input AND Gate	14
SN74LS122N	—	Retriggerable Monostable Multivibrator, One Shot	14	SN74LS221N	SN74LS221D	Dual Monostable Multivibrators With Schmitt Trigger Inputs	16
SN74LS123N	SN74LS123D	Dual Retriggerable Monostable Multivibrator, One Shot	16	SN74LS240N	SN74LS240DW	Dual 4-Bit Inverting Buffer/Driver, Enable Low, Three-State Outputs	20
SN74LS125AN	SN74LS125AD	Quad Three-State Buffer, Enable Low	14	SN74LS241N	—	Dual 4-Bit Buffer/Driver With Three-State Outputs	20
SN74LS126AN	SN74LS126AD	Quad Three-State Buffer, Enable High	14	SN74LS242N	—	Quad Bus Transceiver, Inverting	14
SN74LS12N	—	Triple 3-Input NAND Gate	14	SN74LS243N	SN74LS243D	Quad Bus Transceiver	14
SN74LS132N	SN74LS132D	Quad 2-Input Schmitt Trigger NAND Gate	14	SN74LS244N	SN74LS244DW	Dual 4-Bit Buffer/Driver, Enable Low, Three-State Outputs	20
SN74LS133N	—	13-Input NAND Gate	16	SN74LS245N	SN74LS245DW	Octal Bus Transceiver	14
SN74LS136N	—	Quad 2-Input Exclusive OR Gate With Open Collector Outputs	14	SN74LS247N	SN74LS247D	BCD To Seven Segment Decoder/Driver With Open Collector Outputs	16
SN74LS137N	—	3-Line To 8-Line Decoders/Demultiplexers With Address Latches	16	SN74LS251N	—	8-Input Multiplexer With Three-State Outputs	16
SN74LS138N	SN74LS138D	1 Of 8 Decoder/Demultiplexer	16	SN74LS253N	—	Dual 4-Input Multiplexer With Three-State Outputs	16
SN74LS139N	—	Dual 1 Of 4 Decoder/Demultiplexer	16	SN74LS256N	—	Dual 4-Bit Addressable Latch	16
SN74LS13N	—	Dual NAND Gate Schmitt Trigger	14	SN74LS257BN	SN74LS257BD	Quad 2-Input Multiplexer With Three-State Outputs, Non-Inverting	16
SN74LS145N	—	1 of 10 Decoder/Driver With Open Collector Outputs	16	SN74LS258BN	SN74LS258BD	Quad 2-Input Multiplexer With Three-State Outputs, Inverting	16
SN74LS147N	—	10-Line To 4-Line Priority Encoder	16	SN74LS259N	SN74LS259D	8-Bit Addressable Latch	16
SN74LS148N	SN74LS148D	8-Line To 3-Line Priority Encoder	16	SN74LS260N	—	Dual 5-Input NOR Gate	14
SN74LS14N	SN74LS14D	Hex Schmitt Trigger Inverter	14	SN74LS266N	—	Quad 2-Input Exclusive NOR Gate	14
SN74LS151N	—	8-Input Multiplexer	16	SN74LS26N	—	Quad 2-Input NAND Buffer	14
SN74LS153N	—	Dual 4-Input Multiplexer	16	SN74LS273N	SN74LS273DW	Octal D Type Flip-Flop With Clear	20
SN74LS155N	—	Dual 1 Of 4 Decoder/Demultiplexer	16	SN74LS279N	—	Quad Set-Reset Latch	16
SN74LS156N	SN74LS156D	Dual 1 Of 4 Decoder/Demultiplexer With Open Collector Outputs	16	SN74LS27N	—	Triple 3-Input NOR Gate	14
SN74LS157N	SN74LS157D	Quad 2-Input Multiplexer	16	SN74LS280N	—	9-Bit Odd/Even Parity Generators/Checkers	14
SN74LS158N	—	Quad 2-Input Multiplexer, Inverting	16	SN74LS283N	—	4-Bit Binary Full Adder With Fast Carry	16
SN74LS15N	—	Triple 3-Input AND Gate	14	SN74LS290N	—	Decade Up Only Ripple Counter	14
SN74LS160AN	—	Synchronous Presettable BCD Decade Up Only Counter, Asynchronous Reset	16	SN74LS293N	—	4-Bit Binary Up Only Ripple Counter	14
SN74LS161AN	—	Synchronous Presettable 4-Bit Binary Up Only Counter, Asynchronous Reset	16	SN74LS298N	—	Quad 2-Input Multiplexer With Storage	16
SN74LS163AN	—	Synchronous Presettable 4-Bit Binary Up Only Counter, Synchronous Reset	16	SN74LS299N	SN74LS299DW	8-Bit Shift/Storage Register With Three-State Outputs	20
				SN74LS30N	SN74LS30D	8-Input NAND Gate	14
				SN74LS322AN	—	8-Bit Shift Registers With Sign Extend	20
				SN74LS32N	SN74LS32D	Quad 2-Input OR Gate	14



SN74LS: Low Power Schottky TTL Logic Integrated Circuits (Continued)

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
PDIP	SOIC			PDIP	SOIC		
SN74LS33N	SN74LS33D	Quad 2-Input NOR Buffer With Open Collector Outputs	14	SN74LS569AN	SN74LS569ADW	4-Bit Up/Down Counter With Three-State Outputs	20
SN74LS348N	—	8-Bit Priority Encoder With Three-State Outputs	16	SN74LS623N	—	Octal Bus Transceiver With Three-State Outputs	20
SN74LS365AN	SN74LS365AD	Hex Three-State Buffer With Common 2-Input NOR Enable	16	SN74LS640N	SN74LS640DW	Octal Inverting Bus Transceiver With Three-State Outputs	20
SN74LS366AN	—	Hex Three-State Inverter Buffer With Common 2-Input NOR Enable	16	SN74LS641N	—	Octal Bus Transceiver With Open Collector Outputs	20
SN74LS367AN	SN74LS367AD	Hex Three-State Buffer With Separate 2-Bit and 4-Bit Sections	16	SN74LS642N	—	Octal Inverting Bus Transceiver With Open Collector Outputs	20
SN74LS368AN	—	Hex Three-State Inverter Buffer With Separate 2-Bit and 4-Bit Sections	16	SN74LS645N	—	Octal Bus Transceiver With Three-State Outputs	20
SN74LS373N	SN74LS373DW	Octal Transparent Latch With Three-State Outputs	20	SN74LS669N	—	Synchronous 4-Bit Up/Down Counter	16
SN74LS374N	SN74LS374DW	Octal D Type Flip-Flop With Three-State Outputs	20	SN74LS670N	SN74LS670D	4 × 4 Register File With Three-State Outputs	16
SN74LS375N	—	4-Bit D Latch	16	SN74LS682N	SN74LS682DW	8-Bit Magnitude Comparator	20
SN74LS377N	—	Octal D Type Flip-Flop With Enable	20	SN74LS684N	—	8-Bit Magnitude Comparator	20
SN74LS378N	—	Hex D Type Flip-Flop With Enable	16	SN74LS688N	SN74LS688DW	8-Bit Magnitude Comparator	20
SN74LS37N	—	Quad 2-Input NAND Buffer	14	SN74LS73AN	—	Dual JK Negative Edge Triggered Flip-Flop	14
SN74LS38N	—	Quad 2-Input NAND Buffer With Open Collector Outputs	14	SN74LS74AN	SN74LS74AD	Dual D Type Positive Edge Triggered Flip-Flop	14
SN74LS390N	—	Dual Decade Ripple Counter	16	SN74LS75N	—	4-Bit D Latch	16
SN74LS393N	SN74LS393D	Dual 4-Stage Binary Ripple Counter	14	SN74LS76AN	—	Dual JK Negative Edge Triggered Flip-Flop With Set and Clear	16
SN74LS399N	—	Quad 2-Port Register	16	SN74LS795N	—	Octal Buffer/Driver, Enable High, Three-State Outputs	20
SN74LS42N	—	1 Of 10 Decoder	16	SN74LS85N	SN74LS85D	4-Bit Magnitude Comparator	16
SN74LS47N	—	BCD To Seven Segment Decoder/Driver	16	SN74LS86N	SN74LS86D	Quad 2-Input Exclusive OR Gate	14
SN74LS48N	—	BCD To Seven Segment Decoder	16	SN74LS90N	—	Decade Ripple Counter	14
SN74LS490N	—	Dual Decade Counter	16	SN74LS92N	—	Divide By 12 Ripple Counter	14
SN74LS51N	—	Dual 2-Wide 2-Input/3-Input AND-OR-Invert Gate	14	SN74LS93N	—	4-Bit Binary Ripple Counter	14
SN74LS540N	—	Octal Inverting Buffer/Line Driver With Three-State Outputs	20	SN74LS958N	—	4-Bit Shift Register	14
SN74LS541N	SN74LS541DW	Octal Buffer/Line Driver With Three-State Outputs	20	—	—	—	—

MC10E and MC100E: ECLinPS 10K and 100K Emitter Coupled Logic in Picooseconds Integrated Circuits

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
MC10E	MC100E			MC10E	MC100E		
PLCC	PLCC			PLCC	PLCC		
MC10E016FN	MC100E016FN	8-Bit Synchronous Binary Up Counter	28	—	MC100E156FN	3-Bit 4:1 Mux-Latch	28
MC10E010FN	MC100E010FN	Quad 4-Input OR/NOR Gate	28	MC10E158FN	MC100E158FN	5-Bit 2:1 Multiplexer	28
MC10E0104FN	MC100E0104FN	Quint 2-Input AND/NAND Gate	28	—	MC100E163FN	2-Bit 8:1 Multiplexer	28
MC10E0107FN	MC100E0107FN	Quint 2-Input XOR/XNOR Gate	28	MC10E164FN	—	16:1 Multiplexer	28
MC10E011FN	MC100E011FN	1.9 Differential Clock Driver	28	MC10E1651FN	—	Dual ECL Output Comparator with Latch	20
MC10E0112FN	MC100E0112FN	Quad OR/NOR Driver	28	MC10E166FN	—	9-Bit Magnitude Comparator	28
MC10E016FN	MC100E016FN	Quint Differential Line Receiver	28	—	MC100E167FN	6-Bit 2:1 Mux-Register	28
MC10E0122FN	MC100E0122FN	9-Bit Buffer	28	MC10E171FN	—	3-Bit 4:1 Multiplexer	28
MC10E0131FN	MC100E0131FN	4-Bit D Flip-Flop	28	MC10E195FN	MC100E195FN	Programmable Delay Chip	28
MC10E0136FN	—	6-Bit Universal Up/Down Counter	28	MC10E416FN	MC100E416FN	Quint Differential Line Receiver	28
MC10E0141FN	MC100E0141FN	8-Bit Shift Register	28	MC10E431FN	—	3-Bit Differential Flip-Flop	28
MC10E0142FN	MC100E0142FN	9-Bit Shift Register	28	—	MC100E445FN	4-Bit Serial/Parallel Converter	28
MC10E0143FN	MC100E0143FN	9-Bit Hold Register	28	—	MC100E452FN	5-Bit Differential Register	28
MC10E0151FN	MC100E0151FN	6-Bit D Register	28	MC10E457FN	MC100E457FN	Triple Differential 2:1 Multiplexer	28

MC10EL and MC100EL: ECLinPS Lite 10K and 100K Emitter Coupled Logic in Picooseconds Integrated Circuits

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
MC10E	MC100E			MC10E	MC100E		
SOIC	SOIC			SOIC	SOIC		
MC10EL01D	MC100EL01D	4-Input OR/NOR	8	MC10EL32D	MC100EL32D	Differential Divide-By-2 Prescaler	8
MC10EL04D	MC100EL04D	2-Input AND/NAND	8	MC10EL33D	MC100EL33D	Differential Divide-By-4 Prescaler	8
MC10EL05D	MC100EL05D	2-Input Differential	8	MC10EL34D	MC100EL34D	Divide by 2, Divide By 4, Divide by 8 Clock Generator Chip	8
MC10EL07D	MC100EL07D	2-Input XOR/XNOR	8	MC10EL35D	MC100EL35D	JK Flip-Flop	8
MC10EL11D	MC100EL11D	1:2 Differential Fanout Buffer	8	MC10EL51D	MC100EL51D	Differential Clock D Flip-Flop	8
MC10EL12D	MC100EL12D	Low Impedance Driver	8	MC10EL52D	MC100EL52D	Differential Data and Clock D Flip-Flop	8
MC10EL15D	MC100EL15D	1:4 Clock Distribution Chip	8	MC10EL57D	MC100EL57D	4:1 Differential Multiplexer	8
MC10EL16D	MC100EL16D	Differential Receiver	8	MC10EL58D	MC100EL58D	2:1 Multiplexer	8
MC10EL31D	MC100EL31D	D Flip-Flop With Set and Reset	8	MC10EL89D	—	Coaxial Cable Driver	8

MC10ELT and MC100ELT: ECLinPS Lite Translators 10K and 100K Emitter Coupled Logic in Picooseconds Integrated Circuits

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
MC10ELT	MC100ELT			MC10ELT	MC100ELT		
SOIC	SOIC			SOIC	SOIC		
—	MC100ELT21D	Differential PECL To TTL Translator	8	—	MC100ELT23D	Dual Differential PECL-to-TTL Translator	8
MC10ELT22D	MC100ELT22D	Dual TTL To Differential PECL Translator	8	MC10ELT25D	MC100ELT25D	Dual Differential ECL-to-TTL Translator	8

MC10H: MECL 10H Monolithic Emitter-Coupled Logic Integrated Circuits

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
PDIP	PLCC			PDIP	PLCC		
MC10H016P	MC10H016FN	4-Bit Binary Counter	16/20	MC10H116P	MC10H116FN	Triple Line Receiver	16/20
MC10H0101P	MC10H0101FN	Quad OR/NOR Gate	16/20	MC10H117P	MC10H117FN	Dual 2-Wide 2-3-Input OR-AND/OR-AND-INVERT Gate	16/20
MC10H0102P	MC10H0102FN	Quad 2-Input NOR Gate	16/20	MC10H121P	—	4 wide OR-AND/OR-AND-INVERT Gate	16
MC10H0103P	MC10H0103FN	Quad 2-Input OR Gate	16/20	MC10H123P	MC10H123FN	Triple 4-3-3-Input Bus Driver	16/20
MC10H0104P	MC10H0104FN	Quad 2-Input AND Gate	16/20	MC10H124P	MC10H124FN	Quad TTL-to-MECL Translator with TTL Strobe Input	16/20
MC10H0105P	MC10H0105FN	Triple 2-3-2-Input OR/NOR Gate	16/20	MC10H125P	MC10H125FN	Quad MECL-to-TTL Translator	16/20
MC10H0107P	MC10H0107FN	Triple 2-Input Exclusive OR/Exclusive NOR	16/20	MC10H131P	MC10H131FN	Dual Type D Master-Slave Flip-Flop	16/20
MC10H0109P	MC10H0109FN	Dual 4-5-Input OR/NOR Gate	16/20	MC10H135P	MC10H135FN	Dual J-K Master Slave Flip-Flop	16/20
MC10H113P	MC10H113FN	Quad Exclusive OR Gate	16/20	MC10H136P	MC10H136FN	Universal Hexadecimal Counter	16/20
MC10H115P	MC10H115FN	Quad Line Receiver	16/20	MC10H141P	MC10H141FN	4-Bit Universal Shift Register	16/20

MC10H: MECL 10H Monolithic Emitter-Coupled Logic Integrated Circuits (Continued)

Mfr.'s Type		Description	No. of Leads
PDIP	PLCC		
MC10H158P	MC10H158FN	Quad 2-Input Multiplexer (Non-Inverting)	16/20
MC10H164P	MC10H164FN	8-Line Multiplexer	16/20
MC10H174P	MC10H174FN	Dual 4 To 1 Multiplexer	16/20
MC10H176P	MC10H176FN	Hex D Master-Slave Flip-Flop	16/20
MC10H186P	—	Hex D Master-Slave Flip-Flop with Reset	16
MC10H188P	MC10H188FN	Hex Buffer With Enable	16/20
MC10H189P	—	Hex Inverter With Enable	16
MC10H210P	—	Dual 3-Input 3-Output OR Gate	16
MC10H350P	MC10H350FN	PECL To TTL Translator (+5 Vdc Power Supply Only)	16/20
MC10H351P	MC10H351FN	Quad TTL/NMOS To PECL Translator	20/20
MC10H424P	MC10H424FN	Quad TTL To ECL Translator With An ECL Strobe	16/20
—	MC10H600FN	9-Bit TTL/ECL Translator	28

Mfr.'s Type		Description	No. of Leads
PDIP	PLCC		
—	MC10H601FN	9-Bit ECL/TTL Translator	28
—	MC10H602FN	9-Bit Latch TTL/ECL Translator	28
—	MC10H603FN	9-Bit Latch ECL/TTL Translator	28
—	MC10H604FN	Registered Hex TTL/ECL Translator	28
—	MC10H605FN	Registered Hex ECL/TTL Translator	28
—	MC10H607FN	Registered Hex PECL/TTL Translator	28
—	MC10H640FN	68030/040 PECL/TTL Clock Driver	28
—	MC10H641FN	Single Supply PECL/TTL 1:9 Clock Distribution Chip	28
—	MC10H643FN	Dual Supply ECL/TTL 1:8 Clock Driver	28
—	MC10H645FN	1:9 TTL Clock Driver	28
—	MC10H680FN	4-Bit Differential ECL Bus/TTL Transceiver	28

MC100H: MECL 10H Monolithic Emitter-Coupled Logic Integrated Circuits

Mfr.'s Type		Description	No. of Leads
PLCC			
MC100H600FN	—	9-Bit TTL/ECL Translator	28
MC100H602FN	—	9-Bit Latch TTL/ECL Translator	28
MC100H640FN	—	68030/040 PECL/TTL Clock Driver	28

Mfr.'s Type		Description	No. of Leads
PLCC			
MC100H641FN	—	Single Supply PECL/TTL 1:9 Clock Distribution Chip	28
MC100H643FN	—	Dual Supply ECL/TTL 1:8 Clock Driver	28

MC10: MECL 10K Monolithic Emitter-Coupled Logic Integrated Circuits

Mfr.'s Type		Description	No. of Leads
PDIP	PLCC		
MC10101P	—	MECL Quad OR/NOR Gate	16
MC10102P	MC10102FN	MECL Quad 2-Input NOR Gate	16/20
MC10103P	—	MECL Quad 2-Input OR Gate	16
MC10104P	—	MECL Quad 2-Input AND Gate	16
MC10105P	—	MECL Triple 2-3-2-Input OR/NOR Gate	16
MC10107P	—	MECL Triple 2-Input Exclusive OR/Exclusive NOR	16
MC10109P	—	MECL Dual 4-5-Input OR/NOR Gate	16
MC10113P	—	MECL Quad Exclusive OR Gate	16
MC10114P	MC10114FN	MECL Triple Line Receiver	16/20
MC10115P	MC10115FN	MECL Quad Line Receiver	16/20
MC10116P	MC10116FN	MECL Triple Line Receiver	16/20
MC10123P	—	MECL Triple 4-3-3-Input Bus Driver	16
MC10124P	MC10124FN	MECL Quad TTL To MECL Translator	16/20
MC10125P	MC10125FN	MECL Quad MECL To TTL Translator	16/20
MC10131P	MC10131FN	MECL Dual Type D Master-Slave Flip-Flop	16/20

Mfr.'s Type		Description	No. of Leads
PDIP	PLCC		
MC10135P	—	MECL Dual J-K Master-Slave Flip-Flop	16
MC10136P	MC10136FN	MECL Universal Hexadecimal Counter	16/20
MC10137P	—	MECL Universal Decade Counter	16
MC10138P	—	MECL Bi-Quinary Counter	16
MC10158P	—	MECL Quad 2-Input Multiplexer (Non-Inverting)	16
MC10161P	—	MECL Binary To 1-8 Decoder (Low)	16
MC10164P	—	MECL 8-Line Multiplexer	16
MC10174P	—	MECL Dual 4 To 1 Multiplexer	16
MC10176P	—	MECL Hex D Master-Slave Flip-Flop	16
MC10178P	—	MECL Binary Counter	16
MC10188P	—	MECL Hex Buffer With Enable	16
MC10192P	MC10192FN	MECL Quad Bus Driver	16/20
MC10198P	MC10198FN	MECL Monostable Multivibrator	16/20
MC10216P	MC10216FN	MECL High Speed Triple Line Receiver	16/20
MC10231P	—	MECL High Speed Dual Type D Master-Slave Flip-Flop	16

MC16: MECL Monolithic Emitter Coupled Logic Integrated Circuits

Mfr.'s Type		Description	No. of Leads
PDIP	SOIC		
MC1648P	MC1648D	Voltage Controlled Oscillator	14/8

Mfr.'s Type		Description	No. of Leads
PDIP	SOIC		
MC1658P	MC1658D	Voltage Controlled Multivibrator	16

Phase-Locked Loop Integrated Circuits

MC12: MECL Phase-Locked Loop Integrated Circuits

Mfr.'s Type			Description	No. of Leads
PDIP	SOIC	PLCC		
MC12002P	—	—	Double Balanced Analog Mixer	14
MC12009P	—	MC12009FN	Dual Modulus Prescaler, Divide By 5/6	16/20
MC12011P	—	MC12011FN	Dual Modulus Prescaler, Divide By 8/9	16/20
MC12013P	MC12013D	MC12013FN	Dual Modulus Prescaler, Divide By 10/11	16/20
MC12015P	MC12015D	—	225 MHz Dual Modulus Prescaler, Divide By 32/33	8
MC12016P	MC12016D	—	225 MHz Dual Modulus Prescaler, Divide By 40/41	8
MC12017P	MC12017D	—	225 MHz Dual Modulus Prescaler, Divide By 64/65	8
MC12018P	—	—	520 MHz Dual Modulus Prescaler, Divide By 128/129	8
MC12019P	MC12019D	—	225 MHz Dual Modulus Prescaler, Divide By 20/21	8
MC12022AP	MC12022AD	—	1.1 GHz Dual Modulus Prescaler, Divide By 64/65 or 128/129	8
MC12028AP	MC12028AD	—	1.1 GHz Dual Modulus Prescaler, Divide By 32/33 or 64/65	8
—	MC12034AD	—	2.0 GHz Dual Modulus Prescaler, Divide By 32/33 or 64/65	8
MC12040P	—	MC12040FN	Phase-Frequency Detector	14/20
—	MCH12140D	—	Phase-Frequency Detector	8
—	MCK12140D	—	Phase-Frequency Detector	8
MC12061P	—	—	Crystal Oscillator	16
MC12073P	—	—	1.1 GHz Prescaler, Divide By 64	8
MC12079P	MC12079D	—	Differential Input/ECL Output Prescaler, Divide By 64/128/256	8

TTL Phase-Locked Loop Integrated Circuits

Mfr.'s Type			Description	No. of Leads
PDIP	SOIC	PLCC		
MC4018P	—	—	Presetable 4-Bit Binary Up Only Ripple Counter	16
MC4024P	—	—	Dual Voltage Controlled Multivibrator	14
MC4044P	MC4044D	—	Phase Frequency Controller	14

CMOS Clock Drivers and Phase-Locked Loop Clock Drivers

Mfr.'s Type		Description	No. of Leads
PDIP	SOIC		
MC88913N	MC88913D	Low Skew CMOS Clock Driver	14
MC88914N	MC88914D	Low Skew CMOS Clock Driver With Reset	14
—	—	55 MHz Low Skew CMOS PLL Clock Driver	28
—	—	70 MHz Low Skew CMOS PLL Clock Driver	28
—	—	100 MHz Low Skew CMOS PLL Clock Driver, Three-State	28
—	—	133 MHz Low Skew CMOS PLL Clock Driver, Three-State	28
—	—	160 MHz Low Skew CMOS PLL Clock Driver, Three-State	28
—	—	55 MHz Low Skew CMOS PLL Clock Driver, Three-State	28
—	—	70 MHz Low Skew CMOS PLL Clock Driver, Three-State	28
—	MC88916DW70	70 MHz Low Skew CMOS PLL Clock Driver With Processor Reset	20
—	MC88916DW80	80 MHz Low Skew CMOS PLL Clock Driver With Processor Reset	20
—	MC88920DW	50 MHz Low Skew CMOS PLL Clock Driver With Power-Up/Down	20
—	MC88921DW	66 MHz Low Skew CMOS PLL Clock Driver With Power-Up/Down	20



Phase-Locked Loop Frequency Synthesizers

Mfr.'s Type		Description	Frequency (MHz)	Supply Voltage (V)	Nominal Supply Current (mA)	Phase Detector	Standby	Interface	No. of Leads
PDIP	SOG								
MC145106P	MC145106DW	PLL Frequency Synthesizer	4 @ 5 V	4.5 to 12.0	6.0 @ 5 V	Single-Ended Three-State	No	Parallel	18/20
MC145146P2	MC145146DW2	4-Bit Data Bus Input, PLL Synthesizer	20 @ 5 V	3.0 to 9.0	7.5 @ 5 V	Single-Ended Three-State, Double-Ended	No	4-Bit	20
MC145151P2	MC145151DW2	Parallel Input PLL Synthesizer	20 @ 5 V	3.0 to 9.0	7.5 @ 5 V	Single-Ended Three-State, Double-Ended	No	Parallel Input, Single Modulus	28
MC145152P2	MC145152DW2	Parallel Input PLL Synthesizer	20 @ 5 V	3.0 to 9.0	7.5 @ 5 V	Double-Ended	No	Parallel Input, Dual Modulus	28
MC145155P2	MC145155DW2	Serial Input PLL Synthesizer	20 @ 5 V	3.0 to 9.0	7.5 @ 5 V	Single-Ended Three-State, Double-Ended	No	Serial Input, Single Modulus	18
MC145156P2	MC145156DW2	Serial Input PLL Synthesizer	20 @ 5 V	3.0 to 9.0	7.5 @ 5 V	Single-Ended Three-State, Double-Ended	No	Serial Input, Dual Modulus	20
MC145157P2	MC145157DW2	Serial Input PLL Synthesizer	20 @ 5 V	3.0 to 9.0	7.5 @ 5 V	Single-Ended Three-State, Double-Ended	No	Serial Input, Single Modulus	16
MC145158P2	MC145158DW2	Serial Input PLL Synthesizer	20 @ 5 V	3.0 to 9.0	7.5 @ 5 V	Single-Ended Three-State, Double-Ended	No	Serial Input, Dual Modulus	16
MC145162P	MC145162D	Universal Programmable Dual PLL Synthesizer for Cordless Phones	60 @ 3 V	2.5 to 5.5	3.0 @ 3 V	Two Single-Ended Three-State	Yes	Serial	16
—	MC145191F	1.1 GHz PLL Frequency Synthesizer, Includes 64/65 Prescalers	1100 @ 5 V	4.5 to 5.5	7.0 @ 5 V	Current Source/Sink, Double-Ended	Yes	Serial	20

ISDN: Integrated Services Digital Network Integrated Circuits

MC14LC5472, ISDN U-Interface

ANSI T1.601 compliant, pin selectable LT or NT operation, industry standard IDL interface, slave-slave timing mode, control and status provided through four wire serial control port.

Mfr.'s Type	Function	Package Type
MC14LC5472FE	Line Cards, NT1s, Pair Gain, ISDN Compatible Bridge Routers, ISDN Terminals	68 Lead CQFP
MC14LC5472FU	Same Function as MC14LC5472FE	68 Lead PQFP

MC145474 and MC145475, ISDN S/T Interface Transceiver

Conforms to CCITT I.430 and ANSI T1 605, pin selectable NT and TE modes, Interchip Data Link (IDL), serial control port (SCP), full multiframe capabilities, S/T and IDL loopbacks.

Mfr.'s Type	Function	Package Type
MC145474P	Network Termination (NT1), PC Based and Standalone ISDN Terminal Adapters, ISDN Telephone, ISDN Video Phone	22 Lead PDIP
MC145475DW	Same Functions as the MC145474 and Supports Optional NT1 Star Mode	28 Lead SOG

Voice Coding Integrated Circuits

MC145480, +5 V PCM Codec Filter

5 V single power supply PCM codec-filter. Pin selectable Mu-Law or A-Law Commanding with serial PCM interface.

Mfr.'s Type	Function	Package Type
MC145480P	ISDN, PABX, DSP Interface, Cordless Telephone, Radio	20 Lead PDIP

Mfr.'s Type	Function	Package Type
MC145480DW	ISDN, PABX, DSP Interface, Cordless Telephone, Radio	20 Lead SOG

Remote Control Integrated Circuits

Mfr.'s Type		Function	Number of Address Lines	Maximum No. of Address Codes	Number of Data Bits	Operation	No. of Leads
PDIP	SOG						
MC145026P	MC145026D	Encoder	Depends On Decoder	Depends On Decoder	Depends On Decoder	Simplex	16
MC145027P	MC145027DW	Decoder	5	243	4	Simplex	16
MC145028P	MC145028DW	Decoder	9	19683	0	Simplex	16

Single-Ended Bus Transceivers

For Instrumentation Bus, Meets GPIB/IEEE Standard 488

Mfr.'s Type	Driver Characteristics Output Current (mA)	Propagation Delay Max. (ns)	Receiver Characteristics Propagation Delay Max. (ns)	Transceiver per Package	Comments	Package Type
MC3447P	48	30	50	8	Input Hysteresis, Open Collector, Three-State Outputs with Terminations	24 Lead PDIP (600 mil)
MC3447P3	48	30	50	8	Input Hysteresis, Open Collector, Three-State Outputs with Terminations	24 Lead PDIP (300 mil)
MC3448AP	48	17	25	4	Input Hysteresis, Open Collector, Three-State Outputs with Terminations	16 Lead PDIP (300 mil)

For High Current Party Line Bus for Industrial and Data Communications

MC26S10P	100	15	15	4	Open Collector, Outputs, Common Enable	16 Lead PDIP
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Line Receivers

General Purpose

Mfr.'s Type		Single Ended or Differential	Type of Output	t _{prop} Delay Time Max. (ns)	Party Line Operation	Strobe or Enable	Power Supplies (V)	Receivers per Package	Companion Drivers	Comments	No. of Leads
PDIP	SOIC										
MC3450P	—	Differential	Totem Pole, Open Collector	25	Yes	Yes	±5.0	4	MC3453	Quad Version of MC75107	16
MC75107P	—	Differential	Totem Pole, Open Collector	25	Yes	Yes	±5.0	2	MC75S110	Dual Version of MC3450	14
MC3437	—	Single Ended	Totem Pole	30	Yes	Yes	±5.0	6	—	Input Hysteresis	16

EIA Standard

MC14C89BP	—	Single Ended	Totem Pole	4000	—	—	+5.0	4	MC14C88B	EIA-232-D/EIA-562	14
MC1489AP	MC1489AD	Single Ended	Resistor Pull-Up	85	—	—	+5.0	4	MC1488	EIA-232-D	14
MC1489P	MC1489D	Single Ended	Resistor Pull-Up	85	—	—	+5.0	4	MC1488	EIA-232-D	14
AM26LS32PC	MC26LS32D	Single Ended, Differential	Totem Pole, Three-State	30	Yes	Yes	+5.0	4	AM26LS31	EIA 422/423	16
MC3486P	MC3486D	Single Ended, Differential	Totem Pole	30	Yes	Yes	+5.0	4	MC3487	EIA 422/423	16
SN75173N	—	Single Ended, Differential	Totem Pole, Three-State	35	Yes	Yes	+5.0	4	SN75172	EIA 422/423/485	16
SN75175N	—	Single Ended, Differential	Totem Pole, Three-State	35	Yes	Yes	+5.0	4	SN75172	EIA 422/423/485	16



Line Drivers

General Purpose

Mfr.'s Type		Output Current Capability (mA)	Single Ended or Differential	t _{prop} Delay Time Max. (ns)	Party Line Operation	Strobe or Enable	Power Supplies (V)	Receivers per Package	Companion Drivers	Comments	No. of Leads
PDIP	SOIC										
MC3453P	—	15	Differential	15	Yes	Yes	±5.0	4	MC3450	Quad Version of MC75S110	16

360/370 I/O Interface

MC3481P	—	60	Single	15	Yes	Yes	+5.0	4	—	Separate Enable Short Circuit Fault Flag	16
MC3485P	—	60	Single	15	Yes	Yes	+5.0	4	—	Common Enable Short Circuit Fault Flag	16

EIA Standard

MC75174BP	—	85	Differential	35	Yes	Yes	+5.0	4	SN75175	EIA-485	16
MC3487P	MC3487D	48	Differential	20	Yes	Yes	+5.0	4	MC3486	EIA-422 with Three-State Outputs	16
AM26LS31PC	MC26LS31D	48	Differential	20	Yes	Yes	+5.0	4	AM26LS32	EIA-422 with Three-State Outputs	16
MC3488AP1	MC3488AD	20	Single Ended	20	—	—	+12.0	2	MC3486	EIA-423/232-D	8
MC14C88BP	MC14C88BD	15	Single Ended	3500	—	—	+7.0 to +12	4	MC14C89B	EIA-232-D/EIA-562	14
MC1488P	MC1488D	10	Single Ended	350	—	—	+9.0 to +12	4	MC1489	EIA-232-D	14
AM26LS30PC	MC26LS30D	60	Single Ended, Differential	300	—	422 Yes, 423 No	±5.0	2(422), 4(423)	AM26LS32	EIA-422, EIA-423 Switchable	16

Line Transceiver

Mfr.'s Type		Driver Propagation Delay Max. (ns)	Receiver Propagation Delay Max. (ns)	Driver/Receiver Enable	Party Line Operation	Power Supplies (V)	Drivers per Package	Receivers per Drivers	EIA Standard	No. of Leads
PDIP	SOIC									
MC34050P	MC34050D	20	30	Driver and Receiver	Yes	+5.0	2	2	EIA-422	16
MC34051P	MC34051D	20	30	Driver	Yes	+5.0	2	2	EIA-422	16

EIA-232-E and CCITT V.28 CMOS Drivers/Receivers

Mfr.'s Type		No of Drivers	No of Receivers	Power Supplies (V)	Features	No. of Leads
PDIP	SOG					
MC145403P	MC145403DW	3	5	±5.0 to ±12	EIA-232-E and CCITT V.28 (Formerly RS-232-D)	20
MC145404P	MC145404DW	4	4	±5.0 to ±12	EIA-232-E and CCITT V.28 (Formerly RS-232-D)	20
MC145405P	MC145405DW	5	3	±5.0 to ±12	EIA-232-E and CCITT V.28 (Formerly RS-232-D)	20
MC145406P	MC145406DW	3	3	±5.0 to ±12	EIA-232-E and CCITT V.28 (Formerly RS-232-D)	16
MC145407P	MC145407DW	3	3	5.0	EIA-232-E and CCITT V.28 (Formerly RS-232-D), +5 V to ±10 V Charge Pump Architecture	20
MC145408P	MC145408DW	5	5	±5.0 to ±12	EIA-232-E and CCITT V.28 (Formerly RS-232-D)	24

Peripheral Drivers

Mfr.'s Type	Output Current Capability (mA)	Input Capability	Propagation Delay Time Max. (us)	Output Clamp Diode	Off State Voltage Max. (V)	Driver per Package	Logic Function	Package Type
MC1472P1	300	TTL, DTL	1	Yes	70	2	MAND	8 Lead PDIP
ULN2801A	500	TTL, CMOS, PMOS	1	Yes	—	8	Invert	18 Lead PDIP
ULN2802A	500	14 V to 25 V PMOS	1	Yes	50	8	Invert	18 Lead PDIP
ULN2803A	500	TTL, CMOS	1	Yes	50	8	Invert	18 Lead PDIP
ULN2804A	500	6 V to 15 V MOS	1	Yes	50	8	Invert	18 Lead PDIP
ULN2001A	500	TTL, CMOS, PMOS	1	Yes	50	7	Invert	16 Lead PDIP
ULN2002A	500	14 V to 25 V PMOS	1	Yes	50	7	Invert	16 Lead PDIP
ULN2003A	500	TTL, +5 V CMOS	1	Yes	50	7	Invert	16 Lead PDIP
ULN2004A	500	8 V to 18 V MOS	1	Yes	50	7	Invert	16 Lead PDIP
ULN2068B	1500	TTL, +5 V CMOS	1	—	50	4	Invert	16 Lead PDIP

CMOS Display Drivers

Mfr.'s Type	Function	Display Type	Input Format	Drive Capability Per Package	On-Chip Latch	Display Control	Segment Drive Current	Package Type
MC14543BCP	BCD-to-7 Segment Latch/Decoder/Driver	LCD, Direct Drive	Parallel BCD	7 Segments	Yes	Blank	Approx. 1.0 mA	16 Lead PDIP
MC14544BCP	BCD-to-7 Segment Latch/Decoder/Driver	LCD, Direct Drive	Parallel BCD	7 Segments	Yes	Blank, Ripple Blank	Approx. 1.0 mA	18 Lead PDIP
MC145453P	33-Segment, Non-Multiplexed	LCD, Direct Drive	Serial Binary (Compatible with SPI on CMOS MCUs)	33 Segments or Dots	Yes	—	20 µA	40 Lead PDIP
MC145453FN	33-Segment, Non-Multiplexed	LCD, Direct Drive	Serial Binary (Compatible with SPI on CMOS MCUs)	33 Segments or Dots	Yes	—	20 µA	40 Lead PLCC
MC145000P	48-Segment Serial Input Multiplexed LCD Driver (Master)	Muxed LCD (1/4 Mux)	Serial Binary (Compatible with SPI on CMOS MCUs)	48 Segments or Dots	Yes	—	Approx. 200 µA	24 Lead PDIP
MC14511BCP	BCD-to-7 Segment Latch/Decoder/Driver	LED, Incandescent, Fluorescent*	Parallel BCD	7 Segments	Yes	Blank, Lamp Test	25 mA	16 Lead PDIP
MC14513BCP	BCD-to-7 Segment Latch/Decoder/Driver	LED, Incandescent, Fluorescent*	Parallel BCD	7 Segments	Yes	Blank, Ripple Blank, Lamp Test	25 mA	18 Lead PDIP
MC14547BCP	High Current BCD-to-7 Segment Decoder/Driver/Fluorescent*	LED, Incandescent	Parallel BCD	7 Segments	No	Blank	65 mA	18 Lead PDIP
MC14499P	4-Digit 7 Segment LED Display Decoder/Driver/With SPI On CMOS MCUs	Muxed LED (1/4 Mux)	Serial Binary (Compatible with SPI on CMOS MCUs)	4 Digits + Decimals	Yes	Oscillator (Scanner)	50 mA (Peak)	18 Lead PDIP
MC14489P	Multi-Character LED Display Lamp Driver	Muxed LED (1/5 Mux)	Serial Binary (Compatible with SPI on CMOS MCUs)	5 Characters + Decimals or 25 Lamps	Yes	Oscillator (Scanner), Low Power Mode, Dimming	0 to 35 mA (Peak) Adjustable	20 Lead PDIP
MC14489DW	Multi-Character LED Display Lamp Driver	Muxed LED (1/5 Mux)	Serial Binary (Compatible with SPI on CMOS MCUs)	5 Characters + Decimals or 25 Lamps	Yes	Oscillator (Scanner), Low Power Mode, Dimming	0 to 35 mA (Peak)	20 Lead SOG
MC14495P1	Hexadecimal-to-7 Segment Latch/Decoder ROM/Driver	LED Direct Drive	Parallel Hex	7 Segments + A Thru F Indicator	Yes	—	10 mA**	14 Lead PDIP

*Absolute maximum working voltage=18 V. **On-chip current limiting resistor.

RF Communications

Wideband (FM/FSK) IFs

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	Sensitivity Typ. (µV)	IF (MHz)	Mute	RSSI	Max. Data Rate	Notes	No. of Leads
PDIP	SOIC									
MC13055P	MC13055D	3 to 12	25	20	40	Yes	Yes	2.0 Mb	Wideband Data IF	16
—	MC13155D	3 to 6	10	100	70	—	Yes	12.0 Mb	Video Speed IF	16


RF Communications (Continued)
Wideband Single Conversion Receivers — VHF

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	Sensitivity Typ. (μV)	RF Input (MHz)	IF (MHz)	Mute	RSSI	Max. Data Rate	Notes	No. of Leads
PDIP	SOIC										
MC3356P —	MC3356DW MC13156DW	3 to 9 2 to 7	25 3	30 2	200 200	10.7 21.4	Yes —	Yes Yes	500 Kb 500 Kb	Includes Front End Mixer/L.O. CT-2 FM/Demodulator	20 24

Narrowband Single Conversion Receivers — VHF

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	12 dB SINAD Sensitivity Typ. (μV)	RF Input (MHz)	IF (KHz)	Mute	RSSI	Max. Data Rate	Notes	No. of Leads
PDIP	SOIC										
MC3359P — — —	MC3359DW MC3367DW MC3371D MC3372D	4 to 9 1 to 5 2 to 8 2 to 8	7 6 6 6	2 1 1 1	45 75 60 60	455 455 455 455	Yes Yes Yes Yes	— — Yes Yes	>4.8 Kb 1.2 Kb >4.8 Kb >4.8 Kb	Scan Output Option 1 Cell Operation RSSI RSSI, Ceramic Quad Detect./Resonator	18/20 28 16 16

Narrowband Dual Conversion Receivers — FM/FSK — VHF

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	12 dB SINAD Sensitivity Typ. (μV)	RF Input (MHz)	IF1 (MHz)	IF2 (Limiter In) (KHz)	Mute	RSSI	Max. Data Rate	Notes	No. of Leads
PDIP	SOIC											
MC3362P — — — —	— MC3363DW MC3365DW MC13135DW MC13136DW	2 to 7 2 to 7 2 to 7 2 to 7 2 to 7	3.0 4.0 4.0 3.5 3.5	0.7 0.4 0.7 0.7 0.7	180 180 180 200 200	10.7 10.7 10.7 10.7 10.7	455 455 455 455 455	— Yes Yes — —	Yes Yes Yes Yes Yes	>4.8 Kb >4.8 Kb >4.8 Kb >50 Kb >50 Kb	Includes Buffered VCO Output Includes RF Amp/Mute Low Cost Version Voltage Buffered RSSI High Level IF Resonator Drive	24 28 20 24 24

Transmitters — AM/FM/FSK

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	P _{out} (dBm)	Max. RF Frequency Out	Max. Mod. Frequency	Notes	No. of Leads
PDIP	SOIC							
MC2833P — —	MC2833D MC13175D MC13176D	3 to 8 2 to 5 2 to 5	5 40 40	-30 8 8	50 500 1 GHz	50 KHz 5 MHz 5 MHz	FM Transmitter. Includes Low Battery Checker and Tone Oscillator AM/FM Transmitter. Single Frequency PLL f _{out} = 8 × f _{ref} AM/FM Transmitter. Single Frequency PLL f _{out} = 32 × f _{ref}	16 16 16

Balanced Modulator/Demodulator

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	Carrier Suppression	Common Mode Rejection	Function	No. of Leads
PDIP	SOIC						
MC1496P —	MC1496D	5 to 30	10	65 dB typ. @ 0.5 MHz 50 dB typ. @ 10.0 MHz	85 dB typ.	Carrier Balance >50 dB, General Purpose Balanced Modulator/Demodulator For AM, SSB and FM Detection.	14

Video Integrated Circuits
Encoders

Mfr.'s Type			Function	Features	No. of Leads
PDIP	SOIC	PLCC			
MC1377P MC13077P	MC1377DW —	— —	RGB To PAL/NTSC Encoder Advanced RGB To PAL/NTSC Encoder	RGB and Sync Inputs, Composite Video Out; PAL/NTSC Selectable RGB and Sync Inputs, Composite Video and S-VHS Out; PAL/NTSC Selectable; Subcarrier From Crystal or External Source	20 20

Video Capture Chip Sets

—	—	MC44011FN	Chroma 4 Multistandard Decoder	PAL/NTSC/S-VHS Input, RGB/YUV Outputs; Horizontal and Vertical Timing Outputs; All Digital Internal Filters, No External Tanks; μP and Crystal Controlled.	44
MC44140P —	— MC44145D	— —	PAL Digital Delay Line Pixel Clock PLL/Sync Separator	For PAL Applications Of The MC44011 and MC44001 PAL/NTSC Sync Separator With Vertical and Composite Sync Output, 6 To 40 MHz Pixel Clock PLL	16 20

Deflection

MC1391P	—	—	Horizontal Processor	Linear Balanced Phase Detector, Oscillator and Predriver, Adjustable DC Loop Gain and Duty Cycle	8
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IF Circuits

MC44301P MC1330AP MC1350P	MC44301DW — MC135D	— — —	Advanced Video IF Video Detector IF Amplifier	Complete Video/Audio IF System For High Performance Analog TV Receivers 3rd IF, Video Detector, Video Buffer and AFC Buffer 1st and 2nd Video IF Amplifiers, 50 dB Gain @ 45 MHz, 60 dB ADC Range	24 8 8
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Modulators

MC1374P	—	—	Color TV Modulator With Sound	RF Oscillator/Modulator, and FM Sound Oscillator/Modulator	14
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Sound

MC1357P	—	—	Sound IF Detector	Interchangeable With ULN2111A	14
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Miscellaneous Video Circuits

MC1378P MC44144P	— —	MC1378FN —	Video Overlay Synchronizer Subcarrier Reference Generator	Complete Color TV Video Overlay Synchronizer, Remote Or Local System Control Provides Continuous Subcarrier Sine Wave and 4x Subcarrier, Locked To Incoming Burst	40/44 8
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Data Conversion

Analog to Digital Converters

CMOS

Mfr.'s Type			Resolution (Bits)	Nonlinearity Max.	Conversion Time/Rate	Input Voltage Range (V)	Supplies (V)	Comments	No. of Leads
PDIP	SOIC	PLCC							
MC145040P	—	MC145040FN	8	±1/2 LSB	10 µs	0 To VDD	+5.0 ±10%	Requires External Clock, 11 Channel MUX	20
MC145041P	—	MC145041FN	8	±1/2 LSB	20 µs	0 To VDD	+5.0 ±10%	Includes Internal Clock, 11 Channel MUX	20
—	—	MC44250FN	Triple 8	1.00 LSB	15 MHz	1.6 to 4.6	+5.0 ±10%	3 Separate Video Channels	44
MC145050P	MC145050DW	—	10	±1.00 LSB	21 µs	0 To VDD	+5.0 ±10%	Requires External Clock, 11 Channel MUX	20
MC145051P	MC145051DW	—	10	±1.00 LSB	44 µs	0 To VDD	+5.0 ±10%	Includes Internal Clock, 11 Channel MUX	20
MC145053P	MC145053DW	—	10	±1.00 LSB	44 µs	0 To VDD	+5.0 ±10%	Includes Internal Clock, 5 Channel MUX	14
MC14443P	—	—	8-10	±0.50% Full Scale	300 µs	Variable With Supply	+5.0 to +18	µP Compatible, Single Slope, 6-Channel MUX	16
MC14433P	—	—	3-1/2 Digit	±0.05% ±1 Count	40 ms	±2.0, ±200 mV	+5.0 to +8, -2.8 to -8.0	Dual Slope	24

Bipolar

MC10321P	—	—	7	±1/2 LSB	40 ns	0 to 2.0 Vpp Max.	+5.0 and -3.0 to -6.0	Video Speed, Gray Code, TTL Outputs	20
MC10319P	MC10319DW	—	8	±1.00 LSB	40 ns	0 to 2.0 Vpp Max.	+5.0 and -3.0 to -6.0	Video Speed Flash Converter, Internal Gray Code, TTL Outputs	20

Digital to Analog Converter

CMOS

Mfr.'s Type			Resolution (Bits)	Accuracy @ 25 °C Max.	Max Settling Time (±1/2 LSB)	Supplies (V)	Comments	No. of Leads
PDIP	SOIC	—						
MC144110P	MC144110DW	—	6	—	—	+5.0 to +18	Serial Input, Hex DAC, 6 Outputs	18/20
MC144111P	MC144111DW	—	6	—	—	+5.0 to +18	Serial Input, Quad DAC, 4 Outputs	14/16

Bipolar

MC1408P	—	—	8	±1/2 LSB	300 ns Typ.	+5.0, -5.0 to -15	Multiplying	16
MC10322P	—	—	8	±1/2 LSB	5 ns	+5.0, -5.2	TTL 40 MHz Minimum	24

Operational Amplifiers

Single Operational Amplifiers

Noncompensated, Commercial Temperature Range (0 to 70 °C)

Mfr.'s Type	I _{ie} (µA) Max.	V _{io} (mV) Max.	T _{cwio} (µV/°C) Typ.	I _{io} (nA) Max.	A _{vol} (V/mV) Min.	Bandwidth (A=1) (MHz) Typ.	Slew Rate (A=1) (V/µs) Typ.	Supply Voltage (V) Min/Max	Description	Package Type
LM308AN	7.000	0.5	5	1.00	80.0	1.0	0.3	±3.0 / ±18	Precision	8 Lead PDIP

Internally Compensated, Commercial Temperature Range (0 to 70 °C)

LF351N	200.000 pA	10.0	10	100.00 pA	25.0	4.0	13.0	±5.0/±18	JFET Input	8 Lead PDIP
LF411CN	200.000 pA	2.0	10	100.00 pA	25.0	8.0	25.0	+5.0/±22	JFET Input, Low Offset, Low Drift	8 Lead PDIP
MC1741CP1	0.500	6.0	15	200.00	20.0	1.0	0.5	±3.0/±18	General Purpose	8 Lead PDIP
MC1776CP1	0.003	6.0	15	3.00	100.0	1.0	0.2	±1.2/±18	µPower, Programmable	8 Lead PDIP
MC3476P1	0.050	6.0	15	25.00	50.0	1.0	0.2	±1.5/±18	Low Cost	8 Lead PDIP
MC34071P	0.500	5.0	10	75.00	25.0	4.5	10.0	+3.0/±44	High Performance	8 Lead PDIP
MC34181P	0.100 nA	2.0	10	0.05	25.0	4.0	10.0	±2.5/±18	Low Power JFET Input	8 Lead PDIP

Internally Compensated, Automotive Temperature Range (-40 to +85 °C)

MC33071P	0.500	5.0	10	75.00	25.0	4.5	10.0	+3.0/±44	High Performance	8 Lead PDIP
MC33071AP	500.000 nA	3.0	10	50.00	50.0	4.5	10.0	+3.0/±44	Single Supply	8 Lead PDIP
MC33171P	0.100	4.5	10	20.00	50.0	1.8	2.1	+3.0/±44	Low Power Single Supply	8 Lead PDIP

Dual Operational Amplifiers

Internally Compensated, Commercial Temperature Range (0 to 70 °C)

LF353N	200.000 pA	10.0	10	100.00 pA	25.0	4.0	13.0	±5.0/±18	JFET Input	8 Lead PDIP
LF412CN	200.000 pA	3.0	10	100.00 pA	25.0	4.0	13.0	+5.0/±18	JFET Input, Low Offset, Low Drift	8 Lead PDIP
LF442CN	100.000 pA	5.0	10	50.00 pA	25.0	2.0	6.0	±5.0/±18	Low Power JFET Input	8 Lead PDIP
LM358N	25.000	6.0	7	50.00	25.0	1.0	0.6	±1.5/±18 (Split Supplies), +3.0 / +36 (Single Supply)	Low Power Consumption	8 Lead PDIP
MC1458P1	0.500	6.0	10	200.00	20.0	1.1	0.8	±3.0/±18	Dual MC1741	8 Lead PDIP
MC1458CP1	0.700	10.0	10	300.00	20.0	1.1	0.8	±3.0/±18	General Purpose	8 Lead PDIP
MC3458P1	0.500	10.0	7	50.00	20.0	1.0	0.6	±1.5/±18 (Split Supplies), +3.0 / +36 (Single Supply)	Low Crossover Distortion	8 Lead PDIP
MC4558CP1	0.500	6.0	10	200.00	20.0	2.8	1.6	±3.0/±18	High Frequency	8 Lead PDIP
MC34072P	0.500	5.0	10	75.00	25.0	4.5	10.0	+3.0/±44	High Performance, Single Supply	8 Lead PDIP
MC34072AP	500.000 nA	3.0	10	50.00	50.0	4.5	10.0	+3.0/±44	High Performance, Single Supply	8 Lead PDIP
MC34082P	200.000 pA	3.0	10	100.00 pA	25.0	8.0	30.0	±5.0/±22	High Speed JFET Input	8 Lead PDIP
MC34182P	0.100 nA	3.0	10	0.05	25.0	4.0	10.0	±2.5/±18	Low Power JFET Input	8 Lead PDIP
TL062CP	200.000 pA	15.0	10	200.00 pA	4.0	2.0	6.0	±2.5/±18	Low Power JFET Input	8 Lead PDIP
TL082ACP	200.000 pA	6.0	10	100.00 pA	50.0	4.0	13.0	±5.0/±18	JFET Input	8 Lead PDIP
TL082CP	400.000 pA	15.0	10	200.00 pA	25.0	4.0	13.0	±5.0/±18	JFET Input	8 Lead PDIP

Internally Compensated, Industrial Temperature Range (-25 to +85 °C)

LM258N	0.150	5	10	30.00	50.0	1.0	0.6	±1.5/±18 (Split Supplies), +3.0/±36 (Single Supply)	Split or Single Supply Op Amp	8 Lead PDIP
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Internally Compensated, Automotive Temperature Range (-40 to +85 °C)

LM2904N	0.250	7.0	7	50.00	100 Typ.	1.0	6.0	±1.5/±13 (Split Supplies), +3.0/±26 (Single Supply)	Split or Single Supply Op Amp	8 Lead PDIP
MC3358P1	5.000	8.0	10	75.00	20.0	10.0	0.6	±1.5/±18 (Split Supplies), +3.0/±36 (Single Supply)	Split or Single Supply Op Amp	8 Lead PDIP
MC33072P	0.500	5.0	10	75.00	25.0	4.5	10.0	+3.0/±44	High Performance, Single Supply	8 Lead PDIP
MC33072AP	500.000 nA	3.0	10	50.00	50.0	4.5	10.0	+3.0/±44	High Performance, Single Supply	8 Lead PDIP
MC33077P	1.000	1.0	2	180.00	150.0	37.0	11.0	±2.5/±18	Low Noise	8 Lead PDIP
MC33078P	750.000 nA	2.0	2	150.00	31.6	16.0	7.0	±5.0/±18	Low Noise	8 Lead PDIP
MC33172P	0.100	4.5	10	20.00	50.0	1.8	2.1	+3.0/±44	Low Power, Single Supply	8 Lead PDIP
MC33178P	0.500	3.0	2	50.00	50.0	5.0	2.0	±2.0/±18	High Output Current	8 Lead PDIP
MC33182P	0.100 nA	3.0	10	0.05	25.0	4.0	10.0	±2.5/±18	Low Power JFET Input	8 Lead PDIP



Operational Amplifiers (Continued)

Dual Operational Amplifiers

Internally Compensated, Extended Automotive Temperature Range (–40 to +105°C)

Mfr.'s Type	I _{is} (μA) Max.	V _{io} (mV) Max.	T _{cmo} (μV/°C) Typ.	I _{io} (nA) Max.	A _{vol} (V/mV) Min.	Bandwidth (A=1) (MHz) Typ.	Slew Rate (A=1) (V/μs) Typ.	Supply Voltage (V) Min./Max.	Description	Package Type
MC33202P	200.000 nA	6.0	2	50.00	50.0	2.2	1.0	+1.8/+12	Low V Rail to Rail	8 Lead PDIP
MC33202D	200.000 nA	6.0	2	50.00	50.0	2.2	1.0	+1.8/+12	Low V Rail to Rail	8 Lead SOIC

Internally Compensated, Extended Automotive Temperature Range (–40 to +125°C)

TCA0372DP1	500 nA	15.0	20	50.00	30.0	1.1	1.4	+5.0/+36	Power Op Amp, Single Supply	8 Lead PDIP
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Quad Operational Amplifiers

Internally Compensated, Commercial Temperature Range (0 to 70 °C)

LF347N	200.000 pA	10.0	10	100.00 pA	25.0	4.0	13.0	+5.0/±18	JFET Input	14 Lead PDIP
LM324N	0.250	6.0	7	50.00	25.0	1.0	0.6	+1.5/±16 (Split Supplies), +3.0/+32 (Single Supply)	Low Power Consumption	14 Lead PDIP
LM348N	0.600	6.0	—	50.00	25.0	1.0	0.5	+3.0/±18	Quad MC1741	14 Lead PDIP
MC3403P	0.500	10.0	7	50.00	20.0	1.0	0.6	+1.5/±18 (Split Supplies), +3.0/+36 (Single Supply)	No Crossover Distortion	14 Lead PDIP
MC4741CP	0.500	6.0	15	200.00	20.0	1.0	0.5	+3.0/±18	Quad MC1741	14 Lead PDIP
MC34004P	200.000 pA	10.0	10	100.00 pA	50.0	4.0	13.0	+5.0/±18	JFET Input	14 Lead PDIP
MC34004BP	200.000 pA	5.0	10	100.00 pA	25.0	4.5	10.0	+3.0/+44	JFET Input	14 Lead PDIP
MC34074P	0.500	5.0	10	75.00	25.0	4.5	10.0	+3.0/+44	High Performance, Single Supply	14 Lead PDIP
MC34074AP	500.000 nA	3.0	10	50.00	50.0	4.5	10.0	+3.0/+44	High Performance, Single Supply	14 Lead PDIP
MC34084P	200.000 pA	12.0	10	100.00 pA	25.0	4.0	13.0	+5.0/±22	High Speed JFET Input	14 Lead PDIP
MC34184P	0.100 nA	10.0	10	0.05	25.0	4.0	10.0	+2.5/±18	Low Power JFET Input	14 Lead PDIP
TL074CN	200.000 pA	10.0	10	50.00 pA	25.0	4.0	13.0	+5.0/±18	Low Noise JFET Input	14 Lead PDIP
TL084ACN	200.000 pA	6.0	10	100.00 pA	50.0	4.0	13.0	+5.0/±18	JFET Input	14 Lead PDIP
TL084CN	400.000 pA	15.0	10	200.00 pA	25.0	4.0	13.0	+5.0/±18	JFET Input	14 Lead PDIP

Internally Compensated, Automotive Temperature Range (–40 to +85°C)

MC3301P	0.300	—	—	—	1.0	4.0	0.6	+2.0/±15	Norton Input	14 Lead PDIP
LM2900N	0.300	—	—	—	1.0	4.0	0.6	+4.0/±28	Norton Input	14 Lead PDIP
LM2902N	0.500	10.0	—	50.00	—	1.0	0.6	+1.5/±13 (Split Supplies), +3.0/+26 (Single Supply)	Differential Low Power	14 Lead PDIP
MC3303P	0.500	8.0	10	75.00	20.0	1.0	0.6	+1.5/±18 (Split Supplies), +3.0/+36 (Single Supply)	Differential, General Purpose	14 Lead PDIP
MC33074P	0.500	4.5	10	75.00	25.0	4.5	10.0	+3.0/+44	High Performance, Single Supply	14 Lead PDIP
MC33074AP	500.000 nA	3.0	10	50.00	50.0	4.5	10.0	+3.0/+44	High Performance, Single Supply	14 Lead PDIP
MC33079P	750.000 nA	2.5	2	150.00	31.6	9.0	7.0	+5.0/±18	Low Noise	14 Lead PDIP
MC33174P	0.100	4.5	10	20.00	50.0	1.8	2.1	+3.0/+44	Low Power, Single Supply	14 Lead PDIP
MC33179P	0.500	3.0	2	50.00	50.0	5.0	2.0	+2.0/±18	High Output Current	14 Lead PDIP
MC33284P	100.000 pA	2.0	5	50.00 pA	50.0	30.0	12.0	+2.5/±18	Low Input Offset JFET	14 Lead PDIP

Internally Compensated, High Frequency Operational Amplifier

Mfr.'s Type		AV (dB)	Bandwidth @ MHz	VCC/VEE (Vdc)		Temperature Range (°C)	No. of Leads
PDIP	SOIC	Typ.		Min	Max		
MC1350P	MC1350D	50	45	+6.0	+18	0 to 70	8
MC1490P	—	50 45 35	10 60 100	+6.0	+18	−40 to +85	8

Miscellaneous Operational Amplifiers

Bipolar

Mfr.'s Type	Function	I _{is} (μA) Max.	V _{io} (mV) Max.	I _{io} (nA) Max.	A _{vol} (V/mV) Min.	Response (μs) Typ.	Supply Voltage (V)		No. of Leads
							Single	Dual	
MC3405P	Dual Op-Amp and Dual Voltage Comparator	0.5	10	50	20	1.3	3.0 to 36	±1.5 to ±18	14 Lead PDIP
MC3505L	Dual Op-Amp and Dual Voltage Comparator	0.5	5	50	20	1.3	3.0 to 36	±1.5 to ±18	14 Lead CERDIP

CMOS

Mfr.'s Type	Type	Function	Quantity Per Package	Single Supply Voltage Range (V)	Dual Supply Voltage Range (V)	Frequency Range (MHz)	No. of Leads
MC14573P	MC14573D	Quad Programmable Op-Amp	4	3.0 to 15	±1.5 to ±7.5	DC to 1.0	16
MC14577P	—	Dual Video Op-Amp	2	5.0 to 12	±2.5 to ±6.0	Up to 10.0	8
MC14575P	MC14575D	Dual Programmable Op-Amp Dual Programmable Comparator	2 and 2	3.0 to 15	±1.5 to ±7.5	DC to 1.0	16

Comparators

Single

Bipolar

Mfr.'s Type	I _{is} (μA) Max.	V _{io} (mV) Max.	I _{io} (μA) Max.	A _v (V/V) Min.	I _{io} (mA) Min.	Response Time (ns)	Supply Voltage (V)	Description	Temperature Range (°C)	No. of Leads
PDIP										
LM311N	0.25	7.5	0.05	200 K	8	200	+15, –15	With Strobe, Will Operate from Single Supply	0 to +70	8

Dual

Bipolar

LM393N	0.25	5.0	0.05	200 K	6	1300	±1.5 to ±18 or +3.0 to +36	Designed for Single or Split Supply Operation, Input Common Mode Includes Ground (Negative Supply)	0 to +70	8
LM393AN	0.25	2.0	0.05	200 K	6	1300	±1.5 to ±18 or +3.0 to +36	Common Mode Includes Ground (Negative Supply)	0 to +70	8
LM2903N	0.25	7.0	0.05	200 K	6	1500	±1.5 to ±18 or +3.0 to +36	Common Mode Includes Ground (Negative Supply)	–40 to +85	8



Comparators (Continued)

Quad

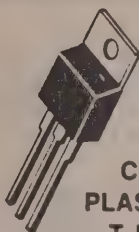
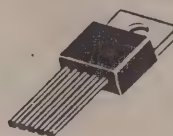
Bipolar

Mfr.'s Type	I _{in} (μA) Max.	V _{io} (mV) Max.	I _o (μA) Max.	A _v (V/V) Min.	I _o (mA) Min.	Response Time (ns)	Supply Voltage (V)	Description	Temperature Range (°C)	No. of Leads
PDIP										
LM239AN	0.250	2	0.0500	200.0 K	6	1300	±1.5 to ±18 or +3.0 to +36	Designed For Single Or Split Supply Operation, Input Common Mode Includes Ground (Negative Supply)	-25 to +85	14
LM339A	0.250	2	0.0500	200.0 K					0 to +70	14
LM2901N	0.250	7	0.0500	100.0 K					-40 to +85	14
MC3302P	0.500	20	0.5000	30.0 K					-40 to +85	14
MC3430P	40.000	6	1.0000 Typ.	1.2 K	16	33	+5, -5	High Speed Comparator/Sense Amplifier	0 to +70	16

CMOS

MC14575P	0.001	30	0.0001	2.0 K	3	1000	±1.5 to ±7.5 or +3.0 to +36	Externally Programmable Power Dissipation With 1 Or 2 Resistors	-40 to +85	16
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Voltage Regulators

CASE 29
PLASTIC
P, Z SUFFIXCASE 221A
PLASTIC POWER
T, KC SUFFIXCASE 314D
PLASTIC
T SUFFIXCASE 369A
PLASTIC
DT SUFFIXCASE 751
PLASTIC
D SUFFIX

Linear Voltage Regulators

Fixed Output

Mfr.'s Type								V _{out} (V)	Tol.* (V)	I _o (mA) Max.	V _{in} (V) Min./Max.	Reg _{line} (mV)	Reg _{load} (mV)	ΔV _o /ΔT (mV/°C) Typ.
Positive Regulator				Negative Regulator										
Case 29/T0-92	Case 221A	Case 369A	Case 751/SO-8	Case 29/T0-92	Case 221A	Case 369A	Case 751/SO-8							
LM2931Z-5.0	LM2931T-5.0	—	—	MC79L05CP	—	—	—	5.0	±0.50	100	5.6/40	30	50	1.00
MC78L05CP	—	—	—	—	—	—	—	5.0	±0.50	100	6.7/30	200	60	1.00
LM2931AZ-5.0	LM2931AT-5.0	—	—	MC79L05ACP	—	—	—	5.0	±0.25	100	5.6/40	30	50	1.00
MC78L05ACP	—	—	—	—	—	—	—	5.0	±0.25	100	6.7/30	150	60	1.00
—	MC78M05CT	MC78M05CDT	—	—	MC79M05CT	MC79M05CDT	—	5.0	±0.25	500	7.0/35	100	100	1.00
—	MCT7805CT	—	—	—	—	—	—	5.0	±0.25	1500	7.0/35	100	100	1.00
—	MC7805CT	—	—	—	MC7905CT	—	—	5.0	±0.25	1500	7.0/35	100	100	1.00
—	MC7805ACT	—	—	—	MC7905ACT	—	—	5.0	±0.20	1500	7.5/35	10	100	0.60
—	LM340T-5.0	—	—	—	—	—	—	5.0	±0.25	1500	7.0/35	50	50	0.60
—	LM340AT-5.0	—	—	—	—	—	—	5.0	±0.20	1500	7.0/35	10	25	0.60
—	TL780-05CKC	—	—	—	—	—	—	5.0	±0.10	1500	7.0/35	5	25	0.06
—	MC78T05CT	—	—	—	MC79T05CT	—	—	5.0	±0.25	3000	7.3/35	25	30	0.10
—	MC78T05ACT	—	—	—	MC79T05ACT	—	—	5.0	±0.20	3000	7.3/35	10	25	0.10
—	LM323AT	—	—	—	—	—	—	5.0	±0.20	3000	7.5/20	15	50	0.10
—	MC78M06CT	—	—	—	—	—	—	6.0	±0.30	500	8.0/35	100	120	1.00
—	MCT7806CT	—	—	—	—	—	—	6.0	±0.30	1500	8.0/35	120	120	0.70
—	MC7806CT	—	—	—	MC7906CT	—	—	6.0	±0.30	1500	8.0/35	120	120	0.70
MC78L08CP	—	—	—	—	—	—	—	8.0	±0.80	100	9.7/30	200	80	—
MC78L08ACP	—	—	—	—	—	—	—	8.0	±0.80	100	9.7/30	175	80	—
—	—	—	—	—	—	—	—	8.0	±0.40	500	10.0/35	100	160	1.00
—	MC78M08CT	MC78M08CDT	—	—	—	—	—	8.0	±0.40	1500	11.5/35	160	160	1.00
—	MCT7808BT	—	—	—	—	—	—	8.0	±0.40	1500	10.5/35	160	160	1.00
—	MC7808CT	—	—	—	—	—	—	8.0	±0.40	1500	10.5/35	160	160	1.00
—	MC7808ACT	—	—	—	MC7908CT	—	—	8.0	±0.40	1500	10.5/35	160	160	1.00
—	MC78T08CT	—	—	—	—	—	—	8.0	±0.40	3000	10.4/35	35	30	0.16
MC78L12CP	—	—	—	MC79L12CP	—	—	—	12.0	±1.20	100	13.7/35	250	100	—
MC78L12ACP	—	—	—	MC79L12ACP	—	—	—	12.0	±0.60	100	13.7/35	250	100	—
—	—	—	—	—	—	—	—	12.0	±0.60	500	14.0/35	100	240	1.00
—	MC78M12CT	MC78M12CDT	—	—	—	—	—	12.0	±0.60	1500	15.5/35	240	240	1.50
—	MCT7812BT	—	—	—	—	—	—	12.0	±0.60	1500	14.5/35	240	240	1.50
—	MC7812CT	—	—	—	—	—	—	12.0	±0.60	1500	14.5/35	240	240	1.50
—	MC7812ACT	—	—	—	MC7912CT	—	—	12.0	±0.60	1500	14.5/35	240	240	1.50
—	LM340T-12	—	—	—	—	—	—	12.0	±0.50	1500	14.8/35	18	100	1.50
—	LM340AT-12	—	—	—	—	—	—	12.0	±0.60	1500	14.5/35	120	120	1.50
—	TL780-12CKC	—	—	—	—	—	—	12.0	±0.50	1500	14.5/35	18	32	1.50
—	MC78T12CT	—	—	—	—	—	—	12.0	±0.24	1500	14.5/35	5	35	0.20
—	MC78T12ACT	—	—	—	—	—	—	12.0	±0.60	3000	14.5/35	45	30	0.20
MC78L15CP	—	—	—	—	—	—	—	12.0	±0.50	3000	14.5/35	18	25	0.20
MC78L15ACP	—	—	—	—	—	—	—	15.0	±1.50	100	16.7/35	300	150	—
—	—	—	—	—	MC79L15CP	—	—	15.0	±0.75	100	16.7/35	300	150	—
—	—	—	—	—	MC79L15ACP	—	—	15.0	±0.75	500	17.0/35	100	300	1.00
—	MC78M15CT	MC78M15CDT	—	—	—	—	—	15.0	±0.75	1500	18.5/35	300	300	1.80
—	MCT7815BT	—	—	—	—	—	—	15.0	±0.75	1500	17.5/35	300	300	1.80
—	MC7815CT	—	—	—	—	—	—	15.0	±0.75	1500	17.5/35	300	300	1.80
—	MC7815ACT	—	—	—	MC7915CT	—	—	15.0	±0.75	1500	17.5/35	300	300	1.80
—	LM340T-15	—	—	—	MC7915ACT	—	—	15.0	±0.60	1500	17.9/35	22	100	1.80
—	LM340AT-15	—	—	—	—	—	—	15.0	±0.75	1500	17.5/35	150	150	1.80
—	TL780-15CKC	—	—	—	—	—	—	15.0	±0.60	1500	17.5/35	22	35	1.80
—	MC78T15CT	—	—	—	—	—	—	15.0	±0.30	1500	17.5/35	15	60	0.20
—	MC78T15ACT	—	—	—	—	—	—	15.0	±0.75	3000	17.5/40	55	30	0.30
MC78L18ACP	—	—	—	—	—	—	—	18.0	±0.90	100	19.7/35	325	170	—
—	—	—	—	—	—	—	—	18.0	±0.70	1500	21.0/35	360	360	2.30
—	MC7818CT	—	—	—	MC7918CT	—	—	20.0	±1.00	500	22.0/40	10	400	1.10
—	MC78M20CT	—	—	—	—	—	—	24.0	±1.20	100	25.7/40	300	200	—
MC78L24ACP	—	—	—	—	—	—	—	24.0	±1.20	500	26.0/40	100	480	1.20
—	—	—	—	—	—	—	—	24.0	±1.20	1500	28.0/40	480	480	3.00
—	MC78M24CT	—	—	—	—	—	—	24.0	±1.20	1500	28.0/40	480	480	3.00
—	MCT7824BT	—	—	—	—	—	—	24.0	±1.20	1500	27.0/40	480	480	3.00
—	MC7824CT	—	—	—	—	—	—	24.0	±1.20	1500	27.0/40	480	480	3.00
—	MC7824ACT	—	—	—	—	—	—	24.0	±1.20	1500	27.0/40	480	480	3.00
—	MC7824CT	—	—	—	MC7924CT	—	—	24.0	±1.20	1500	27.0/40	480	480	3.00



Voltage Regulators (Continued)

Linear Voltage Regulators

Adjustable Positive Output Regulators

Mfr.'s Type	I _o (mA) Max.	V _{out} (V)		V _{in} (V)		V _{in} - V _{out} Differential (V) Min.	P _o (W) Max.		Regulation % V _{out} @ T _A =25°C Max.		T _c V _{out} Typ. (%/°C)	T _j (°C) Max.	Package Type
		Max.	Min. ^a	Min.	Min.		T _A =25°C	T _C =25°C	Line	Load			
LM317LZ	100	1.2	37	5.00	40	3.0	Internally Limited		0.04	0.5	0.0060	125	Case 29
LM2931CT	100	3.0	24	3.16	40	0.6	Internally Limited		0.15	1.0	—	125	Case 314D
MC1723CP	150	2.0	37	9.50	40	3.0	1.25	—	0.10	0.3	0.0030	150	14 Lead PDIP
LM317MT	500	1.2	37	5.00	40	3.0	1.50	—	0.10	0.3	0.0020	175	Case 221A
LM317T	1500	1.2	37	5.00	40	3.0	Internally Limited		0.04	0.5	0.0060	125	Case 221A
LM350T	3000	1.2	33	5.00	36	3.0	Internally Limited		0.03	0.5	0.0080	125	Case 221A

Adjustable Negative Output Regulators

LM337MT	500	-1.2	-37	5.00	4	3.0	Internally Limited		0.04	1.0	0.0048	125	Case 221A
LM337T	1500	-1.2	-37	5.00	4	3.0	Internally Limited		0.04	1.0	0.0048	125	Case 221A

Microprocessor Voltage Regulator/Supervisory Circuit

Mfr.'s Type	V _{out} (V)		I _o (mA) Max.	V _{in} (V)		Reg _{line} (mV) Max.	Reg _{load} (mV) Max.	T _A (°C)	Package Type
	Min.	Max.		Min.	Max.				
MC34160P	4.75	5.25	100	7	40	40	50	0 to +70	16 Lead PDIP
MC33160P	4.75	5.25	100	7	40	40	50	40 to +85	16 Lead PDIP

Switching Regulator Control Circuits

Single Ended Controllers

Mfr.'s Type		I _o (mA) Max.	Minimum Operating Voltage Range (V)	Operating Mode	Reference (V)	Maximum Useful Oscillator Frequency (KHz)	T _A (°C)	No. of Leads
PDIP	SOIC							
MC34060AP	MC34060AD	500 ¹	7.0 to 40	Voltage	5.0 0±1.5%	200	0 to +70	14
MC33060AP	MC33060AD	500 ¹	7.0 to 40	Voltage	5.00 ±1.5%	200	-40 to +85	14
MC34129P	MC34129D	1000 ²	4.2 to 12	Current	1.25 ±2.0%	300	0 to +70	14
MC33129P	MC33129D	1000 ²	4.2 to 12	Current	1.25 ±2.0%	300	-40 to +85	14
UC3842AN	—	1000 ²	11.5 to 30	Current	5.00 ±2.0%	500 ⁴	0 to +70	8
UC2842AN	—	1000 ²	11.0 to 30	Current	5.00 ±2.0%	500 ⁴	-25 to +85	8
UC3843AN	UC3843AD	1000 ²	8.2 to 30	Current	5.00 ±2.0%	500 ⁴	0 to +70	8
UC2843AN	—	1000 ²	8.2 to 30	Current	5.00 ±1.0%	500 ⁴	-25 to +85	8
UC3844N	—	1000 ²	11.5 to 30	Current	5.00 ±2.0%	500 ⁴	0 to +70	8
UC2844N	—	1000 ²	11.0 to 30	Current	5.00 ±1.0%	500 ⁴	-25 to +85	8
UC3845N	—	1000 ²	8.2 to 30	Current	5.00 ±2.0%	500 ⁴	0 to +70	8
UC2845N	—	1000 ²	8.2 to 30	Current	5.00 ±1.0%	500 ⁴	-25 to +85	8
MC44602P2	—	1000 ³	11.0 to 18	Current	5.00 ±6.0%	500 ⁵	-25 to +85	16

Single Ended Controllers with On-Chip Power Switch

μA78S40PC	—	1500 ⁷	2.5 to 40	Voltage	1.25 ±5.2%	100	0 to +70	16
MC34063AP1	MC34063AD	1500 ⁷	2.5 to 40	Voltage	1.25 ±2.0%	100	0 to +70	8
MC33063AP1	MC33063AD	1500 ⁷	2.5 to 40	Voltage	1.25 ±2.0%	100	-40 to +85	8
MC34165P	—	1500 ⁷	3.0 to 65	Voltage	1.25 ±2.0%	100	0 to +70	16
MC34165P	—	3400 ⁸	2.5 to 40	Voltage	1.25 ±2.0% ⁹	100	0 to +70	16
MC34166T ¹⁰	—	3400 ⁸	7.5 to 40	Voltage	5.05 ±2.0%	72 ±12% ¹⁰	0 to +70	5
MC33166T ¹⁰	—	3400 ⁸	7.5 to 40	Voltage	5.05 ±2.0%	72 ±12% ¹⁰	-40 to +85	5
MC34167T ¹⁰	—	5500 ⁸	7.5 to 40	Voltage	5.05 ±2.0%	72 ±12% ¹⁰	0 to +70	5

Double Ended Controllers

TL494CN	—	500 ¹	7.0 to 40	Voltage	5.00 ±5.0%	200	0 to +70	16
SG3525AN	—	±500 ¹	8.0 to 40	Voltage	5.10 ±2.0%	400	0 to +70	16

¹Uncommitted Drive Output. ²Totem Pole MOSFET Drive Output. ³1000 Source, 1500 Sink; Split Totem Pole Bipolar Drive Output. ⁴Guaranteed at 250. ⁵50% Duty Cycle Limit. ⁶Case Style is 314D. ⁷Uncommitted Power Switch. ⁸Dedicated Power Switch. ⁹Dual References, 1.25 ±2.0% and 5.05 ±3.0%. ¹⁰Internally Fixed.

Power Factor Controllers

Mfr.'s Type	I _o (mA) Max.	Minimum Operating Voltage Range (V)	Operating Mode	Reference (V)	Features	T _A (°C)	No. of Leads
MC34261P	±500 [*]	9.0 To 30	Current	±2.5	Undervoltage Lockout, Internal Start-Up Timer	0 to +70	8
MC34262P	±500 [*]	9.0 To 30	Current	±2.5	Overvoltage Comparator, Undervoltage Lockout, Internal Start-Up Timer	0 to +70	8

*Totem Pole MOSFET Drive Outputs

Under Voltage Sense/Reset Controllers

Mfr.'s Type		Standard Power Supply Supported (V)	Typical Threshold Voltage (V)	Typical Hysteresis Voltage (V)	Minimum Output Sink Current (mA)	Power Supply Input Voltage Range (V)	Maximum Quiescent Input Current	T _A (°C)
Case 29/TO-92	Case 751/SO-8							
MC34064P-5	MC34064D-5	5.0 ±5%	4.6	0.02	10	1.0 to 10	500 μA @ V _{in} =5.0 V	0 to +70
MC33064P-5	MC33064D-5	5.0 ±5%	4.6	0.02	10	1.0 to 10	500 μA @ V _{in} =5.0 V	-40 to +85
MC34164P-5	MC34164D-5	5.0 ±10%	4.3	0.09	7	1.0 to 12	20 μA @ V _{in} =5.0 V	0 to +70

Under Voltage Sense/Reset Controllers (Continued)

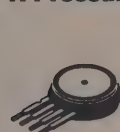
Mfr.'s Type		Standard Power Supply Supported (V)	Typical Threshold Voltage (V)	Typical Hysteresis Voltage (V)	Minimum Output Sink Current (mA)	Power Supply Input Voltage Range (V)	Maximum Quiescent Input Current	T _A (°C)
Case 29/T0-92	Case 751/S0-8							
MC33164P-5	MC33164D-5	5.0 ±10%	4.3	0.09	7	1.0 to 12	20 µA @ V _{IN} =5.0 V	-40 to +85
MC34164P-3	MC34164D-3	3.0 ±5%	2.7	0.06	6	1.0 to 12	15 µA @ V _{IN} =3.0 V	0 to +70
MC33164P-3	MC33164D-3	3.0 ±5%	2.7	0.06	6	1.0 to 12	15 µA @ V _{IN} =3.0 V	-40 to +85

Precision Low Voltage References Temperature

Mfr.'s Type			V _{OUT} (V) Typ.	I _O (mA) Max.	V _{OUT} /T (ppm/°C) Max.	Regline (mV) Max.	Regload (mV) Max.	Temperature Range (°C)
Case 29/T0-92	Case 751/S0-8	8 Lead PDIP						
LM385BZ-1.2	—	—	1.235 ±12 mV	20	80 Typ.	Note 1	1*	0 to +70
LM385Z-1.2	—	—	1.235 ±25 mV	20	80 Typ.	Note 1	1*	0 to +70
LM285Z-1.2	—	—	1.235 ±25 mV	20	80 Typ.	Note 1	1*	-40 to +85
LM385BZ-2.5	—	—	2.500 ±38 mV	20	80 Typ.	Note 1	2*	0 to +70
LM385Z-2.5	—	—	2.500 ±75 mV	20	80 Typ.	Note 1	2*	0 to +70
LM285Z-2.5	—	—	2.500 ±75 mV	20	80 Typ.	Note 1	2*	-40 to +85
—	—	—	2.500 ±25 mV	10	40	Note 2	10**	0 to +70
TL431CLP	MC1403D	—	2.500 to 37	100	50 Typ.	Note 3	Note 3	0 to +70
TL431ACP	TL431CD	TL431CP	2.500 to 37	100	50 Typ.	Note 3	Note 3	0 to +70
—	TL431ACD	TL431ACP	—	—	—	—	—	—

Note 1: Micropower Reference Diode Dynamic Impedance (Z) < 1.0 Ohm at I_R = 100 µA. Note 2: 4.5 V < V_{IN} < 15 V / 15 V < V_{IN} < 40 V. Note 3: Shunt Reference Dynamic Impedance (Z) < 0.5 Ohm. *10 µA < I_R < 1.0 mA. **20 µA < I_R < 1.0 mA. ***0 mA < I_L < 10 mA

MPX Pressure Sensors



BASIC ELEMENT
CASE 344
SUFFIX A/D



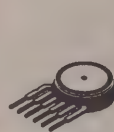
GAUGE PORT
CASE 350-03
SUFFIX AP/GP



GAUGE VACUUM PORT
CASE 350-04
SUFFIX GVP



DUAL PORT
CASE 352
SUFFIX DP



BASIC ELEMENT
CASE 867
SUFFIX A/D



GAUGE PORT
CASE 867B
SUFFIX AP/GP



GAUGE VACUUM PORT
CASE 867D
SUFFIX GVP



DUAL PORT
CASE 867C
SUFFIX DP



AXIAL PORT
CASE 371C
SUFFIX ASX/GSX



AXIAL VACUUM PORT
CASE 371D
SUFFIX GVSX



STOVEPIPE PORT
CASE 371-05
SUFFIX AS/GS



STOVEPIPE VACUUM PORT
CASE 371-08
SUFFIX GVS



AXIAL PORT
CASE 867F
SUFFIX ASX/GSX



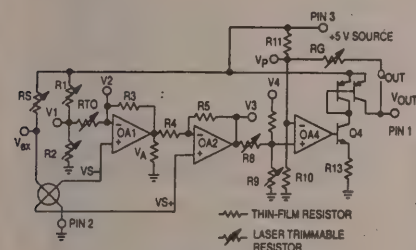
AXIAL VACUUM PORT
CASE 867G
SUFFIX GVSX



STOVEPIPE PORT
CASE 867E
SUFFIX AS/GS



STOVEPIPE VACUUM PORT
CASE 867A
SUFFIX GVS



Fully Integrated Pressure Sensor

The performance of Motorola's MPX series of pressure sensors is based on its patented strain gauge design. Unlike the more conventional pressure sensors which utilize four closely matched resistors in a Wheatstone bridge configuration, the MPX series uses only a single piezoresistive element ion implanted on an etched silicon diaphragm to sense the stress induced on the diaphragm by an external pressure. The extremely linear output is an analog voltage that is proportional to pressure input and ratiometric with supply voltage. High sensitivity and excellent long-term repeatability make these units suitable for the most demanding applications.

Motorola pressure sensors support three types of pressure measurements: Absolute Pressure, Differential Pressure and Gauge Pressure.

relative negative pressure to the "Pressure" side of the sensor.

Differential Pressure Sensors measure the difference between pressures applied simultaneously to opposite sides of the diaphragm. A positive pressure applied to the "Pressure" side generates the same (positive) output as an equal negative pressure applied to the "Vacuum" side.

Gauge pressure readings are a special case of differential measurements in which the pressure applied to the Pressure side is measured against the ambient atmospheric pressure applied to the Vacuum side through the vent hole in the chip of the differential pressure sensor elements.

To make the designer's job even easier, Motorola's integrated devices carry sensor technology one step further. Besides the on-chip temperature compensation and calibration offered currently on the MPX2000 series, amplifier signal conditioning has been integrated on-chip in the MPX5000 series to allow interface directly to any microcomputer with an on-board A/D converter.

The signal conditioning is accomplished by means of a four-stage amplification network, incorporating linear bipolar processing, thin-film metalization techniques, and interactive laser trimming to provide the state-of-the-art in sensor technology.

Motorola designates the two sides of the pressure sensor as the Pressure (top) side and the Vacuum Pressure (back) side. The Pressure side is the side containing silicone gel which protects the die from harsh media. The Motorola MPX pressure sensor is designed to operate with positive differential pressure applied (i.e., top side pressure is greater than or equal to back side pressure). The Pressure side may be identified by using the tables below. Note: Stainless steel cap is not installed on devices with a port attached to the pressure (gel) side.

Absolute Pressure Sensors measure an external pressure relative to a zero-pressure reference (vacuum) sealed inside the reference chamber of the die during manufacture. This corresponds to a deflection of the diaphragm equal to approximately 15 PSI (one atmosphere), generating a quiescent full-scale output for the MPX100A (15 PSI) sensor, and a half-scale output for the MPX200A (30 PSI) device. Measurement of external pressure is accomplished by applying a

MPX10/50/100/200/700 Series (Uncompensated)

Mfr.'s Type	Pressure Range (PSI)	Device Type	Measurement Type	Package Type	Positive Pressure Side Identifier	Pressure Range (kPa/PSI) Max.	Over Pressure (kPa)	Offset (mV) Typ.	Full Scale Span (mV) Typ.	Sensitivity (mV/kPa) Typ.	Linearity % of FSS*		Temperature Coefficient of Span (%/°C) Typ.	Input Impedance (Ω) Typ.
											Min.	Max.		
MPX10DP	0-1.5	4-Pin Ported Element	Differential Port	Case 352	Side With Part Marking	10/45.0	100	20	35	3.500	-1.00	1.00	-0.19	475
MPX10GP	0-1.5	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	10/45.0	100	20	35	3.500	-1.00	1.00	-0.19	475
MPX50GP	0-7.3	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	50/7.3	200	20	60	1.200	-0.10	0.10	-0.19	475
MPX100A	0-14.5	4-Pin Basic Element	Absolute	Case 344	Stainless Steel Cap	100/14.5	200	20	60	0.600	-0.10	0.10	-0.19	475
MPX100AP	0-14.5	4-Pin Ported Element	Absolute Port	Case 350-03	Side With Port Attached	100/14.5	200	20	60	0.600	-0.10	0.10	-0.19	475
MPX100AS	0-14.5	4-Pin Ported Element	Absolute Stove Pipe	Case 371-05	Side With Port Attached	100/14.5	200	20	60	0.600	-0.10	0.10	-0.19	475
MPX100GP	0-14.5	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	100/14.5	200	20	60	0.600	-0.10	0.10	-0.19	475
MPX100GVP	0-14.5	4-Pin Ported Element	Gauge Vacuum	Case 350-04	Stainless Steel Cap	100/14.5	200	20	60	0.600	-0.10	0.10	-0.19	475
MPX200A	0-29.0	4-Pin Basic Element	Absolute	Case 344	Stainless Steel Cap	200/29.0	400	20	60	0.300	-0.25	0.25	-0.19	475
MPX200D	0-29.0	4-Pin Basic Element	Differential	Case 344	Stainless Steel Cap	200/29.0	400	20	60	0.300	-0.25	0.25	-0.19	475
MPX200AP	0-29.0	4-Pin Ported Element	Absolute Port	Case 350-03	Side With Port Attached	200/29.0	400	20	60	0.300	-0.25	0.25	-0.19	475
MPX200GP	0-29.0	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	200/29.0	400	20	60	0.300	-0.25	0.25	-0.19	475
MPX700D	0-100.0	4-Pin Basic Element	Differential	Case 344	Stainless Steel Cap	700/100.0	2100	20	60	0.086	-0.50	0.50	-0.18	475
MPX700AP	0-100.0	4-Pin Ported Element	Absolute Port	Case 350-03	Side With Port Attached	700/100.0	2100	20	60	0.086	-0.50	0.50	-0.18	475
MPX700AS	0-100.0	4-Pin Ported Element	Absolute Stove Pipe	Case 371-05	Stainless Steel Cap	700/100.0	2100	20	60	0.086	-0.50	0.50	-0.18	475
MPX700ASX	0-100.0	4-Pin Ported Element	Absolute Axial	Case 371C	Side With Port Attached	700/100.0	2100	20	60	0.086	-0.50	0.50	-0.18	475
MPX700DP	0-100.0	4-Pin Ported Element	Differential Port	Case 352	Side With Part Marking	700/100.0	2100	20	60	0.086	-0.50	0.50	-0.18	475
MPX700GP	0-100.0	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	700/100.0	2100	20	60	0.086	-0.50	0.50	-0.18	475

*Based on end point straight line fit method. Best fit straight line linearity error is approximately 1/2 of listed value.



MPX Pressure Sensors (Continued)

MPX2000/2100/2200 Series (Temperature Compensated and Calibrated On-Chip)

Mfr.'s Type	Pressure Range (PSI)	Device Type	Measurement Type	Package Type	Positive Pressure Side Identifier	Pressure Range (kPa/PSI) Max.	Over Pressure (kPa)	Offset (mV) Typ.	Full Scale Span (mV) Typ.	Sensitivity (mV/kPa) Typ.	Linearity % of FSS*		Temperature Coefficient of Span (%/°C) Typ.	Input Impedance (Ω) Typ.
											Min.	Max.		
MPX2010D	0-1.5	4-Basic Element	Differential	Case 344	Stainless Steel Cap	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2010DP	0-1.5	4-Pin Ported Element	Differential Port	Case 352	Side With Part Marking	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2010GP	0-1.5	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2010GVP	0-1.5	4-Pin Ported Element	Gauge Vacuum	Case 350-04	Stainless Steel Cap	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2010GS	0-1.5	4-Pin Ported Element	Gauge Stovepipe	Case 371-05	Stainless Steel Cap	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2010GVS	0-1.5	4-Pin Ported Element	Gauge Vacuum Stovepipe	Case 371-06	Side With Port Attached	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2010GSX	0-1.5	4-Pin Ported Element	Gauge Axial	Case 371C	Side With Port Attached	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2010GVX	0-1.5	4-Pin Ported Element	Gauge Vacuum Axial	Case 371D	Stainless Steel Cap	10/1.45	75	±0.05	25	2.5	-1.00	1.00	+/-0.5	1800
MPX2050DP	0-7.3	4-Pin Ported Element	Differential Port	Case 352	Side With Part Marking	50/7.30	200	±0.05	40	0.8	-0.25	0.25	+/-0.5	1800
MPX2050GP	0-7.3	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	50/7.30	200	±0.05	40	0.8	-0.25	0.25	+/-0.5	1800
MPX2050GVP	0-7.3	4-Pin Ported Element	Gauge Vacuum	Case 350-04	Stainless Steel Cap	50/7.30	200	±0.05	40	0.8	-0.25	0.25	+/-0.5	1800
MPX2050GSX	0-7.3	4-Pin Ported Element	Gauge Axial	Case 371C	Side With Port Attached	50/7.30	200	±0.05	40	0.8	-0.25	0.25	+/-0.5	1800
MPX2052D	0-7.3	4-Basic Element	Differential	Case 344	Stainless Steel Cap	50/7.30	200	±0.10	40	0.8	-0.25	0.25	+/-0.5	1800
MPX2052DP	0-7.3	4-Pin Ported Element	Differential Port	Case 352	Side With Part Marking	50/7.30	200	±0.10	40	0.8	-0.25	0.25	+/-0.5	1800
MPX2052GVP	0-7.3	4-Pin Ported Element	Gauge Vacuum	Case 350-04	Stainless Steel Cap	50/7.30	200	±0.10	40	0.8	-0.25	0.25	+/-0.5	1800
MPX2100DP	0-1.5	4-Pin Ported Element	Differential Port	Case 352	Side With Part Marking	100/14.50	400	±0.05	40	0.4	-0.25	0.25	+/-0.5	1800
MPX2100GP	0-1.5	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	100/14.50	400	±0.05	40	0.4	-0.25	0.25	+/-0.5	1800
MPX2100GVP	0-1.5	4-Pin Ported Element	Gauge Vacuum	Case 350-04	Stainless Steel Cap	100/14.50	400	±0.05	40	0.4	-0.25	0.25	+/-0.5	1800
MPX2100GS	0-1.5	4-Pin Ported Element	Gauge Axial	Case 371C	Side With Port Attached	100/14.50	400	±0.05	40	0.4	-0.25	0.25	+/-0.5	1800
MPX2100GSX	0-1.5	4-Pin Ported Element	Gauge Vacuum Axial	Case 371D	Stainless Steel Cap	100/14.50	400	±0.05	40	0.4	-0.25	0.25	+/-0.5	1800
MPX2200DP	0-7.3	4-Pin Ported Element	Differential Port	Case 352	Side With Part Marking	200/29.00	400	±0.05	40	0.2	-0.25	0.25	+/-0.5	1800
MPX2200GP	0-7.3	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	200/29.00	400	±0.05	40	0.2	-0.25	0.25	+/-0.5	1800

*Based on end point straight line fit method. Best fit straight line linearity error is approximately 1/2 of listed value.

MPX7000/7100/7200 Series (Temperature Compensated and Calibrated On-Chip)

Mfr.'s Type	Pressure Range (PSI)	Device Type	Measurement Type	Package Type	Positive Pressure Side Identifier	Pressure Range (kPa/PSI) Max.	Over Pressure (kPa)	Offset (mV) Typ.	Full Scale Span (mV) Typ.	Sensitivity (mV/kPa) Typ.	Linearity % of FSS*	Temperature Coefficient of Span (%/°C) Typ.	Input Impedance (Ω) Typ.	
MPX7050D	0-7.3	4-Pin Basic Element	Differential	Case 344	Stainless Steel Cap	50/7.3	400	±0.10	40	0.8	-2.5	0.25	+/-0.5	10K
MPX7050GP	0-7.3	4-Pin Ported Element	Gauge	Case 350-03	Side With Port Attached	50/7.3	400	±0.10	40	0.8	-2.5	0.25	+/-0.5	10K
MPX7100D	0-14.5	4-Pin Basic Element	Differential	Case 344	Stainless Steel Cap	100/14.5	400	±0.10	40	0.2	-2.5	0.25	+/-0.5	10K
MPX7200A	0-29.0	4-Pin Basic Element	Absolute	Case 344	Stainless Steel Cap	200/29	400	±0.10	40	0.2	-2.5	0.25	+/-0.5	10K

*Based on end point straight line fit method. Best fit straight line linearity error is approximately 1/2 of listed value.

MPX4000 Series (Signal Conditioned On-Chip)

Mfr.'s Type	Pressure Range (kPa)	Device Type	Measurement Type	Package Type	Positive Pressure Side Identifier	Pressure Range (kPa/PSI) Max.	Voltage Source (V)	Full Scale Span (V) Typ.	Sensitivity (mV/kPa) Typ.	Accuracy (0 to +85°C)
MPX4100A	20-105	6-Pin Basic Element	Absolute	Case 867	Stainless Steel Cap	105/15.5	5.1	4.59	54	1.50%
MPX4100AP	20-105	6-Pin Ported Element	Absolute Port	Case 867B	Side With Port Attached	105/15.5	5.1	4.59	54	1.50%
MPX4101A	15-102	6-Pin Basic Element	Absolute	Case 867	Stainless Steel Cap	102/15.2	5.1	4.70	54	1.50%
MPX4115A	20-115	6-Pin Basic Element	Absolute	Case 867	Stainless Steel Cap	115/17	5.1	4.59	54	1.50%
MPX4115AP	20-115	6-Pin Ported Element	Absolute Port	Case 867B	Side With Port Attached	115/17	5.1	4.59	54	1.50%
MPX4115ASX	20-115	6-Pin Ported Element	Absolute Axial	Case 867F	Side With Port Attached	115/17	5.1	4.59	54	1.50%
MPX4250A	20-250	6-Pin Basic Element	Absolute	Case 867	Stainless Steel Cap	250/35	5.1	4.69	58	1.50%
MPX4250AP	20-250	6-Pin Ported Element	Absolute Port	Case 867B	Side With Port Attached	250/35	5.1	4.69	58	1.50%
MPX4250ASX	20-250	6-Pin Ported Element	Absolute Axial	Case 867F	Side With Port Attached	250/35	5.1	4.69	58	1.50%

MPX5000 Series (Signal Conditioned On-Chip)

Mfr.'s Type	Pressure Range (PSI)	Device Type	Measurement Type	Package Type	Positive Pressure Side Identifier	Pressure Range (kPa/PSI) Max.	Voltage Source (V)	Full Scale Span (V) Typ.	Sensitivity (mV/kPa) Typ.	Accuracy (0 to +85°C)
MPX5050D	0-7.3	6-Pin Basic Element	Differential	Case 867	Stainless Steel Cap	50/7.3	5	4.7	90	2.50%
MPX5050DP	0-7.3	6-Pin Ported Element	Differential Port	Case 867C	Side With Part Marking	50/7.3	5	4.7	90	2.50%
MPX5050GP	0-7.3	6-Pin Ported Element	Gauge	Case 867B	Side With Port Attached	50/7.3	5	4.7	90	2.50%
MPX5050GVP	0-7.3	6-Pin Ported Element	Gauge Vacuum	Case 867D	Stainless Steel Cap	50/7.3	5	4.7	90	2.50%
MPX5050GS	0-7.3	6-Pin Ported Element	Gauge Stovepipe	Case 867E	Side With Port Attached	50/7.3	5	4.7	90	2.50%
MPX5050GVS	0-7.3	6-Pin Ported Element	Gauge Vacuum Stovepipe	Case 867A	Stainless Steel Cap	50/7.3	5	4.7	90	2.50%
MPX5050GSX	0-7.3	6-Pin Ported Element	Gauge Axial	Case 867F	Side With Port Attached	50/7.3	5	4.7	90	2.50%
MPX5050GVX	0-7.3	6-Pin Ported Element	Gauge Vacuum Axial	Case 867G	Stainless Steel Cap	50/7.3	5	4.7	90	2.50%
MPX5100D	0-14.5	6-Pin Basic Element	Differential	Case 867	Stainless Steel Cap	100/14.5	5	4.5	45	2.50%
MPX5100DP	0-14.5	6-Pin Ported Element	Differential Port	Case 867C	Side With Part Marking	100/14.5	5	4.5	45	2.50%
MPX5100GP	0-14.5	6-Pin Ported Element	Gauge	Case 867B	Side With Port Attached	100/14.5	5	4.5	45	2.50%
MPX5100GVP	0-14.5	6-Pin Ported Element	Gauge Vacuum	Case 867D	Stainless Steel Cap	100/14.5	5	4.5	45	2.50%
MPX5100GS	0-14.5	6-Pin Ported Element	Gauge Stovepipe	Case 867E	Side With Port Attached	100/14.5	5	4.5	45	2.50%
MPX5100GVS	0-14.5	6-Pin Ported Element	Gauge Vacuum Stovepipe	Case 867A	Stainless Steel Cap	100/14.5	5	4.5	45	2.50%
MPX5100GSX	0-14.5	6-Pin Ported Element	Gauge Axial	Case 867F	Side With Port Attached	100/14.5	5	4.5	45	2.50%
MPX5100GVX	0-14.5	6-Pin Ported Element	Gauge Vacuum Axial	Case 867G	Stainless Steel Cap	100/14.5	5	4.5	45	2.50%
MPX5100A	2.5-17	6-Pin Basic Element	Absolute	Case 867	Stainless Steel Cap	115/17	5	4.5	45	2.50%
MPX5100AP	2.5-17	6-Pin Ported Element	Absolute Port	Case 867B	Side With Port Attached	115/17	5	4.5	45	2.50%
MPX5100ASX	2.5-17	6-Pin Ported Element	Absolute Axial	Case 867F	Side With Port Attached	115/17	5	4.5	45	2.50%

Silicon Temperature Sensors

Available in a standard (TO-92) plastic package, these temperature sensing transistor elements are suitable for applications in automotive, consumer and industrial products requiring low cost and high accuracy.

Device	VBE @IC=0.1mA, TA=25°C (Typ)	Temperature Over -40°C to 150°C	Thermal Time Constant		Case
			Liquid-to-Liquid (Typ)	Flowing Air (Typ)	
MTS102	595 mV	±2°C	3 s	8 s	29-04
MTS105	595 mV	±5°C	3 s	8 s	29-04



**CASE
29-04
(TO-92)**

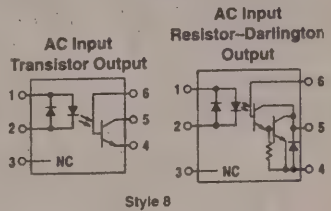
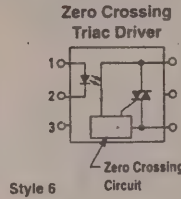
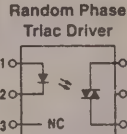
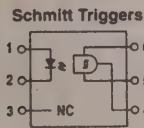
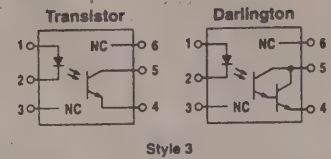
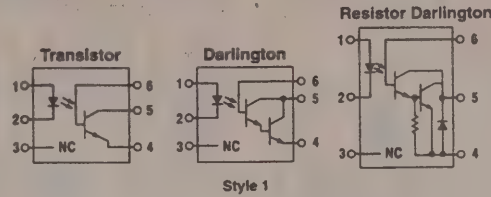


Optoisolators

An optoisolator consists of a gallium arsenide infrared emitting diode, IRED, optically coupled to a monolithic silicon photodetector in a wide array of standard devices and encourages the use of special designs and selections for special applications. All Motorola optoisolators have Viso rating of 7500 Vac(pk), exceeding all other industry standard ratings.



CASE 730A



Transistor Output

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Emitter, 5—Collector, 6—Base (Style 1)

Mfr.'s Type	Current Transfer Ratio (CTR)		V _{CE} (sat)		I _t or I _{on} /I _{off} Typ		V _{BR} (V) Min.		V _F	
	(%) Min	I _F (mA)	V _{CE} (V)	(V) Max.	I _F (mA)	I _C (mA)	(μs) @	I _C (mA)	V _{CE} (V)	I _F (mA)
TL111	8	16	0.40	0.4	16	2.0	5.0/5.0	2.0	10	30
4N27	10	10	0.50	0.5	50	2.0	1.2/1.3	10.0	10	30
4N28	10	10	0.50	0.5	50	2.0	1.2/1.3	10.0	10	30
4N38.A	10	10	0.50	0.5	50	2.0	1.6/2.2	10.0	10	30
4N25	20	10	0.50	0.5	50	2.0	1.2/1.3	10.0	10	30
4N26	20	10	0.50	0.5	50	2.0	1.2/1.3	10.0	10	30
H11A3	20	10	0.50	0.4	10	0.5	1.2/1.3	2.0	10	30
MCT2	20	10	0.50	0.4	16	2.0	1.2/1.3	10.0	10	30
MCT2E	20	10	0.50	0.4	16	2.0	1.2/1.3	2.0	10	30
CNY17-1	40-80	10	5.00	0.4	10	2.5	1.6/2.3	5	75	10
MOC8100	50	1	5.00	0.5	1	0.1	3.8/5.6	2.0	10	30
H11A1	50	10	0.50	0.4	10	0.5	1.2/1.3	2.0	10	30
TL117	50	10	0.50	0.4	10	0.5	5.0/5.0	2.0	10	30
CNY17-2	63-125	10	5.00	0.4	10	2.5	1.6/2.3	5	75	10
4N35	100	10	0.50	0.3	10	0.5	3.2/4.7	2.0	10	30
4N36	100	10	0.50	0.3	10	0.5	3.2/4.7	2.0	10	30
4N37	100	10	0.50	0.3	10	0.5	3.2/4.7	2.0	10	30
CNY17-3	100-200	10	5.00	0.4	10	2.5	1.6/2.3	5	75	10
H11AV1	100-300	10	10.00	0.4	20	2.0	5.0*/4.0*	2.0	10	30

Transistor Output with No Base Connection

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Emitter, 5—Collector, 6—Base (Style 3)

Mfr.'s Type	CTR (%)	I _F (mA)	V _{CE} (V)	(V) Max.	I _F (mA)	I _C (mA)	(μs) @	I _C (mA)	V _{CE} (V)	I _F (mA)
MOC8102	73-117	10	10.00	0.4	5	0.5	3.2/4.7	2.0	10	100
MOC8103	108-173	10	10.00	0.4	5	0.5	3.2/4.7	2.0	10	100
MOC8104	160-256	10	10.00	0.4	5	0.5	3.2/4.7	2.0	10	100
MOC8111	20	10	10.00	0.4	10	0.5	3.2/4.7	2.0	10	100
MOC8112	50	10	10.00	0.4	10	0.5	3.2/4.7	2.0	10	100
MOC8113	100	10	10.00	0.4	10	0.5	3.2/4.7	2.0	10	100

AC Input—Transistor Output

Pinout: 1—Anode/LED 2 Cathode, 2—LED 1 Cathode/LED 2 Anode, 3—N.C., 4—Emitter, 5—Collector, 6—Base (Style 8)

Mfr.'s Type	CTR (%)	I _F (mA)	V _{CE} (V)	(V) Max.	I _F (mA)	I _C (mA)	(μs) @	I _C (mA)	V _{CE} (V)	I _F (mA)
H11AA1	20	±10	10.00	0.4	±10	0.5	—	—	—	30
H11AA2	10	±10	10.00	0.4	±10	0.5	—	—	—	30
H11AA3	50	±10	10.00	0.4	±10	0.5	—	—	—	30
H11AA4	100	±10	10.00	0.4	±10	0.5	—	—	—	30

Darlington Output

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Emitter, 5—Collector, 6—Base (Style 1)

Mfr.'s Type	CTR (%)	I _F (mA)	V _{CE} (V)	(V) Max.	I _F (mA)	I _C (mA)	(μs) @	I _C (mA)	V _{CE} (V)	I _F (mA)
4N29.A	100	10	10.00	1.0	8	2.0	0.6*/17.0*	50.0	10	—
4N30	100	10	10.00	1.0	8	2.0	0.6*/17.0*	50.0	10	—
MCA255	100	10	5.00	1.0	50	50.0	10.0/35.0	—	10	50
H11B2	200	1	5.00	1.0	1	1.0	1.0/2.0	10.0	10	—
TL113	300	10	1.25	1.0	50	125.0	300.0	125.0	15	—
4N32	500	10	10.00	1.0	8	2.0	0.6*/45.0*	50.0	10	—
4N33	500	10	10.00	1.0	8	2.0	0.6*/45.0*	50.0	10	—
H11B1	500	1	5.00	1.0	1	1.0	1.0/2.0	10.0	10	—
MOC8080	500	10	5.00	1.0	1	1.0	1.0/2.0	—	10	—

Darlington Output with No Base Connection

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Emitter, 5—Collector, 6—N.C. (Style 3)

Mfr.'s Type	CTR (%)	I _F (mA)	V _{CE} (V)	(V) Max.	I _F (mA)	I _C (mA)	(μs) @	I _C (mA)	V _{CE} (V)	I _F (mA)
TL119	300	10	2.00	1.0	10	10.0	300.0	2.5	10	100
MOC8030	300	10	1.50	—	—	—	1.0/2.0	—	50	100
MOC8020	500	10	5.00	—	—	—	1.0/2.0	—	50	100
MOC8050	500	10	1.50	—	—	—	1.0/2.0	—	50	100
MOC8021	1000	10	5.00	—	—	—	1.0/2.0	—	50	100

Resistor Darlington Output

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Emitter, 5—Collector, 6—Base (Style 1)

Mfr.'s Type	CTR (%)	I _F (mA)	V _{CE} (V)	(V) Max.	I _F (mA)	I _C (mA)	(μs) @	I _C (mA)	V _{CE} (V)	I _F (mA)
H11G1	1000	10	1.00	1.0	1	1	5.0*/100.0*	—	5	100
H11G2	1000	10	1.00	1.0	1	1	5.0*/100.0*	—	5	100
H11G3	200	1	5.00	1.2	50	20	5.0*/100.0*	—	5	100

High Voltage Transistor Output

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Emitter, 5—Collector, 6—Base (Style 1)

Mfr.'s Type	Current Transfer Ratio (CTR)		V _{CE} (sat)		I _t or I _{on} /I _{off} Typ		V _{BR} (V) Min.		V _F	
	(%) Min	I _F (mA)	V _{CE} (V)	(V) Max.	I _F (mA)	I _C (mA)	(μs) @	I _C (mA)	V _{CE} (V)	I _F (mA)
MOC8204	20	10	10.0	0.4	10	0.5	5.0*/5.0*	2.0	10	100
H11D1	20	10	10.0	0.4	10	0.5	5.0*/5.0*	2.0	10	100
H11D2	20	10	10.0	0.4	10	0.5	5.0*/5.0*	2.0	10	100

*I_{on}/I_{off}

Triac Driver Output

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Main Terminal, 5—Substrate, 6—Main Terminal (Style 6)

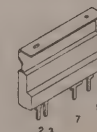
Mfr.'s Type	Peak Blocking Voltage (V) Min.	LED Trigger Current—I _{FT} (mA) Max.	Zero Crossing Inhibit Voltage (at rated I _{FT}) (V) Max.	Operating Voltage (Vac)	dv/dt (V/μs) Typ.
MOC3009	250	30	—	125	10
MOC3010	250	15	—	125	10
MOC3011	250	10	—	125	10
MOC3012	250	5	—	125	10
MOC3020	400	30	—	125/280	10
MOC3021	400	15	—	125/280	10
MOC3022	400	10	—	125/280	10
MOC3023	400	5	—	125/280	10
MOC3031	250	15	20	125	2000
MOC3032	250	10	20	125	2000
MOC3033	250	5	20	125	2000
MOC3041	400	15	20	125/280	2000
MOC3042	400	10	20	125/280	2000
MOC3043	400	5	20	125/280	2000
MOC3051	600	15	—	125/280	2000
MOC3052	600	10	—	125/280	2000
MOC3061	600	15	20	125/280	1500
MOC3062	600	10	20	125/280	1500
MOC3063	600	5	20	125/280	1500
MOC3081	800	15	20	125/280/320	1500
MOC3082	800	10	20	125/280/320	1500
MOC3163	600	5	15	125/280	1000

Schmitt Trigger Output

Pinout: 1—Anode, 2—Cathode, 3—N.C., 4—Output, 5—Ground, 6—V_{CC} (Style 5)

Mfr.'s Type	Threshold Current On (mA) Max.	Threshold Current Off (mA) Min.	I _F (off/I _{on})		V _{CC} (V)		t _r , t _f (μs) Typ.
			Min.	Max.	Min.	Max.	
H11L1	1.6	0.3	0.5	0.9	3	16	0.1
H11L2	10.0	0.3	0.5	0.9	3	16	0.1
MOC5007	1.6	0.3	0.5	0.9	3	16	0.1
MOC5008	4.0	0.3	0.5	0.9	3	16	0.1
MOC5009	10.0	0.3	0.5	0.9	3	16	0.1

POWER OPTO™ Isolator 2 Amp Zero—Cross Triac Output



CASE 417 PLASTIC PACKAGE

Pinout: (1,4,5,6,8 No Pin), 2—LED Cathode, 3—LED Anode, 7—Main Terminal, 9—Main Terminal

Mfr.'s Type	Peak Blocking Voltage (V) Min.	LED Trigger Current I _{FT} (V _{FM} =2 V) (mA) Max.	On State Voltage V _{TM} (Rated I _{FT} I _{TM} =2 A) (V) Max.	Zero Crossing Inhibit Voltage (I _F =Rated I _{FT}) (V) Max.	Operating Voltage Vac rms (V)	dv/dt (static) (V _{FM} =200 V) (V/μs) Min.
MOC2A40-5	400	5	1.3	10	125	400
MOC2A40-10	400	10	1.3	10	125	400
MOC2A60-5	600	5	1.3	10	125/280	400
MOC2A60-10	600	10	1.3	10	125/280	400

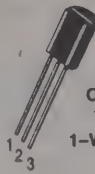
No Suffix=Style 2 (Standard Heat Tab).



Bipolar Transistors

Plastic-Encapsulated Transistors

Motorola's Small Signal TO-226 plastic transistors encompass hundreds of devices with a wide variety of characteristics for general-purpose, amplifier and switching applications. The popular high-volume package combines proven reliability, performance, economy and convenience to provide the perfect solution for industrial and consumer design problems. All devices are laser marked for ease of identification and shipped in antistatic containers, as part of Motorola's ongoing practice of maintaining the highest standards of quality and reliability.



CASE 29-05
TO-226AE
1-WATT (TO-92)

1. EMITTER
2. BASE
3. COLLECTOR



CASE 29-04
TO-226AA
(TO-92)

Plastic-Encapsulated General-Purpose Transistors (Case 29-04 — TO-226AA (TO-92))

These general-purpose transistors are designed for small-signal amplification from dc to low ratio frequencies. They are also useful as oscillators and general-purpose switches. Complementary devices shown where available.

Mr.'s Type		V _{BRICEO} (V) Min.	fr @ Ic		Ic (mA) Max.	hfe @ Ic			NF dB Max.	Style
NPN	PNP		(MHz) Min.	(mA)		Min.	Max.	(mA)		
MPS8099	MPS8599	80	150	10	500	100	300	1.0	—	1
MPSA06	MPSA56	80	100	10	500	100	—	100.0	—	1
—	MPS2907A	60	200	50	600	100	300	150.0	—	1
MPS2222A	—	40	300	20	600	100	300	150.0	—	1
2N4401	2N4403	40	200	20	600	100	300	150.0	—	1
MPS6602	MPS6652	40	100	50	1000	50	—	500.0	—	1
2N3904	2N3906	40	250	10	200	100	300	10.0	5.0	1

Plastic-Encapsulated General Purpose Transistors (Case 29-05 — TO-226AE (1-Watt TO-92))

Mr.'s Type		V _{BRICEO} (V) Min.	fr @ Ic		Ic (mA) Max.	hfe @ Ic			V _{CE(sat)} @ Ic and Is			Style
NPN	PNP		(MHz) Min.	(mA)		Min.	Max.	(mA)	(V) Max.	(mA)	(mA)	
MPSW06	—	80	50	200	0.5	80	—	50	0.4	250	10	1

Plastic-Encapsulated Low-Noise and Good hfe Linearity (Case 29-04 — TO-226AA (TO-92))

These devices are designed to use on applications where good hfe linearity and low-noise characteristics are required: Instrumentation, hi-fi preamplifier.

Mr.'s Type		V _{BRICEO} (V)	hfe @ Ic		V _r (mV) Typ.	NF ³ dB Max.	fr (MHz) Typ.	Style
NPN	PNP		Min.	Max.				
—	2N5087	50	250	800	0.1	—	40 ²	1
MPSA18	—	45	500	—	1.0	6.5 ¹	160	1
MPS6521	—	25	300	600	2.0	—	3.0	1

¹Typical. ²Min. ³V_r: Total input noise voltage (see BC413/BC414 and BC415/BC416 data sheets) at R_S=2.0 KΩ, I_C=200 μA, V_{CE}=5.0 Volts. ⁴N_F: Noise figure at R_S=2.0 KΩ, I_C=200 μA, V_{CE}=5.0 Volts, f=30 Hz to 15 KHz.

Plastic-Encapsulated Darlington Transistors (Case 29-05 — TO-226AE (1-Watt TO-92))

Darlington amplifiers are cascade transistors used in applications requiring very high-gain and input impedance. These devices have monolithic construction.

Mr.'s Type		V _{BRICEO} (V)	fr @ Ic		Ic (mA) Max.	hfe @ Ic			V _{CE(sat)} @ Ic and Is			Style
NPN	PNP		(MHz) Min.	(mA)		Min.	Max.	(mA)	(V) Max.	(mA)	(mA)	
MPSW45A	—	50	100	200	1000	25 K	150 K	200	1.5	1000	2.0	1
—	MPSW64	30	125	10	1000	20 K	—	100	1.5	100	0.1	1

Plastic-Encapsulated Darlington Transistors (Case 29-04 — TO-226AA (TO-92))

MPSA29	—	100	125	10	500	10 K	—	100	1.5	100	0.1	1
MPSA14	MPSA64	30	125	10	500	20 K	—	100	1.5	100	0.1	1

Plastic-Encapsulated High-Current Transistors (Case 29-05 — TO-226AE (1-Watt TO-92))

The following table is a listing of devices that are capable of handling a higher current range for small-signal transistors.

Mr.'s Type		V _{BRICEO} (V) Min.	fr @ Ic		Ic (mA) Max.	hfe @ Ic			V _{CE(sat)} @ Ic and Is			Style
NPN	PNP		(MHz) Min.	(mA)		Min.	Max.	(mA)	(V) Max.	(mA)	(mA)	
MPSW01A	MPSW51A	40	50	50	1000	50	—	1000	0.5/0.7	1000	100	1

Plastic-Encapsulated High-Current Transistors (Case 29-04 — TO-226AA (TO-92))

MPS651	MPS751	60	75	50	2000	75	—	1000	0.5	2000	200	1
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Plastic-Encapsulated High-Voltage Amplifier Transistors (Case 29-05 — TO-226AE (1-Watt TO-92) — NPN)

These high-voltage transistors are designed for driving neon bulbs and indicator tubes, for direct line operation, and for other applications requiring high-voltage capability at relatively low collector current. These devices are listed in order of decreasing breakdown voltage (V_{BRICEO}).

Mr.'s Type	V _{BRICEO} (V) Min.	Ic (A) Max.	hfe @ Ic		V _{CE(sat)} @ Ic and Is			fr @ Ic		Style
			Min.	(mA)	(V) Max.	(mA)	(mA)	(MHz) Min.	(mA)	
MPSW42	300	0.5	40	30	0.50	20	2.0	50	10	1

Plastic-Encapsulated High-Voltage Amplifier Transistors (Case 29-05 — TO-226AE (1-watt TO-92) — PNP)

MPSW92	300	0.5	25	30	0.50	20	2.0	50	10	1
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Plastic-Encapsulated High-Voltage Amplifier Transistors (Case 29-04 — TO-226AA (TO-92) — NPN)

MPSA44	400	0.3	40	100	0.75	50	5.0	—	—	1
2N6517	350	0.5	30	30	0.30	10	1.0	40	10	1
MPSA42	300	0.5	40	10	0.50	20	2.0	50	10	1
2N5551	160	0.6	80	10	0.15	10	1.0	100	10	1

Plastic-Encapsulated High-Voltage Amplifier Transistors (Case 29-04 — TO-226AA (TO-92) — PNP)

Mr.'s Type	V _{BRICEO} (V) Min.	Ic (A) Max.	hfe @ Ic		V _{CE(sat)} @ Ic and Is			fr @ Ic		Style
			Min.	(mA)	(V) Max.	(mA)	(mA)	(MHz) Min.	(mA)	
2N6520	350	0.5	30	30	0.30	10	1.0	40	10	1
MPSA92	300	0.5	40	10	0.50	20	2.0	50	10	1
2N5401	150	0.6	60	10	0.20	10	1.0	100	10	1

Plastic-Encapsulated RF Transistors (Case 29-04 — TO-226AA (TO-92) — NPN)

The RF transistors are designed for small-signal amplification from RF to VHF/UHF frequencies. They are also used as mixers and oscillators in the same frequency ranges.

Mr.'s Type	V _{BRICEO} (V) Min.	Ic (mA) Max.	hfe @ Ic		V _{CE} (V)	fr (MHz) Typ.	CRE/CRB (pF) Max.	NF dB Max.	f (MHz)	Style
			Min.	(mA)						
MPSH11	25	—	60	4.0	10.0	650 ¹	0.90	—	—	2
MPSH10	25	—	60	4.0	10.0	650 ¹	0.65	—	—	2
MPSH17	15	—	25	5.0	10.0	800 ¹	0.90	6.0 ²	200	2
MPS918	15	50	20	8.0	10.0	600 ¹	1.70	6.0 ²	60	1
MPS5179	12	50	25	3.0	1.0	2000 ²	—	5.0 ²	200	1

Plastic-Encapsulated RF Transistors (Case 29-04 — TO-226AA (TO-92) — PNP)

MPSH81	20	50	60	5.0	10.0	600 ¹	0.85	—	—	2
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¹Min. ²Max.

Plastic-Encapsulated High-Speed Saturated Switching Transistors (Case 29-04 — TO-226AA (TO-92) — NPN)

Mfr.'s Type	ton and toff @ Ic			V(BR)CEO (V) Min.	hFE @ Ic		VCE(sat) @ Ic and Is			fr @ Ic		Style
	(ns) Max.	(ns) Max.	(mA)		Min.	(mA)	(V) Max.	(mA)	(mA)	(MHz) Min.	(mA)	
MPS3646	18	28	300	15	30	30	0.2	30	3.0	350	30	1
MPS2369A	12	18	10	15	40	10	0.2	10	1.0	—	—	1

Plastic-Encapsulated Choppers (Case 29-04 — TO-226AA (TO-92) — NPN)

Mr.'s Type	V _{BRICEO} (V) Min.	Ic (A) Max.	hfe @ Ic		V _{CE(sat)} @ Ic and Is			fr @ Ic		Style
			Min.	(mA)	(V) Max.	(mA)	(mA)	(MHz) Min.	(mA)	
MPSA17	15	100	200	5.0	0.25	10	1.0	80	5.0	1

Plastic-Encapsulated Choppers (Case 29-04 — TO-226AA (TO-92) — PNP)

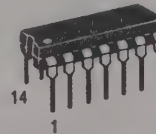
MPS404A	-25	-150	30	-12.0	-0.20	-24	1.0	—	—	1
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¹Typical.

Plastic-Encapsulated Multiple Transistors

The Manufacturing trend has been toward printed circuit board design with requirements for smaller packages with more functions. In the case of discrete components the use of the multiple device package helps to reduce board space requirements and assembly costs.

Many of the most popular devices are offered in the standard plastic DIP and surface mount IC packages. This includes small-signal NPN and PNP bipolar transistors, N-channel and P-channel FETs, as well as diode arrays.



CASE 646
(TO-116)
STYLE 1



CASE 751B
SO-16
STYLE 4

Plastic-Encapsulated Multiple Transistors — Quad (Case 646—TO-116)

The following table is a listing of the most popular multiple devices available in the plastic DIP package. These devices are available in NPN, PNP, and NPN/PNP configurations.

Mr.'s Type	ID	P _D Watts One Die Only	V _{CEO} (V)	Ic (A) Max.	hfe Min.	@ Ic (mA)	fr (MHz) Min.	C _{ob} (pF) Max.	t _{on} (ns) Max.	t _{off} (ns) Max.	V _{CE(sat)} (V) Max.	Ic @ Is (mA)	Ic (mA)
MPQ2222A	NA	0.65	40	0.5	100	150	200	8.0	35.0 ¹	285 ¹	0.30	10	150
MPQ2369	NS	0.50	15	0.5	40	10	450	4.0	9.0 ¹	15 ¹	0.25	10	10
MPQ2907A	PA	0.65	60	0.6	100	150	200	8.0	45.0 ¹	180 ¹	0.40	10	150
MPQ3904	NG	0.50	40	0.2	75	10	250	4.0	37.0 ¹	136 ¹	0.20	10	10
MPQ3906	PG	0.50	40	0.2	75	10	200	4.5	43.0 ¹	155 ¹	0.25	10	10
MPQ6700	CA	0.50	40	0.2	70	10	200	4.5	—	—	0.25	10	10

¹Typical.

Plastic-Encapsulated Multiple Transistors — Quad Surface Mount (Case 751B-SO-16)

The following table is a listing of the most popular multiple devices available in the plastic SOIC surface mount package. These devices are available in NPN, PNP, and NPN/PNP configurations.

Mr.'s Type	V _{BRICEO}	V _{BRICEO}	hfe @ Ic		fr @ Ic	
			Min.	(mA)	(MHz) Min.	(mA)
MMPQ2222A	40	75	40	500.0	200	20.0
MMPQ2369	15	40	20	100.0	450	10.0
MMPQ2907A	50	60	50	500.0	200	50.0
MMPQ3467	40	40	20	500.0	125	50.0
MMPQ3799	60	60	300	0.5	60	1.0
MMPQ3904	40	60	75	10.0	250	10.0
MMPQ3906	40	40	75	10.0	200	10.0
MMPQ6700	40	40	70	10.0	200	10.0

¹NPN/PNP.



Bipolar Transistors (Continued)

Plastic-Encapsulated Surface Mount Transistors

This section of the selector guide lists the small-signal plastic devices that are available for surface mount applications. These devices are encapsulated with the latest state-of-the-art mold compounds that enhance reliability and exhibit excellent performance in high temperature and high humidity environments. This package offers higher power dissipation capability for small-signal applications.



Plastic-Encapsulated Surface Mount General-Purpose Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—NPN)

The following tables are a listing of small-signal general-purpose transistors in the SOT-23 surface mount package. These devices are intended for small-signal amplification for DC, audio, and lower RF frequencies. They also have applications as oscillators and general-purpose, low voltage switches. Devices listed in order of descending breakdown voltage.

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
			Min.	Max.	(mA)	
BC846ALT1	1A	65	110	220	2.0	100
BC846BLT1	1B	65	200	450	2.0	100
BC847ALT1	1E	45	110	220	2.0	100
BC847BLT1	1F	45	200	450	2.0	100
BC847CLT1	1G	45	420	800	2.0	100
MMBT2222ALT1	1P	40	100	300	150.0	200
MMBT3904LT1	1AM	40	100	300	10.0	200
MMBT4401LT1	2X	40	100	300	150.0	250
BC848ALT1	1J	30	110	220	2.0	100
BC848BLT1	1K	30	200	450	2.0	100
BC848CLT1	1L	30	420	800	2.0	100

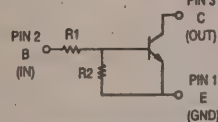
Plastic-Encapsulated Surface Mount General-Purpose Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—NPN)

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
			Min.	Max.	(mA)	
BC856ALT1	3A	65	125	250	2.0	100
BC856BLT1	3B	65	220	475	2.0	100
MMBT2907ALT1	2F	60	100	300	150.0	200

Plastic-Encapsulated Surface Mount Bias Resistor Transistors for General Purpose Applications (Case 318D—SC-59)

These devices include bias resistors on the semiconductor chip with the transistor. See the BRT diagram for orientation of resistors.



Mfr.'s Type		Marking		V _{(BR)CEO} (V) Min.	h _{FE} @ I _C		I _C (mA) Max.	R ₁ Ohm	R ₂ Ohm
NPN	PNP	NPN	PNP		Min.	(mA)			
MUN2211T1	MUN2111T1	8A	6A	50	35	5.0	100	10 K	10 K
MUN2212T1	MUN2112T1	8B	6B	50	60	5.0	100	22 K	22 K
MUN2213T1	MUN2113T1	8C	6C	50	80	5.0	100	47 K	47 K
MUN2214T1	MUN2114T1	8D	6D	50	80	5.0	100	10 K	47 K

Plastic-Encapsulated Surface Mount Bias Resistor Transistors for General Purpose Applications

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23))

Mfr.'s Type	Marking	V _{(BR)CEO} (V) Min.	h _{FE} @ Ic		I _C (mA) Max.	R ₁ Ohm	R ₂ Ohm
			Min.	(mA)			
MMUN2211LT1	A8A	50	35	5.0	100	10 K	10 K
MMUN2212LT1	A8B	50	60	5.0	100	22 K	22 K
MMUN2213LT1	A8C	50	80	5.0	100	47 K	47 K
MMUN2214LT1	A8D	50	80	5.0	100	10 K	47 K

Plastic-Encapsulated Surface Mount Bias Resistor Transistors for General Purpose Applications

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 419—SC-70/SOT-323)

Mfr.'s Type	Marking	V _{(BR)CEO} (V) Min.	h _{FE} @ Ic		I _C (mA) Max.	R ₁ Ohm	R ₂ Ohm
			Min.	(mA)			
MUN5211LT1	8A	50	35	5.0	50	10 K	10 K
MUN5212LT1	8B	50	60	5.0	50	22 K	22 K
MUN5213LT1	8C	50	80	5.0	50	47 K	47 K
MUN5214LT1	8D	50	80	5.0	50	10 K	47 K

Plastic-Encapsulated Surface Mount Switching Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—NPN)

The following tables are a listing of devices intended for high-speed, low saturation voltage, switching applications. These devices have very fast switching times and low output capacitance for optimized switching performance.

Mfr.'s Type	Marking	Switch. Time (ns)		V _{(BR)CEO}	h _{FE} @ Ic		f _T (MHz) Min.
		t _{on}	t _{off}		Min.	(mA)	
MMBT2369LT1	M1J	12	18	15	20	—	100

Plastic-Encapsulated Surface Mount Switching Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—PNP)

Mfr.'s Type	Marking	Switch. Time (ns)		V _{(BR)CEO}	h _{FE} @ Ic		f _T (MHz) Min.
		t _{on}	t _{off}		Min.	(mA)	
MMBT3640LT1	2J	25	35	12	20	—	50

Plastic-Encapsulated Surface Mount VHF/UHF Amplifiers, Mixers, Oscillators

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—NPN)

The following table is a listing of devices intended for small-signal RF amplifier applications to VHF/UHF frequencies. These devices may also be used as VHF/UHF oscillators and mixers.

Mfr.'s Type	Marking	V _{(BR)CEO}	C _{o1} pF Max.	f _T @ Ic	
				(GHz) Min.	(mA)
MMBT10LT1	3EM	25	0.7	0.65	4.0

¹C_{re}.

Plastic-Encapsulated Surface Mount VHF/UHF Amplifiers, Mixers, Oscillators

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—PNP)

Mfr.'s Type	Marking	V _{(BR)CEO}	C _{o1} pF Max.	f _T @ Ic	
				(GHz) Min.	(mA)
MMBT81LT1	3D	20	0.85	0.6	5.0
MMBT69LT1	M3J	15	0.35 ¹	2.0	10.0

¹C_{re}.

Plastic-Encapsulated Surface Mount Choppers

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—PNP)

The following table is a listing of small-signal devices intended for chopper applications where a higher than normal V_{(BR)CEO} is required in the circuit application.

Mfr.'s Type	Marking	V _{(BR)CEO}	V _{(BR)EBO}	h _{FE} @ Ic		
				Min.	Max.	(mA)
MMBT404ALT1	2N	35	25	30	400	12

Plastic-Encapsulated Surface Mount Darlington

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—NPN)

The following table is a listing of small-signal devices that have very high h_{FE} and input impedance characteristics. These devices utilize monolithic, cascade transistor construction. Devices are listed in order of descending h_{FE}.

Mfr.'s Type	Marking	V _{(BR)CES}	V _{CE(sat)} (V) Max.	h _{FE} @ Ic		
				Min.	Max.	(mA)
MMBT414LT1	1N	30	1.5	20 K	—	100

Plastic-Encapsulated Surface Mount Low-Noise Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—NPN)

The following table is a listing of small-signal devices intended for low noise applications in the audio range. These devices exhibit good linearity and are candidates for hi-fi and instrumentation equipment. Devices are listed in order of descending NF.

Mfr.'s Type	Marking	NF dB Typ.	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
				Min.	Max.	(mA)	
MMBT5089LT1	1R	2.0 ¹	25	400	—	10	50

Plastic-Encapsulated Surface Mount Low-Noise Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—PNP)

Mfr.'s Type	Marking	NF dB Typ.	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
				Min.	Max.	(mA)	
MMBT5087LT1	2Q	2.0 ¹	50	250	—	10	40

¹Max.

Plastic-Encapsulated Surface Mount High-Voltage Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—NPN)

The following table is a listing of small-signal high-voltage devices designed for direct line operation requiring high voltage breakdown and relatively low current capability. Devices are listed in order of descending breakdown voltage.

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
			Min.	Max.	(mA)	
MMBT6517LT1	1Z	350	15	—	100	40
MMBT442LT1	1D	300	40	—	30	50
MMBT5551LT1	G1	160	30	—	50	100

Plastic-Encapsulated Surface Mount High-Voltage Transistors

Pinout: 1—Base, 2—Emitter, 3—Collector (Case 318-07—TO-236AB (SOT-23)—PNP)

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
			Min.	Max.	(mA)	
MMBT492LT1	2D	300	25	—	30	50
MMBT5401LT1	2L	150	50	—	50	100

Plastic-Encapsulated Surface Mount Drivers

Pinout: 1—Base, 2—Collector, 3—Emitter (Case 318-07—TO-236AB (SOT-23)—NPN)

The following is a listing of small-signal devices intended for medium voltage driver applications at fairly high current levels.

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
			Min.	Max.	(mA)	
MMBT406LT1	1GM	80	100	—	100	100

Plastic-Encapsulated Surface Mount Drivers

Pinout: 1—Base, 2—Emitter, 3—Collector, (Case 318-07—TO-236AB (SOT-23)—PNP)

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic			f _T (MHz) Min.
			Min.	Max.	(mA)	
MMBT456LT1	2GM	80	100	—	100	50

Plastic-Encapsulated Surface Mount General-Purpose Amplifiers

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—NPN

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic		
			Min.	Max.	(mA)
BCP56T1	BH	80	40	250	150

Plastic-Encapsulated General-Purpose Amplifiers

Pinout: 1—Gate, 2—Drain, 3—Source, 4—Drain (Case 318E—SOT-223)—PNP

Mfr.'s Type	Marking	V _{(BR)CEO}	h _{FE} @ Ic		
			Min.	Max.	(mA)
BCP53T1	AH	80	40	25	150

Plastic-Encapsulated Surface Mount Switching Transistors

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—NPN

Mfr.'s Type	Marking	t _{on}	t _{off}	V _{(BR)CEO}	h _{FE}		f _T
					Min.	Max.	
PZT222AT1	P1F	35	285	40	100	300	20

Plastic-Encapsulated Surface Mount Switching Transistors

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—NPN

Mfr.'s Type	Marking	t _{on}	t _{off}	V _{(BR)CEO}	h _{FE}		f _T
					Min.	Max.	
PZT2907AT1	P2F	45	100	60	100	300	50



Bipolar Transistors (Continued)

Plastic-Encapsulated Surface Mount Transistors

Plastic-Encapsulated Surface Mount Darlington

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—NPN

Mfr.'s Type	Marking	V _{BRICEO} (V)	V _{CE(sat)} Max. (V)	h _{FE}		@ I _C (mA)
				Min.	Max.	
BSP52T1 PZTA14T1	AS3 P1N	80 30	1.3 1.5	2000 20 K	—	500 100

Plastic-Encapsulated Surface Mount Darlington

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—PNP

Mfr.'s Type	Marking	V _{BRICEO} (V)	V _{CE(sat)} Max. (V)	h _{FE}		@ I _C (mA)
				Min.	Max.	
BSP62T1 PZTA64T1	BS3 P2V	90 30	1.3 1.5	2000 20 K	—	500 100

Plastic-Encapsulated Surface Mount High-Voltage Transistors

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—NPN

Mfr.'s Type	Marking	V _{BRICEO} (V)	h _{FE}		f _T	
			Min.	Max.	@ I _C (mA)	Min. (MHz)
BSP19AT1 PZTA42T1	SP19A P1D	350 300	40 40	— —	20 10	70 50

Plastic-Encapsulated Surface Mount High-Voltage Transistors

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—PNP

Mfr.'s Type	Marking	V _{BRICEO} (V)	V _{CE(sat)} Max. (V)	h _{FE}		@ I _C (mA)
				Min.	Max.	
PZTA92T1 BSP16T1	P2D BSP16	300 300	40 30	— 150	10 10	50 15

Plastic-Encapsulated Surface Mount High Current Transistors

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—NPN

Mfr.'s Type	Marking	V _{BRICEO} (V)	V _{CE(sat)} (V)	h _{FE} @ I _C		(mA)
				Min.	Max.	
PZT651T1 BCP68T1	651 CA	60 20	0.5 0.5	75 60	— —	1000 1000

Plastic-Encapsulated Surface Mount High Current Transistors

Pinout: 1—Base, 2—Collector, 3—Emitter, 4—Collector (Case 318E—SOT-223)—PNP

Mfr.'s Type	Marking	V _{BRICEO} (V)	V _{CE(sat)} (V)	h _{FE}		@ I _C (mA)
				Min.	Max.	
PZT751T1 BCP69T1	ZT751 CE	60 20	0.5 0.5	75 60	— —	1000 1000

Metal-Can Transistors

Metal-can packages are intended for use in industrial applications where harsh environmental conditions are encountered. These packages enhance reliability of the end products due to their resistance to varying humidity and extreme temperature ranges.

Metal-Can General-Purpose Transistors
(Case 22-03—TO-206AA (TO-18)—NPN)

These Transistors are designed for DC to VHF amplifier applications, general-purpose switching applications, and complementary circuitry. Devices are listed in decreasing order of V_{BRICEO} within each package group.



CASE 22-03
TO-206AA
(TO-18)
STYLE 1



CASE 79-04
TO-205AD
(TO-39)
STYLE 1

Mfr.'s Type	V _{BRICEO} (V) Min.	f _T @ I _C		I _C (mA) Max.	h _{FE} @ I _C		
		(MHz) Min.	(mA)		Min.	Max.	(mA)
2N720A	80	50	50	150	40	120	150
2N3700	80	80	50	1000	50	—	500
2N2222A	40	300	20	800	100	300	150
2N3947	40	300	10	200	100	300	10

Metal-Can General-Purpose Transistors
(Case 22-03—TO-206AA (TO-18)—PNP)

Mfr.'s Type	V _{BRICEO} (V) Min.	f _T @ I _C		I _C (mA) Max.	h _{FE} @ I _C		
		(MHz) Min.	(mA)		Min.	Max.	(mA)
2N2907A 2N3251A	60 60	200 300	50 10	600 200	100 100	300 300	150 10

Metal-Can General-Purpose Transistors
(Case 79-04—TO-205AD (TO-39)—NPN)

2N3019	80	100	50	1000	100	300	150
2N2219A	40	300	20	800	100	300	150

Metal-Can General-Purpose Transistors
(Case 79-04—TO-205AD (TO-39)—PNP)

2N2905A	60	200	50	600	100	300	150
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Metal-Can High-Gain/Low-Noise Transistors

(Case 22-03—TO-206AA (TO-18)—NPN)

These transistors are characterized for high-gain and low-noise applications. Devices are listed in decreasing order of NF.

Mfr.'s Type	NF Wideband dB Typ. Max.	V _{BRICEO} (V) Min.	I _C (mA) Max.	h _{FE} @ I _C			f _T @ I _C	
				Min.	Max.	(mA)	(MHz) Min.	(mA)
2N2484	8.0 [†]	60	50	100	500	10.0	15	0.05

Metal-Can High-Gain/Low-Noise Transistors
(Case 22-03—TO-206AA (TO-18)—PNP)

2N3964	4.0	45	200	250	600	1.0 [†]	50	0.50
2N3799	2.5	60	50	300	900	500.0	30	0.50

[†]Typical. T_A=25°C.

Metal-Can High-Voltage/High Current Transistors

(Case 22-03—TO-206AA (TO-18)—NPN)

The following table lists Motorola standard devices that have high collector-emitter breakdown voltage. Devices are listed in decreasing order of V_{BRICEO} within each package type.

Mfr.'s Type	V _{BRICEO} (V) Min.	I _C (mA) Max.	h _{FE} @ I _C		V _{CE(sat)} @ I _C and I _E			f _T @ I _C	
			Min.	(mA)	(V) Max.	(mA)	(mA)	(MHz) Min.	(mA)
2N6431	300	50	50	30	0.5	20	2.0	50	10

Metal-Can High-Voltage/High Current Transistors
(Case 22-03—TO-206AA (TO-18)—PNP)

Mfr.'s Type	V _{BRICEO} (V) Min.	I _C (mA) Max.	h _{FE} @ I _C		V _{CE(sat)} @ I _C and I _E			f _T @ I _C	
			Min.	(mA)	(V) Max.	(mA)	(mA)	(MHz) Min.	(mA)
2N6433	300	500	30	30	0.5	20	20	50	10

Metal-Can High-Voltage/High Current Transistors
(Case 79-04—TO-205AD (TO-39)—NPN)

Mfr.'s Type	V _{BRICEO} (V) Min.	I _C (mA) Max.	h _{FE} @ I _C		V _{CE(sat)} @ I _C and I _E			f _T @ I _C	
			Min.	(mA)	(V) Max.	(mA)	(mA)	(MHz) Min.	(mA)
2N3501	150	300	100	150	0.4	150	15	150	20

Metal-Can Switching Transistors

(Case 22-03—TO-206AA (TO-18)—NPN)

The following devices are intended for use in general-purpose switching and amplifier applications. Within each package group shown, the devices are listed in order of decreasing turn-on time (t_{on}).

Mfr.'s Type	t _{on} and t _{off} @ I _C			V _{BRICEO} (V) Min.	I _C (mA) Max.	h _{FE} @ I _C		V _{CE(sat)} @ I _C and I _E			f _T (MHz) Min.	I _C (mA)
	(ns) Max.	(ns) Max.	(mA)			Min.	(mA)	(V) Max.	(mA)	(mA)		
2N2369A	12	18	10	15	200	40	10	0.20	10	1.0	500	10

Metal-Can Switching Transistors

(Case 22-03—TO-206AA (TO-18)—PNP)

2N23546	40	30	50	12	200	25	50	0.25	50	5.0	700	10
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Metal-Can Switching Transistors

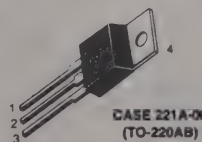
(Case 79-04—TO-205AD (TO-39)—PNP)

2N3467	40	90	500	40	1000	40	500	0.50	500	50.0	175	50
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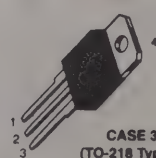
Bipolar Power Transistors



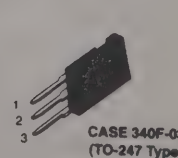
CASE 221D-02
UL Recognized
File #E69369



CASE 221A-01
(TO-220AB)



CASE 340D-01
(TO-218 Type, SOT-93)



CASE 340F-03
(TO-247 Type)



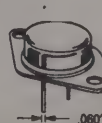
CASE 340G-01
(TO-3PBL)



CASE 77-07
(TO-225AA)



TO-204AA
CASE 1-07



TO-204AE
CASE 197A-03



CASE 369A-10(13)

(Used for high current types at end of table. See types in footnote (18).)



Bipolar Power Transistors (Continued)

Plastic (Isolated TO-220 Type)

Pin: 1 — Base, 2 — Collector, 3 — Emitter (Style 2, Case 221D-02)

Mfr.'s Type		Ic Cont (A) Max.	Vce(sat) (V) Min.	Vces (V) Min.	hFE Min./Max.	@ Ic (A)	Resistive Switching			fr (MHz) Min.	Po (Case) Watts @ 25°C
NPN	PNP						ts (μs) Max.	tr (μs) Max.	@ Ic (A)		
MJF47	—	1	250	—	30/150	0.3	2.0 Typ.	0.17 Typ.	0.3	10	28
MJF31C	MJF32C	3	100	—	10 Min.	1.0	0.6	0.30	1.0	3	28
MJF112 ¹	MJF127 ¹	5	100	—	2000 Min.	3.0	1.5 Typ.	1.50 Typ.	3.0	4	28
MJF16002	—	5	450	1000	5 Min.	5.0	3.0	0.30	3.0	—	40
MJF18004	—	5	450	1000	14/36	1.0	3.0 ¹	0.30 ¹	2.5	12 Typ.	25
MJF15030	—	8	150	—	40 Min.	3.0	1.0 Typ.	0.15 Typ.	3.0	30	35
MJF18006	—	8	450	1000	14/36	1.5	1.5 Typ.	0.1 Typ.	3.0	12 Typ.	40
MJF3055	MJF2955	10	60	—	20/100	4.0	—	—	2	40	40
MJF344H11	MJF45H11	10	80	—	40/100	4.0	0.5 Typ.	0.14 Typ.	5.0	40	35
MJF6388 ¹	MJF6668 ¹	10	100	—	3 K/20 K	3.0	1.5 Typ.	1.50 Typ.	—	20 ¹	40
MJF18008	—	10	450	1000	16/36	2.0	3.0 Typ.	0.12 Typ.	4.0	12 Typ.	45

¹Ihcl @ MHz. ²Darlington. ³Switching tests performed with special application simulator circuit. See data sheet for details.

Plastic TO-220

Pin: 1 — Base, 2 — Collector, 3 — Emitter, 4 — Collector (Style 1, Case 221A-06)

Mfr.'s Type		Ic Cont (A) Max.	Vce(sat) ¹ (V) Min.	hFE Min./Max.	@ Ic (A)	Resistive Switching			fr (MHz) Min.	Po (Case) Watts @ 25°C
NPN	PNP					ts (μs) Max.	tr (μs) Max.	@ Ic (A)		
TIP298	TIP30B	1	80	15/75	1.0	0.6 Typ.	0.30 Typ.	1.0	3.0	30
TIP29C	TIP30C	1	100	15/75	1.0	0.6 Typ.	0.30 Typ.	1.0	3.0	30
TIP47	—	1	250	30/150	0.3	2.0 Typ.	0.18 Typ.	0.3	10.0	40
TIP48	—	1	300	30/150	0.3	2.0 Typ.	0.18 Typ.	0.3	10.0	40
TIP49	MJE5731	1	350	30/150	0.3	2.0 Typ.	0.18 Typ.	0.3	10.0	40
TIP50	—	1	400	30/150	0.3	2.0 Typ.	0.18 Typ.	0.3	10.0	40
TIP110 ¹	TIP115 ¹	2	60	500 Min.	2.0	1.7 Typ.	1.30 Typ.	2.0	25.0 ¹	50
TIP111 ¹	TIP116 ¹	2	80	500 Min.	2.0	1.7 Typ.	1.30 Typ.	2.0	25.0 ¹	50
TIP112 ¹	TIP117 ¹	—	100	500 Min.	2.0	1.7 Typ.	1.30 Typ.	2.0	25.0 ¹	50
BUX85	—	2	450/1000	30	0.1	3.5	1.40	1.0	4.0	50
MJE1320	—	2	900/1800	3 Min.	1.0	4.0 Typ.	0.80 Typ.	1.0	—	80
TIP31A	TIP32A	3	60	25 Min.	1.0	0.6 Typ.	0.30 Typ.	1.0	3.0	40
TIP31B	TIP32B	3	80	25 Min.	1.0	0.6 Typ.	0.30 Typ.	1.0	3.0	40
TIP31C ¹	TIP32C ¹	3	100	25 Min.	1.0	0.6 Typ.	0.30 Typ.	1.0	3.0	40
—	MJE9780	3	150	50/200	0.5	—	—	5.0 Typ.	—	75
—	MJE1123	4	40	45/100	4.0	—	—	—	1.0 ¹	40
MJE800T ¹	—	4	60	750 Min.	1.5	—	—	—	—	40
MJE13005	—	4	400/700	6/30	3.0	3.0	0.70	3.0	4.0	60
TIP120 ¹	TIP125 ¹	5	80	1 K Min.	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	65
TIP121 ¹	TIP126 ¹	5	80	1 K Min.	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	65
TIP122 ¹	TIP127 ¹	5	100	1 K Min.	3.0	1.5 Typ.	1.50 Typ.	4.0	4.0 ¹	75
2N6497	—	5	250	10/75	2.5	1.8	0.80	2.5	5.0	80
MJE18002	—	5	450/1000	5 Min.	5.0	3.0	0.30	3.0	—	80
MJE1804	—	5	450/1000	14/36	1.0	3.0	0.50	2.5	12.0	100
TIP41A	TIP42A	6	80	15/75	3.0	0.4 Typ.	0.15 Typ.	3.0	3.0	65
TIP41B	TIP42B	6	80	15/75	3.0	0.4 Typ.	0.15 Typ.	3.0	3.0	65
TIP41C	TIP42C	6	100	15/75	3.0	0.4 Typ.	0.15 Typ.	3.0	3.0	65
2N6288	2N6111	7	30	30/150	3.0	0.4 Typ.	0.15 Typ.	3.0	4.0	40
—	2N6109	7	50	30/150	2.5	0.4 Typ.	0.15 Typ.	3.0	4.0	40
2N6292	2N6107	7	70	30/150	2.5	0.4 Typ.	0.15 Typ.	3.0	4.0	40
BU407	—	7	150	30 Min.	1.5	—	—	5.0	10.0	60
2N6043 ¹	2N6040 ¹	8	80	1 K/10 K	4.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	75
TIP100 ¹	TIP105 ¹	8	60	1 K/20 K	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	80
2N6044 ¹	2N6041 ¹	8	60	1 K/10 K	4.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	75
TIP101 ¹	TIP106 ¹	8	80	1 K/20 K	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	75
2N6045 ¹	2N6042 ¹	8	100	1 K/10 K	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	80
TIP102 ¹	TIP107 ¹	8	100	1 K/20 K	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0 ¹	80
MJE15028	MJE15029	8	120	20 Min.	4.0	—	—	—	30.0	50
MJE15030	MJE15031	8	150	20 Min.	4.0	—	—	—	30.0	50
MJE5740 ¹	—	8	300/600	200 Min.	4.0	8.0 Typ.	2.00 Typ.	6.0	4.0	80
—	MJE5850	8	300/600	15 Min.	2.0	2.0	0.50	4.0	—	80
—	MJE5851	8	350	15 Min.	2.0	2.0	0.50	4.0	—	80
MJE5742 ¹	—	8	400/700	200 Min.	4.0	8.0 Typ.	2.00 Typ.	6.0	12.0 Typ.	80
MJE13007 ¹	—	8	400/700	5/30	5.0	3.0	0.70	5.0	12.0 Typ.	80
—	MJE5852 ¹	8	400/700	15 Min.	2.0	2.0	0.50	4.0	12.0 Typ.	80
MJE16106	—	8	400/650	6/22	8.0	2.0 Typ.	0.10 Typ.	5.0	12.0 Typ.	100
MJE18006	—	8	450/1000	14/36	1.5	1.5 Typ.	0.10 Typ.	3.0	12.0 Typ.	100
D44H8	D44H8	10	60	40 Min.	4.0	—	—	—	—	50
MJE3055T	MJE2955T	10	60	20/70	4.0	—	—	—	20.0 ¹	75
2N6387 ¹	2N6667 ¹	10	60	1K/20 K	5.0	—	—	—	—	65
D44H10	D44H10	10	80	20 Min.	4.0	0.5 Typ.	0.14 Typ.	5.0	50.0 Typ.	50
D44H11 ¹	D45H11 ¹	10	80	40 Min.	4.0	0.5 Typ.	0.14 Typ.	5.0	50.0 Typ.	50
MJE18008	—	10	450/1000	16/36	2.0	3.0 Typ.	0.10 Typ.	4.0	12.0 Typ.	125
2N6487	2N6490	15	60	20/150	5.0	0.6 Typ.	0.30 Typ.	5.0	5.0	75
2N6488	2N6491	15	80	20/150	5.0	0.6 Typ.	0.30 Typ.	5.0	5.0	75
D44VH10	D45VH10	15	80	20 Min.	4.0	0.5	0.09	8.0	50.0 Typ.	83

Plastic TO-218 Type Pin: 1 — Base, 2 — Collector, 3 — Emitter, 4 — Collector (Style 1, Case 340D-01(TO-218 Type, SOT-93))

Mfr.'s Type		Ic Cont (A) Max.	Vce(sat) (V) Min.	hFE Min./Max.	@ Ic (A)	Resistive Switching			fr (MHz) Min.	Po (Case) Watts @ 25°C
NPN	PNP					ts (μs) Max.	tr (μs) Max.	@ Ic (A)		
TIP140 ¹	TIP145 ¹	10	60	500 Min.	10.0	2.5 Typ.	2.50 Typ.	5.0	4.0 ¹	125
TIP141 ¹	TIP146 ¹	10	80	500 Min.	10.0	2.5 Typ.	2.50 Typ.	5.0	4.0 ¹	125
TIP33C	—	10	100	20 Min.	3.0	—	—	—	3.0	80
TIP142 ¹	TIP147 ¹	10	100	500 Min.	10.0	2.5 Typ.	2.50 Typ.	5.0	4.0 ¹	125
BU323AP ¹	—	10	250	150 Min.	6.0	15.0	15.00	6.0	—	118
MJH10012 ¹	—	10	400	100/2 K	6.0	15.0	15.00	6.0	—	80
TIP3055	TIP2955	15	60	5 Min.	10.0	—	—	—	2.5	150
MJH11020 ¹	MJH11019 ¹	15	200	400/15 K	10.0	—	—	—	3.0 ¹	150
MJH11022 ¹	MJH11021 ¹	15	250	400/15 K	10.0	—	—	—	3.0 ¹	150
BUV48A	—	15	450	8 Min.	8.0	2.0	0.40	10.0	—	150
MJE4343	MJE4353	16	160	15 Min.	8.0	1.2 Typ.	1.20 Typ.	8.0	1.0	125
MJE6284 ¹	MJH6287 ¹	20	100	750/18 K	10.0	—	—	—	4.0 ¹	125
—	TIP36A	25	60	10/75	15.0	0.6 Typ.	0.30 Typ.	10.0	3.0	125
TIP35B	TIP36B	25	80	10/75	15.0	0.6 Typ.	0.30 Typ.	10.0	3.0	125
TIP35C	TIP36C	25	100	10/75	15.0	0.6 Typ.	0.30 Typ.	10.0	3.0	125

¹Ihcl @ MHz. ²Darlington. ³Switching tests performed with special application simulator circuit. See data sheet for details. ⁴Available as preferred chip. ⁵When 2 voltages are given, the format is Vce(sat)/Vces.

Plastic TO-247 Type

Pin: 1 — Base, 2 — Collector, 3 — Emitter, 4 — Collector (Case 340F-03)

Mfr.'s Type		Ic Cont (A) Max.	Vce(sat) (V) Min.	Vces (V) Min.	hFE Min./Max.	@ Ic (A)	Resistive Switching			fr (MHz) Min.	Po (Case) Watts @ 25°C
NPN	PNP						ts (μs) Max.	tr (μs) Max.	@ Ic (A)		
MJW16212	—	10	650	1500	4/10	10.0	4.00 ¹	0.50 ¹	5.5	—	150
MJW16018	—	10	800	1500	4 Min.	5.0	4.50 Typ.	0.20 Typ.	5.0	3.0 Typ.	150
MJW16206	—	12	500	1200	5/13	10.0	2.25	0.25	6.5	3.0 Typ.	150
MJW16110	—	15	400	650	6/20	10.0	0.80 Typ.	0.10 Typ.	10.0	—	135
MJW16210	—	15	500	1000	5/13	15.0	3.00	0.24 ¹	8.5 ¹	2.5 Typ.	150

¹Switching tests performed with special application simulator circuit. See data sheet for details. ²Tested in applications simulator. See data sheet.

Plastic TO-3PBL

Pin: 1 — Base, 2 — Collector, 3 — Emitter, 4 — Collector (Style 2, Case 340G-01)

Mfr.'s Type		Ic Cont (A) Max.	Vce(sat) ¹ (V) Min.	hFE Min./Max.	@ Ic (A)	Resistive Switching			fr (MHz) Min.	Po (Case) Watts @ 25°C
NPN	PNP					ts (μs) Max.	tr (μs) Max.	@ Ic (A)		
MJL3281A	MJL1302A	15.0	200	60/175	7.00	—	—	—	30 Typ.	200
MJL21194	MJL21193	16.0	250	25/75	8.00	—	—	—	4 Min.	200

Plastic TO-225 Type (Formerly TO-126 Type)

Pin: 1 — Emitter, 2 — Collector, 3 — Base (Style 1, Case 77-07(TO-225AA))

Pin: 1 — Base, 2 — Collector, 3 — Emitter (Style 3, Case 77-07(TO-225AA))

Mfr.'s Type		Ic Cont (A) Max.	Vce(sat) (V) Min.	hFE Min./Max.	@ Ic (A)
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Bipolar Power Transistors (Continued)

Metal TO-204 (Formerly TO-3), TO-204AE (Continued)

Pin: 1 — Base, 2 — Collector, 3 — Emitter (Style 1, TO-204AA Case 1-07, TO-204AE Case 197A-03)

Mfr.'s Type	NPN	PNP	Ic Cont (A) Max.	Vce(sat) ¹ (V) Min.	hFE Min./Max.	@ Ic (A)	Resistive Switching			f _r (MHz) Min.	P _D (Case) (W) @ 25°C
							t _s (μs) Max.	t _f (μs) Max.	@ Ic (A)		
—	—	2N6031 ³	16	140	15/60	8.0	1.2 Typ.	1.20 Typ.	8	1	200
MJ15022	—	MJ15023	16	200	15/60	8.0	—	—	—	5	250
MJ15024	—	MJ15025	16	250	15/60	8.0	—	—	—	5	250
2N3772	—	—	20	60	15/60	10.0	—	—	—	5	250
2N6282 ²	—	2N66285 ²	20	60	750/18 K	10.0	2.5 Typ.	2.50 Typ.	10	4 ¹	160
2N5039	—	—	20	75	20/100	10.0	1.5	0.50	10	60	140
2N5303	—	—	20	80	15/60	10.0	2.0	1.00	10	2	200
2N6283 ²	—	2N6286 ²	20	80	750/18 K	10.0	2.5 Typ.	2.50 Typ.	10	4 ¹	160
2N5038 ²	—	—	20	90	20/100	12.0	1.5	0.50	12	60	140
2N6284 ^{2,3}	—	2N6287 ^{2,3}	20	100	750/18 K	10.0	2.5 Typ.	2.50 Typ.	10	4 ¹	160
MJ5003 ³	—	MJ15004 ³	20	140	25/150	5.0	—	—	—	2	250
MJ10000 ⁷	—	—	20	350	40/400	10.0	3.0	1.80	10	10 ¹	175
MJ10005 ⁷	—	—	20	400	40/400	10.0	1.5	0.50	10	10 ¹	175
MJ13333	—	—	20	400	10/60	5.0	4.0	0.70	10	—	175
MJ10009 ⁷	—	—	20	500	30/300	10.0	2.0	0.60	10	8 ¹	175
2N5885	—	2N5883	25	60	20/100	10.0	1.0	0.80	10	4	200
2N5886 ²	—	2N5884 ²	25	80	20/100	10.0	1.0	0.80	10	4	200

Field Effect Transistors

JFETs

JFETs operate in the depletion mode. They are available in both P- and N-channel and are offered in both Through-hole and Surface Mount Packages. Applications include general-purpose amplified, switches and choppers, and RF amplifiers and mixers. These devices are economical and very rugged. The drain and source are interchangeable on many typical JFETs.

JFET Low-Frequency/Low-Noise (Case 29-04 — TO-226AA (TO-92) — N-Channel)
The following table is a listing of small-signal JFETs intended for low-noise applications in the audio range. These devices exhibit good linearity and are candidates for hi-fi and instrumentation equipment.

Mfr.'s Type	R _{DS(on)} @ f		R _{DS(on)} @ f		C _{iss} (pF) Max.	C _{oss} (pF) Min.	V _{BR(ss)} V _{BR(DS)} (V) Min.	V _{GS(off)} (V)		I _{SS} (mA)		Style
	mmho Min.	(kHz)	μmho Max.	(kHz)				Min.	Max.	Min.	Max.	
2N5458	1.5	1.0	50	1.0	7.0	3.0	25	1.00	7.0	2.0	9.0	5
2N5457	1.0	1.0	50	1.0	7.0	3.0	25	0.50	6.0	1.0	5.0	5
2N5459	2.0	1.0	50	1.0	7.0	3.0	25	2.00	8.0	4.0	16.0	5

JFET Low-Frequency/Low-Noise (Case 29-04 — TO-226AA (TO-92) — P-Channel)

Mfr.'s Type	R _{DS(on)} @ f		R _{DS(on)} @ f		C _{iss} (pF) Max.	C _{oss} (pF) Min.	V _{BR(ss)} V _{BR(DS)} (V) Min.	V _{GS(off)} (V)		I _{SS} (mA)		Style
	mmho Min.	(kHz)	μmho Max.	(kHz)				Min.	Max.	Min.	Max.	
2N5460	1.5	1.0	75	1.0	7.0	2.0	40	0.75	6.0	1.0	5.0	7
2N5461	1.0	1.0	75	1.0	7.0	2.0	40	1.00	7.5	2.0	9.0	7
2N5462	2.0	1.0	75	1.0	7.0	2.0	40	1.80	9.0	4.0	16.0	7

JFET High-Frequency Amplifiers (Case 29-04 — TO-226AA (TO-92) — N-Channel)

The following is a listing of small signal JFETs that are intended for hi-frequency applications. These are candidates for VHF/UHF oscillators, mixers and front-end amplifiers.

Mfr.'s Type	R _{DS(on)} @ f		R _{DS(on)} @ f		C _{iss} (pF) Max.	C _{oss} (pF) Min.	V _{BR(ss)} V _{BR(DS)} (V) Min.	NF @ RG=1 K		V _{GS(off)} (V)		I _{SS} (mA)		Style
	mmho Min.	(MHz)	μmho Max.	(MHz)				dB Max.	f (MHz)	Min.	Max.	Min.	Max.	
2N5484	2.5	100	75	100	5.0	1.0	3.0	100	25	0.3	3.0	1.0	5.0	5
2N5485	3.0	400	100	400	5.0	1.0	4.0	400	25	0.5	4.0	4.0	10.0	5
2N5486	3.5	400	100	400	5.0	1.0	4.0	400	25	2.0	6.0	8.0	20.0	5
J309	12 ¹	100	250 ¹	100	7.5	2.5	1.5 ¹	100	25	1.0	4.0	12	30.0	5
J310	12 ¹	100	250 ¹	100	7.5	2.5	1.5 ¹	100	25	2.0	6.5	24	60.0	5

¹Typical.

Field Effect Transistors

Surface Mount FETs

This section contains the FET plastic packages available for surface mount applications. Most of these devices are the most popular metal-can and insertion type parts carried over to the new surface mount packages.

Surface Mount RF JFETs

Pinout: 1 — Drain, 2 — Source, 3 — Gate (Case 318-07 — TO-236AB (SOT-23) — N-Channel)

The following is a list of surface mount FETs which are intended for VHF/UHF RF amplifier applications.

Mfr.'s Type	Marking	NF		Y _s @ V _{DS}		V _{BR(ss)}	Style
		dB Typ.	f (MHz)	mmhos Min.	mmhos Max.	(V)	
MMBFJ309LT1	6U	1.5	450	10.0	20.0	10	10
MMBFJ310LT1	6T	1.5	450	8.0	18.0	10	10
MMBFU310LT1	M6C	1.5	450	10.0	18.0	10	10
MMBF4416LT1	M6A	2.0 ¹	100	4.5	7.5	15	10
MMBF5484LT1	M6B	2.0	100	3.0	6.0	15	10

¹Max.



CASE 318-07
TO-236AB
SOT-23



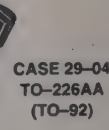
CASE 318E
SOT-223

Field Effect Transistors

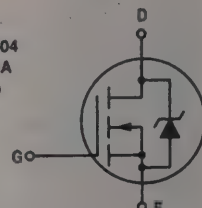
TMOS MOSFETs



CASE 29-05
TO-226AE
1-WATT (TO-92)



CASE 29-04
TO-226AA
(TO-92)



TMOS Switches and Choppers (Case 29-05 — TO-226AE (1-WATT TO-92) — N-Channel)

The following is a listing of small-signal TMOS devices that are intended for switching and chopper applications. These devices offer low R_{DS(on)} characteristics.

Mfr.'s Type	R _{DS(on)} @ ID		V _{GS(th)} (V)		V _{BR(ss)} (V) Min.	C _{iss} (pF) Max.	C _{oss} (pF) Max.	t _{on} (ns) Max.	t _{off} (ns) Max.	Style
	Ω Max.	(A)	Min.	Max.						
MPF660	1.7	1.00	1.0	3.5	60	70 ¹	20.0 ¹	15.0	15.0	22
MPF6659	1.8	1.00	0.8	2.0	35	30 ¹	4.0 ¹	5.0	5.0	22
MPF6660	3.0	1.00	0.8	2.0	60	30 ¹	4.0 ¹	5.0	5.0	22
MPF6661	4.0	1.00	0.8	2.0	90	30 ¹	4.0 ¹	5.0	5.0	22
MPF910	5.0	0.50	0.3	2.5	60	—	—	—	—	22
VN10LM	5.0	0.50	0.8	2.5	60	60	5.0	10.0	10.0	22

TMOS Switches and Choppers (Case 29-04 — TO-226AA (TO-92) — N-Channel)

Mfr.'s Type	R _{DS(on)} @ ID		V _{GS(th)} (V)		V _{BR(ss)} (V) Min.	C _{iss} (pF) Max.	C _{oss} (pF) Max.	t _{on} (ns) Max.	t _{off} (ns) Max.	Style
	Ω Max.	(A)	Min.	Max.						
2N700	5.0	0.50	0.8	3.0	60	60	5.0	10.0	10.0	22
BS170	5.0	0.20	0.8	3.0	60	25 ¹	3.0 ¹	10.0	10.0	30
VN2406L	6.0	0.50	0.8	2.0	240	125	20.0	8.0	23.0	22
BS107A	6.4	0.25	1.0	3.0	200	60 ¹	6.0 ¹	15.0	15.0	30
VN222LL	7.5	0.50	0.6	2.5	60	60	5.0	10.0	10.0	22
BS107	14.0	0.20	1.0	3.0	200	60 ¹	6.0 ¹	15.0	15.0	30

¹Typical.

Surface Mount General-Purpose JFETs

Pinout: 1 — Drain, 2 — Source, 3 — Gate (Case 318-07 — TO-236AB (SOT-23) — N-Channel)

The following table is a listing of surface mount small-signal general purpose FETs. These devices are intended for small-signal amplification for DC, audio, and lower RF frequencies. They also have applications as oscillators and general-purpose, low-voltage switches.

Mfr.'s Type	Marking	V _{BR(ss)}	Y _s @ V _{DS}		I _{SS}		Style
			mmhos Min.	mmhos Max.	(V)	(mA) Min. (mA) Max.	
MMBF5459LT1	6L	25	2.0	6.0	15	4.0 16	10

Surface Mount General-Purpose JFETs

Pinout: 1 — Drain, 2 — Source, 3 — Gate (Case 318-07 — TO-236AB (SOT-23) — P-Channel)

Mfr.'s Type	Marking	V _{BR(ss)}	Y _s @ V _{DS}		I _{SS}		Style
			mmhos Min.	mmhos Max.	(V)	(mA) Min. (mA) Max.	
MMBF5460LT1	M6E	40	1.0	4.0	15	1.0 5.0	10

Surface Mount Choppers/Switches JFETs

Pinout: 1 — Drain, 2 — Source, 3 — Gate (Case 318-07 — TO-236AB (SOT-23) — N-Channel)

The following is a listing of small-signal surface mount JFET devices intended for switching and chopper applications.

Mfr.'s Type	Marking	R _{DS(on)} (Ω) Max.	t _{on} ns Max.	V _{BR(ss)}	V _{GS(th)}		I _{SS}		Style
					(V) Min.	(V) Max.	(mA) Min.	(mA) Max.	
MMBF4391LT1	6J	30	20	30	4.0	10.0	50.0	150	10
MMBF4393LT1	6G	100	50	30	0.5	3.0	5.0	30	10



Field Effect Transistors (Continued)

Surface Mount FETs

Surface Mount Choppers/Switches JFETs

Pinout: 1 — Drain, 2 — Source, 3 — Gate (Case 318-07 — TO-236AB (SOT-23) — P-Channel)

Mfr.'s Type	Marking	R _{DS(on)} (Ω) Max.	I _{SS} (mA) Max.	V _{DS(ON)} (V) Min.	V _{GS(on)}		I _{SS}		Style
					(V) Min.	(V) Max.	(mA) Min.	(mA) Max.	
MMBFJ175LT1	6W	125	—	-30	3.0	6.0	7.0	60	10
MMBFJ177LT1	6Y	300	—	-30	0.8	2.5	1.5	20	10

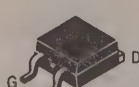
TMOS FETs

Pinout: 1 — Gate, 2 — Source, 3 — Drain (Case 318-07 — TO-236AB (SOT-23) — N-Channel)

The following is a listing of small-signal surface mount TMOS FETs which exhibit low R_{DS(on)} characteristics.

Mfr.'s Type	Marking	R _{DS(on)} @ I _D		V _{DS}	V _{GS(on)}		Switching Time		Style
		(Ω)	(mA)		(V) Min.	(V) Max.	t _{on} (ns)	t _{off} (ns)	
BSS123LT1	SA	6.0	100	100	0.8	2.8	20	40	21

Power TMOS® MOSFETs

CASE 318E-04
SOT-223
STYLE 3CASE 369A-13
DPAK
STYLE 2CASE 418B-02
DPAK
STYLE 2CASE 221A-05
(TO-220AB)
STYLE 5CASE 340F-03
TO-247AE
(MTW PREFIX)
STYLE 1CASE 751-05
SO-8
STYLE 11

SOT-223 Medium Power MOSFETs

SOT-223 Medium Power TMOS FETs — N-Channel

Mfr.'s Type ¹	V _{DS(ON)} (V) Min.	R _{DS(on)} (Ω) Max.	I _D (A) @ (A)	I _D (Cont.) (A)	P _D (W) Max.	Applications
MMFT1N10ET1	100	0.30	0.5	1.0	0.8 ²	dc-dc Converters, Power Supplies, Motor Controls, Disk Drives
MMFT3055ELT1 ²	60	0.18	0.75	1.5	0.8 ³	dc-dc Converters, Power Supplies, Motor Controls, Disk Drives
MMFT3055ET1	60	0.15	0.85	1.7	0.8 ³	dc-dc Converters, Power Supplies, Motor Controls, Disk Drives
MMFT2N02ELT1 ²	20	0.15	1.00	2.0	0.8 ³	dc-dc Converters, Power Supplies, Motor Controls, Disk Drives

SOT-223 Medium Power TMOS FETs — P-Channel

MMFT2955E	60	0.30	0.60	1.2	0.8 ³	dc-dc Converters, Power Supplies, Motor Controls, Disk Drives
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¹TC=25°C. ²Indicates Logic Level. ³Power rating when mounted on and FR-4 glass epoxy printed circuit board with the minimum recommended footprint. ⁴Available in tape and reel only — T1 suffix=1000/reel, T3 Suffix=4000/reel.

DPAK

DPAK — N-Channel

Mfr.'s Type ¹	V _{DS(ON)} (V) Min.	R _{DS(on)} (Ω) Max.	I _D (A) @ (A)	P _D (Cont.) (A)	P _D (W) Max.
MTD2N50E	500	3.6000	1.00	2.0	1.75 ²
MTD9N10E	100	0.2500	4.50	9.0	1.75 ²
MTD3055EL ²	60	0.1800	6.00	12.0	1.75 ²
MTD3055E	60	0.1500	4.00	8.0	1.75 ²
MTD8N06E	60	0.1200	4.00	8.0	1.75 ²
MTD10N05E	50	0.1000	5.00	10.0	1.75 ²
MTD20N03HDL ²	30	0.0350	10.00	20.0	1.75 ²

DPAK — P-Channel

MTD5P06E	60	0.5500	2.50	5.0	1.75 ²
MTD2955E	60	0.3000	6.00	12.0	1.75 ²
MTD20P03HDL ²	30	0.0990	10.00	19.0	1.75 ²

DPAK

DPAK — N-Channel

MTB1N100E	1000	9.0000	0.50	1.0	2.50 ²
MTB3N100E	1000	4.0000	1.50	3.0	2.50 ²
MTB4N80E	800	3.0000	2.00	4.0	2.50 ²
MTB6N60E	600	2.0000	3.00	6.0	2.50 ²
MTB8N50E	500	0.8000	4.00	8.0	2.50 ²
MTB10N40E	400	0.5500	5.00	10.0	2.50 ²
MTB16N25E	250	0.2500	8.00	16.0	2.50 ²
MTB20N20E	200	0.1600	10.00	20.0	2.50 ²
MTB33N10E	100	0.0600	16.50	33.0	2.50 ²
MTB15N06E	60	0.1200	7.50	15.0	2.50 ²
MTB30N06EL ²	60	0.0500	15.00	30.0	2.50 ²
MTB30N06E	60	0.0400	18.00	36.0	2.50 ²
MTB50N06EL ²	60	0.0280	25.00	50.0	2.50 ²
MTB50N06E	60	0.0250	25.00	50.0	2.50 ²
MTB60N06HD	60	0.0140	30.00	60.0	2.50 ²
MTB75N06HD	60	0.0100	37.50	75.0	2.50 ²
MTB75N05HD	50	0.0095	37.50	75.0	2.50 ²
MTB75N03HDL ²	30	0.0075	37.50	75.0	2.50 ²

¹TC=25°C. ²Indicates Logic Level. ³Power rating when mounted on and FR-4 glass epoxy printed circuit board with the minimum recommended footprint. ⁴Available in tape and reel — add T4 suffix to Part Number.

TMOS FETs

Pinout: 1 — Gate, 2 — Source, 3 — Drain (Case 318-07 — TO-236AB (SOT-23) — N-Channel (Continued))

Mfr.'s Type	Marking	R _{DS(on)} (Ω) Max.	I _{SS} (mA) Max.	V _{DS(ON)} (V) Min.	V _{GS(on)}		I _{SS}		Style
					(V) Min.	(V) Max.	(mA) Min.	(mA) Max.	
2N7002LT1	702	7.5	500	60	1.0	2.5	20	20	21

TMOS FETs

Pinout: 1 — Gate, 2 — Drain, 3 — Source, 4 — Drain (Case 318E (SOT-223)) — N-Channel

The following is a listing of small-signal surface mount TMOS FETs which exhibit low R_{DS(on)} characteristics.

Mfr.'s Type	Marking	R _{DS(on)}		V _{DS}	V _{GS(on)}		Switching Time		Style
		(Ω)	(mA)		(V) Min.	(V) Max.	t _{on} (ns)	t _{off} (ns)	
MMFT960T1	FT960	1.7	1000	60	1.0	3.5	15.0	15.0	3
MMFT6661T1	T6661	4.0	1000	90	0.8	2.0	5.0	5.0	3
MMFT2406T1	T2406	10.0	200	240	0.8	2.0	—	—	3
MMFT107T1	FT107	14.0	200	200	1.0	3.0	15.0	15.0	3

TO-220AB

TO-220AB — N-Channel (Continued)

Mfr.'s Type	V _{DS(ON)} (V) Min.	R _{DS(on)} (Ω) Max.	I _D (A) @ (A)	I _D (Cont.) (A)	P _D (W) Max.
MTP50N06EL ²	60	0.0280	25.00	50.0	150.00
MTP50N06E	60	0.0250	25.00	50.0	150.00
MTP60N06HD	60	0.0140	30.00	60.0	150.00
MTP75N06HD	60	0.0100	37.50	75.0	150.00
BUZ71A	50	0.1200	6.00	12.0	40.00
BUZ71	50	0.1000	6.00	12.0	40.00
MTP15N05EL ²	50	0.1000	7.50	15.0	75.00
MTP15N05E	50	0.1000	7.50	15.0	75.00
IRF220	50	0.1000	7.50	15.0	75.00
BUZ11	50	0.0400	15.00	30.0	75.00
MTP50N05E	50	0.0280	25.00	50.0	150.00
MTP50N05EL	50	0.0320	25.00	50.0	150.00
MTP75N05HD	50	0.0095	37.50	75.0	150.00
MTP75N03HDL ²	30	0.0075	37.50	75.0	150.00

TO-220AB — P-Channel

MTP2P50E	500	6.0000	1.00	2.0	75.00
MTP6P20E	200	1.0000	3.00	6.0	75.00
MTP12P10	100	0.3000	6.00	12.0	88.00
MTP2955E	60	0.3000	6.00	12.0	75.00
MTP23P06	60	0.1200	11.50	23.0	125.00
MTP50P03HDL ²	30	0.0250	25.00	50.0	150.00

TO-247 Isolated Mounting Hole

TO-247 — N-Channel

MTW6N100E	1000	1.5000	3.00	6.0	180.00
MTW10N100E	1000	1.3000	5.00	10.0	250.00
MTW4N80E	800	3.0000	2.00	4.0	150.00
MTW7N80E	800	1.0000	3.50	7.0	180.00
MTW8N60E	600	0.5000	4.00	8.0	180.00
MTW14N50E	500	0.3200	7.00	14.0	180.00
MTW20N50E	500	0.2400	10.00	20.0	250.00
MTW16N40E	400	0.3000	8.00	16.0	180.00
MTW24N40E	400	0.1600	12.00	24.0	250.00
MTW32N25E	250	0.1400	11.50	23.0	180.00
MTW32N25E	250	0.1000	16.00	32.0	250.00
MTW32N20E	200	0.0750	16.00	32.0	180.00
MTW26N15E	150	0.0950	13.00	26.0	150.00
MTW35N15E	150	0.0650	17.50	35.0	180.00
MTW45N10E	100	0.0350	22.50	45.0	180.00

TMOS V

TMOS V — DPAK

MTD3055V	60	0.1500	6.00	12.0	1.75 ²
MTD15N06V	60	0.1200	7.50	15.0	1.75 ²

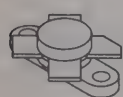
TMOS V — TO-220AB

MTP3055V	60	0.1500	6.00	12.0	40.00
MTP15N06V	60	0.1200	7.50	15.0	53.00
MTP36N06V	60	0.0400	16.00	32.0	88.00
MTP50N06V	60	0.0280	22.50	42.0	107.00

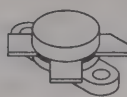
¹TC=25°C. ²Indicates Logic Level. ³Power rating when mounted on and FR-4 glass epoxy printed circuit board with the minimum recommended footprint. ⁴Available in tape and reel — add T4 suffix to Part Number. ⁵ESD protected to 4 kV.



RF Power MOSFET



CASE 211-07
STYLE 1, 2
(.380" FLANGE)



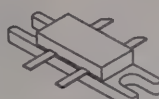
CASE 211-11
STYLE 1, 2
(.500" FLANGE)



CASE 375
STYLE 2



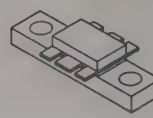
CASE 249
STYLE 1
(.280" PILL)



CASE 412
STYLE 1



CASE 430
STYLE 2



CASE 319
STYLE 1, 2, 3
(CS-12)



CASE 316-01
STYLE 1, 2
(.500" CQ)



CASE 360B
STYLE 1

Motorola RF Power MOSFETs are constructed using a planar process to enhance manufacturing repeatability. They are N-Channel field effect transistors with an oxide insulated gate which controls vertical current flow.

Compared with bipolar transistors, RF Power FETs exhibit higher gain, higher input impedance, enhanced thermal stability and lower noise. The FETs listed in this section are specified for operation in RF Power Amplifiers and are grouped by frequency range of operation and type of application. Arrangement within each group is first by order of voltage then by increasing output power.

To 150 MHz HF/SSB

V_{DD}=50 Volts, Class AB

For military and commercial HF/SSB fixed, mobile and marine transmitters.

Mfr.'s Type	P _{out} Output Power (W)	P _{in} Input Power Typ. (W)	G _{ps} Typ. Gain dB @ 30 MHz	Typical IMD		θ _{Jc} °C/W	Package Style
				d _s dB	d _{t1} dB		
MRF148	30	0.5	18	-35	-60	1.5	211-07/2
MRF150	150	2.9	17	-32	-60	0.6	211-11/2

To 225 MHz VHF AM/FM

V_{DD}=28 Volts, Class AB

For VHF military and commercial aircraft radio transmitters.

Mfr.'s Type	P _{out} Output Power (W)	P _{in} Input Power Typ. (W)	G _{ps} (Typ.) / Freq. dB/MHz	η Efficiency Typ. %	θ _{Jc} °C/W	Package Style
MRF134	5	0.2	14.0/150	55	10.00	211-07/2
MRF174	125	8.3	11.8/150	60	0.65	211-11/2
MRF141G	300	30.0	10.0/175	55	0.35	375/2

V_{DD}=50 Volts, Class AB

MRF151G	300	7.5	16.0/175	55	0.35	375/2
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To 500 MHz VHF/UHF AM/FM

V_{DD}=28 Volts, Class AB

Mfr.'s Type	P _{out} Output Power Watts	P _{in} Input Power Typ. Watts	G _{ps} (Typ.) / Freq. dB/MHz	η Efficiency Typ. %	θ _{Jc} °C/W	Package Style
MRF160	4	0.08	17/400	50	7.2	249/3
MRF166W	40	2.00	13/400	50	1.0	412/1

To 520 MHz

For broadband VHF & UHF commercial and industrial applications. The high gain and broadband performance of these devices make them ideal for large-signal, common-source amplifier applications in 12.5 volt mobile and base station operation.

V_{CC}=7.5 Volts, Class AB

Mfr.'s Type	P _{out} Output Power (W)	P _{in} (Max) Input Power (W)	G _{ps} (Min.) / Freq. Power Gain dB/MHz	θ _{Jc} °C/W	Package Style
MRF5003	3	0.336	10.5/512	14.0	430/2

V_{CC}=12.5 Volts, Class AB

MRF5015	15	1.300	11.5/512	3.5	319/3
MRF5035	35	4.700	7.5/512	1.8	316-01/3

To 1.0 GHz

V_{DD}=28 Volts, Class AB

For HF/VHF/UHF military and commercial radio transmitters.

Mfr.'s Type	P _{out} Output Power (W)	P _{in} Input Power Typ. (W)	G _{ps} (Typ.) / Freq. dB/MHz	η Efficiency Typ. %	θ _{Jc} °C/W	Package Style
MRF182	30	1.5	13/1000	55	1.50	360B/1
MRF183	45	2.8	12/1000	55	1.25	360B/1

RF Power Bipolar Transistors



CASE 211-07
STYLE 1, 2
(.380" FLANGE)



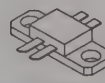
CASE 316-01
STYLE 1, 2
(.500" CQ)



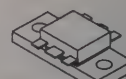
CASE 317D
STYLE 2



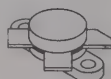
CASE 305
STYLE 1
(.204" STUD)



CASE 395B
STYLE 1



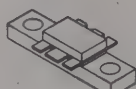
CASE 333A
STYLE 1, 2
(MAAC PAC)



CASE 211-11
STYLE 1, 2
(.500" FLANGE)



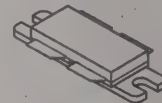
CASE 317
STYLE 1, 2
(MACRO-X)



CASE 319
STYLE 1, 2, 3
(CS-12)



CASE 305D
STYLE 1



CASE 375A
STYLE 1



CASE 395C
STYLE 1

Motorola's broad line of bipolar RF power transistors are characterized for operation in RF power amplifiers. Typical applications are in military and commercial landmobile, avionics and marine radio transmitters. Groupings are by

frequency band and type of application. Within each group, the arrangement of devices is by major supply voltage rating, then in the order of increasing output power. All devices are NPN polarity except where otherwise noted.

HF Transistors

14-30 MHz, CB/Amateur Band

V_{CC}=12.5 or 13.6 Volts, Class AB

For economical, high volume use in CW, AM and SSB applications.

Mfr.'s Type	P _{out} Output Power (W)	P _{in} (Max) Input Power (W)	G _{ps} (Min.) Gain @ 30 MHz dB	θ _{Jc} °C/W	Package Style
MRF455	60	3	13	1.0	211-07/1
MRF454	80	5	12	0.7	211-11/1

VHF Transistors

136-174 MHz High Band

V_{CC}=12.5 Volts

For VHF FM High-Band

Mfr.'s Type	P _{out} Output Power (W)	P _{in} (Max) Input Power (W)	G _{ps} (Min.) Gain @ 175 MHz dB	θ _{Jc} °C/W	Package Style
MRF247*	75	15	7	0.7	316-01/1

*Internal Impedance Matched.

UHF Transistors

470-512 MHz Band

V_{CC}=12.5 Volts, Class C

Mfr.'s Type	P _{out} Output Power (W)	P _{in} (Max) Input Power (W)	G _{ps} (Min.) / Freq. Power Gain dB/MHz	θ _{Jc} °C/W	Package Style
MRF581*	0.6	0.03	13/500	40	317/2

*Small signal gain. P_{oi} is Typical.

900 MHz Transistors

870-960 MHz Band

V_{CC}=12.5 Volts — Class C — Si Bipolar

For 900 MHz mobile radio band, type MRF847 offers superior gain and ruggedness, using the unique CS-12 package which minimizes common element impedance, and thus maximizes gain and stability. Devices are listed for mobile and base station applications.

MRF581*	0.6	0.06	10.0/Typ./870	40	317/2
MRF557*	1.5	0.23	8.0/870	25	317D/2
MRF847**	45.0	16.00	4.5/870	1	319/1

*Common Emitter Configuration. **Internal Impedance Matched, Common Base Configuration.

870-960 MHz Band (Continued)

V_{CC}=24 Volts — Si Bipolar

Mfr.'s Type	P _{out} Output Power (W)	Class	P _{in} (Max) Input Power (W)	G _{ps} (Min.) / Freq. Power Gain dB/MHz	θ _{Jc} °C/W	Package Style
MRF857	2.1 (CW)	A	0.40	12.5/900	8.40	305/1
MRF857S	2.1 (CW)	A	0.40	12.5/900	8.40	305D/1
MRF858	3.6 (CW)	A	0.85	11.0/900	6.90	319/2
MRF860	13.7 (CW)	A	3.25	11.0/900	1.90	395B/1
MRF861	27.0 (CW)	A	8.00	9.5/900	0.92	375A/1
MRF862	36.0 (CW)	A	13.60	9.0/900	0.75	375A/1
MRF898*	60.0	C	12.00	7.9	1.00	333A/1

*Internal Impedance Matched.

1.5 GHz Transistors

1400-1640 MHz Band

V_{CC}=28 Volts

MRF16006	6.0	C	1.09	7.4/1600	6.80	395C/2
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V_{CC}=26 Volts

MRF15030	30.0	A, AB	3.10	9.0/1490	1.40	395C/1
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RF Small Signal Transistors

CASE 318A
STYLE 1
LOW PROFILE
(SOT-143)CASE 317
STYLE 2
(MACRO-X)CASE 318-07
STYLE 6
(SOT-23)CASE 317D
STYLE 2, 3
(POWER MACRO)

In small signal RF applications, the package style is often determined by the end application or circuit construction technique. To aid the circuit designer in device selection, the Motorola broad range of RF small signal amplifier transistors is organized by package type. These devices are NPN polarity unless otherwise designated.

RF Amplifiers

High Power

Complete amplifiers with 50 ohm in/out impedances are available for a variety of applications including land mobile radios, base stations, TV transmitters and other uses requiring large-signal amplification, both linear and Class C.

Land Mobile/Portable

The advantages of small size, reproducibility and overall lower cost become more pronounced with increasing frequency of operation. These amplifiers offer a wide range in power levels and gain, with guaranteed performance specifications for bandwidth, stability and ruggedness.

UHF, Linear
880-960 MHz (for GSM) — Class AB (Silicon Bipolar Die)

Mfr.'s Type	P _{out} Output Power (W)	P _{in} Input Power (W)	f Frequency (MHz)	G _p Power Gain, Min. dB	V _{cc} Supply Voltage (V)	Package Style
MHW913	14	0.1	880-915	21.5	12.5	301AB/1

Low Power

The following categories describe a wide range of complete amplifier assemblies both hybrid and monolithic for use in CATV distribution systems, instrumentation, communications and military equipment. A variety of power levels and frequencies of operation is offered for many applications.

CATV Distribution

Motorola Hybrids are manufactured using fourth generation technology which has set new standards for CATV system performance and reliability. These hybrids have been optimized to provide premium performance in all CATV systems up to 152 channels.

40-860 MHz Hybrids, V_{cc}=24 Vdc, Class A
Conventional Hybrids

Mfr.'s Type	Hybrid Gain (Nom.) dB	Channel Loading Capacity	Maximum Distortion Specifications						Noise Figure Typ. dB		Package Style
			Output Level dBmV	2nd Order Test dB	Composite Triple Beat dB		Cross Modulation dB				
					110 CH	128 CH	110 CH	128 CH	@ 750 (MHz)	@ 860 (MHz)	
MHW7142	14	110	+40	-60	-62	—	-66	—	7.5*	714/1	
MHW8142	14	128	+38	-60	—	-61	—	-66	8.0*	714/1	

*Maximum.

40-860 MHz Hybrids, V_{cc}=24 Vdc, Class A
Power Doublers

Mfr.'s Type	Hybrid Gain (Nom.) dB	Channel Loading Capacity	Maximum Distortion Specifications						Noise Figure @ 860 MHz dB Typ.	Package Style	
			Output Level dBmV	2nd Order dB		Composite Triple Beat dB		Cross Modulation dB			
				77 CH	110 CH	77 CH	110 CH	77 CH			110 CH
MHW7185	18	77/110	+44	-62	-56	-65	-56	-68	-65	8.5*	714/1
MHW7205	20	77/110	+44	-60	-55	-64	-55	-67	-64	8.5*	714/1

*Maximum

40/1000 MHz Hybrids, V_{cc}=24 Vdc, Class A
Conventional Hybrids

Mfr.'s Type	Hybrid Gain (Nom.) dB	Channel Loading Capacity	Maximum Distortion Specifications						Noise Figure @ 860 MHz dB	Package Style
			Output Level dBmV	2nd Order Test dB	Cross Modulation dB		Composite Triple Beat dB			
					128 CH	152 CH	128 CH	152 CH			Typ.
MHW9142	14	152	+38	-59*	—	-63	—	-59	8.5**	714/1

*Composite 2nd Order; V_{out}=+38 dBmV/ch. **Maximum.

Case 317/2 — MACRO-X

Mfr.'s Type	Gain-Bandwidth @		NF @ f		Gain @ f		Maximum Ratings		
	f _T Typ. (GHz)	I _C (mA)	Typ. dB	(MHz)	Typ. dB	(MHz)	V _{DS} (V)	I _C (mA)	P _T (mW)
MRF901	4.5	30	2.0	1000	12.0	1000	15	30	375
MRF581	5.0	200	2.0	500	15.5	500	18	200	2500

Case 317D/2

MRF557	—	—	—	—	9.0	870	16	400	3000
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Case 318-07/6 — SOT-23

MMBR901LT1*	4.0	30	1.9	1000	12.0	1000	15	30	296
MMBR5179LT1*	1.4	50	4.5	200	15.0	200	12	50	375

*Tape and reel packaging option suffix T1=3,000 units per reel.

Case 318A/1 — SOT-143

MRF5711LT1*	8.0	-70	1.6	1000	13.5	1000	10	70	333
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*Tape and reel packaging option suffix T1=3,000 units per reel.

RF Monolithic Integrated Circuits

CASE 751
(SO-8)CASE 751B
(SO-16)

To 1.8 GHz

For DECT and JPHP, the MRFIC1801 through MRFIC1804 device series offers complete transmit and receive functions, less Lo and filters, for typical 1.8 GHz cordless telephone. The chip set is also applicable in other 1.9 GHz and 2.4 GHz personal communications systems.

Antenna Switch — SO-8

Mfr.'s Type	Operating Freq. Range (GHz)	Supply Volt. Range (Vdc)	Supply Current TX Mode (μA) Typ.	Leakage Current (μA) Typ.	Insertion Loss TX Mode dB Typ.	P ₁ , 1 dB Compression dBm Typ.	Package Style
MRFIC1801	1.5-2.5	2.7-5.5	300	45	0.6	29	751

Upconverter — SO-16

Mfr.'s Type	RF Output Freq. Range (GHz)	Supply Volt. Range (Vdc)	Supply Current TX Mode (mA) Typ.	Conversion Gain dB Typ.	Recommended IF Input (MHz) Typ.	P _{out} , 1 dB Compression dBm Typ.	Package Style
MRFIC1803	1.7-2.5	2.7-3.3	28	10	70-325	-2	751B

Amplifier and Downmixer — SO-16

Mfr.'s Type	IF Output Freq. Range (MHz)	Supply Volt. Range (Vdc)	Supply Current RX Mode (mA) Typ.	Mixer Conv. Gain dB Typ.	LNA Gain dB Typ.	LNA Noise Fig. dB Typ.	Package Style
MRFIC1804	70-325	2.7-3.3	7	4	14	2.3	751B

To 2.4 GHz

The MRFIC2401 through MRFIC2104 devices were designed for use in the 2.4-2.5 GHz Industrial-Scientific-Medical (ISM) band. This chip set may also be used from 2.0-3.0 GHz applications in telemetry and Multichannel Multipoint Distribution System (MMDS) wireless cable TV systems.

Downconverter — SO-16

Mfr.'s Type	RF Freq. Range (MHz)	IF Freq. Range (MHz)	Supply Volt. Range (Vdc)	Supply Current (mA) Typ.	Conv. Gain dB Typ.	Isolation Lo to RF, Lo to IF dB Typ.	Package Style
MRFIC2401	2400-2500	100-350	4.75-5.25	9.5	21	20	751B

Integrated Power Amplifier — SO-16, Class B

Mfr.'s Type	Freq. Range (MHz)	Supply Volt. Range (Vdc)	Supply Current (mA) Typ.	Small Signal Gain dB Typ.	Power Control Range dB Typ.	P _{out} , 1dB Compression dBm Typ.	Package Style
MRFIC2403	2200-2700	4.75-5.25	95	23	20	19	751B

Integrated Exciter Amplifier — SO-8, Class A

Mfr.'s Type	Freq. Range (MHz)	Supply Volt. Range (Vdc)	Supply Current (mA) Typ.	Small Signal Gain dB Typ.	Noise Figure dB Typ.	P _{out} , 1dB Compression dBm Typ.	Package Style
MRFIC2404	2000-3000	4.75-5.25	9	17	4.3	5	751



MOTOROLA

— NEW —

Tuning, Hot-Carrier and Switching Diodes

Abrupt Junction Tuning Diodes

Motorola supplies voltage-variable capacitance diodes serving the entire range of frequencies from HF through UHF. Used in RF receivers and transmitters, they have a variety of applications.

Two families of devices are available: Abrupt Junction and Hyper Abrupt Junction. The Abrupt Junction family includes devices suitable for virtually all tuned-circuit and narrow-range tuning applications throughout the spectrum.

General Purpose Plastic Abrupt Tuning Diodes

Capacitance Ratio @ 2.0 Volts/30 Volts

Case 182 — TO-226AC (TO-92) — 2-Lead

The following is a listing of plastic package, general-purpose, abrupt tuning diodes. These devices exhibit high Q characteristics.

Mfr.'s Type	Cr @ V _R =4.0 V, 1.0 MHz			V _{RRM} (V)	Cap. Ratio C ₄ /C ₃₀ Min.	Q 4.0 V, 50 MHz Typ.
	(pF) Min.	(pF) Nominal	(pF) Max.			
MV2101	6.1	6.8	7.5	30	2.5	400
MV2104	10.8	12.0	13.2	30	2.5	350
MV2108	24.3	27.0	29.7	30	2.5	250
MV2109	29.7	33.0	36.3	30	2.5	200
MV2111	42.3	47.0	51.7	30	2.5	150
MV2115	90.0	100.0	110.0	30	2.6	100

Abrupt Tuning Diodes for FM Radio — Dual

Case 29-04 — TO-226AA (TO-92)

The following is a listing of abrupt tuning diodes that are available as dual units in a single package.

Mfr.'s Type	Cr @ V _R		Cap Ratio C ₃ /C ₃₀ Min.	Q 3.0 V, 50 MHz Min.	V _{RRM} (V)	Device Marking	Style
	(pF) Min.	(pF) Max. (V)					
MV104	37	42	3.0	2.5	100	—	15

Abrupt Tuning Diodes for FM Radio — Dual

Case 318-07 — TO-236 AB (SOT-23)

MMBV432LT1	43	48.1	2.0	1.5 ¹	100	14	M4B	9
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¹C2/C8. ²Each Diode.

Hot-Carrier (Schottky) Diodes

Hot-Carrier diodes are ideal for VHF and UHF mixer and detector applications as well as many higher frequency applications. They provide stable electrical characteristics by eliminating the point-contact diode presently used in many applications.

Hot-Carrier (Schottky) Diodes

Case 182 — TO-226AC (TO-92)

The following is a listing of hot carrier (Schottky) diodes that exhibit low forward voltage drop for improved circuit efficiency.

Mfr.'s Type	V _{RRM} (V)	Cr @ V _R		V _F @ 10 mA (V) Max.	I _R @ V _R (nA) Max.	Minority Lifetime (ps) Typ.	Device Marking	Style
		(pF) Min.	(pF) Max.					
MBD701	70.0	1.0 @ 20 V	1.0	1.0	200 @ 35.0 V	15	—	1
MBD301	30.0	1.5 @ 15 V	0.6	0.6	200 @ 25.0 V	15	—	1
MBD101	7.0	1.0 @ 0 V	0.6	0.6	250 @ 3.0 V	—	—	1

Case 318-07 — TO-236AB (SOT-23)

MMBD701LT1	70.0	1.0 @ 20 V	1.0	1.0	200 @ 35.0 V	15	5H	8
MMBD301LT1	30.0	1.5 @ 15 V	0.6	0.6	200 @ 25.0 V	15	4T	8
MMBD101LT1	7.0	1.0 @ 0 V	0.6	0.6	250 @ 3.0 V	—	4M	8
MMBD352LT1 ¹	7.0	1.0 @ 0 V	0.6	0.6	250 @ 3.0 V	—	M5G	11
MMBD354LT1 ¹	7.0	1.0 @ 0 V	0.6	0.6	250 @ 3.0 V	—	M6H	9

¹Dual diodes.

Switching Diodes

Small-signal switching diodes are intended for low current switching and steering applications. Hot-Carrier, PIN and general-purpose diodes allow a wide selection for specific application requirements.

PIN Switching Diodes

Case 182 — TO-226AC (TO-92)

The following PIN diodes are designed for VHF band switching and general-purpose low current switching applications.

Mfr.'s Type	V _{RRM} (V) Min.	Cr @ V _R @ 1.0 MHz		I _R @ V _R (nA) Max.	Series Resistance (Ω) Max.	Device Marking	Style
		(pF) Max.	(V)				
MPN3700	200	1.0	20	0.1 @ 150	1.00 @ 10 mA	—	1
MPN3404	20	2.0	15	0.1 @ 25 V	0.85 @ 10 mA	—	1

Hyper Abrupt Junction Tuning Diodes

CASE 51-02
DO-204AA
(DO-7)

CASE 182
TO-226AC
(TO-92)

CASE 318-07
TO-236AB
SOT-23

CASE 318E
SOT-223

STYLE 1

STYLE 1

STYLE 8

STYLE 2

Tuning Diodes — Hyper-Abrupt Junction

The Hyper-Abrupt family exhibits higher capacitance, and a much larger capacitance ratio. It is particularly well suited for wider-range application such as AM/FM radio and TV tuning.

Hyper-Abrupt Tuning Diodes For Telecommunications — Single

Case 182 — TO-226AC (TO-92)

The following is a listing of hyper-abrupt tuning diodes intended for high frequency, FM radio, and TV tuner applications.

Mfr.'s Type	Cr @ V _R (f=1.0 MHz)			Cap. Ratio @ V _R		Q		V _{RRM} (V)	Device Marking	Case Style
	(pF) Min.	(pF) Max.	(V)	Min.	Max.	3.0 V Min.	50 MHz Max.			
MV209	26.0	32.0	3.0	5.0	6.5	3/25	200	—	—	1

Hyper-Abrupt Tuning Diodes For Telecommunications — Single

Case 318-07 — TO-236AB (SOT-23)

MMBV105GLT1	1.8	2.8	25.0	4.0	6.0	3/25	200	—	30	M4E	8
MMBV109LT1	26.0	32.0	3.0	5.0	6.5	3/25	200	—	30	M4A	8
MMBV409LT1	26.0	32.0	3.0	1.5	2.0	3/8	200	—	20	X5	8
MMBV3102LT1	20.0	25.0	3.0	4.5	—	3/25	200	—	30	M4C	8

Hyper-Abrupt Tuning Diodes For Communications — Dual

Case 318-07 — TO-236AB (SOT-23)

MMBV609LT1	26.0	32.0	3.0	1.8	2.4	3/8	250	—	20	5L	9
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Hyper-Abrupt Tuning Diodes For Low Frequency Applications — Single

Case 182 — TO-226AC (TO-92)

The following is a listing of AM, hyper-abrupt tuning diodes that have a large capacity range and redesigned for low frequency circuit applications.

Mfr.'s Type	Cr @ 1.0 MHz			Cap. Ratio @ V _R		V _{RRM} (V)	Style
	(pF) Min.	(pF) Max.	(V)	Min.	(V)		
MVAM108	440	560	1.0	15	1.0/8.0	12	1
MVAM109	400	520	1.0	12	1.0/9.0	15	1
MVAM115	440	560	1.0	15	1.0/15.0	18	1
MVAM125	440	560	1.0	15	1.0/25.0	28	1

Hyper-Abrupt High Capacitance Voltage Variable Diode — Surface Mount

Pinout: 1 — Anode, 2, 4 — Cathode, 3 — NC, (Case 318E — SOT-223)

The following are high capacitance voltage variable diodes intended for low frequency applications and circuits requiring large tuning capacitance.

Mfr.'s Type	V _{RRM} (V)	I _R nA	Cr @ f=1.0 MHz		Cap. Ratio Min.	Q Min.	Style
			(pF) Min.	(pF) Max.			
MV7005T1	15	100	400	520	12 ¹	150 ²	2
MV7404T1	12	100	96	144	10 ²	200 ²	2

¹V_R=1.0 V/V_R=9.0 V. ²V_R=2.0 V/V_R=10 V. ³V_R=1.0 V, f=1.0 MHz. ⁴V_R=2.0 V, f=1.0 MHz.

Switching Diodes (Continued)

PIN Switching Diodes

Case 318-07 — TO-236AB (SOT-23)

Mfr.'s Type	V _{BR} (V) Min.	C _T @ V _R @ 1.0 MHz		IR @ V _R (nA) Max.	Series Resistance (Ω) Max.	Device Marking	Style
		(pF) Max.	(V)				
MMBV3401LT1	35	1.0	20	0.1 @ 25 V	0.7 @ 10 mA	4D	8

General-Purpose Signal and Switching Diodes — Dual

Case 318-07 — TO-236AB (SOT-23)

The Following is a listing of small-signal switching diodes in surface mount packages. These diodes are intended for low current switching and signal steering applications.

Mfr.'s Type	Marking	V _{BR}		I _R		V _F		C _T Max. (pF)	I _n Max. (ns)	Case Style
		@ I _R (μA)	Min. (V)	Max. (μA)	@ V _R (V)	Min. (V)	Max. (V)			
MMBD7000LT1	M5C	100	100	0.300	50.0	0.75	1.1	100	1.5	11
BAV70LT1	A4	70	100	5.000	70.0	0.75	1.0	50	4	9

V_R=0 V, f=1.0 MHz.

Switching Diodes

Multiple Switching Diodes

Multiple diode configurations utilize monolithic structures fabricated by the planar process. They are designed to satisfy fast switching requirements as in core driver and encoding/decoding applications where their monolithic configurations offer lower cost, higher reliability and space savings.

Diode Arrays

Case 646 — TO-116

Mfr.'s Type	Function	Pin Connections Diagram Number
MAD130P	Dual 10 Diode Array	1
MAD1103P	16 Diode Array	3
MAD1107P	Dual 8 Diode Array	6
MAD1109P	7 Isolated Diode Array	8

Diode Arrays

Case 648-08

MAD1108P	8 Isolated Diode Array	7
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Diode Arrays

Case 751A-SO-14

MMAD1103	16 Diode Array	3
MMAD1109	7 Isolated Diode Array	8

Diode Arrays

Case 751B-SO-16

MMAD1108	8 Isolated Diode Array	7
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Zener Diodes

Voltage Regulator Diodes

Axial Leaded for Through-Hole Designs (Cathode=Polarity Band)

Mfr.'s Type	DO-204AH*			Nominal Zener Breakdown Voltage (V) [†]
	500 mW [‡]	500 mW Low Level [‡]	500 mW [‡]	
—	1N4678	—	—	1.8
—	1N4679	—	—	2.0
1N4370A	—	1N5221B	—	2.4
1N4371A	1N4682	1N5223B	—	2.7
1N4372A	1N4683	—	—	3.0
1N746A	—	1N5226B	1N4728A	3.3
1N747A	—	1N5227B	—	3.6
1N748A	1N4686	1N5228B	1N4730A	3.9
1N749A	1N4687	1N5229B	1N4731A	4.3
1N750A	1N4688	1N5230B	1N4732A	4.7
1N751A	1N4689	1N5231B	1N4733A	5.1
1N752A	1N4690	1N5232B	1N4734A	5.6
—	—	1N5233B	—	6.0
1N753A	1N4691	1N5234B	1N4735A	6.2
1N754A	1N4692	1N5235B	1N4736A	6.8
1N755A	1N4693	1N5236B	1N4737A	7.5
1N958B	—	—	—	7.5
1N756A	—	1N5237B	1N4738A	8.2
1N959B	—	—	—	8.2
1N757A	—	1N5239B	1N4739A	9.1
1N960B	—	—	—	9.1
1N758A	1N4697	1N5240B	1N4740A	10.0
1N961B	—	—	—	10.0
1N962B	—	—	1N4741A	11.0
1N759A	—	1N5242B	1N4742A	12.0
1N963B	—	—	—	12.0

General-Purpose Signal and Switching Diodes — Dual (Continued)

Case 318-07 — TO-236AB (SOT-23)

Mfr.'s Type	Marking	V _{BR}		I _R		V _F		C _T Max. (pF)	I _n Max. (ns)	Case Style
		@ I _R (μA)	Min. (V)	Max. (μA)	@ V _R (V)	Min. (V)	Max. (V)			
BAV99LT1	A7	70	100	2.500	70	—	1.0	50	1.5	11
BAW56LT1	A1	70	100	2.500	70	—	1.0	50	2.0	12
BAV170LT1	JX	70	100	0.005	70	—	1.0	10	2.0	9
BAV199LT1	JY	70	100	0.005	70	—	1.0	10	2.0	11
BAW156LT1	JZ	70	100	0.005	70	—	1.0	10	2.0	12

Low-Leakage Medium Speed Switching Diodes — Single

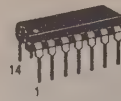
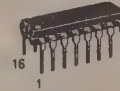
Case 318-07 — TO-236AB (SOT-23)

BAS116LT1	JV	75	100	0.005	75	—	1.0	10	2.0	3000	8
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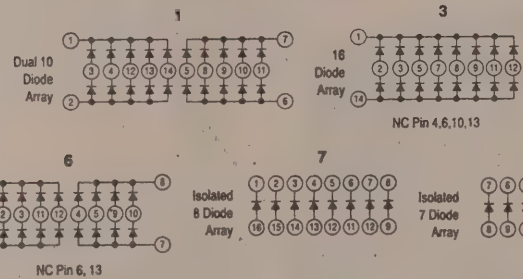
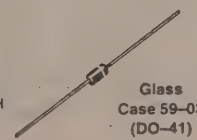
Low-Leakage Medium Speed Switching Diodes — Single

Case 318-07 — TO-236AB (SOT-23)

BAV170LT1	JX	70	100	0.005	70	—	1.0	10	2.0	3000	9
BAV199LT1	JY	70	100	0.005	70	—	1.0	10	2.0	3000	11
BAW156LT1	JZ	70	100	0.005	70	—	1.0	10	2.0	3000	12

V_R=0 V, f=1.0 MHz.CASE 646
PIN DIP
PLASTICCASE 648
PIN DIP
PLASTICCASE 751A
SO-14
PLASTICCASE 751B
SO-16
PLASTIC

Diode Array Diagrams

Glass
Case 299
DO-204AH
(DO-35)Glass
Case 59-03
(DO-41)Plastic
Surmetic 40
Case 17

Mfr.'s Type					Nominal Zener Breakdown Voltage (V) [†]
DO-204AH*			(DO-41)**	Case 17†	
500 mW [‡]	500 mW Low Level [‡]	500 mW [‡]	1 Watt [§]	5 Watts [§]	
—	—	—	1N4743A	1N5350B	13.0
—	—	—	—	1N5351B	14.0
1N965B	—	1N5245B	1N4744A	1N5352B	15.0
—	—	1N5246B	1N4745A	1N5353B	16.0
—	—	—	—	1N5354B	17.0
1N967B	—	1N5248B	1N4746A	1N5355B	18.0
1N968B	—	1N5250B	1N4747A	1N5357B	20.0
—	—	—	1N4748A	1N5358B	22.0
—	—	1N5252B	1N4749A	1N5359B	24.0
—	—	—	—	1N5360B	25.0
—	—	1N5254B	1N4750A	1N5361B	27.0

[†]Zener Voltage is the key parameter for each device type. It is specified at a particular test current applied at either thermal equilibrium (T.E.) or pulse test condition. The voltage tolerance for the device types listed is, in general, $\pm 5\%$; however, for some series, the voltage tolerance varies from device type to device type over a range of $\pm (5$ to $8.5)\%$. Consult the complete data sheet to determine the exact test conditions and minimum/maximum limits for the zener voltage. Consult Application Note AN924 regarding measurement of Zener Voltage (pulse versus thermal equilibrium). Power Ratings represent the capability of the case size listed as supplied by Motorola. These ratings may be higher than the JEDEC registration and/or the same device types supplied by other manufacturers. **V_Z Test Conditions and Tolerances.** *1N4370A/1N468A Series: I_{ZT}=20 mA (T.E.) — A suffix= $\pm 5\%$; C suffix= $\pm 2\%$; D suffix= $\pm 1\%$. 1N957B Series: I_{ZT}=50 μ A (T.E.) — No suffix= $\pm 5\%$; C suffix= $\pm 2\%$; D suffix= $\pm 1\%$. Also has delta V_Z parameter and limit. *1N5221B-42B, 1N5243B-81B: I_{ZT}=20 mA (T.E.), I_{ZT} @ approximately 125 mW point (T.E.) — B suffix= $\pm 5\%$; C suffix= $\pm 2\%$; D suffix= $\pm 1\%$. *1N4728A-64A: I_{ZT} @ approximately 250 mW point (T.E.) — A suffix= $\pm 5\%$; C suffix= $\pm 2\%$; D suffix= $\pm 1\%$. *1N5333B-88B: I_{ZT} varies from 0.9 to 1.5 W point depending on type number (pulse) — B suffix= $\pm 5\%$; Also has delta V_Z parameter and limit. *Glass Case 299 — (DO-35). **Glass Case 59-03. †Plastic Surmetic 40.

Zener Diodes (Continued)
Voltage Regulator Diodes (Continued)

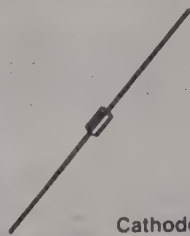
Axial Leaded for Through-Hole Designs (Cathode=Polarity Band)

Mr.'s Type					Nominal Zener Breakdown Voltage (V) ¹
DO-204AH*		(DO-41)**		Case 17†	
500 mW ²	500 mW Low Level ³	500 mW ⁴	1 Watt ⁵	1 Watts ⁶	
—	—	1N5255B	—	1N5362B	28
—	—	—	1N4751A	1N5363B	30
—	—	1N5257B	1N4752A	1N5364B	33
—	—	1N5258B	1N4753A	1N5365B	36
—	—	—	1N4754A	1N5366B	39
—	—	—	—	1N5367B	43
—	—	—	—	1N5368B	47
—	—	—	—	1N5369B	51
—	—	—	1N4758A	1N5370B	56
—	—	—	—	1N5371B	60
—	—	—	—	1N5372B	62
—	—	—	—	—	68
—	—	1N5267B	1N4760A	1N5374B	75
—	—	—	1N4761A	1N5375B	82
—	—	—	—	1N5377B	91
—	—	1N5271B	—	1N5378B	100
—	—	—	—	1N5380B	120
—	—	—	—	—	130
—	—	1N5274B	—	1N5383B	150
—	—	1N5276B	—	1N5386B	180
—	—	1N5279B	—	1N5388B	200
—	—	1N5281B	—	—	200

¹Zener Voltage is the key parameter for each device type. It is specified at a particular test current applied at either thermal equilibrium (T.E.) or pulse test condition. The voltage tolerance for the device types listed is, in general, $\pm 5\%$; however, for some series, the voltage tolerance varies from device type to device type over a range of $\pm (5$ to $8.5)\%$. Consult the complete data sheet to determine the exact test conditions and minimum/maximum limits for the zener voltage. Consult Application Note AN924 regarding measurement of Zener Voltage (pulse versus thermal equilibrium). Power Ratings represent the capability of the case size listed as supplied by Motorola. These ratings may be higher than the JEDEC registration and/or the same device types supplied by other manufacturers. **Vz Test Conditions and Tolerances.** *1N4370A/1N746A Series: Izt=20 mA (T.E.) — A suffix $\pm 5\%$; C suffix $\pm 2\%$; D suffix $\pm 1\%$. 1N957B Series: Izt @ approximately 125 mW point (T.E.) — B suffix $\pm 5\%$; C suffix $\pm 2\%$; D suffix $\pm 1\%$. *1N4678 Series: Izt=50 μ A (T.E.) — No suffix $\pm 5\%$; C suffix $\pm 2\%$; D suffix $\pm 1\%$. Also has delta Vz parameter and limit. *1N5221B-42B, 1N5243B-81B: Izt=20 mA (T.E.), Izt @ approximately 125 mW point (T.E.) — B suffix $\pm 5\%$; C suffix $\pm 2\%$; D suffix $\pm 1\%$. *1N4728A-64A: Izt @ approximately 250 mW point (T.E.) — A suffix $\pm 5\%$; C suffix $\pm 2\%$; D suffix $\pm 1\%$. *1N5333B-88B: Izt varies from 0.9 to 1.5 W point depending on type number (pulse) — B suffix $\pm 5\%$; Also has delta Vz parameter and limit. *Glass Case 299 — (DO-35). **Glass Case 59-03. †Plastic Surface Mount 40.

Voltage Reference Diodes
Temperature Compensated Reference Diodes

For applications where output voltage must remain within narrow limits during changes in input voltage, load resistance and temperature, Motorola guarantees all reference devices to fall within the specified maximum voltage variations, ΔV_z , at the specifically indicated test temperatures and test current (JEDEC Standard #5). Temperature coefficient is also specified but should be considered as a reference only — not a maximum rating. Devices in this table are hermetically sealed structures.



Glass
CASE 299
DO-204AH
(DO-35)

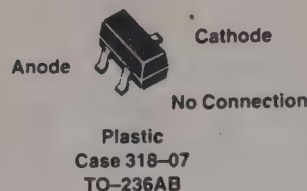
Cathode = Polarity Band

Average Temperature Coefficient Over the Operating Range										Vz (V)	Test Current mAdc	Test Temp. Points
0.01%/°C	0.005%/°C	0.002%/°C	0.001%/°C	0.001%/°C	0.001%/°C	0.001%/°C	0.001%/°C	0.001%/°C	0.001%/°C			
Mr.'s Type	ΔV_z Max. (V)	Mr.'s Type	ΔV_z Max. (V)	Mr.'s Type	ΔV_z Max. (V)	Mr.'s Type	ΔV_z Max. (V)	Mr.'s Type	ΔV_z Max. (V)			
1N821	0.096	1N823	0.048	1N825	0.019	1N827	0.009	—	—	6.2 ¹	7.5	A
1N821A	0.096	1N823A	0.048	1N825A	0.019	1N827A	0.009	1N829A	0.005	6.2 ¹	7.5	A

¹Non-suffix — Zzt=15 Ohms, "A" suffix — Zzt=10 Ohms. ²Test Temperature Points C: A=55, 0, +25, +75, +100.

Current Regulator Diodes
Electrical Characteristics (Ta=25°C unless otherwise noted)

High impedance diodes whose "constant current source" characteristic complements the "constant voltage" of the zener line. Currents are available for 0.22 to 4.7 mA, with usable voltage range for a minimum limit of 1.0 to 2.5 Volts, up to a voltage compliance of 100 Volts, for the 1N5283 series.

Surface Mount Zener Diodes


Plastic
Case 425, Style 1

Mr.'s Type				Nominal Zener Breakdown Voltage (V) ¹
Case 318-07*	Case 425**		Case 403A†	
225 mW SOT-23 ³	500 mW Low Level SOD-123 ³	500 mW SOD-123 ³	3 Watt SMB ³	
—	MMSZ4678T1	—	—	1.8
—	MMSZ4679T1	—	—	2.0
—	MMSZ4681T1	MMSZ5221B1	—	2.4
—	—	MMSZ5222B1	—	2.5
—	—	MMSZ5223B1	—	2.7
MMBZ5226BLT1	MMSZ4684T1	—	1SMB5913BT3	3.3
MMBZ5228BLT1	MMSZ4686T1	—	1SMB5915BT3	3.9
MMBZ5229BLT1	—	—	—	4.3
MMBZ5230BLT1	MMSZ4688T1	MMSZ5230B1	—	4.7
MMBZ5231BLT1	MMSZ4689T1	MMSZ5231B1	1SMB5918BT3	5.1
MMBZ5232BLT1	MMSZ4690T1	MMSZ5232B1	1SMB5919BT3	5.6
MMBZ5233BLT1	—	MMSZ5233B1	—	6.0
MMBZ5234BLT1	MMSZ4691T1	MMSZ5234B1	1SMB5920BT3	6.2
MMBZ5235BLT1	MMSZ4692T1	MMSZ5235B1	1SMB5921BT3	6.8
MMBZ5236BLT1	—	—	—	7.5
MMBZ5237BLT1	MMSZ4694T1	—	—	8.2
MMBZ5239BLT1	—	—	—	9.1
MMBZ5240BLT1	—	MMSZ5240B1	1SMB5925BT3	10.0
—	—	MMSZ5241B1	—	11.0
MMBZ5242BLT1	MMSZ4699T1	MMSZ5242B1	1SMB5927BT3	12.0
MMBZ5243BLT1	—	MMSZ5243B1	1SMB5928BT3	13.0
—	MMSZ4701T1	—	—	14.0
MMBZ5245BLT1	—	—	1SMB5929BT3	15.0
MMBZ5246BLT1	—	MMSZ5246B1	1SMB5930BT3	16.0
—	—	MMSZ5247B1	—	17.0
MMBZ5248BLT1	—	MMSZ5248B1	—	18.0
—	—	MMSZ5250B1	1SMB5932BT3	20.0
—	—	—	1SMB5933BT3	22.0
—	—	—	1SMB5934BT3	24.0
MMBZ5254BLT1	—	—	1SMB5935BT3	27.0
—	—	—	1SMB5936BT3	30.0
—	—	MMSZ5257B1	—	33.0
—	—	MMSZ5261B1	—	47.0
—	—	MMSZ5262B1	—	51.0
—	—	MMSZ5264B1	—	60.0
—	—	MMSZ5265B1	—	62.0

¹Zener Voltage is the key parameter for each device type. It is specified at a particular test current applied at either thermal equilibrium (T.E.) or pulse test condition. The voltage tolerance for the device types listed is, in general, $\pm 5\%$; however, for some series, the voltage tolerance varies from device type to device type over a range of $\pm (5$ to $8.5)\%$. Consult the complete data sheet to determine the exact test conditions and minimum/maximum limits for the zener voltage. Power Ratings represent the capability of the case size listed as supplied by Motorola. These ratings may be higher than the same device types supplied by other manufacturers. **Vz Test Conditions and Tolerances.** *MMBZ5221BL-42BLT1, MMBZ5243L-70BLT1: Izt=20 mA, Izt @ approximately 125 mW point (pulse) — BL suffix $\pm 5\%$. *MMSZ4678T1 Series: Izt=50 μ A (T.E.) — No suffix $\pm 5\%$. *MMSZ5221B-42B1, MMSZ5234B-63B1: Izt=20 mA (T.E.), Izt @ approximately 125 mW point (T.E.) — A suffix $\pm 10\%$; B suffix $\pm 5\%$. *1SMB5913BT3 Series: Izt @ approximately 375 mW point (T.E.) — BT3 suffix $\pm 5\%$; T3 suffix designates tape and reel of 2500 units. *Plastic — TO-236AB. **Plastic — Style 1. †Plastic Cathode-Notch. Note: T1 suffix indicates 3000 pieces tape and reel. T3 suffix indicates 2500 piece tape and reel.



CASE 51-02
DO-204AA - GLASS
(DO-7)

Mr.'s Type	Regulator Current I _r (mA) @ V _i =25 V			Minimum Dynamic Impedance @ V _i =25 V Z _t (M Ω)	Minimum Knee Impedance @ V _k =6.0 V Z _k (M Ω)	Maximum Limiting Voltage @ I _k =0.8 I _r (Min.) V _i (V)
	Nom.	Min.	Max.			
1N5283	0.22	0.198	0.242	25.00	2.750	1.00
1N5287	0.33	0.297	0.363	6.600	1.350	1.00
1N5294	0.75	0.675	0.825	1.150	0.335	1.20
1N5298	1.10	0.990	1.210	0.700	0.180	1.40
1N5302	1.50	1.350	1.650	0.510	0.105	1.60
1N5303	1.60	1.440	1.760	0.475	0.092	1.65
1N5304	1.80	1.620	1.980	0.420	0.074	1.75
1N5305	2.00	1.800	2.200	0.395	0.061	1.85
1N5306	2.20	1.980	2.420	0.370	0.052	1.95
1N5307	2.40	2.160	2.640	0.345	0.044	2.00
1N5309	3.00	2.700	3.300	0.300	0.029	2.25
1N5310	3.30	2.970	3.630	0.280	0.024	2.35
1N5313	4.30	3.870	4.730	0.245	0.014	2.75
1N5314	4.70	4.230	5.170	0.235	0.012	2.90



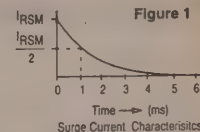
TVS (Transient Voltage Suppressors)

Transient Voltage Suppressors are designed for applications requiring protection of voltage sensitive electronic devices in danger of destruction by high energy voltage transients. The purpose of this section is to present the families of Motorola Zeners that are specified with the key transient voltage suppressor parameters and limits, e.g., maximum clamping voltage at maximum surge current rating and working peak reverse (stand-off) voltage.

Axial Leaded for Through-Hole Designs

Peak Power Dissipation* (500 Watts @ 1 ms Surge — Figure 1) Case 59-04 — Mini Mosorb

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted) $V_R = 3.5\text{ V Max.}$, $I_R = 35\text{ A Pulse}$ (except bidirectional devices)



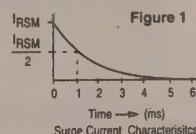
Mr.'s Type	Working Peak Reverse Voltage V_{RWM} (V)	Breakdown Voltage		@ I_R Pulse (mA)	Maximum Reverse Leakage @ V_{RWM} I_R (μA)	Maximum Reverse Surge Current I_{RSM} Figure 1 (A)	Maximum Reverse Voltage @ I_{RSM} (Clamping Voltage) V_{RSM} (V)
		Min.	Max.				
Unidirectional	Bidirectional**						
SA5.0A	—	5	6.40	10	600	54.3	9.2
SA6.0A	—	6	6.67	10	600	48.5	10.3
SA12A	SA12CA	12	13.30	1	1	25.1	19.9
SA13A	SA13CA	13	14.40	1	1	23.2	21.5
SA15A	SA15CA	15	16.70	1	1	20.6	24.4
SA20A	SA20CA	20	22.20	1	1	15.4	32.4
—	SA30CA	30	33.30	1	1	9.4	53.3
—	SA36CA	36	40.00	1	1	8.6	58.1
—	SA45CA	45	50.00	1	1	4.9	72.7
—	SA64CA	64	71.10	1	1	3.6	103.0
SA85A	SA85CA	85	94.40	1	1	3.4	137.0
SA90A	SA90CA	90	100.00	1	1	3.4	146.0

*Steady state power dissipation = 3 watt maximum rating. **For bidirectional devices use CA suffix. These devices have the cathode polarity band on each end.

Peak Power Dissipation* (600 Watts @ 1 ms Surge — Figure 1)

Case 17 — Surmetic 40

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted) $V_R = 3.5\text{ V Max.}$, $I_R = 50\text{ A Pulse}$ (except bidirectional devices).



Mr.'s Type††		Working Peak Reverse Voltage V _{RWM} (V)	Breakdown Voltage†		Maximum Reverse Leakage @ V _{RWM} I _R (pA)	Maximum Reverse Surge Current I _{RSM} Figure 1 (A)	Maximum Reverse Voltage @ I _{RSM} (Clamping Voltage) V _{RSM} (V)
			V _{BR} (V)	@ I _R Pulse (mA)			
			Nom.				
Unidirectional	Bidirectional**						
P6KE6.8A	P6KE6.8CA	5.80	6.8	10	1000	57.0	10.5
P6KE7.5A	P6KE7.5CA	6.40	7.5	10	500	53.0	11.3
P6KE9.1A	—	7.78	9.1	1	50	45.0	13.4
P6KE11A	P6KE11CA	9.40	11.0	1	5	38.0	15.6
—	P6KE13CA	11.10	13.0	1	5	33.0	18.2

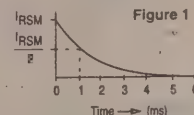
Mr.'s Type††		Working Peak Reverse Voltage V_{RWM} (V)	Breakdown Voltage†		Maximum Reverse Leakage @ V_{RWM} I_R (μ A)	Maximum Reverse Surge Current I_{RSM} Figure 1 (A)	Maximum Reverse Voltage @ I_{RSM} (Clamping Voltage) V_{RSM} (V)
			V_{BR} (V)	@ I_R Pulse (mA)			
			Nom.				
Unidirectional	Bidirectional**						
P6KE15A	P6KE15CA	12.80	15.0	1	5	28.0	21.2
—	P6KE16CA	13.60	16.0	1	5	27.0	22.5
P6KE18A	P6KE18CA	15.30	18.0	1	5	24.0	25.2
P6KE20A	P6KE20CA	17.10	20.0	1	5	22.0	27.7
P6KE24A	—	20.50	24.0	1	5	18.0	33.2
P6KE30A	—	25.60	30.0	1	5	14.4	41.4
P6KE33A	P6KE33CA	28.20	33.0	1	5	13.2	45.7
P6KE36A	P6KE36CA	30.80	36.0	1	5	12.0	49.9
P6KE39A	P6KE39CA	33.30	39.0	1	5	11.2	53.9
P6KE43A	P6KE43CA	36.80	43.0	1	5	10.1	59.3
P6KE110A	P6KE110CA	94.00	110.0	1	5	4.0	152.0

*Steady state power dissipation=5 watt maximum rating. **For bidirectional devices use CA suffix. These devices have the cathode polarity band on each end. †Breakdown voltage tolerance is $\pm 5\%$ for A suffix. ††UL recognition for classification of protectors (QVG2) under UL standard for safety 497B and file #E116110 for entire series including CA suffixes.

Peak Power Dissipation* (1500 Watts @ 1 ms Surge — Figure 1)

Case 41A — Mosorb

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted) $V_R = 3.5\text{ V Max.}$, $I_R = 100\text{ A Pulse}$ (except bidirectional devices).



Mr.'s Type††			Working Peak Reverse Voltage V _{RWM} (V)	Breakdown Voltage†		Maximum Reverse Leakage @ V _{RWM} I _R (µA)	Maximum Reverse Surge Current I _{RSM} Figure 1 (A)	Maximum Reverse Voltage @ I _{RSM} (Clamping Voltage) V _{RSM} (V)
				V _{BR} (V)	@ I _R Pulse (mA)			
				Nom.				
JEDEC	Unidirectional	Bidirectional**						
1N6267A	1.5KE6.8A	1.5KE6.8CA	5.80	6.8	10	1000	143.0	10.5
1N6268A	1.5KE7.5A	1.5KE7.5CA	6.40	7.5	10	500	132.0	11.3
—	1.5KE8.2A	1.5KE8.2CA	7.02	8.2	10	200	124.0	12.1
1N6270A	—	—	7.78	9.1	1	50	112.0	13.4
1N6271A	1.5KE10A	1.5KE10CA	8.55	10.0	1	10	103.0	14.5
—	1.5KE11A	1.5KE11CA	9.40	11.0	1	5	96.0	15.6
1N6273A	—	1.5KE12CA	10.20	12.0	1	5	90.0	16.7
1N6274A	—	1.5KE13CA	11.10	13.0	1	5	82.0	18.2
1N6275A	1.5KE15A	1.5KE15CA	12.80	15.0	1	5	71.0	21.2
1N6276A	1.5KE16A	—	13.60	16.0	1	5	67.0	22.5
1N6277A	1.5KE18A	1.5KE18CA	15.30	18.0	1	5	59.5	25.2
1N6278A	1.5KE20A	1.5KE20CA	17.10	20.0	1	5	54.0	27.7
—	1.5KE22A	1.5KE22CA	18.80	22.0	1	5	49.0	30.6
1N6280A	1.5KE24A	1.5KE24CA	20.50	24.0	1	5	45.0	33.2
1N6281A	—	—	23.10	27.0	1	5	40.0	37.5
1N6282A	1.5KE30A	—	25.60	30.0	1	5	36.0	41.4
1N6283A	1.5KE33A	—	28.20	33.0	1	5	33.0	45.7
1N6284A	1.5KE36A	1.5KE36CA	30.80	36.0	1	5	30.0	49.9
1N6285A	1.5KE39A	—	33.30	39.0	1	5	28.0	53.9
1N6286A	1.5KE43A	1.5KE43CA	36.80	43.0	1	5	25.3	59.3
1N6287A	—	1.5KE47CA	40.20	47.0	1	5	23.2	64.8
1N6288A	—	1.5KE51CA	43.60	51.0	1	5	21.4	70.1
1N6289A	—	—	47.80	56.0	1	5	19.5	77.0
1N6290A	1.5KE62A	1.5KE62CA	53.00	62.0	1	5	17.7	85.0
1N6291A	—	—	58.10	68.0	1	5	16.3	92.0
—	1.5KE75A	1.5KE75CA	64.10	75.0	1	5	14.6	103.0
1N6293A	—	1.5KE82CA	70.10	82.0	1	5	13.3	113.0
1N6294A	—	1.5KE91CA	77.80	91.0	1	5	12.0	125.0
1N9295A	—	—	85.50	100.0	1	5	11.0	137.0
1N6296A	—	—	94.00	110.0	1	5	9.9	152.0
1N6297A	—	—	102.00	120.0	1	5	9.1	165.0
—	1.5KE130A	1.5KE130CA	111.00	130.0	1	5	8.4	179.0
1N6299A	1.5KE150A	1.5KE150CA	128.00	150.0	1	5	7.2	207.0
1N6301A	1.5KE170A	1.5KE170CA	145.00	170.0	1	5	6.4	234.0
1N6302A	—	—	154.00	180.0	1	5	6.1	246.0
1N6303A	1.5KE200A	—	171.00	200.0	1	5	4.5	274.0
—	1.5KE220A	1.5KE220CA	185.00	220.0	1	5	4.6	328.0
—	1.5KE250A	—	214.00	250.0	1	5	5.0	344.0

*Steady state power dissipation=5 watts maximum rating. **For bidirectional devices use CA suffix. These devices have the cathode polarity band on each end. †Breakdown voltage tolerance is $\pm 5\%$ for A suffix. ††UL recognition for classification of protectors (QVG2) under the UL standard for safety 497B file #E116110 for 1.5KE6.8A,CA thru 1.5KE250A,CA.

**MOTOROLA**

— NEW —

Transient Voltage Suppressors and Surface Mount Packages**TVS (Transient Voltage Suppressors) (Continued)****Surface Mount**

Peak Power Dissipation (40 Watts @ 1 ms Surge — Figure 1) Case 318-07 — Common Cathode
SOT-23 Dual Monolithic Common Cathode Bipolar Zener (For ESD Protection)

Electrical Characteristics (T_a=25°C unless otherwise noted). Bidirectional (Circuit tied to pins 1 and 2).

Mfr.'s Type	Breakdown Voltage			Working Peak Reverse Voltage V _{RWM} (V)	Max. Reverse Leakage Current I _{RRM} (nA)	Max. Reverse Surge Current I _{RSM} (A)	Max. Reverse Voltage @ I _{RMS} (Clamping Voltage) V _{RSM} (V)	Max. Temperature Coefficient of V _{BR} (mV/°C)
	V _{BR} ¹ (V)							
	Min.	Nom.	Max.					
MMBZ15VDT1 ¹	14.3	15	15.8	1.0	12.8	100	1.9	21.2

¹T1 Suffix designates tap and reel of 300 unit. ²V_{BR} measured at pulse test current I_r at an ambient temperature of 25°C.

Peak Power Dissipation (24 Watts @ 1 ms Surge — Figure 1) Case 318-07 — Common Anode
SOT-23 Dual Monolithic Common Cathode Anode Zener (For ESD Protection)

Electrical Characteristics (T_a=25°C unless otherwise noted). Unidirectional (Circuit tied to pins 1 and 3 or Pins 2 and 3) (V_F=0.9 V Max. @ I_F=10 mA).

Mfr.'s Type	Breakdown Voltage			@ I _r (mA)	Max. Reverse Leakage Current I _r (μA) @ V _r (V)	Max. Zener Impedance ²			Max. Reverse Surge Current I _{RSM} ³ (A)	Max. Reverse Voltage @ I _{RSM} (Clamping Voltage) V _{RSM} (V)	Max. Temperature Coefficient of V _{BR} (mV/°C)	
	V _{BR} ¹ (V)					Z _{ZK} @ I _{ZK} (mA)		Z _{ZT} @ I _{ZT} (mA)				
	Min.	Nom.	Max.									
MMBZ5V6ALT1 ^{1,2}	5.32	5.6	5.88	20	5.0	3.0	11	1600	0.25	3.0	8.0	1.26

¹T1 Suffix designates tap and reel of 300 unit. ²V_{BR} measured at pulse test current I_r at an ambient temperature of 25°C. ³Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the AC current supplied. The specified limits are I_{ZK}(AC)=1.1 I_{ZK}(DC), with AC frequency=1 KHz. ⁴

1SMB Series, Surface Mount TVSs

Peak Power Dissipation (600 Watts @ 1 ms Surge) Case 403A

T3 suffix indicates 2500 pieces on Tape and Reel.



Plastic
Case 403A
Cathode = Notch

Mfr.'s Type	Working Peak Reverse Voltage V _{RWM} (V)	Breakdown Voltage [*]		Maximum Reverse Leakage @ V _{RWM} I _r (μA)	Maximum Reverse Surge Current I _{RSM} I _r (μA)	Maximum Reverse Voltage @ I _{RSM} (Clamping Voltage) V _{RSM} (V)
		V _{BR} (V)	@ I _r Pulse (mA)			
Unidirectional		Min.				
1SMB5.0AT3	5	6.40	10	800	65.2	9.2
1SMB6.0AT3	6	6.67	10	800	58.3	10.3
1SMB7.0AT3	7	7.78	10	200	50.0	12.0
1SMB10AT3	10	11.10	1	5	35.3	17.0
1SMB12AT3	12	13.30	1	5	30.2	19.9
1SMB13AT3	13	14.40	1	5	27.9	21.5
1SMB15AT3	15	16.70	1	5	24.0	24.4
1SMB17AT3	17	18.90	1	5	21.7	27.6
1SMB18AT3	18	20.00	1	5	20.5	29.2
1SMB20AT3	20	22.20	1	5	18.5	32.4
1SMB22AT3	22	24.40	1	5	16.9	35.5
1SMB26AT3	26	28.90	1	5	14.2	42.1
1SMB28AT3	28	31.10	1	5	13.2	45.4
1SMB30AT3	30	33.30	1	5	12.4	48.4
1SMB33AT3	33	36.70	1	5	11.3	53.3
1SMB36AT3	36	40.00	1	5	10.3	58.1
1SMB40AT3	40	44.40	1	5	9.3	64.5
1SMB43AT3	43	47.80	1	5	8.6	69.4
1SMB48AT3	48	53.30	1	5	7.7	77.4
1SMB51AT3	51	56.70	1	5	7.3	82.4
1SMB55AT3	55	61.10	1	5	6.7	90.0
1SMB100AT3	100	111.00	1	5	3.7	162.0
1SMB130AT3	130	144.00	1	5	2.9	209.0
1SMB170AT3	170	189.00	1	5	2.2	275.0

P6SMB Series, Surface Mount TVSs

Peak Power Dissipation (600 Watts @ 1 ms Surge) Case 403A

Mfr.'s Type	Working Peak Reverse Voltage V _{RWM} (V)	Breakdown Voltage [*]		Maximum Reverse Leakage @ V _{RWM} I _r (μA)	Maximum Reverse Surge Current I _{RSM} I _r (μA)	Maximum Reverse Voltage @ I _{RSM} (Clamping Voltage) V _{RSM} (V)
		V _{BR} (V)	@ I _r Pulse (mA)			
Unidirectional		Min.				
P6SMB6.8AT3	5.8	6.80	10	1000	57.0	10.5
P6SMB11AT3	9.4	11.00	1	5	38.0	15.6
P6SMB12AT3	10.2	12.00	1	5	36.0	16.7
P6SMB13AT3	11.1	13.00	1	5	33.0	18.2
P6SMB15AT3	12.8	15.00	1	5	28.0	21.2
P6SMB18AT3	15.3	18.00	1	5	24.0	25.2
P6SMB22AT3	18.8	22.00	1	5	20.0	30.6
P6SMB27AT3	23.1	27.00	1	5	16.0	37.5
P6SMB30AT3	25.6	30.00	1	5	14.4	41.4
P6SMB33AT3	28.2	33.00	1	5	13.2	45.7
P6SMB36AT3	30.8	36.00	1	5	12.0	49.9
P6SMB51AT3	43.6	51.00	1	5	8.6	70.1
P6SMB62AT3	53.0	62.00	1	5	7.1	85.0
P6SMB68AT3	58.1	68.00	1	5	6.5	92.0

1.5SMC Series, Surface Mount TVSs

Peak Power Dissipation (1500 Watts @ 1 ms Surge) Case 403A

T3 suffix indicates 2500 pieces on Tape and Reel.

1.5SMC7.5AT3	6.4	7.50	10	500	132.0	11.3
1.5SMC15AT3	12.8	15.00	1	5	71.0	21.2
1.5SMC27AT3	23.1	27.00	1	5	40.0	37.5
1.5SMC36AT3	30.8	36.00	1	5	30.0	49.9
1.5SMC51AT3	43.6	51.00	1	5	21.4	70.1

1SMC Series, Surface Mount TVSs

1SMC5.0AT3	5.0	6.40	10	1000	163.0	9.2
1SMC6.0AT3	6.0	6.67	10	1000	145.6	10.3
1SMC12AT3	12.0	13.30	1	5	75.3	19.9
1SMC13AT3	13.0	14.40	1	5	69.7	21.5
1SMC15AT3	15.0	16.70	1	5	61.5	24.4
1SMC16AT3	16.0	17.80	1	5	57.7	26.0
1SMC26AT3	26.0	28.90	1	5	35.6	42.1
1SMC33AT3	33.0	36.70	1	5	28.1	53.3
1SMC40AT3	40.0	44.40	1	5	23.2	64.5

^{*}Breakdown voltage tolerance is ±5% for A suffix.



Pinout: TERMINAL 1 — ANODE
TERMINAL 2 — ANODE
TERMINAL 3 — COMMON CATHODE



PIN 1. CATHODE
2. CATHODE
3. COMMON ANODE

**Schottky Rectifiers****Surface Mount Schottky Rectifier Packages**

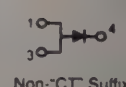
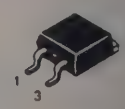
SOD-123
Cathode = Band



SMB
Cathode = Notch



SMC
Cathode = Notch

**DPAK****D²PAK**



Schottky Rectifiers (Continued)

Surface Mount Schottky Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. V _F @ I _F T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ¹ (mA)	Package Style
MBR0520LT1 ¹	20	0.5	T _L =105°C	0.310 @ 0.1 A	5	125	0.075 @ 10 V	5 @ 10 V	SOD-123
MBR0530T1 ¹	30	0.5	T _L =105°C	0.375 @ 0.1 A	5	125	0.020 @ 15 V	—	SOD-123
MBR0540T1 ¹	40	0.5	T _L =110°C	0.530 @ 0.5 A	20	150	0.010 @ 20 V	—	SOD-123
MBRS130LT3 ¹	30	1.0	T _L =120°C	0.395 @ 1.0 A	40	125	1.000	10	SMB
MBRS140T3 ¹	40	1.0	T _L =115°C	0.600 @ 1.0 A	40	125	1.000	10	SMB
MBRS1100T3 ¹	100	1.0	T _L =120°C	0.750 @ 1.0 A	40	150	0.500	5	SMB
MBRS340T3 ¹	40	3.0	T _L =100°C	0.525 @ 3.0 A	80	125	2.000	20	SMC
MBRS360T3 ¹	60	3.0	T _L =100°C	0.740 @ 3.0 A	80	125	0.500	20	SMC
MBRD640CT	40	6.0	T _L =130°C	0.700 @ 3.0 A	75	150	0.100	15 @ 125°C	DPAK
MBRD660CT	60	6.0	T _C =130°C	0.700 @ 3.0 A	75	150	0.100	15 @ 125°C	DPAK
MBRD83SL	35	8.0	T _C =100°C	0.400 @ 3.0 A, 0.51 @ 8.0 A	100	125	1.400	35	DPAK
MBRD1035CTL	35	10.0	T _C =90°C	0.490 @ 10 A	100	125	2.000	130 @ 125°C	DPAK
MBRB1545CT	45	15.0	T _C =105°C	0.840 @ 15 A	150	150	0.100	15 @ 125°C	D ² PAK
MBRB20100CT	100	20.0	T _C =110°C	0.850 @ 10 A, 0.95 @ 20 A	150	150	0.100	6 @ 125°C	D ² PAK
MBRB20200CT	200	20.0	T _C =125°C	1.000 @ 20 A	150	150	1.000	50 @ 125°C	D ² PAK
MBRB2515L	15	25.0	T _C =90°C	0.450 @ 25 A	150	100	15.000	200 @ 70°C	D ² PAK
MBRB2535CTL	35	25.0	T _C =110°C	0.470 @ 12.5 A, 0.55 @ 25 A	150	125	10.000	500 @ 125°C	D ² PAK
MBRB2545CT	45	25.0	T _C =130°C	0.820 @ 30 A	150	150	0.200	40 @ 125°C	D ² PAK
MBRB3030CT	30	30.0	T _C =115°C	0.510 @ 15 A, 0.62 @ 30 A	300	150	0.600	145 @ 150°C, 46 @ 10 V, 150°C	D ² PAK
MBRB3030CTL	30	30.0	T _C =95°C	0.450 @ 15 A, 0.51 @ 30 A	150	125	2.000	195 @ 125°C, 75 @ 10 V, 125°C	D ² PAK
MBRB4030	30	40.0	T _C =110°C	0.460 @ 20 A, 0.55 @ 40 A	300	150	0.350	150 @ 125°C	D ² PAK

¹I_O is total device current capability. ²V_{RRM} unless noted. ³V_{RRM}, T_J=100°C unless noted. *T1 Suffix=3000/reel, T3 suffix=10000/reel. *T3 suffix=2500/reel.

Axial Lead Schottky Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. V _F @ I _F T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ¹ T _L (mA)	Package Style
1N5817	20	1	T _A =55°C, R _{θJA} =80°C/W	0.450 @ 1.0 A	25	125	1.0	10	Case 59-04
1N5818	30	1	T _A =55°C, R _{θJA} =80°C/W	0.550 @ 1.0 A	25	125	1.0	10	Case 59-04
1N5819	40	1	T _A =55°C, R _{θJA} =80°C/W	0.600 @ 1.0 A	25	125	1.0	10	Case 59-04
MBR160	60	1	T _A =55°C, R _{θJA} =80°C/W	0.750 @ 1.0 A	25	150	0.5	5	Case 59-04
MBR1100	100	1	T _A =120°C, R _{θJA} =50°C/W	0.790 @ 1.0 A	50	150	0.5	5	Case 59-04
1N5820	20	3	T _A =76°C, R _{θJA} =28°C/W	0.457 @ 3.0 A	80	125	2.0	20	Case 267-03
1N5821	30	3	T _A =71°C, R _{θJA} =28°C/W	0.500 @ 3.0 A	80	125	2.0	20	Case 267-03
1N5822	40	3	T _A =61°C, R _{θJA} =28°C/W	0.525 @ 3.0 A	80	125	2.0	20	Case 267-03
MBR340	40	3	T _A =65°C, R _{θJA} =28°C/W	0.600 @ 3.0 A	80	150	0.6	20	Case 267-03
MBR360	60	3	T _A =65°C, R _{θJA} =28°C/W	0.740 @ 3.0 A	80	150	0.6	20	Case 267-03
MBR3100	100	3	T _A =100°C, R _{θJA} =28°C/W	0.790 @ 3.0 A	150	150	0.6	20	Case 267-03

²V_{RRM} unless noted. ³V_{RRM}, T_J=100°C unless noted.

TO-220 Type Schottky Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. V _F @ I _F T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ¹ T _L (mA)	Package Style
MBR1545CT	45	15.0	T _C =105°C	0.84 @ 15 A	150	150	0.1	15 @ 125°C	Case 221A-06
MBR2030CTL	30	20.0	T _C =137°C	0.52 @ 10 A, 0.58 @ 20 A	150	150	5.0	40	Case 221A-06
MBR2045CT	45	20.0	T _C =135°C	0.84 @ 20 A	150	150	0.1	15 @ 125°C	Case 221A-06
MBR2060CT	60	20.0	T _C =133°C	0.85 @ 10 A, 0.95 @ 20 A	150	150	0.1	6 @ 125°C	Case 221A-06
MBR20100CT	100	20.0	T _C =133°C	0.85 @ 10 A, 0.95 @ 20 A	150	150	1.1	6 @ 125°C	Case 221A-06
MBR20200CT	200	20.0	T _C =125°C	1.00 @ 20 A	150	150	1.0	50 @ 125°C	Case 221A-06
MBR2515L	15	25.0	T _C =90°C	0.45 @ 25 A	150	100	15.0	200 @ 70°C	Case 221A-06
MBR2535CTL	35	25.0	T _C =95°C	0.55 @ 25 A	150	125	5.0	500 @ 125°C	Case 221A-06
MBR2545CT	45	25.0	T _C =130°C	0.82 @ 30 A	150	150	0.2	40 @ 125°C	Case 221A-06
MBR3045ST	45	30.0	T _C =130°C	0.76 @ 30 A	150	150	0.2	40 @ 125°C	Case 221A-06
MBR745	45	7.5	T _C =105°C	0.84 @ 15 A	150	150	0.1	15 @ 125°C	Case 221B-03
MBR1045	45	10.0	T _C =135°C	0.84 @ 20 A	150	150	0.1	15 @ 125°C	Case 221B-03
MBR1060	60	10.0	T _C =133°C	0.80 @ 10 A	150	150	0.1	6 @ 125°C	Case 221B-03
MBR10100	100	10.0	T _C =133°C	0.80 @ 10 A	150	150	0.1	6 @ 125°C	Case 221B-03
MBR1645	45	16.0	T _C =125°C	0.63 @ 16 A	150	150	0.2	40 @ 125°C	Case 221B-03

²V_{RRM} unless noted. ³V_{RRM}, T_J=100°C unless noted.

TO-218 Types and TO-247 Schottky Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. V _F @ I _F T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ¹ T _L (mA)	Package Style
MBR3045PT	45	30	T _C =105°C	0.76 @ 30 A	200	150	1.0	100 @ 125°C	Case 340D-01
MBR4045PT	45	40	T _C =125°C	0.70 @ 20 A, 0.80 @ 40 A	400	150	1.0	50	Case 340D-01
MBR6045PT	45	60	T _C =125°C	0.62 @ 30 A, 0.75 @ 60 A	500	150	1.0	50	Case 340D-01
MBR5025L	25	50	T _C =125°C	0.54 @ 30 A, 0.62 @ 50 A	300	150	0.5	60	Case 340E-01
MBR3045WT	45	30	T _C =105°C	0.76 @ 30 A	200	150	1.0	100 @ 125°C	Case 340F-03
MBR4015WT	15	40	T _C =125°C	0.42 @ 20 A, 0.50 @ 40 A	400	150	5.0	150 @ 75°C	Case 340F-03
MBR4045WT	45	40	T _C =125°C	0.70 @ 20 A, 0.80 @ 40 A	400	150	1.0	50	Case 340F-03
MBR6045WT	45	60	T _C =125°C	0.62 @ 30 A, 0.75 @ 60 A	500	150	1.0	50	Case 340F-03

²V_{RRM} unless noted. ³V_{RRM}, T_J=100°C unless noted.

Power Tap II Schottky Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. V _F @ I _F T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ¹ T _L (mA)	Package Style
MBRP20030CTL	30	200	T _C =125°C	0.52 @ 100 A, 0.60 @ 200 A	1500	150	5.0	—	Case 357C-03
MBRP20045CT	45	200	T _C =125°C	0.78 @ 100 A	1500	175	0.5	50 @ 125°C	Case 357C-03
MBRP20060CT	60	200	T _C =125°C	0.80 @ 100 A	1500	175	0.5	50 @ 125°C	Case 357C-03
MBRP30045CT	45	300	T _C =120°C	0.70 @ 150 A, 0.82 @ 300 A	2500	175	0.8	75 @ 125°C	Case 357C-03
MBRP30060CT	60	300	T _C =120°C	0.79 @ 150 A, 0.89 @ 300 A	2500	175	0.8	75 @ 125°C	Case 357C-03
MBRP60035CTL	35	600	T _C =100°C	0.57 @ 300 A	4000	150	10.0	250	Case 357C-03

¹I_O is total device current capability. ²V_{RRM} unless noted. ³V_{RRM}, T_J=100°C unless noted.

Case 59-04
Plastic

CASE 267-03
Plastic

Cathode = Polarity Band

CASE 221A-06
(TO-220AB)

10
30

CASE 221B-03
(TO-220AC)

10
30

CASE 340D-01
(TO-218AC)

10
30

CASE 340E-01
(TO-218)

10
30

CASE 340F-03
(TO-247)

10
30

CASE 357C-03
POWERTAP™



Cathode = Mounting Plate
Anode = Terminal

Ultrafast Rectifiers

Surface Mount Ultrafast Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. I _r (ns)	Max. V _r @ I _r T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (μA)	Max I _n ² T _J Package (mA)	Package Style
MURS120T3 ¹	200	1	T _L =155°C	35	0.875 @ 1.0 A	40	175	2	50	SMB
MURS160T3 ¹	600	1	T _L =150°C	75	1.250 @ 1.0 A	35	175	5	150	SMB
MURS320T3 ¹	200	3	T _L =140°C	35	0.875 @ 3.0 A	75	175	5	15	SMC
MURS360T3 ¹	600	3	T _L =130°C	75	1.250 @ 3.0 A	75	175	10	250	SMC
MURD320	200	3	T _L =158°C	35	0.950 @ 3.0 A	75	175	5	500 @ 125°C	DPAK
MURD620CT	200	6	T _L =145°C	35	1.000 @ 3.0 A	63	175	5	250 @ 125°C	DPAK
MURH840CT	400	8	T _L =120°C	28	2.200 @ 4.0 A	100	175	10	500	D ² PAK
MURB1620CT	200	16	T _L =150°C	35	0.975 @ 8.0 A	100	175	5	250	D ² PAK
MURB1660CT	600	16	T _L =150°C	60	1.500 @ 8.0 A	100	175	10	500	D ² PAK

¹I_O is total device current capability. ²V_{RRM} unless noted. ³V_{RRM}, T_J=150°C unless noted. ⁴T3 suffix=2500/reel.

Axial Lead Ultrafast Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. I _r (ns)	Max. V _r @ I _r T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ² T _L (mA)	Package Style
MUR120	200	1	T _A =130°C, R _{ΘJA} =50°C/W	25	0.875 @ 1.0 A	35	175	2	50	Case 59-04
MUR140	400	1	T _A =120°C, R _{ΘJA} =50°C/W	50	1.250 @ 1.0 A	35	175	5	150	Case 59-04
MUR160	600	1	T _A =120°C, R _{ΘJA} =50°C/W	50	1.250 @ 1.0 A	35	175	5	150	Case 59-04
MUR1100E	1000	1	T _A =95°C, R _{ΘJA} =50°C/W	75	1.750 @ 1.0 A	35	175	10	600 @ 100°C	Case 59-04
MUR420	200	4	T _A =80°C, R _{ΘJA} =28°C/W	25	0.875 @ 3.0 A	125	175	5	150	Case 267-03
MUR440	400	4	T _A =40°C, R _{ΘJA} =28°C/W	50	1.250 @ 3.0 A	70	175	10	250	Case 267-03
MUR460	600	4	T _A =40°C, R _{ΘJA} =28°C/W	50	1.250 @ 3.0 A	70	175	10	250	Case 267-03
MUR4100E	1000	4	T _A =35°C, R _{ΘJA} =28°C/W	75	1.750 @ 3.0 A	70	175	25	900 @ 100°C	Case 267-03

²V_{RRM} unless noted. ⁴V_{RRM}, T_J=150°C unless noted.

TO-220 Type Ultrafast Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. I _r (ns)	Max. V _r @ I _r T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ² T _L (mA)	Package Style
MUR620CT	200	6	T _C =130°C	35	0.975 @ 3.0 A	75	175	5	250	Case 221A-06
MURH840CT	400	8	T _C =120°C	28	2.000 @ 4.0 A	100	175	10	500	Case 221A-06
MURH860CT	600	8	T _C =120°C	35	2.800 @ 4.0 A	100	175	10	500	Case 221A-06
MUR1620CT	200	16	T _C =150°C	35	0.975 @ 8.0 A	100	175	5	250	Case 221A-06
MUR1620CTR	200	16	T _C =160°C	85	1.200 @ 8.0 A	100	175	5	500	Case 221A-06
MUR1640CT	400	16	T _C =150°C	60	1.300 @ 8.0 A	100	175	10	250	Case 221A-06
MUR1660CT	600	16	T _C =150°C	60	1.500 @ 8.0 A	100	175	10	500	Case 221A-06
MURS150E	1500	5	T _C =125°C	175	2.400 @ 5.0 A	100	125	50	500 @ 125°C	Case 221B-03
MUR820	200	8	T _C =150°C	35	0.975 @ 8.0 A	100	175	5	250	Case 221B-03
MUR840	400	8	T _C =150°C	50	1.300 @ 8.0 A	100	175	10	500	Case 221B-03
MUR860	600	8	T _C =150°C	50	1.500 @ 8.0 A	100	175	10	500	Case 221B-03
MUR890E	800	8	T _C =175°C	75	1.800 @ 8.0 A	100	175	25	500 @ 100°C	Case 221B-03
MUR8100E	1000	8	T _C =150°C	75	1.800 @ 8.0 A	100	175	25	500 @ 100°C	Case 221B-03
MUR10120E	1200	10	T _C =125°C	175	2.200 @ 6.5 A	100	125	100	1000 @ 125°C	Case 221B-03
MUR10150E	1500	10	T _C =125°C	175	2.400 @ 6.5 A	100	125	100	1000 @ 125°C	Case 221B-03
MUR1520	200	15	T _C =150°C	35	1.050 @ 15.0 A	200	175	10	500	Case 221B-03
MUR1540	400	15	T _C =150°C	60	1.250 @ 15.0 A	150	175	10	500	Case 221B-03
MUR1560	600	15	T _C =145°C	60	1.500 @ 15.0 A	150	175	10	1000	Case 221B-03

²V_{RRM} unless noted. ⁴V_{RRM}, T_J=150°C unless noted.

TO-218 Types and TO-247 Ultrafast Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. I _r (ns)	Max. V _r @ I _r T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ² T _L (mA)	Package Style
MUR3020WT	200	30	T _C =145°C	35	1.05 @ 15 A	150	175	10	0.5	Case 340F-03
MUR3040WT	400	30	T _C =145°C	60	1.25 @ 15 A	150	175	10	0.5	Case 340F-03
MUR3060WT	600	30	T _C =145°C	60	1.70 @ 15 A	150	175	10	1.0	Case 340F-03
MUR3020PT	200	30	T _C =150°C	35	1.12 @ 15 A	200	175	10	0.5	Case 340D-01
MUR3040PT	400	30	T _C =150°C	60	1.12 @ 15 A	150	175	10	0.5	Case 340D-01
MUR3060PT	600	30	T _C =145°C	60	1.20 @ 15 A	150	175	10	1.0	Case 340D-01
MUR3040	400	30	T _C =70°C	100	1.50 @ 30 A	300	175	35	6.0 @ 100°C	Case 340E-01
MUR3080	800	30	T _C =70°C	110	1.90 @ 30 A	300	175	100	5.0 @ 100°C	Case 340E-01
MUR6040	400	60	T _C =70°C	100	1.50 @ 60 A	600	175	60	10.0 @ 100°C	Case 340E-01

²V_{RRM} unless noted. ⁴V_{RRM}, T_J=150°C unless noted.

Power Top II SOT-227B Ultrafast Rectifiers

Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. I _r (ns)	Max. V _r @ I _r T _C =25°C (V)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (mA)	Max I _n ² T _L (mA)	Package Style
MURP20020CT	200	200	T _C =130°C	50	1.00 @ 100 A	800	175	150	1.0 @ 125°C	Case 357C-03
MURP20040CT	400	200	T _C =100°C	50	1.30 @ 100 A	800	175	50	0.5 @ 125°C	Case 357C-03

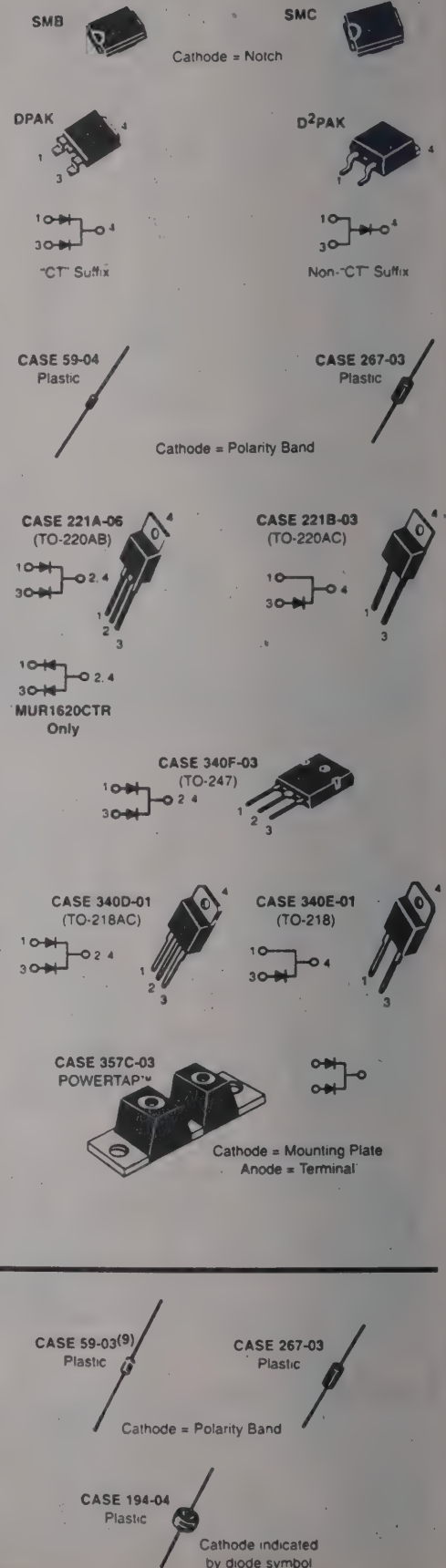
¹I_O is total device current capability. ²V_{RRM} unless noted. ⁴V_{RRM}, T_J=150°C unless noted.

Fast Recovery Rectifiers/General-Purpose Rectifiers

Fast Recovery Rectifiers/General Purpose Rectifiers

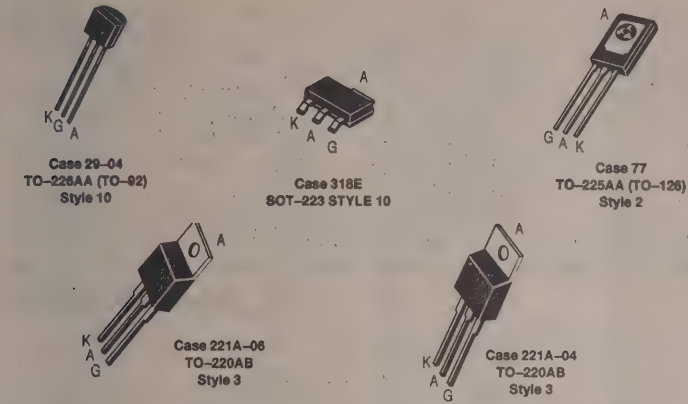
Mfr.'s Type	V _{RRM} (V)	I _O (A)	I _O Rating Condition	Max. V _r @ I _r T _C =25°C (V)	Max. I _r (ns)	I _{FSM} (A)	T _J Max. (°C)	Max I _n ² T _J =25°C (μA)	Max I _n ² T _L (mA)	Package Style
1N4004	400	1	T _A =75°C	1.10 @ 1.00 A	—	30	150	10	50	Case 59-03 ¹
1N4007	1000	1	T _A =75°C	1.10 @ 1.00 A	—	30	150	10	50	Case 59-03 ¹
1N4935	200	1	T _A =75°C	1.20 @ 3.14 A, T _J =125°C	200	30	150	5	100	Case 59-03 ¹
1N4937	600	1	T _A =75°C	1.20 @ 3.14 A, T _J =125°C	200	30	150	5	100	Case 59-03 ¹
1N5404	400	3	T _L =105°C	1.20 @ 9.40 A	—	200	150	—	500 @ 80°C	Case 267-03
1N5406	600	3	T _L =105°C	1.20 @ 9.40 A	—	200	150	—	500 @ 80°C	Case 267-03
MR852	200	3	T _A =80°C ²	1.25 @ 3.00 A	200	100	150	10	200 @ 80°C	Case 267-03
MR856	600	3	T _A =80°C ²	1.25 @ 3.00 A	200	100	150	10	300 @ 80°C	Case 267-03
MR754	400	6	T _A =60°C, R _{ΘJA} =25°C/W	1.25 @ 100.0 A	—	400	175	25	1000	Case 194-04
MR760	1000	6	T _A =60°C, R _{ΘJA} =25°C/W	1.25 @ 100.0 A	—	400	175	25	1000	Case 194-04

²V_{RRM} unless noted. ⁴V_{RRM}, T_J=100°C unless noted. ¹Package Size: 0.120" max. diameter by 0.260" length. ²Must be derated for reverse power dissipation. See data sheet.





Silicon Controlled Rectifiers



SCRs — General Purpose Plastic Packages 0.8 to 55 Amperes RMS, 25 to 800 Volts

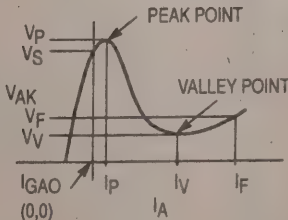
Mfr.'s Type	Package Style	On-State RMS Current	V _{ORM} V _{RRM} (V)	I _{TRM} (A) 60 Hz	I _{GT} (mA)	V _{GT} (V)
MCR102	Case 29-04	0.8 A, T _C =58°C	25	10	0.2	0.8
2N5060	Case 29-04	0.8 A, T _C =58°C	25	10	0.2	0.8
2N5061	Case 29-04	0.8 A, T _C =58°C	50	10	0.2	0.8
MCR106-2	Case 77	4.0 A, T _C =93°C	50	25	0.2	1.0
C106F	Case 77	4.0 A, T _C =30°C	50	20	0.2	0.8
MCR72-2	Case 221A-04	8.0 A, T _C =83°C	50	100	0.2	1.5
2N6504	Case 221A-04	25.0 A, T _C =85°C	50	300	40.0	1.5
MCR69-2	Case 221A-04	25.0 A, T _C =85°C	50	750 ¹	30.0	1.5
MCR22-3	Case 29-04	1.5 A, T _C =50°C	100	15	0.2	0.8
C106A	Case 77	4.0 A, T _C =30°C	100	20	0.2	0.8
2N6505	Case 221A-04	25.0 A, T _C =85°C	100	300	40.0	1.5
MCR69-3	Case 221A-04	25.0 A, T _C =85°C	100	750 ¹	30.0	1.5
2N5064	Case 29-04	0.8 A, T _C =58°C	200	10	0.2	0.8
MCR106-4	Case 77	4.0 A, T _C =93°C	200	25	0.2	1.0
2N6239	Case 77	4.0 A, T _C =93°C	200	25	0.2	1.0
C106B	Case 77	4.0 A, T _C =30°C	200	20	0.2	0.8
MCR265-4	Case 221A-04	55.0 A, T _C =70°C	200	550	50.0	1.5
MCR100-6	Case 29-04	0.8 A, T _C =58°C	400	10	0.2	0.8
MCR22-6	Case 29-04	1.5 A, T _C =50°C	400	15	0.2	0.8
MCR106-6	Case 77	4.0 A, T _C =93°C	400	25	0.2	1.0
2N6240	Case 77	4.0 A, T _C =93°C	400	20	0.2	0.8
C106D	Case 77	4.0 A, T _C =30°C	400	20	0.2	0.8
MCR72-6	Case 221A-04	8.0 A, T _C =83°C	400	100	0.2	1.5
S2800D	Case 221A-04	10.0 A, T _C =75°C	400	100	15.0	1.5
2N6507	Case 221A-04	25.0 A, T _C =85°C	400	300	40.0	1.5
MCR69-6	Case 221A-04	25.0 A, T _C =85°C	400	750 ¹	30.0	1.5
MCR265-6	Case 221A-04	55.0 A, T _C =70°C	400	550	50.0	1.5
MCR100-8	Case 29-04	0.8 A, T _C =58°C	600	10	0.2	0.8
MCR08MT1	Case 318E	0.8 A, T _C =80°C	600	10	0.2	0.8
MCR22-8	Case 29-04	1.5 A, T _C =50°C	600	15	0.2	0.8
MCR106-8	Case 77	4.0 A, T _C =93°C	600	25	0.2	1.0
C106M	Case 77	4.0 A, T _C =30°C	600	20	0.2	0.8
MCR72-8	Case 221A-04	8.0 A, T _C =83°C	600	100	0.2	1.5
2N6508	Case 221A-04	25.0 A, T _C =85°C	600	300	40.0	1.5
MCR8M	Case 221A-06	8.0 A, T _C =80°C	600	80	15.0	1.0
MCR8SM	Case 221A-06	8.0 A, T _C =80°C	600	80	0.2	1.0
S2800M	Case 221A-06	10.0 A, T _C =75°C	600	100	15.0	1.5
MCR12M	Case 221A-06	12.0 A, T _C =80°C	600	100	20.0	2.2
MCR16M	Case 221A-06	16.0 A, T _C =80°C	600	150	20.0	1.7
MCR264-8	Case 221A-04	40.0 A, T _C =80°C	600	400	50.0	1.5
MCR265-8	Case 221A-04	55.0 A, T _C =70°C	600	550	50.0	1.5
MCR8N	Case 221A-06	8.0 A, T _C =80°C	800	80	15.0	1.0
MCR8SN	Case 221A-06	8.0 A, T _C =80°C	800	80	0.2	1.0
MCR12N	Case 221A-06	12.0 A, T _C =80°C	800	100	20.0	2.2
MCR16N	Case 221A-06	16.0 A, T _C =80°C	800	150	20.0	1.7
2N6509	Case 221A-04	25.0 A, T _C =85°C	800	300	40.0	1.5
MCR264-10	Case 221A-04	40.0 A, T _C =80°C	800	400	50.0	1.5
MCR265-10	Case 221A-04	55.0 A, T _C =70°C	800	550	50.0	1.5

¹ Exponential decay 2 μs wide at 5 times constants, f=12 Hz. ² Peak capacitor discharge current for t=1 ms. t_w is defined as five time constants of an exponentially decaying current pulse.

Thyristor Triggers

Programmable Unijunction Transistor — PUT

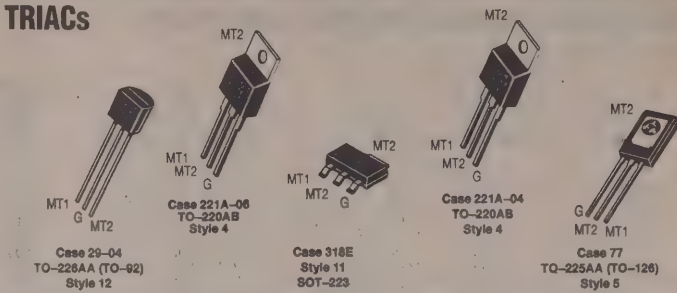
Similar to UJTs, except that I_V, I_P and intrinsic standoff voltage are programmable (adjustable) by means of external voltage divider. This stabilizes circuit performance for variations in device parameters. General operating frequency range is from 0.01 Hz to 10 kHz, making them suitable for long-duration timer circuits.



Plastic TO-92 (Case 29-04/16)

Mfr.'s Type	I _P		I _{GAO} @ 40 V nA Max.	I _V	
	R _G = 10 KΩ	R _G = 1 MΩ		R _G = 10 KΩ	R _G = 1 MΩ
	(μA) Max.			(μA) Min.	(μA) Max.
2N6027	5	2.00	10	70	50
2N6028	1	0.15	10	25	25

TRIACs



TRIACs — General Purpose Plastic Packages 0.6 to 40 Amperes RMS, 200 to 800 Volts

Mfr.'s Type	Package Style	On-State RMS Current	V _{ORM} (V)	I _{TRM} (A)	I _{GT} @ 25°C (mA)				V _{GT} @ 25°C (V)			
					MT2 (+) G(+)	MT2 (-) G(-)	MT2 (-) G(-)	MT2 (+) G(+)	MT2 (+) G(+)	MT2 (-) G(-)	MT2 (-) G(-)	MT2 (+) G(+)
MAC97A4	Case 29-04	0.6 A, T _C =50°C	200	8	5	5	5	7	2.0	2.0	2.0	2.5
T2322B	Case 77	2.5 A, T _C =70°C	200	25	10	10	10	10	2.2	2.2	2.2	2.2
2N6071**	Case 77	4.0 A, T _C =85°C	200	30	30	—	30	—	2.5	—	2.5	—
2N6071A**	Case 77	4.0 A, T _C =85°C	200	30	5	5	5	5	2.5	2.5	2.5	—
2N6071B**	Case 77	4.0 A, T _C =85°C	200	30	3	3	3	3	2.5	2.5	2.5	—
T2500B	Case 221A-04	6.0 A, T _C =80°C	200	60	25	60	25	60	2.5	2.5	2.5	2.5
MAC228A4	Case 221A-04	8.0 A, T _C =80°C	200	80	5	5	10 ¹	2.0	2.0	2.0	2.5 ¹	
MAC224A4	Case 221A-04	40.0 A, T _C =75°C	200	350	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹	
MAC97-6	Case 29-04	0.6 A, T _C =50°C	400	8	10	10	10	10	2.0	2.0	2.0	2.5
MAC97A6	Case 29-04	0.6 A, T _C =50°C	400	8	5	5	5	7	2.0	2.0	2.0	2.5
T2322D	Case 77	2.5 A, T _C =70°C	400	25	10	10	10	10	2.2	2.2	2.2	2.2
2N6073**	Case 77	4.0 A, T _C =85°C	400	30	30	—	30	—	2.5	—	2.5	—
2N6073A**	Case 77	4.0 A, T _C =85°C	400	30	5	5	5	5	2.5	2.5	2.5	—
2N6073B**	Case 77	4.0 A, T _C =85°C	400	30	3	3	3	3	2.5	2.5	2.5	—
T2500D	Case 221A-04	6.0 A, T _C =80°C	400	60	25	60	25	60	2.5	2.5	2.5	2.5
MAC8D	Case 221A-06	8.0 A, T _C =80°C	400	80	35	35	35	—	1.5	1.5	1.5	—
MAC9D	Case 221A-06	8.0 A, T _C =80°C	400	80	50	50	50	—	1.5	1.5	1.5	—
2N6343	Case 221A-04	8.0 A, T _C =80°C	400	100	50	75 ¹	50	75 ¹	2.0	2.5 ¹	2.5	2.5 ¹
MAC228A6	Case 221A-04	8.0 A, T _C =80°C	400	80	5	5	10 ¹	2.0	2.0	2.0	2.5 ¹	
T2800D	Case 221A-04	8.0 A, T _C =80°C	400	100	25	60	25	60	2.5	2.5	2.5	2.5
2N6347A	Case 221A-06	12.0 A, T _C =80°C	400	120	50	75	50	75	2.0	2.5	2.0	2.5
MAC15D	Case 221A-06	15.0 A, T _C =80°C	400	150	35	35	35	—	1.5	1.5	1.5	—
MAC15-6	Case 221A-04	15.0 A, T _C =90°C	400	150	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC15A6	Case 221A-04	15.0 A, T _C =90°C	400	150	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC223A6	Case 221A-04	25.0 A, T _C =80°C	400	250	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC224A6	Case 221A-04	40.0 A, T _C =75°C	400	350	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC97A8	Case 29-04	0.6 A, T _C =50°C	600	8	5	5	5	7	2.0	2.0	2.0	2.5
MAC08MT1**	Case 318A	0.8 A, T _C =80°C	600	10	10	10	10	10	2.0	2.0	2.0	2.0
2N6075A**	Case 77	4.0 A, T _C =85°C	600	30	5	5	5	5	2.5	2.5	2.5	—
2N6075B**	Case 77	4.0 A, T _C =85°C	600	30	3	3	3	3	2.5	2.5	2.5	—
MAC8M	Case 221A-06	8.0 A, T _C =80°C	600	80	35	35	35	—	1.5	1.5	1.5	—
MAC9M	Case 221A-06	8.0 A, T _C =80°C	600	80	50	50	50	—	1.5	1.5	1.5	—
2N6344	Case 221A-04	8.0 A, T _C =80°C	600	100	50	75 ¹	50	75 ¹	2.0	2.5 ¹	2.5	2.5 ¹
2N6349	Case 221A-04	8.0 A, T _C =80°C	600	100	25	60	25	60	2.5	2.5	2.5	2.5
MAC228A8	Case 221A-04	8.0 A, T _C =80°C	600	80	5	5	10 ¹	2.0	2.0	2.0	2.5 ¹	
MAC210A8	Case 221A-04	10.0 A, T _C =70°C	600	100	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
2N6348A	Case 221A-06	12.0 A, T _C =80°C	600	120	50	75	50	75	2.0	2.5	2.0	2.5
MAC12M	Case 221A-06	12.0 A, T _C =80°C	600	120	35	35	35	—	1.5	1.5	1.5	—
MAC15M	Case 221A-06	15.0 A, T _C =80°C	600	150	35	35	35	—	1.5	1.5	1.5	—
MAC15-8	Case 221A-04	15.0 A, T _C =90°C	600	150	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC15A8	Case 221A-04	15.0 A, T _C =90°C	600	150	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC16M	Case 221A-06	16.0 A, T _C =80°C	600	160	50	50	50	—	1.5	1.5	1.5	—
MAC223A8	Case 221A-04	25.0 A, T _C =80°C	600	250	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC224A8	Case 221A-04	40.0 A, T _C =75°C	600	350	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC8N	Case 221A-06	8.0 A, T _C =80°C	800	80	35	35	35	—	1.5	1.5	1.5	—
MAC9N	Case 221A-06	8.0 A, T _C =80°C	800	80	50	50	50	—	1.5	1.5	1.5	—
2N6349	Case 221A-04	8.0 A, T _C =80°C	800	100	50	75 ¹	50	75 ¹	2.0	2.5 ¹	2.5	2.5 ¹
MAC228A10	Case 221A-04	8.0 A, T _C =80°C	800	80	5	5	10 ¹	2.0	2.0	2.0	2.5 ¹	
MAC210A10	Case 221A-04	10.0 A, T _C =70°C	800	100	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
2N6349A	Case 221A-06	12.0 A, T _C =80°C	800	120	50	75	50	75	2.0	2.5	2.0	2.5
MAC12N	Case 221A-06	12.0 A, T _C =80°C	800	120	35	35	35	—	1.5	1.5	1.5	—
MAC15N	Case 221A-06	15.0 A, T _C =80°C	800	150	35	35	35	—	1.5	1.5	1.5	—
MAC16N	Case 221A-06	16.0 A, T _C =80°C	800	160	50	50	50	—	1.5	1.5	1.5	—
MAC223A10	Case 221A-04	25.0 A, T _C =80°C	800	250	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹
MAC224A10	Case 221A-04	40.0 A, T _C =75°C	800	350	50	50	50	75 ¹	2.0	2.0	2.0	2.5 ¹

High Speed Operational Amplifiers and Buffers

Specs at $T_A = 25^\circ\text{C}$ and $V_S = +5\text{ V}$

Mfr.'s Type			Databook Reference	Slew Rate (V/μs) Typ.	GBW (MHz) Typ.	Vos (mV) Max.	Is (mA) Max.	No. of Leads	Temperature Range (°C)
SOIC	PLCC	PDIP							
—	—	LF147J*	Note 1	13	4	5.0	1.1	J14	-55 to +125
—	LF351M	LF351N	Note 1	13	4	10.0	3.4	M08, N08	0 to +70
LF353H	LF353M	LF353N	Note 1	13	4	10.0	6.5	H08, M08, N08	0 to +70
—	—	LF411ACN	Note 1	15	4	0.5	2.8	N08	0 to +70
—	—	LF412ACN	Note 1	15	4	1.0	5.6	N08	0 to +70
LH0024H	—	—	Note 1	500	70	4.0	±15	H08	-55 to +125
LH0032G	—	—	Note 1	500	70	5.0	±20	G12	-55 to +125
LM318H	—	—	Note 1	70	15	4.0	7.0	H08, M08, N08	0 to +70
—	LM318M	LM318N	Note 1	30	30	—	11	M14, N14	0 to +70
—	LM359M	LM359N	Note 1	300	50	7.0	6.8	N08	-20 to +85
—	—	LM6261N	Note 1	300	50	7.0	6.8	N08	0 to +70
—	LM6361M	LM6361N	Note 1	300	100	5.0	6.8	N08	-55 to +125
—	—	LM6162N	Note 1	300	100	5.0	6.8	M08	-20 to +85
—	LM6262M	—	Note 1	300	100	5.0	6.8	M08	0 to +70
—	LM6362M	LM6362N	Note 1	300	100	5.0	6.8	M08, N08	0 to +70
—	—	LM6264N	Note 1	300	175	4.0	6.8	N08	-20 to +85
—	LM6364M	LM6364N	Note 1	300	175	4.0	6.8	M08, N08	0 to +70
—	—	LM6265N	Note 1	300	725	3.0	6.8	N08	-20 to +85
—	LM6365M	LM6365N	Note 1	300	725	3.0	6.8	M08, N08	0 to +70
—	LM6181A1M	LM6181A1N	Note 1	2000	100	7.0	10	M16, N08	-20 to +85
—	—	LM6181AMN	Note 1	2000	100	7.0	10	N08	-55 to +125
—	LM61811M	LM61811N	Note 1	2000	100	7.0	10	M16, N08	-20 to +85
—	LM6218WM	LM6218N	Note 1	140	17	3.0	3.5	M14, N08	-20 to +85
—	—	LM6218AN	Note 1	140	17	1.0	3.5	N08	-20 to +85
—	—	LM6321N	Note 1	800	50	100.0	20	N08	0 to +70

Package Code Key (Letter = Pkg Type, Number = # of pins). *CERDIP Package. Note 1: 1995 Operational Amplifiers Databook

Low Power Operational Amplifiers

Dual
Specs at $T_A = 25^\circ\text{C}$ and $V_S = +5\text{ V}$

Mfr.'s Type	Databook Reference	I _s (μ A) Typ.	V _{os} (mV) Max.	I _e (IA) Typ.	CMVR (V) Typ.	Output Swing (V) Typ. With R _L = 100 k Ω Unless Otherwise Specified	GBW (MHz) Typ.	Supply Voltage		No. of Leads	Temperature Range (°C)
								Min. (V)	Max. (V)		
LMC662CN	Note 1	750	6	2	-0.4 to 3.1	0.10 to 4.87*	1.4	5	15	N08	-20 to +85
Quads											
LMC660CM	Note 1	1500	6	2	-0.4 to 3.1	0.10 to 4.87*	1.4	5	15	M14	-20 to +85
LMC660CN	Note 1	1500	6	2	-0.4 to 3.1	0.10 to 4.87*	1.4	5	15	N14	-20 to +85
LMC660AIM	Note 1	1500	3	2	-0.4 to 3.1	0.10 to 4.87*	1.4	5	15	M14	-20 to +85

*Typical Output Swing with $R_L = 2\text{ k}\Omega$. Note 1: 1995 Operational Amplifiers Databook.

11 General Purpose Operational Amplifiers

Specs at $T_A = 25^\circ\text{C}$ and $V_S = +5\text{V}$

Mir.'s Type			Databook Reference	Vos (mV) Max.	Is (nA) Max.	GBW (MHz) Typ.	Slew Rate (V/μs) Typ.	Supply Current (nA) Max.	Supply Voltage		No. of Leads	Temperature Range (°C)
Metal Can	SOIC	PDIP							Min. (V)	Max. (V)		
—	—	LF147J*	Note 1	5.0	0.200	4.000	13.00	11.00	±6.0	±22.0	J14	-55 to +125
LF156H	—	—	Note 1	5.0	0.100	5.000	12.00	7.00	±5.0	±22.0	H08	-55 to +125
LF356AH	—	—	Note 1	2.0	0.050	5.000	12.00	7.00	±5.0	±22.0	H08	0 to +70
LF356H	LF356M	LF356N	Note 1	5.0	0.100	5.000	12.00	7.00	±5.0	±22.0	H08, M08, N08	0 to +70
—	LF347M	LF347N	Note 1	10.0	0.200	4.000	13.00	11.00	±6.0	±18.0	M14, N14	0 to +70
—	LF355M	LF355N	Note 1	10.0	0.200	2.500	5.00	4.00	±5.0	±18.0	M08, N08	0 to +70
—	—	LF357N	Note 1	5.0	0.100	20.000	50.00	7.00	±5.0	±22.0	N08	0 to +70
—	—	LF411CN	Note 1	2.0	0.200	4.000	15.00	3.40	±6.0	±18.0	N08	0 to +70
—	—	LF411ACN	Note 1	0.5	0.200	4.000	15.00	2.80	±6.0	±22.0	N08	0 to +70
—	—	LF412CN	Note 1	3.0	0.200	4.000	15.00	6.50	±6.0	±18.0	N08	0 to +70
—	—	LF412ACN	Note 1	1.0	0.200	4.000	15.00	5.60	±6.0	±22.0	N08	0 to +70
—	—	LF441ACN	Note 1	0.5	0.050	1.000	1.00	0.20	±6.0	±22.0	N08	0 to +70
—	—	LF442ACN	Note 1	0.5	0.050	1.000	1.00	0.20	±6.0	±22.0	N08	0 to +70
—	—	LF444ACN	Note 1	5.0	50.000	1.000	1.00	0.80	±6.0	±22.0	N14	0 to +70
LH0042H	—	—	Note 1	20.0	0.025	1.000	3.00	3.50	±5.0	±22.0	H08	-55 to +125
LM10CH	—	—	Note 1	2.0	20.000	0.090	0.10	0.40	±0.6	±22.5	H08, N08	0 to +70
—	—	LM10CLN	Note 1	2.0	20.000	0.090	0.10	0.40	±0.6	±3.5	N08	0 to +70
—	—	LM101AJ	Note 1	2.0	75.000	1.000	0.50	3.00	±3.0	±22.0	J08	-55 to +125
LM201AH	—	—	Note 1	2.0	75.000	1.000	0.50	3.00	±3.0	±22.0	H08	-20 to +85
LM301AH	—	—	Note 1	2.0	75.000	1.000	0.50	3.00	±3.0	±22.0	H08, N08	0 to +70
LM108AH	—	LM301AN	Note 1	0.5	2.000	1.000	0.30	0.60	±2.0	±20.0	H08	-55 to +125
LM308AH	LM308AM	LM308AN	Note 1	0.5	7.000	1.000	0.30	0.60	±2.0	±18.0	H08, M08, N08	0 to +70
—	LM308M	LM308N	Note 1	7.5	7.000	1.000	0.30	0.80	±2.0	±18.0	M08, N08	0 to +70
—	—	LM124J*	Note 1	5.0	150.000	1.000	0.50	3.00	3.0	32.0	J14	-55 to +125
—	—	LM224J*	Note 1	5.0	150.000	1.000	0.50	3.00	3.0	32.0	J14	-20 to +85
—	LM324M	LM324N	Note 1	5.0	150.000	1.000	0.50	3.00	3.0	32.0	M14, N14	0 to +70
—	—	LM124AJ	Note 1	2.0	50.000	1.000	0.50	3.00	3.0	32.0	J14	-55 to +125
—	—	LM224AJ	Note 1	2.0	50.000	1.000	0.50	3.00	3.0	32.0	J14	-20 to +85
—	LM324AM	LM324AN	Note 1	2.0	50.000	1.000	0.50	3.00	3.0	32.0	M14, N14	0 to +70
LM343H	—	—	Note 1	5.0	20.000	1.000	2.50	4.00	±4.0	±40.0	H08	0 to +70
—	—	LM346N	Note 1	5.0	100.000	1.200	0.40	2.20	±1.5	±22.0	N16	0 to +70
—	—	LM148J*	Note 1	5.0	100.000	1.000	0.50	3.60	±5.0	±22.0	J14	-55 to +125
—	—	LM348N	Note 1	5.0	100.000	1.000	0.50	3.60	±5.0	±22.0	N14	0 to +70
LM158H	—	—	Note 1	5.0	150.000	1.000	0.50	2.00	3.0	32.0	H08	-55 to +125
—	LM358M	LM358N	Note 1	5.0	150.000	1.000	0.50	2.00	3.0	32.0	N08	0 to +70
—	—	LM358AN	Note 1	2.0	50.000	1.000	0.50	2.00	3.0	32.0	N08	0 to +70
—	—	LM307N	Note 1	2.0	100.000	1.000	0.50	3.00	±3.0	±22.0	N08	0 to +70
LM741CH	LM741CM	LM741CN	Note 1	5.0	500.000	1.000	0.50	2.80	±3.0	±22.0	H08, M08, N08	0 to +70
LM741H	—	—	Note 1	5.0	500.000	1.000	0.50	2.80	±3.0	±22.0	H08	-55 to +125
—	LM1458M	LM1458N	Note 1	5.0	500.000	—	—	5.00	±3.0	±22.0	M08, N08	-55 to +125
LM4250CH	—	LM4250CN	Note 1	5.0	50.000	0.200	0.20	0.10	±1.0	±18.0	H08, M08	0 to +70
—	LP324M	—	Note 1	2.0	4.000	0.100	0.05	0.13	3.0	32.0	M14	0 to +70

*CERDIP Package. Note 1: 1995 Operational Amplifiers Databook.

Buffers

Specs at T_A = 25°C and V_S = +5 V

Mfr.'s Type		Databook Reference	Key Features	Slew Rate (V/μs) Typ.	Bandwidth -3 dB (MHz)	Gain (A _v)	Output (V, mA)	Full Power BW (MHz @ V _{PP} , R _L)	No. of Leads	Temperature Range (°C)
Metal Can	PDIP									
LH0002CH	LH0002CN	Note 1	Medium Speed	200	30	0.9700	±10, ±100	3 @ 20, 1 k	H08, N10	0 to +70
LH0002H	—	Note 1	Medium Speed	200	30	0.9700	±10, ±100	3 @ 20, 1 k	H08	-55 to +125
LH0033CG	LH0033CJ†	Note 1	FET Input, High Speed	1500	100	0.9800	±9, ±90	24 @ 20, 1 k	G12, J08	-20 to +85
LH0033G	—	Note 1	FET Input, High Speed	1500	100	0.9800	±9, ±90	24 @ 20, 1 k	G12	-20 to +85
LH0063CK*	—	Note 1	FET Input, Very Fast	2400	200	0.9300	±13, ±260	40 @ 20, 50	K08	-20 to +85
LM310H	LM310N	Note 1	Voltage Follower	30	20	0.9999	±10, ±10	0.5 @ 20, 10 k	H08, N08	0 to +70

*TO-3 Package. †CERDIP Package. Note 1: 1995 Operational Amplifiers Databook.

Voltage Comparators

Mfr.'s Type			Databook Reference	Response Time (ns) Typ.	V _{OS} (mV) Max.	I _S (mA) Max.	I _N (nA) Max.	No. of Leads	Temperature Range (°C)
Metal Can	SOIC	PDIP							
LF311H	—	—	Note 1	200	10.0	7.500	0.15	H08	0 to +70
LM111H	—	LM111J-8	Note 1	200	7.5	7.500	250.00	H08, M08, N08	-55 to +125
LM311H	LM311M	LM311N	Note 1	200	7.5	7.500	250.00	H08, M08, N08	0 to +70
—	LM319M	LM319N	Note 1	80	8.0	12.500	1000.00	H10, J14, M14, N14	0 to +70
—	—	LM138J	Note 1	1300	5.0	2.500	250.00	J14, M14, N14	-55 to +125
—	LM339M	LM339N	Note 1	1300	5.0	2.500	250.00	J14, M14, N14	0 to +70
LM360H	—	LM360N	Note 1	14	5.0	32.000	20,000.00	M08, N08	0 to +70
—	—	LM361N	Note 1	14	5.0	20.000	30,000.00	H10, J14, M14, N14	0 to +70
LM193H	—	—	Note 1	1300	5.0	2.500	250.00	H08, M08, N08	-55 to +125
—	LM393M	LM393N	Note 1	1300	5.0	2.500	250.00	H08, M08, N08	0 to +70
—	LM2901M	LM2901N	Note 1	1300	7.0	2.500	250.00	M14, N14	-20 to +85
—	LM2903M	LM2903N	Note 1	1500	7.0	2.500	250.00	M08, N08	-20 to +85
—	LM392M	LM392N	Note 1	1300	10.0	1.000	400.00	M08, N08	0 to +70
—	LM2924M	—	Note 1	1300	10.0	1.000	400.00	M08, N08	-20 to +85
—	LM612IM	—	Note 1	1500	5.0	0.250	35.00	J08, M08, N08	-20 to +85
—	—	LM612IN	Note 1	1500	5.0	1.000	35.00	E20, J16, M16, N16	0 to +70
—	—	LM613CN	Note 1	1500	5.0	1.000	35.00	E20, J16, M16, N16	-20 to +85
—	LM613IWM	LM613IN	Note 1	1500	5.0	0.600	35.00	J16, M16, N16	-20 to +85
—	LM615IM	LM615IN	Note 1	1200	7.5	0.300	100.00	M08, N08	0 to +70
—	—	LP311N	Note 1	8000	5.0	0.100	25.00	M14, N14	0 to +70
—	—	LP339N	Note 1	4000	6.0	0.275	75.00	M16, N16	0 to +70
—	—	LP365N	Note 1	—	—	—	—	—	—

*CERDIP Package. Note 1: 1995 Operational Amplifiers Databook.

Audio Power Amps

Mfr.'s Type			Description	Databook Reference	Typical THD Rating (%)	THD Measurement Conditions	Supply Range	Single/Dual	No. of Leads	Temperature Range (°C)
TO-220	SOIC	PDIP								
—	—	LM380N	Audio Power Amplifier	Note 1	0.500	P _o = 4 W @ V _S = 22 V	10 V to 22 V	Single	N14	0 to +70
LM383T	—	—	7 Watt Audio Power Amp	Note 1	0.200	P _o = 2 W @ V _S = 14.4 V	5 V to 20 V	Single	T5	0 to +70
—	—	LM384N	5 Watt Power Audio Amp	Note 1	0.250	P _o = 4 W @ V _S = 22 V	12 V to 26 V	Single	N14	0 to +70
—	LM386M-1	LM386N-1	Low Voltage Audio Power Amp	Note 1	0.250	P _o = 0.125 W @ V _S = 6 V	4 V to 18 V	Single	M8, N8	0 to +70
—	—	LM386N-3	Low Voltage Audio Power Amp	Note 1	0.250	P _o = 0.125 W @ V _S = 6 V	4 V to 18 V	Single	N8	0 to +70
—	—	LM386N-4	Low Voltage Audio Power Amp	Note 1	0.250	P _o = 0.125 W @ V _S = 6 V	4 V to 18 V	Single	N8	0 to +70
—	—	LM388N-1	1.5 Watt Audio Power Amp	Note 1	0.100	P _o = 0.5 W @ V _S = 12 V	4 V to 12 V	Single	N14	0 to +70
—	LM831M	LM831N	Low Voltage Audio Power Amp	Note 1	0.250	P _o = 0.05 W @ V _S = 3 V	1.8 V to 6 V	Dual	M16, N16	0 to +70
LM1875T	—	—	20 Watt Power Audio Amp	Note 1	0.020	P _o = 20 W @ V _S = ±25 V	16 V to 60 V	Single	T5	0 to +70
—	LM1877M-9	LM1877N-9	Dual Power Audio Amp	Note 1	0.055	P _o = 1 W @ V _S = 14 V	6 V to 24 V	Dual	M14, N14	0 to +70
—	—	LM2878P*	Dual 5 Watt Power Audio Amp	Note 1	0.140	P _o = 2 W @ V _S = 22 V	6 V to 32 V	Dual	P11	0 to +70
LM3875T	—	—	40 Watt Power Audio Amp	Note 1	0.060	P _o = 40 W @ V _S = ±35 V	20 V to 84 V	Single	T11	0 to +70
LM3876T	—	—	40 Watt Power Audio Amp (with mute)	Note 1	0.060	P _o = 40 W @ V _S = ±35 V	20 V to 84 V	Single	T11	0 to +70
LM3886T	—	—	60 Watt Power Audio Amp (with mute)	Note 1	0.030	P _o = 60 W @ V _S = ±28V	20 V to 84 V	Single	T11	0 to +70

*Single Inline Package. Note 1: 1995 Application Specific Analog Products Databook.

Audio Control/Noise Reduction/Pre-Amps

Mfr.'s Type		Description	Databook Reference	V _{CC} (V)	S/N (dB)	THD (%)	Separation (dB)	No. of Leads	Temperature Range (°C)
PLCC	PDIP								
—	LM1894N	Dynamic Noise Reduction System (DNRRM)	Note 1	4.5 to 18	—	—	—	N14	0 to +70
—	LMC1982CIN	Digital Controlled Stereo Tone/Volume Control	Note 1	6 to 12	95	0.0080	80	N28	-40 to +85
—	LMC1983CIN	Digital Controlled Stereo Tone/Volume Control	Note 1	6 to 12	95	0.0080	80	N28	-40 to +85
—	LMC1992CCN	Digital Controlled Stereo Tone/Volume Control	Note 1	6 to 12	105	0.0300	95	N28	0 to +70
LMC835V	LMC835N	Digital Controlled Graphic Equalizer	Note 1	5 to 16	114	0.0015	—	N28, V28	-40 to +85

Mfr.'s Type			Description	Databook Reference	Input Referred Noise Voltage (nV/√Hz)	THD (%)	GBW (MHz)	Supply Range (V)	No. of Leads	Temperature Range (°C)
Metal Can	SOIC	PDIP								
—	—	LF347BN	Wide Bandwidth JFET	Note 2	20.0	0.02	4	±18	N14	0 to +70
—	LF351M	LF351N	Wide Bandwidth JFET	Note 2	25.0	0.02	4	±18	M8, N8	0 to +70
LF353H	LF353M	LF353N	Dual LF351	Note 2	16.0	0.02	4	±18	H8, M14, N14	0 to +70
—	—	LF444CN	Low Power JFET Quad	Note 2	35.0	0.02	1	±18	N14	0 to +70
—	LM833M	LM833N	Dual Audio Amplifier	Note 1	4.5	0.00	15	±18	M8, N8	-40 to +85
—	LM837M	LM837N	Quad Audio Amplifier	Note 1	4.5	0.00	25	±18	M14, N14	-40 to +85

The DNRRM system is licensed to National Semiconductor Corporation under U.S. Patent 3678416 and 3753159. Note 1: 1995 Application Specific Analog Products Databook. Note 2: 1995 Operational Amplifiers Databook.

Video Pre-Amps/CRT Drivers/Video Circuits

Mfr.'s Type			Description	Databook Reference	Vcc (V)	BW (MHz)	Gain (Typ.)	No. of Leads	Temperature Range (°C)
TO-220	SOIC	PDIP							
—	LM1201M	LM1201N	Video Amplifier System	Note 1	12	200	4-10	M16, N16	0 to +70
—	LM1202M	LM1202N	230 MHz Video Amplifier System	Note 1	12	230	16-20	M20, N20	0 to +70
—	—	LM1203N	RGB Video Preamp	Note 1	12	70	4-10	N28	0 to +70
—	—	LM1203AN	150 MHz RGB Video Preamp	Note 1	12	150	4-10	N28	0 to +70
—	LM1204V*	—	150 MHz RGB Video Preamp	Note 1	12	150	1-10	V44	0 to +70
—	—	LM1205N	130 MHz RGB Video Preamp with Blanking	Note 1	12	135	4-10	N28	0 to +70
—	—	LM1881N	Video Sync Separator	Note 1	5 to 13	—	—	M8, N8	0 to +70
LM2416CT	LM1881M	LM1881N	Triple 50 MHz CRT Driver	Note 1	80	50	13	T11	0 to +70

*PLCC Package. Note 1: Application Specific Analog Products Databook.

Analog To Digital Converters

8-Bit A/D Converters

Mfr.'s Type				Description	Databook Reference	Vcc (V)	Power Consumption (mW)	Accuracy ± (LSB)	Conversion Time (µs)	No. of Leads	Temperature Range (°C)
TO-220	SOIC	PDIP	PDIP								
—	—	ADC0801LCN	—	8-Bit µP Compatible ADC with Differential Input	Note 1	5	13	1/4	110,000	N20	0 to +70
—	—	ADC0802LCN	—	8-Bit µP Compatible ADC with Differential Input	Note 1	5	13	1/2	110,000	N20	0 to +70
—	—	ADC0803LCN	—	8-Bit µP Compatible ADC with Differential Input	Note 1	5	13	1/2	110,000	N20	0 to +70
—	—	ADC0804LCN	—	8-Bit µP Compatible ADC with Differential Input	Note 1	5	13	1/2	110,000	J20, M20, N20	0 to +70
ADC0804LCJ	ADC0804LCWM	—	—	8-Bit µP Compatible ADC with 8-Channel Multiplexer	Note 1	5	15	1/2	100,000	J28, N28, V28	0 to +70
ADC0808CCJ	—	ADC0808CCN	ADC0808CCV	8-Bit µP Convertible ADC with 8-Channel Multiplexer	Note 1	5	15	1	100,000	N28, V28	0 to +70
—	—	ADC0809CCN	ADC0809CCV	8-Bit Serial I/O ADC with 19-Channel Multiplexer	Note 1	5	15	1/2	16,000	N28, V28	0 to +70
—	—	ADC0819BCN	ADC0819CCV	8-Bit Serial I/O ADC with 19-Channel Multiplexer	Note 1	5	15	1	16,000	V28	0 to +70
—	—	ADC0820BCN	—	8-Bit High Speed µP Compatible ADC with Track/Hold	Note 1	5	75	1/2	1,200	N20	0 to +70
—	—	ADC0820CCN	—	8-Bit High Speed µP Compatible ADC with Track/Hold	Note 1	5	75	1	1,200	N20	0 to +70
—	ADC0831CCWM	—	—	8-Bit Serial I/O ADC	Note 1	5	15	1	32,000	M14, N8	0 to +70
—	—	ADC0833CCN	—	8-Bit Serial I/O ADC with 4-Channel MUX	Note 1	5	23	1	32,000	N14	0 to +70
—	—	ADC0834BCN	—	8-Bit Serial I/O ADC with 4-Channel MUX	Note 1	5	15	1/2	32,000	N14	0 to +70
—	—	ADC0834CCN	—	8-Bit Serial I/O ADC with 4-Channel MUX	Note 1	5	15	1	32,000	N14	0 to +70
—	ADC0838CCWM	—	—	8-Bit Serial I/O ADC with 8-Channel MUX	Note 1	5	15	1	32,000	M20, N20, V20	0 to +70
—	—	ADC0841CCN	—	8-Bit µP Compatible ADC	Note 1	5	15	1	40,000	N20	0 to +70
—	—	ADC0844BCN	—	8-Bit µP Compatible ADC with 4-Channel MUX	Note 1	5	15	1/2	40,000	N20	0 to +70
ADC0844CCJ	—	ADC0844CCN	—	8-Bit µP Compatible ADC with 4-Channel MUX	Note 1	5	15	1	40,000	J20, N20	0 to +70
—	—	ADC0848BCN	—	8-Bit µP Compatible ADC with 8-Channel MUX	Note 1	5	15	1/2	40,000	N24	0 to +70
—	—	ADC0848CCN	—	8-Bit µP Compatible ADC with 8-Channel MUX	Note 1	5	15	1	40,000	N24	0 to +70
—	—	ADC0851BIN	ADC0851BIV	8-Bit Analog Data Acquisition and Monitoring System	Note 1	5	50	1/2	18,000	N16, V20	-20 to +85
—	—	ADC0858BIN	ADC0858BIV	8-Bit Analog Data Acquisition and Monitoring System	Note 1	5	50	1/2	18,000	N20, V20	-20 to +85
—	—	ADC08631BIN	—	8-Bit High-Speed Serial I/O ADC	Note 1	5	20	1/2	8,000	N8	-20 to +85
—	ADC08632CIWM	ADC08632CIN	—	8-Bit High-Speed Serial I/O ADC with 2-Channel MUX	Note 1	5	20	1/2	8,000	M14, N8	-20 to +85
—	ADC08634BIWM	ADC08634BIN	—	8-Bit High-Speed Serial I/O ADC with 4-Channel MUX	Note 1	5	20	1/2	8,000	M14, N14	-20 to +85
—	ADC08638BIWM	ADC08638BIN	—	8-Bit High-Speed Serial I/O ADC with 8-Channel MUX	Note 1	5	20	1/2	8,000	M20, N20	-20 to +85
—	—	ADC08661BIN	—	500 ns ADC with S/H	Note 1	5	100	1/2	0.560	N20	-20 to +85
—	—	ADC08131BIN	—	8-Bit High-Speed Serial I/O ADC	Note 1	5	20	1/2	8,000	N8	-20 to +85
—	ADC08134BIWM	ADC08134BIN	—	8-Bit High-Speed Serial I/O ADC with 4-Channel MUX	Note 1	5	20	1/2	8,000	N14	-20 to +85
—	ADC08138BIWM	—	—	8-Bit High-Speed Serial I/O ADC with 8-Channel MUX	Note 1	5	20	1/2	8,000	M20	-20 to +85
—	—	ADC08161CIN	—	500 ns ADC with S/H, 2.5V Bandgap Reference	Note 1	5	100	1/2	0.560	N20	-20 to +85
—	ADC08231CIWM	ADC08231CIN	—	8-Bit Serial ADC with Reference, and Track/Hold	Note 1	5	20	1/2	2,000	M14, N8	-20 to +85
—	ADC08234CIWM	ADC08234CIN	—	8-Bit Serial ADC with MUX, Reference, and Track/Hold	Note 1	5	20	1/2	2,000	M14, N14	-20 to +85
—	ADC08238CIWM	ADC08238CIN	—	8-Bit Serial ADC with MUX, Reference, and Track/Hold	Note 1	5	20	1/2	2,000	M20, N20	-20 to +85

10-Bit A/D Converters

ADC1001CCJ	—	—	—	10-Bit µP Compatible ADC	Note 1	5	32	1	200,000	N20	-40 to +85
ADC1001CCJ-1	—	—	—	10-Bit µP Compatible ADC	Note 1	5	32	1	200,000	N20	-40 to +85
ADC10058CJ	—	—	—	10-Bit µP Compatible ADC	Note 1	5	130	1/2	50,000	N20, V20	-40 to +85
ADC10058CJ-1	—	—	—	10-Bit µP Compatible ADC	Note 1	5	130	1	50,000	N20, V20	-40 to +85
—	—	ADC1031CIN	—	10-Bit Serial I/O ADC with Analog Multiplexer and Track/Hold Function	Note 1	5	20	1/2	13,700	N8	-20 to +85
—	ADC1034CIWM	ADC1034CIN	—	10-Bit Serial I/O ADC with Analog Multiplexer and Track/Hold Function	Note 1	5	20	1/2	13,700	C16, M16, N16	-20 to +85
—	ADC1038CIWM	ADC1038CIN	—	10-Bit Serial I/O ADC with Analog Multiplexer and Track/Hold Function	Note 1	5	20	1/2	13,700	C20, M20, N20	-20 to +85
—	ADC10061CIWM	ADC10061CIN	—	10-Bit 600 ns ADC with Sample/Hold	Note 1	5	235	1	0.600	C20, M20, N20	-20 to +85
—	—	ADC10062CIN	—	10-Bit 600 ns ADC with Input Multiplexer and Sample/Hold	Note 1	5	235	1	0.600	C24, M24, N24	-20 to +85
ADC10064CIJ	—	—	—	10-Bit 600 ns ADC with Input Multiplexer and Sample/Hold	Note 1	5	235	1	0.600	C28, M28, N28	-20 to +85
—	—	ADC10154CIN	—	10-Bit ADC with 4-Channel MUX, Track/Hold and Ref.	Note 1	5, ±5	33*	0.6	4,400	C24, M24, N24	-20 to +85
—	ADC10158CIWM	ADC10158CIN	—	10-Bit ADC with 8-Channel MUX, Track/Hold and Ref.	Note 1	5, ±5	33*	0.6	4,400	C24, M24, N24	-20 to +85
—	ADC10662CIWM	ADC10662CIN	—	10-Bit 360 ns ADC with 2-Channel MUX and Sample/Hold	Note 1	5	235	1.5	0.466	C24, M24, N24	-20 to +85
—	ADC10664CIWM	ADC10664CIN	—	10-Bit 360 ns ADC with 4-Channel MUX and Sample/Hold	Note 1	5	235	1.5	0.466	C28, M28, N28	-20 to +85

*For unipolar operation

12-Bit A/D Converters

ADC1205CCJ-1	—	—	—	12-Bit + µP Compatible ADC	Note 1	±5, 5	25	1	100	N24	-40 to +85
ADC1241CIJ	—	—	—	Self-Calibrating 12-Bit µP Compatible ADC with Sample/Hold	Note 1	±5, 5	70	1/2	13.8	C28	-40 to +85

Note 1: 1995 Data Acquisition Databook.

Digital to Analog Converters

Mfr.'s Type				Description	Databook Reference	Vcc (V)	Power Consumption (mW)	Linearity (Max.) (%)	Settling Time (ns)	No. of Leads	Temperature Range (°C)
CERDIP	SOIC	PDIP	PLCC								
DAC0800LCJ	—	DAC0800LCN	—	8-Bit DAC	Note 1	±(5 to 15)	500	0.19	100	J16, N16	0 to +7
—	—	DAC0801LCN	—	8-Bit DAC	Note 1	±(5 to 15)	500	0.39	100	N16	0 to +7
—	—	DAC0806LCN	—	8-Bit DAC	Note 1	±(5 to 15)	33	0.78	150	N16	0 to +7
—	DAC0808LCM	DAC0808LCN	—	8-Bit DAC	Note 1	±(5 to 15)	33	0.19	150	M16, N16	0 to +7
DAC0830LCJ	—	DAC0830LCN	—	8-Bit µP Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.05	1 µs	J20, N20	0 to +7
DAC0832LCJ	DAC0832LCWM	DAC0832LCN	—	8-Bit µP Compatible-Buffered DAC	Note 1	5 to 15	20	0.20	1 µs	J20, M20, N20	0 to +7
DAC0854CIJ	DAC0854CIWM	DAC0854CIN	—	Quad 8-Bit Voltage-Output Serial DAC with Readback	Note 1	5	95	0.19	2.7 µs	J20, M20, N20	-20 to +85
—	—	DAC1006LCN	—	10-Bit µP Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.05	500	N20	0 to +7
—	—	DAC1007LCN	—	10-Bit µP Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.10	500	N20	0 to +7
—	—	DAC1008LCN	—	10-Bit µP Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.20	500	N20	0 to +7
—	—	DAC1020LCN	DAC1020LCV	10-Bit Binary Multiplying DAC	Note 1	5 to 15	10	0.05	500	N16, V20	0 to +7
—	—	DAC1021LCN	—	10-Bit Binary Multiplying DAC	Note 1	5 to 15	10	0.10	500	N16	0 to +7
—	—	DAC1022LCN	—	10-Bit Binary Multiplying DAC	Note 1	5 to 15	10	0.20	500	N16	0 to +7
DAC1208LCJ	—	—	—	12-Bit µP Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.01	1 µs	J24	-40 to +85

Digital to Analog Converters (continued)

Mfr.'s Type				Description	Databook Reference	V _{CC} (V)	Power Consumption (mW)	Linearity (Max.) (%)	Settling Time (ns)	No. of Leads	Temperature Range (°C)
CERDIP	SOIC	PDIP	PLCC								
DAC1210LCJ	—	—	—	12-Bit μ P Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.05	1 μ s	J24	-40 to +85
DAC1218LCJ	—	—	—	12-Bit Multiplying DAC	Note 1	5 to 15	20	0.01	1 μ s	J18	-40 to +85
DAC1230LCJ	—	—	—	12-Bit μ P Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.01	1 μ s	J20	-40 to +85
DAC1231LCJ	—	—	—	12-Bit μ P Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.02	1 μ s	J20	-40 to +85
DAC1232LCJ	—	—	—	12-Bit μ P Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.05	1 μ s	J20	-40 to +85
DAC1232LCJ-1	—	—	—	12-Bit μ P Compatible, Double-Buffered DAC	Note 1	5 to 15	20	0.05	1 μ s	J20	-40 to +85

Note 1: 1995 Data Acquisition Databook.

Voltage References

Mfr.'s Type				Description	Databook Reference	V _{ref} (V)	I _{range}	Drift (ppm/°C)	V Tolerance (%)	No. of Leads	Temperature Range (°C)
Metal Can	SOIC	SOT-23	TO-92								
LM113H	—	—	—	Reference Diode	Note 1	1.20	500 μ A to 20 mA	100	$\pm$ 5	H2	-55 to +125
LM136AH-2.5	—	—	—	Reference Diode	Note 1	2.50	400 μ A to 10 mA	72	$\pm$ 1	H3/4	-55 to +125
LM136H-2.5	—	—	—	Reference Diode	Note 1	2.50	400 μ A to 10 mA	72	$\pm$ 2	H3/4	-55 to +125
LM185H-2.5	—	—	—	Micropower Voltage Reference Diode	Note 1	2.50	10 μ A to 20 mA	30, 50, 150	$\pm$ 1.5	H2	-55 to +125
LM236AH-5.0	—	—	—	Reference Diode	Note 1	5.00	400 μ A to 10 mA	72	$\pm$ 1	H3/4	-40 to +85
LM236H-2.5	—	—	—	Reference Diode	Note 1	2.50	400 μ A to 10 mA	72	$\pm$ 2	H3/4	-40 to +85
—	—	—	LM285BXZ-2.5	Micropower Voltage Reference Diode	Note 1	2.50	10 μ A to 20 mA	30	$\pm$ 1	Z3	-40 to +85
—	—	—	LM285BYZ-2.5	Micropower Voltage Reference Diode	Note 1	2.50	10 μ A to 20 mA	50	$\pm$ 1	Z3	-40 to +85
—	—	—	—	Micropower Voltage Reference Diode	Note 1	1.20	10 μ A to 20 mA	150	$\pm$ 1	M8	-55 to +125
LM313H	—	—	—	Reference Diode	Note 1	1.20	500 μ A to 20 mA	1100	$\pm$ 5	H2	-40 to +85
—	—	—	—	Precision Reference	Note 1	6.90	600 μ A to 15 mA	20	$\pm$ 5	Z3	0 to +70
—	—	—	—	Precision Reference	Note 1	6.90	600 μ A to 15 mA	50	$\pm$ 5	Z3	0 to +70
—	—	—	—	Precision Reference	Note 1	6.90	600 μ A to 15 mA	100	$\pm$ 5	Z3	0 to +70
—	—	—	—	Reference Diode	Note 1	2.50	400 μ A to 10 mA	54	$\pm$ 2	M8, Z3	0 to +70
—	—	—	—	Reference Diode	Note 1	2.50	400 μ A to 10 mA	54	$\pm$ 2	M8, Z3	0 to +70
—	—	—	—	Reference Diode	Note 1	5.00	400 μ A to 10 mA	54	$\pm$ 4	Z3	0 to +70
—	—	—	—	Reference Diode	Note 1	5.00	400 μ A to 10 mA	54	$\pm$ 4	M8, Z3	0 to +70
—	—	—	—	Micropower Voltage Reference Diode	Note 1	1.20	10 μ A to 20 mA	150	$\pm$ 1	M8, Z3	0 to +70
—	—	—	—	Micropower Voltage Reference Diode	Note 1	2.50	10 μ A to 20 mA	150	$\pm$ 1	M8, Z3	0 to +70
—	—	—	—	Adjustable Micropower Voltage Reference	Note 1	1.24 to 5.3	10 μ A to 20 mA	150	$\pm$ 1	M8, Z3	0 to +70
—	—	—	—	Micropower Voltage Reference Diode	Note 1	1.20	10 μ A to 20 mA	150	$\pm$ 1	M8, Z3	0 to +70
—	—	—	—	Micropower Voltage Reference Diode	Note 1	2.50	10 μ A to 20 mA	150	$\pm$ 1	M8, Z3	0 to +70
—	—	—	—	Precision Reference	Note 1	7.00	500 μ A to 15 mA	2, 5, 50	$\pm$ 5	H4	9 to +70
LM399H	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	10.00	60 μ A to 15 mA	100	$\pm$ 0.1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	2.50	60 μ A to 15 mA	100	$\pm$ 0.1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	4.10	60 μ A to 15 mA	100	$\pm$ 0.1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	5.00	60 μ A to 15 mA	100	$\pm$ 0.1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	8.20	60 μ A to 15 mA	100	$\pm$ 0.1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	5.00	60 μ A to 15 mA	100	$\pm$ 0.2	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	8.20	60 μ A to 15 mA	100	$\pm$ 0.2	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	10.00	60 μ A to 15 mA	100	$\pm$ 0.2	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	2.50	60 μ A to 15 mA	100	$\pm$ 0.2	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	4.10	60 μ A to 15 mA	100	$\pm$ 0.2	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	10.00	60 μ A to 15 mA	100	$\pm$ 0.5	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	2.50	60 μ A to 15 mA	100	$\pm$ 0.5	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	4.10	60 μ A to 15 mA	100	$\pm$ 0.5	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	5.00	60 μ A to 15 mA	100	$\pm$ 0.5	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	8.20	60 μ A to 15 mA	100	$\pm$ 0.5	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	10.00	60 μ A to 15 mA	150	$\pm$ 1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	2.50	60 μ A to 15 mA	150	$\pm$ 1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	4.10	60 μ A to 15 mA	150	$\pm$ 1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	5.00	60 μ A to 15 mA	150	$\pm$ 1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	8.20	60 μ A to 15 mA	150	$\pm$ 1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	1.20	60 μ A to 15 mA	100	$\pm$ 0.1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	1.20	60 μ A to 15 mA	100	$\pm$ 0.2	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	1.20	60 μ A to 15 mA	100	$\pm$ 0.5	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	Adj.	60 μ A to 15 mA	100	$\pm$ 0.5	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	1.20	60 μ A to 15 mA	150	$\pm$ 1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	Adj.	60 μ A to 15 mA	150	$\pm$ 1	M8, M3, Z3	-40 to +85
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	1.20	60 μ A to 15 mA	150	$\pm$ 2	M8, M3, Z3	-40 to +85
—	—	—	—	Micropower Shunt Voltage Reference	Note 1	2.50	100 μ A to 15 mA	30	$\pm$ 2	M3	0 to +70
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	10.00	60 μ A to 15 mA	25	$\pm$ 0.5%	Z3	0 to +70
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	2.50	60 μ A to 15 mA	25	$\pm$ 0.5%	Z3	0 to +70
—	—	—	—	Precision Micropower Shunt Voltage Reference	Note 1	5.00	60 μ A to 15 mA	25	$\pm$ 0.5%	Z3	0 to +70

Note 1: 1995 Data Acquisition Databook.

Temperature Sensors

Mfr.'s Type			Description	Databook Reference	V _{CC} (V)	Accuracy*	Output Scale	No. of Leads	Temperature Range (°C)
Metal Can	SOIC	TO-92							
LM34CH	—	LM34CZ	Precision Fahrenheit Temperature Sensor	Note 1	5 to 30	$\pm$ 3°F	10 mV/°F	H3/4, Z3	-40° to 230°F
LM34CAH	—	LM34CAZ	Precision Fahrenheit Temperature Sensor	Note 1	5 to 30	$\pm$ 2°F	10 mV/°F	H3/4, Z3	-40° to 230°F
LM34DH	—	LM34DZ	Precision Fahrenheit Temperature Sensor	Note 1	5 to 30	$\pm$ 4°F	10 mV/°F	H3/4, Z3	32° to 212°F
LM35AH	—	—	Precision Centigrade Temperature Sensor	Note 1	5 to 30	$\pm$ 1°C	10 mV/°F	H3/4, Z3	-55° to 150°C
LM35CH	—	—	Precision Centigrade Temperature Sensor	Note 1	5 to 30	$\pm$ 1.5°C	10 mV/°F	H3/4, Z3	-40° to 110°C
LM35CAH	—	—	Precision Centigrade Temperature Sensor	Note 1	5 to 30	$\pm$ 1°C	10 mV/°F	H3/4, Z3	-40° to 110°C
LM35DH	—	—	Precision Centigrade Temperature Sensor	Note 1	4 to 10	$\pm$ 2°C	10 mV/°F	H3/4, Z3	0° to 100°C
LM135H	—	—	Precision Centigrade Temperature Sensor	Note 1	1 to 40	$\pm$ 1.3°C	10 mV/°K	H3/4, Z3	-55° to 150°C
LM135AH	—	—	Precision Centigrade Temperature Sensor	Note 1	1 to 40	$\pm$ 1.3°C	10 mV/°K	H3/4, Z3	-55° to 150°C
—	—	—	Precision Centigrade Temperature Sensor	Note 1	5 to 40	$\pm$ 3°C	10 mV/°K	H3/4, Z3	-25° to 100°C
—	—	—	Precision Centigrade Temperature Sensor	Note 1	1 to 40	$\pm$ 1.3°C	10 mV/°K	H3/4, Z3	-40° to 125°C
—	—	—	Precision Centigrade Temperature Sensor	Note 1	5 to 40	$\pm$ 3°C	10 mV/°K	H3/4, Z3	0° to 70°C
—	—	—	Precision Temperature Sensor	Note 1	1 to 40	$\pm$ 1.3°C	10 mV/°K	H3/4, Z3	-40° to 100°C
—	—	—	Precision Temperature Sensor	Note 1	1 to 40	$\pm$ 1.3°C	10 mV/°K	H3/4, Z3	-40° to 100°C

*Accuracy is measured over T(min) to T(max) uncalibrated. Note 1: 1995 Data Acquisition Databook.

Simple Switcher™ Power Converters

Mfr.'s Type			Current (A)	Databook Reference	Standard Operating Modes	Input Voltage (V)	Output Voltage (V)	Switching Frequency (kHz)	Efficiency (%)	No. of Leads	Temperature Range (T _j °C)
SOIC	PDIP	TO-220									
—	LM2574HVN-12	—	0.5	Note 1	Step-Down	4 to 60	12.0	52	77 to 88	N8	-40 to +125
LM2574HVM-15	LM2574HVN-15	—	0.5	Note 1	Step-Down	4 to 60	15.0	52	77 to 88	M14, N8	-40 to +125
LM2574HVM-5.0	LM2574HVN-5.0	—	0.5	Note 1	Step-Down	4 to 60	5.0	52	77 to 88	M14, N8	-40 to +125
—	LM2574HVN-ADJ	—	0.5	Note 1	Step-Down	4 to 60	1.23 to 57	52	77 to 88	N8	-40 to +125
LM2574M-12	LM2574N-12	—	0.5	Note 1	Step-Down	4 to 40	12.0	52	77 to 88	M14, N8	-40 to +125
—	LM2574N-15	—	0.5	Note 1	Step-Down	4 to 40	15.0	52	77 to 88	N8	-40 to +125
LM2574M-3.3	LM2574N-3.3	—	0.5	Note 1	Step-Down	4 to 40	3.3	52	77 to 88	M14, N8	-40 to +125
LM2574M-5.0	LM2574N-5.0	—	0.5	Note 1	Step-Down	4 to 40	5.0	52	77 to 88	M14, N8	-40 to +125
LM2574M-ADJ	LM2574N-ADJ	—	0.5	Note 1	Step-Down	4 to 40	1.23 to 37	52	77 to 88	M14, N8	-40 to +125
—	LM2575HVN-12	LM2575HVT-12	1.0	Note 1	Step-Down	4 to 60	12.0	52	77 to 88	N16, T5	-40 to +125
—	LM2575HVN-15	LM2575HVT-15	1.0	Note 1	Step-Down	4 to 60	15.0	52	77 to 88	N16, T5	-40 to +125
LM2575HVM-5.0	LM2575HVN-5.0	LM2575HVT-5.0	1.0	Note 1	Step-Down	4 to 60	5.0	52	77 to 88	M24, N16, T5	-40 to +125
LM2575HVM-ADJ	LM2575HVN-ADJ	LM2575HVT-ADJ	1.0	Note 1	Step-Down	4 to 60	1.23 to 57	52	77 to 88	M24, N16, T5	-40 to +125
—	LM2575N-12	LM2575T-12	1.0	Note 1	Step-Down	4 to 40	12.0	52	77 to 88	N16, T5	-40 to +125
—	LM2575N-15	LM2575T-15	1.0	Note 1	Step-Down	4 to 40	15.0	52	77 to 88	N16, T5	-40 to +125
—	LM2575N-5.0	LM2575T-5.0	1.0	Note 1	Step-Down	4 to 40	3.3	52	77 to 88	T5	-40 to +125
LM2575M-5.0	LM2575N-5.0	LM2575T-5.0	1.0	Note 1	Step-Down	4 to 40	5.0	52	77 to 88	M24, N16, T5	-40 to +125
LM2575M-ADJ	LM2575N-ADJ	LM2575T-ADJ	1.0	Note 1	Step-Down	4 to 40	1.23 to 37	52	77 to 88	M24, N16, T5	-40 to +125
—	—	LM2576HVT-15	3.0	Note 1	Step-Down	4 to 60	12.0	52	77 to 88	T5	-40 to +125
—	—	LM2576HVT-15	3.0	Note 1	Step-Down	4 to 60	15.0	52	77 to 88	T5	-40 to +125
—	—	LM2576HVT-5.0	3.0	Note 1	Step-Down	4 to 60	5.0	52	77 to 88	T5	-40 to +125
—	—	LM2576HVT-ADJ	3.0	Note 1	Step-Down	4 to 60	1.23 to 57	52	77 to 88	T5	-40 to +125
—	—	LM2576T-12	3.0	Note 1	Step-Down	4 to 40	12.0	52	77 to 88	T5	-40 to +125
—	—	LM2576T-15	3.0	Note 1	Step-Down	4 to 40	15.0	52	77 to 88	T5	-40 to +125
—	—	LM2576T-5.0	3.0	Note 1	Step-Down	4 to 40	5.0	52	77 to 88	T5	-40 to +125
—	—	LM2576T-ADJ	3.0	Note 1	Step-Down	4 to 40	1.23 to 37	52	77 to 88	T5	-40 to +125
LM2577M-12	LM2577N-12	LM2577T-12	3.0	Note 1	Step-Up, Flyback	3.5 to 40	12.0	52	80	M24, N16, T5	-40 to +125
—	LM2577N-15	LM2577T-15	3.0	Note 1	Step-Up, Flyback	3.5 to 40	15.0	52	80	N16, T5	-40 to +125
LM2577M-ADJ	LM2577N-ADJ	LM2577T-ADJ	3.0	Note 1	Step-Up, Flyback	3.5 to 40	Adj.	52	80	M24, N16, T5	-40 to +125

Note 1: 1995 Power ICs Databook.

Switching Regulators

Mfr.'s Type			Output Current (A)	Databook Reference	Standard Operating Modes	Input Voltage (V)	Output Voltage (V)	Switching Frequency (kHz)	Efficiency (%)	No. of Leads	Temperature Range (T _j °C)
SOIC	PDIP	TO-3									
—	—	LH1605CK	5.00	Note 1	Step-Down	8 to 35	3 to 30	6 to 100	75	K9	-25 to +85
—	LM78S40CN	—	1.50	Note 1	Step-Up, Step-Down, Invert	2.5 to 50	Adjustable	0.1 to 100	75	N16	-40 to +125
—	LM78S40N	—	1.50	Note 1	Step-Up, Step-Down, Invert	2.5 to 50	Adjustable	0.1 to 100	75	N16	-40 to +125
LM2578AM	LM2578AN	—	0.75	Note 1	Step-Up, Step-Down, Flyback, Invert	2 to 40	Adjustable	0.001 to 100	—	M8, N8	-40 to +125
—	LM3578AN	—	0.75	Note 1	Step-Up, Step-Down, Flyback, Invert	2 to 40	Adjustable	0.001 to 100	—	N8	-40 to +125
—	LM2524DN	—	0.20	Note 1	Step-Up, Step-Down, Flyback, Invert	55 to 40	Adjustable	1 to 550	—	N16	-40 to +125
LM3524DM	—	—	0.20	Note 1	Step-Up, Step-Down, Flyback, Invert	5 to 40	Adjustable	1 to 350	—	N16	-40 to +125
—	LMC7660IN	—	0.05	Note 1	Invert	1.5 to 10	-1.5 to -10	10	90	M8	-40 to +125

Note 1: 1995 Power ICs Databook.

Switched Capacitor Filters

Mfr.'s Type		Description	Databook Reference	Type	Max. Order	Frequency Range (kHz)	Q Accuracy (%)	No. of Leads	Temperature Range (°C)
SOIC	PDIP								
MF4CWM-100	MF4CN-100	4th Order Switched Capacitor Butterworth Low-Pass Filter	Note 1	Lowpass	4th	0.1 to -20	—	WM14, N8	0 to +70
—	MF4CN-50	4th Order Switched Capacitor Butterworth Low-Pass Filter	Note 1	Lowpass	4th	0.1 to -20	—	WM14, N8	0 to +70
MF5CWM	—	Universal Monolithic Switched Capacitor Filter	Note 1	Universal	2nd	0.1 to -30	±6	WM14	0 to +70
—	MF6CN-100	6th Order Switched Capacitor Butterworth Low-Pass Filter	Note 1	Lowpass	6th	0.1 to -20	—	N14	0 to +70
MF6CWM-50	MF6CN-50	6th Order Switched Capacitor Butterworth Low-Pass Filter	Note 1	Lowpass	6th	0.1 to -20	—	WM14, N14	0 to +70
—	MF10CCN	Universal Monolithic Dual Switched Capacitor Filter	Note 1	Universal	4th	0.1 to -30	±2	N20	0 to +70

Note 1: 1995 Data Acquisition Databook

Sample/Hold and Voltage to Frequency Converters

Mfr.'s Type		Description	Databook Reference	V _{cc} (V)	Acquisition (ns)	Accuracy (%)	No. of Leads	Temperature Range (°C)
Metal Can	PDIP							
LF398H	LF398N	Monolithic Sample and Hold Circuit	Note 1	±(5 to 18)	4000	0.02	H8, N8	0 to +70
—	LF398AN	Monolithic Sample and Hold Circuit	Note 1	±(5 to 18)	4000	0.01	N8	0 to +70
—	LM231N	Precision Voltage-to-Frequency Converter	Note 1	—	—	—	N8	-20 to +85
—	LM331N	Precision Voltage-to-Frequency Converter	Note 1	—	—	—	N8	0 to +70

Note 1: 1995 Data Acquisition Databook

Low Dropout Regulators

Mfr.'s Type				Output Current (A)	Databook Reference	Output Voltage (V)	Dropout Voltage* (V)	Typical Input Voltage (V)	Maximum Quiescent Current (mA)	Typical Polarity Protection (V)	Reverse Transient Protection (V)	No. of Leads	Temperature Range (°C)
SOIC	PDIP	TO-220	TO-92										
—	—	LM2940T-10.0	—	1.00	Note 1	10	0.50	26	10.000	-15	-1.20	T3	-40 to +150
—	—	LM2940T-12.0	—	1.00	Note 1	12	0.50	26	10.000	-15	-1.20	T3	-40 to +150
—	—	LM2940T-15.0	—	1.00	Note 1	15	0.50	26	10.000	-15	-1.20	T3	-40 to +150
—	—	LM2940T-5.0	—	1.00	Note 1	5	0.50	26	10.000	-15	-1.20	T3	-40 to +150
—	—	LM2940T-8.0	—	1.00	Note 1	8	0.50	26	10.000	-15	-1.20	T3	-40 to +150
—	—	LM2940T-9.0	—	1.00	Note 1	9	0.50	26	10.000	-15	-1.20	T3	-40 to +150
—	—	LM2940CT-12	—	1.00	Note 1	12	0.50	26	10.000	-15	-1.00	T3	0 to +150
—	—	LM2940CT-15	—	1.00	Note 1	15	0.50	26	10.000	-15	-1.00	T3	0 to +150
—	—	LM2940CT-5.0	—	1.00	Note 1	5	0.50	26	10.000	-15	-1.00	T3	0 to +150
—	—	LM2941T	—	1.00	Note 1	Adj. (5 to 20)	0.50	26	10.000	-15	-1.20	T5	-40 to +150
—	—	LM2941CT	—	1.00	Note 1	Adj. (5 to 20)	0.50	26	10.000	-15	-1.00	T5	0 to +150
—	—	LM2990T-12	—	1.00	Note 1	-12	0.60	-26	1.000	-15	-1.00	T5	-40 to +125
—	—	LM2990T-15	—	1.00	Note 1	-15	0.60	-26	1.000	-15	-1.00	T5	-40 to +125
—	—	LM2990T-5.0	—	1.00	Note 1	-5	0.60	-26	1.000	-15	-1.00	T5	-40 to +125
—	—	LM2990T-5.2	—	1.00	Note 1	-5.2	0.60	-26	1.000	-15	-1.00	T5	-40 to +125

* Typical Dropout Voltage Specified Under Full Load Operation. Note 1: 1995 Power ICs Databook

Low Dropout Regulators (continued)

Mfr.'s Type				Output Current (A)	Databook Reference	Output Voltage (V)	Dropout Voltage* (V)	Typical Input Voltage (V)	Maximum Quiescent Current (mA)	Typical Polarity Protection (V)	Reverse Transient Protection (V)	No. of Leads	Temperature Range (°C)
SOIC	PDIP	TO-220	TO-92										
—	—	LM2991T	—	1.00	Note 1	Adj. (-2 to -25)	0.60	-26	1,000	-15	-1.00	T5	-40 to +125
—	—	LM2925T	—	0.75	Note 1	5	0.82	26	3,000	-15	-1.20	T5	-40 to +150
—	—	LM2935T	—	0.75	Note 1	Two 5V Outputs	0.82	26	3,000	-15	-1.20	T5	-40 to +150
—	—	LM2926T	—	0.50	Note 1	5	0.35	26	2,000	-18	-1.60	T5	-40 to +125
—	—	LM2937ET-10	—	0.50	Note 1	10	0.50	26	2,000	-15	-1.20	T3	-40 to +125
—	—	LM2937ET-12	—	0.50	Note 1	12	0.50	26	2,000	-15	-1.20	T3	-40 to +125
—	—	LM2937ET-15	—	0.50	Note 1	15	0.50	26	2,000	-15	-1.20	T3	-40 to +125
—	—	LM2937ET-5.0	—	0.50	Note 1	5	0.50	26	2,000	-15	-1.20	T3	-40 to +125
—	—	LM2937ET-8.0	—	0.50	Note 1	8	0.50	26	2,000	-15	-1.20	T3	-40 to +125
LP2952IM	LP2952IN	—	—	0.25	Note 1	Adj. (1.23 to 29)	0.47	30	0.130	-20	-1.20	M16, N14	-40 to +125
LP2953IM	LP2953IN	—	—	0.25	Note 1	Adj. (1.23 to 29)	0.47	30	0.130	-20	-1.20	M16, N14	-40 to +125
—	—	LP2954IT	—	0.25	Note 1	-5	0.47	30	0.090	-20	-1.20	M16, N14	-40 to +125
—	—	LP2957IT	—	0.25	Note 1	5	0.47	30	0.150	-20	-1.20	T3	-40 to +125
—	—	LM330T-5.0	—	0.15	Note 1	5	0.32	26	3,500	-12	-1.66	T3	0 to +125
—	—	LM2930T-5.0	—	0.15	Note 1	5	0.32	26	4,000	-6	-3.33	T3	-40 to +125
—	—	LM2930T-8.0	—	0.15	Note 1	8	0.32	26	4,000	-6	-3.33	T3	-40 to +125
LM2931M-5.0	—	LM2931T-5.0	LM2931Z-5.0	0.10	Note 1	5	0.30	24	0.400	-15	-1.20	M8, T3, Z3	-40 to +125
—	—	LM2931CT	—	0.10	Note 1	Adj. (3 to 29)	0.30	24	0.400	-15	-1.20	T5	-40 to +125
—	—	—	LP2950CZ-5.0	0.10	Note 1	5	0.38	30	0.075	-15	-1.20	Z3	-40 to +125
LP2951CM	LP2951CN	—	—	0.10	Note 1	Adj. (1.24 to 29)	0.38	30	0.075	-15	-1.20	M8, N8	-40 to +125
—	—	—	LM2936Z-5.0	0.05	Note 1	5	0.20	40	0.009	-15	-1.20	Z3	-40 to +125

*Typical dropout voltage specified under full load operation. Note 1: 1995 Power ICs Databook.

Adjustable Positive Voltage Regulators

Mfr.'s Type				Output Current (A)	Databook Reference	Output Voltage (V)	Input Voltage* (V)	No. of Leads	Temperature Range (°C)
Metal Can	PDIP	TO-220	TO-92						
—	—	LM338T	—	3.0	Note 1	1.2 to 32	Diff. ≤ 40	T3	0 to +125
—	—	LM350T	—	3.0	Note 1	1.2 to 32	Diff. ≤ 35	T3	0 to +125
—	—	LM350AT	—	1.5	Note 1	1.2 to 32	Diff. ≤ 35	T3	-40 to +125
—	—	LM317T	—	1.5	Note 1	1.2 to 37	Diff. ≤ 40	T3	0 to +125
—	—	—	—	1.5	Note 1	1.2 to 37	Diff. ≤ 40	T3	-40 to +125
—	—	LM317HVT	—	0.5	Note 1	1.2 to 57	Diff. ≤ 60	T3	0 to +125
LM117H	—	—	—	0.5	Note 1	1.2 to 57	Diff. ≤ 40	H3	-55 to +150
LM317H	—	—	—	0.5	Note 1	1.2 to 37	Diff. ≤ 40	H3	0 to +125
LM317AH	—	—	—	0.5	Note 1	1.2 to 37	Diff. ≤ 40	H3	-40 to +125
LM317HVV	—	—	—	0.5	Note 1	1.2 to 57	Diff. ≤ 60	H3	0 to +125
—	—	—	—	0.1	Note 1	1.2 to 37	Diff. ≤ 40	P3	0 to +125
—	LM317MP	—	—	0.1	Note 1	1.2 to 37	Diff. ≤ 40	M8, Z3	-40 to +125
—	LM317LM**	—	—	0.1	Note 1	1.2 to 37	Diff. ≤ 40	M8, Z3	-40 to +125

*In cases where the regulator is "floating" the maximum input-to-output voltage differential is listed. **SOIC Package. ***TO-3 Steel Package. Note 1: 1995 Power ICs Databook.

Adjustable Negative Voltage Regulators

Mfr.'s Type				Output Current (A)	Databook Reference	Output Voltage (V)	Input Voltage* (V)	No. of Leads	Temperature Range (°C)
Metal Can	PDIP	TO-220	TO-92						
LM337KSTEEL***	—	LM337T	—	1.5	Note 1	-1.2 to -37	Diff. ≤ 40	K2, T3	0 to +125
LM337H	—	—	—	0.5	Note 1	-1.2 to -37	Diff. ≤ 40	H3	0 to +125
—	LM337LM	—	LM337LZ	0.1	Note 1	-1.2 to -37	Diff. ≤ 40	M8, Z3	-25 to +125

*In cases where the regulator is "floating" the maximum input-to-output voltage differential is listed. **SOIC Package. ***TO-3 Steel Package. Note 1: 1995 Power ICs Databook.

Building Block Adjustable Positive and Negative Voltage Regulators

Mfr.'s Type		Output Current (A)	Databook Reference	Output Voltage (V)	Input Voltage* (V)	No. of Leads	Temperature Range (°C)
Metal Can	PDIP						
LM723H	—	150 mA	Note 1	2 to 37	9.5 to 40	H10	-55 to +150
—	LM723CN	150 mA	Note 1	2 to 37	9.5 to 40	N14	0 to +150
LM305H	—	45 mA	Note 1	4.5 to 40	8.5 to 50	H8	0 to +85
—	LM376N	45 mA	Note 1	5 to 37	9 to 40	N8	0 to +100

*In cases where the regulator is "floating" the maximum input-to-output voltage differential is listed. Note 1: 1995 Power ICs Databook.

Fixed Positive Voltage Regulators

Mfr.'s Type				Output Current (A)	Databook Reference	Output Voltage (V)	Max. Input Voltage* (V)	No. of Leads	Temperature Range (°C)
Metal Can	SOIC	TO-220	TO-92						
—	—	LM7805CT	—	1.0	Note 1	5.0	35	T3	0 to +150
—	—	LM7808CT	—	1.0	Note 1	8.0	35	T3	0 to +150
—	—	LM7812CT	—	1.0	Note 1	12.0	35	T3	0 to +150
—	—	LM7815CT	—	1.0	Note 1	15.0	35	T3	0 to +150
—	—	LM7818CT	—	1.0	Note 1	18.0	35	T3	0 to +150
LM340K-5.0*	—	LM340T-5.0	—	1.0	Note 1	5.0	35	K2, T3	0 to +150
—	—	LM340T-12	—	1.0	Note 1	12.0	35	T3	0 to +150
—	—	LM340T-15	—	1.0	Note 1	15.0	35	T3	0 to +150
LM78M05CH	—	LM78M05CT	—	0.5	Note 1	5.0	35	H3, T3	-40 to +125
LM78M12CH	—	LM78M12CT	—	0.5	Note 1	12.0	35	H3, T3	-40 to +125
LM78M15CH	—	LM78M15CT	—	0.5	Note 1	15.0	35	H3, T3	-40 to +125
—	—	LM341T-12	—	0.5	Note 1	12.0	35	T3	-40 to +125
—	—	LM341T-15	—	0.5	Note 1	15.0	35	T3	-40 to +125
—	—	LM341T-5.0	—	0.5	Note 1	5.0	35	T3	-40 to +125
—	LM78L05ACM	—	—	0.1	Note 1	5.0	35	M8, Z3	0 to +125
—	—	—	LM78L09ACZ	0.1	Note 1	9.0	35	Z3	0 to +125

Fixed Positive Voltage Regulators (continued)

— NEW —

Mr.'s Type				Output Current (A)	Databook Reference	Output Voltage (V)	Max. Input Voltage** (V)	No. of Leads	Temperature Range (°C)
Metal Can	SOIC	TO-220	TO-92						
—	LM78L12ACM	—	LM78L12ACZ	0.1	Note 1	12.0	35	M8, Z3	0 to +125
—	LM78L15ACM	—	LM78L15ACZ	0.1	Note 1	15.0	35	M8, Z3	0 to +125
LM140LAH-5.0	—	—	—	0.1	Note 1	5.0	35	H3	-55 to +150
LM340LAH-12	—	—	—	0.1	Note 1	12.0	35	H3	0 to +150
LM340LAH-5.0	—	—	LM340LAZ-5.0	0.1	Note 1	5.0	35	H3, Z3	0 to +150

*TO-3 Package. **Minimum Input Voltage for Fixed Negative Voltage Regulators. Note 1: 1995 Power ICs Databook.

Fixed Negative Voltage Regulators

Mr.'s Type				Output Current (A)	Databook Reference	Output Voltage (V)	Max. Input Voltage* (V)	No. of Leads	Temperature Range (°C)
Metal Can	SOIC	TO-220	TO-92						
—	—	LM7905CT	—	1.5	Note 1	-5.0	-35	T3	0 to +125
—	—	LM7912CT	—	1.5	Note 1	-12.0	-35	T3	0 to +125
—	—	LM7915CT	—	1.5	Note 1	-15.0	-35	T3	0 to +125
LM320K-15*	—	LM320T-15	—	1.5	Note 1	-15.0	-25	K2, T3	0 to +125
—	—	LM320T-12	—	1.5	Note 1	-12.0	-35	T3	0 to +125
—	—	LM320T-5.0	—	1.5	Note 1	-5.0	-35	T3	0 to +125
—	—	LM79M05CT	—	0.6	Note 1	-5.0	-30	T3	0 to +125
—	—	LM79M12CT	—	0.5	Note 1	-12.0	-35	T3	0 to +125
—	—	LM79M15CT	—	0.5	Note 1	-15.0	-35	T3	0 to +125
LM120H-5.0	—	—	—	0.5	Note 1	-5.0	-25	H3	-55 to +150
LM320H-5.0	—	—	—	0.5	Note 1	-5.0	-25	H3	0 to +125
—	LM79L05ACM	—	LM79L05ACZ	0.1	Note 1	-5.0	-35	M8, Z3	0 to +125
—	—	—	LM79L12ACZ	0.1	Note 1	-12.0	-35	Z3	0 to +125
—	LM79L15ACM	—	—	0.1	Note 1	-15.0	-35	M8	0 to +125
—	—	—	LM320LZ-12	0.1	Note 1	-12.0	-35	Z3	0 to +125
—	—	—	LM320LZ-5.0	0.1	Note 1	-5.0	-35	Z3	0 to +125

*TO-3 Package. **Minimum Input Voltage for Fixed Negative Voltage Regulators. Note 1: 1995 Power ICs Databook.

Shunt Voltage Regulators

— NEW —

Mr.'s Type		Output Current (A)	Databook Reference	Output Voltage (V)	Max. Input Voltage (V)	No. of Leads	Temperature Range (°C)
SOIC	PDIP						
LM431ACM	LM431ACZ	0.15	Note 1	2.5 to 36	37	M8, Z3	0 to +150
—	LM431AIZ	0.15	Note 1	2.5 to 36	37	Z3	-40 to +150

High Current Switches

— NEW —

Mr.'s Type	Description	Databook Reference	Drivers/Package	Continuous Current (A)	Peak Current (A)	Input Voltage Range (V)	No. of Leads	Temperature Range (°C)
TO-220								
LM1921T	1 A Industrial Switch	Note 1	1	1	2.0	4.5 to 26	T5	-40 to +125
LM1951T	Solid State 1 A Switch	Note 1	1	1	2.5	4.5 to 26	T5	-40 to +125

*All devices incorporate Automotive transient protection. Note 1: 1995 Power ICs Databook.

Precision Motion Control Circuits

— NEW —

Mr.'s Type		Features	Databook Reference	Speed (MHz)	No. of Leads	Temperature Range (°C)
SOIC	PDIP					
—	LM628N-6	32-Bit Position, Velocity and Acceleration Registers; Position and Velocity Modes; 16-Bit PID Filter with Programmable Coefficients; 8- or 12-Bit DAC Output Data; Quadrature Incremental Encoder Interface; 8-Bit Asynchronous Host Interface	Note 1	6 or 8	N28	-40 to +85
LM629M-6	LM629M-6	Same Features as LM628, but with 8-Bit PWM Sign/Magnitude Output Data	Note 1	6 or 8	M24, N28	-40 to +85
LM629M-8	LM629M-8					

Note 1: 1995 Power ICs Databook

Data Transmission Interface Line Drivers, Receivers and Transceivers

— NEW —

TIA/EIA-232 (RS-232)

Mr.'s Type			Description	No. of Tx	No. of Rx	No. of Leads	Temperature Range (°C)
CERDIP	SOIC	PDIP					
—	DS1488M	DS1488N	Quad Line Driver	4	0	14	0 to +70
—	DS14C88M	DS14C88N	Quad CMOS Line Driver	4	0	14	0 to +70
—	DS14C88TM	DS14C88TN	Quad CMOS Line Driver	4	0	14	-40 to +85
—	DS75150M	DS75150N	Dual Line Driver	2	0	8	0 to +70
—	DS1489AM	DS1489AN	Quad Line Receiver	0	4	14	0 to +70
—	DS1489M	DS1489N	Quad Line Receiver	0	4	14	0 to +70
—	DS14C89AM	DS14C89AN	Quad CMOS Line Receiver	0	4	14	0 to +70
—	DS14C89ATM	DS14C89ATN	Quad CMOS Line Receiver	0	4	14	-40 to +85
—	DS75154M	DS75154N	Quad Line Receiver	0	4	16	0 to +70
—	DS14C232CM	DS14C232CN	Dual Driver/Receiver	2	2	16	0 to +70
—	DS14185WM	—	3 x 5 Transceiver	3	5	20	0 to +70

TIA/EIA-423 (RS-423)

DS1691AJ	—	DS9636ACN	Dual Programmable Slew Rate Driver	2	0	8	0 to +70
—	DS3691M	DS3691N	Quad Tri-State Line Driver	4	0	16	-55 to +125
—	—	—	Quad Tri-State Line Driver	4	0	16	0 to +70

TIA/EIA-422 Drivers (RS-422) and TIA/EIA-422/423 Receivers (RS-422/423)

DS26F31CJ	—	—	Quad High Speed Differential Line Driver	4	0	16	0 to +70
DS26LS31CJ	DS26LS31CM	DS26LS31CN	Quad High Speed Differential Line Driver	4	0	16	0 to +70
—	DS3487M	DS3487N	Quad Tri-State Line Driver	4	0	16	0 to +70

Data Transmission Interface Line Drivers, Receivers and Transceivers (continued)

TIA/EIA-422 Drivers (RS-422) and TIA/EIA-422/423 Receivers (RS-422/423) (continued)

Mfr.'s Type			Description	No. of Tx	No. of Rx	No. of Leads	Temperature Range (°C)
CERDIP	SOIC	PDIP					
DS9638CJ	—	DS9638CN	Dual High Speed Differential Line Driver	2	0	8	0 to +70
—	DS26C32ATM	—	Quad CMOS Differential Line Receiver	0	4	16	-40 to +85
DS26F32CJ	—	—	Quad Differential Line Receiver	0	4	16	0 to +70
—	DS26LS32ACM	DS26LS32ACN	Quad Differential Line Receiver	0	4	16	0 to +70
—	—	DS26LS32CN	Quad Differential Line Receiver	0	4	16	0 to +70
DS26LS32MJ	—	—	Quad Differential Line Receiver	0	4	16	-55 to +125
—	—	DS26LS33ACN	Quad Differential Line Receiver	0	4	16	0 to +70
—	—	DS26LS33CN	Quad Differential Line Receiver	0	4	16	0 to +70
—	DS3486M	DS3486N	Quad Differential Line Receiver	0	4	16	0 to +70
DS78C20J	—	—	Dual CMOS Compatible Differential Line Receiver	0	2	14	-55 to +125
—	—	DS88C20N	Dual CMOS Compatible Differential Line Receiver	0	2	14	0 to +70
—	—	DS88LS120N	Dual Differential Line Receiver	0	2	16	0 to +70
—	DS9637ACM	DS9637ACN	Dual Differential Line Receiver	0	2	8	0 to +70
DS9637AMJ	—	—	Dual Differential Line Receiver	0	2	8	-55 to +125
—	DS8921AM	DS8921AN	Differential Line Driver and Receiver Pair	1	1	8	0 to +70
DS8921ATJ	DS8921ATM	DS8921ATN	Differential Line Driver and Receiver Pair	1	1	8	-40 to +85
—	DS8921M	DS8921N	Differential Line Driver and Receiver Pair	1	1	8	0 to +70
—	DS8922AM	DS8922AN	Dual Tri-State Differential Line Driver and Receiver Pair	2	2	16	0 to +70
—	DS8922M	DS8922N	Dual Tri-State Differential Line Driver and Receiver Pair	2	2	16	0 to +70
—	DS8923AM	DS8923AN	Dual Tri-State Differential Line Driver and Receiver Pair	2	2	16	0 to +70
—	DS8923M	DS8923N	Dual Tri-State Differential Line Driver and Receiver Pair	2	2	16	0 to +70

TIA/EIA-485 (RS-485)

—	—	DS96172CN	Quad Differential Line Driver	4	0	16	0 to +70
DS96F172CJ	—	—	Quad High Speed Differential Line Driver	4	0	16	0 to +70
DS96F172MJ	—	—	Quad High Speed Differential Line Driver	4	0	16	-55 to +125
—	—	DS96174CN	Quad Differential Line Driver	4	0	16	0 to +70
DS96F174CJ	—	—	Quad High Speed Differential Line Driver	4	0	16	0 to +70
DS96F174MJ	—	—	Quad High Speed Differential Line Driver	4	0	16	-55 to +125
—	—	—	Quad High Speed Differential Line Receiver	0	4	16	0 to +70
DS96F173CJ	—	—	Quad High Speed Differential Line Receiver	0	4	16	-55 to +125
DS96F173MJ	—	—	Quad High Speed Differential Line Receiver	0	4	16	-55 to +125
—	—	DS96175CN	Quad Differential Line Receiver	0	4	16	0 to +70
DS96F175CJ	—	—	Quad High Speed Differential Line Receiver	0	4	16	-55 to +125
DS96F175MJ	—	—	Quad High Speed Differential Line Receiver	0	4	16	-55 to +125
—	DS3695AM	—	Multipoint Transceiver	1	1	8	0 to +70
—	DS3695ATM	—	Multipoint Transceiver	1	1	8	-40 to +85
—	—	DS3695N	Multipoint Transceiver	1	1	8	0 to +70
—	—	DS3695TN	Multipoint Transceiver	1	1	8	-40 to +85
DS36F95J	—	—	Differential Bus Transceiver	1	1	8	0 to +70
—	—	DS3696N	Multipoint Transceiver	1	1	8	0 to +70
—	—	DS3696TN	Multipoint Transceiver	1	1	8	-40 to +85
—	—	DS3697N	Multipoint Repeater	1	1	8	0 to +70
—	DS75176BM	DS75176BN	Multipoint Transceiver	1	1	8	0 to +70
—	DS75176BTM	DS75176BTN	Multipoint Transceiver	1	1	8	-40 to +85
DS96176CJ	—	DS96176CN	Differential Bus Transceiver	1	1	8	0 to +70
—	—	DS96177CN	Differential Bus Repeater	1	1	8	0 to +70
—	DS36950V*	—	Quad Differential Bus Transceiver	4	4	20	0 to +70
—	DS36954V*	—	Quad Differential Bus Transceiver	4	4	20	0 to +70

*PLCC Package

General Purpose

—	DS75110AM	DS75110AN	Dual Line Driver	2	0	14	0 to +70
—	—	DS75113N	Dual Tri-State Differential Line Driver	2	0	16	0 to +70
—	—	DS75114N	Dual Differential Line Driver	2	0	16	0 to +70
—	—	DS75121N	Dual Line Driver	2	0	16	0 to +70
—	—	DS75123N	Dual Line Driver	2	0	16	0 to +70
—	—	DS8830N	Dual Differential Line Driver	2	0	14	0 to +70
DS1692J	—	—	Tri-State Differential Line Driver	2	0	16	-55 to +125
—	—	DS3692N	Tri-State Differential Line Driver	2	0	16	0 to +70
—	DS75107AM	—	Dual Line Receiver	0	2	14	0 to +70
—	—	DS75108N	Dual Line Receiver	0	2	14	0 to +70
—	DS3650M	—	Quad Differential Line Receiver	0	4	16	0 to +70

Memory Management

Mfr.'s Type			Description	No. of Leads	Temperature Range (°C)
CERDIP	PLCC	PDIP			
DP8402AD	—	—	32-Bit Parallel EDAC	52	0 to +70
—	—	DP8409AN	Multi-Mode DRAM Controller/Driver	48	0 to +70
—	—	DP8409AN-2	Multi-Mode DRAM Controller/Driver	48	0 to +70
—	—	DP8417N-70	64 K / 256 K DRAM Controller, 70 ns	68	0 to +70
—	—	DP8419N-70	64 K / 256 K DRAM Controller, 70 ns	48	0 to +70
—	—	DP8419N-80	64 K / 256 K DRAM Controller, 80 ns	48	0 to +70
—	DP8419V-80	—	256 K / 1 M / 4 M DRAM Controller/Driver, 20 MHz	68	0 to +70
—	DP8420AV-20	—	256 K / 1 M / 4 M DRAM Controller/Driver, 20 MHz	68	0 to +70
—	DP8420AV-25	—	256 K / 1 M / 4 M DRAM Controller/Driver, 25 MHz	68	0 to +70

Mfr.'s Type			Description	No. of Leads	Temperature Range (°C)
CERDIP	PLCC	PDIP			
—	DP8421AV-20	—	256 K / 1 M / 4 M DRAM Controller/Driver, 20 MHz	68	0 to +70
—	DP8421AV-25	—	256 K / 1 M / 4 M DRAM Controller/Driver, 25 MHz	68	0 to +70
—	DP8422ATV-25	—	256 K / 1 M / 4 M DRAM Controller/Driver, 25 MHz	68	-40 to +85
—	DP8422AV-20	—	256 K / 1 M / 4 M DRAM Controller/Driver, 20 MHz	68	0 to +70
—	DP8422AV-25	—	256 K / 1 M / 4 M DRAM Controller/Driver, 25 MHz	68	0 to +70
DP8428D-70	DP8428V-70	—	1 Mbit High Speed DRAM/Driver, 70 ns	68	0 to +70
DP8429D-70	DP8429V-70	—	1 Mbit High Speed DRAM/Driver, 70 ns	52	0 to +70

Memory Management (continued)

Mr.'s Type			Description	No. of Leads	Temperature Range (°C)
CDROP	PLCC	PDIP			
DP8429D-80	DP8429V-80	—	1 Mbit High Speed DRAM/Driver, 80 ns	52	0 to +70
DP8429TD-70	—	—	1 Mbit High Speed DRAM/Driver, 70 ns	52	-40 to +85
—	DP8520AV-25	—	256 K / 1 M / 4 M Dynamic VRAM Controller/Driver, 25 MHz	68	0 to +70
—	DP8521AV-25	—	256 K / 1 M / 4 M Dynamic VRAM Controller/Driver, 25 MHz	68	0 to +70
—	DP8522AV-25	—	256 K / 1 M / 4 M Dynamic VRAM Controller/Driver, 25 MHz	68	0 to +70

Real Time Clocks

Mr.'s Type			Description	No. of Leads	Temperature Range (°C)
PLCC	PDIP	—			
DP8570AV	DP8570AN	—	Timer Clock Peripheral	28	0 to +70
DP8571AV	DP8571AN	—	Hex Inverter	24	0 to +70
DP8572AV	DP8572AN	—	Real Time Clock	24	0 to +70
DP8573AV	DP8573AN	—	Real Time Clock	24	0 to +70

Futurebus+ and Backplane Transceiver Logic (BTL)

Mr.'s Type			Description	No. of Leads	Temperature Range (°C)
SOIC	PLCC	PDIP			
—	—	DP8304BN	8-Bit Bidirectional Bus Transceiver	20	0 to +70
—	—	DS3662N	Quad High Speed Trapezoidal Bus	16	0 to +70
—	—	DS3667N	Octal Bidirectional Transceiver	20	0 to +70
—	—	DS3662N	Octal Trapezoidal Transceiver	20	0 to +70
—	DS3875V	—	Futurebus+ Arbitration Controller	68	0 to +70
—	DS3885V	—	Futurebus+ Arbitration Transceiver	44	0 to +70
—	DS3885VF	—	Futurebus+ Arbitration Transceiver	44	0 to +70
—	DS3890N	—	BTL Octal Trapezoidal Driver	20	0 to +70
—	DS3893AV	—	BTL Turbo Transceiver	20	0 to +70
DS3896M	—	DS3896N	BTL Octal Trapezoidal Transceiver	20	0 to +70
DS3897M	—	DS3897N	BTL Trapezoidal Transceiver	20	0 to +70
—	—	DS8640N	Quad 2-Input Receiver without Hysteresis	14	0 to +70
—	—	DS8641N	Quad 2-Input Receiver without Hysteresis	16	0 to +70
—	—	DS8834N	Quad Tri-State Transceiver FA	16	0 to +70
—	—	DS8837N	Hex Unified Bus Receiver	16	0 to +70
DS8837M	—	DS8838N	Quad Unified Bus Transceiver	16	0 to +70
DS8838M	—	DS75160AN	IEEE-488 GPIB Transceiver	20	0 to +70
—	—	DS75162AN	IEEE-488 GPIB Transceiver	20	0 to +70

Logic

74AC and 74ACT Logic

Mr.'s Type				Description	No. of Leads
74AC		74ACT			
PDIP	SOIC	PDIP	SOIC		
74AC00PC	74AC00SC	74ACT00PC	74ACT00SC	Quad 2-Input NAND Gate	14
74AC02PC	74AC02SC	74ACT02PC	74ACT02SC	Quad 2—Input NOR Gate	14
74AC04PC	74AC04SC	74ACT04PC	74ACT04SC	Hex Inverter	14
74AC08PC	74AC08SC	74ACT08PC	74ACT08SC	Quad 2-Input AND Gate	14
74AC109PC	74AC109SC	—	74ACT109SC	Dual JK Flip-Flop	16
74AC10PC	74AC10SC	74ACT10PC	74ACT10SC	Triple 3-Input NAND Gate *	14
74AC11PC	74AC11SC	—	—	Triple 3-Input AND Gate	14
74AC125PC	74AC125SC	74ACT125PC	74ACT125SC	Quad Buffer w/3-State	14
74AC138PC	74AC138SC	74ACT138PC	74ACT138SC	1 Of 8 Decoder	16
74AC139PC	74AC139SC	74ACT139PC	—	Dual 1 Of 4 Decoder	16
74AC14PC	74AC14SC	—	—	Hex Schmitt Trigger	14
74AC153PC	74AC153SC	74ACT151PC	—	8-Input Multiplexer	16
74AC157PC	74AC157SC	—	—	Dual 4-Input Multiplexer	16
—	—	74ACT158PC	74ACT158SC	Quad 2-Input Multiplexer	16
74AC161PC	74AC161SC	—	74ACT161SC	Quad 2-Input Multiplexer	16
74AC163PC	74AC163SC	74ACT163PC	—	4-Bit Binary Counter Asynchronous	16
74AC169PC	74AC169SC	—	—	4-Bit Binary Counter Synchronous	16
74AC174PC	74AC174SC	74ACT174PC	74ACT174SC	4-Bit Binary Counter	16
—	74AC175SC	—	74ACT175SC	Hex D Flip-Flop	16
74AC191PC	74AC191SC	—	—	Quad D Flip-Flop	16
74AC240PC	74AC240SC	74ACT240PC	74ACT240SC	4-Bit Up/Down Counter	16
74AC244PC	74AC244SC	74ACT244PC	74ACT244SC	Octal Buffer/Driver	20
74AC245PC	74AC245SC	74ACT245PC	74ACT245SC	Octal Buffer/Driver	20
—	—	74ACT251PC	74ACT251SC	Octal Transceiver	20
—	—	74ACT253PC	74ACT253SC	8-Bit Multiplexer	16
74AC257PC	74AC257SC	74ACT257PC	74ACT257SC	Dual 4-Input Multiplexer	16
—	—	74ACT258PC	74ACT258SC	Quad 2-Input Multiplexer	16
—	—	74ACT2708PC	—	Quad 2-Input Multiplexer	16
74AC273PC	74AC273SC	—	—	64x9 FIFO Memory	28
74AC299PC	74AC299SC	74ACT299PC	74ACT299SC	Octal D Flip-Flop	20
74AC32PC	74AC32SC	74ACT32PC	74ACT32SC	Octal Shift/Storage	20
74AC373PC	74AC373SC	74ACT373PC	74ACT373SC	Quad 2-Input OR Gate	14
74AC374PC	74AC374SC	74ACT374PC	74ACT374SC	Octal D Latch	20
74AC377PC	74AC377SC	—	—	Octal D Flip-Flop	20
—	—	—	74ACT399SC	Octal D Flip-Flop	20
—	—	74ACT520PC	74ACT520SC	Quad 2-Port Register	16
74AC521PC	74AC521SC	74ACT521PC	74ACT521SC	Comparator w/Resistor	20
—	—	74ACT534PC	—	8-Bit Comparator	20
74AC541PC	74AC541SC	—	—	Octal D Flip-Flop	20
—	—	—	—	Octal Buffer/Line Driver	20
74AC574PC	74AC574SC	74ACT573PC	74ACT573SC	Octal Buffer/Line Driver	20
74AC646SPC	74AC646SC	74ACT574PC	74ACT574SC	Octal D Latch	20
—	—	—	—	Octal D Flip-Flop	20
74AC74PC	74AC74SC	74ACT715PC	74ACT715SC	Octal Transceiver/Register	24
—	—	74ACT74PC	74ACT74SC	Video Sync Generator	24
74AC821SPC	74AC821SC	74ACT818SPC	—	Dual D Flip-Flop	14
—	—	74ACT821SPC	—	Diagnostic/Pipeline Register	24
—	—	74ACT823SPC	74ACT823SC	10-Bit D Flip-Flop	24
—	—	74ACT825SPC	74ACT825SC	9-Bit D Flip-Flop	24
—	—	74ACT841SPC	74ACT841SC	8-Bit D Flip-Flop	24
—	—	74ACT843SPC	74ACT843SC	10-Bit Transparent Latch	24
74AC86PC	74AC86SC	—	—	9-Bit Transparent Latch	24
—	—	—	74ACT899QC*	Quad 2-Input Exclusive OR	14
—	—	—	—	9-Bit Bidirectional Latch	28

DM74ALS and DM74LS Logic (continued)

Mr.'s Type				Description	No. of Leads
74ALS		74LS			
SOIC	PDIP	SOIC	PDIP		
—	DM74ALS02N	—	DM74ALS02N	Quad 2-Input NOR Gate	14
DM74ALS04BM	DM74ALS04BN	DM74LS04M	DM74LS04N	Hex Inverter	14
—	DM74ALS05AN	—	DM74ALS05N	Hex Inverter Open Collector	14
DM74ALS08M	DM74ALS08BN	DM74LS08M	DM74LS08N	Quad 2-Input AND Gate	14
—	DM74ALS1000AN	—	—	Quad 2-Input Inverting Buffer	14
—	DM74ALS109AN	—	—	Dual JK Flip-Flop	16
DM74ALS10AM	DM74ALS10AN	—	DM74LS10N	Triple 3-Input NAND Gate	14
—	DM74ALS11AN	—	—	Triple 3-Input AND Gate	14
DM74ALS125M	DM74ALS125N	DM74LS123M	DM74LS123N	Dual One Shot	16
DM74ALS133M	—	DM74LS125AM	DM74LS125AN	Quad Tri-State Buffer	14
DM74ALS138M	DM74ALS138N	DM74LS138M	DM74LS138N	13-Input NAND Gate	16
—	—	—	DM74LS139N	Expandable 3/8 Decoder	16
DM74ALS14M	DM74ALS14N	—	DM74LS14N	Hexadecimal Dual 2/4 Decoder	16
—	—	—	DM74LS154N	Hex Schmitt Trigger	14
—	—	DM74LS156M	DM74LS156N	4/16 Demultiplexer	24
—	—	—	DM74LS157N	Dual 2/4 Demultiplexer O.C.	16
—	DM74ALS161BN	DM74LS161AM	DM74LS161AN	Quad 2/1 Multiplexer	16
—	—	—	—	Presettable Synchronous Binary Counter	16
—	DM74ALS163BN	—	DM74LS163AN	Presettable Synchronous Binary Counter	16
—	—	—	DM74LS164N	8-Bit Shift Register	14
—	—	—	DM74LS165N	8-Bit Shift Register	16
—	DM74ALS169BN	—	—	Sync Up/Down Binary Counter	16
—	DM74ALS174N	DM74LS174M	DM74LS174N	Hex D Flip-Flop	16
—	—	—	DM74LS175N	Quad D Flip-Flop	16
—	—	—	DM74LS193N	Sync Up/Down Binary Counter	16
—	DM74ALS20AN	—	—	Dual 4-Input NAND Gate	14
DM74ALS240AWM	DM74ALS240AN	DM74LS240WM	DM74LS221N	Dual One Shot(Schmitt Trigger)	16
—	DM74ALS241AN	—	DM74LS240N	Tri-State Octal Line Driver	20
DM74ALS244AWM	DM74ALS244AN	DM74LS244WM	DM74LS244N	Octal Inv Bus/Line Driver	20
DM74ALS245AWM	DM74ALS245AN	DM74LS245WM	DM74LS245N	Tri-State Octal Line Driver	20
—	DM74ALS253N	—	—	Tri-State Octal Transceiver	20
DM74ALS257M	DM74ALS257N	—	DM74LS257BN	Tri-State Dual 4/1 Multiplexer	16
—	DM74ALS258N	—	—	Tri-State Quad 2/1 Multiplexer	16
—	—	—	DM74LS259N	Tri-State Quad 2/1 Multiplexer	16
—	DM74ALS273N	DM74LS273WM	DM74LS273N	8-Bit Addressable Latch	16
—	DM74ALS27N	—	—	8-Bit D-Type Flip-Flop	20
—	—	—	DM74LS279N	Triple 3-Input NOR Gate	14
DM74ALS32M	DM74ALS30AN	—	—	Quad Set/Reset Latch	16
—	DM74ALS32N	DM74LS32M	DM74LS32N	8-Input NAND Gate	14
DM74ALS327AWM	DM74ALS332N	DM74LS327WM	DM74LS332N	Quad 2-Input OR Gate	14
—	DM74ALS3373N	DM74LS3373WM	DM74LS3373N	Tri-State Octal D Flip-Flop	20
—	DM74ALS3374N	DM74LS3374WM	DM74LS3374N	Tri-State Octal D Flip-Flop	20
—	—	—	DM74LS377N	8-Bit D-Type Flip-Flop	20
—	DM74ALS38AN	—	DM74LS38N	Quad 2-Input NAND Buffer O.C.	14
—	—	DM74LS393M	DM74LS393N	Dual 4-Bit Binary Counter	20
—	—	—	DM74LS503N	8-Bit Successive Approximation Register	16
DM74ALS520WM	DM74ALS520N	—	—	Octal Comparator	20
DM74ALS521WM	—	—	—	Octal Comparator	20
DM74ALS5245WM	DM74ALS5245N	—	—	Octal Bus Trans w/Schmitt Trigger	20
—	DM74ALS533N	—	—	Inverting Octal D Latch	20
DM74ALS541WM	DM74ALS541N	—	DM74LS534N	Octal D-Type Flip-Flop	20
DM74ALS563AWM	—	—	—	Octal Buffer/Line Driver	20
DM74ALS573BWM	DM74ALS573BN	—	DM74LS573N	Octal D-Type Latch	20
DM74ALS574AWM	DM74ALS574AN	—	DM74LS574N	Octal D-Type Flip-Flop	20
—	DM74ALS576AN	—	—	Octal D-Type Flip-Flop	20
DM74ALS640AWM	DM74ALS640AN	—	—	Inverting Octal D Flip-Flop	20
DM74ALS645AWM	DM74ALS645AN	—	—	Octal Bus Transceiver	20
DM74ALS646WM	DM74ALS646NT	—	—	Tri-State Octal Transceiver	20
DM74ALS648WM	DM74ALS648NT	—	—	Octal Bus Transceiver	24
DM74ALS652WM	—	—	—	Octal Bus Transceiver	24
DM74ALS74AM	DM74ALS74AN	DM74LS74AM	DM74LS74AN	Octal Bus Transceiver	24
—	DM74ALS808AN	—	—	Dual D Flip-Flop	14
—	—	—	DM74LS85N	Hex 2-Input AND Line Driver	20
—	DM74ALS86N	—	DM74LS86N	4-Bit Magnitude Comparator	20
—	—	—	—	Quad 2-Input Exclusive OR Gate	14

*PLCC Package

DM74ALS and DM74LS Logic

Mr.'s Type				Description	No. of Leads
74ALS		74LS			
SOIC	PDIP	SOIC	PDIP		
DM74ALS00AM	DM74ALS00AN	DM74LS00M	DM74LS00N	Quad 2-Input NAND Gate	14

Logic (continued)

DM74AS Logic

Mfr.'s Type		Description	No. of Leads
SOIC	PDIP		
DM74AS00M	DM74AS00N	Quad 2-Input NAND Gate	14
DM74AS02M	DM74AS02N	Quad 2-Input NOR Gate	14
DM74AS04M	DM74AS04N	Hex Inverter	14
DM74AS08M	DM74AS08N	Quad 2-Input AND Gate	14
DM74AS1000AM	DM74AS1000AN	Quad 2-Input NAND Driver	14
DM74AS1004AM	DM74AS1004AN	Hex Inverting Driver	14
—	DM74AS1032AN	Quad 2-Input OR Driver	14
DM74AS1034AM	DM74AS1034AN	Hex Non-Inverting Driver	14
DM74AS10M	DM74AS10N	Triple 3-Input NAND Gate	14
DM74AS157M	DM74AS157N	Quad 2/1 Data Sel/Multiplexer	16
—	DM74AS158N	Quad 2/1 Data Sel/Multiplexer	16
—	DM74AS174N	Hex D Flip-Flop	16
—	DM74AS1804N	Hex 2-Input NAND Line Driver	20
—	DM74AS20N	Dual 4-Input AND Gate	14
—	DM74AS21N	Dual 4-Input AND Gate	14
DM74AS240WM	DM74AS240N	Octal Inv Bus/Line Driver	20
DM74AS244WM	DM74AS244N	Octal Bus/Line Driver	20
DM74AS245WM	DM74AS245N	Octal State Octal Transceiver	20
—	DM74AS257N	Quad Tri-State 2/1 Multiplexer	16
DM74AS258M	DM74AS258N	Quad Tri-State 2/1 Multiplexer	16
—	DM74AS27N	Triple 3-Input NOR Gate	14
—	DM74AS280N	9-Bit Parity Generator/Checker	28
DM74AS286M	DM74AS286N	9-Bit Parity Generator	14
—	DM74AS30N	8-Input NAND Gate	14
DM74AS32M	DM74AS32N	Quad 2-Input OR Gate	14
DM74AS373WM	DM74AS373N	Tri-State Octal Latch	20
DM74AS374WM	DM74AS374N	Tri-State Octal D Flip-Flop	20
DM74AS573WM	DM74AS573N	Octal D-Type Latch	20
—	DM74AS574N	Octal D-Type Flip-Flop	20
—	DM74AS640N	Tri-State Octal Transceiver	20
—	DM74AS645N	Tri-State Octal Transceiver	20
DM74AS646WM	DM74AS646NT	Octal Bus Transceiver	24
—	DM74AS648NT	Octal Bus Transceiver	24
DM74AS651WM	DM74AS651NT	Octal Bus Transceiver	24
—	DM74AS74N	Dual D-Type Flip-Flop	14
DM74AS760WM	DM74AS760N	Octal Buffer/Line Driver	20
DM74AS804BWM	DM74AS804BN	Hex 2-Input NAND Line Driver	20
—	DM74AS874NT	Octal D-Type Flip-Flop	24

MM74C Logic

—	MM74C00N	Quad Two-Input NAND Gate	14
—	MM74C02N	Quad Two-Input NOR Gate	14
—	MM74C08N	Quad 2-Input AND Gate	14
—	MM74C10N	Triple 3-Input NAND Gate	14
—	MM74C154N	4 Line To 16 Line Decoder	24
—	MM74C157N	Quad 2-Input Multiplexer	16
—	MM74C164N	8-Bit Serial In/Parallel Out Shift Register	14
—	MM74C221N	Dual Monostable Multivibrator	16
—	MM74C240N	Tri-State Octal Buffers	20
—	MM74C244N	Tri-State Octal Buffers	20
—	MM74C30N	8-Input AND Gate	14
—	MM74C32N	Quad 2-Input OR Gate	14
—	MM74C373N	Octal Flow-Through Latch 3-State	20
—	MM74C374N	Octal D Flip-Flop 3-State	20
—	MM74C42N	BCD To Decimal Decoder	16
MM74C74M	MM74C74N	Dual D Flip-Flop	14
—	MM74C85N	4-Bit Comparator	16
—	MM74C902N	Hex Inverting Buffer	14
—	MM74C905N	12-Bit CMOS Successive Approximation Register	24
MM74C906M	MM74C906N	Open Drain Hex Buffer-Active Pull	14
—	MM74C911N	Display Controller	28
—	MM74C912N	Display Controller	28
—	MM74C914N	Hex Schmitt Trigger Inverter	14
—	MM74C922N	16 Key Keyboard Encoder	18
—	MM74C923N	20 Key Keyboard Encoder	20
—	MM74C925N	4-Digit Counter w/Multiplexer D Segment Driver	16
—	MM74C926N	4-Digit Counter w/Multiplexer D Segment Driver	18

74F Logic

74F00PC	74F00SC	Quad 2-Input NAND	14
74F02PC	—	Quad 2-Input NOR	14
74F04PC	74F04SC	Hex Inverter	14
74F08PC	74F08SC	Quad 2-Input AND	14
—	74F1056SC	8-Bit Schottky Barrier Diode Array	16
—	74F1071SC	Under/Over Clamp ESD-18-Bit	20
74F109PC	—	Dual JK Flip-Flop	16
74F10PC	—	Triple 3-Input NAND	14
74F112PC	—	Dual JK Flip-Flop	16
74F113PC	—	Dual JK Flip-Flop	16
74F11PC	74F11SC	Triple 3-Input AND	14
74F125PC	74F125SC	Quad Buffer	14
74F138PC	74F138SC	1 of 8 Decoder/Demux	16
74F139PC	74F139SC	Dual 1/4 Decoder/Demux	16
74F148PC	—	8-Bit Priority Encoder	16
74F153PC	—	Dual 4-Input Mux	16
74F157APC	—	Quad 2-Input Mux	16
74F158APC	—	Quad 2-Input Mux	16
74F161APC	—	4-Bit Binary Counter, Asynchronous	16
74F163APC	74F163ASC	4-Bit Binary Counter	16
74F169PC	74F169SC	Up/Down Binary Counter	16
74F174PC	—	Hex D Flip-Flop	16
74F175PC	74F175SC	Quad D Flip-Flop with Clear	16
—	74F181SPC	ALU	24
74F189PC	74F189SC	64-Bit RAM, 3-State	16
74F191PC	74F191SC	Up/Down Binary Counter	16
74F193PC	—	Up/Down Binary Counter	16
74F20PC	—	Dual 4-Input NAND	14
74F219PC	—	64-Bit RAM, 3-State	16
74F2244PC	74F2244SC	Octal Buffer with 25 Ohm Series Resistors	2
74F240PC	74F240SC	Octal Inverting Bus Driver	20
74F241PC	—	Octal Bus/Line Driver	20

74F Logic (continued)

Mfr.'s Type		Description	No. of Leads
SOIC	PDIP		
74F244PC	74F244SC	Octal Bus/Line Driver	20
74F245PC	74F245SC	Octal Bus Transceiver	20
74F257APC	—	Quad 2-Input Mux	16
74F258APC	—	Quad 2-Input Mux	16
74F269SPC	74F269SC	8-Bit Bidirectional Counter	24
—	—	Octal D Flip-Flop	20
74F273PC	—	9-Bit Parity Generator	20
74F280PC	—	4-Bit Binary Full Adder	14
74F283PC	—	Shift/Storage Register	20
74F299PC	74F299SC	Octal 2-Input OR Gate	14
74F32PC	74F32SC	Hex Buffer/Driver	16
74F365PC	—	Octal D Latch	20
74F373PC	74F373SC	Octal D Flip-Flop	20
74F374PC	74F374SC	ALU	20
74F382PC	—	Quad 2-Port Register	16
74F399PC	74F399SC	CRC Generator/Checker (9401 Type)	14
74F401PC	—	Serial Data Polynomial Generator/Checker	16
74F402PC	—	Register Stack (9403 Type)	18
74F410PC	—	64 x 4 FIFO with Parallel In/Out	16
74F413PC	—	64 x 4 FIFO with Serial and Parallel In/Out	24
74F433SPC	—	8-Bit Identity Comparator	20
74F521PC	74F521SC	8-Bit Registered Comparator	20
74F524PC	74F524SC	Programmable Counter	28
74F525PC	74F525SC	Inverting Octal D Register	20
74F534PC	—	1 of 8 Decoder, 3-State	20
74F538PC	—	Octal Buffer/Line Driver	20
74F541PC	74F541SC	Octal Bidirectional Latch	24
74F543PC	74F543SC	Octal Bidirectional Latch	24
74F543SPC	74F544SC	Octal Bidirectional Latch	24
74F545PC	—	Octal Bus Transceiver	20
74F548PC	—	3 to 8 Decoder/Demux	20
74F552QC*	—	Octal Registered Transceiver with Parity	28
74F569PC	74F569SC	4-Bit Binary Counter, 3-State	20
74F573PC	74F573SC	Octal D-Type Latch	20
74F574PC	74F574SC	Octal D Flip-Flop	20
74F579PC	—	8-Bit Bidirectional Binary Counter	16
74F583PC	—	4-Bit BCD Adder	16
—	74F620PC	Invert Octal Transceiver	20
—	74F623PC	Octal Invert Transceiver	20
74F632VC*	—	32-Bit Error Detection/Correction Circuit	52
74F646BSC	74F640PC	Invert Octal Transceiver	20
74F646SC	74F646BSPC	Octal Bus Transceiver	24
—	74F646SPC	Octal Bus Transceiver	24
—	74F64PC	AND/OR-Invert Gate	14
74F652SC	74F652SPC	Octal Bus Transceiver /Register	24
74F657SC	74F657SPC	Octal Transceiver w/Parity	24
74F673ASC	74F673ASPC	16-Bit Shift Register	24
—	74F675ASPC	16-Bit Serial In/Parallel Out Shift Register	24
—	74F675SPC	16-Bit Serial In/Parallel Out Shift Register	24
74F74SC	74F74PC	Dual D-Type Flip	14
74F779SC	74F779PC	8-Bit Bidirectional Binary Counter	16
74F821SC	74F794PC	Read Back Register	20
—	74F821SC	10-Bit D Flip-Flop	20
74F823SC	74F823SPC	9-Bit D Flip-Flop	24
74F825SC	74F825SPC	8-Bit Dual Flip-Flop	24
74F827SC	—	10-Bit Buffer/Line Driver	24
—	74F841SPC	10-Bit Transparent Latch	24
74F86SC	74F86PC	Quad Excl OR Gate	14
74F899QC*	—	Transceiver with Parity Generator/Checker	28

*PLCC Package

CD4000 CMOS Logic

CD4001BCM	CD4001BCN	Buffered Quad 2-Input NOR Gate	14
—	CD4001CN	Quad 2-Input NOR Gate	14
CD40106BCM	CD40106BCN	Hex Schmitt Trigger	14
CD4011BCM	—	Buffered Quad 2-Input NAND Gate	14
—	CD4013BCN	Dual D Flip-Flop	16
—	CD4014BCN	8-Bit Static Shift Register	16
—	CD4015BCN	Dual 4-Bit Static Register	16
CD40168BCM	CD40168CN	Quad Bilateral Switch	14
—	CD40174BCN	Hex D Flip-Flop	16
—	CD40175BCN	Quad D Flip-Flop	16
CD40178BCM	CD40178CN	Decade Counter/Divider	16
—	CD40193BCN	Binary Up/Down Counter	16
CD4020BCM	CD4020BCN	14-Stage Ripple-Carry Binary Counter	16
CD4021BCM	CD4021BCN	8-Bit Static Shift Register	16
—	CD4022BCN	Divide By 8 Counter/Divider	16
—	CD4023BCN	Buffered Triple 3 Input NAND Gate	14
CD4024BCM	CD4024BCN	7-Bit Binary Counter	14
—	CD4027BCN	Dual J-K Flip/Flop	16
—	CD4029BCN	Presetable Up/Down Counter	16
CD4040BCM	CD4040BCN	12-Bit Binary Ripple Counter	16
—	CD4044BCN	Quad Tri-State NAND R/S Latch	16
CD4046BCM	CD4046BCN	Phase Locked Loop	16
CD4047BCM	CD4047BCN	Monostable Multivibrator	14
CD4049UBCM	CD4049UBCN	Hex Inverting Buffer	16
—	CD4050BCN	Hex Buffer	16
—	CD4051BCN	Single 8-Channel Multiplexer	16
CD4052BCM	CD4052BCN	Differential 4-Channel Multiplexer	16
CD4053BCM	CD4053BCN	Triple 2-Channel Multiplexer	16
—	CD4060BCN	14-Bit Counter Osc	16
CD4066BCM	CD4066BCN	Quad Bilateral Switch	14
CD4070BCM	—	Quad Exclusive OR Gate	14
—	CD4071BCN	Buffered Quad 2-Input OR Gate	14
—	CD4081BCN	Buffered Quad 2-Input AND Gate	14
CD4093BCM	CD4093BCN	Quad 2-Input NAND Schmitt Trigger	16
—	CD4099BCN	8-Bit Addressable Latch	14
—	CD4503BCN	Tri-State Hex Buffer	16
—	CD4514BCN	4-Bit Latch 4 to 16 Line Decoder	24
—	CD4515BCN	4-Bit Latch 4 to 16 Line Decoder	24
—	CD4528BCN	Dual Monostable Multivibrator	16
—	CD4538BCN	Dual Monostable Multivibrator	16
—	CD4541BCN	Programmable Timer	14
—	CD4724BCN	8-Bit Addressable Latch	16

EEPROMs

IIC™ Standard EEPROMs

Mfr.'s Type			Size	Supply Voltage (V)	Operating Frequency (kHz)	Endurance	Active Current Typ. (µA)	Standby Current Typ. (µA)	Temperature Range (°C)
14 Lead SOIC	8 Lead SOIC	8 Lead PDIP							
—	NM24C02EM8	NM24C02EN	2 K	5 ±10%	100	1 Million Data Changes	2	60.0	-40 to +85
NM24C02M	NM24C02M8	NM24C02N	2 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70
—	NM24C04EM8	NM24C04EN	4 K	5 ±10%	100	1 Million Data Changes	2	60.0	-40 to +85
—	NM24C04M8	NM24C04N	4 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70
NM24C08EM	NM24C08EM8	NM24C08EN	8 K	5 ±10%	100	1 Million Data Changes	2	60.0	-40 to +85
NM24C08M	NM24C08M8	NM24C08N	8 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70
NM24C16EM	NM24C16EM8	NM24C16EN	16 K	5 ±10%	100	1 Million Data Changes	2	60.0	-40 to +85
NM24C16M	NM24C16M8	NM24C16N	16 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70

IIC™ Write Protect EEPROMs

—	NM24C03EM8	NM24C03EN	2 K	5 ±10%	100	1 Million Data Changes	2	60.0	-40 to +85
—	NM24C03M8	NM24C03N	2 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70
—	NM24C05EM8	NM24C05EN	4 K	5 ±10%	100	1 Million Data Changes	2	60.0	-40 to +85
—	NM24C05M8	NM24C05N	4 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70
—	—	NM24C09EN	8 K	5 ±10%	100	1 Million Data Changes	2	60.0	-40 to +85
NM24C09M	—	NM24C09N	8 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70
NM24C17M	—	NM24C17N	16 K	5 ±10%	100	1 Million Data Changes	2	60.0	0 to +70

IIC™ Low Voltage EEPROMs

—	NM24C02LEM8	NM24C02LEN	2 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	-40 to +85
—	NM24C02LM8	NM24C02LN	2 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	0 to +70
NM24C04LEM	NM24C04LEM8	NM24C04LEN	4 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	-40 to +85
—	NM24C04LM8	NM24C04LN	4 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	0 to +70
NM24C08LEM	—	—	8 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	-40 to +85
NM24C08LM	—	NM24C08LN	8 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	0 to +70
NM24C16LEM	NM24C16LEM8	NM24C16LEN	16 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	-40 to +85
NM24C16LM	NM24C16LM8	NM24C16LN	16 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	0 to +70

*(4.5 V to 5.5 V)

IIC™ Low Voltage, Write Protect EEPROMs

—	NM24C03LM8	—	2 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	0 to +70
—	NM24C05LM8	—	4 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	0 to +70
NM24C17LM	NM24C17LM8	—	16 K	2.5 to 5.5	100*	1 Million Data Changes	2	60.0	0 to +70

*(4.5V to 5.5V)

MICROWIRE™ Standard EEPROMs

—	NM93C06EM8	NM93C06EN	256	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
NM93C06M	NM93C06M8	NM93C06N	256	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70
NM93C46EM	NM93C46EM8	NM93C46EN	1 K	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
—	NM93C46M8	NM93C46N	1 K	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70
NM93C56EM	NM93C56EM8	NM93C56EN	2 K	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
NM93C56M	NM93C56M8	NM93C56N	2 K	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70
NM93C66EM	NM93C66EM8	NM93C66EN	4 K	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
NM93C66M	NM93C66M8	NM93C66N	4 K	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70

MICROWIRE™ Data Protect EEPROMs

—	NM93CS06EM8	NM93CS06EN	256	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
NM93CS06M	NM93CS06M8	NM93CS06N	256	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70
NM93CS46EM	NM93CS46EM8	NM93CS46EN	1 K	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
NM93CS46M	NM93CS46M8	NM93CS46N	1 K	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70
NM93CS56EM	NM93CS56EM8	NM93CS56EN	2 K	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
NM93CS56M	NM93CS56M8	NM93CS56N	2 K	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70
NM93CS66EM	NM93CS66EM8	NM93CS66EN	4 K	5 ±10%	1	1 Million Data Changes	400	30.0	-40 to +85
NM93CS66M	NM93CS66M8	NM93CS66N	4 K	5 ±10%	1	1 Million Data Changes	400	30.0	0 to +70

MICROWIRE™ Low Voltage EEPROMs

—	NM93C06LEM8	NM93C06LEN	256	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
—	NM93C06LM8	NM93C06LN	256	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70
—	NM93C46LEM8	NM93C46LEN	1 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
—	NM93C46LM8	NM93C46LN	1 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70
—	NM93C56LEM8	NM93C56LEN	2 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
—	NM93C56LM8	NM93C56LN	2 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70
—	NM93C66LEM8	NM93C66LEN	4 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
—	NM93C66LM8	NM93C66LN	4 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70

*(2 V to 4.5 V). ** (4.5 V to 5.5 V).

MICROWIRE™ Low Voltage, Data Protect EEPROMs

—	NM93CS06LEM8	NM93CS06LEN	256	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
—	NM93CS06LM8	NM93CS06LN	256	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70
—	NM93CS46LEM8	NM93CS46LEN	1 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
—	NM93CS46LM8	NM93CS46LN	1 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70
—	NM93CS56LEM8	NM93CS56LEN	2 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
—	NM93CS56LM8	NM93CS56LN	2 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70
NM93CS66LEM	NM93CS66LEM8	NM93CS66LEN	4 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	-40 to +85
NM93CS66LM	NM93CS66LM8	NM93CS66LN	4 K	2.5 to 5.5	250 kHz*/1 MHz**	1 Million Data Changes	400	30.0	0 to +70

*(2 V to 4.5 V). ** (4.5 V to 5.5 V).

EEPROMs (continued)

MICROWIRE™ Zero Power EEPROMs

Mfr.'s Type			Size	Supply Voltage (V)	Operating Frequency (kHz)	Endurance	Active Current Typ. (μA)	Standby Current Typ. (μA)	Temperature Range (°C)
14 Lead SOIC	8 Lead SOIC	8 Lead PDIP							
—	NM93C06LZEM8	NM93C06LZEN	256	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	-40 to +85
—	NM93C06LZM8	NM93C06LZN	256	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	0 to +70
—	NM93C46LZEM8	NM93C46LZEN	1 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	-40 to +85
—	NM93C46LZM8	NM93C46LZN	1 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	0 to +70
—	NM93C56LZEM8	NM93C56LZEN	2 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	-40 to +85
—	NM93C56LZM8	NM93C56LZN	2 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	0 to +70
—	NM93C66LZEM8	NM93C66LZEN	4 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	-40 to +85
—	NM93C66LZM8	NM93C66LZN	4 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	0 to +70

*(2 V to 4.5 V). **(4.5 V to 5.5 V).

MICROWIRE™ Zero Power, Data Protect EEPROMs

—	NM93CS06LZM8	—	256	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	0 to +70
—	NM93CS46LZEM8	—	1 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	-40 to +85
—	NM93CS46LZM8	NM93CS46LZN	1 K	2.0 to 6.0	250 KHz*/1 MHz**	1 Million Data Changes	400	0.5	0 to +70

*(2 V to 4.5 V). **(4.5 V to 5.5 V).

x8 / x16 Data Mode EEPROMs

—	NM93C46AEM8	NM93C46AEN	1 K	5 ±10%	1	1 Million Data Changes	1	50.0	-40 to +85
—	NM93C46AM8	NM93C46AN	1 K	5 ±10%	1	1 Million Data Changes	1	50.0	0 to +70
—	NM93C56AEM8	NM93C56AEN	2 K	5 ±10%	1	1 Million Data Changes	1	50.0	-40 to +85
—	NM93C56AM8	NM93C56AN	2 K	5 ±10%	1	1 Million Data Changes	1	50.0	0 to +70
—	NM93C66AEM8	NM93C66AEN	4 K	5 ±10%	1	1 Million Data Changes	1	50.0	-40 to +85
—	NM93C66AM8	NM93C66AN	4 K	5 ±10%	1	1 Million Data Changes	1	50.0	0 to +70
—	NM93C86AEM8	NM93C86AEN	16 K	5 ±10%	1	1 Million Data Changes	1	50.0	-40 to +85
—	NM93C86AM8	NM93C86AN	16 K	5 ±10%	1	1 Million Data Changes	1	50.0	0 to +70

x8 / x16 Low Voltage, Data Mode EEPROMs

—	NM93C46ALEM8	NM93C46ALEN	1 K	5 ±10%	1	1 Million Data Changes	1	50.0	-40 to +85
—	NM93C46ALM8	NM93C46ALN	1 K	5 ±10%	1	1 Million Data Changes	1	50.0	0 to +70
—	NM93C86ALEM8	NM93C86ALEN	16 K	5 ±10%	1	1 Million Data Changes	1	50.0	-40 to +85
—	NM93C86ALM8	NM93C86ALN	16 K	5 ±10%	1	1 Million Data Changes	1	50.0	0 to +70
—	NM93C86ALZEM8	NM93C86ALZEN	16 K	5 ±10%	1	1 Million Data Changes	400	0.5	-40 to +85
—	NM93C86ALZM8	NM93C86ALZN	16 K	5 ±10%	1	1 Million Data Changes	400	0.5	0 to +70

Specialty EEPROMs

NM95C12EM	—	—	1 K with 4 DataSwitch Units	5 ±10%	1	1 Million Data Changes	4	50.0	-40 to +85
NM95C12M	—	NM95C12N	1 K with 4 DataSwitch Units	5 ±10%	1	1 Million Data Changes	4	50.0	0 to +70
—	NM93C46XLZM8	NM93C46XLZN	1 K with Extra Low Voltage	1.8 to 4.0	250 KHz	1 Million Data Changes	400 μA	0.5	0 to +70

SPI™ Standard EEPROMs

—	NM25C04EM8	NM25C04EN	4 K	5 ±10%	1	1 Million Data Changes	3	150.0	-40 to +85
—	NM25C04M8	NM25C04N	4 K	5 ±10%	2.1	1 Million Data Changes	3	150.0	0 to +70
—	NM25C16EM8	NM25C16EN	16 K	5 ±10%	1	1 Million Data Changes	3	150.0	-40 to +85
—	NM25C16M8	NM25C16N	16 K	5 ±10%	2.1	1 Million Data Changes	3	150.0	0 to +70

SPI™ Low Voltage EEPROMs

—	NM25C04LM8	—	4 K	2.5 to 5.5	1	1 Million Data Changes	3	150	0 to +70
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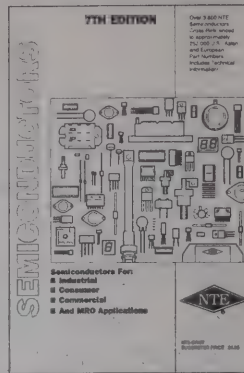
NTE Selection Guide

► Over 253,000 Devices Replaced with NTE Numbers

The NTE catalog has become the industry's guide when you need semi-conductors for maintenance and repair work. Now available is the 6th edition containing over 250,000 cross references to American, European and Japanese, industrial and commercial devices. The catalog includes short form specifications and cross reference in a new easier to read format for the over 3500 devices in NTE's line. Each NTE transistor, triac, silicon controlled rectifier (SCR), integrated circuit, thyristor or microprocessor can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than originally specified components.

The easy to use cross reference section enables you to locate the exact replacement needed for over 253,000 solid state devices.

935-0020. NTE-CRM7.....EACH 4.95

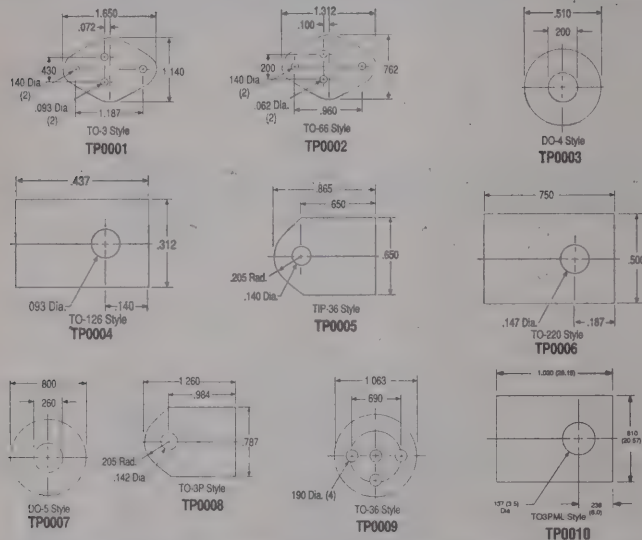
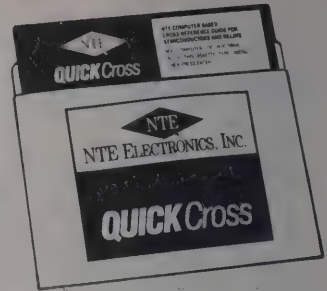


Quick Cross

► NTE's Computer Based Cross Reference Disk For Semiconductors and Relays

NTE Electronics, Inc. has taken its entire Semiconductor and Relay Cross References and put them on IBM PC compatible diskettes. These disks, once loaded into your PC, will only take up a little more than 2 Megabytes of disk space. You will have instant access to over 250,000 Semiconductor Cross References and 22,000 Relay Cross References. Minimum system requirements are an IBM PC compatible computer with 640K RAM, 5 MB hard disk.

Stock No.	Mfr.'s Type	Diskette Type	EACH
935-0003	QC-001	5 1/4" (1.2M)	6.75
935-0008	QC-002	3 1/2" (7.20K)	9.16
935-0006	QC-003	5 1/4" (1.44M)	7.50
935-0009	QC-005	3 1/2" (1.44M) for Windows	10.00



Thermo-Pads

NTE's THERMO-PADS do away with the old fashioned and messy mica wafer and conductive grease method of mounting power semiconductor. These thermally conductive insulators offer low heat transfer resistance while still providing high electrical isolation between the parts of the assembly. The elastomeric material combines the electrical isolation of rigid insulators with the ability to conform to rough surfaces and reduce contact resistance in much the same manner as thermal greases. Proper selection and use of these thermo-pads results in a securely-mounted power semiconductor and minimum resistance to the heat transfer between it and the heat sink.

Typical Properties

Color: .009 Inch Thickness-Gray; Test Method-Visual. **Breaking Strength, Lbs./Inch:** .009 Inch Thickness-100; Test Method-ASTM D 1458. **Elongation, percent:** .009 Inch Thickness-4; Test Method-ASTM D 412. **Volume Resistance Ohm Metre Minimum Normal:** .009 Inch Thickness- 1.0×10^{10} ; Test Method-ASTM D 257. **Volume Resistance Ohm Metre Minimum Moist:** .009 Inch Thickness- 1.5×10^{10} ; Test Method-ASTM D 257. **Breakdown Voltage, Minimum Normal:** .009 Inch Thickness-5000; Test Method - ASTM D 149. **Moist:** .009 Inch Thickness-2500; Test Method-ASTM D 149. **Dielectric Constant 1000 Cps (Hz):** .009 Inch Thickness-5.5; Test Method-ASTM D 150. **Continuous Use Temp. °C:** .009 Inch Thickness -60 to +160. **Thermal Conductance W/m-k:** .009 Inch Thickness-0.7. **Thermal Vacuum Weight Loss Percent (TML) Maximum as Manufactured:** .009 Inch Thickness-40; Test Method-NASA. **Thermal Vacuum Weight Loss Percent (TML) Maximum Post Cure 24 Hrs @ 400°F:** .009 Inch Thickness-25; Test method - SP-R-0022A. **Volatile Condensable Material, Percent, Maximum (CVCM) as Manufactured:** .009 Inch Thickness-11; Test Method-NASA. **Volatile Condensable Material, Percent, Maximum (CVCM) Post Cure 24 Hrs @ 400°F:** .009 Inch Thickness-07; Test Method-SP-R-0022A. **Hardness, Shore A:** .009 Inch Thickness-85; Test Method-ASTM D 2240. **Specific Gravity:** .009 Inch Thickness-2.0-2.1. **Thickness (Expressed in Inches):** .009 Inch Thickness-.009 (+.002, -.001). **Thermal Resistance (TO-3 transistor) °C/watt:** .009 Inch Thickness-50.

935-6510. TP001	PER PKG./5	1.46
935-6512. TP002	PER PKG./5	1.22
935-6514. TP003	PER PKG./5	.88
935-6516. TP004	PER PKG./5	.74
935-6518. TP005	PER PKG./5	1.07
935-6520. TP006	PER PKG./5	1.07
935-6522. TP007	PER PKG./5	1.10
935-6524. TP008	PER PKG./5	1.47
935-6526. TP009	PER PKG./5	1.47
935-6527. TP0010	PER PKG./5	1.99

Insulator Kits

(Each Kit includes Mica Insulator and Nylon Bushings)

Stock No.	Mfr.'s Type	Description	EACH
935-9413	NTE413	Insulator Kit for TO-3 Style Package	1.78*
935-9414	NTE414	Insulator Kit for TO-36 Style Package. Includes Lock Washer, Solder Lug, Nut and Plastic Insulating Tube	1.78*
935-9415	NTE415	Insulator Kit for TO-66 Style Package	1.72*
935-9422	NTE422	Insulator Kit for TO-220 (Plastic TO-66) Style Package	1.74*
935-9438	NTE438	Insulator Kit for DO-4 and TO-64 Stud Package. Includes Flat Washer, Solder Lug and Nut	0.64
935-9439	NTE439	Insulator Kit for DO-5 and TO-48 Stud Package. Includes Flat Washer, Lock Washer, Solder Lug and Nut	0.68

*2 Per Package

Bi-Polar Transistors

Stock No.	Mfr.'s Type	Polarity and Material	Description and Application	Case Style	Maximum Collector Current Amps	Maximum Breakdown Voltage			Typical Forward Current Gain	Maximum Collector Power Dissipation	Typical Freq. in MHz
					Ic	Collector To Base	Collector To Emitter	Emitter To Base			
935-6006	36	NPN-Si	AF Pwr Amp, High Current Switching (Compl to NTE37)	TO3P	12.00	160	140	6.0	100	100.000	15.0
935-6008	37	PNP-Si	AF Pwr Amp, High Current Switching (Compl to NTE36)	TO3P	12.00	160	140	6.0	100	100.000	15.0
935-6000	39	PNP-Si	Line Operated Series Pass and Switching Reg. (Compl to NTE157)	TO126	.50	300	300	3.0	92	20.000	-
935-6010	46	NPN-Si	Darlington, Gen Purp Amp, Preamp, Driver	TO92	.50	100	100	12.0	10,000 Min.	.625	200.0
935-6012	51	NPN-Si	High Voltage/Speed Switching Switchmode Applications tf = 0.4µS Typ	TO220	4.00	700	400	9.0	30	75.000	4.0 Min.
935-6014	53	NPN-Si	High Voltage/Speed Switching Switchmode Applications tf = 0.7µS Typ	TO3	15.00	850	400	9.0	25	175.000	6.0 Min.
935-6016	54	NPN-Si	High Freq. Driver for Audio Amplifiers (Compl to NTE55)	TO220	8.00	150	150	5.0	100	50.000	30.0 Min.
935-6018	55	PNP-Si	High Freq. Driver for Audio Amplifiers (Compl to NTE54)	TO220	8.00	150	150	5.0	120	50.000	30.0 Min.
935-0085	85	NPN-Si	General Purpose Amp, Hi-Fi Drivers	TO92	.40	70	70 (CES)	4.0	120 Min.	.625	200.0 Min.
935-6024	89	NPN-Si	Color TV Horizontal Output with Internal Dumper Diode tf = 1.0µS Max	TO3	7.00	1500	600	6.0	8	50.000	-
935-6026	90	NPN-Si	General Purpose High Gain Amp (Compl to NTE91)	Giant TO92	.05	120	120	5.0	400 Min.	.750	350.0
935-6028	91	PNP-Si	General Purpose High Gain Amp (Compl to NTE90)	Giant TO92	.05	120	120	5.0	400 Min.	.750	150.0
935-6032	94	NPN-Si	High Voltage Inverter, Converter, Regulator and Switching Circuits	TO3	5.00	300	300	5.0	40	100.000	2.5 Min.

For quantity pricing or parts not listed, contact the Allied facility nearest you at 1-800-433-5700.

Bi-Polar Transistors

Stock No.	Mfr.'s Type	Polarity and Material	Description and Application	Case Style	Maximum Collector Current Amps	Maximum Breakdown Voltage			Typical Forward Current Gain	Maximum Collector Power Dissipation	Typical Freq. in MHz
					Ic	Collector To Base	Collector To Emitter	Emitter To Base			
						BVCBO	BVCEO	BVEBO	hFE	Po Watts	fA
935-0098	98	NPN-Si	HV Darlington Pwr Amp, Fast Sw	T03	20.00	700	500	8.0	40 Min.	175.000	—
935-6034	100	PNP-Ge	Oscillator, Mixer for AM Radio, Medium Speed Switch (Compl to NTE101)	T05	.30	25	20 (CER)	12.0	40 at 455 KHz	.150	5.0
935-6036	101	NPN-Ge	Oscillator, Mixer for AM Radio, Medium Speed Switch (Compl to NTE100)	T05	.30	25	20 (CER)	20.0	40 at 455 KHz	.150	5.0
935-0715	102	PNP-Ge	Driver, Power Output, Switch (Compl to NTE103)	T05	.30	30	16 (CER)	25.0	100	.150	—
935-0720	102A	PNP-Ge	Medium Power Amplifier (Compl to NTE103A)	T01	1.00	32	32 (CES)	10.0	120	.650	—
935-6502	103	NPN-Ge	Power Output Driver, Switch (Compl to NTE102)	T05	.30	30	16 (CER)	25.0	115	.150	—
935-6038	103A	NPN-Ge	Medium Power Amplifier (Compl to NTE102A)	T01	1.00	32	32 (CES)	10.0	110	.650	—
935-0755	107	NPN-Si	UHF Oscillator for Tuner, High Frequency	T092	.05	30	12	3.0	75	.200	1000.0
935-0760	108	NPN-Si	RF-IF Amp and Osc	T0106, T092	.05	30	15	2.0	20 Min.	.625	800.0
935-0840	123A	NPN-Si	Amp, Audio to VHF Freq., Switch	T018	.80	75	40	6.0	200	.400	300.0 Min.
935-0841	123AP	NPN-Si	Amp, Audio to VHF Freq., Driver (Compl to NTE159)	T092	.60	75	40	6.0	200	.625	300.0 Min.
935-0845	124	NPN-Si	High Voltage Power Output Line Operated Equipment	T066	.15	300	300	5.0	100	20.000	10.0
935-0855	126	PNP-Ge	RF-IF Amp, TV, Radio, High Speed Switch	T018	.20	25	18 (CES)	1.0	60	.200	250.0
935-6040	127	PNP-Ge	Amp, Power Output, Horizontal and Vertical Deflection	T03	10.00	320	320 (CES)	2.0	15	56.000	1.0
935-0865	128	NPN-Si	Audio Output, Video, Driver (Compl to NTE129)	T039	1.00	120	80	7.0	90 Min.	1.000	100.0 Min.
935-0870	129	PNP-Si	Audio Output, Video, Driver (Compl to NTE128)	T039	1.00	90	80	7.0	90 Min.	1.000	150.0 Min.
935-0875	130	NPN-Si	Audio Power Amp, Medium Speed Switch (Compl to NTE219)	T03	15.00	100	60	7.0	45	115.000	3.0
935-0995	152	NPN-Si	Audio Power Amp, Medium Speed Switch (Compl to NTE153)	T0220	7.00	60	60	5.0	60	50.000	10.0
935-1000	153	PNP-Si	Audio Power Amp (Compl to NTE152)	T0220	7.00	60	60	5.0	60	50.000	10.0
935-6042	154	NPN-Si	High Voltage Video Output C _{ab} = 2.5 pF @ 2.0 V	T039	.20	300	300	7.0	100	1.000	80.0
935-1020	157	NPN-Si	Audio Power Amp, High Voltage Converter (Compl to NTE39)	T0126	.50	325	300	6.0	90	20.000	10.0 Min.
935-1025	158	PNP-Ge	Audio Power Amp	T01	1.00	32	32	10.0	90	1.400	1.5
935-1030	159	PNP-Si	Low Noise Audio Amp, Switch NF = 3dB @ 1KHz (Compl to NTE123AP)	T092	1.00	80	80	5.0	180	.625	200.0
935-1035	160	PNP-Ge	RF-IF Amp, FM Mixer/Osc	T072	.01	30	20 (CES)	.3	50	.100	550.0
935-1040	161	NPN-Si	VHF-UHF Amp, Mixer/Osc	T072	.05	45	45 (CES)	3.0	60	.200	800.0
935-1045	162	NPN-Si	TV Vertical Deflection	T03	10.00 Peak	500	300	5.0	20 Min.	100.000	—
935-1060	165	NPN-Si	Color TV Horizontal Output	T03	6.00	1500	1400 (CES)	5.0	8 Min.	50.000	3.0
935-1105	171	NPN-Si	Audio-Video Amp, Reg	T0202	.10	300	300	5.0	30 Min.	6.250	75.0
935-6046	172A	NPN-Si	Darlington Pre-Amp, Medium-Speed Switch	T098/T092	.30	40	40	12.0	7,000 Min.	.400	60.0 Min.
935-1110	175	NPN-Si	Linear & Audio Power Amp	T066	3.00	500	300 (CER)	6.0	60	40.000	15.0
935-0179	179	PNP-Ge	Audio Power Amp High Current Switch	T03	25.00	90	90 (CEX)	2.0	65 Min.	106.000	.5 Min.
935-6048	180	PNP-Si	High Power Audio Amp (Compl to NTE181)	T03	30.00	100	100 (CER)	4.0	25 Min.	200.000	2.0 Min.
935-0181	181	NPN-Si	High Power Audio Amp (Compl to NTE180)	T03	30.00	100	100 (CER)	4.0	25 Min.	200.000	2.0 Min.
935-1155	184	NPN-Si	Audio Power Amplifier & Switching (Compl to NTE185)	T0126	4.00	80	80	5.0	25 Min.	40.000	2.0 Min.
935-6052	185	PNP-Si	Audio Power Amplifier & Switching (Compl to NTE184)	T0126	4.00	80	80	5.0	25 Min.	40.000	2.0 Min.
935-1165	186	NPN-Si	General Purpose Output and Driver Stages of Audio Amps (Compl to NTE187)	T0202	3.00 5.00	70	60	5.0	100 Min.	12.500	50.0
935-6054	186A	NPN-Si	Medium Power Audio Amplifier	T0202M	3.00	40	50	5.0	120	10.000	150.0
935-6056	187	PNP-Si	General Purpose Output & Driver Stages of Audio Amplifiers (Compl to NTE186)	T0202	3.00	70	60	5.0	100 Min.	12.500	50.0
935-6060	188	NPN-Si	High Voltage Amplifier & Driver (Compl to NTE189)	T0202N	2.00	80	80	4.0	60 Min.	10.000	150.0
935-6504	189	PNP-Si	High Voltage Amp and Driver (Compl to NTE188)	T0202N	2.00	80	80	4.0	60 Min.	10.000	100.0
935-1205	192	NPN-Si	Audio Power Output (Compl to NTE193)	T092HS	1.00	70	70 (CES)	5.0	150	1*, .7	120.0 Min.
935-6068	193	PNP-Si	Audio Power Output (Compl to NTE192)	T092HS	1.00	70	70 (CES)	5.0	150	1*, .7	120.0 Min.
935-6070	194	NPN-Si	Gen Purp HV Amp, Hi-Speed Sw	T092	.60	180	160	6.0	100	.310	100.0 Min.
935-1235	196	NPN-Si	Audio Power Output & Medium Power Switching (Compl NTE197)	T0220	7.00	90	80 (CER)	5.0	20 Min.	50*, 1.8	4.0
935-6072	197	PNP-Si	Audio Power Output & Medium Power Switching (Compl NTE196)	T0220	7.00	90	80 (CER)	5.0	20 Min.	50*, 1.8	4.0
935-1249	198	NPN-Si	High Voltage Audio Output	T0220	1.00	500	500 (CES)	5.0	80	40*, 2	10.0 Min.
935-1250	199	NPN-Si	Lo-Noise, Hi-Gain Pre-Amp (Compl to NTE234)	T098/T092	.10	70	50	5.0	400 Min.	.360	90.0 Min.
935-6074	210	NPN-Si	General Purpose Output & Driver (Compl to NTE211)	T0202	1.00	90	75	5.0	120 Min.	6.25*, 1.33	200.0
935-6076	211	PNP-Si	General Purpose Output & Driver (Compl to NTE210)	T0202	1.00	90	75	5.0	120 Min.	6.25*, 1.33	150.0 Min.
935-6078	219	PNP-Si	General Purpose Amplifier & Switch (Compl to NTE130)	T03	15.00	100	70 (CER)	7.0	20 Min.	115.000	2.5 Min.
935-6082	234	PNP-Si	Lo-Noise, Hi-Gain AF Pre-Amp (Compl to NTE199)	T092	.05	60	50	5.0	400 Min.	.200	80.0 Min.
935-6084	235	NPN-Si	Final RF Pwr Output (Po 5 W, 50 MHz)	T0220	3.00 Pulse	65	65 (CER)	4.0	80	12.000	300.0
935-6086	236	NPN-Si	Final RF Pwr Output, CB (Po 13 W, 50 MHz)	T0220	8.00 Pulse	70	70 (CER)	4.0	20 Min.	25.000	150.0
935-6088	238	NPN-Si	Color TV Horiz Output	T03	8.00	1500	1500 (CEX)	5.0	8	100.000	—
935-6096	249	NPN-Si	Darlington Pwr Amp (Compl to NTE250)	T03	16.00	100	100	5.0	4,000	150.000	—
935-6506	250	PNP-Si	Darlington Pwr Amp (Compl to NTE249)	T03	16.00	100	100	5.0	4,000	150.000	—

For quantity pricing or parts not listed, contact the Allied facility nearest you at 1-800-433-5700. *Tc = 25°C.

Bi-Polar Transistors — Continued

Stock No.	Mfr.'s Type	Polarity and Material	Description and Application	Case Style	Maximum Collector Current Amps	Maximum Breakdown Voltage			Typical Forward Current Gain	Maximum Collector Power Dissipation	Typical Freq. in MHz
						Collector To Base	Collector To Emitter	Emitter To Base			
					I _c	BV _{CEO}	BV _{CE0}	BV _{ES0}	h _{FE}	P ₀ Watts	f _r
935-6100	253	NPN-Si	Darlington Pwr Amp (Compl to NTE254)	T0126	4.00	80	80	5.0	2,500	40,000	—
935-6102	254	PNP-Si	Darlington Pwr Amp (Compl to NTE253)	T0126	4.00	80	80	5.0	2,500	40,000	—
935-6104	261	NPN-Si	Darlington Pwr Amp (Compl to NTE262)	T0220	8.00	100	100	5.0	1,000 Min.	65,000	—
935-6106	262	PNP-Si	Darlington Pwr Amp (Compl to NTE261)	T0220	8.00	100	100	5.0	1,000 Min.	65,000	—
935-6108	263	NPN-Si	Darlington Pwr Amp (Compl to NTE264)	T0220	10.00	100	100	5.0	1,000 Min.	65,000	—
935-9377	264	PNP-Si	Darlington Pwr Amp (Compl to NTE263)	T0220	10.00	100	100	5.0	1,000 Min.	65,000	—
935-6110	265	NPN-Si	Darlington Pwr Amp Switch	T0202	.50	50	50	13.0	10,000 Min.	6,250	—
935-6112	280	NPN-Si	Audio Amp Output (Compl to NTE281)	T03	12.00	150	150	5.0	70	100,000	15.0
935-6116	283	NPN-Si	High Voltage, High Current Switch & Horizontal Output	T03	10.00	800	325	8.0	10 Min.	100,000	6.0
935-6118	284	NPN-Si	Audio Amplifier Output (Compl to NTE285)	T03	16.00	180	180	5.0	70	150,000	6.0
935-6120	285	PNP-Si	Audio Amplifier Output (Compl to NTE284)	T03	16.00	180	180	5.0	70	150,000	6.0
935-6122	287	NPN-Si	High Voltage, Low Saturation, Low Cap. General Purpose Amp (Compl to NTE288)	T092	.50	300	300	8.0	40 Min.	.625	50.0 Min.
935-6124	288	PNP-Si	High Voltage, Low Saturation, General Purpose Amp (Compl to NTE287)	T092	.50	300	300	5.0	40 Min.	.625	50.0 Min.
935-6126	289	NPN-Si	Audio Power Amp and Switch (Compl to NTE290)	U83/T092	.80	35	30	5.0	120 Min.	.600	100.0
935-0289	289A	NPN-Si	Audio Power Amp (Compl to NTE290A)	T092	.50	100	80	5.0	100 Min.	.600	120.0
935-6128	290	PNP-Si	Audio Power Amp and Switch (Compl to NTE289)	U83/T092	.80	35	30	5.0	120 Min.	.600	140.0
935-6130	290A	PNP-Si	Audio Power Amp (Compl to NTE289A)	T092	.50	100	80	5.0	100 Min.	.600	120.0
935-6132	291	NPN-Si	General Purpose Medium Power Amp and Switch (Compl to NTE292)	T0220	4.00	130	120	5.0	70	40,000	4.0 Min.
935-6134	292	PNP-Si	General Purpose Medium Power Amp and Switch (Compl to NTE291)	T0220	4.00	130	120	5.0	70	40,000	5.0 Min.
935-6136	293	NPN-Si	Audio Amp and Driver (Compl to NTE294)	Giant, T092	1.00	60	50	5.0	120	1 w/Heat Sink .75	200.0
935-6138	294	PNP-Si	Audio Amp and Driver (Compl to NTE293)	Giant, T092	1.00	60	50	5.0	120 Min.	1 w/Heat Sink .75	200.0
935-6144	311	NPN-Si	Freq-Multiplier, Amp, Driver Osc, VHF-UHF Pre-Driver	T039	.40	55	30	3.5	25 Min.	5,000	800.0 Min.
935-6146	331	NPN-Si	Audio Power Amp, Switch (Compl to NTE332)	T0220	15.00	100	100	5.0	40 Min.	90,000	3.0 Min.
935-6148	332	PNP-Si	Audio Power Amp, Switch (Compl to NTE331)	T0220	15.00	100	100	5.0	40 Min.	90,000	3.0 Min.
935-6150	373	NPN-Si	Audio Amp, Driver (Compl to NTE374)	T0126	1.50	180	160	5.0	190	20,000	140.0
935-6152	374	PNP-Si	Audio Amp, Driver (Compl to NTE373)	T0126	1.50	180	160	5.0	190	20,000	140.0
935-6145	375	NPN-Si	Vertical Deflection (Compl to NTE398)	T0220	3.00	200	150	6.0	150	25,000	8.0
935-6158	377	NPN-Si	Power Amp Driver, Output, Switch (Compl to NTE378)	T0220	10.00	80	80	5.0	60 Min.	50,000	50.0
935-6160	378	PNP-Si	Power Amp Driver, Output, Switch (Compl to NTE377)	T0220	10.00	80	80	5.0	60 Min.	50,000	50.0
935-6162	379	NPN-Si	Power Amp, High Voltage, Switch tr = 0.45 μS Typ	T0220	12.00	700	400	9.0	12	100,000	4.0 Min.
935-6168	382	NPN-Si	Audio Frequency Driver (Compl to NTE383)	R245	1.00	120	100	5.0	200	.900	140.0
935-6170	383	PNP-Si	Audio Frequency Driver (Compl to NTE382)	R245	1.00	120	100	5.0	200	.900	140.0
935-6172	384	NPN-Si	High Voltage Power Amp/Switch tr = 0.3 μS Typ	T066	7.00	375	350	9.0	28	45,000	1.0 Min.
935-6174	385	NPN-Si	Audio Power Amp, Switch tr = 0.085 μS Typ	T03	10.00	550	350	6.0	17	150,000	—
935-6176	386	NPN-Si	Audio Power Amp, Switch tr = 0.3 μS Typ	T03	20.00	800	500	6.0	20	175,000	—
935-6180	389	NPN-Si	Horizontal Output	T03	6.00	1500	1500 (CES)	5.0	5 Min.	100,000	4.0 Min.
935-6186	396	NPN-Si	Power Amp & High Speed Switch (Compl to NTE397)	T039	1.00	450	350	7.0	40 Min.	10*, 1	15 Min.
935-6508	397	PNP-Si	Power Amp & High Speed Switch (Compl to NTE396)	T039	1.00	350	300	6.0	30 Min.	10*, 1	15.0 Min.
935-6188	398	PNP-Si	Vertical Deflection, Audio Amp (Compl to NTE375)	T0220	2.00	200	150	5.0	100	25,000	5.0
935-6190	399	NPN-Si	High Voltage Amp, Video	Giant, T092	.10	300	300	6.0	100 Min.	.900	50.0 Min.
935-6192	2302	NPN-Si	High Voltage Horiz Output w/Internal Damper Diode tf = 0.4 μS	T03P	5.00	1500	800	7.0	8 Min.	120*	3.0
935-6194	2308	NPN-Si	High Voltage/Current Switch tf = 1.0 μS	T03P	12.00	500	400	7.0	15 Min.	100*	20.0

*T_c = 25°C

Silicon Unijunction Transistor (UJT)

Stock No.	Mfr.'s Type	Case Style	Maximum RMS Emitter Current	Intrinsic Stand Off Ratio	Interbase Resistance	Maximum Interbase Voltage	Maximum RMS Power Dissipation	Emitter Reverse Current	Valley Point Current
			I _e mA	Min.-Max.	R _{BB} (R _{BC}) Min.-Max.	V _{BB} Volts	P ₀ mW	I _{EO} μAmps	I _V mA
935-6196	6401	T018	50	.56-.75	4.7-9.1	35	300	.050 typ 12 max	4 min.
935-6200	6409	T018	50	.68-.82	4.7-9.1	35	300	.010 typ .2 max	8 min.
935-6202	6410	T092	50	.70-.85	4.0-9.1	35	300	.005 typ	4 min.

Transistors, Thyristors, Diodes and Rectifiers

Programmable Unijunction Transistor (PUT)

Stock No.	Mfr.'s Type	Case Style	Maximum Ratings				Gate Current IGmA	Peak Current @ Vs = 10 V Ip μA	Offset Voltage @ Vs = 10 V Vt Volts	Min. Valley Current @ Vs = 10 V Iv μA
			BV _{GR} Volts	BV _{GR} Volts	BV _{AK} Volts	PD _{max} mW				
935-6198	6402	T098/92	+40	-5	±40	300	±20	2@Rs = 1 MEG Ω 5@Rs = 10 KΩ	1.6@Rg = 1 MEG Ω .6@Rg = 10 KΩ	70@Rg = 1 MEG Ω 1.5mA@Rg = 10 KΩ

Field Effect Transistors

Stock No.	Mfr.'s Type	Polarity and Material	Description and Application	Case Style	Breakdown Voltage Gate To Source Min.	Cutoff Voltage Gate To Source Max. (off)	Drain Current Zero-Gate Min. mA Max.	Drain Current Max. (off) mA	Resistance Drain to Source Ohms Max. (on)	Cap. Input Max. pf	Reverse Transfer Capacitance Max. pf	Transconductance mhos typical	Power Dissipation Max. mW
					BV _{DS}	V _{GS}	I _{DSS}	I _D	r _{DS(on)}	C _{iss}	C _{rss}	g _{fs}	P _D
935-6204	133	JFET N-CH	Gen Purp AF Amp/SW	T0106	25	6.0	0.5-15	—	—	6.0	2.00	4000	300
935-6208	222	Dual Gate MOSFET N-CH	VHF Amp/Mix, NF 6 db Max at 200 MHz Gate Protected	T072	20	4.0	5.0-35	—	—	6.0typ	0.03	12000	330
935-6210	312	JFET N-CH	VHF Amp/Mix, NF 4 db Max at 400 MHz	T092	30	6.0	5.0-15	—	—	4.5	1.00	5500	360
935-6212	326	JFET P-CH	Gen Purp AF Amp, NF 2.5 db Max at 100 Hz	T092	60	7.5	2.0-9	—	—	7.0	2.00	3000	310
935-6214	454	Dual Gate MOSFET N-CH	UHF/VHF Preamp, NF 4.5 db at 200 MHz Gate Protected	T072	25	5.0	6.0-30	—	—	3.3typ	0.03	15000	360
935-6216	457	JFET N-CH	Gen Purp Amp/SW	T092	25	6.0	1.0-5	—	—	7.0	3.00	3000	310
935-6218	459	JFET N-CH	AF Amp/Chopper/SW	T072	50	6.0	2.0-10	10	—	6.0	3.00	4500	300

Silicon Controlled Rectifier (SCR)

Stock No.	Mfr.'s Type	Description and Application	Case Style	V _{ORM} Volts	I _{RMS} Amps	I _{TSM} Amps	V _{GT} Max. Volts	I _{GT} Max. mA	t _{on} Max. μSec	t _{tr} μSec	I _H mA Max.	Max On-State Voltage
												V _T Volts
935-6222	276	SCR, Gate Controlled Switch	Japanese T066	1250	5.0	80	1.5	120	.2	1.3	300	5.3
935-6226	5400	Sensitive Gate	T092	30	0.8	—	0.8	200μA	—	—	—	—
935-6228	5401	Sensitive Gate	T092	60	0.8	—	0.8	200μA	—	—	—	—
935-6230	5402	Sensitive Gate	T092	100	0.8	—	0.8	200μA	—	—	—	—
935-6232	5404	Sensitive Gate	T092	200	0.8	—	0.8	200μA	—	—	—	—
935-6234	5455	Sensitive Gate	T0202	200	4.0	—	0.8	200μA	—	—	—	—
935-6236	5457	Sensitive Gate	T0202	400	4.0	—	0.8	200μA	—	—	—	—
935-6240	5465	SCR	T0220	400	10.0	—	1.5	15	—	—	—	—

TRIACS

Stock No.	Mfr.'s Type	Description	Pkg.	V _{ORM} DC or Peak Volts	I _{RMS} Max. TWD Current	I _{GT} (mA)	V _{GT} (V)	V _{ON} (V)	I _{Surge} (A)	I _{Hold} (mA)
935-3900	NTE5635	Triac	T0220	400	10.0A	50	2.5	1.65	100	50
935-6244	NTE5645	Triac	T0220	600	10.0A	25/50	2.5	1.60	110	50
935-6246	NTE5656	Triac	T092	400	0.8A	5	2.0	1.50	8	20

Silicon 3-Layer Bilateral Trigger Diodes (DIACS)

Stock No.	Mfr.'s Type	Max. Peak Pulse	Breakover Voltage (Forward & Reverse)	Maximum Breakover Current I _{BR1} & I _{BR2}	Minimum Switching Voltage Change (Both Direc.)	D07/35 Maximum Power Diss P _D	T092 Maximum POWER Diss P _D
		I _{Pulse} Amps	V _{BO}	μA	ΔV	mW	mW
935-6432	6407	2	28 ± 4	100	6	250	300
935-6434	6408	2	32 ± 4	100	6	250	300

Thyristor Diode, Bidirectional (SIDAC)

For Pulse Generating and Switching Applications. Storage Temperature: -30 to +125°C. Junction Temperature: +125°C.

Stock No.	Mfr.'s Type	Band Color*	Breakover Voltage	Maximum Effective Current (Amps)	Maximum Surge Current (Amps)	Holding Current (mAmps)	Max. on Voltage	Power Diss (mWatts)
			V _{BO}	I _{TRMS}	I _{TSM}	I _H	V _T	P _D
935-6436	6419	Green	110 TO 125	1	13	50	1.5	850

*Note: Color Bands Indicates Breakover Voltage (V_{BO}). NOT CATHODE of Device, since device is bidirectional.

Zener Diodes

Stock No.	Mfr.'s Type	DWG	Rated Voltage ±5%	Watt	Stock No.	Mfr.'s Type	DWG	Rated Voltage ±5%	Watt	Stock No.	Mfr.'s Type	DWG	Rated Voltage ±5%	Watt	Stock No.	Mfr.'s Type	DWG	Rated Voltage ±5%	Watt
935-6298	135A	D041	5.1	1	935-6310	143A	D041	13.0	1	935-6324	5069A	D041	4.7	1	935-6338	5084A	D041	30.0	1
935-6300	136A	D041	5.6	1	935-6312	145A	D041	15.0	1	935-6326	5070A	D041	6.0	1	935-6340	5098A	D041	130.0	1
935-6302	137A	D041	6.2	1	935-6314	146A	D041	27.0	1	935-6328	5071A	D041	6.8	1	935-6342	5127A	—	12.0	5
935-6304	138A	D041	7.5	1	935-6316	147A	D041	33.0	1/2	935-6330	5072A	D041	8.2	1	935-6344	5130A	—	15.0	5
935-6306	139A	D041	9.1	1	935-6318	5001A	D035	2.5	1/2	935-6332	5077A	D041	18.0	1	935-6346	5134A	—	19.0	5
935-0940	140A	D041	10.0	1	935-6320	5010A	D035	5.1	1/2	935-6334	5079A	D041	20.0	1	935-6315	5155A	—	91.0	5
935-6308	142A	D041	12.0	1	935-5013	5013A	D035	6.2	1/2	935-6336	5080A	D041	22.0	1	—	—	—	—	—

General Purpose Diodes and Rectifiers

Stock No.	Mfr.'s Type	Material	Description and Application	Case Style	Maximum Peak Reverse Voltage	Maximum Average Forward Current Amps	Max. Peak Surge Forward Current Amps	Maximum Forward Voltage Drop	Reverse Recovery Time
					P _{RV}	I _F	I _{FSM}	V _F	t _{rr}
935-0765	109	Germ	Gen Purp. Fast Switch	D07	100	0.200	.5	1.0	—
935-6248	112	Si	TV UHF Mixer	D07	5	0.025	—	0.5 @ 15mA	—
935-6250	177	Si	Fast Sw, Det, etc.	D035	200	0.160	250.0 mA	1.0V @ 100 mA	50ns
935-6251	519	Si	Fast Sw Diode	D035	75	0.200	—	1.0V @ 100 mA	4ns
935-6428	525	Si	High Voltage, Fast Recovery Sw	D041	2000	1.000	150.0	2.0V @ 2 A	3μs(Fwd. Rec.)
935-6428	116	Si	General Purpose Rectifier	D041	600	1.000	30.0	1.1V @ 1 A typ	—
935-0795	117	Si	General Purpose Metal Case Rectifier	D026	600	1.000	—	1.2V @ 5 A	—
935-6252	125	Si	General Purpose Rectifier	D041	1000	2.500	30.0	0.8V @ 1 A typ	—
935-0850	156	Si	General Purpose Rectifier	D015	1000	3.500	—	1.1V @ 3 A	—
935-1015	156A	Si	General Purpose Rectifier	D027A	1000	3.500	125.0	1.1 @ 3.5 A	—
935-6254	166	Si	Bridge Rectifier	C207	100	2.000	60.0	1.0V @ 1 A	—
935-6256	166	Si	Bridge Rectifier	C207	200	2.000	60.0	1.0V @ 1 A	—
935-6258	167	Si	Bridge Rectifier	C207	400	2.000	60.0	1.0V @ 1 A	—
935-6260	168	Si	Bridge Rectifier	C207	400	2.000	60.0	1.0V @ 1 A	—

General Purpose Diodes and Rectifiers — Continued

Stock No.	Mfr.'s Type	Material	Description and Application	Case Style	Maximum Peak Reverse Voltage	Maximum Average Forward Current Amps	Max. Peak Surge Forward Current Amps	Maximum Forward Voltage Drop	Reverse Recovery Time
					Prv	If	I _{FSM}	V _F	t _{rr}
935-2055	506	Si	Sw, Fast Recovery, Bst Damper, Blanking	DO41	1400	2.0	3.5A	1.0 V @ 1 A	50 nS forward
935-6262	552	Si	Gen Purp Rect, Fast Rec, Fast Sw	DO41	600	1.0	30.0	1.1 V @ 1 A	200 nS
935-6264	558	Si	Gen Purp Rect, Fast Rec, Fast Sw, HV	DO41	1500	1.0	—	1.2	250 nS
935-6266	580	Si	Fast Recovery, Gen Purpose Rectifier	—	600	3.0	100.0	1.1 V @ 3 A	250 nS
935-6268	5304	Si	Bridge Rectifier	C207	400	1.5	50.0	1.0 V @ 1 A	—
935-6270	5305	Si	Bridge Rectifier	C207	600	1.5	50.0	1.0 V @ 1 A	—
935-6272	5313	Si	Bridge Rectifier	—	200	8.0	200.0	1.1 V @ 4 A	—
935-6274	5314	Si	Bridge Rectifier	—	400	8.0	200.0	1.1 V @ 4 A	—
935-6276	5315	Si	Bridge Rectifier	—	600	8.0	200.0	1.1 V @ 4 A	—
935-6278	5322	Si	Bridge Rectifier	—	200	25.0	300.0	1.2 V @ 12.5 A	—
935-6280	5324	Si	Bridge Rectifier	—	400	25.0	300.0	1.2 V @ 12.5 A	—
935-6282	5326	Si	Bridge Rectifier	—	600	25.0	300.0	1.2 V @ 12.5 A	—
935-6284	5332	Si	Bridge Rectifier	—	600	1.0	25.0	1.2 V @ 1 A	—
935-6286	5800	—	Industrial Rectifier	DO27	50	3.0	200.0	1.2 V Max	—
935-6288	5801	—	Industrial Rectifier	DO27	100	3.0	200.0	1.2 V Max	—
935-4065	5802	—	Industrial Rectifier	DO27	200	3.0	200.0	1.2 V Max	—
935-4075	5804	—	Industrial Rectifier	DO27	400	3.0	200.0	1.2 V Max	—
935-4085	5806	—	Industrial Rectifier	DO27	600	3.0	200.0	1.2 V Max	—
935-6290	5809	—	Industrial Rectifier	DO27	1000	3.0	200.0	1.2 V Max	—
935-6292	5812	—	Industrial Rectifier	Axial LD	100	6.0	400.0	0.9 V Max	—
935-5814	5814	—	Industrial Rectifier	Axial LD	400	6.0	400.0	0.9 V Max	—
935-6294	5817	—	Industrial Rectifier	Axial LD	1000	6.0	400.0	0.9 V Max	—
935-6296	5994	—	Industrial Rectifier	DO5	600	40.0	500.0	1.2 V Max	—

Optoisolators

Phototransistor Outputs

Stock No.	Mfr.'s Type	Phototransistors	Total Device Ratings			LED Ratings			Phototransistor Ratings				
		Output Configuration	Isolation Voltage Surge (V)	Total Power (mW)	Max Forward Current (mA)	Max Forward Voltage (V)	Max Reverse Voltage (V)	Max Blocking Voltage (V)	Max Gate Trigger Voltage (V)	Max Turn On Current (Threshold) (mA)	Max On Voltage At I _H (V)	Max Holding Current (mA)	Max Gate Trigger Current (μA)
935-6356	3047	Triac	7500	330	50	1.5	3	250	—	15	3 @ 100 mA	100 μA typ	—

Phototransistor Outputs

Stock No.	Mfr.'s Type	Output Configuration	Total Device Ratings			LED Max Ratings			Phototransistor Ratings		
			Isolation Voltage Surge (V)	Total Power (mW)	DC Current Transfer Ratio %	Max Forward Current (mA)	Max Forward Voltage (V)	Max Reverse Voltage (V)	Collector To Base Voltage (V)	Collector To Emitter Voltage (V)	Max Collector Current Dark (nA)
935-6350	3040	NPN Transistor	7500	250	20	80	1.5	3	70	30	100
935-6352	3041	NPN Transistor	7500	300	100	60	1.5	6	70	30	50
935-6354	3042	NPN Transistor	7500	250	20	60	1.5	3	70	30	50
935-6358	3086	NPN Dual Transistor	7500	400	50	60	1.5	3	—	30	100

Photon Coupled Interrupter Module

Stock No.	Mfr.'s Type	Output Transistor Configuration	Emitter Specifications			Detector Specifications			Maximum Total Power Dissipation mW	Typical Switching Speeds	
			Maximum Reverse Breakdown Volts	Maximum Forward Current mA	Forward Voltage Drop Volts	Maximum Collector-Committer Voltage Volts	Maximum Collector Current mA	Maximum Collector Dark Current nA		Turn-on t _{on}	Turn-off t _{off}
935-6348	3101	NPN Darlington	6	60	1.7	55	100	100	250	7	45

ICs

Stock No.	Mfr.'s Type	Pkg.	Description	Stock No.	Mfr.'s Type	Pkg.	Description
935-6360	NTE74LS244	20 Pin Dip	IC-TTL, Quad Driver	935-6414	NTE4013B	14 Pin Dip	IC-CMOS Dual 'D' Flip-Flop
935-6362	NTE712	14 Pin Dip	IC-TV Sound IF	935-6416	NTE4016B	14 Pin Dip	IC-CMOS Quad Bilateral Switch
935-6366	NTE778A	8 Pin Dip	IC-Dual Op Amp	935-6418	NTE4049	16 Pin Dip	IC-CMOS Hex Buffer
935-6368	NTE834	14 Pin Dip	IC-Quad Comparator	935-6420	NTE4066B	14 Pin Dip	IC-CMOS Quad Bilateral Switch
935-6370	NTE815	8 Pin Dip	IC-TV Horiz Processor	935-6422	NTE4069	14 Pin Dip	IC-CMOS Hex Inverter
935-6374	NTE923	10 Ld Metal Can	IC-Precision Voltage Regulator	935-6424	NTE4081B	14 Pin Dip	IC-CMOS And Gate
935-6376	NTE923D	14 Pin Dip	IC-Precision Voltage Regulator	935-6426	NTE4093B	14 Pin Dip	IC-CMOS, Nand Gate
935-6378	NTE928M	8 Pin Dip	IC-Dual Low Power Dual OP-Amp	935-7145	NTE7400	14 Pin Dip	IC-TTL, Nand Gate
935-9372	NTE931	TO-3	IC-Linear, Voltage Regulator	935-7147	NTE7402	14 Pin Dip	IC-TTL, Nor Gate
935-6380	NTE941	8 Ld Metal Can	IC-Frequency Compensated OP-Amp	935-7148	NTE7403	14 Pin Dip	IC-TTL Quad 2-Input Pos-Nand, OPN Collector
935-6382	NTE941D	14 Pin Dip	IC-Frequency Compensated OP-Amp	935-7149	NTE7404	14 Pin Dip	IC-TTL Hex Inverter
935-6384	NTE941M	8 Pin Dip	IC-Frequency Compensated OP-Amp	935-7151	NTE7406	14 Pin Dip	IC-TTL Hex Inverter
935-6386	NTE943M	8 Pin Dip	IC-Dual Comparator	935-7152	NTE7407	14 Pin Dip	IC-TTL Hex Buffer Driver
935-6388	NTE955M	8 Pin Dip	IC-Timer/Oscillator	935-7156	NTE7408	14 Pin Dip	IC-TTL, And Gate
935-6390	NTE956	TO-220	IC-Pos VR, 1.2 to 37 V, 1.5 Amp	935-7155	NTE7410	14 Pin Dip	IC-TTL Triple 3 Input Pos-Nand
935-3020	NTE960	TO-220	IC-Pos VR, 5 V, 1 Amp	935-7160	NTE7416	14 Pin Dip	Hex Inverter Buffer/Driver w/open Col Hi-Vol Outputs
935-6392	NTE964	TO-220	IC-Pos VR, 8 V, 1 A	935-7166	NTE7425	14 Pin Dip	IC-TTL Dual 4 Input Pos-NOR
935-3050	NTE966	TO-220	IC-Pos VR, 12 V, 1 Amp	935-7194	NTE7432	14 Pin Dip	IC-TTL Quad 2 Input Pos-OR
935-3055	NTE967	TO-220	IC-Neg VR, -12 V, 1 A	935-7195	NTE7437	14 Pin Dip	IC-TTL Quad 2 Input Pos Nand
935-6394	NTE968	TO-220	IC-Pos VR, 15 V, 1 A	935-7199	NTE7442	16 Pin Dip	IC-TTL BCD to Decimal Decoder
935-3080	NTE972	TO-220	IC-Pos VR, 24 V, 1 A	935-7210	NTE7472	14 Pin Dip	IC-TTL J-K Master Slave Flip-Flop
935-6396	NTE977	TO-92	IC-Pos VR, 5 V, 100 mA	935-7212	NTE7473	14 Pin Dip	IC-TTL Dual J-K Flip-Flop
935-3110	NTE978	14 Pin Dip	IC-Dual Timing	935-7211	NTE7474	14 Pin Dip	IC-TTL Dual 'D' Flip-Flop
935-6398	NTE987	14 Pin Dip	IC-Quad OP-Amp	935-7213	NTE7475	16 Pin Dip	IC-TTL 4 Bit Bistable Latch
935-6400	NTE992	14 Pin Dip	IC-4 Independent Amps	935-7214	NTE7476	16 Pin Dip	IC-TTL Dual J-K Flip-Flop
935-6404	NTE1231	12 Pin Dip	IC-TV Sound IF	935-7218	NTE7486	14 Pin Dip	IC-TTL Quad 2 Input Ex-OR
935-0136	NTE1394	12 Pin Dip	IC-Linear, Dual Audio Power	935-7221	NTE7490	14 Pin Dip	IC-TTL Decade Counter
935-6406	NTE1471	16 & 2 Pin Dip	IC-TV Horiz Oscillator	935-7226	NTE7493A	14 Pin Dip	IC-TTL 4 Bit Binary Counter
935-6408	NTE2013	16 Pin Dip	IC-7 Chan, Cmos Input Array	935-7158	NTE74121	14 Pin Dip	IC-TTL Monostable Multivibrator
935-6410	NTE4001B	14 Pin Dip	IC-CMOS, Nor Gate	935-7239	NTE74192	16 Pin Dip	IC-TTL BCD Counter
935-6412	NTE4011B	14 Pin Dip	IC-CMOS, Nand Gate	935-7186	NTE74193	16 Pin Dip	IC-TTL Binary Counter

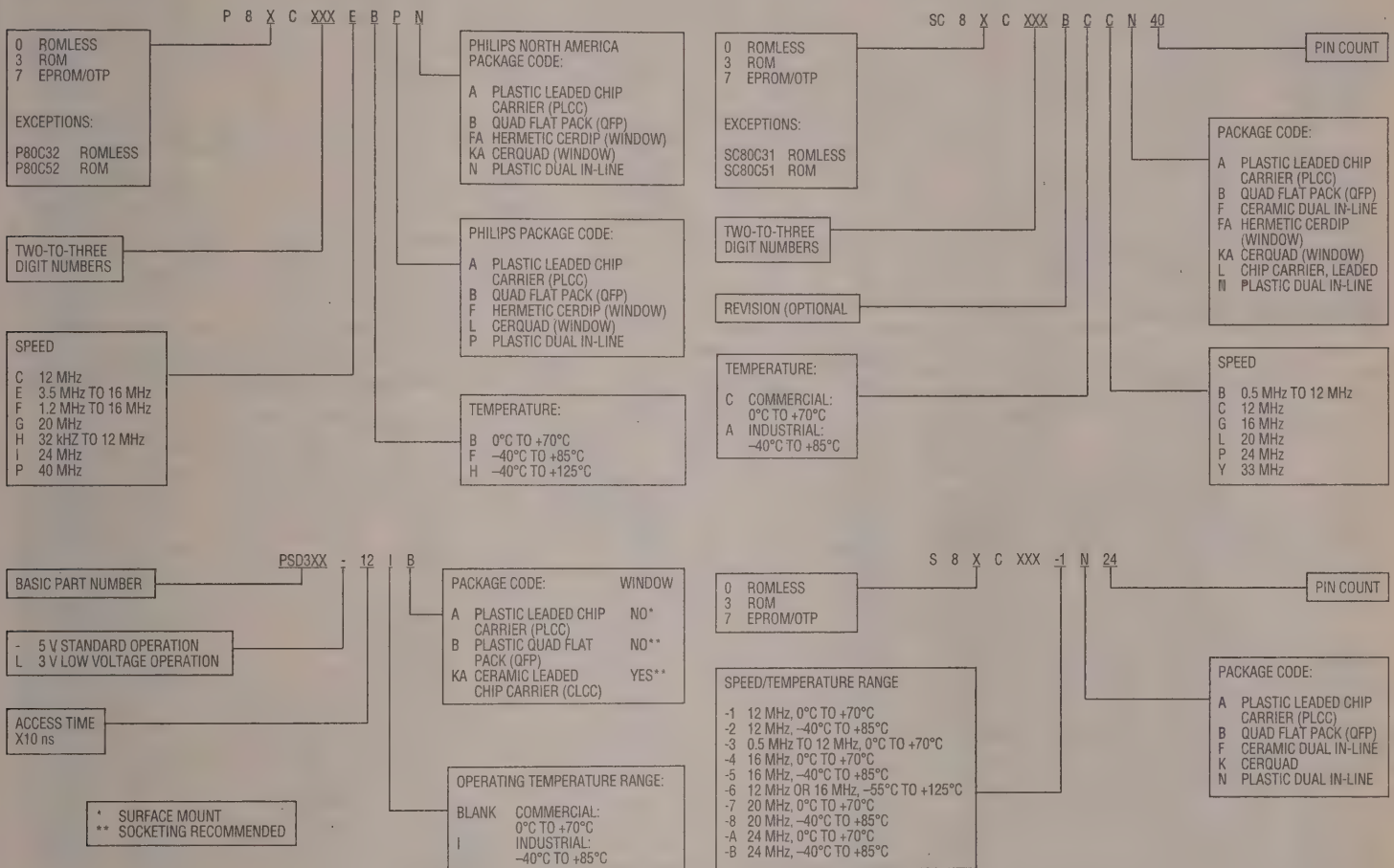
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Microcontrollers and Peripherals

Ordering Information



PSD3XX Field-Programmable Microcontroller Peripherals

Mfr.'s Type		Speed (ns)	No. of PLD Inputs	No. of Product Terms	No. of Ports	EPROM Size	SRAM Size	Configuration	Memory Paging	C-Miser Bit	Security Bit	Temperature Range (°C)
44 Lead PLCC	44 Lead CLCC											
PSD301-12A	PSD301-12KA	120	14	40	19	256 KB	16 KB	x8 or x16	—	Yes	Yes	0 to +70
PSD301-15A	PSD301-15KA	150	14	40	19	256 KB	16 KB	x8 or x16	—	Yes	Yes	0 to +70
PSD301-15IA	PSD301-15IKA	150	14	40	19	256 KB	16 KB	x8 or x16	—	Yes	Yes	-40 to +85
PSD301-20A	PSD301-20KA	200	14	40	19	256 KB	16 KB	x8 or x16	—	Yes	Yes	0 to +70
PSD301-20IA	PSD301-20IKA	200	14	40	19	256 KB	16 KB	x8 or x16	—	Yes	Yes	-40 to +85
PSD302-12A	PSD302-12KA	120	18	40	19	512 KB	16 KB	x8 or x16	Yes	Yes	Yes	0 to +70
PSD302-15A	PSD302-15KA	150	18	40	19	512 KB	16 KB	x8 or x16	Yes	Yes	Yes	0 to +70
PSD302-15IA	PSD302-15IKA	150	18	40	19	512 KB	16 KB	x8 or x16	Yes	Yes	Yes	-40 to +85
PSD302-20A	PSD302-20KA	200	18	40	19	512 KB	16 KB	x8 or x16	Yes	Yes	Yes	0 to +70
PSD302-20IA	PSD302-20IKA	200	18	40	19	512 KB	16 KB	x8 or x16	Yes	Yes	Yes	-40 to +85
PSD303-12A	PSD303-12KA	120	18	40	19	1 MB	16 KB	x8 or x16	Yes	Yes	Yes	0 to +70
PSD303-15A	PSD303-15KA	150	18	40	19	1 MB	16 KB	x8 or x16	Yes	Yes	Yes	0 to +70
PSD303-15IA	PSD303-15IKA	150	18	40	19	1 MB	16 KB	x8 or x16	Yes	Yes	Yes	-40 to +85
PSD303-20A	PSD303-20KA	200	18	40	19	1 MB	16 KB	x8 or x16	Yes	Yes	Yes	0 to +70
PSD303-20IA	PSD303-20IKA	200	18	40	19	1 MB	16 KB	x8 or x16	Yes	Yes	Yes	-40 to +85
PSD311-12A	PSD311-12KA	120	14	40	19	256 KB	16 KB	x8	—	Yes	Yes	0 to +70
PSD311-15A	PSD311-15KA	150	14	40	19	256 KB	16 KB	x8	—	Yes	Yes	0 to +70
PSD311-15IA	PSD311-15IKA	150	14	40	19	256 KB	16 KB	x8	—	Yes	Yes	-40 to +85
PSD311-20A	PSD311-20KA	200	14	40	19	256 KB	16 KB	x8	—	Yes	Yes	0 to +70
PSD311-20IA	PSD311-20IKA	200	14	40	19	256 KB	16 KB	x8	—	Yes	Yes	-40 to +85
PSD312-12A	PSD312-12KA	120	18	40	19	512 KB	16 KB	x8	Yes	Yes	Yes	0 to +70
PSD312-15A	PSD312-15KA	150	18	40	19	512 KB	16 KB	x8	Yes	Yes	Yes	0 to +70
PSD312-15IA	PSD312-15IKA	150	18	40	19	512 KB	16 KB	x8	Yes	Yes	Yes	-40 to +85
PSD312-20A	PSD312-20KA	200	18	40	19	512 KB	16 KB	x8	Yes	Yes	Yes	0 to +70
PSD312-20IA	PSD312-20IKA	200	18	40	19	512 KB	16 KB	x8	Yes	Yes	Yes	-40 to +85
PSD313-12A	PSD313-12KA	120	18	40	19	1 MB	16 KB	x8	Yes	Yes	Yes	0 to +70
PSD313-15A	PSD313-15KA	150	18	40	19	1 MB	16 KB	x8	Yes	Yes	Yes	0 to +70
PSD313-15IA	PSD313-15IKA	150	18	40	19	1 MB	16 KB	x8	Yes	Yes	Yes	-40 to +85
PSD313-20A	PSD313-20KA	200	18	40	19	1 MB	16 KB	x8	Yes	Yes	Yes	0 to +70
PSD313-20IA	PSD313-20IKA	200	18	40	19	1 MB	16 KB	x8	Yes	Yes	Yes	-40 to +85

Microcontrollers (continued)
ROMless 8051-Based 8-Bit Microcontrollers

Mfr.'s Type		Operating Frequency (MHz)	Memory			Counters Timers	I/O Port	Serial Interfaces	External Interrupt	Program Security	Temperature Range (°C)	No. of Leads
PLCC	PDIP		ROM (Bytes)	EPROM (Bytes)	RAM (Bytes)							
—	P80CL31HFPN	0 to 16	—	—	128	2	4	UART	1	No	-40 to +85	40
—	P80CL410HFN	0 to 16	—	—	128	2	4	I ² C	10	No	-40 to +85	40
P80C32EBAA P80C32EFAA P80C32GBAA P80C32GFAA P80C32IBAA P80C32IFAA	P80C32EBPN P80C32EFPN P80C32GBPN P80C32GFPN P80C32IBPN P80C32IFPN	3.5 to 16 3.5 to 16 3.5 to 20 3.5 to 20 3.5 to 24 3.5 to 24	— — — — — —	— — — — — —	256 256 256 256 256 256	3 3 3 3 3 3	4 4 4 4 4 4	UART UART UART UART UART UART	2 2 2 2 2 2	Yes Yes Yes Yes Yes Yes	0 to +70 -40 to +85 0 to +70 -40 to +85 0 to +70 -40 to +85	44/40 44/40 44/40 44/40 44/40 44/40
—	P80C528FFPN	1.2 to 16	—	—	512	3 + WD	4	UART, I ² C-bit	2	Yes	-40 to +85	40
P80C550EBAA P80C550EFAA	P80C550EBPN P80C550EFPN	3.5 to 16 3.5 to 16	— —	— —	128 128	2 + WD 2 + WD	4 4	UART UART	2 2	Yes Yes	0 to +70 -40 to +85	44/40 44/40
P80C575EBAA P80C575EHAA	P80C575EBPN P80C575EHPN	3.5 to 16 3.5 to 16	— —	— —	256 256	3 + PCA 3 + PCA	4 4	UART UART	2 2	Yes Yes	0 to +70 -55 to +125	44/40 44/40
P80C652FBAA P80C652FFAA P80C652FHAA	P80C652FBPN P80C652FFPN P80C652FHPN	1.2 to 16 1.2 to 16 1.2 to 16	— — —	— — —	256 256 256	2 2 2	4 4 4	UART, I ² C UART, I ² C UART, I ² C	2 2 2	Yes Yes Yes	0 to +70 -40 to +85 -55 to +125	44/40 44/40 44/40

8051-Based 8-Bit Microcontrollers

Mfr.'s Type				Operating Frequency (MHz)	Memory			Counters Timers	I/O Port	Serial Interfaces	External Interrupt	Program Security	Temperature Range (°C)	No. of Leads
PLCC	Hermetic CDIP (Window)	CerQuad (Window)	PDIP		ROM (Bytes)	EPROM (Bytes)	RAM (Bytes)							
P87C592EFAA*	—	—	—	1.2 to 16	—	16 K	512	3 + WD	6	UART, CAN	6	Yes	0 to +70	68
—	—	—	P87C0558BPNB*	3.5 to 12	—	16 K	256	2 (16-Bit)	3.5	—	2	No	0 to +70	42
—	—	—	P87C0558FPNB*	3.5 to 12	—	16 K	256	2 (16-Bit)	3.5	—	2	No	-40 to +85	42
P87C52EBAA* P87C52EFAA* P87C52GBAA* P87C52GFAA* P87C52IBAA* P87C52IFAA*	P87C52EBFFA P87C52EFFFA P87C52GBFFA P87C52GFFFA P87C52IBFFA P87C52IFFFA	P87C52EBLKA P87C52EFLKA P87C52GBLKA P87C52GLFKA P87C52IBLKA P87C52IFLKA	P87C52EBPN* P87C52EFPN* P87C52GBPN* P87C52GFPN* P87C52IBPN* P87C52IFPN*	3.5 to 16 3.5 to 16 3.5 to 20 3.5 to 20 3.5 to 24 3.5 to 24	— — — — — —	8 K 8 K 8 K 8 K 8 K 8 K	256 256 256 256 256 256	3 3 3 3 3 3	4 4 4 4 4 4	UART UART UART UART UART UART	2 2 2 2 2 2	Yes Yes Yes Yes Yes Yes	0 to +70 -40 to +85 0 to +70 -40 to +85 0 to +70 -40 to +85	40/40/44/44 40/40/44/44 40/40/44/44 40/40/44/44 40/40/44/44 40/40/44/44
P87C524EBAA* P87C524GFAA*	P87C524EBFFA P87C524GFFFA	P87C524EBLKA P87C524GLFKA	P87C524EBPN* P87C524GFPN*	3.5 to 16 3.5 to 20	— —	16 K 16 K	512 512	3 + WD 3 + WD	4 4	UART, I ² C-bit UART, I ² C-bit	2 2	Yes Yes	0 to +70 -40 to +85	40/40/44/44 40/40/44/44
P87C528EBAA* P87C528EFAA* P87C528GBAA* P87C528GFAA*	P87C528EBFFA P87C528EFFFA P87C528GBFFA P87C528GFFFA	P87C528EBLKA P87C528EFLKA P87C528GBLKA P87C528GLFKA	P87C528EBPN* P87C528EFPN* P87C528GBPN* P87C528GFPN*	3.5 to 16 3.5 to 16 3.5 to 20 3.5 to 20	— — — —	32 K 32 K 32 K 32 K	512 512 512 512	3 + WD 3 + WD 3 + WD 3 + WD	4 4 4 4	UART, I ² C-bit UART, I ² C-bit UART, I ² C-bit UART, I ² C-bit	2 2 2 2	Yes Yes Yes Yes	0 to +70 -40 to +85 0 to +70 -40 to +85	40/40/44/44 40/40/44/44 40/40/44/44 40/40/44/44
P87C550EBAA* P87C550EFAA*	P87C550EBFFA P87C550EFFFA	P87C550EBLKA P87C550EFLKA	P87C550EBPN* P87C550EFPN*	3.5 to 16 3.5 to 16	— —	4 K 4 K	128 128	2 + WD 2 + WD	4 4	UART UART	2 2	Yes Yes	0 to +70 -40 to +85	40/40/44/44 40/40/44/44
P87C575EBAA* P87C575EHAA*	P87C575EBFFA P87C575EHFFA	P87C575EBLKA P87C575EHLKA	P87C575EBPN* P87C575EHPN*	3.5 to 16 3.5 to 16	— —	8 K 8 K	256 256	3 + PCA + WD 3 + PCA + WD	4 4	UART UART	2 2	Yes Yes	0 to +70 -55 to +125	40/40/44/44 40/40/44/44
P87C750EBAA* P87C750EFAA* P87C750GBAA* P87C750GFAA*	P87C750EBFFA P87C750EFFFA P87C750GBFFA P87C750GFFFA	— — — —	P87C750EBPN* P87C750EFPN* P87C750GBPN* P87C750GFPN*	3.5 to 16 3.5 to 16 3.5 to 16 3.5 to 16	— — — —	1 K 1 K 1 K 1 K	64 64 64 64	1 (16-Bit) 1 (16-Bit) 1 (16-Bit) 1 (16-Bit)	2-3/8 2-3/8 2-3/8 2-3/8	— — — —	2 2 2 2	Yes Yes Yes Yes	0 to +70 -40 to +85 0 to +70 -40 to +85	24/24/28 24/24/28 24/24/28 24/24/28

SC80C31 Family of ROMless 8-Bit Microcontrollers

SC80C31BACA44	—	—	SC80C31BACN40	3.5 to 12	—	—	128	2	4	UART	2	Yes	-40 to +85	44/40
SC80C31BAGA44	—	—	SC80C31BAGN40	3.5 to 16	—	—	128	2	4	UART	2	Yes	-40 to +85	44/40
SC80C31BAPA44	—	—	SC80C31BAPN40	3.5 to 24	—	—	128	2	4	UART	2	Yes	-40 to +85	44/40
SC80C31BAYA44	—	—	SC80C31BAYN40	3.5 to 33	—	—	128	2	4	UART	2	Yes	-40 to +85	44/40
SC80C31BCA44	—	—	SC80C31BCCN40	3.5 to 12	—	—	128	2	4	UART	2	Yes	0 to +70	44/40
SC80C31BCGA44	—	—	SC80C31BCGN40	3.5 to 16	—	—	128	2	4	UART	2	Yes	0 to +70	44/40
SC80C31BCPA44	—	—	SC80C31BCPN40	3.5 to 24	—	—	128	2	4	UART	2	Yes	0 to +70	44/40
SC80C31BCYA44	—	—	SC80C31BCYN40	3.5 to 33	—	—	128	2	4	UART	2	Yes	0 to +70	44/40

SC87C51 Family of 8-Bit Microcontrollers

Mfr.'s Type				Operating Frequency (MHz)	Memory			Counters Timers	I/O Port	Serial Interfaces	External Interrupt	Program Security	Temperature Range (°C)	No. of Leads
PLCC	CDIP	CerQuad	PDIP		ROM (Bytes)	EPROM (Bytes)	RAM (Bytes)							
SC87C51ACA44*	SC87C51ACF40	—	SC87C51ACN40*	3.5 to 12	—	4 K	128	2	4	UART	2	Yes	-40 to +85	44/40/40
SC87C51AGA44*	SC87C51AGF40	—	SC87C51AGN40*	3.5 to 16	—	4 K	128	2	4	UART	2	Yes	-40 to +85	44/40/44/40
SC87C51APA44*	SC87C51APF40	—	SC87C51APN40*	3.5 to 24	—	4 K	128	2	4	UART	2	Yes	-40 to +85	44/40/44/40
SC87C51AYA44*	SC87C51AYF40	—	SC87C51AYN40*	3.5 to 33	—	4 K	128	2	4	UART	2	Yes	-40 to +85	44/40/44/40
SC87C51CCA44*	SC87C51CCF40	—	SC87C51CCN40*	3.5 to 12	—	4 K	128	2	4	UART	2	Yes	0 to +70	44/40/40
SC87C51CGA44*	SC87C51CGF40	—	SC87C51CGN40*	3.5 to 16	—	4 K	128	2	4	UART	2	Yes	0 to +70	44/40/44/40
SC87C51CPA44*	SC87C51CPF40	—	SC87C51CPN40*	3.5 to 24	—	4 K	128	2	4	UART	2	Yes	0 to +70	44/40/44/40
SC87C51CYA44*	SC87C51CYF40	—	SC87C51CYN40*	3.5 to 33	—	4 K	128	2	4	UART	2	Yes	0 to +70	44/40/44/40

S87C51 Family of 8-Bit Microcontrollers

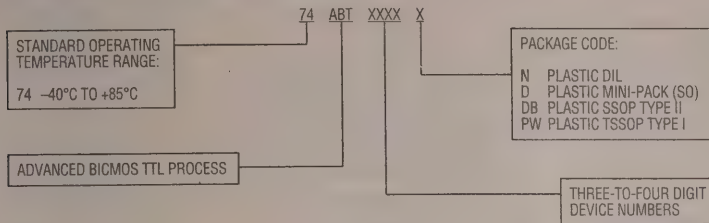
S87C51FA-AA44*	S87C51FA-AF40	S87C51FA-AK44	S87C51FA-AN40*	3.5 to 24	—	8 K	256	3 + PCA	4	UART	2	Yes	0 to +70	44/40/44/40
S87C51FA-BA44*	S87C51FA-BF40	S87C51FA-BK44	S87C51FA-BN40*	3.5 to 24	—	8 K	256	3 + PCA	4	UART	2	Yes	-40 to +85	44/40/44/40
S87C51FA-AA44*	S87C51FA-AF40	S87C51FA-AK44	S87C51FA-AN40*	3.5 to 16	—	8 K	256	3 + PCA	4	UART	2	Yes	0 to +70	44/40/44/40
S87C51FA-SA44*	S87C51FA-SF40	S87C51FA-SK44	S87C51FA-SN40*	3.5 to 16	—	8 K	256	3 + PCA	4	UART	2	Yes	-40 to +85	44/40/44/40
S87C51FB-AA44*	S87C51FB-AF40	S87C51FB-AK44	S87C51FB-AN40*	3.5 to 24	—	16 K	256	3 + PCA	4	UART	2	Yes	0 to +70	44/40/44/40
S87C51FB-BA44*	S87C51FB-BF40	S87C51FB-BK44	S87C51FB-BN40*	3.5 to 24	—	16 K	256	3 + PCA	4	UART	2	Yes	-40 to +85	44/40/44/40
S87C51FB-AA44*	S87C51FB-AF40	S87C51FB-AK44	S87C51FB-AN40*	3.5 to 16	—	16 K	256	3 + PCA	4	UART	2	Yes	0 to +70	44/40/44/40
S87C51FB-SA44*	S87C51FB-SF40	S87C51FB-SK44	S87C51FB-SN40*	3.5 to 16	—	16 K	256	3 + PCA	4	UART	2	Yes	-40 to +85	44/40/44/40
S87C51FC-AA44*	S87C51FC-AF40	S87C51FC-AK44	S87C51FC-AN40*	3.5 to 16	—	32 K	256	3 + PCA	4	UART	2	Yes	0 to +70	44/40/44/40
S87C51FC-SA44*	S87C51FC-SF40	S87C51FC-SK44	S87C51FC-SN40*	3.5 to 16	—	32 K	256	3 + PCA	4	UART	2	Yes	-40 to +85	44/40/44/40

*One Time Programmable



Logic

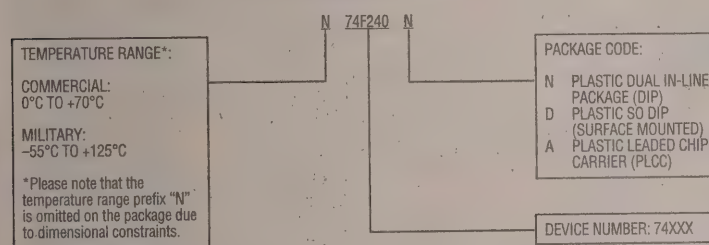
74ABT Logic Devices Ordering Information



74ABT Logic Devices

Mfr.'s Type		Description	No. of Leads
SOIC	PDIP		
74ABT125D	—	Quad Buffer, 3-State	14
74ABT244D	74ABT244N	Octal Buffer/Line Driver, 3-State	20
74ABT245D	74ABT245N	Octal Transceiver, 3-State	20
74ABT541D	74ABT541N	Octal Buffer/Line Driver, 3-State	20
—	74ABT573N	D-Type Transparent Latch	20
74ABT574D	74ABT574N	Octal D Flip-Flop, 3-State	20
74ABT657D	—	Octal Transceiver with Parity Generator/Checker	24
74ABT821D	—	10-Bit D-Type Flip-Flop, 3-State	24
74ABT841D	—	10-Bit Bus Interface Latch, 3-State	24

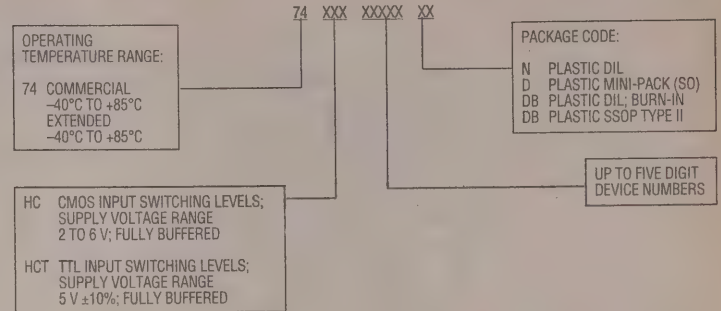
74F Fast TTL Logic Devices Ordering Information



74F Fast TTL Logic Devices

74F04D	74F04N	Hex Inverter	14
74F06D	—	Hex Inverter Buffer/Driver, Open-Collector	14
74F07D	74F07N	Hex Inverter Buffer/Driver, Open-Collector	14
—	74F08N	Quad 2-Input AND Gate	14
74F1244D	74F1244N	Octal Bus/Line Driver	20
74F125D	—	Quad 3-State Bus Buffer	14
74F14D	—	Hex Schmitt Trigger	14
—	74F153N	Dual 4-Input Multiplexer	16
—	74F164N	8-Bit Serial In/Parallel Out Shift Register	14
74F166D	74F166N	8-Bit Shift Register	16
—	74F189AN	64-Bit Random Access Memory, Inverter, 3-State	16
74F191D	74F191N	Binary Up/Down Counter	16
—	74F194N	4-Bit Shift Register	16
74F244D	74F244N	Octal Buffer, 3-State	20
74F245D	74F245N	Octal Bus Transceiver	20
—	74F259N	8-Bit Addressable Latch	16
74F269D	74F269N	8-Bit Bidirectional Binary Counter	24
74F273D	74F273N	Octal D-Type Flip-Flop	20
74F283D	—	4-Bit Adder	16
74F2952D	74F2952N	Octal Register Transceiver, Non-Inverting, 3-State	24
74F299D	—	Octal Shift/Storage Register, 3-State	20
74F3037D	74F3037N	Quad 2-Input NAND Transceiver/Line Driver	16
74F3038D	—	30-Ohm Transceiver/Line Driver	16
74F32D	74F32N	Quad 2-Input OR Gate	14
74F367D	—	Hex Buffer, 4-Bit & 2-Bit, 3-State	16
74F373D	74F373N	Octal 3-State Latch	20
74F374D	74F374N	Octal D Flip-Flop, 3-State	20
74F377D	74F377N	Octal D Flip-Flop with Enable	20
74F38D	74F38N	Quad 2-Input NAND Buffer, Open-Collector	14
—	74F393N	Dual Binary Ripple Counter	14
—	74F521N	8-Bit Ident Comparator	20
74F540D	74F540N	Octal 3-State Driver/Buffer	20
74F541D	74F541N	Octal 3-State Driver/Buffer	20
74F543D	74F543N	Octal Transceiver, Bidirectional Latch	24
—	74F544N	Octal Transceiver, Bidirectional Latch	24
—	74F545N	Octal Bus Transceiver	20
74F573D	74F573N	Octal D-Type Latch	20
74F574D	74F574N	Octal D Flip-Flop	20
74F579D	74F579N	8-Bit Counter Common I/O, 3-State	20
74F595D	74F595N	8-Bit Shift Register with Latch	16
74F623D	74F623N	Octal Bus Transceiver, 3-State	20
74F646D	74F646N	Octal Bus Transceiver and Register, Non-Inverting, 3-State	24
74F652AD	74F652AN	Octal Buffer with Parity Generator/Checker	24
74F657D	74F657N	Octal Buffer Register Serial In/Parallel Out	24
—	74F676N	16-Bit Shift Register Serial In/Parallel Out	20
—	74F711-1N	Quint 2-Input Mux, 30-Ohm Term.	14
74F74D	74F74N	Dual D-Type Edge Triggered Flip-Flop	20
74F760D	—	Octal Bus/Line Driver, Inverting	16
74F779D	74F779N	8-Bit Counter	16
74F786D	74F786N	4-Input Asynchronous Bus Arbiter	24
74F821D	74F821N	10-Bit Register, Non-Inverting, 3-State	24
74F823D	74F823N	9-Bit Register, Non-Inverting, 3-State	24
74F825D	74F825N	8-Bit Register, Non-Inverting, 3-State	24
74F827D	74F827N	10-Bit Buffer/Driver, Non-Inverting, 3-State	24
74F841D	74F841N	10-Bit Latch, Non-Inverting, 3-State	24
74F85D	74F85N	4-Bit Magnitude Comparator	16

74HCT High Speed TTL Compatible CMOS and 74HC CMOS Logic Devices Ordering Information



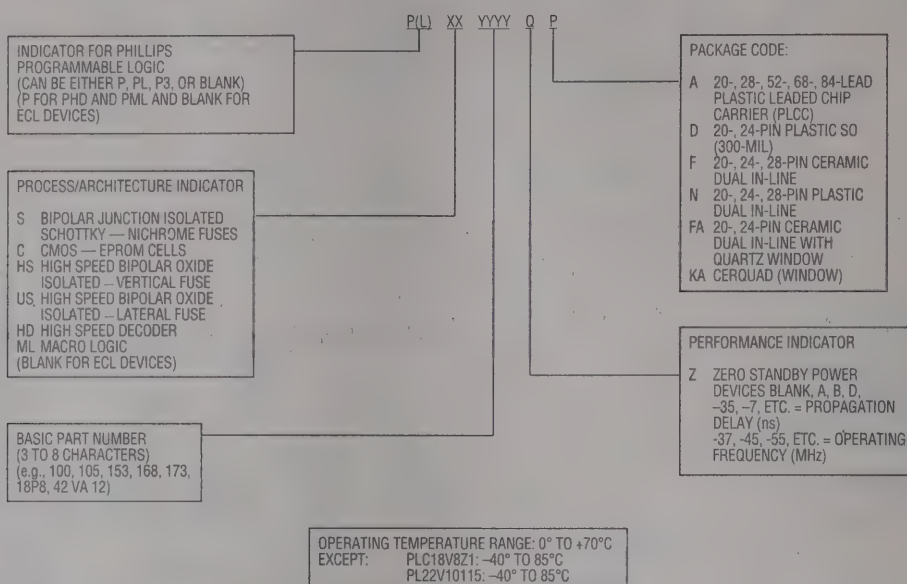
74HCT High Speed TTL Compatible CMOS and 74HC CMOS Logic Devices

Mfr.'s Type				Description	No. of Leads
74HCT Logic		74HC Logic			
SOIC	PDIP	SOIC	PDIP		
74HCT00D	74HCT00N	74HC00D	74HC00N	Quad 2-Input NAND Gate	14
74HCT02D	74HCT02N	74HC02D	74HC02N	Quad 2-Input NOR Gate	14
74HCT04D	74HCT04N	74HC04D	74HC04N	Hex Inverter	14
74HCT08D	74HCT08N	74HC08D	74HC08N	Quad 2-Input AND Gate	14
—	74HCT10N	—	—	Triple 3-Input NAND Gate	14
—	74HCT11N	—	—	Triple 3-Input AND Gate	14
74HCT123D	74HCT123N	74HC123D	74HC123N	Dual Retriggerable Monostable Multivibrator	16
74HCT125D	74HCT125N	74HC125D	—	Quad 3-State Bus Buffer	14
74HCT126D	74HCT126N	—	—	Quad 3-State Bus Buffer	14
74HCT138D	74HCT132N	74HC132D	74HC132N	Quad 2-Input NAND Schmitt Trigger	14
—	74HCT138N	74HC138D	74HC138N	1-of-8 Decoder/Demultiplexer	16
—	74HCT139N	74HC139D	—	Dual 1-of-4 Decoder/Demultiplexer	16
74HCT14D	74HCT14N	74HC14D	74HC14N	Hex Schmitt Trigger	14
—	74HCT151N	—	—	8-Input Multiplexer	16
—	74HCT153N	—	—	Dual 4-Input Multiplexer	16
—	74HCT154N	—	74HC154N	1-of-6 Decoder/Demultiplexer	24
74HCT157D	74HCT157N	74HC157D	—	Quad 2-Input Multiplexer	16
—	74HCT161N	—	—	4-Bit Binary Counter	16
—	74HCT163N	—	—	Synchronous 4-Bit Binary Counter	16
74HCT164D	74HCT164N	—	—	8-Bit Serial In/Parallel Out Shift Register	14
74HCT165D	74HCT165N	—	—	Parallel Load 8-Bit Shift Register	16
—	74HCT166N	—	—	8-Bit Parallel In/Serial Out Shift Register	16
74HCT174D	74HCT174N	—	—	Hex D-Type Flip-Flop with Clear	16
74HCT175D	74HCT175N	—	—	Quad D-Type Flip-Flop, Edge Triggered	16
—	74HCT20N	74HC191D	74HC191N	Synchronous Binary Up/Down Counter	14
—	—	74HC221D	—	Dual 4-Input NAND Gate	16
—	74HCT238N	—	74HC238N	Dual Monostable Multivibrator	16
—	74HCT240N	—	—	1-to-8 Decoder/Demultiplexer	16
74HCT244D	74HCT244N	74HC244D	74HC244N	Octal 3-State Buffer, Inverting	20
74HCT245D	74HCT245N	74HC245D	74HC245N	Octal 3-State Driver	20
—	74HCT251N	—	—	Octal Transceiver, 3-State	16
—	74HCT257N	—	—	8-Input Multiplexer, 3-State	16
74HCT259D	74HCT259N	74HC259D	74HC259N	Quad 2-Input Multiplexer	16
—	74HCT272N	—	—	8-Bit Addressable Latch	16
74HCT273D	74HCT273N	74HC273D	74HC273N	Triple 3-Input NOR Gate	14
—	74HCT299N	—	—	Quad D-Type Flip-Flop	20
74HCT32D	74HCT32N	74HC32D	74HC32N	8-Bit Universal Shift Register, 3-State	20
—	74HCT365N	74HC365D	—	Quad 2-Input OR Gate	14
—	74HCT367N	—	—	Hex Buffer with Common Enable, 3-State	16
74HCT373D	74HCT373N	74HC373D	74HC373N	Hex Buffer, 4-Bit & 2-Bit, 3-State	16
74HCT374D	74HCT374N	74HC374D	74HC374N	Octal 3-State Latch	20
—	74HCT377N	74HC377D	74HC377N	Octal D Flip-Flop, 3-State	20
74HCT393D	74HCT393N	74HC393D	74HC393N	Octal D Flip-Flop with Enable	20
—	74HCT40103N	—	74HC40103N	Dual Binary Ripple Counter	14
—	74HCT40105N	—	74HC40105N	8-Bit Binary Down Counter	16
74HCT4020D	—	74HC4020D	—	4-Bit x 16-Word FIFO Register	16
—	74HCT4040N	74HC4040D	74HC4040N	14-Stage Binary Counter	16
—	74HCT4046AN	74HC4046AD	74HC4046AN	12-Stage Binary Counter	16
—	74HCT4051N	74HC4051D	74HC4051N	Phase Locked Loop with VCO	16
—	—	74HC4052D	74HC4052N	8-Channel Multiplexer/Demultiplexer	16
74HCT4053D	74HCT4053N	74HC4053D	74HC4053N	Dual 4-Channel Analog Multiplexer/Demultiplexer	16
—	—	74HC4060D	—	Triple 2-Channel Multiplexer/Demultiplexer	16
—	74HCT4066N	74HC4066D	—	14-Stage RC Binary Counter	16
—	—	74HC4067D	—	Quad Bilateral Switch	14
—	—	—	74HC4094N	16-Channel Analog Multiplexer/Demultiplexer	24
—	—	—	74HC423N	8-Stage Shift and Store Bus Register	16
—	—	74HC4316D	—	Dual Retriggerable Monostable Multivibrator	16
—	74HCT4538N	74HC4538D	74HC4538N	Quad Bilateral Switch	16
—	74HCT540N	—	—	Dual Monostable Multivibrator	16
74HCT541D	74HCT541N	74HC541D	74HC541N	Octal Inverting Buffer, 3-State	20
74HCT573D	74HCT573N	74HC573D	74HC573N	Octal Buffer, 3-State	20
74HCT574D	74HCT574N	74HC574D	74HC574N	Octal 3-State Transparent Latch	20
—	—	74HC595D	—	Octal D-Type Flip-Flop, Positive Edge Triggered, 3-State	20
74HCT595D	—	—	74HC597N	8-Bit Shift Register with Output Latch	16
—	74HCT597N	—	74HC597N	8-Bit Shift Register with Input Latch	16
—	74HCT640N	—	74HC640N	Octal 3-State Transceiver, Inverting	20
74HCT646D	—	—	—	Octal Transceiver Register, 3-State	24
74HCT688D	74HCT688N	—	—	8-Bit Magnitude Comparator	16
—	—	74HC7046AD	—	Phase Locked Loop with Lock	16
74HCT74D	74HCT74N	74HC74D	74HC74N	Quad D-Type Edge Triggered Flip-Flop	14
—	74HCT86N	74HC86D	74HC86N	Dual 2-Input Exclusive OR Gate	14



Programmable Logic Devices

Ordering Information



GAL is a registered trademark of Lattice Corp.
PAL is a registered trademark of MMI, Corp., a wholly-owned subsidiary of Advanced Micro Devices (AMD), Inc.

Programmable Array Logic (Fixed OR Array)

Mfr.'s Type		Architecture Inputs × Terms × Outputs	Total Inputs (Dedicated)	Product Terms Per OR Gate	Internal State Registers (Dedicated)	Outputs C, I/O, R, R I/O	Max t _{pd} (ns)	f _{max} (MHz)	Max. I _{cc}	No. of Leads
PLCC	PDIP									
PLUS16L8-7A	PLUS16L8-7N	16 × 64 × 8	16 (10)	7	0	2 C, 6 I/O	7.5	—	180.0 mA	20
PLUS16R4-7A	—	16 × 64 × 8	16 (8)	7 to 8	4 (0)	4 I/O, 4 R	7.5	74	180.0 mA	20
PLUS16L8DA	PLUS16L8DN	16 × 64 × 8	16 (10)	7	0	2 C, 6 I/O	10.0	—	180.0 mA	20
PLUS20L8-7A	PLUS20L8-7N	20 × 64 × 8	20 (14)	7	0	2 C, 6 I/O	7.5	—	210.0 mA	24
PLUS20R6-7A	—	20 × 64 × 8	20 (12)	7 to 8	6 (0)	2 I/O, 6 R	7.5	74	210.0 mA	24
PLUS20L8DA	—	20 × 64 × 8	20 (14)	7	0	2 C, 6 I/O	10.0	—	210.0 mA	24
PL22V10-15A	PL22V10-15N	22 × 130 × 10	22 (12)	8 to 16	10 (0)	10 Varied	15.0	53	0.5 mA/MHz	24
PL22V10-10A	PL22V10-10N	22 × 130 × 10	22 (12)	8 to 16	10 (0)	10 Varied	12.0	67	0.5 mA/MHz	24
PLC18V8Z35A	PLC18V8Z35N	18 × 74 × 8	18 (8)	8	8 (0)	8 Varied	35.0	21	1.5 mA/MHz	20
PLC18V8Z1A	—	18 × 74 × 8	18 (8)	8	8 (0)	8 Varied	40.0	21	1.5 mA/MHz	20
—	PLC18V8Z-25N	18 × 74 × 8	18 (8)	8	8 (0)	8 Varied	25.0	30	1.5 mA/MHz	20

Programmable Logic Array

—	PLS100N	16 × 48 × 8	16 (16)	Up to 48	0	8 C	50.0	—	170.0 mA	28
PLS153AA	PLS153AN	18 × 42 × 10	18 (8)	Up to 32	0	10 I/O	30.0	—	155.0 mA	20
—	PLS153N	18 × 42 × 10	18 (8)	Up to 32	0	10 I/O	40.0	—	155.0 mA	20
PLS173A	PLS173N	22 × 42 × 10	22 (12)	Up to 32	0	10 I/O	30.0	—	170.0 mA	24

Programmable Logic Sequencer

—	PLS105N	22 × 48 × 8	22 (16)	Up to 48	6 (6)	8 R	—	14	180.0 mA	28
—	PLS105AN	22 × 48 × 8	22 (16)	Up to 48	6 (6)	8 R	—	20	180.0 mA	28
—	PLS159AN	16 × 45 × 12	16 (4)	Up to 32	8 (0)	4 I/O, 8 R I/O	35.0	18	190.0 mA	20
—	PLS167AN	22 × 48 × 6	22 (14)	Up to 48	8 (6)	6 R	—	20	180.0 mA	24
—	PLS168AN	22 × 48 × 8	22 (12)	Up to 48	10 (6)	8 R	—	20	180.0 mA	24

PROMs (Programmable Read Only Memory)

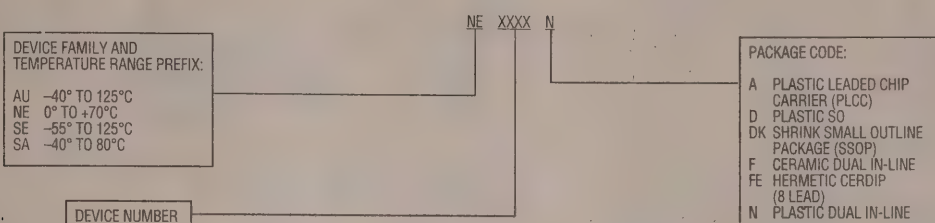
— NEW —

Mfr.'s Type	Description	Organization	t _{pd} (ns)	Package Type
N82HS321AN	32768-Bit Bipolar PROM	4096 × 8	35	64 Lead PDIP
N82LS135N	2048-Bit Bipolar PROM	256 × 8	100	20 Lead PDIP
N82S123AA	256-Bit Bipolar PROM	32 × 8	25	20 Lead PLCC
N82S123AN	256-Bit Bipolar PROM	32 × 8	25	16 Lead PDIP
N82S123N	256-Bit Bipolar PROM	32 × 8	25	16 Lead PDIP
N82S129N	1024-Bit Bipolar PROM	256 × 4	50	16 Lead PDIP
N82S131N	2048-Bit Bipolar PROM	512 × 4	50	16 Lead PDIP
N82S135N	2048-Bit Bipolar PROM	256 × 8	50	16 Lead PDIP
N82S147AN	4096-Bit Bipolar PROM	512 × 8	45	20 Lead PDIP
N82S147N	4096-Bit Bipolar PROM	512 × 8	45	20 Lead PDIP
N82S181AN	8192-Bit Bipolar PROM	1024 × 8	60	20 Lead PDIP
N82S191AN	16384-Bit Bipolar PROM	2048 × 8	55	24 Lead PDIP
N82S23N	256-Bit Bipolar PROM	32 × 8	55	24 Lead PDIP
			50	16 Lead PDIP



Operational Amplifiers

Ordering Information



Mfr.'s Type		Description	V _{cc} (V)	DC Voltage Gain (dB)	Input Offset Voltage Typical (mV)	Input Offset Current Typical (nA)	Common-mode Rejection Ratio (dB)	Unity Gain Bandwidth (MHz)	Slew Rate (V/μs)	No. of Leads
SOIC	PDIP									
—	UA741CN	Single General Purpose	±18	—	2.0	20.0	90	—	0.50	8
—	NE531N	Single High Slew Rate	±22	—	2.0	50.0	70	—	35.00	8
NE5534AD	NE5534AN	Single Low Noise	±22	100000	0.5	20.0	100	10.0	13.00	8
NE5534D	NE5534N	Single Low Noise	±22	100000	0.5	20.0	100	10.0	13.00	8
SA5534AD	SA5534AN	Single Low Noise	±22	100000	0.5	20.0	100	10.0	13.00	8
NE5230D	NE5230N	Single Low Voltage	1.8 to 15 or ±9	—	0.4	3.0	95	—	0.25	8
SA5230D	—	Single Low Voltage	1.8 to 15 or ±9	—	0.4	3.0	95	—	0.25	8
—	UA747CN	Dual General Purpose	±18	—	2.0	20.0	90	—	0.50	14
MC1458D	MC1458N	Dual General Purpose	±18	—	2.0	20.0	90	—	0.80	8
SA1458D	—	Dual General Purpose	±18	—	2.0	20.0	90	—	0.80	8
NE4558D	NE4558N	Dual General Purpose	±18	—	2.0	30.0	70	3.0	1.00	8
NE5532D	NE5532N	Dual Internally Compensated Low Noise	±22	50000	0.5	10.0	100	10.0	9.00	16/8
—	NE5532AN	Dual Internally Compensated Low Noise	±22	50000	0.5	10.0	100	10.0	9.00	16
—	NE5533AN	Dual Low Noise	±22	100000	0.5	20.0	100	10.0	13.00	14
—	NE5532N	Dual Low Power	+32 or ±16	100	±2.0	±5.0	70	1.0	0.30	8
LM258D	LM258N	Dual Low Power	+32 or ±16	100	±2.0	±3.0	85	1.0	0.30	8
LM358D	LM358N	Dual Low Power	+32 or ±16	100	±2.0	±5.0	70	1.0	0.30	8
NE5517D	NE5517N	Dual Operational Transconductance Amp	+36 or ±18	—	0.4	0.1 μA	110	—	50.00	16
—	NE5514N	Quad High Performance	±16	—	1.0	6.0	100	3.0	1.00	14
LM324D	LM324N	Quad Low Power	+32 or ±16	100	±2.0	±5.0	70	1.0	0.30	14
LM324AD	LM324AN	Quad Low Power	+32 or ±16	100	±2.0	±5.0	85	1.0	0.30	14
LM2902D	LM2902N	Quad Low Power	+32 or ±16	100	±2.0	±5.0	70	1.0	0.30	14
NE5234D	—	Quad Matched High Performance Low Voltage	7	—	±0.2	±20.0	80	2.5	0.80	14

Comparators

Mfr.'s Type		Complexity	Max. Input Offset Voltage (mV)	Max. Input Current		Supply Voltage (V)	Response Time (ns)	Voltage Range (V)	Voltage Gain (V/mV)	TTL Fanout	No. of Leads
SOIC	PDIP			Bias (μA)	Offset (μA)						
LM311D	LM311N	Single	7.5	0.25	0.05	±15 or +5	200	-14.5/+13	200	5	8
—	NE527N	Single	10.0	4.00	1.00	±10	16	±5	—	5	14
NE529D	NE529N	Single	10.0	50.00	15.00	±10	12	±5	—	5	14
LM319D	LM319N	Dual	10.0	1.20	0.30	±15 or +5	80	±13	40	2	14
—	LM293N	Dual	4.0	0.40	0.15	±1 to ±18 or +2 to +36	1300	0 to V _S -2	200	2	8
—	LM393AN	Dual	4.0	0.40	0.15	±1 to ±18 or +2 to +36	1300	0 to V _S -2	200	2	8
LM393D	LM393N	Dual	9.0	0.40	0.15	±1 to ±18 or +2 to +36	1300	0 to V _S -2	200	2	8
LM2903D	LM2903N	Dual	15.0	0.50	0.20	5	1300	0 to V _S -2	100	2	8
NE521D	NE521N	Dual	15.0	40.00	12.00	-5 or +5	8	±3	—	12	14
—	LM339AN	Quad	4.0	0.40	0.15	±1 to ±18 or +2 to +36	1300	0 to V _S -2	200	2	14
LM339D	LM339N	Quad	9.0	0.40	0.15	±1 to ±18 or +2 to +36	1300	0 to V _S -2	200	2	14
—	MC3302N	Quad	40.0	1.00	0.30	+2 to +28	1300	0 to V _S -2	100	2	14

RF Amplifiers

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	Bandwidth 3 dB (MHz)	Noise Figure (dB)	1 dB Compression Output (dBm)	3rd Order Intercept Output (dBm)	Input Impedance (Ω)	Output Impedance (Ω)	Gain per Amplifier (dB)	No. of Leads
SOIC	PDIP										
NE5204AD	NE5204AN	5.0 to 8	24	550	6.0 @ 50 Ohms	+4	+17	50.0	50	19	8
—	NE5205AN	5.0 to 8	24	550	6.0 @ 50 Ohms	+4	+17	50.0	50	19	8
NE5209D	NE5209N	4.5 to 7	43	850	9.3	-3	+13	1.2 K	60	25*	16
SA5209D	SA5209N	4.5 to 7	43	850	9.3	-3	+13	1.2 K	60	25*	16
NE5219D	NE5219N	4.5 to 7	43	700	9.3	-3	+13	1.2 K	60	25*	16

* Single In/Differential Out.

Compandors

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	ALC	Reference Voltage	Unity Gain	Power Down	Key Features	No. of Leads
SOIC	PDIP								
NE570D	NE570N	6 to 24	3.2	Both Channels	Fixed 1.8 V	775 mVrms	No	Excellent Unity Gain Tracking Error	16
NE571D	NE571N	6 to 18	3.2	Both Channels	Fixed 1.8 V	775 mVrms	No	Excellent Unity Gain Tracking Error	16
NE572D	NE572N	6 to 22	6.0	Both Channels	Fixed 2.5 V	100 mVrms	No	Independent Attack and Release Time	16
NE575D	NE575N	3 to 7	3.0 to 5.5	Right Channel	V _{cc} /2	100 mVrms	No	2 Uncommitted On-Chip Op Amps	20
NE576D	—	2 to 7	1.0 to 3	Right Channel	V _{cc} /2	100 mVrms	No	Low Power	14
NE578D	—	2 to 7	1.0 to 2	Right Channel	V _{cc} /2	10 mV to 1 Vrms	Yes (170 μA)	Programmable Unity Gain, Mute Function	16

**PHILIPS**

— NEW —

FM IF, Front-End and Mixer Systems, Timers, PLLs, Interface and ADCs**FM IF Systems**

High Performance Low Power FM IF System

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	Max. Input Frequency (MHz)	Max. IF Frequency (MHz)	f _{IF} = 45 MHz			RSSI Range (dB)	Fast RSSI	Output Op. Amps	No. of Leads
SOIC	PDIP					Sensitivity Input	Power Gain	Input 30I				
NE604AD	NE604AN	4.5 to 8	3.3 @ 6 V	25	25	0.22 μ V	—	—	90	—	—	16
SA604AD	SA604AN	4.5 to 8	3.3 @ 6 V	25	25	0.22 μ V	—	—	90	—	—	16
NE614AD	NE614AN	4.5 to 8	3.3 @ 6 V	25	25	0.22 μ V	—	—	80	—	—	16
—	NE624N	4.5 to 8	3.3 @ 6 V	25	25	0.22 μ V	—	—	90	—	—	16

High Performance Low Power Mixer FM IF System

NE605D	NE605N	4.5 to 8	5.7 @ 6 V	500	25	0.22 μ V	13 dB	+4dBm	90	—	—	20
NE615D	NE615N	4.5 to 8	5.7 @ 6 V	500	25	0.22 μ V	13 dB	+4dBm	80	—	—	20

High Performance Low Power Mixer FM IF System with High Speed RSSI

—	NE624N	4.5 to 8	3.4 @ 6 V	25	25	0.22 μ V	—	+4 dBm	90	Yes	—	16
—	NE627N	4.5 to 8	5.8 @ 6 V	500	25	0.22 μ V	13 dB	+4 dBm	90	Yes	—	20

Low Voltage High Performance Mixer FM IF System

SA606D	—	2.7 to 7	3.5 @ 3 V	150	2	0.31 μ V	17 dB	-9 dBm	90	—	Audio and RSSI	20
SA616D	SA616N	2.7 to 7	3.5 @ 3 V	150	2	0.31 μ V	17 dB	-9 dBm	80	—	Audio and RSSI	20

Low Voltage High Performance Mixer FM IF System with High Speed RSSI

SK626D	—	2.7 to 5.5	6.5 @ 3 V	500	25	0.54 μ V	14	-11 dBm	90	Yes	Audio Buffered, RSSI	20
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Integrated Front-End and Mixer SystemsIntegrated Front-End System, f_{IF} = 900 MHz

Mfr.'s Type		V _{cc} (V)	I _{cc} (mA)	Bandwidth		Noise Figure		1 dB Compression (Output)		3rd Order Intercept (Output)		Input Impedance		Output Impedance (Ω)	Power Gain		No. of Leads
SOIC	PDIP			LNA (MHz)	Mixer (GHz)	LNA (dB)	Mixer (dB)	LNA (dBm)	Mixer (dBm)	LNA (dBm)	Mixer (dBm)	LNA (Ω)	Mixer (Ω)		LNA (dB)	Mixer (dB)	
SA601DK	—	2.7 to 5.5	7.4	900	1	1.6	10	-16	-13	-3	-3/+25**	50	50.0	50.0	11.5	7	20
SA620DK*	—	2.7 to 5.5	10.4/7.2**	900	1	1.6	9	-16	-13	—	-6	50	50.0	50.0	11.5/-7**	3	20

*SA620DK Includes Internal Vco. **Amplifier: Enabled/Disabled.

Integrated Mixer Systems (Mixer + Oscillator), f_{IF} = 45 MHz

NE602AD	NE602AN	4.5 to 8	2.4	—	500	—	5	—	-10	—	-13	—	1.5 K	1.5 K	—	17	8
SA602AD	SA602AN	4.5 to 8	2.4	—	500	—	5	—	-10	—	-13	—	1.5 K	1.5 K	—	17	8
—	NE612AN	4.5 to 8	2.4	—	500	—	5	—	-10	—	-13	—	1.5 K	1.5 K	—	17	8

Timers

Mfr.'s Type		Description	V _{cc} Max. (V)	Output Voltage (Low) (V)	Output Voltage (High) (V)	I _{out} Max. (mA)	Output Rise Time (ns)	Output Fall Time (ns)	Oscillator Frequency Min. (kHz)	No. of Leads
SOIC	PDIP									
—	ICM7555CN	General Purpose CMOS	18	0.1	15.7	100	45	20	500	8
NE555D	NE555N	General Purpose	16	0.1	12.5	—	100	100	500	8
SA555D	SA555N	General Purpose	16	0.1	12.5	—	100	100	500	8
NE556D	NE556N	Dual General Purpose	16	0.1	12.5	—	100	100	500	14
NE558D	NE558N	Quad General Purpose	16	—	—	—	100	100	—	16

High Frequency Phase Locked Loops and Function Generators

Mfr.'s Type		Description	Max. Supply Voltage (V)	V _{co} Frequency (MHz)	Signal To Noise Ratio (dB)	Supply Current (mA)	No. of Leads
SOIC	PDIP						
NE564D	NE564N	Phase Locked Loop, TTL Inputs/Outputs	Pin1: 14, Pin 10: 6 ± 12	60	40	45	16
—	NE566N	Function Generator	10	—	—	7	8
NE567D	NE567N	Tone Decoder/Phase Locked Loop	10	—	—	—	8
NE568AD	NE568AN	150MHz Phase Locked Loop	6	—	—	54	20

Line Drivers/Receivers and Modems

Mfr.'s Type		Description	No. of Drivers	No. of Receivers	No. of Leads
SOIC	PDIP				
MC145406D	MC145406N	EIA-232-D/V.28 Driver/Receiver	3	3	16
NE5170A*	—	Octal Line Driver	8	—	28
—	NE5080N	High Seed FSK Modem Transmitter	—	—	16
—	NE5081N	High Seed FSK Modem Transmitter	—	—	20

*PLCC package.

Relay/Peripheral Drivers

Mfr.'s Type		Description	No. of Drivers	Supply Voltage (V)	Input Voltage (V)	Output Voltage (V)	Output Current/Output (mA)	No. of Leads
SOIC	PDIP							
NE5090D	NE5090N	Addressable Relay Driver	8	-0.5 to +7	-0.5 to +15	0 to +30	200	16
—	NE590N	Addressable Peripheral Driver	8	-0.5 to +7	-0.5 to +15	0 to +7	300	16
—	NE591N	Addressable Peripheral Driver	8	-0.5 to +7	-0.5 to +15	0 to V _{cc}	300	18

Analog to Digital Converters

Mfr.'s Type		Description	Max. Supply Voltage (V)	Max. Reference Voltage (V)	Max. V _{in} (Analog) Voltage (V)	Max. V _{in} (Digital) Voltage (V)	Resolution (Bits)	Relative Accuracy (LSB)	Min. Clock Frequency (MHz)	Conversion Time (μ s)	No. of Leads
SOIC	PDIP										
—	NE5037N	6-Bit ADC with Parallel Outputs	7	7	7	7	6	1/4	1	9	16
TD48703TD	TD48703N	8-Bit High Speed ADC	7	—	7	7	8	± 2	40	—	24
TD48708ATD	TD48708AN	Video Analog Input Interface	7	—	7	7	8	± 1	30	—	28
TD48709ATD	TD48709AN	Video Analog Input Interface	7	—	7	7	8	± 2	30	—	28



Digital to Analog Converters

Mfr.'s Type		Description	Max. Supply Voltage (V)	Resolution (Bits)	Relative Accuracy (% FS)	Settling Time (ns)	No. of Leads
SOIC	PDIP						
—	DAC-08CN	8-Bit High Speed Multiplying DAC	±15	8	±0.39	70.0	16
DAC-08ED	DAC-08EN	8-Bit High Speed Multiplying DAC	±15	8	±0.19	70.0	16
—	NE5018N	8-Bit Microprocessor Compatible DAC	±18	8	±0.19	1.8 µs/2.3 µs*	24/22
—	NE5020N	10-Bit Microprocessor Compatible DAC	±18	10	±0.1	5.0	24
—	TDA1541AN	Stereo High Performance 16-Bit DAC	-5, +5, +15	16	—	0.5 µs	28
TDA8702TD	TDA8702N	8-Bit Video DAC	7	8	±1 LSB	6.5	16

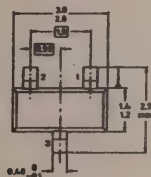
*Bits Low to High/Bits High to Low

Discretes: Transistors, Rectifiers and Diodes

Transistors



SOT-173



SOT-23

Field Effect Transistors D-MOS FET

Mfr.'s Type	Vds (V)	Id (mA)	yfs Typ. (mA/V)	Vgs (th) (V)
2N7000	60	500	200	0.8-2.0
BS107	200	120	250	1.8-2.8
BSN10	50	175	60	0.4-1.8

Field Effect Transistors J-FET

Mfr.'s Type	Package	±Vos (V)	Ioss (mA)	-Vh(POS) (V)
2N3822	TO-72	50	2-10	<6
2N3823	TO-72	30	4-20	<
2N3966	TO-72	30	>2	4-6
2N4393	TO-18	40	5-30	0.5-3

RF Small Signal Transistors

Mfr.'s Type	Package	Vceo (V)	Ic (mA)	fT (GHz)
BFQ34/01	SOT-122	18	150	3.9
BFQ67	SOT-23	10	50	7.5
BFQ34T	SOT-37	18	150	3.7
BFR90A	SOT-37	15	25	5.0
BFW16A	TO-39	25	150	1.2
BFW30	TO-72	10	50	1.6
BFY90	TO-72	15	25	1.4
BFR92A	SOT-23	15	25	5.0
BFS17	SOT-23	15	25	1.3
BFR96S	SOT-37	15	100	5.0
BFQ19	SOT-89	15	75	5.0
BFG90A	SOT-103	15	25	5.0
BFG91A	SOT-103	12	35	6.0
BFR91A	SOT-37	12	35	6.0
BFR93A	SOT-23	12	35	5.0
BFR106	SOT-23	15	100	3.3
BFQ18A	SOT-89	15	150	3.6

RF Power Transistors

Mfr.'s Type	Pout (Watts)	Pgain (dB)	Freq. @ MHz	Package
2N4427	1	10.0	175	TO-39
BLW60C	45	5.0	175	SOT-120
BLW80	4	8.0	470	SOT-122
BLW29	15	10.0	175	SOT-120
BLW81	10	6.0	470	SOT-122
BLY87C	8	12.0	175	SOT-120
BLY89C	25	6.0	175	SOT-120
BFQ43S	4	12.0	175	TO-39
BLX65ES	2	6.0	470	TO-39
BLU99	5	10.5	470	SOT-122
BLW20/12	20	6.5	470	SOT-119
BLW45/12	45	4.8	470	SOT-119
BLW60/12	60	4.4	470	SOT-119
BLW75/12	75	6.5	175	SOT-119

Note: SOT-120/122 are stud mount, SOT-119 is flanged.

High Voltage Transistors — NPN TO-92 Package

Mfr.'s Type	BVceo (V)	Ic (mA)	hfe Min.
2N5550	140	600	60

High Voltage Transistors — PNP TO-92 Package

Mfr.'s Type	BVceo (V)	Ic (mA)	hfe Min.
2N5400	120	600	40

General Purpose and Switching Transistors — NPN Types

Mfr.'s Type	Package	BVceo (V)	Ic (mA)	hfe	
				Min.	Max.
2N1711	TO-39	50	1000	100	300
2N2219A	TO-39	40	800	100	300
2N2222	TO-18	30	800	100	300
2N2222A	TO-18	40	800	100	300
2N2297	TO-39	35	1000	40	120
2N2484	TO-18	60	50	100	500
2N3019	TO-39	80	1000	100	300
2N3020	TO-39	80	1000	40	120
2N3053	TO-39	40	700	50	250
2N4123	TO-92	30	200	50	150
2N5088	TO-92	30	50	300	900
2N4401	TO-92	40	600	100	300

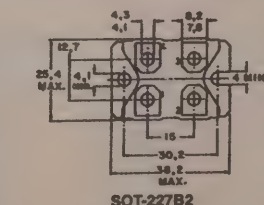
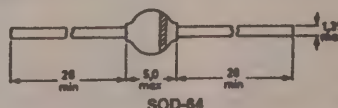
General Purpose and Switching Transistors — PNP Types

Mfr.'s Type	Package	BVceo (V)	Ic (mA)	hfe Min.
2N2904A	TO-39	60	600	40
2N2905	TO-39	40	600	100
2N2905A	TO-39	60	600	100
2N2906	TO-18	60	600	35
2N2906A	TO-18	60	600	40
2N2907	TO-18	40	600	100
2N2907A	TO-18	60	600	100
2N4030	TO-39	60	1000	40
2N5086	TO-92	50	50	150
2N4033	TO-39	80	1000	100
2N4403	TO-92	40	600	100

Power MOSFET Transistors — TO-220AB Package

Mfr.'s Type	VosMax (V)	IsMax (A)
BUK453-60A	60	22
BUK453-60B	60	20
BUK455-60A	60	41
BUK455-60B	60	38
BUK553-60A	60	21
BUK553-60B	60	20
BUK453-100A	100	14
BUK453-100B	100	13
BUK456-100A	100	34
BUK456-100B	100	32
BUK456-200A	200	19
BUK456-200B	200	17

Rectifiers



General Purpose Rectifiers

Mfr.'s Type	Package	If (AV) Max.	VRRM Max.	Surge (Non-Repetitive) Forward Current Ifsm Max.
1N5059	(Glass Bead)	2 A	200 V	50 A
1N5060	SOD-57	2 A	400 V	50 A
1N5061	SOD-57	2 A	600 V	50 A
1N5062	SOD-57	2 A	800 V	50 A

Schottky Rectifiers

Mfr.'s Type	Package	If (AV) Max.	VRRM Max.	IFSM Max.
PBYR745	TO-220AC	7.5 A	45 V	150 A
PBYR1045	TO-220AC	10.0 A	45 V	150 A
PBYR1545CT*	TO-220AB	15.0 A	45 V	2 × 150 A
PBYR1645	TO-220AC	16.0 A	45 V	150 A
PBYR2045CT*	TO-220AB	20.0 A	45 V	2 × 150 A
PBYR2545CT*	TO-220AB	30.0 A	45 V	2 × 150 A
PBYR3045PT*	SOT-93	30.0 A	45 V	2 × 200 A
PBYR16045TV*	SOT227B2	160.0 A	45 V	2 × 1080 A
PBYR20100CT*	TO-220AB	20.0 A	100 V	2 × 135 A
PBYR30100CT*	SOT-93	30.0 A	100 V	2 × 135 A

*Center-tapped dual diode. If(AV) Max. for each diode leg is one-half of value shown in table.

Ultra Fast Recovery Epitaxial Rectifiers

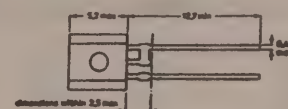
Mfr.'s Type	Package	If (AV) Max.	VRRM Max.	IFSM Max.
BYV26C	SOD-57	1.0 A	600 V	—
BYD73C	SOD-81	175.0 A	150 V	—
BYV27-200	SOD-57	2.0 A	200 V	—
BYW29E-200	TO-220AC	8.0 A	200 V	—
BYV32E-200*	TO-220AB	20.0 A	200 V	—
BYV79E-200	TO-220AC	14.0 A	200 V	—
BYV27E-200	SOT-93	30.0 A	200 V	—
BYT230PIV-800	SOT-227B2	60.0 A	800 V	—

Double Diffused Rectifiers

Mfr.'s Type	Package	If (AV) Max.	VRRM Max.	IFSM Max.
BYV95C	SOD-57	1.5 A	600 V	—
BYW95C	SOD-64	3.0 A	600 V	—

*Center-tapped dual diode. If(AV) Max. for each diode leg is one-half of value shown in table.

Diodes



Switching Diodes — DO-35 Package

Mfr.'s Type	Vr (V)	If (mA)	tr	Cd
1N914	75	75	4	4.0
1N914A	75	75	4	4.0
1N914B	75	75	4	4.0
1N4148	75	200	4	4.0
1N4150	50	200	4	2.5
1N4153	75	200	2	2.0
1N4448	75	200	4	4.0

Schottky Barrier Diodes — DO-35 Package

Mfr.'s Type	Vr (V)	If (mA)	tr	Cd
BAT81	40	30	1	1.6
BAT82	50	30	1	1.6
BAT83	60	30	1	1.6
BAT85	30	200	5	10.0

Variable Capacitance Diodes

Mfr.'s Type	Package	Vr (V)	If (mA)	Application
BB204G	TO-92	30	100	FM
BB212	TO-92	12	100	AM
BB417	DO-34	20	20	AFC
BB809	DO-34	28	20	VHF
BB909A	DO-34	30	20	VHF
BB809B	DO-34	30	20	VHF
BB204B	TO-92	30	100	FM
BB112	SOD-69	20	20	AM
BB119	DO-35	15	200	AFC
BB130	SOD-69	30	50	AM

Zener Diodes — 400 mW, 5%, DO-35 Package

Mfr.'s Type	Nom. Zener Voltage Vz @ IzT (V)	Max. Zener Impedance ZT @ IzT (Ω)	Test Current IzT (mA)
1N5232B	5.6	11	20.0
1N5233B	25.0	35	5.0

Silicon Single Junction Diodes DO-35 Package

Mfr.'s Type	V _{RRM} (Volts) Min.	I _{RRM} (mA) Max.	V _{FRM} (Volts) Max.	@ 1f (ma)	t _r (ns) Max.
1N4148 1N9148	100 100	25 25	1.0 1.0	10 100	4.0 4.0

Power Transistors TO-220 Package

Mfr.'s Type	Type	I _c Max. A	V _{CE0} Max. V	h _{FE} Min./Max.	@ I _c A	V _{CE} Max.	@ I _c A	f _r Min. MHz	P _D (Max.) T _C =25° W
TIP29	NPN	3.0	40	15/75	1.0	0.7	1.0	3.0	30
TIP29A	NPN	3.0	60	15/75	1.0	0.7	1.0	3.0	30
TIP29B	NPN	3.0	80	15/75	1.0	0.7	1.0	3.0	30
TIP29C	NPN	3.0	100	15/75	1.0	0.7	1.0	3.0	30
TIP30	PNP	3.0	40	15/75	1.0	0.7	1.0	3.0	30
TIP30A	PNP	3.0	60	15/75	1.0	0.7	1.0	3.0	30
TIP30B	PNP	3.0	80	15/75	1.0	0.7	1.0	3.0	30
TIP30C	PNP	3.0	100	15/75	1.0	0.7	1.0	3.0	30
TIP31	NPN	5.0	40	10/50	3.0	1.2	3.0	3.0	40
TIP31A	NPN	5.0	60	10/50	3.0	1.2	3.0	3.0	40
TIP31B	NPN	5.0	80	10/50	3.0	1.2	3.0	3.0	40
TIP31C	NPN	5.0	100	10/50	3.0	1.2	3.0	3.0	40
TIP32	PNP	5.0	40	10/50	3.0	1.2	3.0	3.0	40
TIP32A	PNP	5.0	60	10/50	3.0	1.2	3.0	3.0	40
TIP32B	PNP	5.0	80	10/50	3.0	1.2	3.0	3.0	40
TIP32C	PNP	5.0	100	10/50	3.0	1.2	3.0	3.0	40
TIP41	NPN	6.0	40	15/75	3.0	1.5	6.0	3.0	65
TIP41A	NPN	6.0	60	15/75	3.0	1.5	6.0	3.0	65
TIP41B	NPN	6.0	80	15/75	3.0	1.5	6.0	3.0	65
TIP41C	NPN	6.0	100	15/75	3.0	1.5	6.0	3.0	65
TIP42	PNP	6.0	40	15/75	3.0	1.5	6.0	3.0	65
TIP42A	PNP	6.0	60	15/75	3.0	1.5	6.0	3.0	65
TIP42B	PNP	6.0	80	15/75	3.0	1.5	6.0	3.0	65
TIP42C	PNP	6.0	100	15/75	3.0	1.5	6.0	3.0	65
TIP110	NPN	2.0	60	1K/-	1.0	2.5	2.0	—	50
TIP111	NPN	2.0	80	1K/-	1.0	2.5	2.0	—	50
TIP112	NPN	2.0	100	1K/-	1.0	2.5	2.0	—	50
TIP115	PNP	2.0	60	1K/-	1.0	2.5	2.0	—	50
TIP116	PNP	2.0	80	1K/-	1.0	2.5	2.0	—	50
TIP117	PNP	2.0	100	1K/-	1.0	2.5	2.0	—	50
TIP120	NPN	5.0	60	1K/-	3.0	2.0	3.0	—	65
TIP121	NPN	5.0	80	1K/-	3.0	2.0	3.0	—	65
TIP122	NPN	5.0	100	1K/-	3.0	2.0	3.0	—	65
TIP125	PNP	5.0	60	1K/-	3.0	2.0	3.0	—	65
TIP126	PNP	5.0	80	1K/-	3.0	2.0	3.0	—	65
TIP127	PNP	5.0	100	1K/-	3.0	2.0	3.0	—	65

Small Signal, General Purpose Surface Mount Transistors SOT-23 Package (3000 Piece Tape and Reel)

Mfr.'s Type	Polarity	V _{CE0(rus)} V Min.	I _c mA Max.	h _{FE} @ I _c			f _t @ I _c		NF dB Max.	Package Type	P _D (Amb) mW @ 25°C
				Min.	Max.	mA	MHz Min.	mA			
MMBT3904T/R	NPN	40	200	100	300	10	300	10	6.0	TO-236	350
MMBT3908T/R	PNP	40	200	100	300	10	250	10	5.0	TO-236	350
MMBT4401T/R	NPN	40	600	100	300	150	250	20	—	TO-236	350
MMBT4403T/R	PNP	40	600	100	300	150	200	10	6.0	TO-236	350

Unijunction Transistors
Plastic TO-92 Package

Mfr.'s Type	η		I _p A Max.	I _{EB} A Max.	I _V mA Min.
	Min.	Max.			
2N4870	0.56	0.75	5.00	1.00	2.00
2N4871	0.70	0.85	5.00	1.00	4.00
MU4891	0.55	0.82	5.00	0.01	2.00
MU4892	0.51	0.69	2.00	0.01	2.00
MU4893	0.55	0.82	2.00	0.01	2.00

Metal TO-18 Package

Mfr.'s Type	η		I _p A Max.	I _{EB} A Max.	I _V mA Min.
	Min.	Max.			
2N2646	0.56	0.75	5.00	12.00	4.00
2N2647	0.68	0.82	2.00	0.20	8.00
2N4851	0.56	0.75	2.00	0.10	2.00
2N4852	0.70	0.85	2.00	0.10	4.00
2N4853	0.70	0.85	0.40	0.05	6.00

Voltage Regulators
Positive

Mfr.'s Type	Output Voltage V	Output Current A	Package Type
LM7805CT	5.0	1.0	TO-220
LM7808CT	8.0	1.0	TO-220
LM7812CT	12.0	1.0	TO-220
LM7815CT	15.0	1.0	TO-220
LM78L05ACZ	5.0	0.1	TO-92
LM78L06ACZ	6.0	0.1	TO-92
LM78L08ACZ	8.0	0.1	TO-92
LM78L09ACZ	9.0	0.1	TO-92
LM78L12ACZ	12.0	0.1	TO-92
LM78L15ACZ	15.0	0.1	TO-92
LM78L18ACZ	18.0	0.1	TO-92
LM78L24ACZ	24.0	0.1	TO-92
LM78M05CT	5.0	0.5	TO-220
LM78M08CT	8.0	0.5	TO-220
LM78M12CT	12.0	0.5	TO-220
LM78M15CT	15.0	0.5	TO-220
LM317T	Adj. 1.2 to 37.0	1.5	TO-220

Negative

Mfr.'s Type	Output Voltage V	Output Current A	Package Type
LM7905CT	-5	1.0	TO-220
LM7908CT	-8	1.0	TO-220
LM7912CT	-12	1.0	TO-220
LM7915CT	-15	1.0	TO-220
LM79L05ACZ	-5	0.1	TO-92
LM79L06ACZ	-6	0.1	TO-92
LM79L08ACZ	-8	0.1	TO-92
LM79L09ACZ	-9	0.1	TO-92
LM79L12ACZ	-12	0.1	TO-92
LM79L15ACZ	-15	0.1	TO-92
LM79L18ACZ	-18	0.1	TO-92
LM79L24ACZ	-24	0.1	TO-92
LM79M05CT	-5	0.5	TO-220
LM79M08CT	-8	0.5	TO-220
LM79M12CT	-12	0.5	TO-220
LM79M15CT	-15	0.5	TO-220

SIOV™ Metal Oxide Varistors

The SIOV will fit applications requiring protection at operating voltage levels as low as 11 volts and as high as 1100 volts with energies rated up to 15000 Joules, depending on the device selected.

Typical Protection Applications

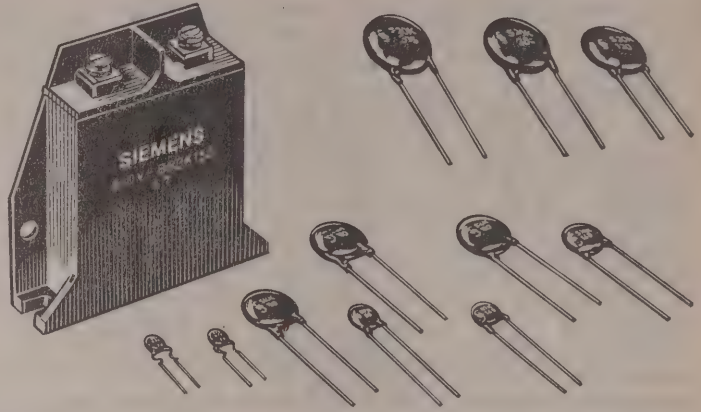
- Protection of Semiconductors (Diodes, Transistors, Thyristors, ICs, Etc.)
- Appliances Connected to 110 V or 220 VAC
- Industrial Equipment Vulnerable to Transients on the AC Power Line (Computers, Traffic Controls, Motor Controllers, Etc.)
- Protection of Equipment Connected to Telephone or Signal Lines, Such as Security Systems, Railroad Equipment, Fire Alarm Systems, Etc.
- Arc Suppression Across Relay and Switch Contacts
- Protection of Instrument Input Terminals from Accidentally Connected High Voltages
- Power Control Equipment for Power Distribution Lines
- GFI (Ground Fault Interrupters)

Features

- Nanosec. Switching Response Time, <15 nsec., with Minimal Lead Length
- High Transient Current Capability (Up to 100,000 Amps)
- No Extinguishing or Follow-On Current Limitations
- Small Size for Compact Designs
- Wide Operating Temperature Range: -40 to +85°C
- Compatible with Automatic Insertion; Tape and Reel Configuration Available on S05, S07, S10 and S14 Series
- Excellent Clamping Characteristics
- Low Standby Power Consumption

Benefits

- Eliminates Dangerous Voltage Transients
- Lowers Overall System Costs by Reducing Downtime and Maintenance Costs
- Improves Component and System Reliability
- Reduces Lightning Effects
- Reduces EMP/RFI Interference
- Promotes Personal Safety



Mfr.'s Type	Rated Voltage		Varistor Voltage (±10%) Volts	Rated Single Pulse Transient Energy Joules	Rated Transient Average Power Dissipation Watts	Minimum Clamping Voltage Volts
	AC Volts (RMS)	DC Volts				
S05K11	11	14	18	0.3	0.01	36 @ 1.0 A
S07K11	11	14	18	0.8	0.02	36 @ 2.5 A
S10K11	11	14	18	1.7	0.05	36 @ 5.0 A
S14K11	11	14	18	3.2	0.10	36 @ 10.0 A
S20K11	11	14	18	10.0	0.20	36 @ 20.0 A
S05K14	14	18	22	0.4	0.01	43 @ 1.0 A
S07K14	14	18	22	0.9	0.02	43 @ 2.5 A
S10K14	14	18	22	2.0	0.05	43 @ 5.0 A
S14K14	14	18	22	4.0	0.10	43 @ 10.0 A
S20K14	14	18	22	12.0	0.20	43 @ 20.0 A
S05K17	17	22	27	0.5	0.01	53 @ 1.0 A
S07K17	17	22	27	1.1	0.02	53 @ 2.5 A
S10K17	17	22	27	2.5	0.05	53 @ 5.0 A
S14K17	17	22	27	5.0	0.10	53 @ 10.0 A
S20K17	17	22	27	14.0	0.20	53 @ 20.0 A
S05K20	20	26	33	0.6	0.01	65 @ 1.0 A
S07K20	20	26	33	1.3	0.02	65 @ 2.5 A
S10K20	20	26	33	3.1	0.05	65 @ 5.0 A
S14K20	20	26	33	6.0	0.10	65 @ 10.0 A
S20K20	20	26	33	18.0	0.20	65 @ 20.0 A
S05K25	25	31	39	0.7	0.01	77 @ 1.0 A
S07K25	25	31	39	1.6	0.02	77 @ 2.5 A
S10K25	25	31	39	3.7	0.05	77 @ 5.0 A
S14K25	25	31	39	7.0	0.10	77 @ 10.0 A
S20K25	25	31	39	22.0	0.20	77 @ 20.0 A
S05K30	30	38	47	0.9	0.01	93 @ 1.0 A
S07K30	30	38	47	2.0	0.02	93 @ 2.5 A
S10K30	30	38	47	4.4	0.05	93 @ 5.0 A
S14K30	30	38	47	9.0	0.10	93 @ 10.0 A
S05K35	35	45	56	1.1	0.01	110 @ 1.0 A
S07K35	35	45	56	2.5	0.02	110 @ 2.5 A
S10K35	35	45	56	5.4	0.05	110 @ 5.0 A
S14K35	35	45	56	10.0	0.10	110 @ 10.0 A
S05K40	40	56	68	1.3	0.01	135 @ 1.0 A
S07K40	40	56	68	3.0	0.02	135 @ 2.5 A
S10K40	40	56	68	6.4	0.05	135 @ 5.0 A
S14K40	40	56	68	13.0	0.10	135 @ 10.0 A
S05K50	50	65	82	1.8	0.01	165 @ 1.0 A
S07K50	50	65	82	4.2	0.02	165 @ 2.5 A
S10K50	50	65	82	8.4	0.05	165 @ 5.0 A
S14K50	50	65	82	15.0	0.10	165 @ 10.0 A
S05K60	60	85	100	2.2	0.01	190 @ 1.0 A
S07K60	60	85	100	4.8	0.02	190 @ 2.5 A
S10K60	60	85	100	10.0	0.05	190 @ 5.0 A
S14K60	60	85	100	17.0	0.10	190 @ 10.0 A
S05K75	75	100	120	2.5	0.01	200 @ 1.0 A
S07K75	75	100	120	5.9	0.02	200 @ 2.5 A
S10K75	75	100	120	12.0	0.05	200 @ 5.0 A
S14K75	75	100	120	20.0	0.10	200 @ 10.0 A
S20K75	75	100	120	40.0	0.20	200 @ 20.0 A
S05K95	95	125	150	3.4	0.01	250 @ 1.0 A
S07K95	95	125	150	7.6	0.02	250 @ 2.5 A
S10K95	95	125	150	15.0	0.05	250 @ 5.0 A
S14K95	95	125	150	25.0	0.10	250 @ 10.0 A
S20K95	95	125	150	50.0	0.20	250 @ 20.0 A
S07K130	130	170	205	9.5	0.02	340 @ 1.0 A
S10K130	130	170	205	19.0	0.05	340 @ 2.5 A
S14K130	130	170	205	34.0	0.10	340 @ 5.0 A
S20K130	130	170	205	68.0	0.20	340 @ 10.0 A
B32K130	130	170	205	210.0	0.40	340 @ 20.0 A
B40K130	130	170	205	310.0	0.60	340 @ 30.0 A
B60K130	130	170	205	490.0	1.00	340 @ 50.0 A
B80K130	130	170	205	660.0	1.40	340 @ 70.0 A
S07K140	140	180	220	10.0	0.02	360 @ 1.0 A

Mfr.'s Type	Rated Voltage		Varistor Voltage (±10%) Volts	Rated Single Pulse Transient Energy Joules	Rated Transient Average Power Dissipation Watts	Minimum Clamping Voltage Volts
	AC Volts (RMS)	DC Volts				
S14K140	140	180	220	36.0	0.60	360 @ 50.0 A
S07K150	150	200	240	11.0	0.25	395 @ 10.0 A
S10K150	150	200	240	24.0	0.40	395 @ 25.0 A
S14K150	150	200	240	40.0	0.60	395 @ 50.0 A
S20K150	150	200	240	79.0	1.00	395 @ 100.0 A
B32K150	150	200	240	240.0	1.20	395 @ 200.0 A
B40K150	150	200	240	360.0	1.40	395 @ 300.0 A
B60K150	150	200	240	570.0	1.60	395 @ 500.0 A
B80K150	150	200	250	800.0	2.00	395 @ 800.0 A
S07K175	175	225	270	13.0	0.25	455 @ 10.0 A
S14K175	175	225	270	46.0	0.60	455 @ 50.0 A
S07K230	230	300	360	17.0	0.25	595 @ 10.0 A
S14K230	230	300	360	60.0	0.60	595 @ 50.0 A
S07K250	250	320	390	19.0	0.25	650 @ 10.0 A
S10K250	250	320	390	38.0	0.40	650 @ 25.0 A
S14K250	250	320	390	65.0	0.60	650 @ 50.0 A
S20K250	250	320	390	130.0	1.00	650 @ 100.0 A
B32K250	250	320	390	340.0	1.20	650 @ 200.0 A
B40K250	250	320	390	490.0	1.40	650 @ 300.0 A
B60K250	250	320	390	800.0	1.60	650 @ 500.0 A
B80K250	250	320	390	1300.0	2.00	650 @ 800.0 A
S07K275	275	350	430	21.0	0.25	710 @ 10.0 A
S10K275	275	350	430	43.0	0.40	710 @ 25.0 A
S14K275	275	350	430	71.0	0.60	710 @ 50.0 A
S20K275	275	350	430	140.0	1.00	710 @ 100.0 A
B32K275	275	350	430	360.0	1.20	710 @ 200.0 A
B40K275	275	350	430	550.0	1.40	710 @ 300.0 A
B60K275	275	350	430	860.0	1.60	710 @ 500.0 A
S07K300	300	385	470	23.0	0.25	775 @ 10.0 A
S14K300	300	385	470	76.0	0.60	775 @ 50.0 A
S20K300	300	385	470	160.0	1.00	775 @ 100.0 A
S14K385	385	505	620	80.0	0.60	1025 @ 50.0 A
S20K385	385	505	620	140.0	1.00	1025 @ 100.0 A
B32K385	385	505	620	550.0	1.20	1025 @ 200.0 A
B40K385	385	505	620	800.0	1.40	1025 @ 300.0 A
B60K385	385	505	620	1200.0	1.60	1025 @ 500.0 A
S14K420	420	560	680	90.0	0.60	1120 @ 50.0 A
S20K420	420	560	680	160.0	1.00	1120 @ 100.0 A
B32K420	420	560	680	600.0	1.20	1120 @ 200.0 A
B40K420	420	560	680	910.0	1.40	1120 @ 300.0 A
B60K420	420	560	680	1500.0	1.60	1120 @ 500.0 A
S14K460	460	615	750	100.0	0.60	1240 @ 50.0 A
S20K460	460	615	750	180.0	1.00	1240 @ 100.0 A
B32K460	460	615	750	520.0	1.20	1240 @ 200.0 A
B40K460	460	615	750	780.0	1.40	1240 @ 300.0 A
B60K460	460	615	750	1200.0	1.60	1240 @ 500.0 A
S14K510	510	670	820	110.0	0.60	1355 @ 50.0 A
S20K510	510	670	820	190.0	1.00	1355 @ 100.0 A
S14K550	550	745	910	120.0	0.60	1500 @ 50.0 A
S20K550	550	745	910	210.0	1.00	1500 @ 100.0 A
B32K550	550	745	910	620.0	1.20	1500 @ 200.0 A
B40K550	550	745	910	960.0	1.40	1500 @ 300.0 A
B60K550	550	745	910	1500.0	1.60	1500 @ 500.0 A
S14K625	625	825	1000	130.0	0.60	1650 @ 50.0 A
S20K625	625	825	1000	230.0	1.00	1650 @ 100.0 A
S14K680	680	895	1100	140.0	0.60	1815 @ 50.0 A
S20K680	680	895	1100	250.0	1.00	1815 @ 100.0 A
B40K750	750	1060	1200	1200.0	1.40	2000 @ 300.0 A
B60K750	750	1060	1200	2000.0	1.60	2000 @ 500.0 A
S14K1000	1000	1465	1800	230.0	0.60	2970 @ 50.0 A
S20K1000	1000	1465	1800	410.0	1.00	2970 @ 100.0 A
B60K1000	1100	1465	1800	3000.0	1.60	2970 @ 500.0 A

The B80 series is available with operating voltage levels through 1100 VAC (RMS).

Metal Oxide Varistors (SIOV™) LS40K130QP-To-K750QP Series

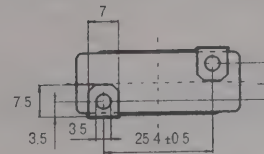
Electrical Specifications

Mfr.'s Type	Maximum Ratings (85°C)					Characteristic (25°C)			Typical Capacitance 1 KHz	
	Continuous			Transient		Varistor* Voltage 1 mA DC	Maximum Clamping Voltage			
	AC Voltage (RMS)	DC Voltage	Average Power Dissipation	Energy 2 ms	Peak Current 8/20 µs		Volts	Volts		Amps
	Volts	Volts	Watts	Joules	Amps Ka					
LS40K1300P	130	170	1.4	310	40	205	340	300	5600	
LS40K1500P	150	200	1.4	360	40	240	396	300	4800	
LS40K2300P	230	300	1.4	460	40	360	595	300	3200	
LS40K2500P	250	320	1.4	490	40	390	650	300	2900	
LS40K2750P	275	350	1.4	550	40	430	710	300	2700	
LS40K3200P	320	420	1.4	640	40	510	840	300	2300	
LS40K3850P	385	505	1.4	800	40	620	1025	300	1900	
LS40K4200P	420	560	1.4	910	40	680	1120	300	1800	
LS40K4600P	460	615	1.4	780	40	750	1240	300	1600	
LS40K5500P	550	745	1.4	960	40	910	1500	300	1400	
LS40K6800P	680	895	1.4	1100	40	1100	1815	300	1100	
LS40K7500P	750	1060	1.4	1200	40	1200	2000	300	1000	

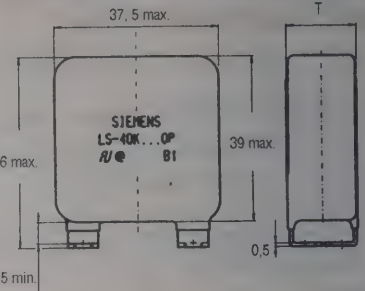
*Tolerance: K $\pm$ 10%.

— NEW —

Dimensions in mm



Mfr.'s Type	Tmax. (mm)	L $\pm$ 1.0 (mm)
LS40K130QP	8.1	3.5
LS40K150QP	8.3	3.2
LS40K230QP	9.0	2.0
LS40K250QP	9.2	1.8
LS40K275QP	9.4	1.6
LS40K320QP	9.9	1.1

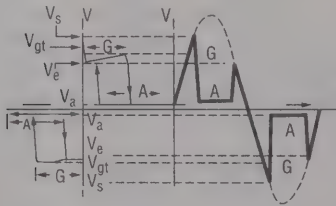


Mfr.'s Type	Tmax. (mm)	L $\pm$ 1.0 (mm)
LS40K385QP	10.6	0.4
LS40K420QP	10.9	0.0
LS40K460QP	11.4	0.4
LS40K550QP	12.3	1.2
LS40K680QP	13.5	2.4
LS40K750QP	14.1	3.0

SVP — Surge Voltage Protectors

- High Surge Current Capacity at 20KA Maximum
- High Insulation Resistance at ≥ 1010 Ohm
- Low Capacitance — Down to 1pF
- High Breakdown Speed
- Low Cost
- Small Size
- Designed to Meet Industry Specifications
- Proven Performance: Millions in Service

The SVP is bipolar and has a symmetrical V-1 characteristic as shown below.



Voltage-current characteristic and voltage variation across the protector.

Vs striking voltage
Vgt glow voltage
Va arc voltage
Ve extinguishing voltage
G glow range
A arc range

Surge Voltage Protectors. SVPs are gas discharge tubes, hermetically sealed, composed of 2 or 3 electrodes properly spaced by insulators and filled with a rare gas. SVPs mainly serve to provide a conductive path for unwanted, excessive transients, which prevents the transient energy and associated voltages from damaging sensitive equipment and components, and from harming personnel. Designed for rapid switching at a specific voltage level (breakdown voltage) from a non-conductive state to a conductive state (arc mode) when subjected to an excessive voltage transient. The SVP momentarily carries very high currents during conduction. After discharge of the transient, the circuit allows the SVP to restore itself. In the restored conduction, the high impedance of the SVP causes very little loss. Normal AC or DC operating circuit voltages may cause the SVP to remain in a conducting mode after the transient has passed, unless the following precautions are taken: for AC Applications — the AC follow current must not be exceeded. For DC Applications — if the normal operating voltage across the tube is greater than the glow voltage, and the current into the SVP while in arc mode, (10-20 V across the SVP) does not exceed 0.2A, a 0.68 μ F capacitor placed in parallel with the tube will cause it to extinguish. If the DC is greater than the given values, current must be momentarily interrupted. **Electrical Characteristics Common To All Types:** Transition Time — 0.1 μ s typ. Rms: $\geq 10,000$ megohm. Capacitance: 1 pF typ. at 1 MHz. **Operating and Storage Temperature Range:** -55°C to +130°C.

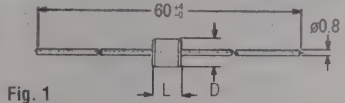


Fig. 1

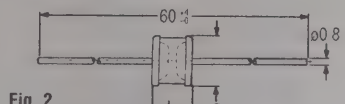


Fig. 2

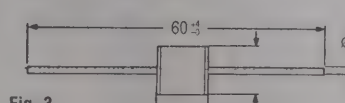


Fig. 3

Button Type SVPs. Compact medium-duty 2-electrode tubes provide protection for most circuit applications. Features high breakdown speed by means of a patented process. Economical; easily mounted onto PC boards.

Special Button Type SVPs. Special L71 types for AC applications undergo AC burn-in to guarantee good extinguishing characteristics at high follow currents — excellent for CATV amplifiers and other applications where AC Voltage is present.

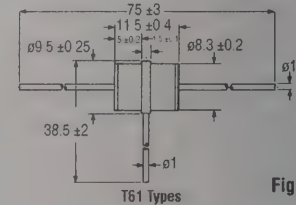


Fig. 4

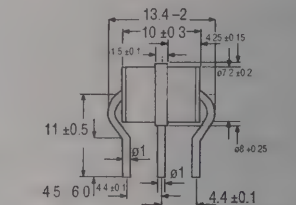


Fig. 5

Three-Electrode Type SVPs. Developed and refined through experience gained from actual use in telecommunications equipment. These units are designed to meet or exceed parameters specified in REA Specification PE-80.

2 Electrode, Miniature Button Types

Mfr.'s Type	DC Breakdown Voltage (V)	Nominal OD $\times$ L (mm)	Single Impulse Discharge Current (KA) 8/20 μ s	AC Discharge Current (A)	Impulse Breakdown Voltage Volts at			AC Follow Current (A Peak)	DC Holdover Voltage (V)*	Impulse Life (No. of Pulses) 500 A 10/1000 μ s	Special Notes	Fig.
					100 V/ μ s	1 KV/ μ s	10 KV/ μ s					
M51-C90	90 $\pm$ 20%	5.0 $\times$ 5.0	2.5	10	<550	<600	<900	—	60	>50	General Purpose	1
M51-A230X	230 $\pm$ 20%	5.0 $\times$ 5.0	2.5	10	<550	<650	<900	—	100	>50	General Purpose	1
M51-A350X	350 $\pm$ 20%	5.0 $\times$ 5.0	2.5	10	<550	<750	<1000	—	120	>50	General Purpose	1

2 Electrode, Standard Button Types

B1-C75	75 $\pm$ 30%/-20%	9.0 $\times$ 7.0	5.0	20	<550	<600	<1000	20	>60	>200	General Purpose	2
B1-C90/20	90 $\pm$ 20%	9.0 $\times$ 7.0	5.0	20	<550	<600	<1000	20	>60	>200	General Purpose	2
N81-C90X	90 $\pm$ 20%	8.0 $\times$ 6.0	10.0	>65	<350	<550	<700	—	60	>200	General Purpose	3
A81-C90X	90 $\pm$ 20%	8.0 $\times$ 6.0	20.0	>65	<350	<550	<700	—	60	>400	General Purpose, High Current	3
B1-C145	145 $\pm$ 20%	9.0 $\times$ 6.0	5.0	20	<550	<600	<1000	>100*	60	>200	60 VAC Application (CATV)	2
B1-A230	230 $\pm$ 15%	9.0 $\times$ 6.0	5.0	20	<600	<650	<1000	25	>80	>200	General Purpose (Communication)	2
N81-A230X	230 $\pm$ 20%	8.0 $\times$ 6.0	10.0	>65	<450	<600	<800	—	100	>200	General Purpose	3
A81-A230X	230 $\pm$ 20%	8.0 $\times$ 6.0	20.0	>65	<450	<600	<800	—	100	>400	General Purpose, High Current	3
L71-A270X*	270 $\pm$ 25%/-15%	8.0 $\times$ 8.0	10.0	>65	<400	<500	<700	>35	—	>200	120 VAC Application (S20K150*)	3
B1-A350	350 $\pm$ 15%	9.0 $\times$ 6.0	5.0	20	<650	<700	<1000	25	>150	>200	General Purpose (Communication)	2
N81-A350X	350 $\pm$ 20%	8.0 $\times$ 6.0	10.0	>65	<650	<800	<1000	—	120	>200	General Purpose	3
A81-A350X	350 $\pm$ 20%	8.0 $\times$ 6.0	20.0	>65	<650	<800	<1000	—	120	>400	General Purpose, High Current	3
L71-A470X*	470 $\pm$ 25%/-15%	8.0 $\times$ 8.0	10.0	>65	<600	<700	<800	>35	—	>200	220 VAC Application (S20K250*)	3
B2-B600	600 $\pm$ 20%/-10	9.0 $\times$ 6.5	5.0	20	<1000	<1100	<2000	25	100	>200	General Purpose	2
L71-A800X*	800 $\pm$ 25%/-15	8.0 $\times$ 8.0	10.0	>65	<1000	<1100	<1300	>35	—	>200	440 VAC Application (S20K460*)	3

*Special button type SVP for AC applications.

3 Electrode Types

T23-A230X	230 ±20% ¹	8.0 × 10.0	10.0 ²	>20	<350	<450	<600	—	150	>50 ⁴	Medium Duty, Communication Use	5
T23-A350	350 ±20% ¹	8.0 × 10.0	10.0 ²	>20	<550	<650	<800	—	150	>100 ⁴	Medium Duty, Communication Use	5
T61-C350	300-500 ³	9.5 × 11.5	10.0 ²	>65	<550	<650	<800	—	150	>400	Heavy Duty, Communication Use	4

*11 cycles, 60 Hz, 1 Time *60 VRMS. *Line to ground, single side. *Changing polarity after each surge. Suggested Siemens limiting Varistor (SIOV). *In accordance with IEEE C62.31.



PCMCIA Cards by Simple Tecnology

Category	Description	Standard Configuration	Mfr.'s Type
Flash Cards	256KB Flash Card	TYPE I	STI-FL/256A
	512KB Flash Card	TYPE I	STI-FL/512A
	1MB Flash Card	TYPE I	STI-FL/1A
	2MB Flash Card	TYPE I	STI-FL/2A
	4MB Flash Card	TYPE I	STI-FL/4A
	8MB Flash Card	TYPE I	STI-FL/8A
	16MB Flash Card	TYPE I	STI-FL/16A
SRAM Cards	1MB SRAM Card	TYPE I	STI-SRAM/1
	2MB SRAM Card	TYPE I	STI-SRAM/2
Fax Modem	14.4/14.4 Data/Fax Modem	TYPE II	STI-FAX/14.4
	14.4/14.4 Voice Data/Fax Modem	TYPE II	STI-FAX/14.4CL

Category	Description	Standard Configuration	Mfr.'s Type
Hard Drives	105MB	TYPE III	STI-105HD
	130MB	TYPE III	STI-130HD
	170MB	TYPE III	STI-170HD
Ethernet	Ethernet	TYPE II	STI-108ASET
SCSI 2	SCSI 2	TYPE II*	STI-SCSI
	SCSI 2	TYPE II**	STI-SCSI/II
	SCSI 2	TYPE II***	STI-SCSI/80TH
Reader/Writer	3.5" Drive, Internal/External	TYPE II/III	STI-2+3DR

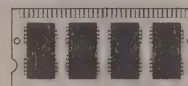
*With Standard Cable (50-pin Centronics). **With High Density Cable (DB-50). ***With Both Cables.

Memory Upgrades by Simple Technology

Simple Technology supplies memory upgrades for the world's major computer brands including:

ACER AST CHICONY DIGITAL HYUNDAI LEXMARK OKI SHARP TOSHIBA
ALR AT&T COMPAQ EPSON IBM MAGNAVOX PACKARD BELL SILICONE GRAPHICS TWINHEAD
ALTIMA Brother COMPUDYNE EVEREX INTEL NCR PANASONIC SUN ZENITH
APPLE CANON DELL HEWLETT PACKARD KYOCERA NEC QMS TEXAS INSTRUMENTS ZEOS

Due to the vastness of Simple Technology's product line, not all products can be listed here. Contact Allied for the latest Simple Technology Product Catalog. For Technical Assistance Contact Simple Technology at: 1-800-367-7330.



Memory Upgrades

Memory Upgrades for Apple Computer Products

Model	Std. Config.	Max. Config.	Product Description	Mfr.'s Type	OEM Part No.
Centris 660 A/V, Quadra 660 A/V	4 MB	68 MB	4 MB Memory Kit 8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit	STA-CAV/4 STA-CAV/8 STA-CAV/16 STA-CAV/32	M1507LL/A M1508LL/A — —
Quadra 950	8 MB	256 MB	512 KB Video Memory Kit 4 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit	STA-V950 STA4080 STA16000/CI STA32000/CS STA64000/CS	M5953LL/A M0292LL/A, 5952LL/A — — —
Workgroup Server 60	4 MB	68 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STA-CENT/4 STA-CENT/8 STA-CENT/16 STA-CENT/32	M1507LL/A M1508LL/A — —
Workgroup Server 80	8 or 16 MB	136 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STA0800/4 STA0800/8 STA0800/16 STA0800/32	M1507LL/A M1508LL/A — —
Workgroup Server 95	16 MB	256 MB	16 MB Memory Kit 64 MB Memory Kit	STA-S95/16 STA-S95/64	M68202/A —
Power PC 6100, Workgroup Server 6150	8 or 16 MB	72 MB	8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit	STA-PPC/8 STA-PPC/16 STA-PPC/32 STA-PPC/64	(2)M1507LL/A (2)M1508LL/A — —
Power PC 7100	8 or 16 MB	136 MB	8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit	STA-PPC/8 STA-PPC/16 STA-PPC/32 STA-PPC/64	(2)M1507LL/A (2)M1508LL/A — —
Power PC 8100, Workgroup Server 8150	8 or 16 MB	264 MB	8 MB Memory Kit 16 MB Memory Kit	STA-PPC/8 STA-PPC/16	(2)M1507LL/A (2)M1508LL/A
9150			32 MB Memory Kit 64 MB Memory Kit	STA-PPC/32 STA-PPC/64	— —
7100 (install in fours)	1 MB	2 MB	256 KB Video Upgrade	STA-V256	M1310LL/A
8100 (install in fours)	2 MB	4 MB	512 KB Video Upgrade	STA-V512/LC	M0517LL/A
PowerBook 160, 165, 180	4 MB	14 MB	4 MB Memory Module 6 MB Memory Module 8 MB Memory Module 10 MB Memory Module	STA-PB180/4 STA-PB180/6 STA-PB180/8 STA-PB180/10	M4664LL/A — — —
PowerBook 165c, 180C	4 MB	14 MB	4 MB Memory Module 6 MB Memory Module 8 MB Memory Module 10 MB Memory Module	STA-PB165C/4 STA-PB165C/6 STA-PB165C/8 STA-PB165C/10	M4664LL/A — — —

Memory Upgrades for AST Computer Products

Advantage! Adventurer 4066D	2 or 4 MB	64 MB	2 MB Memory Kit 4 MB Memory Module 8 MB Memory Kit 16 MB Memory Module 32 MB Memory Kit	SST0987/2 SST0987/4 SST0987/8 SST0987/16 SST0987/32	500987-001, 500891-007, 500987-002, 500891-008, 500987-003, 500987-004, 500987-005
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Memory Upgrades for AST Computer Products (Continued)

Model	Std. Config.	Max. Config.	Product Description	Mfr.'s Type	OEM Part No.
Bravo LC, LC II, LC III, LCIV, 4/66D, 4/50D, 4/33, 4/33S, 4/25S	2, 4 or 8 MB	64 MB	2 MB Memory Kit 4 MB Memory Module 8 MB Memory Kit 16 MB Memory Module 32 MB Memory Kit	SST0987/2 SST0987/4 SST0987/8 SST0987/16 SST0987/32	500987-001, 500891-007, 500987-002, 500891-008, 500987-003, 500987-004, 500987-005
Bravo Notebook, Bravo NBRC, Advantage Explorer Notebook	4 MB	20 MB	4 MB Memory Kit 16 MB Memory Kit	SST1255/4 SST1255/16	501255-001 501255-002
Ascentia 800N, 810N	4 MB	20 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	SST800N/4 SST800N/8 SST800N/16	501488-001 501488-002 501488-003
Ascentia 900N series	4 or 8 MB	24 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	SST1392/4 SST1392/8 SST1392/16	501392-001 501392-002 501392-003

Memory Upgrades for Compaq Computer Products

Deskpro 5/60M, 5/60XE	8 MB	136 MB	8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STC586M/8 STC586M/16 STC586M/32 STC586M/64 STC586M/128	149911-001 149949-001 149912-001 149913-001 149914-001
Deskpro 5/66M	16 MB	144 MB	8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STC586M/8 STC586M/16 STC586M/32 STC586M/64 STC586M/128	149911-001 149949-001 149912-001 149913-001 149914-001
Deskpro XL P/66, P/90	16 MB	144 MB	4 MB Memory Kit 8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit	STC-XL/4 STC-XL/8 STC-XL/16 STC-XL/32 STC-XL/64	148187-001 148188-001 148189-001 148190-001 148191-001
ProLinea 4/33, /50, /25S 4/66	4 MB	32 MB	1 MB Memory Module 2 MB Memory Module 4 MB Memory Module 8 MB Memory Module	STC-PL433/1 STC-PL433/2 STC-PL433/4 STC-PL433/8	141682-001 141683-001 141684-001 141685-001

Memory Upgrades for Compaq Computer Products

Proliant 4000 4/50 & 5/66	64 MB	256 MB	16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STC586M/16 STC586M/32 STC586M/64 STC586M/128	149949-001 149912-001 149913-001 149914-001
Prosignia 486/33, 486D/2/66	4 or 8 MB	128 MB	1 MB Memory Kit 2 MB Memory Kit 4 MB Memory Kit 8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit	STC1000/N STC2000/N STC4000/N STC8000/N STC-16K/PS STC-32K/PS	118688-001 118689-001 118690-001 128877-001 149320-001 149147-001
SystemPro/XL 486/50, XL Pentium	16 MB	256 MB (512 MB w/Exp.)	16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STC-SPXL 16 STC-SPXL/32 STC-SPXL/64 STC-SPXL/128	136816-001 136817-001 149341-001 139918-001
Concerto 4/25, 4/33	4 MB	20 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STC4790/4 STC4790/8 STC4790/16	144790-001 144790-002 144790-003
Contura Aero 4/25, 4/33	4 MB	12 MB	4 MB Memory Module 8 MB Memory Module	STC-AERO/4 STC-AERO/8	190532-001 190597-001

Memory Upgrades (continued)

Memory Upgrades for Compaq Computer Products (continued)

Model	Std. Config.	Max. Config.	Product Description	Mfr.'s Type	OEM Part No.
LTE Elite 4/40C, 4/40CX, 4/50E			4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 20 MB Memory Module	STC9013/4 STC9014/8 STC4790/16E STC4790/20e	199013-001 199014-001 144790-003 —
LTE Elite 4/50CX, 4/75CX	8 MB	28 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 20 MB Memory Module	STC9013/4 STC9014/8 STC4790/16E STC4790/20E	199013-001 199014-001 144790-003 —
LTE Lite 4/25, 4/25c, 4/25e, 4/33c	4 MB	20 MB	4 MB Memory Card 8 MB Memory Card 16 MB Memory Card	STC2337/4 STC2337/8 STC2337/16	142337-002 142337-003 142337-004

Memory Upgrades for DELL Computer Products

Dimension P/60, P/75, P/90 (install in pairs)	8 MB	128 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STD4000L STD8000L STD16000L STD32000L	30380 38424 47047 41227
Power Desktop 486D/16, D/33, D/25, D/20, D/50, D/66, 486P/66, 486P/50	4 MB	64 MB	1 MB Memory Module 4 MB Memory Module 16 MB Memory Module	STD1000 STD4000 STD16000	310-2505 310-2507 310-2525
PowerLine Workstations 466SE, 450SE/2, 450SE 433E, 425SE and 420SE	4 MB	128 MB	2 MB Memory Kit 4 MB Memory Kit 8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit	STD2000/TE STD4000/TE STD8000/TE STD16000/TE STD32000/TE	310-2466 310-2467 310-2468 310-2469 310-2630
Latitude XP 50/75/100	8 MB	36 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STD-LATXP/4 STD-LATXP/8 STD-LATXP/16	76037 310-3414 310-6081 76038 310-3415
Latitude M, MC, MCX	4 MB	20 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STD-LATM/4 STD-LATM/8 STD-LATM/16	310-3416 310-6082 310-3417
Latitude 486	4 MB	20 MB	4 MB Memory Kit 16 MB Memory Kit	STD-LAT/4 STD-LAT/16	41079 41080

Memory Upgrades for Digital Computer Products

DEC 2000 Alpha AXP 300	16, 32, 128 MB	256 MB	16 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STV-A150/16 STV-A150/64 STV-A2000/128	PB2MA-BD PB2MA-BF PB77M-AD
Celebris 4/66, 4/100	8 MB	128 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STV-LP/4 STV-LP/8 STV-LP/16 STV-LP/32	FR-PC74M-AA FR-PC74M-AB —
Venturis 486, Series 4/25SXLP, 4/33DXLP, 4/66D2LP, Tiger 2/2, Pentium Series	4 MB	68 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STV-VENT/4 STV-VENT/8 STV-VENT/16 STV-VENT/32	FR-PCVAM-AA FR-PCVAM-AB FR-PCVAM-AC FR-PCVAM-AD
DECpc AXP 150	16 MB	128 MB	16 MB Memory Kit 64 MB Memory Kit	STV-A150/16 STV-A150/64	PB2MA-BD PB2MA-BF
DECpc XL560, 566, Celebris 560, 590, FP590	8 MB	128 or 192 MB	8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit	STV-XL/8 STV-XL/16 STV-XL/32 STV-XL/64	FR-PC77M-AA FR-PC77M-AB FR-PC77M-AC FR-PC77M-AD
DECpc MT Series	4 MB	64 MB	4 MB Memory Module 16 MB Memory Module	STV-LP/4 STV-LP/16	FR-PC74M-AA FR-PC74M-AB
DECpc MTE Series	8 MB	128 MB	4 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STV-LP/4 STV-LP/16 STV-LP/32	FR-PC74M-AA FR-PC74M-AB —
DEC Prioris HX590 BASE, HX590DP BASE, HX590 RAID, HX590DP RAID, HX590, HX590DP	16 MB	512 MB	8 MB Memory Kit* 16 MB Memory Kit* 32 MB Memory Kit* 64 MB Memory Kit* 128 MB Memory Kit* *Parity Kits-Do not mix parity kits with ECC memory	STV-XL/8 STV-XL/16 STV-XL/32 STV-XL/64 STV-XL/128	FR-PC77M-AA FR-PC77M-AB FR-PC77M-AC FR-PC77M-AD —
Advantage! DEC ALPHA-STATION 200, 400	2 or 4 MB, 16 MB	64 MB, 256 MB	2 MB Memory Kit 8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit	SST0987/2 STV-MSP01/8 STV-MSP01/16 STV-MSP01/32 STV-MSP01/64	500987-001, MSP01-AA MSP01-AB MSP01-AC MSP01-AD
DEC Alpha Server 1000	64 MB	512 MB	16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STV-PB7MA/16 STV-PB7MA/32 STV-PB7MA/64 STV-PB7MA/128	PB7MA-AA PB7MA-AB PB7MA-AC PB7MA-AD
DEC 2000 ALPHA AXP 300	16, 32, 128 MB	256 MB	16 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STV-A150/16 STV-A150/64 STV-A2000/128	PB2MA-BD PB2MA-BF (2)PC77M-AD
DEC 3000 ALPHA 300, 300L, 300X	16 MB	256 MB	16 MB Memory Kit 64 MB Memory Kit	STVA300/16 STVA300/64	MS16-BA MS16-DA
DEC 3000 ALPHA 500, 500S, 800, 800S AXP, 900 AXP	32 MB	1 GB	32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit 256 MB Memory Kit	STV-3AXP/32 STV-3AXP/64 STV-3AXP/128 STV-3AXP/256	MS15-CA MS15-DA MS15-EA MS15-FA

Memory Upgrades for Digital Computer Products (continued)

Model	Std. Config.	Max. Config.	Product Description	Mfr.'s Type	OEM Part No.
DEC 3000 ALPHA 400, 400S, 600, 600S AXP	16 MB	512 MB	32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit 256 MB Memory Kit	STV-3AXP/32 STV-3AXP/64 STV-3AXP/128 STV-3AXP/256	MS15-CA MS15-DA MS15-EA MS15-FA
VAXSTATION 4000/90	16 MB	128 MB	16 MB Memory Kit 64 MB Memory Kit	STV4000/16 STV4000/64	MS44L-BC MS44L-DC
VAXSTATION 5100, 4000/60	8 MB	128 MB	8 MB Memory Kit 32 MB Memory Kit	STV5100/8 STV5100/32	MS44-BA MS44-DA
DEC HiNote	4 MB	20 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STV-HN/4 STV-HN/8 STV-HN/16	FR-PCP7M-AA FR-PCP7M-AB FR-PCP7M-AC
DEC HiNote Ultra	4 MB	20 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STV-HNU/4 STV-HNU/8 STV-HNU/16	FR-PCP7M-AA FR-PCP7M-AB FR-PCP7M-AC
DEC HiNote Ultra TFT	8 MB	24 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STV-HNU/4 STV-HNU/8 STV-HNU/16	FR-PCP8M-AA FR-PCP8M-AB FR-PCP8M-AC

Memory Upgrades for Hewlett Packard Computer Products

Vectra 486 VL2, 2e	4 MB	64 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STH-NET/4 STH-NET/8 STH-NET/16 STH-NET/32	D2974A D2975A D2297A D2298A
Vectra Series: 486SX33/MI, 25/MI, 486DX33/MI, 486/25N, 486/50N, 486/66XM, M, MI, N, NI	4 or 8 MB	48 or 64 MB	2 MB Memory Module 4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STH2000/486 STH4000/486 STH8000/486 STH16000/486	D2381A D2156A D2152A D2676A
HP/Apollo 9000/755, 750, 735	16 MB	8384 or 400 MB	16 MB Memory Module 32 MB Memory Module 64 MB Memory Module 128 MB Memory Module	STH700/16 STH700/32 STH700/64 STH700/128	A1979A A2512A A2646A —
HP/Apollo 9000/720, 730	16 MB	256 MB	16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit 128 MB Memory Kit	STH700/16 STH700/32 STH700/64 STH700/128	A1979A A2512A A2646A —
HP/Apollo 9000 715/50, 715/75, 715/100, 725/50	16 or 32 MB	256 MB	8 MB Memory Kit 16 MB Memory Kit 32 MB Memory Kit 64 MB Memory Kit	STH715/8 STH715/16 STH715/32 STH715/64	A2815A A2816A A2829A A2827A
DesignJet 600, 650c, (C2859B) AKA Enhanced	4 MB	20 MB	4 MB Memory Module 8 MB Memory Module	STH-4/4 STH-4/8	C2065A C2066A
DesignJet 650C + Plotter (C2859B) AKA Enhanced	4 MB	68 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STH-4P/4 STH-4P/8 STH-4P/16 STH-4P/32	C2065A C2066A C2297A C2298A
LaserJet II & IID	512 KB	4.5 MB	1-4 MB Exp. Board 2-4 MB Exp. Board 4 MB Exp. Board	STH1000/D STH2000/D STH4000/D	H33443B H33444B H33445B
LaserJet IIp, IIp Plus, III, IIip, IIID	512 KB/1 MB	4.5/5 MB	1-4 MB Expansion Board 2-4 MB Expansion Board 3-4 MB Expansion Board 4 MB Expansion Board	STH1000/P STH2000/P STH3000/P STH4000/P	H33474B H33475B H33476B H33477B
LaserJet IIisi	1 MB	17/26/34 MB	1 MB Memory Module 4 MB Memory Module 8 MB Memory Module	STH-IIisi/1 STH-IIisi/4 STH-IIisi/8	C2063A C2065A C2066A
LaserJet 4	2 MB	26 or 34 MB	1 MB Memory Module 2 MB Memory Module 4 MB Memory Module 8 MB Memory Module	STH-4/1 STH-4/2 STH-4/4 STH-4/8	C2063a C2064A C2065A C2066A
LaserJet 4+	2 MB	66 MB	1 MB Memory Module 2 MB Memory Module 4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STH-4P/1 STH-4P/2 STH-4P/4 STH-4P/8 STH-4P/16	C3130A C3131A C3132A C3133A C3146A
PaintJet XL300	2 MB	18 MB	1 MB Memory Module 4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 4-16 MB Exp. Board 8-16 MB Exp. Board	STH-IIisi/1 STH-IIisi/4 STH-IIisi/8 STH-XL300/4 STH-XL300/8	C2063A C2065A C2066A C1652A —
DesignJet 650C, 650CPS	4 MB	68 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STH-4P/4 STH-4P/8 STH-4P/16 STH-4P/32	C2065A C2066A C2297A C2298A

Memory Upgrades for IBM Computer Products

PS/1 Willow Series 2168-452, 2133-461, 451	2 MB	32 MB	2 MB Memory Module 4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STM0902T STM0128T STM0130T STM0160T	6450902 6450128 6450130 6061622
PS/ValuePoint II 486 All 6382 and 6387 models, 6384-F02, F30, F50, F51, K00K30, K50, K51, K70, K71, M01, M30, M51, M52, M70, M71, W01, W50, W70, W71, W00	4 MB	64 MB	2 MB Memory Module 4 MB Memory Module 8 MB Memory Module 16 MB Memory Module	STM0902 STM0128 STM0130 STM0160	6450902 6450128, 4002 6450130, 4003 6061622

Memory Upgrades (continued)

Memory Upgrades for IBM Computer Products (continued)

Model	Std. Config.	Max. Config.	Product Description	Mfr.'s Type	OEM Part No.
RISC Systems/6000 POWERserver/ POWERstation 250	16 MB	256 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STM0128 STM0130 STM0160 STM3133	6450128 6450130 60G1622 73G3133
ThinkPad 755	4 MB	36 MB	4 MB Memory Card 4 MB Memory Card 8 MB Memory Card 8 MB Memory Card 16 MB Memory Card 32 MB Memory Card 32 MB Memory Card 4 MB DIMM 8 MB DIMM 16 MB DIMM DIMM Adapter with 4 MB DIMM DIMM Adapter with 8 MB DIMM DIMM Adapter with 16 MB DIMM 524 MB Removable H.D. 540 MB Removable H.D. 710 MB Removable H.D.	STM-TP755/4 STM-CLSX/4 STM-TP755/8 STM-CLSX/8 STM-TP755/16 STM-TP755/32 STM-TP750/32 STM-TP755/4DIM STM-TP755/8DIM STM-TP755/16DIM STM-TP755/AD4 STM-TP755/AD8 STM-TP755/AD16 STM-TP750HD/524 STM-TP750HD/540 STM-TP750HD/710	84G5689 07G1420 84G5692 07G1421 84G5695 — — 84G2152 84G6539 84G2153 84G2151+ 84G2152 84G2151+ 84H2151+ 84G2153 84G2150 —
ThinkPad 500, 510CS (510CS only)	4 MB	12 or 20 MB	4 MB Memory Card 8 MB Memory Card 16 MB Memory Card	STM-TP500/4 STM-TP500/8 STM-TP501/16	8189098 8189099 8189113
ThinkPad 701C, 701CS	4/8 MB	20/24 MB	4 MB DIMM Module 8 MB DIMM Module 16 MB DIMM Module	STM-TP701/4 STM-TP701/8 STM-TP701/16	92G7259 92G7261 92G7263

Memory Upgrades for NCR Computer Products

3170 Safari Slimline SSL/25	2 or 4 MB	20 MB	2 MB Memory Module 4 MB Memory Module	SCR3170/2 SCR3170/4	3123-K102 3123-K104
Safari 3180 4/33SL, Removable Hard Drives	4 MB	24 MB	340 MB Removable H.D. 524 MB Removable H.D. 540 MB Removable H.D.	STN-VHD340 STN-VHD524 STN-VHD540	— — —

Memory Upgrades for NEC Computer Products

PowerMate D and M Series, P60D, P60M, Ready 433D, 466D	4 MB	128 MB	4 MB Memory Module 8 MB Memory Module 16 MB Memory Module 32 MB Memory Module	STN14003/4 STN14004/8 STN14005/16 STN14005/32	OP-410-14003 OP-410-14004 OP-410-14005 OP-410-14006
Image Series 425, 433, 466	4 MB	64 MB	4 MB Memory Module 16 MB Memory Module	STN486/1 STN486/16	OP-410-12002 OP-410-12003
UltraLite Versa 4/20, 4/25, 4/33	4 MB	24 MB	4 MB Memory Card 8 MB Memory Card 12 MB Memory Card 16 MB Memory Card 20 MB Memory Card	STN-VERSA/4 STN-VERSA/8 STN-VERSA/12 STN-VERSA/16 STN-VERSA/20	OP-410-4001 OP-410-4002 OP-410-4005 OP-410-4003 —
Versa E, V, Series	4 MB	36 M	4 MB Memory Card 8 MB Memory Card 12 MB Memory Card 16 MB Memory Card 20 MB Memory Card 32 MB Memory Card	STN-VERSA/4E STN-VERSA/8E STN-VERSA/12 STN-VERSA/16 STN-VERSA/20 STN-VERSA/32	OP-410-4001 OP-410-4002 OP-410-4005 OP-410-4003 — —
Versa M, P Series	8 MB	40 MB	4 MB Memory Card	STN-VERSA/4E	OP-410-4001

Memory Upgrades for NEC Computer Products (continued)

Model	Std. Config.	Max. Config.	Product Description	Mfr.'s Type	OEM Part No.
Versa S	4 MB	20 MB	8 MB Memory Card 12 MB Memory Card 16 MB Memory Card 20 MB Memory Card 32 MB Memory Card	STN-VERSA/8E STN-VERSA/12 STN-VERSA/16 STN-VERSA/20 STN-VERSA/32	OP-410-4002 OP-410-4005 OP-410-4003 — —
SilentWriter 95, 95F, 95Fx, 97, 97Fx	2 MB	5 MB	2 MB Memory Module	STN9502	9502
Removable Hard Drives			340 MB Removable H.D. 524 MB Removable H.D. 710 MB Removable H.D. 810 MB Removable H.D.	STN-VHD340 STN-VHD524 STN-VHD710 STN-VHD810	OP-220-4005 — — OP-220-4708

Memory Upgrades for Panasonic Computer Products

CF-V21P 4/33SX, 486DX	4 MB	20 MB	4 MB Memory Card 8 MB Memory Card 16 MB Memory Card	STP-V21P/4 STP-V21P/8 STP-V21P/16	CF-BA1904 CF-BA1908 CF-BA1916
CF-V41 16MB	8 or 32 MB	24 or	4 MB Memory Card 8 MB Memory Card 16 MB Memory Card	STP-V21P/4 STP-V21P/8 STP-V21P/16	CF-BA2004 CF-BA1908 CF-BA1916

Memory Upgrades for SUN Computer Products

SPARC 10 Models: 30, 41 and 52/54	16 MB	512 MB	16 MB Memory Module 64 MB Memory Module	STS16000/S10 STS64000/S10	X116F S164F
SPARC 5	16 or 32 MB	256 MB	8 MB Memory Module 32 MB Memory Module	STS8000/S5 STS32000/S5	X108M X132M
SPARCserver/station/ engine 20	32 MB	2 GB	16 MB Memory Module 32 MB Memory Module 64 MB Memory Module	STS16000/S20 STS32000/S20 STS64000/S20	X116P X132P X164P

Memory Upgrades for Toshiba Computer Products

T2100CT, T2150CDT	8 MB	32 MB	4 MB DIMM Module 8 MB DIMM Module 16 MB DIMM Module 24 MB DIMM Module	STT2100/4 STT2100/8 STT2100/16 STT2100/24	NW2026U NW2027U NW2028U NW2029U
T2400/CS	4 MB	20 MB	4 MB DIMM Module 8 MB DIMM Module 16 MB DIMM Module	STT3400/4 STT3400/8 STT3400/16	PC-PA2019 PC-PA2020 PC-PA2023
T3400 Portege	4 MB	20 MB	4 MB DIMM Module 8 MB DIMM Module 16 MB DIMM Module	STT3400/4 STT3400/8 STT3400/16	PC-PA2019U PC-PA2020U PC-PA2021U
T3600 Portege T2400CT, T2450CT	8 MB	24 MB	4 MB DIMM Module 8 MB DIMM Module 16 MB DIMM Module	STT3400/4 STT3400/8 STT3600/16	PC-PA2019U PC-PA2020U PC-PA2023U
T4600, T4500, T1950 T1900, T200	4 MB	20 MB	4 MB Memory Card 8 MB Memory Card 16 MB Memory Card	STT4600/4 STT4600/8 STT4600/16	PC-PA2012U PC-PA2013U PC-PA2014U
T1910, T1950, T4700, T4800, T4850	4 or 8 MB	36 or 40 MB	4 MB Memory Card 8 MB Memory Card 16 MB Memory Card 32 MB Memory Card	STT4600/4 STT4600/8 STT4600/16 STT4700/32	PC-PA2012U PC-PA2013U PC-PA2014U NW2014U NW2015U

Standard Memory Products

Expansion Boards

Mfr.'s Type	Organization	Densisty
STM-16AT/2 STM-16AT/8	2-16 MB Memory Board 8-16 MB Memory Board	2-16 MB 16-bit ISA 8-16 MB 16-bit ISA

EDO SIMMS (Extended Data Out)

STI321004A-70T STI321004A-60T STI322004A-70T STI322004A-60T STI324004A-70T STI324004A-60T STI328004A-70T STI328004A-60T	1 MB x 32-70 ns Tin 1 MB x 32-60 ns Tin 2 MB x 32-70 ns Tin 2 MB x 32-60 ns Tin 4 MB x 32-70 ns Tin 4 MB x 32-60 ns Tin 8 MB x 32-70 ns Tin 8 MB x 32-60 ns Tin	4 MB 4 MB 8 MB 8 MB 16 MB 16 MB 32 MB 32 MB
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SIMMS, Non-Parity 72-Pin

STI321000-60T STI321000-70T STI321000-80T STI321000-60G STI321000-70G STI321000-80G STI322000-60T STI322000-70T STI322000-80T STI322000-60G STI322000-70G STI322000-80G STI324000-60T STI324000-70T STI324000-80T	1 MB x 32-60 ns Tin 1 MB x 32-70 ns Tin 1 MB x 32-80 ns Tin 1 MB x 32-60 ns Gold 1 MB x 32-70 ns Gold 1 MB x 32-80 ns Gold 2 MB x 32-60 ns Tin 2 MB x 32-70 ns Tin 2 MB x 32-80 ns Tin 2 MB x 32-60 ND Gold 2 MB x 32-70 ns Gold 2 MB x 32-80 ns Gold 4 MB x 32-60 ns Tin 4 MB x 32-70 ns Tin 4 MB x 32-80 ns Tin	4 MB 4 MB 4 MB 4 MB 4 MB 4 MB 8 MB 8 MB 8 MB 8 MB 8 MB 8 MB 16 MB 16 MB 16 MB
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SIMMS, Non-Parity 72-Pin (continued)

Mfr.'s Type	Organization	Densisty
STI324000-60G STI324000-70G STI324000-80G STI328000-60T STI328000-70T STI328000-80T STI328000-60G STI328000-70G STI328000-80G STI3216000-70T	4 MB x 32-60 ns Gold 4 MB x 32-70 ns Gold 4 MB x 32-80 ns Gold 8 MB x 32-60 ns Tin 8 MB x 32-70 ns Tin 8 MB x 32-80 ns Tin 8 MB x 32-60 ns Gold 8 MB x 32-70 ns Gold 8 MB x 32-80 ns Gold 16 MB x 32-70 ns Tin	16 MB 16 MB 16 MB 32 MB 32 MB 32 MB 32 MB 32 MB 32 MB 64 MB

SIMMS, Parity 72-Pin

STI361000-60T STI361000-70T STI361000-80T STI361000-60G STI361000-70G STI361000-80G STI362000-60T STI362000-70T STI362000-80T STI362000-60G STI362000-70G STI362000-80G STI364000-60T STI364000-70T STI364000-80T STI364000-60G STI364000-70G STI364000-80G STI368000-60T STI368000-70T STI368000-80T	1 MB x 36-60 ns Tin 1 MB x 36-70 ns Tin 1 MB x 36-80 ns Tin 1 MB x 36-60 ns Gold 1 MB x 36-70 ns Gold 1 MB x 36-80 ns Gold 2 MB x 36-60 ns Tin 2 MB x 36-70 ns Tin 2 MB x 36-80 ns Tin 2 MB x 36-60 ns Gold 2 MB x 36-70 ns Gold 2 MB x 36-80 ns Gold 4 MB x 36-60 ns Tin 4 MB x 36-70 ns Tin 4 MB x 36-80 ns Tin 4 MB x 36-60 ns Gold 4 MB x 36-70 ns Gold 4 MB x 36-80 ns Gold 8 MB x 36-60 ns Tin 8 MB x 36-70 ns Tin 8 MB x 36-80 ns Tin	4 MB 4 MB 4 MB 4 MB 4 MB 4 MB 8 MB 8 MB 8 MB 8 MB 8 MB 8 MB 16 MB 16 MB 16 MB 16 MB 16 MB 16 MB 32 MB 32 MB 32 MB
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SIMMS, Parity 72-Pin (continued)

Mfr.'s Type	Organization	Densisty
STI368000-60G STI368000-70G STI368000-80G STI3616000-70T	8 MB x 36-60 ns Gold 8 MB x 36-70 ns Gold 8 MB x 36-80 ns Gold 16 MB x 36-70 ns Tin	32 MB 32 MB 32 MB 64 MB

SIMMS, Non-Parity 30-Pin

STI81000-60 STI81000-70 STI81000-80 STI81000A-60 STI81000A-70 STI81000A-80 STI84000-60 STI84000-70 STI84000-80 STI84000A-60 STI84000A-70 STI84000A-80	1 MB x 8-60 ns 1 MB x 8-70 ns 1 MB x 8-80 ns 1 MB x 8-60 ns 2 CHIP 1 MB x 8-70 ns 2 CHIP 1 MB x 8-80 ns 2 CHIP 4 MB x 8-60 ns 4 MB x 8-70 ns 4 MB x 8-80 ns 4 MB x 8-60 ns 2 CHIP 4 MB x 8-70 ns 2 CHIP 4 MB x 8-80 ns 2 CHIP	1 MB 1 MB 1 MB 1 MB 1 MB 1 MB 4 MB 4 MB 4 MB 4 MB 4 MB 4 MB
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SIMMS, Parity 30-Pin

STI91000-60 STI91000-70 STI91000-80 STI91000A-60 STI91000A-70 STI91000A-80 STI94000-60 STI94000-70 STI94000-80 STI94000A-60 STI94000A-70 STI94000A-80	1 MB x 9-60 ns 1 MB x 9-70 ns 1 MB x 9-80 ns 1 MB x 9-60 ns 3 CHIP 1 MB x 9-70 ns 3 CHIP 1 MB x 9-80 ns 3 CHIP 4 MB x 9-60 ns 4 MB x 9-70 ns 4 MB x 9-80 ns 4 MB x 9-60 ns 3CHIP 4 MB x 9-70 ns 3 CHIP 4 MB x 9-80 ns 3 CHIP	1 MB 1 MB 1 MB 1 MB 1 MB 1 MB 4 MB 4 MB 4 MB 4 MB 4 MB 4 MB
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For Literature or Technical Assistance on Texas Instruments Semiconductors, Call the Texas Instruments Semiconductor Product Information Center at 214/644-5580.

Logic

SN7400: TTL Logic

Mr.'s Type		Description	No. of Leads
SOIC	PDIP		
SN7400D	SN7400N	Quad 2-Input NAND Gate	14
—	SN7402N	Quad 2-Input Positive-NOR Gate	14
—	SN7404N	Hex Inverter	14
SN7405D	SN7405N	Hex Inverter with Open Collector Outputs	14
SN7406D	SN7406N	Hex Inverter with Open Collector Outputs	14
SN7407D	SN7407N	Hex Inverter with Open Collector Outputs	14
—	SN7410N	Triple 3-Input Positive-NAND Gate	14
—	SN74121N	One Shot Multivibrator	14
—	SN74123N	Dual Monostable Multivibrator	16
—	SN74128N	50 Ohm Line Driver	14
—	SN74132N	Quad 2-Input Positive-NAND Schmitt Trigger	14
—	SN74145N	BCD-to-Decimal Decoder/Driver	16
SN7414D	SN7414N	Hex Schmitt-Trigger Inverter	14
—	SN74150N	Data Selector/Multiplexer	24
—	SN74154N	4-to-16 Line Decoder/Demultiplexer	24
—	SN74156N	Dual 1-4 Decoder with Open Collector Outputs	16
—	SN74157N	Quad 1-of-2 Data Selector/Multiplexer	16
—	SN74159N	4-16 Line Decoder/Demultiplexer	24
—	SN74164N	8-Bit Parallel-Out Serial Shift Register	14
SN7416D	SN7416N	Hex Inverter/Driver	14
—	SN74175N	Quad D-Type Flip-Flop	16
SN7417D	SN7417N	Hex Buffer/Driver with Open Collector Outputs	14
—	SN74279N	Quad Set/Reset Latch	16
—	SN7430N	8-Input Positive-NAND Gate	14
—	SN7432N	Quad 2-Input Positive-OR Gate	14
—	SN7437N	Quad 2-Input Positive-NAND Buffer	14
SN7438D	SN7438N	Quad 2-Input NAND Buffer with Open Collector Outputs	14
—	SN7445N	BCD-to-Decimal Decoder/Driver	14
—	SN7447AN	BCD-to-7 Segment Decoder/Driver	16
—	SN7474N	Dual D-Type Flip-Flop	14
—	SN7486N	Quad 2-Input Exclusive-OR Gate	14
—	SN7490AN	Decade Divide-by-12 Counter	14
—	SN7525N	Dual 4-Input NOR Gate	14

74ACT11: Advanced CMOS TTL Logic

74ACT11008D	74ACT11008N	Quad 2-Input Positive-AND Gate	16
74ACT11240DW	74ACT11240NT	Octal Buffer/Line Driver with 3-State Outputs	24
74ACT11244DW	74ACT11244NT	Octal Buffer/Line Driver with 3-State Outputs	24
74ACT11245DW	74ACT11245NT	Octal Bus Transceiver with 3-State Outputs	24
74ACT11337D	74ACT11337NT	Octal D-Type Transparent Latch with 3-State Outputs	24
—	74ACT11374NT	Octal D-Type Flip-Flop with 3-State Outputs	24
74ACT11544DW	74ACT11544NT	Octal Registered Transceiver with 3-State Outputs	28
74ACT11593DW	74ACT11593NT	8-Bit Binary Counter with 3-State I/O Register	24
74ACT11657DW	—	Octal Xceiver with Parity Generator/Counter	28
74ACT11898DW	—	10-Bit Parallel-Out Shift Register	20
74ACT16241DL	—	16-Bit Buffer/Line Driver with 3-State Outputs	48
74ACT16244DL	—	16-Bit Buffer/Line Driver with 3-State Outputs	48
74ACT16245DL	—	16-Bit Bus Transceiver with 3-State Outputs	48
74ACT16373DL	—	16-Bit D-Type Transparent Latch with 3-State Outputs	48
74ACT16374DL	—	16-Bit D-Type Flip-Flop with 3-State Outputs	48
74ACT16470DL	—	16-Bit Registered Transceiver with 3-State Outputs	56
74ACT16474DL	—	18-Bit Flip-Flop	56
74ACT16540DL	—	16-Bit Buffer/Line Driver with 3-State Outputs	48
74ACT16541DL	—	16-Bit Buffer/Line Driver with 3-State Outputs	48
74ACT16543DL	—	16-Bit Registered Transceiver with 3-State Outputs	56
74ACT16620DL	—	16-Bit Transceiver with 3-State Outputs	48
74ACT16646DL	—	16-Bit Bus Xceiver AND Register with 3-State Outputs	56
74ACT16648DL	—	16-Bit Bus Xceiver AND Register with 3-State Outputs	56
74ACT16652DL	—	16-Bit Bus Xceiver AND Register with 3-State Outputs	56
74ACT16861DL	—	20-Bit Transceiver with 3-State Outputs	56
74ACT16864DL	—	18-Bit Transceiver with 3-State Outputs	56

SN74ALS: Advanced Low Power Schottky TTL Logic

SN74ALS00AD	SN74ALS00AN	Quad 2-Input Positive-NAND Gate	14
SN74ALS02AD	—	Quad 2-Input Positive-NOR Gate	14
SN74ALS04BD	SN74ALS04BN	Hex Inverter	14
SN74ALS05AD	SN74ALS05AN	Hex Inverter with Open-Collector Outputs	14
SN74ALS08D	SN74ALS08N	Quad 2-Input Positive-AND Gate	14
SN74ALS1005D	SN74ALS1005N	Hex Inverting Buffer with Open-Collector Outputs	14
—	SN74ALS1034N	Hex Driver	14
SN74ALS1035D	SN74ALS1035N	Hex Noninverting Buffer with Open-Collector Outputs	14
SN74ALS109AD	SN74ALS109AN	Dual J-K-Bar Flip-Flop	16
SN74ALS10AD	SN74ALS10AN	Triple 3-Input Positive-NAND Gate	14
—	SN74ALS11AN	Triple 3-Input Positive-AND Gate	14
SN74ALS139D	SN74ALS139N	Dual 2-To-4 Decoder/Demultiplexer	16
SN74ALS151D	SN74ALS151N	8-To-1 Data Selector/Multiplexer	16
SN74ALS153D	SN74ALS153N	Dual 4-To-1 Data Selector/Multiplex	16
SN74ALS157AD	SN74ALS157AN	Quad 1-Of-2 Data Selector/Multiplex	16
SN74ALS161BD	SN74ALS161BN	4-Bit Synchronous Binary Counter	16
SN74ALS163BD	SN74ALS163BN	4-Bit Synchronous Binary Counter	16
SN74ALS1645ADW	SN74ALS1645AN	Octal Bus Transceiver with 3-State Outputs	20
—	SN74ALS165N	8-Bit Parallel-Load Shift Register	16
SN74ALS17AD	SN74ALS174N	Hex D-Type Flip-Flop	16
SN74ALS175D	SN74ALS175N	Quad D-Type Flip-Flop	20
SN74ALS240ADW	SN74ALS240AN	Octal Buffer/Line Driver with 3-State Outputs	16
SN74ALS241BDW	SN74ALS241BN	Octal Buffer/Line Driver with 3-State Outputs	20
SN74ALS245A-1DW	SN74ALS245A-1N	Octal Bus Transceiver with 3-State Outputs	20
SN74ALS245ADW	SN74ALS245AN	Octal Bus Transceiver with 3-State Outputs	20
SN74ALS251D	SN74ALS251N	1-Of-8 Data Selector/Mux with 3-State Outputs	16
SN74ALS253D	SN74ALS253N	Dual 4-To-1 Data Selector/Mux with 3-State Outputs	16
SN74ALS259D	SN74ALS259N	8-Bit Addressable Latch	16
SN74ALS273DW	SN74ALS273N	Octal D-Type Flip-Flop	20
SN74ALS29821DW	SN74ALS29821NT	10-Bit D-Type Flip-Flop with 3-State Outputs	24
SN74ALS29827DW	SN74ALS29827NT	10-Bit Buffer/Driver with 3-State Outputs	24

SN74ALS: Advanced Low Power Schottky TTL Logic (continued)

Mr.'s Type		Description	No. of Leads
SOIC	PDIP		
SN74ALS29863DW	SN74ALS29863NT	9-Bit Transceiver with 3-State Outputs	24
SN74ALS2990D	SN74ALS2990N	8-Bit Universal Shift/Storage Register	20
SN74ALS32D	SN74ALS32N	Quad 2-Input Positive-OR Gate	14
SN74ALS373ADW	SN74ALS373AN	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74ALS374ADW	SN74ALS374AN	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74ALS520DW	SN74ALS520N	8-Bit Identity Comparator	20
SN74ALS521DW	SN74ALS521N	8-Bit Identity Comparator	20
SN74ALS540DW	SN74ALS540N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74ALS541DW	SN74ALS541N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74ALS569ADW	SN74ALS569AN	4-Bit Synchronous Up/Down Binary Counter	20
SN74ALS573CDW	SN74ALS573CN	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74ALS574BDW	SN74ALS574BN	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74ALS576BDW	SN74ALS576BN	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74ALS623ADW	SN74ALS623AN	Octal Transceiver with 3-State Outputs	20
SN74ALS640B-1DW	SN74ALS640B-1N	Octal Bus Transceiver with 3-State Outputs	20
SN74ALS640BDW	SN74ALS640BN	Octal Bus Transceiver with 3-State Outputs	20
SN74ALS641A-1DW	SN74ALS641A-1N	Octal Bus Transceiver with Open-Collector Outputs	20
SN74ALS645A-1DW	SN74ALS645A-1N	Octal Bus Transceiver with 3-State Outputs	20
SN74ALS645ADW	SN74ALS645AN	Octal Bus Transceiver with 3-State Outputs	20
SN74ALS646DW	SN74ALS646NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74ALS648DW	SN74ALS648NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74ALS651DW	SN74ALS651NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74ALS652-1DW	SN74ALS652-1NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74ALS652DW	SN74ALS652NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74ALS666DW	SN74ALS666NT	Octal D-Type Transparent Read-Back	24
SN74ALS688DW	SN74ALS688N	8-Bit Identity Comparator	20
SN74ALS74AD	SN74ALS74AN	Dual D-Type Flip-Flop	14
SN74ALS841DW	SN74ALS841NT	10-Bit D-Type Latch with 3-State Outputs	24
SN74ALS867ADW	SN74ALS867ANT	8-Bit Synchronous Up/Down Binary Counter	24
SN74ALS869DW	SN74ALS869NT	8-Bit Synchronous Up/Down Binary Counter	24
SN74ALS86D	SN74ALS86N	Quad 2-Input Exclusive-OR Gate	14
SN74ALS874BDW	SN74ALS874BNT	Dual 4-Bit D-Type Flip-Flop with 3-State Outputs	24
SN74ALS990DW	SN74ALS990N	8-Bit D-Type Transparent Read-Back	20
SN74ALS992DW	SN74ALS992NT	9-Bit D-Type Read-Back Latch with 3-State Outputs	24
SN74ALS996DW	SN74ALS996NT	8-Bit D-Type Read-Back Latch with 3-State Outputs	24

SN74AS: Advanced Schottky TTL Logic

SN74AS00D	SN74AS00N	Quad 2-Input Positive-NAND Gate	14
SN74AS04D	SN74AS04N	Hex Inverter	14
SN74AS08D	SN74AS08N	Quad 2-Input Positive-AND Gate	14
SN74AS1000AD	SN74AS1000AN	Quad 2-Input Positive-NAND Buffer/Driver	14
SN74AS1004AD	SN74AS1004AN	Hex Inverting Driver	14
SN74AS1032AD	SN74AS1032AN	Quad 2-Input Positive-OR Buffer/Driver	14
SN74AS1034AD	SN74AS1034AN	Hex Driver	14
SN74AS11D	SN74AS11N	Triple 3-Input Positive-AND Gate	14
SN74AS138D	SN74AS138N	3-To-8 Decoder/Demultiplexer	16
SN74AS157D	SN74AS157N	Quad 1-Of-2 Data Selector/Multiplexer	16
SN74AS158D	SN74AS158N	Quad 1-Of-2 Data Selector/Multiplexer	16
SN74AS161D	SN74AS161N	4-Bit Synchronous Binary Counter	16
SN74AS163D	SN74AS163N	4-Bit Synchronous Binary Counter	16
SN74AS174D	SN74AS174N	Hex D-Type Flip-Flop	16
SN74AS175AD	SN74AS175AN	Quad D-Type Flip-Flop	20
—	SN74AS1804N	Hex 2-Input NAND Driver	20
SN74AS240DW	SN74AS240N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74AS244DW	SN74AS244N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74AS245DW	SN74AS245N	Octal Bus Transceiver with 3-State Outputs	20
SN74AS258D	SN74AS258N	Quad 2-To-1 Data Selector/Mux with 3-State Outputs	16
SN74AS277D	SN74AS277N	Triple 3-Input Positive-NOR Gate	14
SN74AS280D	SN74AS280N	9-Bit Parity Generator/Checker	14
SN74AS286D	SN74AS286N	9-Bit Parity Generator/Checker	14
SN74AS32D	SN74AS32N	Quad 2-Input Positive-OR Gate	14
SN74AS373DW	SN74AS373N	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74AS374DW	SN74AS374N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74AS573ADW	SN74AS573AN	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74AS574DW	SN74AS574N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74AS640DW	SN74AS640N	Octal Bus Transceiver with 3-State Outputs	20
SN74AS646DW	SN74AS646NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74AS648DW	SN74AS648NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74AS651DW	SN74AS651NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74AS652DW	SN74AS652NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74AS74D	SN74AS74N	Dual D-Type Flip-Flop	14
SN74AS760DW	SN74AS760N	Octal Buffer/Line Driver with Open-Collector Outputs	20
SN74AS804BDW	SN74AS804BN	Hex 2-Input NAND Driver	20
SN74AS805BDW	SN74AS805BN	Hex 2-Input NOR Driver	20
SN74AS808BDW	SN74AS808BN	Hex 2-Input Positive-AND Driver	20
SN74AS821ADW	SN74AS821ANT	10-Bit Bus Interface Flip-Flop with 3-State Outputs	24
SN74AS867DW	SN74AS867NT	8-Bit Synchronous Up/Down Binary Counter	24
SN74AS869DW	SN74AS869NT	8-Bit Synchronous Up/Down Binary Counter	24
SN74AS873ADW	SN74AS873ANT	Dual 4-Bit D-Type Latch with 3-State Outputs	24
SN74AS874DW	SN74AS874NT	Dual 4-Bit D-Type Flip-Flop with 3-State Outputs	24
SN74AS885DW	SN74AS885NT	8-Bit Magnitude Comparator	24

SN74BCT: BiCMOS Bus Interface Logic

SN74BCT2240DW	SN74BCT2240N	Octal Buffer with 3-State Outputs (Series Resistors)	20
SN74BCT2244DW	SN74BCT2244N	Octal Buffer with 3-State Outputs (Series Resistors)	20
SN74BCT2245DW	SN74BCT2245N	Octal Bus Xver with 3-State Outputs (Series Resistors)	20
SN74BCT2244DW	SN74BCT2244N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74BCT245DW	SN74BCT245N	Octal Bus Transceiver with 3-State Outputs	20
SN74BCT25245DW	SN74BCT25245NT	25-Ohm Octal Bus Transceiver with 3-State Outputs	24
SN74BCT2827CDW	SN74BCT2827CNT	10-Bit Buffer with 3-State Outputs (Series Resistors)	24
SN74BCT2828BDW	SN74BCT2828BNT	10-Bit Buffer with 3-State Outputs (Series Resistors)	24
SN74BCT2953DW	SN74BCT2953NT	Octal Reg Transceiver with Clock Enable	24
SN74BCT29854DW	SN74BCT29854NT	8-To-9 Bit Parity Transceiver/Latch	24
SN74BCT373DW	SN74BCT373N	Octal D-Type Transparent Latch with 3-State Outputs	24
SN74BCT543DW	SN74BCT543NT	Octal Registered Transceiver with 3-State Outputs	24
SN74BCT646DW	SN74BCT646NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74BCT652DW	SN74BCT652NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74BCT8245ADW	SN74BCT8245ANT	Scope Octal Bus Transceiver	24

Logic (continued)

SN74F: F-TTL Logic

Mfr.'s Type		Description	No. of Leads
SOIC	PDIP		
SN74F00D	SN74F00N	Quad 2-Input Positive-NAND Gate	14
SN74F02D	SN74F02N	Quad 2-Input Positive-NOR Gate	14
SN74F04D	SN74F04N	Hex Inverter	14
SN74F08D	SN74F08N	Quad 2-Input Positive-AND Gate	14
SN74F1056D		8-Bit Schottky Barrier Diode	16
SN74F11D	SN74F11N	Triple 3-Input Positive-AND Gate	14
SN74F125D	SN74F125N	Quad Bus Buffer Gates with 3-State Outputs	14
SN74F126D	SN74F126N	Quad Bus Buffer Gates with 3-State Outputs	14
SN74F138D	SN74F138N	3-To-8 Decoder/Demultiplexer	16
SN74F157AD	SN74F157AN	Quad 1-Of-2 Data Selector/Multiplexer	16
SN74F161AD	SN74F161AN	4-Bit Synchronous Binary Counter	16
SN74F163AD	SN74F163AN	4-Bit Synchronous Binary Counter	16
SN74F240DW	SN74F240N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74F243D	SN74F243N	Quad Bus Transceiver with 3-State Outputs	14
SN74F244DW	SN74F244N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74F245DW	SN74F245N	Octal Bus Transceiver with 3-State Outputs	20
SN74F257D	SN74F257N	Quad 2-To-1 Data Selector/Mux with 3-State Outputs	16
SN74F260D	SN74F260N	Dual 5-Input Positive-NOR Gate	14
SN74F27D	SN74F27N	Triple 3-Input Positive-NOR Gate	14
SN74F280BD	SN74F280BN	9-Bit Parity Generator/Checker	14
SN74F30D	SN74F30N	8-Input Positive-NAND Gate	14
SN74F32D	SN74F32N	Quad 2-Input Positive-OR Gate	14
SN74F373DW	SN74F373N	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74F374DW	SN74F374N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74F38D	SN74F38N	Quad 2-Input P-NAND Buffer with Open Collector Outputs	14
SN74F521DW	SN74F521N	8-Bit Identity Comparator	20
SN74F541DW	SN74F541N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74F543DW	SN74F543N	Octal Registered Transceiver with 3-State Outputs	24
SN74F573DW	SN74F573N	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74F574DW	SN74F574N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74F574D	SN74F574N	Dual D-Type Flip-Flop	14

SN74HC: High Speed CMOS Logic

SN74HC00D	SN74HC00N	Quad 2-Input Positive-NAND Gate	14
SN74HC02D	SN74HC02N	Quad 2-Input Positive-NOR Gate	14
SN74HC04D	SN74HC04N	Hex Inverter	14
SN74HC05D	SN74HC05N	Hex Inverter with Open-Collector Outputs	14
SN74HC08D	SN74HC08N	Quad 2-Input Positive-AND Gate	14
SN74HC10D	SN74HC10N	Triple 3-Input Positive-NAND Gate	14
SN74HC125D	SN74HC125N	Quad Bus Buffer Gates with 3-State Outputs	14
SN74HC126D	SN74HC126N	Quad Bus Buffer Gates with 3-State Outputs	14
SN74HC132D	SN74HC132N	Quad 2-Input P-NAND Schmitt-Trigger	14
SN74HC138D	SN74HC138N	3-To-8 Decoder/Demultiplexer	16
SN74HC139D	SN74HC139N	Dual 2-To-4 Decoder/Demultiplexer	16
SN74HC14D	SN74HC14N	Hex Schmitt-Trigger Inverter	14
SN74HC151D	SN74HC151N	8-To-1 Data Selector/Multiplexer	16
SN74HC157D	SN74HC157N	Quad 1-Of-2 Data Selector/Multiplexer	16
SN74HC161D	SN74HC161N	4-Bit Synchronous Binary Counter	16
SN74HC163D	SN74HC163N	4-Bit Synchronous Binary Counter	16
SN74HC164D	SN74HC164N	8-Bit Parallel-Out Serial Shift Register	14
SN74HC165D	SN74HC165N	8-Bit Parallel-Load Shift Register	16
SN74HC166D	SN74HC166N	8-Bit Parallel-Load Shift Register	16
SN74HC174D	SN74HC174N	Hex D-Type Flip-Flop	16
SN74HC175D	SN74HC175N	Quad D-Type Flip-Flop	16
SN74HC240DW	SN74HC240N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74HC244DW	SN74HC244N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74HC245DW	SN74HC245N	Octal Bus Transceiver with 3-State Outputs	20
SN74HC251D	SN74HC251N	1-Of-8 Data Selector/Mux with 3-State Outputs	16
SN74HC257D	SN74HC257N	Quad 2-To-1 Data Selector/Mux with 3-State Outputs	16
SN74HC259D	SN74HC259N	8-Bit Addressable Latch	16
SN74HC273DW	SN74HC273N	Octal D-Type Flip-Flop	20
SN74HC32D	SN74HC32N	Quad 2-Input Positive-OR Gate	14
SN74HC367D	SN74HC367N	Hex Driver with 3-State Outputs	16
SN74HC373DW	SN74HC373N	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74HC374DW	SN74HC374N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74HC377DW	SN74HC377N	Octal D-Type Flip-Flop with Clock Enable	20
SN74HC393D	SN74HC393N	Dual 4-Bit Binary Counter	14
SN74HC4040D	SN74HC4040N	12-Bit Asynchronous Binary Counter	16
SN74HC540DW	SN74HC540N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74HC541DW	SN74HC541N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74HC573ADW	SN74HC573AN	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74HC574DW	SN74HC574N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74HC590ADW	SN74HC590AN	8-Bit Binary Counter with 3-State Outputs	16
SN74HC594DW	SN74HC594N	8-Bit Shift Register with Output Register	16
SN74HC595DW	SN74HC595N	8-Bit Shift Register with 3-State Outputs	16
SN74HC7001D	SN74HC7001N	Quad P-AND Gate with Schmitt-Trigger	14
SN74HC74D	SN74HC74N	Dual D-Type Flip-Flop	14
SN74HC86D	SN74HC86N	Quad 2-Input Exclusive-OR Gate	14

SN74HCT: High Speed CMOS-TTL Logic

SN74HCT00D	SN74HCT00N	Quad 2-Input Positive-NAND Gate	14
SN74HCT04D	SN74HCT04N	Hex Inverter	14
SN74HCT08D	SN74HCT08N	Quad 2-Input Positive-AND Gate	14
SN74HCT138D	SN74HCT138N	3-To-8 Decoder/Demultiplexer	16
SN74HCT240DW	SN74HCT240N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74HCT244DW	SN74HCT244N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74HCT245DW	SN74HCT245N	Octal Bus Transceiver with 3-State Outputs	20
SN74HCT273DW	SN74HCT273N	Octal D-Type Flip-Flop	20
SN74HCT32D	SN74HCT32N	Quad 2-Input Positive-OR Gate	14
SN74HCT373DW	SN74HCT373N	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74HCT374DW	SN74HCT374N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74HCT541DW	SN74HCT541N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74HCT573DW	SN74HCT573N	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74HCT574DW	SN74HCT574N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74HCT646DW	SN74HCT646N	Octal Bus Xceiver AND Register with 3-State Outputs	24

SN74HCT: High Speed CMOS-TTL Logic

Mfr.'s Type		Description	No. of Leads
SOIC	PDIP		
SN74HCT652DW	SN74HCT652NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74HCT74D	SN74HCT74N	Dual D-Type Flip-Flop	14

SN74LS: Low Power Schottky TTL Logic

SN74LS00D	SN74LS00N	Quad 2-Input Positive-NAND Gate	14
SN74LS02D	SN74LS02N	Quad 2-Input Positive-NOR Gate	14
SN74LS04D	SN74LS04N	Hex Inverter	14
SN74LS05D	SN74LS05N	Hex Inverter with Open-Collector Outputs	14
SN74LS06D	SN74LS06N	Hex Inverter with Open-Collector Outputs	14
SN74LS07D	SN74LS07N	Hex Buffer with Open-Collector Outputs	14
SN74LS08D	SN74LS08N	Quad 2-Input Positive-AND Gate	14
SN74LS10D	SN74LS10N	Triple 3-Input Positive-NAND Gate	14
SN74LS123D	SN74LS123N	Dual Monostable Multivibrator	16
SN74LS125AD	SN74LS125AN	Quad Bus Buffer Gates with 3-State Outputs	14
SN74LS126AD	SN74LS126AN	Quad Bus Buffer Gates with 3-State Outputs	14
SN74LS132D	SN74LS132N	Quad 2-Input P-NAND Schmitt-Trigger	14
SN74LS137D	SN74LS137N	3-To-8 Decoder/Demux with Address Latch	16
SN74LS138D	SN74LS138N	3-To-8 Decoder/Demultiplexer	16
SN74LS139AD	SN74LS139AN	Dual 2-To-4 Decoder/Demultiplexer	16
SN74LS145D	SN74LS145N	BCD-to-Decimal Decoder/Driver	16
SN74LS146D	SN74LS146N	8-To-3 Line Priority Encoder	16
SN74LS147D	SN74LS147N	Hex Schmitt-Trigger Inverter	14
SN74LS151D	SN74LS151N	8-To-1 Data Selector/Multiplexer	16
SN74LS153D	SN74LS153N	Dual 4-To-1 Data Selector/Multiplexer	16
SN74LS156D	SN74LS156N	Dual 2-To-4 Line Decode/Demux with Open Collector Outputs	16
SN74LS157D	SN74LS157N	Quad 1-Of-2 Data Selector/Multiplexer	16
SN74LS161AD	SN74LS161AN	4-Bit Synchronous Binary Counter	16
SN74LS163AD	SN74LS163AN	4-Bit Synchronous Binary Counter	16
SN74LS164D	SN74LS164N	8-Bit Parallel-Out Serial Shift Register	14
SN74LS165AD	SN74LS165AN	8-Bit Parallel-Load Shift Register	16
SN74LS166AD	SN74LS166AN	8-Bit Parallel-Load Shift Register	16
SN74LS174D	SN74LS174N	Hex D-Type Flip-Flop	16
SN74LS175D	SN74LS175N	Quad D-Type Flip-Flop	16
SN74LS193D	SN74LS193N	4-Bit Synchronous Up/Down Binary Counter	16
SN74LS19AD	SN74LS19AN	Hex Schmitt-Trigger Inverter	14
SN74LS221D	SN74LS221N	Dual Monostable Multivibrator	16
SN74LS224AD	SN74LS224AN	16x4 Synchronous FIFO, 10 MHz	16
SN74LS240DW	SN74LS240N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74LS241DW	SN74LS241N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74LS244DW	SN74LS244N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74LS245DW	SN74LS245N	Octal Bus Transceiver with 3-State Outputs	20
SN74LS251D	SN74LS251N	1-Of-8 Data Selector/Mux with 3-State Outputs	16
SN74LS253D	SN74LS253N	Dual 4-To-1 Data Selector/Mux with 3-State Outputs	16
SN74LS257BD	SN74LS257BN	Quad 2-To-1 Data Selector/Mux with 3-State Outputs	16
SN74LS259BD	SN74LS259BN	8-Bit Addressable Latch	16
SN74LS273DW	SN74LS273N	Octal D-Type Flip-Flop	20
SN74LS280D	SN74LS280N	9-Bit Parity Generator/Checker	14
SN74LS283D	SN74LS283N	4-Bit Binary Full Adder	16
SN74LS292D	SN74LS292N	30-Bit Programmable Counter	16
SN74LS299DW	SN74LS299N	8-Bit Universal Shift/Storage Register	20
SN74LS30D	SN74LS30N	8-Input Positive-NAND Gate	14
SN74LS32D	SN74LS32N	Quad 2-Input Positive-OR Gate	14
SN74LS365AD	SN74LS365AN	Hex Driver with 3-State Outputs	16
SN74LS367AD	SN74LS367AN	Hex Driver with 3-State Outputs	16
SN74LS368AD	SN74LS368AN	Hex Driver with 3-State Outputs	16
SN74LS373DW	SN74LS373N	Octal D-Type Transparent Latch with 3-State Outputs	20
SN74LS374DW	SN74LS374N	Octal D-Type Flip-Flop with 3-State Outputs	20
SN74LS377DW	SN74LS377N	Octal D-Type Flip-Flop with Clock Enable	20
SN74LS378D	SN74LS378N	Hex D-Type Flip-Flop with Clock Enable	16
SN74LS38D	SN74LS38N	Quad 2-Input P-NAND Buffer with Open Collector	14
SN74LS393D	SN74LS393N	Dual 4-Bit Binary Counter	14
SN74LS396D	SN74LS396N	Octal Storage Register	16
SN74LS540DW	SN74LS540N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74LS541DW	SN74LS541N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74LS590D	SN74LS590N	8-Bit Binary Counter with 3-State Outputs	16
SN74LS592D	SN74LS592N	Binary Counter with Input Registers	16
SN74LS593DW	SN74LS593N	8-Bit Binary Counter with 3-State I/O Registers	20
SN74LS595D	SN74LS595N	8-Bit Shift Register with 3-State Outputs	16
SN74LS597D	SN74LS597N	Shift Register with Input Latch	16
SN74LS624D	SN74LS624N	Voltage-Controlled Oscillator	14
SN74LS628D	SN74LS628N	Voltage-Controlled Oscillator	14
SN74LS640-1DW	SN74LS640-1N	Octal Bus Transceiver with 3-State Outputs	20
SN74LS640DW	SN74LS640N	Octal Bus Transceiver with 3-State Outputs	20
SN74LS645-1DW	SN74LS645-1N	Octal Bus Transceiver with 3-State Outputs	20
SN74LS646DW	SN74LS646N	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74LS652DW	SN74LS652NT	Octal Bus Xceiver AND Register with 3-State Outputs	24
SN74LS670D	SN74LS670N	4-Bit Register File	16
SN74LS682D	SN74LS682N	8-Bit Magnitude Comparator	20
SN74LS684DW	SN74LS684N	8-Bit Magnitude Comparator	20
SN74LS688DW	SN74LS688N	8-Bit Identity Comparator	20
SN74LS74AD	SN74LS74AN	Dual D-Type Flip-Flop	14
SN74LS85D	SN74LS85N	4-Bit Magnitude Comparator	14
SN74LS86AD	SN74LS86AN	Quad 2-Input Exclusive-OR Gate	14

SN74S: Schottky TTL Logic

SN74S00D	SN74S00N	Quad 2-Input Positive-NAND Gate	14
—	SN74S02N	Quad 2-Input Positive-NOR Gate	14
SN74S04D	SN74S04N	Hex Inverter	14
SN74S05D	SN74S05N	Hex Inverter with Open-Collector Outputs	14
SN74S1050D	SN74S1050N	12-Bit Schottky Barrier Diode	16
SN74S1051D	SN74S1051N	12-Bit Schottky Barrier Diode	16
SN74S1053DW	SN74S1053N	16-Bit Schottky Barrier Diode	20
SN74S1056D	SN74S1056S*	8-Bit Schottky Barrier Diode	16
SN74S112AD	SN74S112AN	Dual J-K Negative-Edge Flip-Flop	16
SN74S124D	SN74S124N	Dual Voltage-Controlled Oscillators	16
SN74S138AD	SN74S138AN	3-To-8 Decoder/Demultiplexer	16
SN74S163D	SN74S163N	4-Bit Synchronous Binary Counter	16
SN74S175D	SN74S175N	Quad D-Type Flip-Flop	16
—	SN74S225N	16x5 Asynchronous FIFO, 10 MHz	20
SN74S240DW	SN74S240N	Octal Buffer/Line Driver with 3-State Outputs	20
SN74S241DW	SN74S241N	Octal Buffer/Line Driver with 3-State Outputs	20

*Single in line package.

Logic (continued)
SN74S: Schottky TTL Logic

Mfr.'s Type		Description	No. of Leads	Mfr.'s Type		Description	No. of Leads
SOIC	PDIP			SOIC	PDIP		
SN74S244DW	SN74S244N	Octal Buffer/Line Driver with 3-State Outputs	20	SN74S32D	SN74S32N	Quad 2-Input Positive-OR Gate	14
SN74S280D	SN74S280N	9-Bit Parity Generator/Checker	14	SN74S373DW	SN74S373N	Octal D-Type Transparent Latch with 3-State Outputs	20
				SN74S374DW	SN74S374N	Octal D-Type Flip-Flop with 3-State Outputs	20
				SN74S38D	SN74S38N	Quad 2-Input Positive-NAND Buffer with Open Collector Outputs	14
				SN74S74D	SN74S74N	Dual D-Type Flip-Flop	14
				SN74S85D	SN74S85N	4-Bit Magnitude Comparator	16

Bipolar Programmable Logic Devices

Mfr.'s Type		Propagation Delay (ns)	@ I _{CC} (mA)	Max. Clock Frequency (MHz)	No. of I Inputs	No. of 3-State O Outputs	No. of Registered Q Outputs	No. of I/O Ports	No. of Leads
PLCC	PDIP								
TIBPAL16L8-10CFN	TIBPAL16L8-10CN	10.0	180.0	62.5	10.0	2	0	6	20
TIBPAL16L8-15CFN	TIBPAL16L8-15CN	15.0	180.0	50.0	10.0	2	0	6	20
TIBPAL16L8-25CFN	TIBPAL16L8-25CN	25.0	100.0	30.0	10.0	2	0	6	20
TIBPAL16L8-5CFN	TIBPAL16L8-5CN	5.0	180.0	125.0	10.0	2	0	6	20
TIBPAL16L8-7CFN	TIBPAL16L8-7CN	7.5	210.0	100.0	10.0	2	0	6	20
TIBPAL16R4-10CFN	TIBPAL16R4-10CN	10.0	180.0	62.5	8.0	0	4 (3-State Buffers)	4	20
TIBPAL16R4-15CFN	TIBPAL16R4-15CN	15.0	180.0	50.0	8.0	0	4 (3-State Buffers)	4	20
TIBPAL16R4-25CFN	TIBPAL16R4-25CN	24.0	100.0	30.0	8.0	0	4 (3-State Buffers)	4	20
TIBPAL16R4-5CFN	TIBPAL16R4-5CN	5.0	180.0	125.0	8.0	0	4 (3-State Buffers)	4	20
TIBPAL16R4-7CFN	TIBPAL16R4-7CN	7.5	210.0	100.0	8.0	0	4 (3-State Buffers)	4	20
TIBPAL16R6-10CFN	TIBPAL16R6-10CN	10.0	180.0	62.5	8.0	0	6 (3-State Buffers)	2	20
TIBPAL16R6-15CFN	TIBPAL16R6-15CN	15.0	180.0	50.0	8.0	0	6 (3-State Buffers)	2	20
TIBPAL16R6-25CFN	TIBPAL16R6-25CN	25.0	100.0	30.0	8.0	0	6 (3-State Buffers)	2	20
TIBPAL16R6-5CFN	TIBPAL16R6-5CN	5.0	180.0	125.0	8.0	0	6 (3-State Buffers)	2	20
TIBPAL16R6-7CFN	TIBPAL16R6-7CN	7.5	210.0	100.0	8.0	0	6 (3-State Buffers)	2	20
TIBPAL16R8-10CFN	TIBPAL16R8-10CN	10.0	180.0	62.5	8.0	0	8 (3-State Buffers)	0	20
TIBPAL16R8-15CFN	TIBPAL16R8-15CN	15.0	180.0	50.0	8.0	0	8 (3-State Buffers)	0	20
TIBPAL16R8-25CFN	TIBPAL16R8-25CN	25.0	100.0	30.0	8.0	0	8 (3-State Buffers)	0	20
TIBPAL16R8-5CFN	TIBPAL16R8-5CN	5.0	210.0	125.0	8.0	0	8 (3-State Buffers)	0	20
TIBPAL16R8-7CFN	TIBPAL16R8-7CN	7.5	210.0	100.0	8.0	0	8 (3-State Buffers)	0	20
TIBPAL20L8-10CFN	TIBPAL20L8-10CNT	10.0	210.0	71.4	14.0	2	0	6	28
TIBPAL20L8-15CFN	TIBPAL20L8-15CNT	15.0	180.0	45.0	14.0	2	0	6	28
TIBPAL20L8-25CFN	TIBPAL20L8-25CNT	25.0	105.0	33.0	14.0	2	0	6	28
TIBPAL20L8-5CFN	TIBPAL20L8-5CNT	5.0	210.0	125.0	14.0	2	0	6	28
TIBPAL20L8-7CFN	TIBPAL20L8-7CNT	7.5	210.0	100.0	14.0	2	0	6	28
TIBPAL20R4-10CFN	TIBPAL20R4-10CNT	10.0	210.0	71.4	12.0	0	4 (3-State Buffers)	4	28
TIBPAL20R4-15CFN	TIBPAL20R4-15CNT	15.0	180.0	45.0	12.0	0	4 (3-State Buffers)	4	28
TIBPAL20R4-25CFN	TIBPAL20R4-25CNT	25.0	105.0	33.0	12.0	0	4 (3-State Buffers)	4	28
TIBPAL20R4-5CFN	TIBPAL20R4-5CNT	5.0	180.0	125.0	12.0	0	4 (3-State Buffers)	4	28
TIBPAL20R4-7CFN	TIBPAL20R4-7CNT	7.5	210.0	100.0	12.0	0	4 (3-State Buffers)	4	28
TIBPAL20R6-10CFN	TIBPAL20R6-10CNT	10.0	210.0	71.4	12.0	0	6 (3-State Buffers)	2	28
TIBPAL20R6-15CFN	TIBPAL20R6-15CNT	15.0	180.0	45.0	12.0	0	6 (3-State Buffers)	2	28
—	TIBPAL20R6-25CNT	25.0	105.0	33.0	12.0	0	6 (3-State Buffers)	2	24
TIBPAL20R6-5CFN	TIBPAL20R6-5CNT	5.0	180.0	125.0	12.0	0	6 (3-State Buffers)	2	28
TIBPAL20R6-7CFN	TIBPAL20R6-7CNT	7.5	210.0	100.0	12.0	0	6 (3-State Buffers)	2	28
—	TIBPAL20R8-10CNT	10.0	210.0	71.4	12.0	0	8 (3-State Buffers)	0	24
TIBPAL20R8-15CFN	TIBPAL20R8-15CNT	15.0	180.0	45.0	12.0	0	8 (3-State Buffers)	0	24
—	TIBPAL20R8-25CNT	25.0	105.0	33.0	12.0	0	8 (3-State Buffers)	0	24
TIBPAL20R8-5CFN	TIBPAL20R8-5CNT	5.0	210.0	125.0	12.0	0	8 (3-State Buffers)	0	28
TIBPAL20R8-7CFN	TIBPAL20R8-7CNT	7.5	210.0	100.0	12.0	0	8 (3-State Buffers)	0	28
TIBPAL22V10-10CFN	TIBPAL22V10-10CNT	10.0	210.0	71.0	11.0	0	10 (3-State Buffers)	10	28
TIBPAL22V10-15BCFN	TIBPAL22V10-15BCNT	15.0	180.0	60.0	11.0	0	10 (3-State Buffers)	10	28
TIBPAL22V10ACFN	TIBPAL22V10ACNT	25.0	180.0	28.5	11.0	0	10 (3-State Buffers)	10	28
—	TIBPAL22VP10-20CNT	20.0	210.0	37.0	11.0	0	10 (3-State Buffers)	10	24

Programmable Read Only Memory
TMS27C: CMOS EPROMs

Mfr.'s Type	Density	Organization (Words × Bits)	Maximum Access Time (ns)	Power Supply/Percent Tolerance (+V/±%)	Maximum Power Dissipation		Temperature Range (°C)	Package Type
					Active (mW)	Standby (mW)		
TMS27C128-120JL	128 K	16 K × 8	120	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C128-12JL	128 K	16 K × 8	120	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C128-15JL	128 K	16 K × 8	150	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C128-1JL	128 K	16 K × 8	170	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C128-20JL	128 K	16 K × 8	200	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C128-2JL	128 K	16 K × 8	200	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C128-25JL	128 K	16 K × 8	250	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C128JL	128 K	16 K × 8	250	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-10JL	256 K	32 K × 8	100	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-120JL	256 K	32 K × 8	120	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-12JL	256 K	32 K × 8	120	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-150JL	256 K	32 K × 8	150	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-15JL	256 K	32 K × 8	150	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-17JL	256 K	32 K × 8	170	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-1JL	256 K	32 K × 8	170	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-20JL	256 K	32 K × 8	200	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-2JE	256 K	32 K × 8	200	5/5	165	1.40	-40 to +85	28 Lead CERDIP
TMS27C256-2JL	256 K	32 K × 8	200	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256-25JL	256 K	32 K × 8	250	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C256JL	256 K	32 K × 8	250	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-10JL	512 K	64 K × 8	100	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-120JL	512 K	64 K × 8	120	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-12JE	512 K	64 K × 8	120	5/10	165	1.40	-40 to +85	28 Lead CERDIP
TMS27C512-12JL	512 K	64 K × 8	120	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-150JE	512 K	64 K × 8	150	5/5	165	1.40	-40 to +85	28 Lead CERDIP
TMS27C512-150JL	512 K	64 K × 8	150	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-15JL	512 K	64 K × 8	150	5/10	165	1.40	0 to 70	28 Lead CERDIP

Programmable Read Only Memory (continued)

TMS27C: CMOS EPROMs (continued)

Mfr.'s Type	Density	Organization (Words × Bits)	Maximum Access Time (ns)	Power Supply/Percent Tolerance (+V/±%)	Maximum Power Dissipation		Temperature Range (°C)	Package Type
					Active (mW)	Standby (mW)		
TMS27C512-1JE	512 K	64 K × 8	170	5/5	165	1.40	-40 to +85	28 Lead CERDIP
TMS27C512-1JL	512 K	64 K × 8	170	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-20JL	512 K	64 K × 8	200	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-2JL	512 K	64 K × 8	200	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512-25JL	512 K	64 K × 8	250	5/10	165	1.40	0 to 70	28 Lead CERDIP
TMS27C512JE	512 K	64 K × 8	250	5/5	165	1.40	-40 to +85	28 Lead CERDIP
TMS27C512JL	512 K	64 K × 8	250	5/5	165	1.40	0 to 70	28 Lead CERDIP
TMS27C010A-10JL	1024 K	128 K × 8	100	5/10	165	0.55	0 to 70	32 Lead CERDIP
TMS27C010A-12JL	1024 K	128 K × 8	120	5/10	165	0.55	0 to 70	32 Lead CERDIP
TMS27C010A-15JL	1024 K	128 K × 8	150	5/10	165	0.55	0 to 70	32 Lead CERDIP
TMS27C010A-20JL	1024 K	128 K × 8	200	5/10	165	0.55	0 to 70	32 Lead CERDIP
TMS27C210A-12JE	1024 K	64 K × 16	120	5/10	165	0.55	-40 to +85	32 Lead CERDIP
TMS27C210A-12JL	1024 K	64 K × 16	120	5/10	165	0.55	0 to 70	40 Lead CERDIP
TMS27C210A-15JL	1024 K	64 K × 16	150	5/10	165	0.55	0 to 70	40 Lead CERDIP
TMS27C020-12JL	2048 K	256 K × 8	120	5/10	165	0.55	0 to 70	32 Lead CERDIP
TMS27C020-15JL	2048 K	256 K × 8	150	5/10	165	0.55	0 to 70	32 Lead CERDIP
TMS27C040-10JL	2048 K	512 K × 8	100	5/10	275	0.55	0 to 70	32 Lead CERDIP
TMS27C040-12JE	4096 K	512 K × 8	120	5/10	275	0.55	-40 to +85	32 Lead CERDIP
TMS27C040-12JL	4096 K	512 K × 8	120	5/10	275	0.55	0 to 70	32 Lead CERDIP
TMS27C040-15JE	4096 K	512 K × 8	150	5/10	275	0.55	-40 to +85	32 Lead CERDIP
TMS27C040-15JL	4096 K	512 K × 8	150	5/10	275	0.55	0 to 70	32 Lead CERDIP
TMS27C240-10JL	4096 K	256 K × 16	100	5/10	275	0.55	0 to 70	40 Lead CERDIP
TMS27C240-12JL	4096 K	256 K × 16	120	5/10	275	0.55	0 to 70	40 Lead CERDIP
TMS27C240-15JL	4096 K	256 K × 16	150	5/10	275	0.55	0 to 70	40 Lead CERDIP

TMS28F: CMOS Flash EEPROMs

TMS28F512A-10C4FML	512 K	64 K × 8	100	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS28F512A-12C4FML	512 K	64 K × 8	120	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS28F512A-15C4FML	512 K	64 K × 8	150	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS28F010A-10C4FML	1024 K	128 K × 8	100	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS28F010A-12C4FML	1024 K	128 K × 8	120	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS28F010A-15C4FME	1024 K	128 K × 8	150	5/10	165	0.55	-40 to +85	32 Lead PLCC
TMS28F010A-15C4FML	1024 K	128 K × 8	150	5/10	165	0.55	0 to 70	32 Lead PLCC

TMS27PC: CMOS One-Time-Programmable PROMs

TMS27PC256-12FML	256 K	32 K × 8	120	5/10	165	1.40	0 to 70	32 Lead PLCC
TMS27PC256-1FML	256 K	32 K × 8	170	5/5	165	1.40	0 to 70	32 Lead PLCC
TMS27PC256-20FML	256 K	32 K × 8	200	5/10	165	1.40	0 to 70	32 Lead PLCC
TMS27PC256-2FML	256 K	32 K × 8	200	5/5	165	1.40	0 to 70	32 Lead PLCC
TMS27PC256-2N1L	256 K	32 K × 8	200	5/5	165	1.40	0 to 70	28 Lead PDIP
TMS27PC256N1L	256 K	32 K × 8	250	5/5	165	1.40	0 to 70	28 Lead PDIP
TMS27PC512-10FML	512 K	64 K × 8	100	5/10	165	1.40	0 to 70	32 Lead PLCC
TMS27PC512-120FML	512 K	64 K × 8	120	5/5	165	1.40	0 to 70	32 Lead PLCC
TMS27PC512-12FML	512 K	64 K × 8	120	5/10	165	1.40	0 to 70	32 Lead PLCC
TMS27PC512-12N1L	512 K	64 K × 8	120	5/10	165	1.40	0 to 70	28 Lead PDIP
TMS27PC512-150FML	512 K	64 K × 8	150	5/5	165	1.40	0 to 70	32 Lead PLCC
TMS27PC512-150N1L	512 K	64 K × 8	150	5/5	165	1.40	0 to 70	28 Lead PDIP
TMS27PC512-15N1L	512 K	64 K × 8	150	5/10	165	1.40	0 to 70	28 Lead PDIP
TMS27PC512-20FML	512 K	64 K × 8	200	5/5	165	1.40	0 to 70	32 Lead PLCC
TMS27PC512-20N1L	512 K	64 K × 8	200	5/10	165	1.40	0 to 70	28 Lead PDIP
TMS27PC512-2FML	512 K	64 K × 8	200	5/5	165	1.40	0 to 70	32 Lead PLCC
TMS27PC512-2N1L	512 K	64 K × 8	200	5/5	165	1.40	0 to 70	28 Lead PDIP
TMS27PC512FML	512 K	64 K × 8	250	5/5	165	1.40	0 to 70	32 Lead PLCC
TMS27PC512N1L	512 K	64 K × 8	250	5/5	165	1.40	0 to 70	28 Lead PDIP
TMS27PC010A-12FML	1024 K	128 K × 8	120	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS27PC010A-15FML	1024 K	128 K × 8	150	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS27PC010A-20FML	1024 K	128 K × 8	200	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS27PC210A-12FNL	1024 K	64 K × 16	120	5/10	165	0.55	0 to 70	44 Lead PDIP
TMS27PC210A-15FNL	1024 K	64 K × 16	150	5/10	165	0.55	0 to 70	44 Lead PDIP
TMS27PC020-15FME	2048 K	256 K × 8	150	5/10	165	0.55	-40 to +85	32 Lead PLCC
TMS27PC020-15FML	2048 K	256 K × 8	150	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS27PC020-20FML	2048 K	256 K × 8	200	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS27PC040-10FML	4096 K	512 K × 8	100	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS27PC040-12FML	4096 K	512 K × 8	120	5/10	165	0.55	0 to 70	32 Lead PLCC
TMS27PC040-15FML	4096 K	512 K × 8	150	5/10	165	0.55	0 to 70	32 Lead PLCC

Digital Signal Processors

TMS320C1X: First Generation 16-Bit Digital Signal Processors, Fixed Point

Mfr.'s Type	Operating Frequency (MHz)	Memory			Peripherals			Temperature Range (°C)	No. of Leads
		On Chip		Off Chip (K Bytes)	Parallel	Serial	On-Chip Timer		
TMS320C10NL	20	144	1.5	4	8 × 16	—	—	0 to +70	40
TMS320C10NL-14	14	144	1.5	4	8 × 16	—	—	0 to +70	40

TMS320C2X: Second Generation 16-Bit Digital Signal Processors, Fixed Point

Mfr.'s Type		Operating Frequency (MHz)	Memory			Peripherals			Temperature Range (°C)	No. of Leads
			On Chip		Off Chip (K Bytes)	Parallel	Serial	On-Chip Timer		
PLCC	CPGA		RAM (Bytes)	ROM (Bytes)						
TMS320C25FNL	TMS320C25GBL	40	544	4 K	128	16 × 16	1	1	0 to +70	68
TMS320C25FNL33	—	33	544	4 K	128	16 × 16	1	1	0 to +70	68
TMS320C25FNL50	—	50	544	4 K	128	16 × 16	1	1	0 to +70	68
TMS320C26BFN	—	40	1.5 K	256	128	16 × 16	1	1	0 to +85	68

Digital Signal Processors (continued)
TMS320C3X: Third Generation 16-Bit Digital Signal Processors, Floating Point Matrix

Mfr.'s Type		Operating Frequency (MHz)	On Chip Memory		Memory Space	Cache	Memory I/F	I/O			Temperature Range (°C)	No. of Leads
CPGA	PQFP		RAM	ROM				TIMER	Com.	DMA		
TMS320C30GEL	—	33	2 K × 32	4 K × 32	16 M × 32	64 × 32	2	2	2 Serial	1	0 to +70	181
TMS320C30GEL27	—	27	2 K × 32	4 K × 32	16 M × 32	64 × 32	2	2	2 Serial	1	0 to +70	181
TMS320C30GEL40	—	40	2 K × 32	4 K × 32	16 M × 32	64 × 32	2	2	2 Serial	1	0 to +70	181
—	TMS320C31PQA	33	2 K × 32	Boot	16 M × 32	64 × 32	1	2	1 Serial	1	0 to +85	132
—	TMS320C31PQL	33	2 K × 32	Boot	16 M × 32	64 × 32	1	2	1 Serial	1	0 to +70	132
—	TMS320C31PQL27	27	2 K × 32	Boot	16 M × 32	64 × 32	1	2	1 Serial	1	0 to +70	132
—	TMS320C31PQL40	40	2 K × 32	Boot	16 M × 32	64 × 32	1	2	1 Serial	1	0 to +70	132
—	TMS320C31PQL50	50	2 K × 32	Boot	16 M × 32	64 × 32	1	2	1 Serial	1	0 to +70	132

TMS320C4X: Fourth Generation 16-Bit Digital Signal Processors, Floating Point Matrix

Mfr.'s Type		Operating Frequency (MHz)	On Chip Memory		Memory Space	Cache	Memory I/F	I/O			Temperature Range (°C)	No. of Leads
PGA			RAM	ROM				Timer	Com.	DMA		
TMS320C40GFL40	—	40	2 K × 32	Boot	4 G × 32	128 × 32	2	2	6 Parallel	6	0 to +70	325
TMS320C40GFL50	—	50	2 K × 32	Boot	4 G × 32	128 × 32	2	2	6 Parallel	6	0 to +70	325

TMS320BC5X: Fifth Generation 16-Bit Digital Signal Processors, Fixed Point with Boot ROM

Mfr.'s Type		Operating Frequency (MHz)	Memory			Peripherals			Temperature Range (°C)	No. of Leads
			On Chip		Off Chip (K Bytes)	Parallel	Serial	On-Chip Timer		
PQFP	TQFP									
TMS320BC51PQ	TMS320BC51PZ	40	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320BC51PQ57	TMS320BC51PZ57	57	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320BC51PQ80	TMS320BC51PZ80	80	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320BC51PQA	TMS320BC51PZA	40	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320BC51PQA57	—	57	2 K	8 K	192	64 K × 16	2	1	-40 to +85	132
TMS320BC51PQA80	—	80	2 K	8 K	192	64 K × 16	2	1	-40 to +85	132
TMS320BC52PJ	TMS320BC52PZ	40	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
TMS320BC52PJ57	TMS320BC52PZ57	57	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
TMS320BC52PJ80	TMS320BC52PZ80	80	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
TMS320BC52PJA	TMS320BC52PZA	40	1 K	4 K	192	64 K × 16	1	1	-40 to +85	100
TMS320BC52PJA57	TMS320BC52PZA57	57	1 K	4 K	192	64 K × 16	1	1	-40 to +85	100
TMS320BC53PQ	—	40	4 K	16 K	192	64 K × 16	2	1	0 to +85	132
TMS320BC53PQ57	—	57	4 K	16 K	192	64 K × 16	2	1	0 to +85	132
TMS320BC53PQ80	—	80	4 K	16 K	192	64 K × 16	2	1	0 to +85	132
TMS320BC53PQA	—	40	4 K	16 K	192	64 K × 16	2	1	-40 to +85	132

TMS320C5X: Fifth Generation 16-Bit Digital Signal Processors, Fixed Point

TMS320C50PQ	—	40	20 K	2 K	192	64 K × 16	2	1	0 to +85	132
TMS320C50PQ57	—	57	20 K	2 K	192	64 K × 16	2	1	0 to +85	132
TMS320C50PQ80	—	80	20 K	2 K	192	64 K × 16	2	1	0 to +85	132
TMS320C50PQA	—	40	20 K	2 K	192	64 K × 16	2	1	-40 to +85	132
TMS320C51PQ	TMS320C51PZ	40	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320C51PQ57	TMS320C51PZ57	57	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320C51PQ80	TMS320C51PZ80	80	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320C51PQA	TMS320C51PZA	40	2 K	8 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320C51PQA57	—	57	2 K	8 K	192	64 K × 16	2	1	-40 to +85	132
TMS320C51PQA80	—	80	2 K	8 K	192	64 K × 16	2	1	-40 to +85	132
TMS320C52PJ	TMS320C52PZ	40	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
TMS320C52PJ57	TMS320C52PZ57	57	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
TMS320C52PJ80	TMS320C52PZ80	80	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
TMS320C52PJA	TMS320C52PZA	40	1 K	4 K	192	64 K × 16	1	1	-40 to +85	100
TMS320C52PJA57	TMS320C52PZA57	57	1 K	4 K	192	64 K × 16	1	1	-40 to +85	100
TMS320C53PQ	TMS320C53PZ	40	4 K	16 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320C53PQ57	TMS320C53PZ57	57	4 K	16 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320C53PQ80	TMS320C53PZ80	80	4 K	16 K	192	64 K × 16	2	1	0 to +85	132/100
TMS320C53PQA	—	40	4 K	16 K	192	64 K × 16	2	1	-40 to +85	132

TMS320LBC5X: 3.3 V Fifth Generation 16-Bit Digital Signal Processors, Fixed Point

Mfr.'s Type		Operating Frequency (MHz)	Memory			Peripherals			Temperature Range (°C)	No. of Leads
PQFP	TQFP		On Chip		Off Chip (K Bytes)	Parallel	Serial	On-Chip Timer		
			RAM (Bytes)	ROM (Bytes)						
—	TMS320LBC51PZ	40	2 K	8 K	192	64 K × 16	2	1	0 to +85	100
—	TMS320LBC51PZ50	50	2 K	8 K	192	64 K × 16	2	1	0 to +85	100
TMS320LBC52PJ	—	40	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
—	TMS320LBC52PZ50	50	1 K	4 K	192	64 K × 16	1	1	0 to +85	100

TMS320LC5X: 3.3 V Fifth Generation 16-Bit Digital Signal Processors, Fixed Point

TMS320LC50PQ	—	40	20 K	2 K	192	64 K × 16	2	1	0 to +85	132
TMS320LC50PQ50	—	50	20 K	2 K	192	64 K × 16	2	1	0 to +85	132
—	TMS320LC51PZ	40	2 K	8 K	192	64 K × 16	2	1	0 to +85	100
—	TMS320LC52PZ	40	1 K	4 K	192	64 K × 16	1	1	0 to +85	100
—	TMS320LC52PZA	40	1 K	4 K	192	64 K × 16	1	1	-40 to +85	100
—	TMS320LC53SPZ	80	4 K	16 K	192	64 K × 16	2	1	0 to +85	100

Digital Signal Processors (continued)

TMS320PXX: One Time Programmable 16-Bit Digital Signal Processors, Fixed Point

Mfr.'s Type		Operating Frequency (MHz)	Memory On Chip			Peripherals			Temperature Range (°C)	No. of Leads
PLCC	PDIP		RAM (Bytes)	ROM (Bytes)	EPROM (Bytes)	Parallel	Serial	On-Chip Timer		
TMS320P14FNL	—	25	256	—	4 K	7 × 16	1	4	0 to +70	68
—	TMS320P15NL	20	256	—	4 K	8 × 16	—	—	0 to +70	40
TMS320P17FNL	TMS320P17NL	20	256	—	4 K	6 × 16	2	1	0 to +70	44/40
TMS320P25FNL	—	40	544	—	4 K	16 × 16	1	—	0 to +70	68

Telecommunication Circuits

Mfr.'s Type		Description	Function	Technology	Supply Voltage (V)	Product Features	No. of Leads
SOIC	PDIP						
TCM129C13ADW	—	PCM Interface	COMBO	CMOS	±5	Synchronous, μ -Law, A-Law Coding, Variable Data Rate Fixed Data Rate, 1.536 MHz, 1.544 MHz, 2.048 MHz	20
TCM129C13DW	—	PCM Interface	COMBO	CMOS	±5	Synchronous, μ -Law, A-Law Coding, Variable Data Rate Fixed Data Rate, 1.536 MHz, 1.544 MHz, 2.048 MHz	20
TCM29C14ADW	—	PCM Interface	COMBO	CMOS	±5	Synchronous/Asynchronous, μ -Law, A-Law Coding, 8-Bit Signaling, Variable Data Rate, Fixed Data Rate 1.536 MHz, 1.544 MHz, 2.048 MHz	24
—	TCM29C16AN	PCM Interface	COMBO	CMOS	±5	Synchronous, μ -Law, Variable Data Rate Fixed Data Rate, 2.048 MHz	16
TCM29C16DW	TCM29C16N	PCM Interface	COMBO	CMOS	±5	Synchronous, μ -Law, Variable Data Rate Fixed Data Rate, 2.048 MHz	16
—	TCM1501BP	Ringers	Telephone Tone Ringer Driver	BIDFET	40 - 150 VAC	Output Center Frequency: 2000 Hz	8
—	TCM1520AP	Ring Detector	TTL/MOS Output	BIDFET	40 - 150 VAC	TTL/MOS Output, Transient Protection	8
TCM3105DW	TCM3105NL	Modem	Bell 202/CCITT V.23	CMOS	5	Asynchronous Half Duplex Operation up to 1200 Baud Full Duplex Operation 1200/150 Baud, Reversible	16

Analog To Digital Converters

Mfr.'s Type			Conversion Function	Address and Data I/O Format	Signal Inputs		Resolution (Bits)	Unadjusted Error ($\pm$ LSB Max.)	Power Dissipation (mW)	Conversion Speed (μ s)	No. of Leads
SOIC	PLCC	PDIP			Analog Dedicated	Analog Digital					
TLC0820ACDW	TLC0820ACFN	TLC0820ACN	Modified Flash	Parallel	1 Differential	0	8	1.0	35	1	20
TLC1541CDW	TLC1540CFN	TLC1540CN	Successive Approximation	Serial	11	0	10	0.5	6	31	20
TLC1542CDW	TLC1541CFN	TLC1541CN	Successive Approximation	Serial	11	0	10	1.0	6	31	20
TLC1543CDW	TLC1542CFN	TLC1542CN	Successive Approximation	Serial	11	0	10	0.5	6	31	20
TLC542CDW	—	TLC1543CN	Successive Approximation	Serial	11	0	10	1.0	6	31	20
TLC549CDW	—	TLC542CN	Successive Approximation	Serial	8	0	8	0.5	10	40	20
—	—	TLC549CP	Successive Approximation	Serial	1	0	8	0.5	6	25	8
—	—	TLC7135CN	Dual Slope Integrating	Muxed BCD, 4.5 Digits	1 Differential	0	4.5 Digits	0.5	—	35	28

Digital To Analog Converters

Mfr.'s Type	Transfer Characteristics	Dynamic Range (Bits)	Resolution (Bits)	Sampling Rate (MHz)	On-Board Filters	Package Type
AD7524AN	Linear	8	8	5	No	16 Lead PDIP
AD7524JN	Linear	8	8	5	No	16 Lead PDIP
AD7528KN	Linear	8	8	5, Dual D/A	No	20 Lead PDIP
TLC7528CDW	Linear	8	8	5, Dual D/A	No	20 Lead SOIC
TLC7528CFN	Linear	8	8	5, Dual D/A	No	20 Lead PLCC
TLC7528CN	Linear	8	8	5, Dual D/A	No	20 Lead PDIP

Analog Interface For Digital Signal Processors

Mfr.'s Type		Function	Transfer Characteristics	Dynamic Range (Bits)	Resolution (Bits)	Sampling Rate	On-Board Filters	No. of Leads
PLCC	PDIP							
TLC32040CFN	TLC32040CN	High Performance Combo	Linear	14	14	16 kHz Programmable	Yes Programmable	28
TLC32041CFN	TLC32041CN	High Performance Combo	Linear	14	14	16 kHz Programmable	Yes Programmable	28
TLC32044CFN	TLC32044CN	Voiceband AIC	Linear	14	14	16 kHz	Yes	28
TLC32046CFN	TLC32046CN	Voiceband AIC	Linear	14	14	25 kHz	Yes	28
TLC32047CFN	TLC32047CN	Voiceband AIC	Linear	14	14	25 kHz	Yes	28

Interface Circuits

General Purpose Drivers

Mr.'s Type		Maximum Switching Voltage (V)	Maximum Off-State Voltage (V)	Output Current (mA)	Drivers Per Package	Output Clamp Diodes	Input Capability	Function	Delay Time Typ. (ns)	No. of Leads
SOIC	PDIP									
SN75372D	SN75372P	24	24	500	2	Yes	TTL	MOS Driver	35	8
SN75374D	SN75374N	24	24	500	2	Yes	TTL	MOS Driver	35	16
—	SN75451BP	20	30	300	2	No	TTL	AND	18	8
SN75452BD	SN75452BP	20	30	300	2	No	TTL	NAND	25	8
—	SN75453BP	20	30	300	2	No	TTL	OR	18	8
SN75454BD	SN75454BP	20	30	300	2	No	TTL	NOR	26	8
—	SN75462P	30	35	300	2	No	TTL	NAND	38	8
SN75463D	SN75463P	30	35	300	2	No	TTL	OR	28	8
—	SN75437ANE	35	70	500	4	Yes	TTL, CMOS	Inverting with Enable	1050	16
SN75471D	SN75471P	55	70	300	2	No	TTL	AND	28	8
SN75472P	—	55	70	300	2	No	TTL	NAND	38	8
SN75477D	SN75477P	55	70	300	2	Yes	TTL, CMOS	NAND	200	8

Line Drivers

Mr.'s Type		Application	Output	Drivers Per Pkg.	No. of Leads
SOIC	PDIP				
—	MC1488N	EIA Standard RS-232-C	Single-Ended	4	14
SN65C188D	SN65C188N	EIA Standard RS-232-C	Single-Ended	4	14
SN75150D	SN75150P	EIA Standard RS-232-C	Single-Ended	2	8
SN75188D	SN75188N	EIA Standard RS-232-C	Single-Ended	4	14
SN75C188D	SN75C188N	EIA Standard RS-232-C	Single-Ended	4	14
AM26C31CD	AM26C31CN	EIA Standard RS-422-A	Differential	4	16
AM26LS31CD	AM26LS31CN	EIA Standard RS-422-A	Differential	4	16
MC3487D	MC3487N	EIA Standard RS-422-A	Differential	4	16
SN75158D	SN75158P	EIA Standard RS-422-A	Differential	2	8
SN75159D	SN75159N	EIA Standard RS-422-A	Differential	2	8
—	SN75172N	EIA Standard RS-422-A	Differential	4	16
SN75174DW	SN75174N	EIA Standard RS-422-A	Differential	4	16
SN75ALS192D	SN75ALS192N	EIA Standard RS-422-A	Differential	4	16
—	SN75ALS194N	EIA Standard RS-422-A	Differential	4	16
UA9636ACD	UA9636ACP	EIA Standard RS-422-A	Differential	2	8
—	SN75110AN	EIA Standard RS-423-A	Single-Ended	2	8
SN75112D	SN75112N	General Purpose	Differential	2	14
SN75113D	SN75113N	General Purpose	Differential	2	14
SN75114D	SN75114N	General Purpose	Differential	2	16
—	SN75126N	IBM 360/370	Single-Ended	4	16
SN75130D	SN75130N	IBM 360/370	Single-Ended	4	16

Line Receivers (continued)

Mr.'s Type		Application	Output	Drivers Per Pkg.	No. of Leads
SOIC	PDIP				
AM26LS33ACD	AM26LS33ACN	General Purpose	Differential	4	16
SN75107AD	SN75107AN	General Purpose	Differential	2	14
SN75107BD	SN75107BN	General Purpose	Differential	2	14
SN75108BD	SN75108BN	General Purpose	Differential	2	14
—	SN75115N	General Purpose	Differential	2	16
—	SN75207BN	General Purpose	Differential	2	14
—	SN75128N	IBM 360/370	Single-Ended	8	20
SN75129DW	SN75129N	IBM 360/370	Single-Ended	8	20

Line Transceivers

SN75160BDW	SN75160BN	EIA Standard 488 GPIB	Single-Ended	8	20
—	SN75161BN	EIA Standard 488 GPIB	Single-Ended	8	20
—	SN75162BN	EIA Standard 488 GPIB	Single-Ended	8	22
SN75ALS160DW	SN75ALS160N	EIA Standard 488 GPIB	Single-Ended	8	20
MAX232DW	—	EIA Standard RS-232-C	Single-Ended	2/2	16
MAX232D	—	EIA Standard RS-232-C	Single-Ended	2/2	16
SN75155D	SN75155P	EIA Standard RS-232-C	Single-Ended	1	8
SN75C185DW	SN75C185N	EIA Standard RS-232-C	Single-Ended	3/5	20
SN65176BD	SN65176BP	EIA Standard RS-422-C & RS-485	Differential	1	8
—	SN65ALS176P	EIA Standard RS-422-C & RS-485	Differential	1	8
SN65ALS180D	—	EIA Standard RS-422-C & RS-485	Differential	1/1	14
SN75176AD	SN75176AP	EIA Standard RS-422-C & RS-485	Differential	1	8
SN75176BD	SN75176BP	EIA Standard RS-422-C & RS-485	Differential	1	8
—	SN75178BP	EIA Standard RS-422-C & RS-485	Differential	1	8
SN75179BD	SN75179BP	EIA Standard RS-422-C & RS-485	Differential	1	8
SN75ALS170DW	SN75ALS170J*	EIA Standard RS-422-C & RS-485	Differential	3	14
SN75ALS171DW	SN75ALS171J*	EIA Standard RS-422-C & RS-485	Differential	3	14
SN75ALS176AD	SN75ALS176AP	EIA Standard RS-422-C & RS-485	Differential	1	8
SN75ALS176BD	SN75ALS176BP	EIA Standard RS-422-C & RS-485	Differential	1	8
SN75ALS176D	SN75ALS176P	EIA Standard RS-422-C & RS-485	Differential	1	8
SN75ALS180D	SN75ALS180N	EIA Standard RS-422-C & RS-485	Differential	1/1	14
TL3695D	TL3695P	EIA Standard RS-422-C & RS-485	Differential	1	8
—	AM26S10CN	General Purpose	Single-Ended	4	16
—	SN75116N	General Purpose	Differential	1	16
—	SN75117P	General Purpose	Differential	1	8
—	SN75118N	General Purpose	Differential	1	16
—	SN75119P	General Purpose	Differential	1	8
—	SN75138N	General Purpose	Single-Ended	4	16
SN751730D	SN751730N	IBM 360/370	Single-Ended	3/3	16
—	SN75ALS085NT	IEEE 802.3 10BASE5	Differential	2/2	24
SN75ALS056DW	SN75ALS056N	IEEE Std. 896.1-1987	Single-Ended	8	20

*Ceramic DIP

Vacuum Fluorescent Display Drivers

Anode Grid Drivers; Segment or Dot Matrix Formats

Mr.'s Type		Drivers Per Package	Architecture	Outputs	Current Source Output (mA)	Input Capability	Power Supply	Features	No. of Leads
SOIC	PDIP								
—	SN75512CN	12	Serial In/Parallel Out	60 V Totem-Pole	25 mA	TTL	V _{CC1} (Logic) = 5 V-15 V, V _{CC2} (Display) = 0 V-60 V	On-board Latches	20
—	SN75513BN	12	Serial In/Parallel Out	60 V Totem-Pole	25 mA	TTL	V _{CC1} (Logic) = 5 V-15 V, V _{CC2} (Display) = 0 V-60 V	Shift Register	20
SN75518FN*	SN75518N	32	Serial In/Parallel Out	60 V Totem-Pole	40 mA	CMOS, TTL	V _{CC1} (Logic) = 5 V-15 V, V _{CC2} (Display) = 0 V-60 V	32-Bit, On-board Latches	44/40
TL4810BDW	TL4810BN	10	Serial In/Parallel Out	60 V Totem-Pole	25 mA	CMOS	V _{CC1} (Logic) = 5 V-15 V, V _{CC2} (Display) = 0 V-60 V	Improved Direct Replacement for TL4810A and UCN4810A	18
TL5812FN*	TL5812N	20	Drives Up To 20 Lines	70 V Voltage Swing	—	CMOS	V _{CC1} (Logic) = 5 V-15 V, V _{CC2} (Display) = 0 V-60 V	—	28

*PLCC Package.

Asynchronous Communication Elements (UARTs)

Mr.'s Type		Function	Features	Temperature Range (°C)	No. of Leads
PLCC	PDIP				
TL16C450FN	TL16C450N	Single ACE without FIFO	Programmable Baud Generation	0 to +70	44
TL16C451FN	—	Single ACE with Parallel Port and without FIFO	Programmable Interface Characteristics	0 to +70	68
TL16C452FN	—	Dual ACE with Parallel Port and without FIFO	Programmable Interface Characteristics	0 to +70	68
TL16C550AFN	TL16C550AN	Single ACE with FIFO	Functional Upgrade of the 16C450	0 to +70	44
TL16C550BFN	TL16C550BN	Single ACE with FIFO	Functional Upgrade of the 16C450	0 to +70	40
TL16C552FN	—	Dual ACE with Centronic Port	—	0 to +70	68

Interface Circuits (continued)

Transistor Arrays, General Purpose Drivers

Mfr.'s Type		Function	Input Capability	Switching Voltage Max. (V)	Off-State Current Max. (V)	Output Current (mA)	Drivers Per Package	Output Clamp Diodes	Delay Time Typ. (ns)	No. of Leads
SOIC	PDIP									
SN75468D	SN75468N	Inverting	TTL, CMOS	60	100	350	7	Yes	250	16
ULN2002AD	ULN2002AN	Inverting	TTL, CMOS	50	50	350	7	Yes	250	16
ULN2003AD	ULN2003AN	Inverting	15 V MOS	50	50	350	7	Yes	250	16
ULN2004AD	ULN2004AN	Inverting	TTL	50	50	350	7	Yes	250	16

Motor Drivers

Mfr.'s Type	Function	Input Capability	Switching Voltage Max. (V)	Off-State Current Max. (V)	Output Current (mA)	Drivers Per Package	Output Clamp Diodes	No. of Leads
L293DNE	Half-H Driver	TTL	36	36	600	4	Yes	16
L293NE	Half-H Driver	TTL	36	36	1000	4	No	16
SN754410NE	Half-H Driver	TTL, CMOS	36	36	1000	4	Yes	16

Comparators

Mfr.'s Type		Type	Features	Power Supply		V _{IO} Max. (mV)	I _{IS} Max. (μA)	I _{OL} Min. (mA)	Response Time Typ. (ns)	Temperature Range (°C)	No. of Leads
SOIC	PDIP			V _{CC} (V)	V _{CC} (V)						
LM211D	LM211P	Single	Strobe	4-30	0	3.0	0.1	8	115	-25 to +85	8
LM306D	LM306P	Single	Strobe	12	-6	5.0	40	100	28	0 to +70	8
LM311D	LM311P	Single	Strobe	4-30	0	7.5	0.25	8	115	-25 to +85	8
LP211D	LP211P	Single	Low Power, Strobe	4-30	0	7.5	0.1	1.6	1200	-25 to +85	8
LP311D	LP311P	Single	Low Power, Strobe	4-30	0	7.5	0.1	1.6	1200	0 to +70	8
TL712CD	TL712CP	Single	Output Enable	5	0	±1.0	—	Max. 16	25	0 to +70	8
LM2903D	LM2903P	Dual	Low Power, Bipolar	4-30	0	7.0	0.25	6	300	-40 to +125	8
LM293D	LM293P	Dual	Low Power, Bipolar	4-30	0	5.0	0.25	6	300	-25 to +85	8
LM393AD	LM393AP	Dual	Precision Input	4-30	0	2.0	0.25	6	300	0 to +70	8
LM393D	LM393P	Dual	Low Power, Bipolar	4-30	0	5.0	0.25	6	300	0 to +70	8
TLC352CD	TLC352CP	Dual	Ultra Low Supply, LinCMOS	1.4-18	0	10.0	5 pA Typ.	6	200	0 to +70	8
TLC3702CD	TLC3702CP	Dual	Push-Pull Output, CMOS	3-18	0	5.0	5 pA Typ.	4	1300	0 to +70	8
TLC372CD	TLC372CP	Dual	High Speed, LinCMOS	3-16	0	5.0	5 pA Typ.	6	200	0 to +70	8
TLC393CD	TLC393CP	Dual	Open Drain Output, CMOS	3-18	0	5.0	5 pA Typ.	6	1100	0 to +70	8
—	LM239N	Quad	Low Power, Bipolar	4-30	0	5.0	-25	6	300	-25 to +85	14
LM2901D	LM2901N	Quad	Low Power, Bipolar	4-30	0	7.0	-0.25	6	300	-40 to +125	14
LM3302D	LM3302N	Quad	Ultra Low Power, Bipolar	4-26	0	20.0	0.5	6	300	-40 to +125	14
LM339AD	LM339AN	Quad	Precision Input	4-30	0	2.0	-0.25	6	300	0 to +70	14
LM339D	LM339N	Quad	Low Power, Bipolar	4-30	0	5.0	-0.25	6	300	0 to +70	14
LP239D	LP239N	Quad	Ultra Low Power, Bipolar	4-30	0	±5.0	-0.025	20	8000	-25 to +85	14
LP2901D	LP2901N	Quad	Ultra Low Power, Bipolar	4-30	0	±5.0	-0.025	20	8000	-40 to +125	14
—	TL374CN	Quad	High Speed, CMOS	3-18	0	10.0	5 pA Typ.	6	200	0 to +70	14

Operational Amplifiers

Internally Compensated, Single

Mfr.'s Type		Features	Supply Voltage		V _{IO} Max. (mV)	I _{IS} Max. (nA)	A _{VO} Min. (V/mV)	B ₁ Typ. (MHz)	Slew Rate Typ. (V/μs)	Temperature Range (°C)	No. of Leads
SOIC	PDIP		Min. (V)	Max. (V)							
LM318D	LM318P	High Performance	±5.0	±20	10.00	250	25	15.00	70.00	0 to +70	8
NE5534AD	NE5534AP	Low Noise, High Performance	±3.0	±22	4.00	1500	25	10.00	13.00	0 to +70	8
NE5534D	—	Low Noise, High Performance	±3.0	±22	4.00	1500	25	10.00	13.00	0 to +70	8
—	OP07CP	Ultra Low Offset Voltage	±3.0	±22	0.15	7	120	0.60	0.30	0 to +70	8
OP07DD	OP07DP	Ultra Low Offset Voltage	±3.0	±22	0.15	12	120	0.60	0.30	0 to +70	8
TL031CD	TL031CP	BIFET, Low Power, Precision	±3.5	±18	1.50	0.2	5	1.10	2.90	0 to +70	8
TL051CD	TL051CP	BIFET, Precision	±3.5	±18	1.50	0.2	50	3.10	20.00	0 to +70	8
TL061ACD	TL061ACP	BIFET, Low Power	±3.5	±18	6.00	0.2	4	1.00	3.50	0 to +70	8
TL061BCD	TL061BCP	BIFET, Low Power	±3.5	±18	3.00	0.2	4	1.00	3.50	0 to +70	8
TL061CD	TL061CP	BIFET, Low Power	±3.5	±18	15.00	0.2	3	1.00	3.50	0 to +70	8
TL071CD	TL071CP	BIFET, Low Power	±3.5	±18	10.00	0.2	25	3.00	13.0	0 to +70	8
—	TL081ACP	BIFET, General Purpose	±3.5	±18	6.00	0.2	50	3.00	13.0	0 to +70	8
—	TL081BCP	BIFET, General Purpose	±3.5	±18	3.00	0.2	50	3.00	13.0	0 to +70	8
TL081CD	TL081CP	BIFET, General Purpose	±3.5	±18	15.00	0.04	25	3.00	13.0	0 to +70	8
—	TLC251BCP	LinCMOS, Programmable, Low Bias	1.4	18	2.00	0.001 Typ.	30	0.10	0.04	0 to +70	8
TLC271CD	TLC271CP	LinCMOS, Programmable, Low Bias	1.4	18	10.00	0.001 Typ.	30	0.10	0.04	0 to +70	8
TLC2201ACD	TLC2201ACP	LinCMOS, Precision, Low Noise	4.6	16	0.20	0.001 Typ.	400	1.90	2.70	0 to +70	8
TLC2201BCD	TLC2201BCP	LinCMOS, Precision, Low Noise, 100% Noise Tested	4.6	16	0.20	0.001 Typ.	400	1.90	2.70	0 to +70	8
TLC2201CD	TLC2201CP	LinCMOS, Precision, Low Noise	4.6	16	0.50	0.001 Typ.	400	1.90	2.70	0 to +70	8
—	UA741CP	General Purpose	±2.0	±18	6.00	500	20	1.00	0.50	0 to +70	8

Internally Compensated, Dual

LF353D	LF353P	BIFET, General Purpose	±3.5	±18	10.00	0.2	25	3.00	13.00	0 to +70	8
LF412CD	LF412CP	BIFET, Low Offset	±3.5	±18	3.00	0.2	25	3.00	13.00	0 to +70	8
LM258D	LM258P	High Gain, Low Power, Bipolar, Single or Dual Supply	3, ±1.5	30, ±15	5.00	-150	0.60	0.20	0.20	-40 to +125	8
LM2904D	—	High Gain, Low Power, Bipolar, Single or Dual Supply	3, ±1.5	30, ±15	7.00	-250	100 Typ.	0.60	0.20	-40 to +125	8
LM358AD	LM358AP	High Gain, Low Power Bipolar, Single or Dual Supply	3, ±1.5	30, ±15	3.00	-100	25	0.60	0.20	0 to +70	8
LM358D	LM358P	High Gain, Low Power Bipolar, Single or Dual Supply	3, ±1.5	30, ±15	7.00	-250	25	0.60	0.20	0 to +70	8
—	LT1013ACP	Precision	4	44	0.15	20	1500	0.80	0.40	0 to +70	8
—	LT1013CP	Precision, Single or Dual Supply	4, ±2	44, ±22	0.30	30	1200, 500	0.80	0.40	0 to +70	8
LT1013DD	LT1013DP	Precision, Single or Dual Supply	4, ±2	44, ±22	0.80	30	1200, 500	0.80	0.40	0 to +70	8

Internally Compensated, Dual (continued)

Mfr.'s Type		Features	Supply Voltage		V _{io} Max. (mV)	I _n Max. (nA)	A _{vo} Min. (V/mV)	B ₁ Typ. (MHz)	Slew Rate Typ. (V/μs)	Temperature Range (°C)	No. of Leads
SOIC	PDIP		Min. (V)	Max. (V)							
MC1458D	MC1458P	General Purpose	±1.5	±18	6.00	500	20	1.00	0.50	0 to +70	8
—	NE5532AP	Low Noise	±3	±20	4.00	800	25	10.00	9.00	0 to +70	8
—	NE5532P	Low Noise	±3	±20	4.00	800	25	10.00	9.00	0 to +70	8
RC4558D	RC4558P	High Performance	±4	18	6.00	500	20	3.00	1.70	0 to +70	8
RV4558D	—	High Performance	±4	±18	6.00	-500	20	3.00	1.70	-40 to +125	8
TL032ACD	TL032ACP	BIFET, Low Power, Precision	±3.5	±18	0.80	0.2	5	1.10	2.90	0 to +70	8
TL032CD	TL032CP	BIFET, Low Power, Precision	±3.5	±18	1.50	0.2	5	1.10	2.90	0 to +70	8
TL052ACD	TL052ACP	BIFET, Precision	±3.5	±18	1.50	0.2	50	3.00	16.00	0 to +70	8
TL052CD	—	BIFET, Precision	±3.5	±18	4.00	0.2	50	3.00	16.00	0 to +70	8
—	TL062ACP	BIFET, Low Power	±3.5	±18	6.00	0.2	4	1.00	3.50	0 to +70	8
TL062BCD	—	BIFET, Low Power	±3.5	±18	3.00	0.2	4	1.00	3.50	0 to +70	8
TL062CD	TL062CP	BIFET, Low Power	±3.5	±18	15.00	0.4	3	1.00	3.50	0 to +70	8
TL072ACD	TL072ACP	BIFET, Low Noise	±3.5	±18	6.00	0.2	50	3.00	13.00	0 to +70	8
TL072BCD	TL072BCP	BIFET, Low Noise	±3.5	±18	3.00	0.2	50	3.00	13.00	0 to +70	8
TL072CD	TL072CP	BIFET, Low Noise	±3.5	±18	10.00	0.2	25	3.00	13.00	0 to +70	8
TL082ACD	TL082ACP	BIFET, General Purpose	±3.5	±18	6.00	0.2	50	3.00	13.00	0 to +70	8
TL082BCD	TL082BCP	BIFET, General Purpose	±3.5	±18	3.00	0.2	50	3.00	13.00	0 to +70	8
TL082CD	TL082CP	BIFET, General Purpose	±3.5	±18	15.00	0.4	25	3.00	13.00	0 to +70	8
TLC1078CD	TLC1078CP	LinCMOS, μPower, Precision	1.4	18	0.60	0.007 Typ.	500	0.11	0.05	0 to +70	8
TLC2272ACD	TLC2272ACP	LinCMOS, Rail to Rail	4.4	16	0.95	0.0001 Typ.	35 Typ.	2.25	3.60	0 to +70	8
TLC2272CD	TLC2272CP	LinCMOS, Rail to Rail	4.4	16	2.50	0.0001 Typ.	35 Typ.	2.25	3.60	0 to +70	8
—	TLC252ACP	LinCMOS, High Bias	1.4	18	5.00	0.005 Typ.	10	2.20	5.30	0 to +70	8
TLC252BCD	TLC252BCP	LinCMOS, High Bias	1.4	18	2.00	0.005 Typ.	10	2.20	5.30	0 to +70	8
TLC252CD	TLC252CP	LinCMOS, High Bias	1.4	18	10.00	0.005 Typ.	10	2.20	5.30	0 to +70	8
TLC272CD	TLC272CP	LinCMOS, High Bias	3	18	10.00	0.005 Typ.	10	2.20	5.30	0 to +70	8
TLC277CD	TLC277CP	LinCMOS, High Bias	3	18	0.50	0.005 Typ.	10	2.20	5.30	0 to +70	8
—	TLC27L2ACP	LinCMOS, Low Bias	3	18	5.00	0.005 Typ.	50	0.10	0.05	0 to +70	8
TLC27L2CD	TLC27L2CP	LinCMOS, Low Bias	3	18	10.00	0.005 Typ.	50	0.10	0.05	0 to +70	8
TLC27L7CD	—	LinCMOS, Low Bias	3	18	0.50	0.005 Typ.	50	0.10	0.05	0 to +70	8
—	TLC27M2ACP	LinCMOS, Medium Bias	3	18	5.00	0.005 Typ.	25	0.60	0.60	0 to +70	8
TLC27M2CD	TLC27M2CP	LinCMOS, Medium Bias	3	18	10.00	0.005 Typ.	25	0.60	0.60	0 to +70	

LF347D	LF347N	BIFET, General Purpose	±3.5	±18	10.00	0.2	25	3.00	13.00	0 to +70	14
LM224D	LM224N	General Purpose, Bipolar	3	30	5.00	-150	50	0.60	0.30	0 to +70	14
LM2902D	LM2902N	General Purpose, Extended Temp. Range LM324	3	26	7.00	-250	100 Typ.	0.60	0.30	-40 to +105	14
—	LM324AN	General Purpose	3	30	3.00	-100	25	0.60	0.30	0 to +70	14
LM324D	LM324N	General Purpose	3	30	7.00	-250	25	0.60	0.30	0 to +70	14
LM348D	LM348N	General Purpose	±4	±18	6.00	200	25	1.00	0.50	0 to +70	14
LM3900D	LM3900N	Norton Amp., Bipolar, Single or Dual Supply	4, ±2	32, ±16	—	1.2	12	2.50	0.50	0 to +70	14
—	MC3403N	Low Power, Bipolar, Single or Dual Supply	3, ±1.5	36, ±18	10.00	-500	20	1.00	0.60	0 to +70	14
—	RC4136N	Quad UA741, High Performance	±4	±18	6.00	500	20	3.00	1.70	0 to +70	14
—	TL034ACN	BIFET, Low Power, Precision	±3.5	±18	1.50	0.2	5	1.10	2.90	0 to +70	14
TL034CD	TL034CN	BIFET, Low Power, Precision	±3.5	±18	4.00	0.2	50	2.70	16.00	0 to +70	14
TL054ACD	TL054ACN	BIFET, Precision	±3.5	±18	1.50	0.2	50	2.70	16.00	0 to +70	14
—	TL054CN	BIFET, Precision	±3.5	±18	4.00	0.2	50	2.70	16.00	0 to +70	14
TL064ACD	TL064ACN	BIFET, Low Power	±3.5	±18	6.00	0.2	4	1.00	3.50	0 to +70	14
TL064BCD	TL064BCN	BIFET, Low Power	±3.5	±18	3.00	0.2	4	1.00	3.50	0 to +70	14
TL064CD	TL064CN	BIFET, Low Power	±3.5	±18	15.00	0.4	3	1.00	3.50	0 to +70	14
TL074ACD	TL074ACN	BIFET, Low Noise	±3.5	±18	6.00	0.2	50	3.00	13.00	0 to +70	14
TL074BCD	TL074BCN	BIFET, Low Noise	±3.5	±18	3.00	0.2	50	3.00	13.00	0 to +70	14
TL074CD	TL074CN	BIFET, Low Noise	±3.5	±18	10.00	0.2	50	3.00	13.00	0 to +70	14
—	TL084ACN	BIFET, General Purpose	±3.5	±18	6.00	0.2	50	3.00	13.00	0 to +70	14
—	TL084BCN	BIFET, General Purpose	±3.5	±18	3.00	0.2	50	3.00	13.00	0 to +70	14
TL084CD	TL084CN	BIFET, General Purpose	±3.5	±18	15.00	0.4	25	3.00	13.00	0 to +70	14
TL084CD	TL084ACN	LinCMOS, High Bias	1.4	18	5.00	0.005 Typ.	10	2.20	5.30	0 to +70	14
TL084CD	TL084BCN	LinCMOS, High Bias	1.4	18	2.00	0.005 Typ.	10	2.20	5.30	0 to +70	14
TL084CD	TL084CN	LinCMOS, High Bias	1.4	18	10.00	0.005 Typ.	10	2.20	5.30	0 to +70	14
TL084CD	TL084ACN	LinCMOS, High Bias	3	18	5.00	0.005 Typ.	10	2.20	5.30	0 to +70	14
TL084CD	TL084BCN	LinCMOS, High Bias	3	18	2.00	0.005 Typ.	10	2.20	5.30	0 to +70	14
TL084CD	TL084CN	LinCMOS, High Bias	3	18	10.00	0.005 Typ.	10	2.20	5.30	0 to +70	14
TL084CD	TL084ACN	LinCMOS, High Bias	3	18	0.90	0.005 Typ.	10	2.20	5.30	0 to +70	14
TL084CD	TL084BCN	LinCMOS, High Bias	3	18	5.00	0.005 Typ.	50	0.10	0.05	0 to +70	14
TL084CD	TL084CN	LinCMOS, High Bias	3	18	10.00	0.005 Typ.	50	0.10	0.05	0 to +70	14
TL084CD	TL084ACN	LinCMOS, Low Bias	3	18	10.00	0.005 Typ.	50	0.10	0.05	0 to +70	14
TL084CD	TL084BCN	LinCMOS, Low Bias	3	18	0.90	0.005 Typ.	50	0.10	0.05	0 to +70	14
TL084CD	TL084CN	LinCMOS, Medium	3	18	5.00	0.005 Typ.	25	0.60	0.60	0 to +70	14
TL084CD	TL084ACN	LinCMOS, Medium	3	18	2.00	0.005 Typ.	25	0.60	0.60	0 to +70	14
TL084CD	TL084BCN	LinCMOS, Medium	3	18	0.90	0.005 Typ.	25	0.70	0.60	0 to +70	14
TL084CD	TL084CN	LinCMOS, μPower, Precision									

Mfr.'s Type		Description	Output Current (mA)	Timing		Temperature Range (°C)	No. of Leads
SOIC	PDIP			From	To		
NE555D	NE555P	Single Timer, Bipolar	±200	10 μs	Hours	0 to +70	8
NE556D	NE556N	Dual Timer, Bipolar	±200	10 μs	Hours	0 to +70	14
SA555D	SA555P	Single Timer, Bipolar	±200	10 μs	Hours	-40 to +85	8
—	SE555P	Single Timer, Bipolar	±200	10 μs	Hours	-55 to +125	8
TLC555CD	TLC555CP	LinCMOS, Single High Speed Timer	100	1 μs	Hours	0 to +70	8
TLC556CD	TLC556CN	LinCMOS, Dual High Speed Timer	100	1 μs	Hours	0 to +70	14



Switching Power Supply Controllers (PWMs)

Mr.'s Type		Control Topology	Single Ended	Fixed Push Pull	Single Switch Outputs	Totem-Pole Outputs	Output Current Per Switch (mA)	Maximum Frequency (kHz)	Voltage Reference Tolerance (%)	Pulse By Pulse Current Limiting	Output Steering Control	Prog. Outputs	Dead-Time Control	Under Voltage Lockout	Soft Start	On-Board Amplifiers	Current Sense Amplifiers	Temperature Range (°C)	No. of Leads
SOIC	PDIP																		
—	SG2524N	Voltage Mode PWM	•	X	•	•	250	300	5	•	•	•	•	•	•	1	1	0 to +70	16
SG3524D	SG3524N	Voltage Mode PWM	•	X	•	•	250	300	5	•	•	•	•	•	•	1	1	0 to +70	16
TL494CD	TL494CN	Voltage Mode PWM	X	•	X	•	250	300	5	•	•	•	•	•	•	2	•	0 to +70	16
—	TL594CN	Voltage Mode PWM	•	•	X	•	250	300	1	•	•	X	X	•	•	2	•	0 to +70	16
—	UC2844P	Current Mode PWM	X	•	•	X	±1000	500	1	X	•	•	X	•	•	1	X	0 to +70	8
UC2845D	—	Current Mode PWM	X	•	•	X	±1000	500	1	X	•	•	X	•	•	1	X	0 to +70	14
—	UC3842P	Current Mode PWM	X	•	•	X	±1000	500	1	X	•	•	X	•	•	1	X	0 to +70	8
UC3845D	UC3845P	Current Mode PWM	X	•	•	X	±1000	500	1	X	•	•	X	•	•	1	X	0 to +70	14
—	LT1072CP	Current Mode PWM	X	•	X	•	1250	40	2	X	•	•	X	•	•	1	X	0 to +70	8
TL497ACD	TL497ACN	Fixed On-Time Voltage Mode	X	•	X	•	700	50	5	•	•	•	•	•	•	1	•	0 to +70	14
—	TL499ACP	Fixed On-Time Voltage Mode	X	•	X	•	1200	40	5	•	•	•	•	•	•	1	•	0 to +70	8

X=Applicable Data. •=Nonapplicable Data

Power Supply Supervisors

Mr.'s Type			Function	Sense Input Supply S1 (V)	S2 (V)	Sense Input Threshold Typ. (V)	Threshold Tolerance (%)	Output	Temperature Range (°C)	No. of Leads
SOIC	PDIP	TO-92								
TL7702ACD	TL7702ACP	—	Under Voltage Monitor	Programmable	—	2.53	1.00	Open Collector	0 to +70	8
—	TL7702BCP	—	Under Voltage Monitor	Programmable	—	7.53	1.00	Open Collector	0 to +70	8
TL7705ACD	TL7705ACP	—	Under Voltage Monitor	5	—	4.50	1.00	Open Collector	0 to +70	8
TL7705BCD	TL7705BCP	—	Under Voltage Monitor	5	—	4.55	1.00	Open Collector	0 to +70	8
—	TL7757CP*	TL7757CLP	Under Voltage Monitor	5	—	4.55	2.60	Open Collector	0 to +70	3
TL7759CD	TL7759CP	—	Under Voltage Monitor	5	—	4.55	2.60	Open Collector	0 to +70	8
TL7770-5CDW	—	—	Dual Under/Over Voltage	5	Programmable	5.00	4.55	1	0 to +70	16

*TO-252 Package.

Switched Capacitor Voltage Converters

Mr.'s Type		Control Topology	Output Switch	Supply Voltage Range (V)	Quiescent Current (No Load)	Maximum Continuous I/O	Maximum Frequency (kHz)	Typical Conversion Efficiency (%)	Temperature Range (°C)	No. of Leads
SOIC	PDIP									
LT1054CDW	LT1054CP	Voltage Mode	Single	3.5 - 15	150 µA	300 mA	35	90	0 to +70	16

Voltage Regulators and Voltage References

Shunt Voltage Regulators/References

Mr.'s Type			Regular Voltage Range (V)	Minimum Shunt Current To Maintain Regulation (µA)	Maximum Shunt Current (mA)	Tolerance (%)	Temperature Coefficient (typ.)	Temperature Range (°C)	No. of Leads
SOIC	PDIP	TO-92							
LM385BD-1-2	—	LM385BP-1-2	1.2	10	20	1.0	20 PPM/°C	0 to +70	8
LM385D-1-2	—	LM385LP-1-2	1.2	10	20	2.0	20 PPM/°C	0 to +70	8
—	—	LT1009CLP	2.5	400	10	0.2	15 PPM/°C	0 to +70	3
—	—	TL430CLP	2.5 to 30	500	150	4.0	120 PPM/°C	0 to +70	3
TL431ACD	TL431ACP	TL431ACLP	2.5 to 36	400	150	1.0	25 PPM/°C	0 to +70	8
TL431CD	TL431CP	TL431CLP	2.5 to 36	400	150	2.0	25 PPM/°C	0 to +70	8

Adjustable Series-Pass Voltage Regulators

Mr.'s Type			Output Voltage	Output Current (mA)	Output Voltage Range (V)	Tolerance (%)	Maximum (VI-VO) Difference	Temperature Range (°C)	No. of Leads
SOIC	PDIP	TO-92							
—	—	TL317CLP	Positive	100	1.2 to 32	5	35 V	0 to +70	3
UA723CD	UA723CN	—	Positive or Negative	150	2 to 37	5	38 V	0 to +70	14
—	—	TL783CKC*	Positive	750	1.25 to 125	5	125 V	0 to +70	3

*TO-220 Package.

Positive Fixed Output Series Pass Voltage Regulators

Mr.'s Type		Output Voltage (V)	Output Current Rating (mA)	Output Voltage Tolerance (±%)	Minimal Differential Voltage (V)	Temperature Range (°C)	No. of Leads
SOIC	TO-226						
TL750L05CD	TL750L05CLP	5	150	5	0.6	0 to +70	8/3
UA78L05ACD	UA78L05ACLP	5	100	5	2.0	0 to +70	8/3
UA78L05CD	UA78L05CLP	5	100	10	2.0	0 to +70	8/3
UA78L06ACD	UA78L06ACLP	6	100	5	2.0	0 to +70	8/3
UA78L08ACD	UA78L08ACLP	8	100	5	2.0	0 to +70	8/3
UA78L10ACD	UA78L10ACLP	10	100	5	2.0	0 to +70	8/3
UA78L12ACD	UA78L12ACLP	12	100	5	2.0	0 to +70	8/3
UA78L12CD	UA78L12CLP	12	100	10	2.0	0 to +70	8/3
UA78L15ACD	UA78L15ACLP	15	100	5	2.0	0 to +70	8/3
UA78L15CD	UA78L15CLP	15	100	10	2.0	0 to +70	8/3

Negative Fixed Output Series Pass Voltage Regulators

Mr.'s Type		Output Voltage (V)	Output Current Rating (mA)	Output Voltage Tolerance (±%)	Minimal Differential Voltage (V)	Temperature Range (°C)	No. of Leads
SOIC	TO-226						
MC79L05ACD	MC79L05ACLP	-5	100	5	1.7	0 to +70	8/3
MC79L05CD	MC79L05CLP	-5	100	10	1.7	0 to +70	8/3
MC79L12ACD	MC79L12ACLP	-12	100	5	1.7	0 to +70	8/3
—	MC79L12CLP	-12	100	10	1.7	0 to +70	3
MC79L15ACD	MC79L15ACLP	-15	100	5	1.7	0 to +70	8/3

Thomson Consumer Electronics SK Replacement Technical Manual and Cross Reference

- ▶ Bipolar Transistors
- ▶ Field Effect Transistors
- ▶ Zener Diodes
- ▶ Diodes and Rectifiers
- ▶ Industrial Rectifiers

- ▶ SCRs and Triacs
- ▶ Metal Oxide Varistors
- ▶ Optoelectronics
- ▶ Linear Integrated Circuits
- ▶ Digital Integrated Circuits



SK Replacement Solid State Devices are "Top of the Line" quality units, purchased to OEM standards, from original manufacturers. This guide contains 3600 SK devices which replace over 235000 parts. Each transistor, TRIAC, SCR, Thyristor, Integrated Circuit can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than original specified components. The easy to use cross reference section enables you to locate the exact replacement needed for over 235000 solid state devices.

902-0010. SKG202GEACH 4.95

Thomson Consumer Electronics SK Cross

This comprehensive PC-based cross reference software contains information on over 235000 semiconductor devices which can be accessed easily and quickly. Advantages included the ability to scroll through the entire cross reference, descriptions next to the part number, technical notes below descriptions, transistor complements, matched pairs and matched complementary pairs listed in the description. The minimum system requirements are an IBM PC compatible computer with 640K RAM, 5 1/4" or 3 1/2" floppy drive, and 14 Megabytes of hard disk space.

Stock No.	Mfr.'s Type	Disk Type	No. of Disks	PER SET
902-0021	SKG202DK1	3 1/2"	2	5.00

Linear Integrated Circuits

Stock No.	Mfr.'s Type	Description	Package
902-6000	SK3022	TV Sound	10-Ld TO-5
902-4241	SK3072	TV Sound IF	14-Ld Quad-Formed DIP
902-6008	SK3129	FM IF Amp	10-Ld TO-5
902-6009	SK3134	TV Chroma Demod	9-Ld Plug-In Pkg TO-5
902-6010	SK3135	FM & TV Sound IF	14-Ld DIP
902-6013	SK3149	TV Chroma Amp/Demod	16-Ld DIP
902-6014	SK3158	TV Chroma Signal Proc	16-Ld Quad-Formed DIP
902-6015	SK3159	FM MPX Stereo Decoder	14-Ld DIP
902-4255	SK3164	TV Voltage Regulator	10-Ld TO-5
902-6022	SK3207	TV Luminance Processor	16-Ld DIP
902-6024	SK3214	TV Luminance Processor	16-Ld DIP
902-6026	SK3223	FM & TV Sound IF AMP	7-Ld SIP
902-6029	SK3226	TV Chroma Demod	16-Ld DIP
902-6030	SK3227	TV Chroma Signal Processor	16-Ld DIP
902-6034	SK3231	CB Modulator 6W AF AMP	10-Ld SIP w/flange
902-6035	SK3234	FM & TV Sound IF	8-Ld DIP
902-6038	SK3238	Quad Stereo Decoder	14-Ld DIP
902-6039	SK3249	AF Preamp	7-Ld SIP
902-4278	SK3255	TV Horiz Processor	8-Ld Mini DIP
902-6041	SK3279	TV Video Detector	8-Ld DIP
902-6042	SK3281	AF Preamp	7-Ld SIP
902-6043	SK3282	5 W AF AMP	10-Ld SIP
902-6044	SK3283	RF/IF Amp	7-Ld SIP
902-6045	SK3284	TV Video IF	14-Ld DIP
902-6046	SK3286	TV Chroma Signal Processor	16-Ld DIP
902-6048	SK3288	AM/FM IF Amp	14-Ld DIP
902-6049	SK3294	TV Vertical Processor	14-Ld DIP
902-4284	SK3328	2.5 W AF Amp	14-Ld DIP
902-6053	SK3364	AF Preamp	8-Ld SIP
902-6054	SK3365	TV AFC System	14-Ld DIP
902-6056	SK3367	FM IF Sound Amp	8-Ld DIP
902-6058	SK3370	0.7 W AF Amp	12-Ld DIP w/tabs
902-6063	SK3445	PLL Synthesizer/Amp/Mix for CB	9-Ld SIP
902-6065	SK3447	0.25 W AF AMP	8-Ld SIP
902-6066	SK3451	1 W FM Sound Syst. TV/Mobile	12-Ld DIP
902-6067	SK3456	Audio Amp	14-Ld DIP
902-6071	SK3461	FM IF AMP	7-Ld SIP
902-9058	SK3462	Voltage Regulator 5V	TO-92
902-4293	SK3465	Dual Op Amp	8-Ld Mini DIP
902-6072	SK3468	Audio Preamp	10-Ld SIP w/htsk flange
902-6076	SK3472	RF/IF Amp to 150 Mhz	7-Ld SIP
902-6077	SK3474	Audio Amp	10-Ld SIP w/htsk flange
902-6078	SK3476	Audio Preamp	7-Ld SIP
902-6079	SK3477	Audio Preamp	7-Ld SIP
902-6080	SK3478	TV Chroma Demod	16-Ld DIP
902-6081	SK3481	TV Chroma Demod	8-Ld DIP
902-6082	SK3483	AM/FM IF Amp	16-Ld DIP
902-6085	SK3487	FM/CB/TV Sound IF Amp	7-Ld SIP
902-6088	SK3493	Preamp for 8-Track Stereo	7-Ld SIP
902-4302	SK3514	Single Op AMP	8-Ld TO-5
902-6092	SK3524	AF Pwr Wide Band Amp	12-Ld TO-5
902-6093	SK3525	RF VHF Diff/Cascade Amp	8-Ld TO-5
902-6094	SK3526	Dual Op Amp	10-Ld TO-5
902-6095	SK3540	Single Op Amp	12-Ld TO-5
902-6096	SK3541	Zero Voltage Switch For Thyristor Ckts	14-Ld DIP
902-6097	SK3542	Transistor Array	12-Ld TO-5
902-4308	SK3543	Transistor Array	14-Ld DIP
902-6098	SK3544	Dual Independent Differential Amp	14-Ld DIP

Stock No.	Mfr.'s Type	Description	Package
902-6099	SK3545	Six Independent Diodes	12-Ld TO-5
902-6101	SK3548	Dual VHF Differential Amps	12-Ld TO-5
902-6102	SK3550	7-Transistor Array	16-Ld DIP
902-4309	SK3552	Single Op Amp	8-Ld Mini DIP
902-4310	SK3555	Dual Op Amp	8-Ld TO-5
902-4313	SK3564	Timer/Oscillator	8-Ld Mini DIP
902-4314	SK3565	Single Op Amp	8-Ld TO-5
902-6103	SK3567A	Voltage Comparator	8-Ld TO-5
902-6104	SK3568	BiMos Op Amp	8-Ld TO-5
902-4315	SK3569	Quad Voltage Comparator	14-Ld DIP
902-4321	SK3590	Single Op Amp	14-Ld DIP
902-4322	SK3594	Quad Op Amp	14-Ld DIP
902-6105	SK3595	PLL Circuit	14-Ld DIP
902-4323	SK3596	Single Op Amp	8-Ld DIP
902-6106	SK3617	Power Switch Amp	8-Ld TO-5
902-4335	SK3641	Single Op Amp	8-Ld DIP
902-4337	SK3643	Quad Op Amp	14-Ld DIP
902-6109	SK3645	Single Op AMP	8-Ld TO-5
902-6110	SK3668	Voltage Comparator	8-Ld DIP
902-4349	SK3688	4 Independent Op Amps	14-Ld DIP
902-4350	SK3689	Dual Timing Circuit	14-Ld DIP
902-8476	SK3691	Dual Op Amp	8-Ld TO-5
902-4351	SK3692	Dual Op Amp	8-Ld DIP
902-8478	SK3693	Timer	8-Ld TO-5
902-8480	SK3694	High-Current NPN Transistor Array	16-Ld DIP
902-6113	SK3695	High-Current NPN Transistor Array	16-Ld DIP
902-6114	SK3696	BiMOS Op Amp	8-Ld DIP
902-6115	SK3697	High-Voltage Transistor Array	14-Ld DIP
902-6118	SK3702	Low-Noise Equalizer/Amp	14-Ld DIP
902-6121	SK3705	TV Chroma Processor	28-Ld DIP
902-6122	SK3706	FM Stereo MPX Demod	16-Ld DIP
902-6124	SK3711	TV Low Level Video Detector	14-Ld DIP
902-6125	SK3726	5.8 W Audio Amp	10-Ld SIP
902-6126	SK3730	4.2 W Audio Amp	14-Ld DIP w/tabs
902-6127	SK3731	FM Stereo MPX Decoder	14-Ld DIP
902-6129	SK3737	Tape Recorder Preamp	8-Ld DIP
902-6130	SK3738	Auto/FM Stereo Equalizer Amp	16-Ld DIP
902-6132	SK3742	TV Video IF Detector	8-Ld SIP
902-6133	SK3743	Color TV Subcarrier Processor	16-Ld DIP
902-6135	SK3745	Dual Preamp	8-Ld SIP
902-6136	SK3762	FM IF Amp Limiter	8-Ld DIP
902-6137	SK3763	FM MPX Stereo Demod	14-Ld DIP
902-6139	SK3828	Head Coil/Meter Driver	7-Ld SIP
902-6140	SK3829	FM IF System/IF Amp	16-Ld DIP
902-4359	SK3832	TV Sound IF/Audio Out Subsystems	16-Ld
902-4366	SK3853	12 W Audio Pwr Amp for Auto Radio	5-Ld TO-220
902-6145	SK3876	12-V Preamplifier	7-Ld SIP
902-6147	SK3878	TV Vertical Deflection	10-Ld SIP w/flange
902-6148	SK3879	2.4-W Audio Amplifier	14-Ld DIP w/end tab
902-6150	SK3885	TV VIR Signal Processor	24-Ld DIP
902-6154	SK3892	Balanced Modulator/Demodulator	14-Ld DIP
902-6155	SK3914	Power Op AMP/Cassette Recorders	9-Ld SIP
902-6156	SK3916	Dual Channel Audio Power Amp	20-Ld DIP
902-9960	SK3920	Tape/VCR Record/Playback Circuit	16-Ld DIP
902-6159	SK3924	Low-Noise Dual Preamp	14-Ld DIP
902-6162	SK3964	Dual Attenuator	14-Ld DIP
902-6163	SK3969	5-W Audio Amplifier	12-Ld Quad-Formed DIP

Transistors

Stock No.	Mfr.'s Type	Material	Description	Package
902-4223	SK3003A	PNP Ge	AF Small Signal	TO-18
902-9102	SK3004	PNP Ge	AF Low Power	TO-1
902-4224	SK3006	PNP Ge	RF Low Power	TO-72
902-6183	SK3007A	PNP Ge	AF Output	TO-1
902-6184	SK3008	PNP Ge	RF Low Power	TO-1
902-9104	SK3009	PNP Ge	AF High Pwr	TO-3
902-4225	SK3012	PNP Ge	AF High Power	TO-36
902-4226	SK3018	NPN Si	RF IF Stages	TO-72
902-4227	SK3020	NPN Si	AF Medium Power	TO-39
902-4228	SK3021	NPN Si	AF Power	TO-66
902-4229	SK3026	NPN Si	AF High Power	TO-66
902-8928	SK3027	NPN Si	AF High Pwr	TO-3
902-6185	SK3028	NPN Si	Matched Pair of SK3026	TO-66
902-6186	SK3029	NPN Si	Matched Pair of SK3027	TO-204MA
902-4233	SK3036	NPN Si	AF High Pwr	TO-3
902-6188	SK3037	NPN Si	Matched Pair of SK3036	TO-3
902-4234	SK3039	NPN Si	RF TV UHF/VHF	TO-72
902-6189	SK3040	NPN Si	Video Amp	TO-39
902-4236	SK3044	NPN Si	High-Voltage	TO-39
902-6190	SK3049	NPN Si	CB Transmitter Output Stages	TO-39
902-6191	SK3052	PNP Ge	AF Medium Power	TO-66
902-6192	SK3053	PNP Si	AF Medium Power	TO-39
902-8930	SK3054	NPN Si	AF Deflection	TO-220
902-6193	SK3079	NPN Si	Deflection	TO-3
902-5602	SK3083	PNP Si	AF/Deflection	TO-220
902-6194	SK3085	PNP Si	Deflection	TO-66
902-6195	SK3086	PNP Ge	Matched Pair, Medium Power Output Stage	TO-66
902-4246	SK3103A	NPN Si	TV Power Out/Video Amp	TO-39
902-4247	SK3104A	NPN Si	TV High Voltage	TO-39
902-6196	SK3111	NPN Si	Deflection	TO-3
902-8932	SK3114A	PNP Si	AF PO	TO-92
902-8934	SK3115	NPN Si	Deflection	TO-3
902-6197	SK3117	NPN Si	RF/TV Video IF	TO-72
902-4250	SK3118	PNP Si	AM/FM RF, TV IF	TO-92
902-6198	SK3122	NPN Si	AF/RF Medium Power	TO-92
902-6199	SK3123	PNP Ge	AF Medium Power	TO-8
902-9175	SK3124A	NPN Si	AF PO	TO-92
902-6200	SK3133	NPN Si	Deflection	TO-3
902-4253	SK3137	NPN Si	Medium Power	TO-92w/Heatsink
902-6201	SK3176	NPN Si	VHF Output	HF-44
902-6202	SK3177	NPN Si	VHF Output	HF-44
902-4259	SK3178B	NPN Si	AF Medium Power	TO-202
902-8458	SK3179B	PNP Si	AF Medium Power	TO-202
902-8938	SK3180	NPN Si	Darlington High Power	TO-220AB
902-4260	SK3181A	PNP Si	Darlington High Power	TO-220AB
902-4261	SK3182	NPN Si	Darlington High Power	TO-3
902-9912	SK3183A	PNP Si	Darlington High Power	TO-220AB
902-4262	SK3188A	NPN Si	High Power	TO-220AB
902-4263	SK3189A	PNP Si	High Power	TO-220AB
902-8940	SK3190	NPN Si	AF High Power	TO-126
902-4264	SK3191	PNP Si	AF High Power	TO-126
902-4265	SK3192	NPN Si	AF High Power	TO-126
902-6203	SK3193	PNP Si	AF High Power	TO-66
902-6204	SK3194	NPN Si	Deflection	TO-39
902-4267	SK3195	NPN Si	VHF RF Output	TO-220AB
902-4268	SK3197	NPN Si	VHF RF Output	TO-220AB
902-6205	SK3198	PNP Ge	Medium Power	Mod.TO-66
902-4269	SK3199	NPN Si	Medium Power	TO-202N
902-4270	SK3200	PNP Si	Medium Power	TO-202N
902-4271	SK3201	NPN Si	AF TV Video/Chroma Amp.	TO-202
902-6206	SK3218	NPN Si	RF CATV/MATV Amp	TO-39
902-4272	SK3219	NPN Si	TV Driver/Output AF	TO-220AB
902-8942	SK3220	NPN Si	Deflection AF	TO-220AB
902-6207	SK3244	NPN Si	High Voltage, TV Video	TO-92M
902-8944	SK3245	NPN Si	AF Preamp	TO-92
902-6208	SK3246A	NPN Si	AM/FM/CB RF	TO-92
902-6209	SK3247	PNP Si	AF Preamp	TO-92
902-6210	SK3248	NPN Si	CB AF Output	TO-220w/flange
902-4276	SK3250	NPN Si	RF CB Predriver/Driver	TO-920
902-4277	SK3253	NPN Si	RF CB Driver/Output	TO-126
902-6212	SK3259	PNP Si	AF Medium Power	TO-39
902-9991	SK3260	NPN Si	AF High Power	TO-3
902-4279	SK3261	NPN Si	AF High Voltage	TO-66
902-4280	SK3265	NPN Si	AF Driver/Output	TO-39
902-8946	SK3274	PNP Si	AF PO	TO-220AB
902-5614	SK3275	NPN Si	FM AF Driver/Output	TO-92
902-6213	SK3293	NPN Si	TV VHF/UHF/RF	TO-92
902-4281	SK3297	NPN Si	High Power/Voltage	TO-3

Stock No.	Mfr.'s Type	Material	Description	Package
902-6214	SK3298	NPN Si	CB RF Driver	TO-202
902-6215	SK3299	NPN Si	CB RF Out	TO-5w/flange
902-6216	SK3356	NPN Si	AM/FM/CB RF	TO-92
902-6217	SK3357	NPN Si	RF/AF/CB	—
902-4287	SK3433	NPN Si	AF High Voltage	TO-92
902-4288	SK3434	PNP Si	AF High Voltage	TO-92
902-4289	SK3438	NPN Si	Deflection/High Power	TO-3
902-4290	SK3439A	NPN Si	Deflection/High Power	TO-3
902-8948	SK3440	NPN Si	AF Medium Power	TO-220AB
902-8950	SK3441	PNP Si	AF Medium Power	TQ-220AB
902-8952	SK3444	NPN Si	RF/AF Osc/Amp TV Video Amp	—
902-4291	SK3449	NPN Si	AF Driver	TO-92
902-4292	SK3450	PNP Si	AF Driver	TO-92
902-6219	SK3452	NPN Si	AM/FM RF, TV VHF/RF/IF	TO-92
902-6220	SK3464	NPN Si	AF Med Pwr Driver/Output	—
902-8954	SK3466	PNP Si	AF Med Pwr Preamp/Dr	TO-92
902-6221	SK3467	NPN Si	Switching TV Horizontal Output	TO-3
902-6222	SK3479	NPN Si	AF Med Pwr Preamp/Driver	TO-92
902-4301	SK3512	NPN Si	AF Med. Power High Voltage	TO-39
902-6223	SK3513	PNP Si	AF Med. Power High Voltage	TO-39
902-6224	SK3528	PNP Si	High-Voltage AF Power Out	TO-39
902-6225	SK3529	NPN Si	High-Voltage Switching	TO-39
902-6226	SK3538	NPN Si	AF/Switching	TO-66
902-4312	SK3559	NPN Si	AF High Voltage	TO-3
902-6227	SK3562	NPN Si	High Voltage AF/TV Regulator	TO-66
902-6228	SK3619	NPN Si	Switching AF Output	TO-3
902-6229	SK3620	NPN Si	AF Power	TO-220AB
902-6230	SK3621	NPN Si	AF Power	TO-3
902-6231	SK3625	PNP Si	AF Output/Switching	TO-66
902-6232	SK3626	NPN Si	AF Output/Switching	TO-66
902-4336	SK3642	PNP Ge	Switching/AF	TO-3
902-8956	SK3710	NPN Si	Deflection	TO-3
902-4353	SK3715	PNP Si	FM AF Driver/Output	TO-92
902-6233	SK3716A	NPN Si	Wide Band, Low-Noise VHF/UHF Amplifier	TO-72
902-4354	SK3717	PNP Ge	AF Power Output	TO-3
902-6234	SK3718	PNP Ge	Matched Pair of SK3717	TO-3
902-4355	SK3719	PNP Ge	AF Power Output	TO-3
902-6235	SK3720	PNP Ge	Matched Pair of SK3719	TO-3
902-4356	SK3721	PNP Ge	RF/IF Amp	TO-5
902-6236	SK3722	PNP Ge	AM AF Preamp	TO-5
902-4358	SK3747	NPN Si	AF High Power	TO-126
902-6237	SK3764	PNP Ge	Deflection/AF High-Voltage	TO-3
902-4360	SK3835	NPN Ge	AF Driver/Preamp	TO-1
902-4361	SK3836	NPN Ge	AF PO	TO-3
902-6238	SK3839	NPN Ge	AF Power Out	Mod.TO-3
902-6239	SK3840	PNP Ge	Matched Pair of SK3198	TO-3
902-4362	SK3841	PNP Si	AF Power Amp	TO-92
902-6240	SK3842	NPN Si	CB RF Amp	TO-92M
902-4363	SK3845	PNP Ge	AF Power Amp	TO-39
902-4364	SK3846	PNP Si	AF Power Out	—
902-4365	SK3849	NPN Si	AF Power Amp	TO-92
902-8958	SK3854	NPN Si	RF/AF Osc/Amp, TV Video Amp	TO-92
902-4367	SK3858	NPN Si	Darlington High Power	TO-3
902-4368	SK3859	PNP Si	Darlington High Power	TO-3
902-4369	SK3860	NPN Si	Darlington Transistor	Power Tab Case
902-6242	SK3861	NPN Ge	AF Low Power	TO-39
902-6243	SK3862	NPN Ge	AF Low Power	TO-39
902-6244	SK3865A	NPN Si	TV Vert and Horiz Driver; AF Driver Stage	TO-202
902-4371	SK3866A	NPN Si	AF Predriver/AMP	TO-92M
902-4372	SK3867A	PNP Si	AF Predriver/Amp	TO-92M
902-4374	SK3894	NPN Si	High-Power Amp/Switching	TO-66
902-6245	SK3895	NPN Si	Power Amp/Fast Switching	TO-3
902-8962	SK3896	NPN Si	Power Amplifier Circuit	TO-220AB
902-4375	SK3897	PNP Si	Darlington Power Amp	TO-220AB
902-6246	SK3899	NPN Si	Low-Noise Preamp/High-Gain	TO-92
902-4377	SK3912	PNP Si	Med Pwr TV/CB/VCR	Plastic Case
902-4378	SK3929	NPN Si	Med Pwr Driver/Output	TO-220AB
902-4380	SK3931	NPN Si	AF/RF High Voltage	TO-92
902-4381	SK3932	PNP Si	AF/RF High-Voltage	TO-92
902-4385	SK3945	NPN Si	Pwr Amp/Switch	TO-3
902-4387	SK3947	NPN Si	High-Power AF	TO-3
902-4389	SK3949	PNP Si	Darlington 100 V, 12A	TO-3
902-6248	SK3958	NPN Si	Power Amp/High-Speed Switch	TO-218
902-5616	SK9041	NPN Si	AF Driver	TO-126
902-8964	SK9085	NPN Si	High Voltage/Speed Switch	TO-200
902-8966	SK9118	NPN Si	Vertical Deflection /Amp	TO-220
902-8968	SK9119	NPN Si	Horizontal Deflection /Amp	TO-3
902-5622	SK9422	NPN Si	Damper Diode	TO-3P

Rectifiers

Bridge Rectifiers

Stock No.	Mfr.'s Type	Description	Peak Voltage	Forward Current
902-9018	SK3105	Bridge Rectifier	200 V	1.5 A
902-4248	SK3106	Bridge Rectifier	400 V	1.5 A
902-9020	SK3107	Bridge Rectifier	1000 V	1.5 A
902-9028	SK3647	Bridge Rectifier	200 V	2.0 A
902-4338	SK3648	Bridge Rectifier	400 V	2.0 A
902-9030	SK3649	Bridge Rectifier	1000 V	2.0 A
902-9032	SK3650	Bridge Rectifier	200 V	35.0 A
902-4340	SK3651	Bridge Rectifier	600 V	35.0 A
902-4346	SK3676	Bridge Rectifier	600 V	1.5 A
902-8472	SK3677	Bridge Rectifier	800 V	1.5 A
902-4347	SK3678	Bridge Rectifier	600 V	2.0 A
902-8474	SK3679	Bridge Rectifier	100 V	25.0 A
902-9034	SK3680	Bridge Rectifier	200 V	25.0 A
902-4348	SK3681	Bridge Rectifier	400 V	25.0 A
902-9036	SK3682	Bridge Rectifier	600 V	25.0 A
902-9042	SK3985	Bridge Rectifier	100 V	8.0 A
902-9044	SK3988	Bridge Rectifier	600 V	8.0 A

Fast Recovery Rectifiers

Stock No.	Mfr.'s Type	Description	Peak Voltage	Forward Current	Package
902-4235	SK3043B	Si Fast Recovery Rectifier	1000 V	1.0 A	DO-15
902-4251	SK3125A	Si Fast Recovery Rectifier	1500 V	1.5 A	DO-27
902-4252	SK3130	Si Fast Recovery Rectifier	1300 V	1.0 A	DO-1
902-4258	SK3175A	Si Fast Recovery Rectifier	800 V	1.5 A	DO-15
902-4283	SK3318A	Si Fast-Recovery Rectifier	600 V	1.5 A	DO-41
902-6166	SK3586A	Si Fast-Recovery Rectifier	200 V	12.0 A	DO-4
902-6167	SK3587A	Si Fast-Recovery Rectifier	600 V	12.0 A	DO-4
902-6168	SK3588A	Si Fast-Recovery Rectifier	200 V	70.0 A	DO-5
902-6169	SK3589A	Si Fast-Recovery Rectifier	600 V	70.0 A	DO-5
902-9046	SK3998	Si Fast-Recovery Rectifier	1500 V	1.0 A	DO-15
902-9048	SK9000	Si Fast-Recovery Rectifier	600 V	1.0 A	DO-15
902-9054	SK9091	Si Fast-Recovery Rectifier	200 V	0.2 A	DO-35

Standard Recovery Rectifiers

Stock No.	Mfr.'s Type	Description	Peak Voltage	Forward Current	Package
902-9010	SK3017B	Si Axial-Lead Rectifier	600 V	1.0 A	Glass
902-4230	SK3031A	Si Axial-Lead Rectifier	400 V	1.0 A	Glass
902-4231	SK3032A	Si Axial-Lead Rectifier	800 V	1.0 A	DO-41
902-6170	SK3033A	Si Axial-Lead Rectifier	1000 V	1.0 A	Glass
902-9012	SK3051	Si Axial-Lead Rectifier	1000 V	3.0 A	DO-27
902-6171	SK3080	Si Axial-Lead Rectifier	1000 V	1.0 A	DO-41
902-9014	SK3081	Si Axial-Lead Rectifier	1000 V	2.5 A	DO-41
902-6172	SK3311	Si Axial-Lead Rectifier	200 V	1.0 A	DO-41
902-5612	SK3312	Si Axial-Lead Rectifier	400 V	1.0 A	DO-41
902-9024	SK3313	Si Axial-Lead Rectifier	600 V	1.0 A	DO-41
902-4295	SK3500	Si Stud Rectifier	600V	12.0 A	DO-4
902-4296	SK3501	Si Stud Rectifier	600 V	40.0 A	DO-5
902-4303	SK3517	Si Stud Rectifier	600 V	12.0 A	Rev Polarity DO-4
902-4304	SK3518	Si Stud Rectifier	600 V	40.0 A	Rev Polarity DO-5
902-6173	SK3584	Si Stud Rectifier	600 V	6.0 A	DO-4
902-6174	SK3585	Si Stud Rectifier	600 V	15.0 A	DO-4
902-6175	SK3599	Si Stud Rectifier	400 V	6.0 A	DO-4
902-6176	SK3600	Si Stud Rectifier	200 V	6.0 A	DO-4
902-6177	SK3601	Si Stud Rectifier	50 V	6.0 A	DO-4
902-6178	SK3602	Si Stud Rectifier	400 V	12.0 A	DO-4
902-4324	SK3603	Si Stud Rectifier	200 V	12.0 A	DO-4
902-6179	SK3604	Si Stud Rectifier	50 V	12.0 A	DO-4
902-6180	SK3605	Si Stud Rectifier	400 V	15.0 A	DO-5
902-6181	SK3606	Si Stud Rectifier	200 V	15.0 A	DO-5
902-6182	SK3607	Si Stud Rectifier	50 V	15.0 A	DO-5
902-4325	SK3608	Si Stud Rectifier	400 V	40.0 A	DO-5
902-4326	SK3609	Si Stud Rectifier	200 V	40.0 A	DO-5
902-4327	SK3610	Si Stud Rectifier	50 V	40.0 A	DO-5
902-9026	SK3639	Si Axial-Lead Rectifier	200 V	6-22 A	—
902-4334	SK3640	Si Axial-Lead Rectifier	600 V	6-22 A	—
902-6183	SK3698	Si Stud Rectifier	200 V	40.0 A	Rev Polarity DO-5
902-9038	SK3848	Si Axial-Lead Rectifier	600 V	3.0 A	DO-27
902-9050	SK9007	Si Axial-Lead Rectifier	400 V	3.0 A	DO-27
902-9052	SK9010	Si Axial-Lead Rectifier	1000 V	3.0 A	DO-27

Voltage Regulators

Stock No.	Mfr.'s Type	Peak Voltage	Forward Current	Package
902-9058	SK3462	+5	0.10 A	TO-92
902-9060	SK3591	+5	1.00 A	TO-220
902-9062	SK3592	+12	1.00 A	TO-220
902-9064	SK3593	+15	1.00 A	TO-220
902-9066	SK3630	+8	1.00 A	TO-220
902-9068	SK3670	+24	1.00 A	TO-220
902-9070	SK3671	-5	1.50 A	TO-48
902-9072	SK3673	-12	1.50 A	TO-202
902-9074	SK3674	-15	1.50 A	TO-202

Thyristors

Silicon Controlled Rectifiers

Stock No.	Mfr.'s Type	Peak Voltage	Forward Current	Package
902-8972	SK3503	600 V	7.0 A	TO-5
902-6250	SK3504	600 V	20.0 A	TO-48
902-4298	SK3505	600 V	35.0 A	TO-48
902-6251	SK3557	400 V	2.5A	TO-220AB
902-4316	SK3570	200 V	4.0 A	TO-220
902-6252	SK3571	600 V	4.0 A	TO-220
902-4317	SK3574	200V	16.0 A	TO-220
902-4318	SK3575	400 V	16.0 A	TO-220
902-6253	SK3576	600 V	16.0 A	TO-220
902-4319	SK3577	200 V	7.0 A	TO-5
902-6254	SK3578	400 V	7.0 A	TO-5
902-6256	SK3580	400 V	20.0 A	TO-48
902-6257	SK3581	200 V	35.0 A	TO-48
902-4320	SK3582	400 V	35.0 A	TO-48
902-8466	SK3613	200 V	20.0 A	Pressfit (TO-203)
902-6258	SK3615	200 V	35.0 A	Pressfit (TO-203)
902-4331	SK3634	200 V	8.0 A	TO-127
902-8470	SK3653	400 V	35.0 A	Pressfit (TO-203)
902-6259	SK3654	600 V	35.0 A	Pressfit (TO-203)
902-6260	SK3655	200 V	35.0 A	Isolated Stud
902-6261	SK3656	400 V	35.0 A	Isolated Stud
902-6262	SK3657	600 V	35.0 A	Isolated Stud
902-8986	SK3683	200 V	5.0 A	TO-66
902-6263	SK3684	400 V	5.0 A	TO-66
902-6264	SK3940	50 V	8.0 A	TO-64
902-8482	SK3942	200 V	8.0 A	TO-64
902-6265	SK3953	60 V	4.0 A	TO-126
902-6266	SK3955	400 V	4.0 A	TO-126
902-6267	SK6629	600 V	25.0 A	TO-48
902-6268	SK6631	800 V	25.0 A	TO-48
902-6269	SK6632	1000 V	25.0 A	TO-48
902-6270	SK6648	800 V	35.0 A	TO-48
902-6271	SK6649	1000 V	35 A	TO-48
902-6272	SK6650	50 V	25.0 A	TO-220
902-6273	SK6652	200 V	25.0 A	TO-220
902-4446	SK6654	400 V	25.0 A	TO-220
902-4447	SK6656	600 V	25.0 A	TO-220

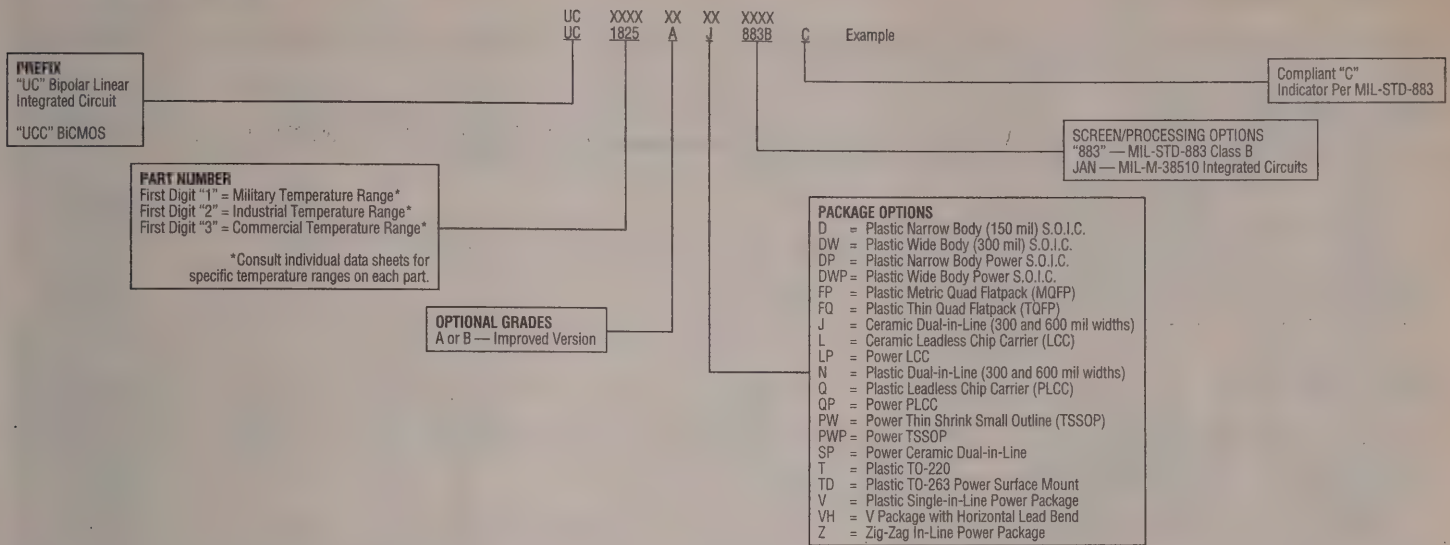
Sensitive Gate SCRs

Stock No.	Mfr.'s Type	Peak Voltage	Forward Current	Package
902-8978	SK3597	200 V	4.0 A	TO-202
902-8980	SK3598	400 V	4.0 A	TO-202
902-5606	SK3627	200 V	0.8 A	TO-92
902-8982	SK3638	100 V	0.8 A	TO-92
902-4390	SK3951	400 V	0.8 A	TO-92
902-6274	SK6641	50 V	35.0 A	TO-48
902-6275	SK6642	100 V	35.0 A	TO-48

TRIACS

Stock No.	Mfr.'s Type	Peak Voltage	Forward Current	Package
902-8974	SK3506	400 V	2.5 A	TO-5
902-4300	SK3508	400 V	15.0 A	TO-48
902-6276	SK3509	400 V	40.0 A	TO-48
902-6277	SK3519	600 V	2.5 A	TO-5
902-6278	SK3520	600 V	15.0 A	TO-48
902-6279	SK3521	600 V	30.0 A	TO-48
902-8464	SK3522	600 V	40.0 A	TO-48
902-8976	SK3533	400 V	16.0 A	TO-220
902-6280	SK3583	200 V	2.5 A	TO-5
902-6281	SK3631	100 V	10.0 A	TO-127
902-6284	SK3633	400 V	10.0 A	TO-127
902-6285	SK3652	200 V	40.0 A	TO-48
902-4341	SK3658	200 V	15.0 A	TO-220
902-5608	SK3659	400 V	15.0 A	TO-220
902-4342	SK3660	600 V	15.0 A	TO-220
902-6286	SK3661	200 V	40.0 A	Isolated Stud
902-4343	SK3662	400 V	40.0 A	Isolated Stud
902-4344	SK3663	600 V	40.0 A	Isolated Stud
902-6287	SK3664	100 V	4.0 A	TO-126
902-6288	SK3665	200 V	4.0 A	TO-126
902-8984	SK3666	400 V	4.0 A	TO-126
902-6289	SK3937	100 V	16.0 A	TO-220
902-6290	SK6630	50 V	10.0 A	TO-127
902-6291	SK6683	200 V	30.0 A	TO-48
902-9292	SK6685	400 V	30.0 A	TO-48
902-9002	SK6707	200 V	8.0 A	TO-220
902-9004	SK6708	400 V	8.0 A	TO-220
902-4448	SK6709	600 V	8.0 A	TO-220

Part Numbering System

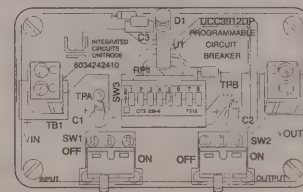
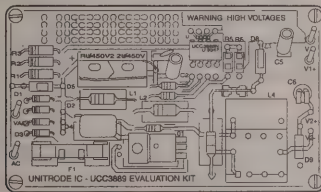


Unitrode's Evaluation Boards — Available Now

— NEW —

UCC3889EVAL For Evaluating the UCC3889 Off-Line Power Supply Controller

UCC3912EVAL For Evaluating the UCC3912 Programmable Electronic Circuit Breaker



► High Step-Down Ratios Without a Transformer
► Off-Line Power Supply Controller

► Regulated Output Voltage Determined by Simple Control Algorithm

► Digital Programmable Current Limit from 0 to 3 A
► Integrated 0.2 Ω Power MOSFET

► Power Down/Sleep Mode Capability
► 3 V to 8 V Operation

Drivers

Power driver ICs provide an ideal interface between low power control circuitry and high power motor drive or power supply output devices. A wide variety of power MOSFET driver ICs combine high speed with high output current drive

capability which greatly simplifies power stage design. Transformer isolated solutions are also provided for both power MOSFET and IGBT drive applications.

Mfr.'s Type	Description	Power Driver	FET Driver	Isolated Driver Pairs	Input Configuration	Output Rise Time (ns)	Maximum Voltage (V)	Peak Output Current (A)
UC2950T	Half Bridge Bipolar Switch	Single	—	—	Sink/Source TTL	—	35	4.0
UC3705N	High Speed Power Driver	Single	—	—	Complementary	60	40	1.5
UC3706N	Dual Output Driver	Dual	—	—	Complementary	60	40	1.5
UC3707N	Dual Channel Power Driver	Dual	—	—	Complementary	50	40	1.5
UC3708N	Dual Non-Inverting Power Driver	Dual Noninverting	—	—	Inverting	75	35	3.0
UC3709N	Dual High Speed FET Driver	—	Single	—	Non-Inverting	40	40	1.5
UC3710N	High Current FET Driver	—	Single	—	Complementary	40	20	6.0
UC3711N	Dual Ultra High Speed FET Driver	—	Dual	—	Non-Inverting	20	40	1.5
UC3714N	Complementary Switch FET Driver	—	Dual	—	Non-Inverting	100/50	20	PWR
UC3715N	Complementary Switch FET Driver	—	Dual	—	Non-Inverting	100/50	20	PWR
UC3724N	Isolated Drive Transmitter	—	Single	FET Drv	Non-Inverting	30	40	2.0
UC3725N	Isolated High Side FET Driver	—	Single	FET Drv	Non-Inverting	30	40	2.0
UC3726N	Isolated Drive Transmitter	Single	—	IGBT Drv	Non-Inverting	75	40	4.0
UC3727N	Isolated High Side IGBT Driver	Single	—	IGBT Drv	Non-Inverting	75	40	4.0

Interface

Interface chips include octal EIA line driver and receivers, and SCSI (small computer system interface) 18-line and 9-line terminators. Octal line drivers and receivers are used to interface terminal servers, printers, network routers, and video

terminals over long distances. Terminators are used to at the end of long cables in SCSI application to prevent line reflections, which would result in false signals and interference.

Communications Interface Drivers and Receivers

Mfr.'s Type	Description	Number of Drivers	Number of Receivers	Supply Voltage (V)	EIA232 V.28	EIA423 V.10	EIA422 V.11	V.35	AppleTalk
UC5170CN	Octal Line Driver	8	—	± 10	Yes	Yes	No	No	No
UC5171N	Octal Line Driver	8	—	± 10	Yes	Yes	No	No	No
UC5172N	Octal Line Driver	8	—	± 10	Yes	Yes	No	No	No
UC5180CN	Octal Line Receiver	—	8	+ 5	Yes	Yes	Yes	Yes	No
UC5181CN	Octal Line Receiver	—	8	+ 5	Yes	Yes	Yes	Yes	Yes

SCSI Active Terminators

Mfr.'s Type	Description	Signal Line Channels	Channel Capacitance (pF)	Termination Impedance (Ω)	Disconnect High or Low	Input Voltage Range (V)	Supports Active Negation	SCSI Hot Plug Current (nA)
UC5601N	18 Line SCSI Active Terminator	18	10	110	High	4.0 to 5.25	No	<10
UC5602N	18 Line SCSI Active Terminator	18	11	110	High	4.0 to 5.25	No	<10
UC5603N	9 Line SCSI Active Terminator	9	6	110	High	4.0 to 5.25	Yes	<10
UC5604N	9 Line SCSI Active Terminator	9	9	110	High	4.0 to 5.25	No	<10
UC5605N	9 Line Low Capacitance SCSI Active Terminator	9	4	110	Low	4.0 to 5.25	Yes	<10
UC5612N	9 Line Low Capacitance SCSI Active Terminator	9	4	110	High	4.0 to 5.25	Yes	<10

Intelligent Motion Circuits

Motor control ICs include a wide variety of voice coil drivers, stepper motor drivers, and both brush and brushless DC motor controllers. On board power drivers provide a complete motor drive design solution for low power applications.

High power solutions combine sophisticated control and fault protection features with easy interface to external power amplifiers.

PWM Motor Controllers and Drivers

Mfr.'s Type	Description	Hall Logic	Microstepping	Number of Outputs	Output Current Per Output (A)	Current Sense Amplifier
UC3517N	Stepper Motor Drive Circuit	—	—	2	0.5	—
UC3620V	Switchmode Driver for Brushless DC Motors	Yes	—	3	2.0	Single Ended
UC3622V	Switchmode Driver for Brushless DC Motors	Yes	—	3	2.0	Single Ended
UC3623V	Switchmode Driver for Brushless DC Motors	Yes	—	3	1.0	Single Ended
UC3625N	Brushless DC Motor Controller	Yes	—	2	—	Differential
UC3637N	Switchmode Controller for DC Motor Driver	—	—	2	0.1	Differential
UC3717N	Stepper Motor Drive Circuit	—	—	2	0.8	Single Ended
UC3770AN	High Performance Stepper Motor Drive Circuit	—	Yes	2	1.0	Single Ended
UC3770BN	High Performance Stepper Motor Drive Circuit	—	Yes	2	2.0	Single Ended

Linear Power Amplifiers

Mfr.'s Type	Description	Four Quadrant	Number of Outputs	BW (MHz)	Operating Voltage (V)	Output Current Per Output (A)	Current Sense Amplifier
UC3172AQP	Full Bridge Power Amplifier	Yes	2	2	5-12	1.00	Differential
UC3173AQP	Full Bridge Power Amplifier	Yes	2	2	4-15	0.55	Single Ended
UC3175BQP	Full Bridge Power Amplifier	Yes	2	2	4-15	0.80	Differential
UC3176QP	Full Bridge Power Amplifier	Yes	2	1	3-35	2.00	Differential
UC3177QP	Full Bridge Power Amplifier	Yes	2	1	3-35	2.00	Differential
UC3178QP	Full Bridge Power Amplifier	Yes	2	2	3-35	0.45	Differential

Phase Locked Frequency Controllers

Mfr.'s Type	Description	Phase Locked Loop Control	Internal Oscillator	Phase Drive Logic	Divide Logic	Maximum Frequency (MHz)	Sense Amplifier
UC3633N	Phase Locked Frequency Controller	Yes	Yes	—	2/4/8	10	Yes
UC3634N	Phase Locked Frequency Controller	Yes	Yes	—	2/4/8	10	Yes
UC3635N	Phase Locked Frequency Controller	Yes	Yes	—	2/4	10	Yes

Power Factor Correction

Power Factor Correction chips are preregulators used in off-line and battery powered power supplies to maintain the phase of the input current as close as possible to the phase of the input voltage. Used in conjunction with an inductor,

diode, and MOSFET switch, power factor as high as 0.99 can result. Power factor correction is needed to meet the IEC 555-2 standard which regulates input line current harmonics.

Mfr.'s Type	Description	Maximum Practical Operating Frequency	Current Error Amplifier Bandwidth	Output Drive (A)	Startup Current (mA)	Under Voltage Lockout (V)
UC3852N	High Power-Factor Preregulator	Variable	—	0.5	1.00	11.5/16.3
UC3854AN	Enhanced High Power-Factor Preregulator	200 KHz	5 MHz	1.0	1.50	10.0/16.0
UC3854BN	Enhanced High Power-Factor Preregulator	200 KHz	5 MHz	1.0	1.50	10.0/10.5
UC3854DW	High Power-Factor Preregulator	200 KHz	1 MHz	1.0	1.50	10.0/16.0
UC3854N	High Power-Factor Preregulator	200 KHz	1 MHz	1.0	1.50	10.0/16.0
UC3855AN	Zero Voltage Switching, Soft Switching Power-Factor Preregulator	500 KHz	5 MHz	1.5	0.15	10.0/16.0
UC3855BN	Zero Voltage Switching, Soft Switching Power-Factor Preregulator	500 KHz	5 MHz	1.5	0.15	10.0/10.5

Power Supply Circuits

Battery Chargers

Mfr.'s Type	Description	Application	Key Features
UC3906N	Sealed Lead Acid Battery Charger	Accurately provides control signals to an external pass transistor to charge lead acid batteries	Includes all necessary controls for high current bulk charge state, controlled overcharge state, and standby state
UC3909N	Switchmode Lead Acid Battery Charger	Provides PWM average current mode control of battery charger	Thermistor interface tracks battery requirements over temperature

Electronic Circuit Breaker

Mfr.'s Type	Description	Voltage Range	Current Range	Integrated Power FET	Active Current Limit	Programmable Threshold	Programmable Time Delay
UCC3912N	Electronic Circuit Breaker	3 V to 8 V	0 to 3 A	Yes	Yes	Yes	Yes

Lighting Controllers

Mfr.'s Type	Description	Application	Topology	Peak Output Current	Output Frequency	Outputs	Startup Current	Maximum Duty Cycle
UC3871N	Resonant Fluorescent Lamp Driver	Zero Voltage Switched Driver with LCD Bias Supply	Push-Pull	0.1 A	200 KHz	2 Single and 2 Push-Pull, Totem Pole	—	100%/95%
UC3872N	Resonant Lamp Ballast Controller	Zero Voltage Switched Lamp Ballast Controller	Push-Pull	0.1 A	200 KHz	Single and 2 Push-Pull, Totem Pole	—	100%
UCC3305N	HID Lamp Controller	Constant Power HID Lamp Controller	Boost, Flyback	0.5 A	500 KHz	Single and Dual Alternating, Totem Pole	—	—

Linear Regulators

Mfr.'s Type	Description	Output Voltage (V)	Dropout Voltage (V)	Quiescent Current	Maximum Input Voltage (V)	Special Features	Line Regulation (mV)	Load Regulation (mV)
UCC383T-3	Low Dropout Linear Regulator	3.3	0.45 at 3 A	400 μ A	9	Short Circuit Current 3% Duty Cycle Limited	2	7
UCC383T-5	Low Dropout Linear Regulator	5.0	0.45 at 3 A	400 μ A	9	Short Circuit Current 3% Duty Cycle Limited	2	10
UCC383T-ADJ	Low Dropout Linear Regulator	Adjustable	0.45 at 3 A	400 μ A	9	Short Circuit Current 3% Duty Cycle Limited	1	2

Power Supply Circuits — Continued

Power Supply Support

Mfr.'s Type	Description	Application
UC3730N	Thermal Monitor	This device combines a temperature transducer, precision ref. and temp. comparator. Allows multiple independent power supplies to be paralleled such that each unit supplies only its proportional share of the total load current, Optocoupler driving capability, 4.5 V to 35 V operation. Sets control voltage for UC3886. Provides three comparators for fault monitoring. Single supply monitoring, 8 V to 12 V voltage range with programmable threshold and time delay.
UC3907N	Load Share Controller	
UC3910N	4-Bit DAC and Fault Monitor	

PWM Controllers

PWM Controllers consist of a reference voltage, ramp generator, latched PWM comparator, error amplifier, clock and output driver. The pulse width of the converter's power switch is modulated (adjusted) with changes in input voltage or

output current. Used in conjunction with an external inductor in buck, boost or flyback topologies, these converters provide a regulated output voltage at high efficiency.

Mfr.'s Type	Description	Application	Topology	Peak Output Current	Output Frequency	Outputs	Startup Current	Maximum Duty Cycle
UC3572N	Negative Output Flyback PWM	Low Power, High Efficiency, Spot Regulator	Negative Output, Flyback	0.50 A	300.0 KHz	Single, Totem Pole	—	100%
UC3573N	PWM Step-Down Voltage Regulator	Low Power, High Efficiency, Spot Regulator	Buck	0.50 A	300.0 KHz	Single, Totem Pole	—	100%
UC3823AN	High Speed PWM Controller	DC-DC	Buck, Boost	2.00 A	1.0 MHz	Single, Totem Pole	0.1 mA	Programmable
UC3823BN	High Speed PWM Controller	Off Line	Buck, Boost	2.00 A	1.0 MHz	Single, Totem Pole	0.1 mA	Programmable
UC3823DW	High Speed PWM Controller	DC-DC	Buck, Boost	1.50 A	1.0 MHz	Single, Totem Pole	1.1 mA	100%
UC3823N	High Speed PWM Controller	DC-DC	Buck, Boost	1.50 A	1.0 MHz	Single, Totem Pole	1.1 mA	100%
UC3824N	High Speed PWM Controller	Synchronous Rectifier Forward Converter	Forward, Flyback	1.50 A	1.0 MHz	Dual Complementary, Totem Pole	1.1 mA	100%
UC3825AN	High Speed PWM Controller	DC-DC	Push-Pull Full Bridge, Half Bridge	2.00 A	1.0 MHz	Dual Alternating, Totem Pole	0.1 mA	Programmable
UC3825BN	High Speed PWM Controller	Off Line	Push-Pull Full Bridge, Half Bridge	2.00 A	1.0 MHz	Dual Alternating, Totem Pole	0.1 mA	Programmable
UC3825DW	High Speed PWM Controller	DC-DC	Push-Pull Full Bridge, Half Bridge	1.50 A	1.0 MHz	Dual Alternating, Totem Pole	1.1 mA	50%/50%
UC3825N	High Speed PWM Controller	DC-DC	Push-Pull Full Bridge, Half Bridge	1.50 A	1.0 MHz	Dual Alternating, Totem Pole	1.1 mA	50%/50%
UC3825Q	High Speed PWM Controller	DC-DC	Push-Pull Full Bridge, Half Bridge	1.50 A	1.0 MHz	Dual Alternating, Totem Pole	1.1 mA	50%/50%
UC3826N	Secondary Side Average Current Mode Controller	Secondary Side, Average Current Mode	Forward, Flyback, Buck, Boost	0.25 A	1.0 MHz	Single, Totem Pole	—	Programmable
UC3828N	Current Mode PWM Controller	Off Line, DC-DC	Forward, Flyback, Buck, Boost	1.00 A	1.0 MHz	Single, Totem Pole	200.0 μ A	Programmable
UC3841N	Programmable, Off Line, PWM Controller	Off Line, DC-DC	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	1.0 mA	100%
UC3842AN	Current Mode PWM Controller	Off Line	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	0.5 mA	100%
UC3842D	Current Mode PWM Controller	Off Line	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	1.0 mA	100%
UC3842N	Current Mode PWM Controller	Off Line	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	1.0 mA	100%
UC3843AD	Current Mode PWM Controller	DC-DC	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	0.5 mA	100%
UC3843AN	Current Mode PWM Controller	DC-DC	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	0.5 mA	100%
UC3843D	Current Mode PWM Controller	DC-DC	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	1.0 mA	100%
UC3843N	Current Mode PWM Controller	DC-DC	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	1.0 mA	100%
UC3844AD	Current Mode PWM Controller	Off Line	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	0.5 mA	50%
UC3844AN	Current Mode PWM Controller	Off Line	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	0.5 mA	50%
UC3844N	Current Mode PWM Controller	Off Line	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	1.0 mA	50%
UC3845AN	Current Mode PWM Controller	DC-DC	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	0.5 mA	50%
UC3845N	Current Mode PWM Controller	DC-DC	Forward, Flyback, Buck, Boost	1.00 A	500.0 KHz	Single, Totem Pole	1.0 mA	50%
UC3846DW	Current Mode PWM Controller	Off Line, DC-DC	Push-Pull Full Bridge, Half Bridge	0.50 A	500.0 KHz	Dual Alternating, Totem Pole	—	50%/50%
UC3846N	Current Mode PWM Controller	Off Line, DC-DC	Push-Pull Full Bridge, Half Bridge	0.50 A	500.0 KHz	Dual Alternating, Totem Pole	—	50%/50%
UC3847N	Current Mode PWM Controller	Off Line, DC-DC	Push-Pull Full Bridge, Half Bridge	0.50 A	500.0 KHz	Dual Alternating, Totem Pole	—	50%/50%
UC3848N	Average Current Mode PWM Controller	Average Current Mode, Off Line, DC-DC	Forward, Flyback	2.00 A	1.0 MHz	Single, Totem Pole	500.0 μ A	Programmable
UC3849N	Secondary Side Average Current Mode Controller	Secondary Side, Average Current Mode	Forward, Flyback, Buck, Boost	0.25 A	1.0 MHz	Single, Totem Pole	—	Programmable
UC3851N	Programmable, Off Line, PWM Controller	Off Line, Programmable, Primary Side	Forward, Flyback, Buck, Boost	0.20 A	500.0 KHz	Single, Totem Pole	4.5 mA	Programmable
UC3856N	Improved Current Mode PWM Controller	Isolated Output, Push-Pull	Push-Pull Full Bridge, Half Bridge	1.50 A	1.0 MHz	Dual Alternating, Totem Pole	—	50%/50%
UC3875N	Phase Shift Resonant Controller	Zero Voltage Transition, Phase Shifted Bridge	Full Bridge	2.00 A	1.0 MHz	Quad, Phase Shifted, Totem Pole	150.0 μ A	100%
UC3876N	Phase Shift Resonant Controller	Zero Voltage Transition, Phase Shifted Bridge	Full Bridge	2.00 A	1.0 MHz	Quad, Phase Shifted, Totem Pole	150.0 μ A	100%
UC3877N	Phase Shift Resonant Controller	Zero Voltage Transition, Phase Shifted Bridge	Full Bridge	2.00 A	1.0 MHz	Quad, Phase Shifted, Totem Pole	150.0 μ A	100%
UC3878N	Phase Shift Resonant Controller	Zero Voltage Transition, Phase Shifted Bridge	Full Bridge	2.00 A	1.0 MHz	Quad, Phase Shifted, Totem Pole	150.0 μ A	100%
UC3879N	Phase Shift Resonant Controller	Zero Voltage Transition, Phase Shifted Bridge	Full Bridge	0.10 A	300.0 KHz	Quad, Phase Shifted, Totem Pole	150.0 μ A	100%
UC3886N	Average Current Mode PWM Controller	DC-DC	Buck	1.50 A	500.0 KHz	Single, Totem Pole	—	100%
UC7501N	Primary Side Controller	Off Line, Primary Side, for use with UC7502	Forward, Flyback	0.80 A	55.0 KHz	Single, Open Collector	—	45%
UC7502N	Error Signal Isolator	Error Signal Isolator for use with UC7501/3	—	50.00 mA	1.5 MHz	Single, Open Collector	—	—
UC7503N	Primary Side Controller	Off Line, Primary Side, for use with UC7502	Forward, Flyback	0.80 A	110.0 KHz	Single, Open Collector	—	90%
UC3570N	Low Power PWM	Wide Range, Off Line	Forward, Flyback, Buck, Boost	0.50 A	500.0 KHz	Single, Totem Pole	85.0 μ A	100%
UCC3580N	Active Clamp/Reset PWM	Active Clamp/Reset PWM	Forward, Flyback	1 A/0.5 A	1.0 MHz	Dual Complementary, Totem Pole	50.0 μ A	Programmable
UCC3581N	Micropower Voltage Mode PWM	Off Line, Primary Side PWM for ISDN Applications	Forward, Flyback	1.00 A	100.0 KHz	Single, Totem Pole	100.0 μ A	Programmable
UCC3582N	High Efficiency Synchronous Step-Down Controller	High Efficiency, DC-DC	Synchronous Buck	0.50 A	500.0 KHz	Dual Complementary, Totem Pole	150.0 μ A	100%
UCC3800N	Low-Power BiCMOS Current Mode PWM Controller	DC-DC and Battery	Buck, Boost	1.00 A	1.0 MHz	Single, Totem Pole	100.0 μ A	100%
UCC3801N	Low-Power BiCMOS Current Mode PWM Controller	DC-DC and Battery	Buck, Boost	1.00 A	1.0 MHz	Single, Totem Pole	100.0 μ A	50%
UCC3802N	Low-Power BiCMOS Current Mode PWM Controller	Off Line	Forward, Flyback	1.00 A	1.0 MHz	Single, Totem Pole	100.0 μ A	100%
UCC3806N	Dual Output, Current Mode PWM Controller	Isolated Output, Push-pull	Push-pull, Full Bridge, Half Bridge	0.50 A	1.0 MHz	Dual Alternating, Totem Pole	100.0 μ A	50%/50%
UCC3807N	Low-Power BiCMOS Current Mode PWM Controller	Off Line, DC-DC and Battery	Forward, Flyback, Buck, Boost	1.00 A	1.0 MHz	Single, Totem Pole	100.0 μ A	Programmable
UCC3810N	Low-Power BiCMOS Dual Current Mode PWM Controller	Dual PWM, Off Line, DC-DC	Forward, Flyback, Buck, Boost	1.00 A	1.0 MHz	Dual, Totem Pole	150.0 μ A	50%
UCC3883N	Micropower Peak Current Mode Controller	Primary Side Controller for ISDN	Flyback	0.70 A	400.0 KHz	Single	—	50%
UCC3885N	Micropower Secondary Regulation IC	Secondary Regulator for ISDN	Flyback	—	400.0 KHz	Single	—	50%
UCC3889N	Off Line Power Supply Controller	Off Line, Bias Supply	Flyback	0.15 A	250.0 KHz	Single, Totem Pole	150.0 μ A	55%

Supply Monitors

Mfr.'s Type	Description	Power Supply Monitor	Voltage Range (V)	Window Adjust	Current Limit	Programmable Threshold	Programmable Time Delay
UC3543N	Power Supply Supervisory Circuit	Single	5.00 to 35	No	Yes	Yes	Yes
UC3544N	Power Supply Supervisory Circuit	Single	5.00 to 35	No	Yes	Yes	Yes
UC3903N	Quad Supply and Line Monitor	Quad	8.00 to 40	Yes	No	Yes	No
UC3904N	Quad Supply and Line Monitor	Quad	4.75 to 18	Yes	No	Yes	Yes

Switching Regulators

Switching regulators consist of reference supply, error amplifier, oscillator, comparator, and a switching element. In conjunctions with an external inductor, diode, and capacitor, the switching regulator offers output power capability with minimum loss.

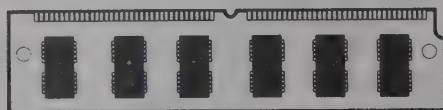
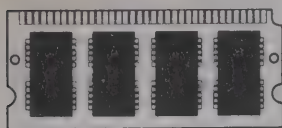
Mfr.'s Type	Description	Application	Topology	Peak Output Current	Output Frequency	Outputs	Maximum Duty Cycle
UC2577T-12	Simple 12 Volt Step-Up Voltage Regulator	Current Mode, Step-Up Switching Regulator	Boost, Forward, Flyback	3 A	52 KHz	Single, Open Collector	95%
UC2577T-15	Simple 15 Volt Step-Up Voltage Regulator	Current Mode, Step-Up Switching Regulator	Boost, Forward, Flyback	3 A	52 KHz	Single, Open Collector	95%
UC2577T-ADJ	Simple Adjustable Volt Step-Up Voltage Regulator	Current Mode, Step-Up Switching Regulator	Boost, Forward, Flyback	3 A	52 KHz	Single, Open Collector	95%



— NEW —

VisionTek™ Memory Upgrades

VisionTek™ Memory Upgrades



VisionTek™: The Future Of Memory Upgrades

A leader in the design and manufacturer of proprietary memory for the computer reseller market, VisionTek has been providing quality memory upgrades since 1988. Started as a DRAM brokerage in the founders' apartment, VisionTek has nearly doubled its revenues each year. VisionTek is now one of the largest memory manufacturers in the US and is known

in the memory industry for delivering personalized service, superior quality and consistent availability in an often volatile market. VisionTek has been a memory industry innovator in service offerings such as a lifetime product warranty, an inventory buy back program for resellers and their end users, and a unique corporate assistance program.

Acer Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
58311.0	4 MB Module	AcerNote 730/35/60 Series	12	1	91.30610.033
58311.0	4 MB Module	AcerNote 780CX	16	1	91.30610.033

Apple Memory Upgrades from VisionTek

51518.0	32 MB Module	Centris and Quadra 660AV	68	2	—
51513.0	16 MB Module NC	Centris 610	68	2	—
51513.0	16 MB Module NC	Centris 650	132/6	4	—
51250.0	16 MB Kit (4)	LaserWriter IIfx	32	8	M0292LL/B
51250.0	16 MB Kit (4)	LaserWriter IIfx	32	8	M0292LL/B
51120.0	2 MB Kit (2)	Macintosh Classic	4	1	M0219LL/A
51190.0	2 MB Kit (2)	Macintosh Classic II	10	2	M0219LL/A
51190.0	2 MB Kit (2)	Macintosh Color Classic	10	2	M0219LL/A
51513.0	16 MB Module NC	Macintosh DOS Compatible Card	32	1	—
51250.0	16 MB Kit (4)	Macintosh IIfx and IIfx	128	8	M0292LL/B
51250.0	16 MB Kit (4)	Macintosh IIfx	65	4	M0292LL/B
51250.0	16 MB Kit (4)	Macintosh IIfx and IIfx	68	4	M0292LL/B
51190.0	2 MB Kit (2)	Macintosh LC	10	2	M0219LL/A
51513.0	16 MB Module NC	Macintosh LC 475	36	1	—
51513.0	16 MB Module NC	Macintosh LC 520 and 550	36	1	—
51513.0	16 MB Module NC	Macintosh LC 575	36	1	—
51513.0	16 MB Module NC	Macintosh LC 630	36	1	—
51190.0	2 MB Kit (2)	Macintosh LC II	10	2	M0219LL/A
51513.0	16 MB Module NC	Macintosh LC III Performa 450	36	1	—
51120.0	2 MB Kit (2)	Macintosh Plus and SE	4	4	M0219LL/A
51250.0	16 MB Kit (4)	Macintosh SE30	32	8	M0292LL/B
51500.0	4 MB Module	Macintosh TV	8	1	—
51160.0	8 MB Kit (2)	Performa 200	10	2	—
51190.0	2 MB Kit (2)	Performa 400, 405, 430	10	2	M0219LL/A
51190.0	2 MB Kit (2)	Performa 410	10	2	M0219LL/A
51513.0	16 MB Module NC	Performa 460/66/67/75/76	36	1	—
51513.0	16 MB Module NC	Performa 550/75/77	36	1	—
51513.0	16 MB Module NC	Performa 575, 577, 578	36	1	—
51250.0	16 MB Kit (4)	Performa 600 and 600CD	68	4	M0292LL/B
51006.0	64 MB Kit (2)	Performa 6110 Series	72	2	—
51513.0	16 MB Module NC	Performa 630/35/36/37/38	36	1	—
51160.0	8 MB Kit (2)	Personal LaserWriter NT	8	2	—
51513.0	16 MB Module NC	Power Macintosh 6100 DOS Card	32	1	—
51006.0	64 MB Kit (2)	Power Macintosh 6100/60 and AV	72	2	—
51513.0	16 MB Module NC	Power Macintosh 6100/66 DOS	72/32	2/1	—
51006.0	64 MB Kit (2)	Power Macintosh 7100/66 and AV	136	4	—
51006.0	64 MB Kit (2)	Power Macintosh 8100/100 and 110	264	8	—
51006.0	64 MB Kit (2)	Power Macintosh 8100/80 and AV	264	8	—
51450.0	6 MB Module	PowerBook 140 and 170	8	1	—
51457.0	4 MB Module	PowerBook 145B	8	1	—
51466.0	20 MB Module	PowerBook 150	40	1	—
51456.0	10 MB Module	PowerBook 160, 165, 180	14	1	—
51457.0	4 MB Module	PowerBook 185c and 180c	14	1	—
51013.0	32 MB Module	PowerBook 500s (BlackBird)	36	1	—
51466.0	20 MB Module	PowerBook Duo Series	***	1	—
51513.0	16 MB Module NC	Quadra 605	36	1	—
51513.0	16 MB Module NC	Quadra 610	68	2	—
51513.0	16 MB Module NC	Quadra 610 DOS Compatible	68/32	2/1	—
51513.0	16 MB Module NC	Quadra 630	36	1 or 2	—
51513.0	16 MB Module NC	Quadra 650	136	4	—
51250.0	16 MB Kit (4)	Quadra 700	68	4	M0292LL/B
51518.0	32 MB Module	Quadra 800	136	4	—
51518.0	32 MB Module	Quadra 840AV	128	4	—
51250.0	16 MB Kit (4)	Quadra 900	256	16	M0292LL/B
51250.0	16 MB Kit (4)	Quadra 950	256	16	M0292LL/B
51513.0	16 MB Module NC	Workgroup Server 60	68	2	—
51006.0	64 MB Kit (2)	Workgroup Server 6150	72	2	—
51518.0	32 MB Module	Workgroup Server 80	136	4	—
51006.0	64 MB Kit (2)	Workgroup Server 8150 and 9150	264	8	—
51250.0	16 MB Kit (4)	Workgroup Server 95	256	16	M0292LL/B

AST Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
52090.0	8 MB Kit (2)	Advantage! 486SX/20,25,33,33p	16	4	500780-001
52188.0	16 MB Module	Advantage! Pro 486SX/25, DX/33	64	4	500987-004
52018.0	4 MB Module	Ascentia 800N and 810N Series	20	1	501488-001
52188.0	16 MB Module	Bravo	64	4	500987-004
52090.0	8 MB Kit (2)	Bravo (Original)	16	4	500780-001
52187.0	8 MB Kit (2)	Bravo 286/16	16	6	500987-003
52188.0	16 MB Module	Bravo LC (LC2)	64	4	500987-004
52188.0	16 MB Module	Bravo LC (New)	64	4	500987-004
52188.0	16 MB Module	Bravo LP	64	4	500987-004
52188.0	16 MB Module	Bravo MS and MT P/90 Series	128	4	500987-004
52188.0	16 MB Module	Bravo MT	64	4	500987-004
52110.0	4 MB Module	Cupid Expansion Boards	32	8	500780-004
52110.0	4 MB Module	Power Premium 3/33, 4/33, 4/50d	16/80	4/2	500780-004
52110.0	4 MB Module	Power Premium 4/33s	16/80	4/2	500780-004
52110.0	4 MB Module	Power Premium 4/66d	16/80	4/2	500780-004
52110.0	4 MB Module	Premium 386 and 486TE	16/80	4/2	500780-004
52110.0	4 MB Module	Premium 386/25 and /33	4/80	4/2	500780-004
52110.0	4 MB Module	Premium 386/33T	16/48	4/1	500780-004
52110.0	4 MB Module	Premium 386SX/16	16/48	4/1	500780-004
52110.0	4 MB Module	Premium 486 486E and Premium II	16/80	4/2	500780-004
52110.0	4 MB Module	Premium II 386SX/20-25	16/48	4/1	500780-004
52110.0	4 MB Module	Premium Server SE 4/33	16/80	4/2	500780-004
52110.0	4 MB Module	Premium Server SE 4/50 and 4/66	32/96	4/2	500780-004

AT&T and NCR Memory Upgrades from VisionTek

59367.0	4 MB Kit (4)	3230 and 3330 Series	32	8	3230-F100
64137.0	16 MB Module	3335, 3345	(192)	4/3	—
59368.0	4 MB Kit (2)	3350 Series	192	6	3350-F/K101
64137.0	16 MB Module	3445, 3447	(256)	4/6	—
59011.0	4 MB Module	Globalyst 510 and 515	64	3	K122-0000
59011.0	4 MB Module	Globalyst 520 Series	128	4	K122-0000
59011.0	4 MB Module	Globalyst 525	64	4	K122-0000

Compaq Memory Upgrades from VisionTek

53002.0	16 MB Module 3.3 V	Concerto 4/25, 4/33	20	1	144790-003
53021.0	8 MB Module	Contura 400 Series	20	1	147655-001
53801.0	8 MB Module	Contura 486 Series	20	1	146521-001
53005.0	8 MB Module	Contura Aero 4/25, 4/33	20	1	190597-001
53370.0	4 MB Module	Deskpro 286M	16	1 (3)	118690-001
53160.0	4 MB Module	Deskpro 286e	16	(2)	113132-001
53480.0	8-64 MB Board	Deskpro 386, 486S, DX M Series	64	1 (8)	129160-001 8MB
53160.0	4 MB Module	Deskpro 386/20 and 386/25	13 or 16	3	113132-001
53200.0	4-12 MB Board	Deskpro 386/20e, 386/25e	13 or 16	(2)	113645-001
53370.0	4 MB Module	Deskpro 386M	8/16	2/1	118690-001
53440.0	8 MB Module	Deskpro 386i and 486i Series	32	4	128877-001
53140.0	4 MB Module	Deskpro 386s	10 or 13	1	112534-001
53370.0	4 MB Module	Deskpro 386s/20	16	4	118690-001
53370.0	4 MB Module	Deskpro 386s/20N	8/16	2/1	118690-001
53025.0	8 MB Module	Deskpro 450/66/100 Desktops	136	4	127213-001
53480.0	8-64 MB Board	Deskpro 486DX2 Series	64	1 (8)	129160-001 8MB
53933.0	64 MB Kit (4)	Deskpro 5/60M	136	4	149913-001
53933.0	64 MB Kit (4)	Deskpro 5/66M	144	4	149913-001
53025.0	8 MB Module	Deskpro 575, 590, and 5100	192	6	127213-001
53534.0	8 MB Module	Deskpro XE 486 Series	32	4	141685-001
53933.0	64 MB Kit (4)	Deskpro XE 560	136	4	149913-001
53009.0	32 MB Kit (2)	Deskpro XL 486 Series	128	4	148190-001
53009.0	32 MB Kit (2)	Deskpro XL Pentium Series	*144	4	148190-001
53012.0	8 MB Module 3.3 V	LTE Elite Series	24	1	199014-001
53500.0	4 MB Card	LTE Lite 386/25 Series	18 or 20	1	129769-002
53580.0	8 MB Card	LTE Lite 486 Series	20	1	142337-003
53500.0	4 MB Card	LTE Lite/20	18	1	129769-002
53440.0	8 MB Module	Portable 486	32	4	128877-001



VisionTek™ Memory Upgrades (continued)

Compaq Memory Upgrades from VisionTek (continued)

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
53534.0	8 MB Module	Presario 400 Series	20	2	141685-001
53016.0	8 MB Module	Presario 520 Series	64	4	147523-001
53920.0	16 MB Module	Presario 600 Series	56	4	149320-001
53016.0	8 MB Module	Presario 700/900	100	4	147523-001
53920.0	16 MB Module	Presario 800C, 800F, 800S Series	64	4	149320-001
53016.0	8 MB Module	Presario 860	64	2	147523-001
53933.0	64 MB Kit (4)	ProLiant 1000 5/60	144	8	149913-001
53933.0	64 MB Kit (4)	ProLiant 1000 5/60 (Old)	144	4	149913-001
53920.0	16 MB Module	ProLiant 1000/1000R 486DX2/66	128	4	149320-001
53009.0	32 MB Kit (2)	ProLiant 1500 Series	208	8	148190-001
53933.0	64 MB Kit (4)	ProLiant 2000 and 2000R	512	8/1	149913-001
53933.0	64 MB Kit (4)	ProLiant 4000	512	8/1	149913-001
53522.0	8 MB Kit (2)	ProLinea 386 Series	16	4	141742-001
53025.0	8 MB Module	ProLinea 450/66/100 Desktops	(136)	4	172713-001
53534.0	8 MB Module	ProLinea 486 Series	32	4	141685-001
53025.0	8 MB Module	ProLinea 575, 590, and 5100	192	6	172713-001
53920.0	16 MB Module	ProLinea Enhanced Series	100	3	149320-001
53920.0	16 MB Module	ProLinea MT Series	64	4	149320-001
53534.0	8 MB Module	ProLinea Net 1 Series	20	2	141685-001
53009.0	32 MB Kit (2)	ProSignia 300 Series	208	6	148190-001
53920.0	16 MB Module	ProSignia 486/33, 486DX2/66	128	4	149320-001
53933.0	64 MB Kit (4)	ProSignia 5/60	144	4	149913-001
53009.0	32 MB Kit (2)	ProSignia 500 Series	144	4	148190-001
53920.0	16 MB Module	ProSignia VS Series	128	4	149320-001
53480.0	8-64 MB Board	Systempro/LT 386 and 486SX/25	64	1 (8)	129160-001 8MB
53440.0	8 MB Module	Systempro/LT 486/33	64	1 (8)	128877-001
53480.0	8-64 MB Board	Systempro/LT 486DX2/50	64	1 (8)	129160-001 8MB
53480.0	8-64 MB Board	[129160-001 Expansion Board]	64	8	129160-001 8MB

Dell Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
59120.0	4 MB Module	LowProfile Power Desktop	64	4	310-2507
59134.0	16 MB Module	NetPlex 486 Series	32	2	310-3327
59134.0	16 MB Module	OmniPlex 486/ME Series	128	4	310-3327
59134.0	16 MB Module	OptiPlex (LV) and MX(V) Series	64	4	310-3327
59134.0	16 MB Module	Performance L, M, T Series	64	4	310-3327
59134.0	16 MB Module	Performance ME Series	64	4	310-3327
59120.0	4 MB Module	Power Desktop Series	64	4	310-2507
59134.0	16 MB Module	PowerEdge XE 486 Series	128	4	310-3327
59120.0	4 MB Module	System 320SX (Revision 2)	8/16	2/1	310-2507
59120.0	4 MB Module	System 325D, 325P, 333D, 333P	16	4	310-2507
59120.0	4 MB Module	System 433P	16	4	310-2507
59134.0	16 MB Module	XPS Midsize 486 Series	64	4	310-3327
59134.0	16 MB Module	XPS P60 FS	128	4	310-3327

Digital (DEC) Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
59067.0	4 MB Module	AXP 150	128	8	FR-PC74M-AA
62007.0	8 MB Kit (2)	Celebris 486 Series	128	4	FR-PC77M-AA
62027.0	8 MB Module (NP)	Celebris Pentium Series	128	4	FR-PCVAM-AB
62007.0	8 MB Kit (2)	Celebris XL 590	192	6	FR-PC77M-AA
59067.0	4 MB Module	DECpc 486MT Series	128	4	FR-PC74M-AA
59067.0	4 MB Module	DECpc LP, LPv+, LPx+ Series	64	4	FR-PC74M-AA
62007.0	8 MB Kit (2)	DECpc LPx 560 and 566	128	4	FR-PC77M-AA
59067.0	4 MB Module	DECpc MT Series	64	4	FR-PC74M-AA
62007.0	8 MB Kit (2)	DECpc XL 4100, 466d2, 433dx	128	(4)	FR-PC77M-AA
62007.0	8 MB Kit (2)	DECpc XL Server 466 and 4100	128	8	FR-PC77M-AA
62007.0	8 MB Kit (2)	DECpc XL Server 560 and 566	192	8	FR-PC77M-AA
62007.0	8 MB Kit (2)	DECpc XL Server 590	256	8	FR-PC77M-AA
62007.0	8 MB Kit (2)	Prioris HX	512	8	FR-PC77M-AA
62027.0	8 MB Module (NP)	Venturis 486 Series	68	2	FR-PCVAM-AB
62027.0	8 MB Module (NP)	Venturis Pentium Series	64	2	FR-PCVAM-AB

Epson Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
64136.0	16MB Module	Action PC and ActionTower 3000	64	2	—
65226.0	2MB Upgrade	ActionLaser 1000	6.5	12	2MBMEM
65226.0	2MB Upgrade	ActionLaser 1500	5	12	2MBMEM

Gateway 2000 Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
64090.0	4 MB Module	286/16, 386SX/16 and 386SX/20C	16	4	—
64137.0	16 MB Module	3SX-25, 33	32	2	—
64117.0	8 MB Module	486DX2-50 and 66 EISA	64	8	—
64090.0	4 MB Module	486DX25 33 DX2-50	32/64	8/1	—
64136.0	16 MB Module	4DX, DX2 Series	80	3	—
64137.0	16 MB Module	4DX-33E, 4DX2-50E, 4DX2-66E	64	4	—
64137.0	16 MB Module	4SX, 4DX, 4DX2	32	2	—
64137.0	16 MB Module	4SX, 4DX, 4DX2 Local Bus	32	2	—
64137.0	16 MB Module	4SX, 4DX, 4DX2 V Series	64	2 or 4	—
64137.0	16 MB Module	P4D Series	128	4	—
64136.0	16 MB Module	P5 Series	128	4	—

Hewlett-Packard (HP) Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
65365.0	16 MB Module	Color LaserJet	72	4	C3146A
65356.0	8 MB Module	DesignJet 200, 220	10	1	C2066A
65356.0	8 MB Module	DesignJet 600, 650C	20	2	C2066A
65356.0	8 MB Module	DesignJet 650C	68	2	C2066A
65355.0	4 MB Module	DesignJet C1633B	10	2	C2065A
65356.0	8 MB Module	DeskJet 1200C	26 or 18	3	C2066A
65356.0	8 MB Module	DeskJet 1200C/PS	20	3 (2)	C2066A
65356.0	8 MB Module	LaserJet 4	34	4	C2066A
65356.0	16 MB Module	LaserJet 4 Plus	66	4	C3146A
65360.0	1 MB Module	LaserJet 4L	2	1	C2024A
65356.0	8 MB Module	LaserJet 4M	26	4 (3)	C2066A
65365.0	16 MB Module	LaserJet 4M Plus	50	4 (3)	C3146A
65364.0	8 MB Module	LaserJet 4MP	22	2	C3133A
65365.0	16 MB Module	LaserJet 4MV	44	2	C3146A
65364.0	8 MB Module	LaserJet 4P	26	3	C3133A
65365.0	16 MB Module	LaserJet 4V	68	4	C3146A
65356.0	8 MB Module	LaserJet 4si	34	4	C2066A
65356.0	8 MB Module	LaserJet 4siMX	26	4 (2)	C2066A
65356.0	16 MB Module	LaserJet 5MP	35	2	C3146A
65365.0	16 MB Module	LaserJet 5P	50	3	C3146A
65290.0	4 MB Board	LaserJet II	4.5	1	33445B
65290.0	4 MB Board	LaserJet IID	4.5	1	33445B
65350.0	4 MB Board	LaserJet III, IIID	5	2	33477B
65350.0	4 MB Board	LaserJet IIIP	5	1	33477B
55060.0	4 MB Module	LaserJet IIISI	17/33	4	C2065A
65350.0	4 MB Board	LaserJet IIP, IIP Plus	4.5	1	33477B
55113.0	32 MB Module	NetServer LC	192	6	D2298A
55113.0	32 MB Module	NetServer LE	128	4	D2298A
55113.0	32 MB Module	NetServer LF 486	192	6	D2298A
55113.0	32 MB Module	NetServer LF Pentium	192	6	D2298A
55113.0	32 MB Module	NetServer LM	(384)	4/1	D2298A
55060.0	4 MB Module	PaintJet XL300	18	1	C2065A
55110.0	2 MB Module	Vectra 386/25 PC	32	4	D2381A
55122.0	16 MB Module	Vectra 486 M, MI, N, NI Series	48	3	D2676A
55110.0	2 MB Module	Vectra 486PC	32/64	8	D2381A
55110.0	2 MB Module	Vectra 486ST Series	64	8	D2381A
55110.0	2 MB Module	Vectra 486U Series	64	8	D2381A
55122.0	16 MB Module	Vectra 486VL Series	32	2	D2676A
55122.0	16 MB Module	Vectra 486XM Series	64	4	D2676A
55110.0	2 MB Module	Vectra 486s/20, 486T PC Series	32/64	8	D2381A
55552.0	8 MB Module (NP)	Vectra M2, N2, and XM2 Series	96	3	D2691A
55113.0	32 MB Module	Vectra M2, N2, and XM2 Series	96	3	D2298A
55552.0	8 MB Module (NP)	Vectra VE	128	4	D2691A
55552.0	8 MB Module (NP)	Vectra VL2 5/60	192	6	D2691A
55552.0	8 MB Module (NP)	Vectra VL2 Series	64	2	D2691A
55113.0	32 MB Module	Vectra VL2 Series	64	2	D2298A
55552.0	8 MB Module (NP)	Vectra VL3	192	6	D2691A
55113.0	32 MB Module	Vectra XP/60	192	6	D2298A
55552.0	8 MB Module (NP)	Vectra XU Series	256	8	D2691A
55113.0	32 MB Module	Vectra XU Series	256	8	D2298A
55122.0	16 MB Module	Windows Client 425SX	32	2	D2676A

IBM Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
56054.0	8 MB Module	Apitva 300 Series	64	2	92G7541
56054.0	8 MB Module	Apitva 500 and 700 Series	128	4	92G7541
56022.0	4 MB Kit (4)	EduQuest Forty and Fifty Series	20	4	60G0868
56022.0	4 MB Kit (4)	EduQuest Thirty Series	16 or 20	4	60G0868
56022.0	4 MB Kit (4)	EduQuest Thirty-five Series	16	4	60G0868
56784.0	16 MB Module	PC Server 320	256	8	92G7204
56784.0	16 MB Module	PC Server 486 Series	128	4	92G7204
56584.0	16 MB ECC Module	PC Server 500 Series	256	8	32G3270
56784.0	16 MB Module	PC Server Pentium Series	192	6	92G7204
56550.0	2 MB Module	PS/1 2123 Pro 386SX	16	2	6450902
56520.0	2 MB Module	PS/1 386SX Series	16	2	6450608
56301.0	4 MB Module (T)	PS/1 486 Series (32 MB max 2 skt)	32	2	6450128-T
56787.0	4 MB Kit (4)	PS/1 486 Series (32 MB max 8 skt)	32	8	96F9290 (4)
56301.0	4 MB Module (T)	PS/1 486 Series (64 MB max 2 skt)	64	2	6450128-T
56301.0	4 MB Module (T)	PS/1 486 Series (64 MB max 4 skt)	64	4	6450128-T
56301.0	4 MB Module (T)	PS/1 486 Series (64 MB max 4 skt)	64	4	6450128-T
56080.0	2 MB Kit (2)	PS/2 25 and 30 286 Series	4/16	4/1	30F5360
56450.3	2 MB Module	PS/2 25 SX Series	16	2	6450604
56450.3	2 MB Module	PS/2 35LS, 35SX, 40SX	16	3	6450604
56450.3	2 MB Module	PS/2 50-021, 60-041, 60-071	1/16	1	6450604
56450.3	2 MB Module	PS/2 50Z-031, 061	2/16	1/1	6450604
56550.0	2 MB Module	PS/2 53, 53LS	16	3	6450902
56450.3	2 MB Module	PS/2 55LS SX-041, 061, 081, 65SX	8/16	2/1	6450604
56450.3	2 MB Module	PS/2 55SX-031	8/16	2/1	6450604
56550.0	2 MB Module	PS/2 56 and 57 Series	16	3	6450902
56450.3	2 MB Module	PS/2 70-061, 081, 121, 161, E61	6/64	3/1	6450604
56520.0	2 MB Module	PS/2 70-A16, 21, 61, 81, 821, 61	8/64	4/1	6450608
56450.3	2 MB Module	PS/2 73 P70-031 Portable	8/64	4/1	6450604
56450.3	2 MB Module	PS/2 73 P70-061, 121 Portable	8/64	2/1	6450604
56550.0	2 MB Module	PS/2 73 P75-161, 401 Portable	16	4	6450902
56550.0	2 MB Module	PS/2 76 and 77 Series	32	4	6450902
56784.0	16 MB Module	PS/2 76i.s and 77i.s Series	64	4	92G7204
56150.0	4-16 MB Board	PS/2 80-041	2/64	2/1	34F3011
56150.0	4-16 MB Board	PS/2 80-071	2/64	0/1	34F3011
56150.0	4-16 MB Board	PS/2 80-081, 111, 21/61, 311/21	4/64	2/1	34F3011
56150.0	4-16 MB Board	PS/2 80-A16, A21, A31	8/64	2/1	34F3011
56550.0	2 MB Module	PS/2 90XP 486 Series	64	[4 and 4]	6450902
56584.0	16 MB ECC Module	PS/2 95XP 0P# Series	128	8	32G3270
56584.0	16 MB ECC Module	PS/2 95XP 1M# 3N#, 3P#, 3Q#	256	8	32G3270
56550.0	2 MB Module	PS/2 95XP 486 Series	64	8	6450902
56010.0	8 MB Card	PS/2 CL57 SX	16	2	07G1421
56550.0	2 MB Module	PS/2 E Series	16	2	6450902



— NEW —

VisionTek™ Memory Upgrades and Digitizing Tablets

VisionTek™ Memory Upgrades (continued)

IBM Memory Upgrades from VisionTek (continued)

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
56690.0	4 MB Module	PS/2 L40SX	18	2	79F1000
56690.0	4 MB Module	PS/2 N33SX	6	1	79F1000
56784.0	16 MB Module	PS/2 Server 85-0K#, 0N#	256	8	92G7204
56550.0	2 MB Module	PS/2 Server 85-0X#	64	8	6450902
56584.0	16 MB ECC Module	PS/2 Server 95 and Server Array	256	8	32G3270
56690.0	4 MB Module	PS/Note 2141 Series	10	1	79F1000
56690.0	4 MB Module	PS/Note 2518 Series	20	1	79F1000
56520.0	2 MB Module	PS/ValuePoint 325T Series	16	2	6450608
56787.0	4 MB Kit (4)	PS/ValuePoint 486	32	8	96F9290 (4)
56784.0	16 MB Module	PS/ValuePoint 486 Local Bus	64	4	92G7204
56784.0	16 MB Module	PS/ValuePoint P60/D	2	2	92G7204
56784.0	16 MB Module	PS/ValuePoint Performance	128	4	92G7204
56784.0	16 MB Module	PS/ValuePoint SI Series	64	4	92G7204
56054.0	8 MB Module	Personal Computer 300 (486)	128	4	92G7541
56054.0	8 MB Module	Personal Computer 300 (Pent)	128	4	92G7541
56784.0	16 MB Module	Personal Computer 700	192	6	92G7204
56550.0	2 MB Module	Planar Upgrade 32G3279, 32G3283	16	3	6450902
56784.0	16 MB Module	Planar Upgrade 32G3296, 70G8992	128	8	92G7204
56784.0	16 MB Module	Planar Upgrade 32G3300, 70G8998	32	2	92G7204
56784.0	16 MB Module	RS/6000 41T/W, C10 7008/11 25#	256	8	92G7204
56350.0	8 MB Module	RS/6000 7008/7011 22#, 23#, M2#	64	8	6450130
56028.0	8 MB Card (Basic)	ThinkPad 340	12	1	84G5692
56690.0	4 MB Card	ThinkPad 350.C	20	1	79F1000
56029.0	16 MB Card (Basic)	ThinkPad 355	20	1	84G5695
56029.0	16 MB Card (Basic)	ThinkPad 360 Series	20	1	84G5695
56016.0	4 MB Card 3.3 V	ThinkPad 500	12	1	8189098
56016.0	4 MB Card 3.3 V	ThinkPad 510	16	1	8189098
56010.0	8 MB Card	ThinkPad 700.C	16	2	07G1421
56010.0	8 MB Card	ThinkPad 720.C	16	2	07G1421
56029.0	16 MB Card (Basic)	ThinkPad 730T	20 or 24	1	84G5695
56050.0	32 MB Card	ThinkPad 750 Series	36	1	—
56050.0	32 MB Card	ThinkPad 755 Series	36 or 40	1 (2)	—
56450.3	2 MB Module	Xstation 120	8.5	4	6450604
56450.3	2 MB Module	Xstation 130	2	2	6450604
56784.0	16 MB Module	Xstation 140	68	2	92G7204
56784.0	16 MB Module	Xstation 150	70	2	92G7204
56450.3	2 MB Module	16 bit MC Board 16 MB Maximum	16	4	6450604
56450.3	2 MB Module	16 bit MC Board 32 MB Maximum	32	4	6450604
56450.3	2 MB Module	32 bit MC Board 16 MB Maximum	16	4	6450604
56450.3	2 MB Module	32 bit MC Board 32 MB Maximum	32	4	6450604
56784.0	16 MB Module	32 bit MC Board 64 MB Maximum	64	4	92G7204

NEC Memory Upgrades from VisionTek

59407.0	8 MB Module	Express RISCserver	(512)	4	OP-410-30002
59407.0	8 MB Module	Image 486es Series	128	4	OP-410-30002
59407.0	8 MB Module	Image M Series	128	4	OP-410-30002
59407.0	8 MB Module	Image P60 and P90/P90D	192	6	OP-410-30002
59407.0	8 MB Module	Image P90E and P100E	256	8	OP-410-30002
59407.0	8 MB Module	Image RISCstation	128	4	OP-410-30002
59525.0	2 MB Kit (2)	PowerMate and Ready 325	20	6	158-082182-000
59693.0	4 MB Module	PowerMate and Ready 425, 433, 466	64	4	158-082232-000
59406.0	4 MB Module	PowerMate and Ready 486es Series	36	2	OP-410-30001
59525.0	2 MB Kit (2)	PowerMate 286/12	5/16	4/1	158-082182-000
59525.0	2 MB Kit (2)	PowerMate 486i Series	38	8	158-082182-000
59407.0	8 MB Module	PowerMate Express/II 466/433ST	256	8	OP-410-30002
59407.0	8 MB Module	PowerMate Express/II P60ST	192	6	OP-410-30002
59407.0	8 MB Module	PowerMate Express/II P66LT	(384)	4	OP-410-30002
59410.0	4 MB Module	PowerMate P60D	72	4 (2)	OP-410-14003
59410.0	4 MB Module	PowerMate P60M and Ready P60M	136	4	OP-410-14003
59525.0	2 MB Kit (2)	PowerMate SX/16	10	1	158-082182-000
59525.0	2 MB Kit (2)	PowerMate SX/20	4/12	1/1	158-082182-000
59525.0	2 MB Kit (2)	PowerMate SXi and SXvi Series	26	6	158-082182-000
59410.0	4 MB Module	PowerMate V466/V4100	64	2	OP-410-14003
59410.0	4 MB Module	PowerMate VP75	128	4	OP-410-14003
59410.0	4 MB Module	PowerMate and Ready DandM Series	128	4	OP-410-14003
59407.0	8 MB Module	RISCstation 2000	384	12	OP-410-30002
59410.0	4 MB Module	Ready 5010	64	2	OP-410-14003
59410.0	4 MB Module	Ready 7010, 7020, and 9010	128	4	OP-410-14003
59410.0	4 MB Module	Ready 9510 and 9520	128	4	OP-410-14003
59472.0	8 MB Card 3.3 V	UltraLite Versa Series	20	1	OP-410-4002
59472.0	8 MB Card 3.3 V	Versa E Series	20	4	OP-410-4002
59472.0	8 MB Card 3.3 V	Versa M Series	40	1	OP-410-4002
59472.0	8 MB Card 3.3 V	Versa P Series	40	1	OP-410-4002
59416.0	4 MB Module	Versa S Series	20	1	OP-410-1201
59472.0	8 MB Card 3.3 V	Versa V Series	20	1	OP-410-4002

Sun Memory Upgrades from VisionTek

59822.0	32 MB Kit	SPARCcenter2000	5GB	16	X162A
59823.0	64 MB Kit	SPARCcenter2000	5GB	16	X170A
59824.0	128 MB Kit	SPARCcenter2000	2GB	16	X163A
59813.0	256 MB Kit	SPARCcenter2000	2GB	16	X173A
59819.0	16 MB Module	SPARCserver20	512	8	X116P
59820.0	64 MB Module	SPARCserver20	512	8	X164P
59817.0	8 MB Module	SPARCserver4	160	5	X108M
59818.0	32 MB Module	SPARCserver4	160	5	X132M
59834.0	16 MB Module	SPARCserver/Station	512	8	X116F
59839.0	64 MB Module	SPARCserver/Station	512	8	X164F
56450.3	2 MB Module	PS/2 73 P70-061, 121 Portable	8/64	2/1	6450604
59815.0	4 MB Kit	SPARCstation1, 1+	64	16	X104C
59836.0	16 MB Kit	SPARCstation1, 1+	64	8	X116H
59836.0	16 MB Kit	SPARCstation2	64	8	X116H, Y, W
59817.0	8 MB Module	SPARCserver5	256	8	X108M
59818.0	32 MB Module	SPARCserver5	256	8	X132M

Texas Instruments Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
59852.0	16 MB Module	TravelMate 4000M	20	1	9793358-0001
65900.0	1 MB Module	MicroLaser Plus, XL PS17 and 35	4.5	3	2555739-0001
65900.0	1 MB Module	MicroLaser Turbo, XL	4.5	4	2555739-0001
65900.0	1 MB Module	MicroLaser, Plus, XL	4.5	4	2555739-0001

Toshiba Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
57405.3	4 MB Card 3.3 V	T1900, 1910, 1950, 1960 Series	20	1	PC-PA2012U
57405.3	4 MB Card 3.3 V	T200, T200CS	20	1	PC-PA2012U
57007.0	4 MB Module 3.3 V	T2400CS and CT	24	1	PC-PA2019U
57007.0	4 MB Module 3.3 V	T2450	32	1	PC-PA2019U
57007.0	4 MB Module 3.3 V	T3400 Series	20	1	PC-PA2019U
57007.0	4 MB Module 3.3 V	T3600CT	24	1	PC-PA2019U
57405.3	4 MB Card 3.3 V	T4500 Series	20	1	PC-PA2012U
57405.3	4 MB Card 3.3 V	T4600 Series	20	1	PC-PA2012U
57405.3	4 MB Card 3.3 V	T4700 and T4800 Series	24	1	PC-PA2012U
57405.3	4 MB Card 3.3 V	T4850	40	2	PC-PA2012U
57013.0	8 MB Module 3.3 V	T4900	40	2	PC-PA2013U

Zenith Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
59994.0	4 MB Module	Z-300/400 486 Series	40	3	ME-100
59994.0	4 MB Module	Z-400+ and Z-Station 486 Series	64	4	ME-100
59902.0	4 MB Module	Z-Select 100 486 Series	64	2	AME-70
59994.0	4 MB Module	Z-Station 325Sh and 325Sn	16	4	ME-100
59902.0	4 MB Module	Z-Station 510 Series	128	4	AME-70
59994.0	4 MB Module	Z-Station 5Sh, 5En, 5Deh, XEn	128	8	ME-100

Expansion Board Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
64137.0	16 MB Module	EISA Expansion Board	128	4	—
64090.0	4 MB Module	XT/AT and AT Boards	16	4	—

30 and 72 Pin SIMM Memory Upgrades from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
41120.0	2 MB SIMM (30 pin)	30 Pin SIMMs (Non-Parity X8)	—	—	2X8-70ns
13245.0	4 MB SIMM (30 pin)	30 Pin SIMMs (Parity X9)	—	—	4X9-70ns 3 Chip
15218.0	2 MB SIMM (72 pin)	72 Pin SIMMs (Non-Parity X32)	—	—	512X32-70ns
15251.0	64 MB SIMM (72 pin)	72 Pin SIMMs (Parity X36)	—	—	16X36-60ns Composite

Video Ram for Apple Macintosh from VisionTek

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
51020.0	512 K VRAM Module	Apple Macintosh II and LC	512K	1	M0517LL/A (Apple)
51020.0	512 K VRAM Module	Apple Macintosh IIx/IIxv	1	2	M0517LL/A (Apple)
51020.0	512 K VRAM Module	Apple Macintosh LC 475	1	2	M0517LL/A (Apple)
51020.0	512 K VRAM Module	Apple Macintosh LC 575	1	2	M0517LL/A (Apple)
51020.0	512 K VRAM Module	Apple Performa 405	512K	1	M0517LL/A (Apple)
51020.0	512 K VRAM Module	Apple Performa 475 and 476	768K	2	M0517LL/A (Apple)
51020.0	512 K VRAM Module	Apple Performa 600	1	2	M0517LL/A (Apple)
51007.0	1 MB VRAM Kit (4)	Apple Power Macintosh 7100/66	2	4	(Apple)
51008.0	2 MB VRAM Kit (4)	Apple Power Macintosh 8100/100	4	4	M2976LL/A (Apple)
51008.0	2 MB VRAM Kit (4)	Apple Power Macintosh 8100/80	4	4	M2976LL/A (Apple)
51025.0	512 K VRAM Module	Apple PowerBook Duo Dock	1	1	M1311LL/A (Apple)
51020.0	512 K VRAM Module	Apple Quadra 605	1	2	M0517LL/A (Apple)
51270.0	512 K VRAM Kit (2)	Apple Quadra 800	1	2	M5953LL/A (Apple)
51270.0	512 K VRAM Kit (2)	Apple Quadra 840AV	2	4	M5953LL/A (Apple)
51270.0	512 K VRAM Kit (2)	Apple Quadra 950 and WGS 95	2	4	M5953LL/A (Apple)
51270.0	512 K VRAM Kit (2)	Apple Quadra/Centris 610 and 650	1	2	M5953LL/A (Apple)
51270.0	512 K VRAM Kit (2)	Apple Workgroup Server 60 and 80	1	2	M5953LL/A (Apple)
51008.0	2 MB VRAM Kit (4)	Power Computing Power 100/110	4	4	M2976LL/A (Apple)

Digitizing Tablets for Summagraphics

Mfr.'s Type	Description	Model To Be Upgraded	Maximum Memory Megabytes	No. of Sockets	OEM Part No.
76032.0	Digitizing Tablet	SummaSketch 961	—	—	With 4 btn csr, 2 btn st
76012.0	Digitizing Tablet	SummaSketch III	—	—	With 4 button cursor
76032.0	Digitizing Tablet	SummaSketch III Professional	—	—	With 4 btn csr, 2 btn st

FPGA Families — Density and Features

Device Family	Key Feature	Density				Features				
		Usable Gates	CLBs/ Macro-cells	RAM Bits	FFs	Output Drive (mA)	JTAG	Dedicated Arithmetic	Quiescent Current (mA)	Advanced Packaging
XC2064 XC2018	XC2000 Lowest Cost	0.6 K-1.0 K 1.0 K-1.5 K	64 100	— —	122 174	4 4	N N	N N	5.00 5.00	TQ, VQ
XC2064L XC2018L	XC2000L Low Power	0.6 K-1.0 K 1.0 K-1.5 K	64 100	— —	122 174	4 4	N N	N N	0.02 0.02	VQ VQ
XC3020 XC3030 XC3042 XC3064 XC3090	XC3000/3000A Low Cost	1.0 K-1.5 K 1.5 K-2.0 K 2.0 K-3.0 K 3.5 K-4.5 K 5.0 K-6.0 K	64 100 144 224 320	— — — — —	256 360 480 688 928	4 4 4 4 4	N N N N N	N N N N N	0.50 0.50 0.50 0.50 0.50	TQ, VQ TQ, VQ TQ, VQ TQ, VQ TQ
XC3020L XC3030L XC3042L XC3064L XC3090L	XC3000L Low Power	1.0 K-1.5 K 1.5 K-2.0 K 2.0 K-3.0 K 3.5 K-4.5 K 5.0 K-6.0 K	64 100 144 224 320	— — — — —	256 360 480 688 928	4 4 4 4 4	N N N N N	N N N N N	0.02 0.02 0.02 0.02 0.02	TQ, VQ TQ, VQ TQ, VQ TQ, VQ TQ
XC3120 XC3130A XC3142A XC3164A XC3190A XC3195A	XC3100A Highest Performance	1.0 K-1.5 K 1.5 K-2.0 K 2.0 K-3.0 K 3.5 K-4.5 K 5.0 K-6.0 K 6.5 K-7.5 K	64 100 144 224 320 484	— — — — — —	256 360 480 688 928 1320	8 8 8 8 8 8	N N N N N N	N N N N N N	8.00 8.00 8.00 8.00 8.00 8.00	TQ, VQ TQ, VQ TQ, VQ TQ, VQ TQ, VQ TQ
XC4003 XC4005 XC4006 XC4008 XC4010 XC4013 XC4020 XC4025	XC4000/XC4000E High Density, High Performance, User RAM	2.5 K-3.0 K 4.0 K-5.0 K 5.0 K-6.0 K 6.5 K-8.0 K 8.0 K-10.0 K 10.0 K-13.0 K 18.0 K-20.0 K 22.5 K-25.0 K	100 196 256 324 400 576 784 1024	3200 6272 8192 10368 12800 18432 25088 32768	360 616 768 936 1120 1536 2016 2560	12 12 12 12 12 12 12 12	Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y	10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00	— — — — — — BG BG
XC4002A XC4003A XC4004A XC4005A	XC4000A Low Density User RAM	1.6 K-2.0 K 2.5 K-3.0 K 3.2 K-4.0 K 4.0 K-5.0 K	64 100 144 196	2048 3200 4608 6272	256 360 480 616	12 12 12 12	Y Y Y Y	Y Y Y Y	10.00 10.00 10.00 10.00	VQ VQ TQ TQ
XC4010D XC4013D	XC4000D High Density, High Performance	8.0 K-10.0 K 10.0 K-13.0 K	400 576	— —	1120 1536	12 12	Y Y	Y Y	10.00 10.00	BG BG
XC4003H XC4005H	XC4000H High I/O	2.5 K-3.0 K 4.0 K-5.0 K	100 196	3200 6272	200 392	24 24	Y Y	Y Y	10.00 10.00	—
XC5202* XC5204* XC5206* XC5210 XC5215*	XC5200 Cost Optimized for High Volume	2.2 K-2.7 K 3.9 K-4.8 K 6.0 K-7.5 K 10.0 K-12.0 K 14.0 K-18.0 K	64 120 196 324 484	— — — — —	256 480 784 1296 1936	8 8 8 8 8	Y Y Y Y Y	Y Y Y Y Y	15.00 15.00 15.00 15.00 15.00	TQ, VQ TQ, VQ TQ TQ TQ
XC8100	XC8100, Synthesis Friendly OTP, Sea-of-Gates Architecture	1.0 K-9.0 K	Contact Your Local Allied Sales Office for Details.							

Performance

Device Family	Performance													Clock to Pad (ns)	Combinatorial Pad to Pad (ns)
	Speed Grade	Shift Register (MHz)	Small State Machine (MHz)	Large State Machine (MHz)	4 Bit Multiplier-Accumulator (MHz)	16 Bit Accumulator (MHz)	Address Map Decoder (MHz)	Data Path (MHz)	Counter Timer (MHz)	16 Bit Non Loadable Counter (MHz)	16 Bit Loadable Binary Up Counter (MHz)	16 Bit Loadable Prescalable Counter (MHz)	RAM Read Modify Write (MHz)	Pad to Setup (ns)	
XC2064 XC2018	-130	105	43	28	14	11	30	48	27	95	13	21	—	6	15
XC2064L XC2018L	-10	61	29	19	9	6	16	32	18	48	8	14	—	14	27
XC3020 XC3030 XC3042 XC3064 XC3090	-6	124	42	21	20	25	52	147	37	135	39	100	—	14	14
XC3020L XC3030L XC3042L XC3064L XC3090L	-8	69	23	14	12	15	27	86	23	81	25	59	—	12	25
XC3120 XC3130A XC3142A XC3164A XC3190A XC3195A	-2	256	68	33	33	41	84	233	56	323	63	159	—	4	8
XC4003 XC4005 XC4006 XC4008 XC4010 XC4013 XC4020 XC4025	-4	114	48	31	22	41	50	109	64	107	44	64	60	7	15
XC4002A XC4003A XC4004A XC4005A	-4	114	48	31	22	41	50	109	64	107	44	64	60	7	15
XC4010D XC4013D	-4	114	48	31	22	41	50	109	64	107	44	64	—	7	15
XC4003H	-4	114	48	31	22	41	50	109	64	107	44	64	60	7	15

EPPL Families — Density and Features

Device Family	Key Feature	Density				Features				
		Usable Gates	CLBs/ Macro-cells	RAM Bits	FFs	Output Drive (mA)	JTAG	Dedicated Arithmetic	Quiescent Current (mA)	Advanced Packaging
XC7236A XC7272A	XC7200A 100% Routable, 100% Utilization	1.0 K 2.0 K	36 72	— —	68 126	12 8	N N	Y Y	126.00 252.00	
XC7318 XC7336 XC7354 XC7372 XC73108 XC73144	XC7300 100% Routable, 100% Utilization, 5 ns T _{pd}	0.4 K 0.8 K 1.5 K 1.9 K 3.0 K 3.8 K	18 36 54 72 108 144	— — — — — —	18 36 108 126 198 234	24 24 24 24 24 24	N N N N N N	N N Y Y Y Y	90.00 126.00 140.00 187.00 227.00 250.00	BG BG

EPPL Families — Performance

Device Family	Performance															
	Speed Grade	Shift Register (MHz)	Small State Machine (MHz)	Large State Machine (MHz)	4 Bit Multiply-Accumulator (MHz)	16 Bit Accumulator (MHz)	Address Map Decoder (MHz)	Data Path (MHz)	Counter Timer (MHz)	16 Bit Non Loadable Counter (MHz)	16 Bit Loadable Binary Up Counter (MHz)	16 Bit Loadable Prescaled Counter (MHz)	RAM Read Modify Write (MHz)	Pad to Setup (ns)	Clock to Pad (ns)	Combinatorial Pad to Pad (ns)
XC7236A XC7272A	-15	62	62	62	28	32	62	62	33	62	62	62	—	18.0	13.0	15
XC7318	-5	125	108	102	46	40	108	125	94	125	125	125	—	3.5	4.5	5
XC7336	-5	125	108	102	46	40	108	125	94	125	125	125	—	3.5	4.5	5
XC7354	-7	95	95	95	52	63	95	95	47	95	95	95	—	4.0	7.0	7
XC7372	-7	95	95	95	52	63	95	95	47	95	95	95	—	4.0	7.0	7
XC73108	-7	95	95	95	52	63	95	95	47	95	95	95	—	4.0	7.0	7
XC73144	-7	95	95	95	52	63	95	95	47	95	95	95	—	4.0	7.0	7

XC2064/XC2018 Logic Cell Arrays

The Logic Cell Array (LCA) is a high density CMOS integrated circuit. Its user-programmable array architecture is made up of three types of configurable elements: Input/Output Blocks, Logic Blocks and Interconnect. The Designer can define individual I/O blocks for interface to external circuitry, define logic blocks to implement logic functions and define

interconnection networks to compose larger scale logic functions. The XACT Development System provides interactive graphic design capture and automatic routing. Both logic simulation and in-circuit emulation are available for design verification.

Mfr.'s Type	Logic Capacity (Gates)	Configurable Logic Blocks	User I/Os	Configuration Program (Bits)	Package Type	No. of Pins
XC2064-70PC44C	800-1000	64	58	12038	PLCC	44
XC2064-70PC68C	800-1000	64	58	12038	PLCC	68
XC2018-100PC68C	1200-1500	100	74	17878	PLCC	68
XC2018-100PC84C	1200-1500	100	74	17878	PLCC	84
XC2018-70PC68C	1200-1500	100	74	17878	PLCC	68
XC2018-70PC84C	1200-1500	100	74	17878	PLCC	84

XC3000, XC3000A, and XC3100A Logic Cell Array Families

The CMOS XC3000 Logic Cell Array (LCA) family provides a group of high performance, high density, digital integrated circuits. Their regular, extendable, flexible, user-programmable array architecture is composed of a configuration program store plus three types of configurable elements: a perimeter of IOPs, a core array of CLBs and resources for

interconnection. The XACT development system provides schematic capture and auto place-and-route for design entry. Logic and timing simulation, and in-circuit emulation are available as design verification alternatives. The design editor is used for interactive design optimization, and to compile the data pattern that represents the configuration program.

XC3000 and XC3000A Family

The XC3000A family has additional interconnect resources to drive the I-inputs of TBUFFs driving horizontal Longlines. The CLB Clock Enable input can be driven from a second vertical Longline. These two additions result in more efficient and

faster designs when horizontal Longlines are used for data bussing.

Mfr.'s Type	Usable Gates	Configurable Logic Blocks	Array	Max User I/Os	No. of Flip-Flops	Horizontal Longlines	Program Data (Bits)	Package Type	No. of Pins
XC3020-100PC68C	1000-1500	64	8 × 8	64	256	16	14779	PLCC	68
XC3020-70PC68C	1000-1500	64	8 × 8	64	256	16	14779	PLCC	68
XC3020-70PC84C	1000-1500	64	8 × 8	64	256	16	14779	PLCC	84
XC3020A-7PC68	1000-1500	64	8 × 8	64	256	16	14779	PLCC	68
XC3020A-7PC84C	1000-1500	64	8 × 8	64	256	16	14779	PLCC	84
XC3020A-7PQ100C	1000-1500	64	8 × 8	64	256	16	14779	PQFP	100
XC3030-100PC44C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	44
XC3030-100PC84C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	84
XC3030-100PQ100C	1500-2000	100	10 × 10	80	360	20	22176	PQFP	100
XC3030-100TQ100C	1500-2000	100	10 × 10	80	360	20	22176	TQFP	100
XC3030-70PC44C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	44
XC3030-70PC68C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	68
XC3030-70PC84C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	84
XC3030-70PQ100C	1500-2000	100	10 × 10	80	360	20	22176	PQFP	100
XC3030A-6PC84C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	84
XC3030A-6PQ100C	1500-2000	100	10 × 10	80	360	20	22176	PQFP	100
XC3030A-7PC68C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	68
XC3030A-7PC84C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	84
XC3030A-7PQ100C	1500-2000	100	10 × 10	80	360	20	22176	PQFP	100
XC3042-100PC84C	2000-3000	144	12 × 12	96	480	24	30784	PLCC	84
XC3042-100PQ100C	2000-3000	144	12 × 12	96	480	24	30784	PQFP	100
XC3042-125PC84C	2000-3000	144	12 × 12	96	480	24	30784	PLCC	84
XC3042-70PC84C	2000-3000	144	12 × 12	96	480	24	30784	PLCC	84
XC3042-70PQ100C	2000-3000	144	12 × 12	96	480	24	30784	PQFP	100
XC3042A-6PQ100C	2000-3000	144	12 × 12	96	480	24	30784	PQFP	100
XC3042A-7PC84C	2000-3000	144	12 × 12	96	480	24	30784	PLCC	84
XC3042A-7PQ100C	2000-3000	144	12 × 12	96	480	24	30784	PQFP	100
XC3042A-7TQ144C	2000-3000	144	12 × 12	96	480	24	30784	TQFP	144
XC3064-100PC84C	3500-4500	224	16 × 14	120	688	28	46064	PLCC	84
XC3064-125PQ160C	3500-4500	224	16 × 14	120	688	28	46064	PQFP	160
XC3064-70PC84C	3500-4500	224	16 × 14	120	688	28	46064	PLCC	84
XC3064A-7PC84C	3500-4500	224	16 × 14	120	688	28	46064	PLCC	84
XC3064A-7PQ160C	3500-4500	224	16 × 14	120	688	28	46064	PQFP	160
XC3090-100PP175C	5000-6000	320	16 × 20	144	928	40	64160	PGA	175
XC3090-100PQ160C	5000-6000	320	16 × 20	144	928	40	64160	PQFP	160
XC3090-70PC84C	5000-6000	320	16 × 20	144	928	40	64160	PLCC	84

XC3000, XC3000A, and XC3100A Logic Cell Array Families – Continued

XC3000 and XC3000A Family, Continued

Mfr.'s Type	Useable Gates	Configurable Logic Blocks	Array	Max User I/Os	No. of Flip-Flops	Horizontal Longlines	Program Data (Bits)	Package Type	No. of Pins
XC3090A-6PQ160C	5000-6000	320	16 × 20	144	928	40	64160	PQFP	160
XC3090A-7PC84C	5000-6000	320	16 × 20	144	928	40	64160	PLCC	84
XC3090A-7PQ160C	5000-6000	320	16 × 20	144	928	40	64160	PQFP	160

XC3100A Family

The XC3100 A is a performance-optimized relative of the industry leading XC3000 family. While both families are bitstream and footprint compatible, the XC3100 family extends in-system performance to 80 MHz and beyond.

Mfr.'s Type	Useable Gates	Configurable Logic Blocks	Array	Max User I/Os	No. of Flip-Flops	Horizontal Longlines	Program Data (Bits)	Package Type	No. of Pins
XC3130A-5PC84C	1500-2000	100	10 × 10	80	360	20	22176	PLCC	84
XC3130A-5PQ100C	1500-2000	100	10 × 10	80	360	20	22176	PQFP	100
XC3142A-3PQ100C	2000-3000	144	12 × 12	96	480	24	30784	PQFP	100
XC3142A-4PQ100C	2000-3000	144	12 × 12	96	480	24	30784	PQFP	100
XC3142A-5PC84C	2000-3000	144	12 × 12	96	480	24	30784	PLCC	84
XC3142A-5PQ100C	2000-3000	144	12 × 12	96	480	24	30784	PQFP	100
XC3164A-3PC84C	3500-4500	224	16 × 14	120	688	28	46064	PLCC	84
XC3164A-5PC84C	3500-4500	224	16 × 14	120	688	28	46064	PQFP	160
XC3164A-5PQ160C	3500-4500	224	16 × 14	120	688	28	46064	PQFP	160
XC3190A-3PP175C	5000-6000	320	16 × 20	144	928	40	64160	PGA	175
XC3190A-3PQ160C	5000-6000	320	16 × 20	144	928	40	64160	PQFP	160
XC3190A-4PQ160C	5000-6000	320	16 × 20	144	928	40	64160	PQFP	160
XC3190A-5PC84C	5000-6000	320	16 × 20	144	928	40	64160	PLCC	84
XC3190A-5PQ160C	5000-6000	320	16 × 20	144	928	40	64160	PQFP	160
XC3195A-3PP175C	6500-7500	484	22 × 22	176	1320	44	94944	PGA	175
XC3195A-5PC84C	6500-7500	484	22 × 22	176	1320	44	94944	PLCC	84
XC3195A-5PQ160C	6500-7500	484	22 × 22	176	1320	44	94944	PQFP	160
XC3195A-5PQ208C	6500-7500	484	22 × 22	176	1320	44	94944	PQFP	208

XC4000 and XC4000A Logic Cell Array Families

The XC4000 family of Field-Programmable Gate Arrays (FPGAs) provides the benefits of custom CMOS VLSI, while avoiding the initial cost, time delay, and inherent risk of a conventional masked gate array. The XC4000 family provides a regular, flexible, programmable architecture of Configurable Logic Blocks (CLBs), interconnected by a powerful hierarchy

of versatile routing resources, and surrounded by a perimeter of programmable Input/Output Blocks (IOBs). It is supported by powerful and sophisticated software, covering every aspect of design: from schematic entry, to simulation, to automatic block placement and routing of interconnects, and finally the creation of the configuration bit stream.

Mfr.'s Type	Usable Gates	Logic Blocks	Array	No. of Flip-Flops	Inputs (Per Side)	Ram Bits	No. of IOBs	Package Type	No. of Pins
XC4002A-5PC84C	1600-2000	64	8 × 8	256	24	2048	64	PLCC	84
XC4002A-6PQ100C	1600-2000	64	8 × 8	256	24	2048	64	PQFP	100
XC4002A-6VQ100C	1600-2000	64	8 × 8	256	24	2048	64	VQFP	100
XC4003-5PC84C	2500-3000	100	10 × 10	360	30	3200	80	PLCC	84
XC4003-5PQ100C	2500-3000	100	10 × 10	360	30	3200	80	PQFP	100
XC4003-6PQ100C	2500-3000	100	10 × 10	360	30	3200	80	PQFP	100
XC4003-PC84C	2500-3000	100	10 × 10	360	30	3200	80	PLCC	84
XC4003A-5PC84C	2500-3000	100	10 × 10	360	30	3200	80	PQFP	84
XC4003A-5PQ100C	2500-3000	100	10 × 10	360	30	3200	80	PQFP	84
XC4003A-6PC84C	2500-3000	100	10 × 10	360	30	3200	80	PLCC	84
XC4003A-6PQ100C	2500-3000	100	10 × 10	360	30	3200	80	PQFP	100
XC4003H-5PQ208C	2500-3000	100	10 × 10	360	30	3200	80	PQFP	208
XC4003H-6PQ208C	2500-3000	100	10 × 10	360	30	3200	80	PQFP	208
XC4004A-5PC84C	3200-4000	144	12 × 12	480	36	4608	96	PLCC	84
XC4004A-5PQ160C	3200-4000	144	12 × 12	480	36	4608	96	PQFP	160
XC4004A-6PC84C	3200-4000	144	12 × 12	480	36	4608	96	PLCC	84
XC4004A-6PQ160C	3200-4000	144	12 × 12	480	36	4608	96	PQFP	160
XC4005-4PQ160C	4000-5000	196	14 × 14	616	42	6272	112	PQFP	160
XC4005-5PC84C	4000-5000	196	14 × 14	616	42	6272	112	PLCC	84
XC4005-5PG156C	4000-5000	196	14 × 14	616	42	6272	112	PGA	156
XC4005-5PQ160C	4000-5000	196	14 × 14	616	42	6272	112	PQFP	160
XC4005-5PQ208C	4000-5000	196	14 × 14	616	42	6272	112	PQFP	208
XC4005-6PC84C	4000-5000	196	14 × 14	616	42	6272	112	PQFP	160
XC4005A-5PC84C	4000-5000	196	14 × 14	616	42	6272	112	PLCC	84
XC4005A-5PQ160C	4000-5000	196	14 × 14	616	42	6272	112	PQFP	160
XC4005A-6PC84C	4000-5000	196	14 × 14	616	42	6272	112	PLCC	84
XC4005A-6PQ160C	4000-5000	196	14 × 14	616	42	6272	112	PQFP	160
XC4005A-TQ144C	4000-5000	196	14 × 14	616	42	6272	112	TOFP	144
XC4005H-5PQ240C	4000-5000	196	14 × 14	616	42	6272	112	PQFP	240
XC4006-5PQ160C	5000-6000	256	16 × 16	768	48	8192	128	PQFP	160
XC4006-5PQ208C	5000-6000	256	16 × 16	768	48	8192	128	PQFP	208
XC4006-6PQ160C	5000-6000	256	16 × 16	768	48	8192	128	PQFP	160
XC4006-6PQ208C	5000-6000	256	16 × 16	768	48	8192	128	PQFP	208
XC4008-5PQ208C	6500-8000	324	18 × 18	936	54	10368	144	PQFP	208
XC4008-6PQ208C	6500-8000	324	18 × 18	936	54	10368	144	PQFP	208
XC4010-4PQ160C	8000-10000	400	20 × 20	1120	60	12800	160	PQFP	160
XC4010-4PQ208C	8000-10000	400	20 × 20	1120	60	12800	160	PQFP	208
XC4010-5PG191C	8000-10000	400	20 × 20	1120	60	12800	160	PGA	191
XC4010-5PQ208C	8000-10000	400	20 × 20	1120	60	12800	160	PQFP	208
XC4010-6MQ208C	8000-10000	400	20 × 20	1120	60	12800	160	MQFP	208
XC4010-6PG191C	8000-10000	400	20 × 20	1120	60	12800	160	PGA	191
XC4010-6PQ208C	8000-10000	400	20 × 20	1120	60	12800	160	PQFP	208
XC4010D-5PQ160C	8000-10000	400	20 × 20	1120	60	12800	160	PQFP	160
XC4013-4PQ208C	10000-13000	576	24 × 24	1536	72	18432	192	PQFP	208
XC4013-5PQ208C	10000-13000	576	24 × 24	1536	72	18432	192	PQFP	208
XC4013-6PG223C	10000-13000	576	24 × 24	1536	72	18432	192	PGA	223
XC4013-6PQ240C	10000-13000	576	24 × 24	1536	72	18432	192	PQFP	240

XC5000 FPGA Family

The XC5000 FPGA family from Xilinx was engineered to deliver the lowest cost of any FPGA family. By combining the new VersaBlock™ architecture, 0.6 micron CMOS SRAM process technology and Triple-Layer-Metal (TLM), dramatic advances

have been achieved in maximizing gates/area. This technology breakthrough positions the XC5000 as a cost effective, high volume alternative to gate arrays.

Mfr.'s Type	Usable Gates	Logic Blocks	Array	No. of Flip-Flops	Inputs (Per Side)	Ram Bits	No. of I/Os	Package Type	No. of Pins
XC5210-4PC84C*	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PLCC	84
XC5210-4PG223C*	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PGA	223
XC5210-4PQ160C*	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	160
XC5210-4PQ208C*	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	208
XC5210-4PQ240C*	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	240
XC5210-4TQ144C*	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	TOFP	144
XC5210-5PC84C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PLCC	84
XC5210-5PG223C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PGA	223
XC5210-5PQ160C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	160
XC5210-5PQ208C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	208
XC5210-5PQ240C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	240
XC5210-5TQ144C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	TOFP	144
XC5210-6PC84C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PLCC	84
XC5210-6PG223C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	GA	223
XC5210-6PQ160C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	160
XC5210-6PQ208C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	208
XC5210-6PQ240C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	PQFP	240
XC5210-6TQ144C	10000 to 12000	324	18 × 18	1296	N/A	N/A	196	TOFP	144

XC7200 and XC7300 EPLD Devices

In the XC7200 and XC7300 devices, Xilinx offers two evolutionary and compatible generations of Erasable Programmable Logic Devices (EPLDs). Xilinx EPLDs combine the advantages of LSI-high-level of integrations, small size, low cost,

high-reliability, with the user's need to create applications-specific circuits, without incurring the cost, delay, and risk of mask-programmable gate arrays.

XC7200 Family

Mfr.'s Type	No. of Macrocells	No. of Function Blocks	No. of Inputs Per Function Block	No. of Product Terms Per Function Block	No. of Signal Pins	Package Type	No. of Pins
XC7236A-25PC44C	36	4	24	57	36	PLCC	44
XC7236A-16PC44C	36	4	24	57	36	PLCC	44
XC7272A-25PC84C	72	8	21	57	72	PLCC	84

Mfr.'s Type	No. of Macrocells	No. of Function Blocks	No. of Inputs Per Function Block	No. of Product Terms Per Function Block	No. of Signal Pins	Package Type	No. of Pins
XC7272A-20PC84C	72	8	21	57	72	PLCC	84
XC7272A-16PC84C	72	8	21	57	72	PLCC	84

XC7300 Family

Mfr.'s Type	No. of Macrocells	No. of Function Blocks	No. of Flip-Flops	No. of Fast Inputs	No. of Signal Pins	Package Type	No. of Pins
XC7336-7PC44C	36	4	36	18	48	PLCC	44
XC7336-15PC44C	36	4	36	18	48	PLCC	44
XC7336-5PC44C	36	4	36	18	48	PLCC	44
XC7336-10PC44C	36	4	36	18	48	PLCC	44
XC7354-15PC88C	54	6	108	24	66	PLCC	68
XC7354-15PC44C	54	6	108	24	66	PLCC	44
XC7354-10PC88C	54	6	108	24	66	PLCC	68
XC7372-15PC88C	72	8	126	30	84	PLCC	68
XC7372-15PC84C	72	8	126	30	84	PLCC	84
XC73108-15PC84C	108	12	198	42	120	PLCC	84
XC73108-20PC84C	108	12	198	42	120	PLCC	84
XC73108-12PC84C	108	12	198	42	120	PLCC	84
XC73108-7PC44C	108	12	198	42	120	PLCC	44

Mfr.'s Type	No. of Macrocells	No. of Function Blocks	No. of Flip-Flops	No. of Fast Inputs	No. of Signal Pins	Package Type	No. of Pins
XC73144-108G225C	144	16	234	N/A	156	BGA	225
XC73144-10PQ160C	144	16	234	N/A	156	PQFP	160
XC73144-10WB225C	144	16	234	N/A	156	CBGA	225
XC73144-12BG225C	144	16	234	N/A	156	BGA	225
XC73144-12WB225C	144	16	234	N/A	156	CBGA	225
XC73144-15BG225C	144	16	234	N/A	156	BGA	225
XC73144-15PQ160C	144	16	234	N/A	156	PQFP	160
XC73144-15PQ160C	144	16	234	N/A	156	PQFP	160
XC73144-15PQ160C	144	16	234	N/A	156	CBGA	225
XC73144-7BG225C	144	16	234	N/A	156	BGA	225
XC73144-7PQ160C	144	16	234	N/A	156	PQFP	160
XC73144-7WB225C	144	16	234	N/A	156	CBGA	225

XC17000 Family of Serial Configuration PROMs

In early 1993, Xilinx introduced the D-series of serial PROMs, the XC1718D, XC1736D, and the XC1765D, all with programmable Reset polarity, improved ESD protection, and all with max 5 MHz clock frequency. These devices are programmed with a lower voltage and a different programming algorithm than the older parts. The user needs the appropriate update from the programmer vendor. These devices will become the mainstream serial PROMs, and, beyond the traditional packages, they are also available in the space-saving SO8 package. Also in 1993, Xilinx introduced the

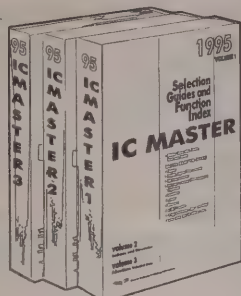
L-series of serial PROMs, the XC1718L and XC1765L. These devices operate at the new industry standard low supply voltage of 3.3 V (3.0 to 3.6 V). The XC1736A is the only serial PROM that lacks the programmable Reset polarity option, and the XC17128 is the only serial PROM that can be clocked at the full 10 MHz required by the XC4000 in fast configuration mode. All other serial PROMs can be clocked at up to 5 MHz.

Mfr.'s Type	Capacity	Pins	Package Type
XC1718DPD8C	18 kilobits	8	PDIP
XC1718DSO8C	18 kilobits	8	SOIC
XC1718DPC20C	18 kilobits	20	PLCC
XC1718LPD8C	18 kilobits	8	PDIP
XC1718LSO8C	18 kilobits	8	SOIC
XC1718LPC20C	18 kilobits	20	PLCC
XC1736DPD8C	36 kilobits	8	PDIP
XC1736DSO8C	36 kilobits	8	SOIC
XC1736DPC20C	36 kilobits	20	PLCC

Mfr.'s Type	Capacity	Pins	Package Type
XC1765DPD8C	65 kilobits	8	PDIP
XC1765DSO8C	65 kilobits	8	SOIC
XC1765DPC20C	65 kilobits	20	PLCC
XC1765LPD8C	65 kilobits	8	PDIP
XC1765LSO8C	65 kilobits	8	SOIC
XC1765LPC20C	65 kilobits	20	PLCC
XC17128PD8C	128 kilobits	8	PDIP
XC17128PC20C	128 kilobits	20	PLCC

1995 IC MASTER*

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The 1995 IC MASTER is organized for easier access with ICs listed by manufacturer and by function category. Functional and numerical search guide to 105,000 commercially available ICs, including over 20,000 new ICs. Alternate Source Directory lists 106,000 devices, cross-referenced and verified for fit, form, and function. Includes complete Manufacturers and Distributors Directory.

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Parameter search data on a total of more than 105,000 commercially available ICs.

Expanded Data and New Sections

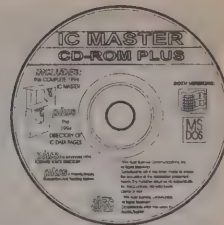
- ▶ Voltage Regulators Expanded with New Data on Tolerances
- ▶ Reorganized and Expanded Data on Clocks, Synthesizers, and Prescalers
- ▶ Updated and Revised Data on Voltage References, Voltage Sensors, and Voltage Detectors
- ▶ New Format and New Entries in Microprocessor Development Systems
- ▶ Application Note Directory Expanded to Over 4,000 Notes, with More Than 1,000 New Application Notes
- ▶ New Section on PLDs/SRAM
- ▶ New Categories in Converters...DC-DC/AC-DC/AC-AC/DC-AC
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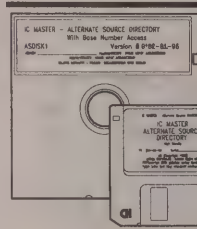


Electronic direct access to the entire IC MASTER CD-ROM PLUS, in both Windows and DOS versions. The Windows version, designed for the 386 and more powerful machines, permits device selection by a flexible category search as well as a key work search. The Windows version features high speed sort and rubberband zoom capability for the manufacturer's data pages. The DOS version accommodates a broad base of hardware, including the PC-XT.

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Put the famous Alternate Source Directory section of the IC MASTER on your IBM or compatible XT or AT PC. It lists alternative sources for over 106,000 ICs, verified for fit, form and function. Customize the ASD to fit your needs, add parts, delete parts, add prices, approval notes, and more. Fast, easy and very user friendly. Does not include specifications or data sheets.

504-1195. 1995 IMASD 5.25" HDEACH 179.50

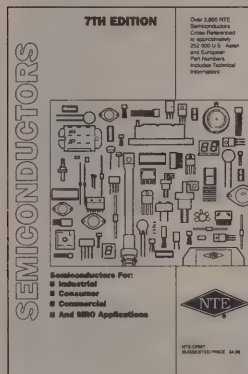
504-1395. 1995 IMASD 3.5" HDEACH 179.50

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NTE Selection Guide

- ▶ Over 253,000 Devices Replaced with NTE Numbers

The NTE catalog has become the industry's guide when you need semi-conductors for maintenance and repair work. Now available is the 6th edition containing over 250,000 cross references to American, European and Japanese, industrial and commercial devices. The catalog includes short form specifications and cross reference in a new easier to read format for the over 3500 devices in NTE's line. Each NTE transistor, triac, silicon controlled rectifier (SCR), integrated circuit, thyristor or microprocessor can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than originally specified components.



The easy to use cross reference section enables you to locate the exact replacement needed for over 253,000 solid state devices.

935-0020. NTE-CRM7EACH 4.95

Thomson Consumer Electronics SK Replacement Technical Manual and Cross Reference

- ▶ Bipolar Transistors
- ▶ Field Effect Transistors
- ▶ Zener Diodes
- ▶ Diodes and Rectifiers
- ▶ Bridge Rectifiers
- ▶ Industrial Rectifiers
- ▶ Silicon Controlled Rectifiers
- ▶ TRIACs
- ▶ Metal Oxide Varistors
- ▶ Optoelectronics
- ▶ Linear Integrated Circuits
- ▶ Digital Integrated Circuits

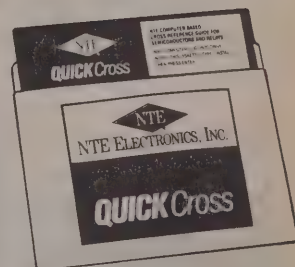
SK Replacement Solid State Devices are "Top of the Line" quality units, purchased to OEM standards, from original manufacturers. This guide contains 3,600 SK devices which replace over 235,000 parts. Each transistor, TRIAC, SCR, Thyristor, Integrated Circuit can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than original specified components.

902-0010. SKG202GEACH 4.95

Quick Cross

- ▶ NTE's Computer Based Cross Reference Disk For Semiconductors and Relays

NTE Electronics, Inc. has taken its entire Semiconductor and Relay Cross References and put them on IBM PC compatible diskettes. These disks, once loaded into your PC, will only take up a little more than 2 Megabytes of disk space. You will have instant access to over 250,000 Semiconductor Cross References and 22,000 Relay Cross References. Minimum system requirements are an IBM PC compatible computer with 640K RAM, 5 MB hard disk.

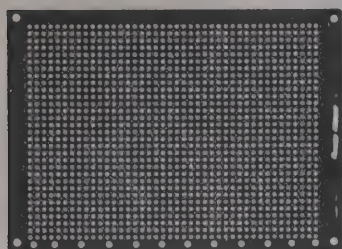


935-0003. QC-001. 5 1/4" (1.2M).....EACH 6.75
 935-0008. QC-002. 3 1/2" (7.20K).....EACH 9.16
 935-0006. QC-003. 5 1/4" (1.44M).....EACH 7.50
 935-0009. QC-005. 3 1/2" (1.44M) for Windows.....EACH 10.00

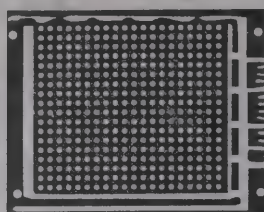
Thomson Consumer Electronics SK CROSS

This comprehensive PC-based cross reference software contains information on over 235,000 semiconductor devices which can be accessed easily and quickly. Advantages included the ability to scroll through the entire cross reference, descriptions next to the part number, technical notes below descriptions, transistor complements, matched pairs and matched complementary pairs listed in the description. The minimum system requirements are an IBM PC compatible computer with 640 K RAM, 5 1/4" or 3 1/2" floppy drive, and 14 Megabytes of hard disk space.

902-0020. SKG202DK1. Three 3 1/2" (1.2 M) Disks.....PER SET 5.00
 902-0030. SKG202DK2. Eleven 5 1/4" (360 K) Disks.....PER SET 7.50

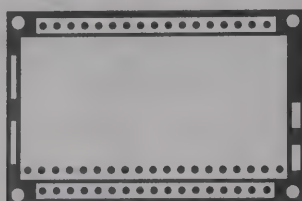


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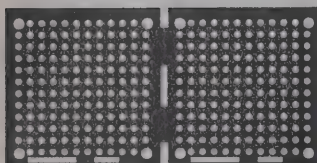


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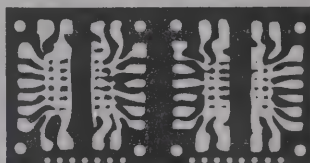
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D



E



Predrilled PC Boards

A. Grid Boards. .100 x .100" centers for DIP ICs, sockets and headers. Solder-ringed holes. Indexed columns and rows to help you identify component pin outs.

Stock No.	Mfr.'s Type	Size	Holes	EACH
910-2203	276-147	4 1/2 x 6 1/8"	2200	3.99
910-2204	276-158	2 1/4 x 3 3/4"	750	2.39
910-2205	276-149	1 2/32 x 2 7/32"	356	1.19

B. Universal PC Board. Type 276-168. Accepts ICs up to 40 pins. Total of 750 indexed, solder-ringed holes. Two busses, one grounding strip. Mounting holes at corners. 2 13/16 x 3 1/4".

910-2194 EACH 2.49

C. Multi-Purpose Bus Board. Type 276-150. Two bus strips at the center. PC pattern traced on component side speeds building. 417 solder points. 1 7/8 x 2 7/8".

910-2188 EACH 1.19

D. Dual Mini General-Purpose Board. Type 276-148. 213 holes. 1 3/4 x 3 5/8". Can be snapped in half.

910-2187 EACH 1.49

E. Dual IC Board. Type 276-159. Accepts two 6 to 20-pin DIPs. Four connecting points for each IC pin. 1 3/4 x 3 3/8".

910-2191 EACH 1.69

44-Position Card Edge Socket. Type 276-1551. For Fig. C above.

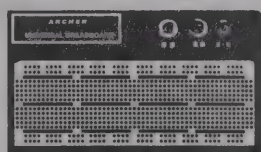
910-2200 EACH 2.99

Experimenter's Solderless Boards

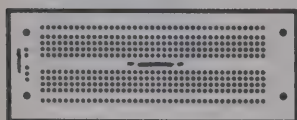
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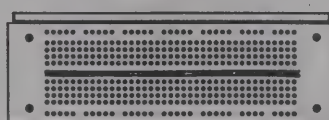
I



F



G



The fast efficient way to design your own solid-state circuits. The modular breadboards are reusable and accept a wide variety of components. When you have your circuit working properly, it's easy to transfer it to the matching PC board for a soldered, permanent version.

F. Experimenter's PC Board. Type 276-170. Layout matches modular breadboard. 550 pre-drilled connection points. 2 1/8 x 5 7/8 x 1 1/16".

910-2197 EACH 2.79

G. Modular IC Breadboard Socket. Type 276-174. Snaps together horizontally or vertically for more complex designs. Silver-nickel contacts accepts 30 to 22 gauge solid wire. Features two bus strips and 550 indexed connection points. 2 1/8 x 6".

910-6707 EACH 12.49

H. Modular IC Breadboard Socket. Type 276-175. Smaller version of 276-174 with 270 indexed connection points. 2 1/8 x 3 5/8 x 1 1/16".

910-6708 EACH 7.99

I. Universal Breadboard. Type 276-169. Our Finest! The 2 1/4 x 6 1/2" breadboard is mounted on a 7 x 4" 'stay put' steel base with rubber feet. Accepts DIPs, discrete components and up to 22 gauge wire. Total of 640 plug-in tie points. 3 binding posts for power hookup, etc.

910-2196 EACH 21.99

Archer® Printed Circuit Kit has Everything You Need



This kit contains everything you need to design and make printed circuit boards. Two printed circuit boards, resist ink pen, 6-oz. bottle of etchant, 2-oz. bottle of resist ink solvent, 1/8" drill bit, 7/8 x 5/8 x 2" plastic box. **Shpg. wt.: 2 lbs.**

910-6726. Type 276-1576 EACH 10.99



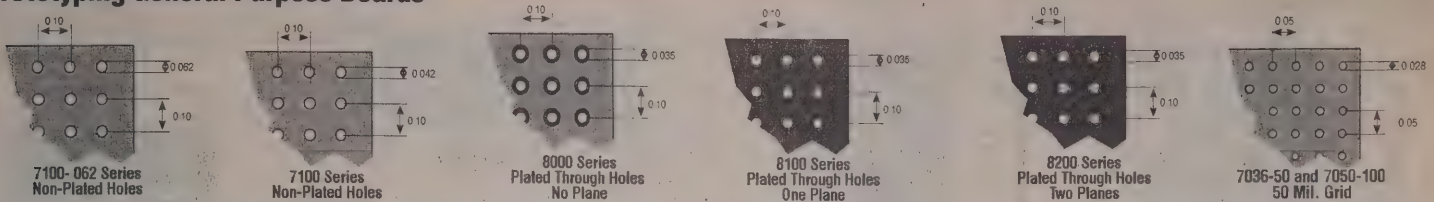
Printed Circuit Etchant Solution

- Takes Copper Off Perfboard
- Safe, Easy And Fast To Use
- 16 Fluid Ounces

A PC 'must' for hobbyists, builders, experimenters! A special ferric chloride solution removes copper completely without damage to board material. **Shpg. wt.: 1 1/2 lbs.**

910-6715. Type 276-1535 EACH 2.69

Prototyping General Purpose Boards

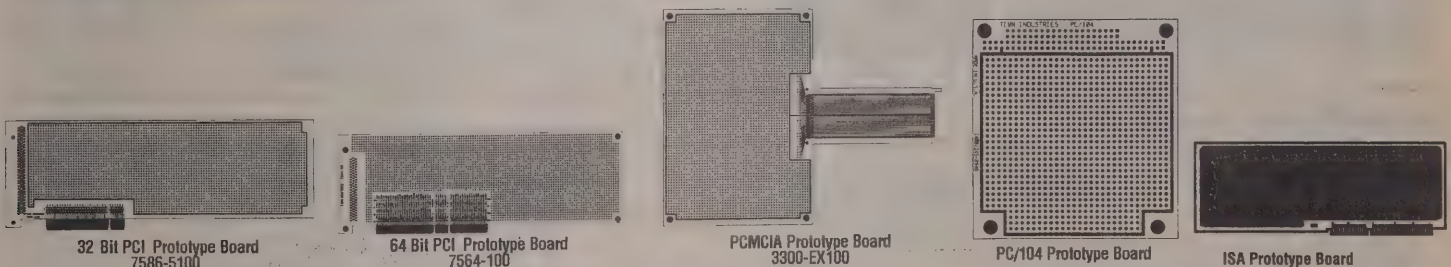


Twin Industries general purpose prototype boards provide a versatile solution for many research and development projects. Available in Four Different Types: the 7100 series; perf board with plated through holes, the 8000 series; perf board with plated through holes with a plane on one side, the 8100 series; perf board

with plated through holes and planes on both sides, the 8200 series. Boards are available in a number of sizes. Material is FR-4 fiber glass with UL Flammability Class 94V-0. They are .062" thick with .035" plated through holes and .042" non plated on a 0.1" x 0.1" grid spacing.

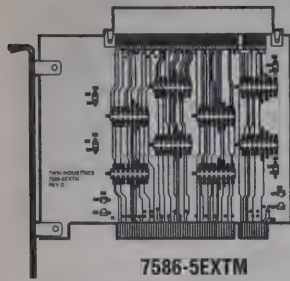
Stock No.	Mfr.'s Type	Description	Width	Length	EACH
237-0100	4010-4565	Interleave plane design. .042 Plated through holes on a 0.1" grid.	4.50	6.50	45.00
237-0101	7036-50	2.8" x 3.4" of plated holes on a .05" grid. 2/18 gold fingers on .156 centers.	3.50	4.00	28.00
237-0102	7044-54	Prototype board with 2/22. 156 I/O connector. Capacity: up to 54 16-pin sockets.	6.20	4.50	28.00
237-0103	7050-100	Plated holes on a .05" grid and 4.0" x 8.0" of plated holes on a .10" grid.	8.00	8.00	58.00
237-0104	7072-54	2/36 connector on .100 centers. Space provided for 54 ICs with up to 16 pins per socket.	6.20	4.50	28.00
237-0105	7100-062-4565	Prototype board featuring a 0.1" x 0.1" grid of non-plated .062" through holes.	4.50	6.50	7.50
237-0106	7100-062-4565	Prototype board featuring a 0.1" x 0.1" grid of non-plated .062" through holes.	4.50	8.50	11.25
237-0107	7100-1010	Prototype board featuring a 0.1" x 0.1" grid of non-plated through holes.	10.00	10.00	22.50
237-0108	7100-1020	Prototype board featuring a 0.1" x 0.1" grid of non-plated through holes.	10.00	20.00	45.00
237-0109	7100-144	Prototyping board with 2/50 connector on .100 centers. Space provided for 144 ICs with up to 16 pins per socket.	9.25	8.00	45.00
237-0110	7100-410	Prototype board featuring a 0.1" x 0.1" grid of non-plated through holes.	4.00	10.00	9.00
237-0111	7100-44EXT	Extender I/O connector 2/22 on .156 center.	4.50	6.50	45.00
237-0112	7100-45	Prototype board featuring a 0.1" x 0.1" grid of non-plated through holes.	4.00	5.00	4.50
237-0113	7100-4517	Prototype board featuring a 0.1" x 0.1" grid of non-plated through holes.	4.50	17.00	22.50
237-0114	7100-4565	Prototype board featuring a 0.1" x 0.1" grid of non-plated through holes.	4.50	6.50	7.50
237-0115	7100-8517	Prototype board featuring a 0.1" x 0.1" grid of non-plated through holes.	8.50	17.00	45.00
237-0116	8000-1010	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, no plane.	10.00	10.00	59.00
237-0117	8000-1020	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, no plane.	10.00	20.00	118.00
237-0118	8000-410	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, no plane.	4.00	10.00	23.60
237-0119	8000-45	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, no plane.	4.00	5.00	11.80
237-0120	8000-4565	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, no plane.	4.50	6.50	19.67
237-0121	8044-30	Prototype board with 2/22 connector on .156 centers. Space provided for 30 ICs with up to 16 pins per socket.	4.50	6.50	28.00
237-0122	8100-1010	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, one plane.	10.00	10.00	59.00
237-0123	8100-1020	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, one plane.	10.00	20.00	118.00
237-0124	8100-1020-DB	Prototype board featuring a 0.1" x 0.1" grid of plated through holes. The board is separated into two planes, perfect for prototypes with two VCC levels.	10.00	10.00	59.00
237-0125	8100-410	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, one plane.	4.00	10.00	23.60
237-0126	8100-45	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, one plane.	4.00	5.00	11.80
237-0127	8100-4565	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, one plane.	4.50	6.50	19.67
237-0128	8100-546	Prototype board with space provided for 546 ICs with up to 16 pins per socket.	12.00	22.00	220.00
237-0129	8196-EXT	96 pin extender.	5.00	3.90	58.00
237-0130	8200-1010	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, two planes.	10.00	10.00	59.00
237-0131	8200-1020	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, two planes.	10.00	20.00	118.00
237-0132	8200-410	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, two planes.	4.00	10.00	23.60
237-0133	8200-45	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, two planes.	4.00	5.00	11.80
237-0134	8200-4565	Prototype board featuring a 0.1" x 0.1" grid of plated through holes, two planes.	4.50	6.50	19.67
237-0135	812-C2	Double Sided One Ounce Copper Clad.	8.00	12.00	12.96
237-0136	612C2	Double Sided One Ounce Copper Clad.	6.00	12.00	9.72
237-0137	810C2	Double Sided One Ounce Copper Clad.	8.00	10.00	10.80
237-0138	55C2	Double Sided One Ounce Copper Clad.	5.00	5.00	3.38
237-0139	4517C2	Double Sided One Ounce Copper Clad.	4.50	17.00	10.33

Prototyping BUS Specific Boards

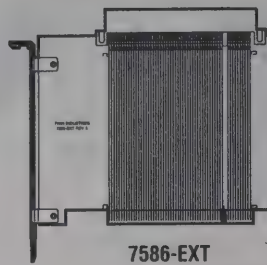


Stock No.	Mfr.'s Type	Description	Width	Length	BUS	EACH
237-0140	8096-54	Space provided for 54 ICs with up to 20 pins per socket.	12.90	4.00	APPLE	58.00
237-0141	7060-45	Capacity: 18 ICs with up to 20 pins per socket and 27 - 16 pin ICs.	11.65	2.75	APPLE	30.00
237-0142	7198-100	Uncommitted prototyping area of 12.2" x 4.3"	13.30	4.50	EISA	78.00
237-0143	7182-111M	Models 70 and 80 four layer prototyping board. Internal VCC and ground. Capacity: 111 20 pin ICs and uncommitted prototyping area of 3.0" x 3.0"	11.50	7.10	PSII	124.00
237-0144	7136-34M	Models 50 and 60 four layer prototyping board. Internal VCC and ground. Capacity: 34 20 pin ICs and uncommitted prototyping area of 3.0" x 3.0"	11.50	3.40	PSII	98.00
237-0145	7182-36M	Models 70 and 80 four layer prototyping board. Internal VCC and ground. Capacity: 36 20 pin ICs and uncommitted prototyping area of 3.0" x 3.0"	11.50	3.40	PSII	98.00
237-0146	7098-200	Uncommitted prototyping area of 12.0" x 13.25"	12.10	13.40	ISA	98.00
237-0147	7098-52	Space provided for 26 ICs with up to 20 pins per socket, 26 ICs with up to 16 pins per socket and an uncommitted prototyping area of 5.7" x 3.9".	13.10	4.50	ISA	68.00
237-0148	7098-104	Space provided for 52 ICs with up to 20 pins per socket and 52 ICs with up to 16 pins per socket. Plane on solder side.	13.10	4.50	ISA	68.00
237-0149	7098-100	Uncommitted prototyping area of 13.0" x 4.4" on a 0.1" grid of plated through holes. Plane on solder side.	13.10	4.50	ISA	68.00
237-0150	7086-150	Space provided for 25 ICs with up to 20 pins per socket and 125 ICs with up to 16 pins per socket.	12.00	6.50	MULTIBUS	78.00
237-0151	7062-99	Space provided for 81 ICs with up to 16 pins per socket and 18 ICs with up to 20 pins per socket.	13.10	4.10	PC-XT	58.00
237-0152	7062-47	Space provided for 29 ICs with up to 16 pins per socket, 18 ICs with up to 20 pins per socket and an uncommitted prototyping area of 5.6" x 3.5"	3.80	3.50	PC104	68.00
237-0153	PC104	Uncommitted prototyping area of 3.6" x 3.3"	12.20	3.90	PCI 32 BIT	68.00
237-0154	7586-5100	Uncommitted prototyping area of 11.2" x 3.7"	12.20	3.90	PCI 64 BIT	78.00
237-0155	7564-100	Uncommitted prototyping area of 11.2" x 3.7"	8.25	10.80	PCMCIA	135.00
237-0156	3300-EX100	VCC monitor and VCC bus on outer holes. Marked signals for easy probing.	5.00	10.00	S100	32.00
237-0157	SD100C	Space provided for 144 ICs with up to 16 pins per socket and 36 ICs with up to 20 pins per socket. I/O connector 2/50. 125 centers.	5.00	10.00	S100	32.00
237-0158	S-100	Space provided for 90 ICs with up to 16 pins per socket.	6.20	4.50	STD BUS	28.00
237-0159	7056-54	Space provided for 54 ICs with up to 16 pins per socket.	12.00	7.75	VESA	95.00
237-0160	7210-100	Uncommitted prototyping area of 11.5" x 7.3"	13.13	4.50	VESA	68.00
237-0161	7210-52	Space provided for 26 ICs with up to 16 pins per socket, 26 ICs with up to 20 pins per socket and 95 ICs with up to 16 pins per socket.	9.20	8.66	VME	64.00
237-0162	8192-114	Uncommitted area of 8.7" x 2.4" on a 0.1" grid and space provided for 19 ICs with up to 20 pins per socket and 93 ICs with up to 16 pins per socket.	14.44	11.02	VME	95.00
237-0163	8288-217	Uncommitted area of 14.437" x 2.8" on a 0.1" grid and space provided for 124 ICs with up to 20 pins per socket and 40 ICs with up to 16 pins per socket.	3.90	8.66	VME	32.00
237-0164	8096-48	Uncommitted area of 3.7" x 2.4" on a 0.1" grid and space provided for 8 ICs with up to 20 pins per socket and 40 ICs with up to 16 pins per socket.				

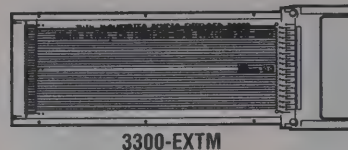
Extender Cards



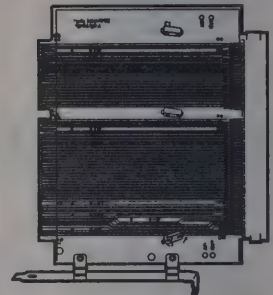
7586-5EXTM



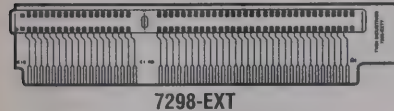
7586-EXT



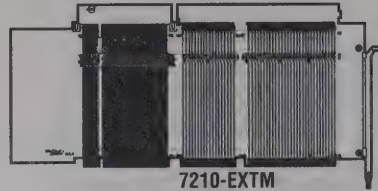
3300-EXTM



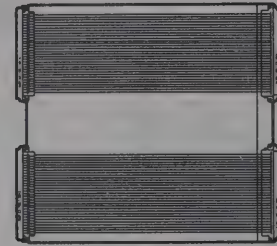
7098-EXTM



7298-EXT



7210-EXTM

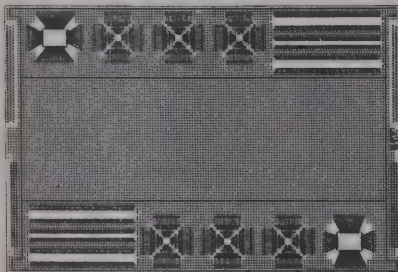


8192-EXT

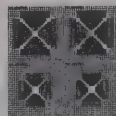
Stock No.	Mfr.'s Type	Width	Length	Layers	BUS	EACH
237-0165	7050-EXT	3.40	3.40	2	APPLE	45.00
237-0166	7060-EXT	4.00	3.40	2	APPLE	45.00
237-0167	8140-EXTM	5.00	4.25	4	APPLE	190.00
237-0168	7198-EXT	6.40	4.50	2	EISA	78.00
237-0169	7198-EXTM	6.40	4.50	4	EISA	195.00
237-0170	7298-EXT	1.00	6.10	2	ISA	50.00
237-0171	7098-EXTM	6.70	5.00	4	ISA	145.00
237-0172	7098-EXT	6.70	5.00	2	ISA	58.00
237-0173	7086-EXT	12.00	6.50	2	MULTIBUS	68.00
237-0174	7062-EXT	4.60	3.90	2	PC-XT	45.00

Stock No.	Mfr.'s Type	Width	Length	Layers	BUS	EACH
237-0175	7586-EXT	5.10	3.90	2	PCI	78.00
237-0176	7564-5EXTM	4.20	6.90	4	PCI	158.00
237-0177	7586-5EXTM	5.10	3.90	4	PCI	158.00
237-0178	7564-5EXT	4.20	6.90	2	PCI	95.00
237-0179	3300-EXTM	2.13	6.35	4	PCMCIA	118.00
237-0180	7136-EXTM	5.50	4.00	4	PSII	190.00
237-0181	7182-EXTM	7.00	4.00	4	PSII	190.00
237-0182	7210-EXTM	12.00	4.50	4	VESA	215.00
237-0183	VME-280-EXTM	9.20	11.00	4	VME	280.00
237-0184	8192-EXT	9.20	9.63	2	VME	95.00

Surface Mount Adapters



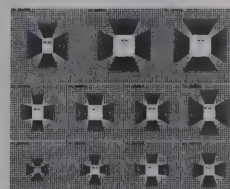
SMT1



SMT3



SMT4



SMT2

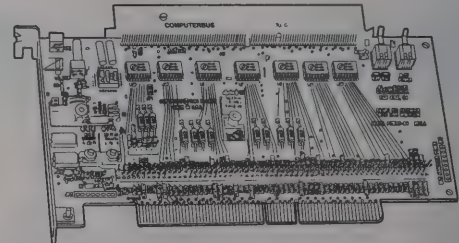
Twin Industries family of Surface Mount Adapters will allow you to use today's sophisticated ASIC technology and other popular SMT devices in wire wrap prototypes. Featuring plated through holes and one plane.

Stock No.	Mfr.'s Type	Description	Width	Length	EACH
237-0185	8100-SMT1	SMT adapters supporting: 20, 28, 44, 68 or 84 Pin PLCC Packages (6); Narrow and wide SOIC packages; 80 and 100 pin controller packages.	10.00	15.00	90.00
237-0186	8100-SMT2	SMT Adapters for Quad Flat Pack (QFP) Packages 144, 128, 100-3, 100-2, 80-3, 74, 64-4, 64-1, 52, 48, 44-2	12.00	10.00	68.00
237-0187	8100-SMT3	SMT Adapters-PLCC packages 20, 28, 44, 64 and 84 pin packages and socket families.	6.00	6.00	45.00
237-0188	8100-SMT4	SMT Adapters for SOIC medium, wide, metric and plastic. miniflat packages	6.00	4.00	28.00
237-0189	8100-SMT5	SMT Adapters for Quad Flat Pack (QFP) Package 208.	4.00	4.00	28.00

Hot Insertion PCI Extender Card

The PCI-EXT+64 is a high-speed 64-Bit PCI Bus Extender Card with switchable bus isolation switches supporting both 32 and 64-bit PCI Cards. This allows for "hot insertion" of the boards that are being tested without having to power down or reboot the host system.

Stock No.	Mfr.'s Type	Description	EACH
237-0190	PCI-EXT+64	Slot power on/off switch eliminates rebooting. Auto overload and voltage protection. Test points for all PCI signals. 3 and 5 volt current probe points.	495.00



High Quality PCB Connectors

High Quality PCB Connectors These high quality connectors are the same used in Twin Industries line of extender cards and feature gold/nickel plated mating contacts for maximum reliability.

Stock No.	Mfr.'s Type	Description	EACH
237-0191	CBTE-3214	PCI 32 Bit Edge Connector	15.00
237-0192	CBTE-5214	PCI 64 Bit Edge Connector	21.00
237-0193	CSTE-S420	ISA Bus Connector — Wire Wrap	27.00
237-0194	CTE-F96S	96 Pin DIN Connector — Right Angle, Solder Tail — Female	10.00
237-0195	CTE-M96S	96 Pin DIN Connector — Right Angle, Solder Tail — Male	10.00

VME Backplanes

237-0200. VME-05-BPNL. VME 5 slot J1/J2 monolithic backplane 10.374" x 3.8"	EACH 296.00
237-0201. VME-07-BPNL. VME 7 slot J1/J2 monolithic backplane 10.374" x 5.4"	EACH 348.00
237-0202. VME-12-BPNL. VME 12 slot J1/J2 monolithic backplane 10.374" x 9.4"	EACH 497.00
237-0203. VME-21-BPNL. VME 21 slot J1/J2 monolithic backplane 10.374" x 16.6"	EACH 875.00

J Pin Terminal - Y Pin Terminal - 0.035" Socket Pins - Push In Terminals

These high quality pins, sockets and terminals are made for use with Twin Industries line of Prototyping Boards and Extender Cards. The J and Y pins mate tightly with the plated through holes found in Twin's series 8000, 8100, 8200 and bus specific prototyping boards. The push-in terminals are made for use with the non-plated 7100-series of products. The PCB pins are gold over nickel for quality connections for use with any of Twin Industries products.

237-0196. J-PIN-T. J-Pin — 100 pack. 0.025 square posts	EACH 6.90
237-0197. TW3006. Printed Circuit Pin. Press-fit in .034 mounting hole. 10u" gold over 100u" nickel. — 100 Pack	EACH 6.00
237-0198. T28/C. Push-In Terminal — 100 pack	EACH 5.40
237-0199. Y-PIN-T. Y-Pin — 100 pack. 0.025 square posts	EACH 4.30

Vectorbord® — Punchboards

— NEW —

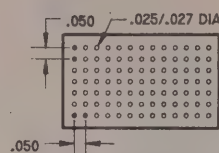
Precision drilled or prepunched, Vectorbord® Prototyping Boards are convenient economical design tools and cost efficient alternatives to custom designs. Available in several hole patterns, many are copper clad. Sockets and pins, terminals, tools, and accessories are available separately to facilitate construction of your prototype boards, see Accessories page.

Stock No.	Mfr.'s Type	Pattern	Width	Length	Thickness	Hole	Material	EACH	
								1-9	10-Up
977-1214	126M76-032	M	4.0	6.5	0.037	0.025	FR4 Epoxy Glass	17.05	16.20
977-1216	336M76-032	M	4.0	17.0	0.037	0.025	FR4 Epoxy Glass	28.05	26.65
977-8300	64P44XXXP	P	4.5	6.5	0.062	0.042	FR2 Phenolic	3.97	3.77
977-1211	64P44	P	4.5	6.5	0.062	0.042	CEM-1 Epoxy Glass Composite	4.14	3.93
977-1000	64P44WE	P	4.5	6.5	0.062	0.042	FR4 Epoxy Glass	4.40	4.18
977-1001	84P44WE	P	4.5	8.5	0.062	0.042	FR4 Epoxy Glass	5.34	5.08
977-1002	85H85WE	H	8.5	8.5	0.062	0.062	FR4 Epoxy Glass	11.21	10.65
977-1255	169P44	P	4.5	17.0	0.062	0.042	CEM-1 Epoxy Glass Composite	8.87	8.43
977-1261	169P44XXXP	P	4.5	17.0	0.062	0.042	FR2 Phenolic	6.97	6.62
977-1003	169P44WE	P	4.5	17.0	0.062	0.042	FR4 Epoxy Glass	9.32	8.86
977-1265	169P59-047	P	6.0	17.0	0.047	0.042	FR4 Epoxy Glass	12.69	12.06
977-1263	169P59-032	P	6.0	17.0	0.031	0.042	FR4 Epoxy Glass	12.69	12.06
977-1269	169P59XXXP	P	6.0	17.0	0.062	0.042	FR2 Phenolic	10.55	10.03
977-1266	169P79	P	8.0	17.0	0.062	0.042	CEM-1 Epoxy Glass Composite	13.94	13.24
977-1267	169P84	P	8.5	17.0	0.062	0.042	CEM-1 Epoxy Glass Composite	15.62	14.84
977-1270	169P84WE	P	8.5	17.0	0.062	0.042	FR4 Epoxy Glass	17.76	16.87
977-1004	169P99	P	10.0	17.0	0.062	0.042	CEM-1 Epoxy Glass Composite	21.02	19.97
977-1280	349P84	P	8.5	35.0	0.062	0.042	CEM-1 Epoxy Glass Composite	35.61	33.83
977-8306	85G24WE	G	4.8	17.0	0.062	0.062	CEM-1 Epoxy Glass Composite	10.23	9.72
977-8164	85G42WE	G	8.5	17.0	0.062	0.062	CEM-1 Epoxy Glass Composite	14.61	13.88
977-8160	85H48WE	H	4.8	8.5	0.062	0.062	FR4 Epoxy Glass	5.60	5.32
977-1271	170H48WE	H	4.8	17.0	0.062	0.062	FR4 Epoxy Glass	10.23	9.72
977-8162	170H85WE	H	8.5	17.0	0.062	0.062	FR4 Epoxy Glass	18.88	17.84

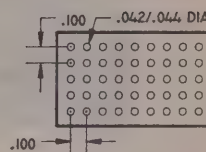
Copper Clad

977-1218	336M76-032C1*	M	4.0	17.0	0.037	0.025	FR4 Epoxy Glass	38.55	36.62
977-8304	169P44C1*	P	4.5	17.0	0.062	0.042	CEM-1 Epoxy Glass Composite	10.79	10.25
977-8132	169P44WEC1*	P	4.5	17.0	0.062	0.042	FR4 Epoxy Glass	12.69	12.06
977-1268	169P84C1*	P	8.5	17.0	0.062	0.042	CEM-1 Epoxy Glass Composite	21.58	20.50
977-8134	169P84WEC1*	P	8.5	17.0	0.062	0.042	FR4 Epoxy Glass	22.92	21.77
977-1005	169P44C2**	P	10.0	17.0	0.062	0.042	Epoxy Glass Composite	13.94	13.24

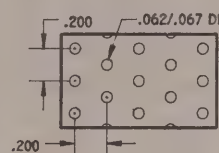
*Copper clad, one side. **Copper clad, two sides.



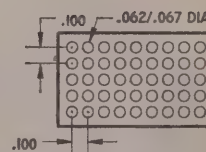
Pattern M



Pattern P



Pattern G



Pattern H

Circbord® — Printed Circuit Prototyping Boards

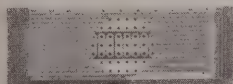
Circbord® prototyping boards with printed circuitry cover a wide range of design requirements—without the expense of edge connectors. All boards have provisions for I/O connectors. Several circuit patterns are available. All bus and pad surfaces are solder coated for user convenience. Holes are 0.042" diameter, hole patterns are based on 0.1" grids. Sockets and pins, terminals, tools, and accessories are available separately, see Accessories page.

Stock No.	Mfr.'s Type	Length	Width	Thickness	Hole	16-Pin DIPs	Material	Circuit Pattern	EACH	
									1-9	10-Up
977-1951	8001	4.5	6.50	0.062	0.042	20	A	3-Hole Solder Pad	20.78	19.74
977-3090	8007	4.5	6.50	0.062	0.042	60	A	Pad-Per-Hole/Ground Plane	22.14	21.03
977-5099	8004	4.5	6.50	0.062	0.042	50	A	Ground Plane 1 side	21.80	20.71
977-5098	8003	4.5	6.50	0.062	0.042	60	A	Pad-Per-Hole 1 side	19.77	18.78
977-1952	8002	4.5	6.50	0.062	0.042	36	A	Interleaved Buses 1 side	23.03	21.88
977-8038	3677-6	4.5	8.08	0.062	0.042	21	A	3-Hole Solder Pad	14.61	13.88
977-8310	45P80-1	4.5	8.08	0.062	0.042	103	A	Pad-Per-Hole	29.15	22.94
977-3085	8006	5.0	13.25	0.062	0.042	154	A	Pad-Per-Hole, PTH	38.20	36.29
977-1006	8010	4.0	12.86	0.062	0.042	124	B	Pad-Per-Hole 2 sides, PTH	67.07	63.72
977-8312	8012	9.2	11.00	0.062	0.042	283	B	Pad-Per-Hole, PTH	57.30	54.43
977-1246	106P70-4	7.0	10.60	0.062	0.042	175	B	Pad-Per-Hole/Ground Plane	56.90	54.05
977-1245	106P106-1	10.6	10.60	0.062	0.042	275	A	Pad-Per-Hole	59.56	56.58
977-1247	106P180-4	10.6	18.00	0.062	0.042	275	B	Ground Plane 2 Sides, Pad-Per-Hole, PTH	89.83	85.34

Material: A = CEM-1 Epoxy Glass Composite; B = FR4 Epoxy Glass; PTH = Plated-thru-hole.

PC Bus
Plugboards™

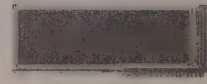
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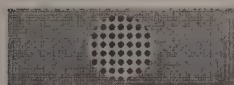
4617 AT/ISA



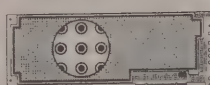
4617-1 AT/ISA



4617-3 AT/ISA



4617-4 AT/ISA



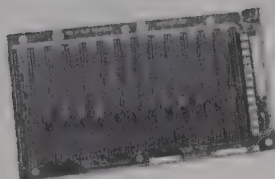
4624-3 PCI



4610-7

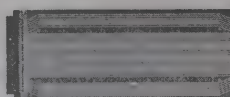
Stock No.	Mfr.'s Type	Width	Height	Hole Dia.	DIP Capacity	Material	Bus	Circuit Pattern	Solder Connector	Wire-Wrap Connector	Extender	Card Cage	EACH	
													1-9	10-Up
977-1007	4624-3	12.28	4.20	0.042	79	FR4 Epoxy Glass	PCI, +5 or 3.3 V	PTH, Peripheral Buses	—	—	3690-34	CCA4600	135.34	125.57
977-4065	4618-7	3.47	11.50	0.042	79	FR4 Epoxy Glass	PS/2 50, 60, 80	Pads and Planes, PTH	—	—	3690-30, 31	—	83.28	79.11
977-8320	4613-2	4.10	13.23	0.042	55	Epoxy Glass 1/2 oz. Copper	IBM PC, XT	Voltage/Ground, PTH	—	—	3690-22	—	63.60	60.42
977-6016	4613-1	4.10	13.23	0.042	84	Epoxy Glass 2 oz. Copper	IBM PC, XT	Peripheral Buses	—	—	3690-22	—	47.07	44.72
977-6015	4613	4.10	13.23	0.042	44	Epoxy Glass 1/2 oz. Copper	IBM PC, XT	3-Hole Solder Pad, PTH	—	—	3690-22	—	63.60	60.42
977-3070	4613-3	4.10	13.23	0.042	91	Epoxy Glass, 2 oz. Copper	IBM PC, XT	Pad-Per-Hole, PTH	—	—	3690-22	—	63.60	60.42
977-3075	4617-3	4.50	13.25	0.042	96	Epoxy Glass, 2 oz. Copper	IBM AT	Pad-Per-Hole, PTH	—	—	3690-26	CCA4600	63.60	60.42
977-3060	4617	4.50	13.25	0.042	39	Epoxy Glass	IBM AT	3-Hole Solder Pad, PTH	—	—	3690-26	CCA4600	63.60	60.42
977-3065	4617-1	4.50	13.25	0.042	108	Epoxy Glass, 2 oz. Copper	IBM AT	Peripheral Buses	—	—	3690-26	CCA4600	47.07	44.72
977-3077	4617-4	4.50	13.25	0.055	130	Epoxy Glass, 2 oz. Copper	IBM AT	Voltage/Ground	—	—	3690-26	CCA4600	63.60	60.42
977-4077	4617-5	4.50	13.25	0.055	140	Epoxy Glass, 2 oz. Copper	IBM AT	Vectorbord plus	—	—	3690-26	CCA4600	72.79	69.15
977-8328	4617C5LF	4.50	13.25	0.055	140	Epoxy Glass, 2 oz. Copper	IBM AT	Vectorbord plus	—	—	3690-26	CCA4600	411.40	390.83
977-4110	4619-3	4.50	13.25	0.042	70	Multilayer	EISA	Pad-Per-Hole, PTH	—	—	3690-32	CCA4600	160.65	152.62
977-4115	4619C5LF	4.50	13.25	0.042	100	Multilayer	EISA	PGA, DIP, PTH	—	—	3690-32	CCA4600	461.08	438.02
977-4120	4619-5	4.50	13.25	0.042	100	Multilayer	EISA	PGA, DIP, PTH	—	—	3690-32	CCA4600	111.23	105.67

PTH — Plated-Through-Hole. C5LF — Fully loaded with socket pins and decoupling capacitors.

ISA PC Bus Backplanes


- ▶ 4-Layer Board Assembled and Tested
- ▶ SIP Termination Sockets Provided
- ▶ Standard PC/AT Power Connectors
- ▶ 16-Bit Connectors All Positions

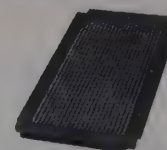
Stock No.	Mfr.'s Type	No. of Slots	EACH	
			1-9	10-Up
977-1008	4617-6-8	8	170.00	161.50
977-1009	4617-6-12	12	185.00	175.75
977-1010	4617-6-14	14	195.00	185.25

— NEW —
Vectorbord® Extender Cards


3690-2/3690-4 General Purpose



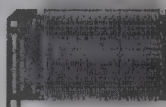
3690-16 STD



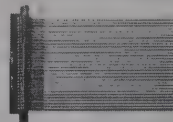
3690/3690-6 General Purpose



3690-12 S-100



3690-34 PCI



3690-22 PC



3690-32 EISA

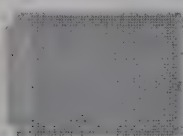


3690-26 AT

- ▶ Easy In-System, Functional Testing Of Circuits
- ▶ Connectors Installed

- ▶ Test Points On Each Line
- ▶ Nickel/Gold Plated Edge Contacts and Gold Plated Socket Contacts

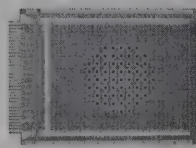
Stock No.	Mfr.'s Type	Contacts	Spacing	Height	Width	Material	Bus	EACH	
								1-9	10-Up
977-1411	3690	44	0.100	6.500	4.500	—	—	30.00	28.50
977-1412	3690-2	72	0.100	11.000	4.500	—	—	50.44	47.91
977-1413	3690-4	72	0.100	7.500	4.500	—	—	58.45	55.53
977-8174	3690-6	44	0.156	11.000	4.500	—	—	39.10	37.15
977-1410	3690-12	100	0.125	7.500	10.000	—	—	57.76	54.87
977-8124	3690-16	58	0.125	8.500	4.500	—	—	39.21	37.25
977-6018	3690-22	62	0.100	5.700	3.180	Epoxy Glass	IBM PC, XT	39.77	37.78
977-3080	3690-26	18/36	0.100	5.600	6.700	Epoxy Glass	IBM AT	61.23	58.16
977-4100	3690-26-1*	18/36	0.100	5.600	6.700	Multilayer	IBM AT	174.70	165.96
		31/62	0.100						
977-4070	3690-30	96	DIN	7.475	6.100	Multilayer	PS/2 50, 60	205.86	195.57
977-4075	3690-31	96	DIN	7.475	7.650	Multilayer	PS/2 80	205.86	195.57
977-4015	3690-32*	188	0.050	5.600	6.700	Multilayer	EISA	214.02	203.32

Vectorbord® Prototyping Boards


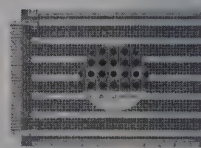
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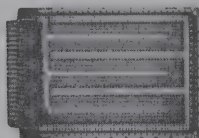
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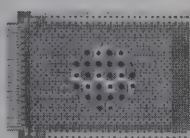
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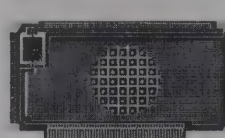
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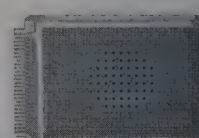
4466-4



4493



8801-6



4610-3

General Purpose Plugboards™

Stock No.	Mfr.'s Type	Width	Height	Spacing	Contacts	Thickness	Hole Dia.	16-Pin DIP Capacity	Material	Solder Connector	Wire-Wrap Connector	Extender	Pattern	EACH	
														1-9	10-Up
977-1421	3662-5	4.5	4.5	0.156	44	0.062	0.042	40	Epoxy Glass Composite	R644	R644-3	3690	Contacts Only	13.94	13.24
977-1455	4112-5	4.5	4.5	0.156	44	0.062	0.042	8	Epoxy Glass Composite	R644	R644-3	3690	3-Hole Solder Pad	25.40	24.13
977-8316	4112	9.6	4.5	0.156	44	0.062	0.042	40	Epoxy Glass Composite	R644	R644-3	3690-6	3-Hole Solder Pad	34.38	32.66
977-1397	3662-2	9.6	4.5	0.156	44	0.062	0.042	90	Epoxy Glass Composite	R644	R644-3	3690-6	Contacts Only	19.10	18.14
977-1402	3677	9.6	4.5	0.156	44	0.062	0.042	21	Epoxy Glass	R644	R644-3	3690-6	3-Hole Solder Pad	22.92	21.77
977-1405	3682	9.6	4.5	0.156	44	0.062	0.042	48	Epoxy Glass	R644	R644-3	3690-6	Interleaved Buses	29.92	27.76
977-8142	3682-4	6.5	4.5	0.156	44	0.062	0.042	24	Epoxy Glass Composite	R644	R644-3	3690	Interleaved Buses, Zig-Zag	31.79	30.20
977-1399	3662	6.5	4.5	0.156	44	0.062	0.042	50	Epoxy Glass Composite	R644	R644-3	3690	Contacts Only	17.76	16.87
977-5100	3662-9	6.5	4.5	0.156	44	0.062	0.042	45	FR4 Epoxy Glass	R644	R644-3	3690	Pad-Per-Hole	38.20	36.29
977-8140	3662A6	6.5	4.5	0.156	44	0.062	0.042	50	Epoxy Glass Composite	R644	R644-3	3690	Ground Plane	31.79	30.20
977-1403	3677-2	6.5	4.5	0.156	44	0.062	0.042	12	Epoxy Glass Composite	R644	R644-3	3690	3-Hole Solder Pad	20.33	19.31
977-8314	4112-4	6.5	4.5	0.156	44	0.062	0.042	25	Epoxy Glass	R644	R644-3	3690	3-Hole Solder Pad	28.77	27.33
977-1407	3682-2	6.5	4.5	0.156	44	0.062	0.042	24	Epoxy Glass Composite	R644	R644-3	3690	Interleaved Buses, Zig-Zag	22.92	21.77
977-1440	4066-4	6.5	4.5	0.100	72	0.062	0.042	34	Epoxy Glass Composite	R636-2	R636-1	3690-4	Ground Plane/Interleaved Buses	24.15	22.94
977-5101	3719-6	6.5	4.5	0.100	72	0.062	0.042	40	FR4 Epoxy Glass	R636-2	R636-1	3690-4	Pad-Per-Hole, PTH	41.67	39.59
977-1415	3719-1	6.5	4.5	0.100	72	0.062	0.042	50	Epoxy Glass Composite	R636-2	R636-1	3690-4	Contacts Only	17.20	16.34
977-8158	3719-4	9.6	4.5	0.100	72	0.062	0.042	90	Epoxy Glass Composite	R636-2	R636-1	3690-2	Contacts Only	22.92	21.77
977-8156	4493	6.5	4.5	0.100	72	0.062	0.042	50	Epoxy Glass Composite	R636-2	R636-1	3690-4	Voltage/Ground Planes	33.04	31.39
977-1011	4493-1	9.6	4.5	0.100	72	0.062	0.042	63	Epoxy Glass Composite	R636-2	R636-1	3690-2	Voltage/Ground Planes	40.68	38.65

Bus Specific Plugboards™

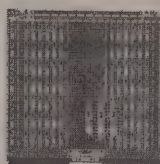
Stock No.	Mfr.'s Type	Width	Height	Hole Dia.	DIP Capacity	Material	Bus	Circuit Pattern	Solder Connector	Wire-Wrap Connector	Extender	Card Cage	EACH	
													1-9	10-Up
977-1911	4610-1	6.5	4.5	0.042	59	Epoxy Glass Composite	STD	Contacts Only	R656-1	R656	3690-16	Series 13	24.84	23.60
977-1910	4610	6.5	4.5	0.042	20	Epoxy Glass Composite	STD	3-Hole Solder Pad	R656-1	R656	3690-16	Series 13	31.79	30.20
977-1912	4610-2	6.5	4.5	0.042	35	Epoxy Glass Composite	STD	Interleaved Bus	R656-1	R656	3690-16	Series 13	31.79	30.20
977-8122	4610-3	6.5	4.5	0.042	52	Epoxy Glass	STD	Pad-Per-Hole, PTH	R656-1	R656	3690-16	Series 13	47.07	44.72
977-1012	8801-6	5.3	10.0	0.042	110	Epoxy Glass	S100	Pad-Per-Hole, PTH	R681-3	R681-2	3690-12	CCK100S/90	50.89	48.34
977-2025	8801-1	5.3	10.0	0.042	110	Epoxy Glass Composite	S100	Contacts Only	R681-3	R681-2	3690-12	CCK100S/90	25.40	24.13
977-2040	8804	5.3	10.0	0.042	52	Epoxy Glass Composite	S100	Voltage/Ground Buses	R681-3	R681-2	3690-12	CCK100S/90	36.38	34.56

PTH = Plated-Thru-Hole.

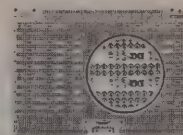
Multi-layer, High Speed Circuit Packaging System



LF316SC3T1
3 U x 160 mm



LF622SC3T1
6 U x 220 mm



LF616SC3T1
6 U x 160 mm

Easiest Route from Drawing Board, or CRT to Finished Circuit. Low insertion force pins in holes on 0.1" grids. High speed, high density multilayer boards — available in standard DIN sizes with a wide range of options to meet your needs:

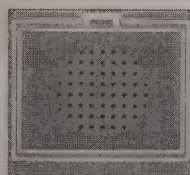
- ▶ Two Circuit Patterns: Schottky (SCH) and High Speed Universal (HSU)
- ▶ Four Independent Layers
- ▶ High Density Socket Pin Configurations With Large Grid Array Mounting Area
- ▶ Surface Mounted Decoupling Capacitors Installed

Vectorbord® Plus™

Stock No.	Mfr.'s Type	DIN/EC	Dimensions (mm)	18-Pin DIP Capacity	Pin Grid Array Area(s)	SMD Capacity	EACH	
							1-9	10-Up
977-1013	LF316SC3T1	3 U x 160	100.0 x 160	48	1.20 x 20	27	232.00	220.40
977-1014	LF616SC3T1	6 U x 160	233.4 x 160	120	1.20 x 48	60	430.00	408.50
977-1015	LF616UC3T1	6 U x 160	233.4 x 160	120	1.20 x 48	116	505.00	479.75
977-1016	LF622SC3T1	6 U x 220	233.4 x 220	198	1.20 x 78	164	498.00	473.10



E160-3U-1
3 U x 160 mm



E220-6U-2
6 U x 220 mm

VME Prototyping Boards (DIN 41612)

Stock No.	Mfr.'s Type	Width	Height	Hole Dia.	16-Pin DIP Capacity	96-Pin DIN Connector	Card Cage**	Terminals	Socket	Pattern	EACH	
											1-9	10-Up
977-3000	E160-3U-1	6.3	3.94	0.042	35	RE96MWR	CCK160-3U	T125, T126	R32	Pad-Per-Hole, PTH	30.56	29.03
977-3005	E160-3U-2	6.3	3.94	0.042	35	RE96MWR	CCK160-3U	T125, T126	R32	Buses Only	30.54	29.01
977-3010	E160-3U-3	6.3	3.94	0.055	45	RE96MWR	CCK160-3U	—	R52	Voltage/Ground Plane	30.56	29.03
977-3015	E160-6U-1	6.3	9.19	0.042	100	RE96MWR	CCK160-6U	T125, T126	R32	Pad-Per-Hole, PTH	48.99	46.54
977-3021	E160-6U-2	6.3	9.19	0.042	100	RE96MWR	CCK160-6U	T125, T126	R32	Buses Only	48.97	46.54
977-3025	E160-6U-3	6.3	9.19	0.055	105	RE96MWR	CCK160-6U	—	R52	Voltage/Ground Plane	48.99	46.54
977-3030	E220-6U-1	8.66	9.19	0.042	140	RE96MWR	CCK220-6U	T125, T126	R32	Pad-Per-Hole, PTH	59.43	56.46
977-3035	E220-6U-2	8.66	9.19	0.042	140	RE96MWR	CCK220-6U	T125, T126	R32	Buses Only	59.43	56.46
977-3040	E220-6U-3	8.66	9.19	0.055	168	RE96MWR	CCK220-6U	—	R52	Voltage/Ground Plane	59.42	56.44

Vectorbord® Metric Extender Cards

Model VMEE-M J1 & J2 Extender (assembly) is for 160mm & 220mm depths. Three-layer construction, controlled impedance design, and patented signal trace shielding minimize crosstalk. Jumpers are provided for interrupting all signal lines. Mounting pads for additional DIN connector or for test point mounting of logic analyzer also included.



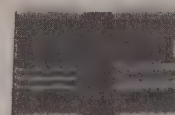
UEB220-3U



VMEE-M

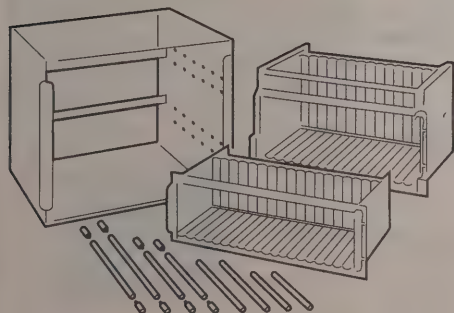
Metric Extender Cards

Stock No.	Mfr.'s Type	Contacts	Spacing	Height	Length (In.)	Bus	EACH	
							1-9	10-Up
977-1017	UEB220-3U	96	DIN	3 U (3.94")	12.20	Uncommitted	255.82	243.03
977-4135	VMEE-M	192	DIN	6 U (9.19")	12.20	VME	300.00	285.00
977-1018	VMEE-6UX160	192	DIN	6 U (9.19")	10.00	VME	272.00	258.40



VMEE-6UX160MM

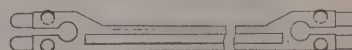
Vector-Pak® Euro Card Subracks



Stock No.	Mfr.'s Type*	Description W x H x D	Card Size H x W	Max. Slots	EACH	
					1-9	10-Up
977-8216	CCK160-3U	19 x 5.21 x 9.27	3 U x 160 mm	21	90.22	85.71
977-8222	CCK160-6U	19 x 10.46 x 9.27	6 U x 160 mm	21	104.54	99.31
977-8218	CCK220-3U	19 x 5.21 x 11.63	3 U x 220 mm	21	113.97	108.27
977-8224	CCK220-6U	19 x 10.46 x 11.63	6 U x 220 mm	21	121.00	114.95
977-8234	CCK220-9U	19 x 15.71 x 11.63	9 U x 220 mm	21	146.55	139.22
977-8225	CCK280-6U	19 x 10.46 x 14.0	6 U x 280 mm	21	145.70	138.42
977-8236	CCK280-9U	19 x 15.71 x 14.0	9 U x 280 mm	21	196.00	186.20
977-8228	CCK340-6U	19 x 10.46 x 16.36	6 U x 340 mm	21	189.60	180.12
977-8238	CCK340-9U	19 x 15.71 x 16.36	9 U x 340 mm	21	207.07	196.72
977-8230	CCK400-6U	19 x 10.46 x 18.72	6 U x 400 mm	21	210.17	199.60
977-8240	CCK400-9U	19 x 15.71 x 18.72	9 U x 400 mm	21	234.14	222.43

Order Card guides separately. For assembled versions, substitute (A) for the (K) in part numbers above.

Euro Card Guides For Subracks

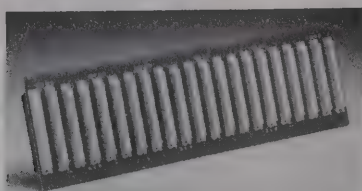


Stock No.	Mfr.'s Type	Description (mm)	Card Thickness*	Snap-In Type	Application	EACH	
						1-9	10-Up
977-8400	CG1-160/12	160	.062	Glass filled Noryl	CCK160	14.22	13.51
977-8402	CG1-220/12	220	.062	Glass filled Noryl	CCK220	15.09	14.33
977-8404	CG1-280U/12	280	.062	Black anodized center., Noryl ends	CCK280	53.66	50.98
977-1020	CG1-340U/12	340	.062	Black anodized center., Noryl ends	CCK340	55.60	52.82
977-8406	CG1-400U/12	400	.062	Black anodized center., Noryl ends	CCK400	51.54	48.96

*Guides for 0.090 thick cards available with anodized center piece — contact factory.

- ▶ All Side Panels Deeper Than 160 mm Include Mounting Holes For Positioning Front Extrusions At 60 mm Increments
- ▶ Brushed Aluminum Finish
- ▶ Subrack Assemblies and Kits Can Be Configured To Custom Specifications - Call Factory For Information
- ▶ DIN Connectors, Dress Panels, Cage Handles and Decorative Enclosures Available Separately (Please Consult Factory)

VME Backplanes



J1 VME Backplanes — 3U, 6-Layer Construction, On Or Off Board Termination

- ▶ 96-Pin Female Connectors
- ▶ Massive Copper Clad Power and Ground Planes On Opposite Board Sides
- ▶ Extensive On Board Labeling Identifies User Assignable Pins, IACK and IACK OUT Pins
- ▶ 2 To 21-Slot Models Available
- ▶ Large Current Carrying Capacity Through Power Bugs and Bus Bars

J2 VME Backplane - 3U, On Or Off Board Termination Models Available

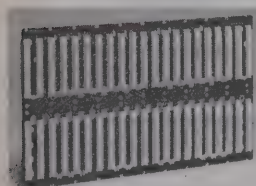
- ▶ Perpendicular and Parallel Passive Terminators Available
- ▶ VSB Modules, 4-Slot and 8-Slot Models Available
- ▶ VMX Modules, 4-Slot and 6-Slot Models Available

VME J1

Stock No.	Mfr.'s Type	No. of Slots	Width (In.)	Height (In.)	EACH	
					1-9	10-Up
977-1070	VMEBP21J1	21	16.740	3U (5.120)	375.00	356.25
977-1021	VMEBP12J1	12	9.540	3U (5.120)	451.72	429.14
977-1022	VMEBP10J1	10	7.940	3U (5.120)	267.00	255.32
977-1023	VMEBP7J1	7	5.540	3U (5.120)	207.00	197.94
977-1024	VMEBP5J1	5	3.940	3U (5.120)	252.16	239.55

VME J2

977-1025	VMEBP21J2	21	16.740	3U (5.120)	325.00	310.78
977-1071	VMEBP12J2	12	9.540	3U (5.120)	260.34	247.33
977-1026	VMEBP10J2	10	7.940	3U (5.120)	185.00	176.91
977-1027	VMEBP7J2	7	5.540	3U (5.120)	187.50	178.13
977-1028	VMEBP5J2	5	3.940	3U (5.120)	125.00	119.53



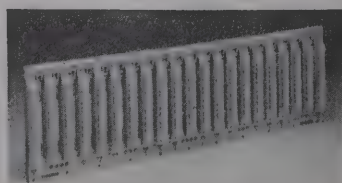
Monolithic 6U VME J1/J2 Backplanes Eight-Layer Construction

- ▶ On-Board Termination
- ▶ Auto Bus Grant Connectors Available
- ▶ 2 To 21-Slot Models Available
- ▶ Large Current Carrying Capacity Through Power Bugs and Bus Bars

977-1029	VMEBP5P00	5	3.944	6U (10.317)	346.00	330.86
977-1030	VMEBP7P00	7	5.544	6U (10.317)	385.00	368.16
977-1064	VMEBP10P00	10	7.940	6U (10.317)	580.13	535.50
977-1031	VMEBP12P00	12	9.544	6U (10.317)	525.00	502.08
977-1032	VMEBP21P00	21	16.744	6U (10.317)	835.00	818.55

Universal (Uncommitted) 3U Multilayer Backplane Construction

- ▶ 3U, 21 Slots
- ▶ 0.8" Connector Spacing
- ▶ Secondary Wire-Wrap Connections For Power (Up To 3 Voltages) and Ground and All Signal Lines



977-1063	UM21A3U-21	21	16.740	3U (5.120)	345.00	329.91
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Card-Mount System

- ▶ Guide Positions At .25" Increments
- ▶ Adjustable Slots
- ▶ Construction: .080" Thick Aluminum, Clear Anodized Finish

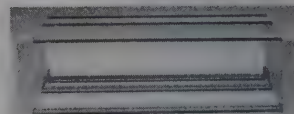
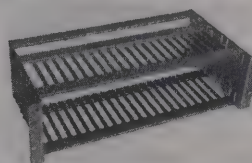
- ▶ SideAll Slots Provide Adjustability To 1"
- ▶ For 4.5" x 6.5" Cards
- ▶ Rear Struts For Mounting Connectors

CCA13S/90 — Assembled Subrack

- ▶ With 21 Pair Of Snap-In Guides
- ▶ Kit Or Assembled Versions Available
- ▶ Designed In Accordance With EIA Std RS-310

CCK13F/90 — Subrack Frame Only

- ▶ Guide Positions At 0.25" Increments



RETMA (EIA) Card Subracks

Stock No.	Mfr.'s Type	Dimensions W x H x D (In.)	Card Size H x W (In.)	Guide Sets	EACH	
					1-9	10-Up
977-1033	CCK12S/90*	19 x 5.25 x 9.00	4.5 x 3.0-5.0	21	97.71	92.82
977-0131	CCA13S/90	19 x 5.25 x 9.00	4.5 x 5.5-7.0	21	120.44	114.42
977-1034	CCK13F/90*	19 x 5.25 x 9.00	4.5 x 5.5-7.0	0	90.76	86.22
977-8246	CCK13S/90*	19 x 5.25 x 9.00	4.5 x 5.5-7.0	21	98.18	93.27
977-1035	CCM13S/90	19 x 5.25 x 9.00	4.5 x 5.5-7.0	16	156.98	149.13
977-1036	CCK13S-H/90*	10.25 x 5.25 x 9.00	4.5 x 5.5-7.0	11	78.75	74.81
977-6003	CCK13S-HT/90*	8.12 x 5.25 x 8.12	4.5 x 5.5-7.0	10	73.77	70.08
977-0130	CCA13M/90**	19 x 15.25 x 9.00	4.5 x 5.5-7.0	21	138.82	131.88
977-1037	CCK13S-16/90*	19 x 5.25 x 9.00	4.5 x 5.5-7.0	21	322.46	306.34
977-1038	CCK14F/90*	19 x 5.25 x 12.00	4.5 x 8.6-10.1	0	97.60	92.72
977-8242	CCA14S/90	19 x 5.25 x 12.00	4.5 x 8.6-10.1	21	125.48	119.20
977-1039	CCK15F/90	19 x 7.00 x 12.00	6.25 x 8.6-10.1	0	109.71	104.22
977-1040	CCA17S/90	19 x 8.75 x 12.00	8.00 x 8.6-10.1	21	157.50	149.63
977-1041	CCK17F/90*	19 x 8.75 x 12.00	8.00 x 8.6-10.1	0	115.66	109.87
977-1042	CCK18F/90*	19 x 10.50 x 15.75	9.75 x 11.0-13.5	0	127.76	121.37
977-1043	CCK100S/90*	19 x 12.25 x 9.00	10.0 x 4.0-8.5	21	133.13	126.48

CMA13-20/90 — Module Subrack With Eight 2" Wide EFP Modules



Stock No.	Mfr.'s Type	Dimensions W x H x D (In.)	Module Size H x W (In.)	Modules	EACH	
					1-9	10-Up
977-1044	CMA13-16/90***	19 x 5.25 x 9.00	4.5 x 7.0	10	144.60	137.37
977-1045	CMA13-20/90**	19 x 5.25 x 9.00	4.5 x 7.0	8	147.41	140.04
977-1046	CMA14-16/90**	19 x 5.25 x 12.00	4.5 x 10	16	163.29	155.13
977-1047	CMA14-20/90**	19 x 5.25 x 12.00	4.5 x 10	8	165.86	157.57

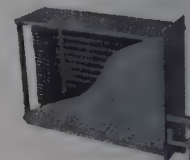
*Kit, all others are assembled. CCK = Kit; CCA = Assembled. ** Zinc riveted card guides. All others are snap-in noryl. *** Accepts Extended Front Panel (EFP) Modules available separately. "S" version subracks include 12 pairs of card guides.

RETMA (EIA) Card Guides

Stock No.	Mfr.'s Type	Type	Length (In.)	Centers (In.)	Card Length (In.)	Application	EACH	
							1-9	10-Up
977-1048	CG2-45P	Plastic, screw	2.89	2.25	4.50	Subrack series	17.22	16.36
977-1049	CG2-45S	Nylon, snap-in	3.17	2.25	4.50	12, 13, 14, 17, 18 and 100 & Vector P series sidewalls	10.97	10.42
977-1069	CG2-50P	Plastic, screw	4.39	3.75	5.00		18.55	17.12
977-1050	CG2-65M	Metal, screw	5.42	4.50	6.50		14.21	13.50
977-1051	CG2-65P	Plastic, screw	5.42	4.50	6.50		12.33	11.71
977-8248	CG2-65S	Nylon, snap-in	5.42	4.50	6.60		10.16	9.65
977-1052	CG2-80M	Metal, screw	6.64	6.00	8.00	Subrack series 14, 15, 17, 18 & 100 and Vector P series	25.85	24.56
977-1053	CG2-80P	Plastic, screw	6.64	6.00	8.00		21.89	20.80
977-1054	CG2-80S	Nylon, snap-in	6.93	6.00	8.00		14.22	13.51
977-1055	CG2-95P	Plastic, screw	8.14	7.50	9.50	sidewall ending in 119 or 156	18.72	17.78
977-1056	CG2-95S	Nylon, snap-in	8.43	7.50	9.50		12.33	11.71

EFP Modules

- ▶ Extended Front Panels Provide Thumb Screw Mounting and Flush Fit From Module To Module and With Strut Line.
- ▶ Supplied In Kit Form



Stock No.	Mfr.'s Type	Use With Subrack	EACH	
			1-9	10-Up
977-1065	EFP164A66	CMA13	27.54	25.42
977-1066	EFP164A97	CMA14	31.06	28.67
977-0340	EFP204A66	CMA13	23.93	22.74
977-1067	EFP204A97	CMA14	32.20	29.72
977-1068	EFP304A66	CMA13	32.20	29.72
977-1072	EFP304A97	CMA14	32.55	30.92

PCI Developer's Kit (P/N 4624-10)

PCI Developer's Kit For Fast Development Of Adapter Card To PCI Bus; Become Familiar With The PCI Bus Through Hands-On Use.

- ▶ Allows Engineers An Initial Design Advantage.
- ▶ Allows Programmers Master Bus Compliance Early In The Product Cycle
- ▶ Provides Prototype Space And Additional Boards And Accessories For Circuit Layout
- ▶ Provides Bus Mastering Functions Compliant With PCI Spec 2.1.
- ▶ Includes Software Tools For Diagnostic And Device Programming
- ▶ Includes Chip And Kit Documentation, Including Schematics And Circuit Layout Drawings
- ▶ Makes Bus Interface Easy And Cost Effective

Kit contains four PC boards including: PCI board with the AMCC matchmaker chip, with memory and provisions for flash memory on board for actual software use; one ISA board for communicating with another computer (or the same computer); and two additional breadboards for additional development which plug on to the Matchmaker board; Software for bus interface diagnostics and design configuration, and documentation books and quick reference guide.

977-1057. 1-9 EACH 495.00 10-Up EACH 484.50



PCI Prototyping Boards and Extender

PCI Prototype Board 4624-8 for Circuit Development

- ▶ Allows Expanded Space For Circuit Layout On A Full Size PCI Card
- ▶ Allows Use In Power PC Macintosh and PC Formats
- ▶ Contains AMCC Matchmaker Chip, Assembled and Tested
- ▶ Includes Software and Documentation

977-1058. 1-9 EACH 246.00
10-Up EACH 233.70

PCI Test Extender 3690-34-5V and 3690-34-3V

- ▶ Test Extender For 32 Bit Or 64 Bit Test Uses
- ▶ Contains Test Points For Each Signal Line
- ▶ Includes Instructions

977-1059. 1-9 EACH 225.00
10-Up EACH 215.16
977-1060. 1-9 EACH 225.00
10-Up EACH 215.16

PCI Prototype Board 4624-3 For Universal Development

- ▶ Multi-Layer Board Contains Pad Per Hole Patterns With Power and Ground Accessible Throughout The Board
- ▶ For Use In 5 V Or 3.3 V Applications
- ▶ For Use With Vector Prototype Accessories
- ▶ Includes Software and Documentation

977-1007. 1-9 EACH 135.34
10-Up EACH 128.57

PCMCIA Test Extender 3690-35

- ▶ For Type I and Type II
- ▶ 64-Pin Connector Numbering
- ▶ Multi-Layer Construction
- ▶ Assembled and Tested
- ▶ Contains Test Points For Each Signal Line



977-1061. 1-9 EACH 135.00
10-Up EACH 128.25

Prototype Board Kit 4625-3

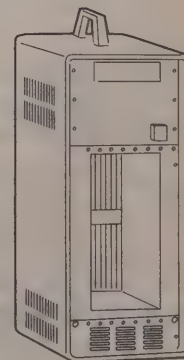
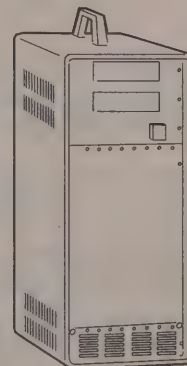
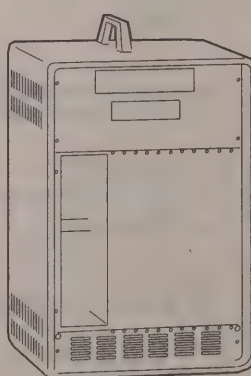
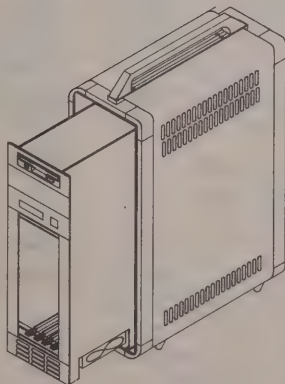
- ▶ Large Area 10" x 7" Prototype Board With FR4 Material and 1" Grid
- ▶ Pattern: Pad-Per-Hole, Surrounded By Ground and Power Planes

977-1062. 1-9 EACH 125.00 10-Up EACH 119.53

Vector-Pak® Series 810 VME Portable Towers

- ▶ Fully Assembled Aluminum
- ▶ Slide Out Subrack for Easy Access
- ▶ 5, 7 and 12-slot J1/J2 Backplanes
- ▶ 250 - 500 Watt Power Supply
- ▶ 60 CFM fans

Specifications. Accessibility: Subrack removes completely from enclosure. The subrack is an assembled, integrated system and slides into the enclosure on tracks. Results in quick installation of cards and short repair time. **Backplane:** 5, 7, and 12 slots are available in standard models. **Peripheral Bay Options:** Up to 3 ea., half-height drives may be front mounted. Accommodates internal drives. **Card Loading:** Vertical, 6U x 160 mm cards. **Cooling:** Bottom mounted fan(s). Separate fan-cooled power supply area. **Power Supply:** 5-slot, 250 W; 7-slot, 400 W; 12-slot, 500 W. **Slide out Subrack:** 3 U light-weight slide out subrack, brushed aluminum. May mount up to 3 ea., 3.5" or two 5.25" half-height drives. **Finish:** Durable, pearl white powder coat. **Electrical Specifications. Frequency:** 47-63 Hz. **Voltage:** 90-132 VAC or 180-264 VAC. **Power:** 250, 400 or 500 Watt. **Harnesses and Cables:** Included, with per. bay cables wired to power supply On/Off, Model 810 — rear mounted, lighted; Model 820 — front mounted On/Off, lighted. Reset optional. **Power Input Module:** Rear mounted (IEC 320 type), with fuse. (Units shown with optional SCSI connector, output, reset and slot covers. **Weight:** 22 Lbs.



Model 810-616-052-02-00H00 (Right). Portable tower with 5-slot J1/J2 VME Backplane and 250 W power supply.
977-1089.1-9 EACH 1670.25

Model 810-616-072-04-00H00 (Center). 7-slot, J1/J2 VME Backplane with 400 W power supply.
977-1090.1-9 EACH 1765.88

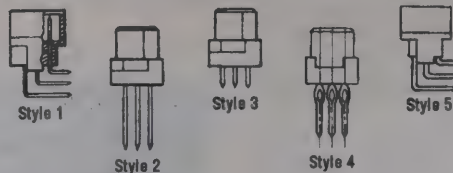
Model 810-616-122-05-00H00 (Left). Portable tower with 12-slot J1/J2 VME backplane and 500 W power supply.
977-1091.1-9 EACH 2658.37

Standard Models

For 6U Card Size	Height In. (mm)	Depth In. (mm)	Width In. (mm)	Sub-Rack	Backplane
5-Slot	15.50 (394)	13.50 (343)	7.00" (178)	6U x 160 mm	5-Slot J1/J2
7-Slot	15.50 (394)	14.50 (368)	8.60" (218)	6U x 160 mm	7-Slot J1/J2
12-Slot	15.50 (394)	14.50 (368)	12.60" (320)	6U x 160 mm	12-Slot J1/J2

Power Supply	+5 V	+12 V	-12 V
250 W	40 A	6 A	4 A
400 W	40 A	12 A	12 A
500 W	80 A	10 A	5 A

96-Pin DIN Connectors



For solder or Wire Wrap applications, designed in accordance with DIN Specification 41612. Superior two-piece design features gold/nickel plated copper alloy contacts and glass-filled polycarbonate or polyester sulphone insulating material. Mounting hole centers 3.54".

Wire Wrap and Solder Tail Edge Card Connectors

Designed for low insertion force, minimum wear on circuit board edge contacts. Edge Card Connectors are supplied with between-contact polarizing keys. Part No. R644 supplied with in-contact polarizing keys. **Specifications:** **Solder Type:** Insulator Material: Phenolic, UL-94V-0 or Glass filled Diallylphthalate UL-94V-1 or Rytion R10. **Wire-Wrap Type Insulator Material:** Phenolic, UL-94V-0 or Glass filled Diallylphthalate UL-94V-1 or Polyester (VALOX) UL-94V-0. **Contact Material:** Phosphor bronze QQ-B-750 or Beryllium copper. **Contact Plating:** .000010" gold over .000050" nickel. **Test Voltage:** 650 VAC. **Rated Current:** 3 A. **Contact Res. Drop:** 30 mV Max. @ rated current. **Insulation Resistance:** 5000 Megohms, nom. @ 500 VDC.

Stock No.	Mfr.'s Type	Contact Length	Type	Style No.	EACH	
					1-9	10-Up
977-8180	RE96MSD	0.157	Solder Tail	1	16.98	16.13
977-8182	RE96FSD	0.157	Solder Tail	3	12.50	11.88
977-1073	RE96FSP	0.208	Pressfit Solder Tail	4	15.13	14.38
977-1074	RE96FSR	0.087	Solder Tail, Right Angle	1	14.05	13.35
977-8184	RE96FW	0.540	Wire Wrap	2	12.36	11.74
977-1075	RE96FWP	0.366	Pressfit Wire Wrap	4	14.90	14.15
977-1076	RE96MSR-062	0.087	Solder Tail, Right Angle	1	7.51	7.14
977-1077	RE96MSR-125	0.174	Solder Tail, Right Angle	1	12.58	11.95
977-8178	RE96MWR	0.445	Wire Wrap, Right Angle	5	16.17	15.36

Stock No.	Mfr.'s Type	No. of Contacts	Termination Type	Row Spacing	Mounting Ears	EACH	
						1-9	10-Up
977-0782	R636-1	72	Wire Wrap	200	Center	12.02	11.42
977-8340	R636-2	72	Solder Tail	200	Flush	12.02	11.42
977-8342	R656-1	56	Solder Tail	200	Flush	11.31	10.75
977-8344	R680-2	80	Solder Tail	200	Center	18.14	17.23
977-0783	R644	44	Solder Tail	200	Flush	8.62	8.19
977-0787	R644-3	44	Wire Wrap	200	Center	7.52	7.14

Push-In Terminals

T42 — For 0.042" Diameter Holes

- Wiring Terminals For Mounting Leads Or Wires Horizontally Or Vertically (Through Board Hole)
- Connectors Require No Staking For Most Applications
- Horizontal Slot Holds Up To Seven Wires, Depending Upon Thickness Of Wire



977-0970. T42-1/C. PK/100. 1-9	EACH	4.83
10-Up	EACH	4.59
977-0971. T42-1/M. PK/1000. 1-9	EACH	26.81
10-Up	EACH	25.47

T28 — For 0.062" Diameter Holes

- Vertical Slot Holes 0.025" Diameter Leads Or .22 Gauge Wires
- 0.018" Diameter Tab Holes Can Be Used To Hold Additional Wires
- Material: Phos. Bronze, Tin Plating

977-8362. T28/C. PK/100. 1-9	EACH	6.25
10-Up	EACH	5.93
977-0951. T28/M. PK/1000. 1-9	EACH	34.76
10-Up	EACH	33.02

Package quantities of 100 or 1000. Consult factory for applicable tools.

Press-In Terminals

T46 — For 0.042" Diameter Holes

- Single and Double-Tailed (Accessible From Both Sides) Wire-Wrap Terminals
- 0.025" Square Posts
- Provides Secure Contact Without Soldering Or Staking
- Rectangular Base With Stepped Shank Presses Into Plain Or Plated-Thru Holes and Is Retained Without Etching or Soldering



977-0980. T46-5-9/C. PK/100. 1-9	EACH	7.97
10-Up	EACH	7.57
977-1079. T46-5-9/M. PK/1000. 1-9	EACH	65.37
10-Up	EACH	62.10

Package quantities of 100 or 1000. Use P158 or P133B insertion tools, sold separately.

Terminals

T44, T68 — For 0.042" Diameter Holes

- Wire Wrap Tail With Two-Pronged Receptacle For Wires Or Leads
- 0.025 Square Posts
- Rectangular Terminal With Stepped Shank Presses Securely Into Plated Or Unplated Holes, Requires No Staking Or Soldering
- Bifurcated End Holds Soldered Leads Securely
- For 3 Level Wire Wraps



977-0972. T44/C. PK/100. 1-9	EACH	4.96
10-Up	EACH	4.71
977-0973. T44/M. PK/1000. 1-9	EACH	32.69
10-Up	EACH	31.06
977-0984. T68/C. PK/100. 1-9	EACH	6.12
10-Up	EACH	5.81
977-9994. T68/M. PK/1000. 1-9	EACH	31.03
10-Up	EACH	29.48

T49 Klipwrap Terminal — For 0.042" Diameter Holes

- Wire Wrap Tail (0.025" Square) With 3-Pronged Clip For Up To 22 Gauge Wires
- Up To 3 Wires May Be Pressfit, Crimped Or Soldered Into Clip
- Tail For 3 Level Wire Wraps



977-5060. T49/C. PK/100. 1-9	EACH	8.45
10-Up	EACH	8.03
977-5036. T49/M. PK/1000. 1-9	EACH	66.98
10-Up	EACH	63.63

Package quantities of 100 or 1000. Use P158 or A13, A13-1, P156 insertion tools, sold separately.

K32 — J Pin Terminal — For 0.042" Diameter Holes

- Wire Wrap Pin (0.025" Square) Fits and Connects Two Adjacent Holes (0.042" D) On A .1" Grid
- Short Log Can Be Bent To Secure Pin
- Shorting Pin Allows Wire Wrap Connection To Wiring Side Pads Or Circuits

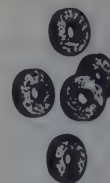


977-0595. K32/C. PK/100. 1-9	EACH	8.79
10-Up	EACH	8.35
977-1078. K32/M. PK/1000. 1-9	EACH	53.62
10-Up	EACH	50.94

Package quantities of 100 or 1000. Use P158 insertion tool, sold separately.

Solder Washers For .042" and .055" Holes

Multi-functional solder washer kits, with three sizes of washers. Different sizes provided to fit over sockets and tails of most Vector socket pins and wiring terminals. Ideal tools for committing pins to voltage and ground planes.



T124/M

Stock No.	Quantity	I.D. (In.)	O.D. (In.)	Application	EACH	
					1-9	10-Up
977-8110	500	.078	.110	Vcc side	102.16	97.05
	500	.058	.103	GNC side	102.16	97.05
	100	.040	.106	Connector	102.16	97.05

T124-040/500

977-1019	500	.040	.106	Connector	84.91	80.67
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Socket Pins

R32 — For 0.042" Diameter Holes

- Low Profile Wire Wrap Socket Pins
- Pressfit Mounting
- 4-Finger Contacts, Tapered Sockets For Easy Insertion



Stock No.	Mfr.'s Type	Qty.	Dim. A	Male Pin Depth	EACH	
					1-9	10-Up
977-5064	R32C	100	.500	.13	21.55	20.47
977-5040	R32M	1000	.500	.13	165.86	157.57

For 0.055" Diameter Holes

977-1080	R30C	100	.286	.15 (Low Profile, Pressfit)	13.29	12.62
977-1081	R30M	1000			94.48	89.76
977-1082	R31C	100	.703	.17 (Low Profile, Wire Wrap)	21.55	20.47
977-1083	R31M	1000			189.07	179.62
977-8090	R50C	100	.560	.17 (2-Level Wire Wrap)	16.29	15.48
977-8092	R50M	1000			100.84	95.79
977-8094	R51C	100	.560	.17 (6-Finger Contacts)	16.29	15.48
977-8096	R51M	1000			100.84	95.79
977-8098	R52C	100	.700	.17 (3-Level, 4-Finger Contacts)	17.56	16.68
977-8100	R52M	1000			113.42	107.75
977-8102	R53C	100	.700	.17 (3-Level, 6-Finger Contacts)	16.29	15.48
977-8100	R52M	1000			100.84	95.79

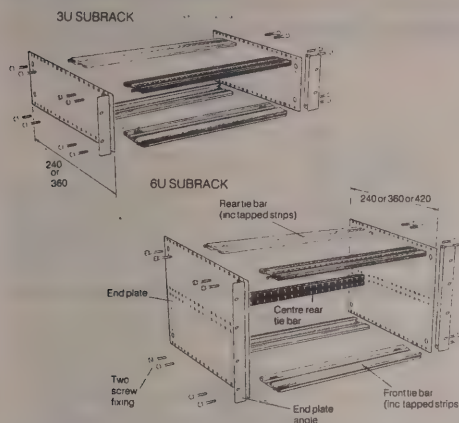
Inbord Pins — K24

- Press-In Pins Provide Excellent Solder Points (Tin Or Gold PL)
- Phos Bronze Material



Stock No.	Mfr.'s Type	Qty.	Hole Size	Dim. A	Dim. B	EACH	
						1-9	10-Up
977-1084	K24C/M*	1000	.042	.255	.375	42.74	40.61
977-1085	K26C/M	1000	.042	.160	.195	39.74	37.75
977-1086	K30C/M	1000	.042	.225	.305	29.57	28.09
977-1087	K31C/M	1000	.042	.160	.195	31.54	29.96
977-1088	K36C/M	1000	.025	.283	.400	28.21	26.80

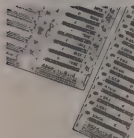
KM6-II Card Cages



Conforming fully to IEC 297-3 these card cages are manufactured utilizing fully conductive components. This is a versatile design which uses large cross section extrusions for superior mechanical strength. Tapped strips, all fixings and assembly instructions are supplied with the kit in addition to the structural members. Backplane spacer strips and card guides must be ordered separately.

Stock No.	Mfr.'s Type	Size	EACH
961-0100	950-202581E	3U x 84HP x 180 mm	61.50
961-0101	950-202585H	3U x 84HP x 240 mm	64.50
961-0102	950-202582C	6U x 84HP x 180 mm	89.00
961-0103	950-202586F	6U x 84HP x 240 mm	94.00
961-0104	950-202594G	3U x 84HP x 360 mm	72.00
961-0105	950-202595E	6U x 84HP x 360 mm	115.00
961-0106	950-202597A	6U x 84HP x 420 mm	138.00
961-0107	950-202596C	9U x 84HP x 360 mm	155.00
961-0108	950-202598K	9U x 84HP x 420 mm	179.00

VMExcel Monolithic Backplanes



VMExcel is a six layer (+5V - Signal - 0V - +5V - Signal - 0V) stripline, controlled impedance (57Ω) backplane. Excellent cross talk performance is achieved using 'guard track' technology and an anti-cross talk termination component layout. Decoupling capacitor positions are provided between each slot to permit fine tuning of system parameters.

VMExcel Monolithic J1/J2 Backplanes with on Board Termination, Standard DIN Connectors and Mate'n'Lok Power Connections

Stock No.	Mfr.'s Type	Slot Size	EACH
961-0119	243-431305B	5 slot*	352.40
961-0120	243-431110F	10 slot	562.78
961-0121	243-431121A	21 slot	966.29

*Faston power connections

VME Microracks

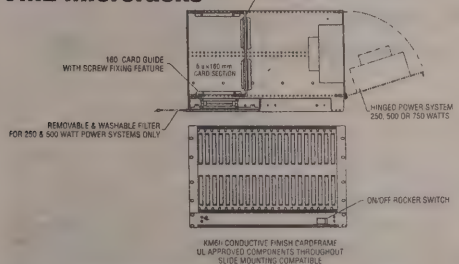
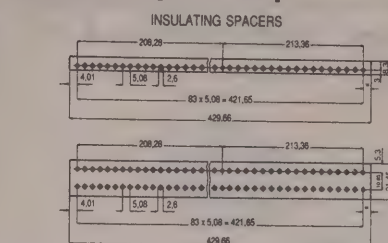


Fig. A — Vertical Mount

A vertical mount microrack comprises of the following: **Rack:** Mountable card cage with cover over the board area. **Card Cage:** To suit 160 mm deep VME boards. **Fan Tray:** Fitted below card cage (three fans). **Monolithic Backplane:** (Combined Monolithic J1/J2 — our VMExcel product). **Power Supply:** fitted into a standard, hinged, rear module which has Vc connector cutouts. The product is fully wired and ready to be powered up.

Backplane Spacer Strips

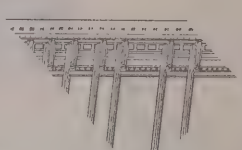


In order to maintain the correct dimension between the backplane and the front panel these spacer strips must be used. Two types are available; Insulating (for VME type applications) and Conductive (for Multibus type applications).

Stock No.	Mfr.'s Type	Size	EACH
961-0111	950-10014H	Insulating single level, 84 HP	1.55
961-0112	950-10015E	Insulating two level, 84 HP	2.25

Card Guides

These positive retention guides are molded with two anti-vibration clips per guide which restrict any free play lateral movement of the daughter board. A "bolt down" hole is provided which permits the guide to be secured to the front tie bars. Additional tapped strips must be purchased to use this feature.



Stock No.	Mfr.'s Type	Size (mm)	EACH
961-0109	950-232662J	160 x 1.6, packet of 10 pcs	3.95
961-0110	950-232663G	220 x 1.6, packet of 10 pcs	5.40

VMExcel J1 and J2 Backplanes*

VME J1 Backplanes with On Board Termination, Standard DIN Connectors and Mate'n'Lok Power Connectors

Stock No.	Mfr.'s Type	Slot Size	EACH
961-0122	243-411005D	5 slot	215.08
961-0123	243-411010L	10 slot	344.65
961-0124	243-411102F	21 slot	590.87

VME J2 Backplanes with On Board Termination, and Mate'n'Lok Power Connectors

Stock No.	Mfr.'s Type	Slot Size	EACH
961-0125	243-421005J	5 slot	175.13
961-0126	243-421010E	10 slot	298.21
961-0127	243-421021J	21 slot	572.79

*Same features as the VMExcel Monolithic Backplanes.

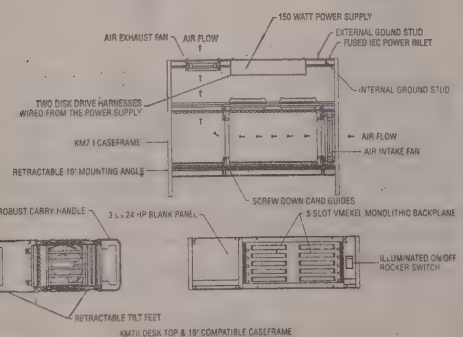
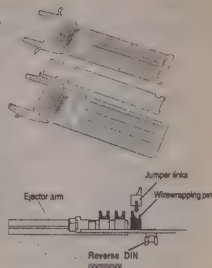


Fig. B — Horizontal Mount

Stock No.	Mfr.'s Type	Description	Fig.	EACH
961-0113	224-600523L	5 slot VME Microrack with 250 W PSU	A	1630.00
961-0114	224-600524J	10 slot VME Microrack with 250 W PSU	A	1880.00
961-0115	224-600530C	10 slot VME Microrack with 500 W PSU	A	2260.00
961-0116	224-600527C	21 slot VME Microrack with 500 W PSU	A	2760.00
961-0117	224-600529K	21 slot VME Microrack with 750 W PSU	A	3090.00
961-0118	224-600526C	5 slot VME Microrack with 150 W PSU	B	1600.00

Extender Cards

VME extender cards are of a multilayer construction with a full ground plane and in addition 'guard tracks' are provided between each signal line. Jumper links are provided for signal interrogation and a logic analyzer or termination module may be fitted. A conversion kit can join the J1 and J2 together. Double sided extender cards provide line to line extension of 96 way DIN 41612 connectors. Two versions are available, 3U and a monolithic 6U. Multilayer extender card with excellent cross talk performance, 3 layer construction with full central ground plane and 'guard tracks' between each signal line. Line jumper pins and logic analyzer or termination module are provided.



VME Extender Cards

Stock No.	Mfr.'s Type	Description	EACH
961-0128	243-26487G	VME J1	257.00
961-0129	243-26499H	VME J2	257.00
961-0130	188-27542E	Conversion Kit	14.70

Double Sided Extender Cards

Stock No.	Mfr.'s Type	Size	Connectors Fitted			EACH
			Plug	Socket	Type	
961-0131	09-2459K	3U	1 pc	1 pc	96/96	137.00
961-0132	09-2460E	6U	2 pcs	2 pcs	96/96	262.00

Multilayer Extender Card

961-0133. 38-39084J. 96/96 Multilayer extender card (3U)352.00

Square Pad Boards

- ▶ Maximum Packing Density
- ▶ Hard Wire or Wire Wrap
- ▶ Card Cage Compatible to DIN41494
- ▶ DIN41642 Connector Pattern
- ▶ Grid References on Both Sides of the Board
- ▶ 2.54 mm x 2.54 mm Hole Grid
- ▶ 1.02 mm Hole Diameter

Square Pad Boards

Stock No.	Mfr.'s Type	Size (mm)	No. of Pads (width)	No. of Pads (length)	Base Material	EACH
961-0134	03-0026J	100.0 x 160	34	54	Epoxy glass	17.30
961-0135	03-0111L	233.4 x 160	85	52	Epoxy glass	32.50

Square Pad Boards with Colander Ground Plane

Stock No.	Mfr.'s Type	Size (mm)	No. of Pads (width)	No. of Pads (length)	Base Material	EACH
961-0139	03-2989L	100.0 x 160	34	54	Epoxy glass	20.30

Microboards

- ▶ Medium Packing Density
- ▶ DIN41612 Connector Pattern
- ▶ Vcc Power Rails
- ▶ Grid to Assist Component Layout
- ▶ 2.54 mm x 2.54 mm Hole Grid
- ▶ 1.02 mm Hole Diameter

Double Sided with 0 V Ground Plane Screen

Stock No.	Mfr.'s Type	Size	0.3" Pitch IC DIP Rows/pads	0.6" Pitch IC DIP Rows/pads	Base Material	EACH
961-0140	10-2845B	100.0 x 160	4/46	4/46	Epoxy glass	21.60
961-0141	10-2846H	233.4 x 160	11/46	7/46	Epoxy glass	48.50

Single Sided without Component Side Ground Plane

Stock No.	Mfr.'s Type	Size	0.3" Pitch IC DIP Rows/pads	0.6" Pitch IC DIP Rows/pads	Base Material	EACH
961-0142	10-27563H	100.0 x 160	4/46	4/46	Epoxy glass	18.00
961-0143	10-27564D	233.4 x 160	11/69	7/60	Epoxy glass	46.10

DIP Board

- ▶ Designed for Hard Wiring of Ics
- ▶ Vcc and 0v Rails Duplicated on Both Sides
- ▶ 2.54 mm x 2.54 mm Hole Grid
- ▶ 1.02 mm Hole Diameter

Stock No.	Mfr.'s Type	Size (mm)	0.3" Pitch IC DIP Rows/pads	0.6" Pitch IC DIP Rows/pads	Base Material	EACH
961-0137	10-1041J	100.0 x 160	4/32	3/32	SRBP	13.50
961-0138	10-3183G	233.4 x 160	7/47	6/47	Epoxy glass	44.30

All material is aluminum alloy with a black, anodized finish unless otherwise noted.

Slide-On For DIPs



Stock No.	Mfr.'s Type*	Prev Type	For DIP Pins	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0047	5802	5802B	14 or 16	.887"	.600"	.410"	0.39	0.35	0.32	0.27
619-0300	5806	5806B	28	1.680"	1.000"	.580"	0.58	0.53	0.48	0.40

* Add 00800000 to the manufacturer's number when placing your order.

Press-On For TO-5



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				Dia.	H	1-24	25-99	100-499	500-Up	
619-0040	3230	3230B	TO-5	.750"	.250"	0.90	0.81	0.73	0.62	
619-0060	3257	3257B	TO-5	.500"	.250"	0.61	0.55	0.50	0.42	

* Add 05800000 to the manufacturer's number when placing your order.

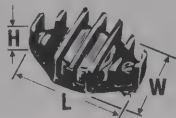
Expandable Collar for TO-3 and TO-66/TO-8



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				W	H	1-24	25-99	100-499	500-Up	
619-6042	579103	57911B	TO-3	1.540"	.870"	0.71	0.64	0.58	0.49	
619-6057	579206	57921B	TO-66/TO-8	1.225"	.540"	0.77	0.70	0.63	0.54	

* Add 800000 to the manufacturer's number when placing your order.

Cap for TO-3



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0306	5427	5427B	TO-3	1.61"	1.062"	1.00"	1.79	1.63	1.49	1.38

* Add 03300000 to the manufacturer's number when placing your order.

Snap-Down for TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0310	5751	5751B	TO-220	.750"	1.120"	.435"	0.30	0.27	0.25	0.21

* Add 02800000 to the manufacturer's number when placing your order.

For TO-3



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0110	5013	5013B	TO-3	1.880"	1.400"	0.50"	0.54	0.49	0.45	0.38
619-0111	5014	5014B	TO-3	1.880"	1.400"	0.75"	0.60	0.54	0.49	0.42
619-0112	5015	5015B	TO-3	1.880"	1.400"	1.00"	0.83	0.75	0.68	0.58
619-0113	5016	5016B	TO-3	1.880"	1.400"	1.25"	0.94	0.85	0.77	0.65
619-0121	5004	5004B	TO-3	1.810"	1.910"	1.25"	0.87	0.78	0.71	0.60
619-0140	5054	5054B	TO-3	1.780"	1.780"	1.25"	1.04	0.94	0.85	0.72

* Add 03800000 to the manufacturer's number when placing your order.

Economy, Low Profile for TO-3 and TO-66



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0150	5060	5060B	TO-3	2.000"	1.75"	.375"	0.34	0.30	0.28	0.23

* Add 07800000 to the manufacturer's number when placing your order.

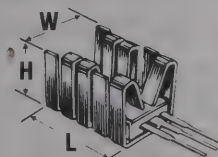
Heavy-Duty Space Saver For TO-3



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-6078	5201	5201B	TO-3	1.900"	1.550"	1.225"	1.38	1.17	1.06	0.90

* Add 03800000 to the manufacturer's number when placing your order.

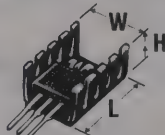
Slimmest, Plug-In For TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0360	5768	5768B	TO-220	.750"	.50"	.50"	0.38	0.34	0.31	0.26

* Add 02800000 to the manufacturer's number when placing your order.

Compact, Limited Space for TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-6014	5770*	5770B	No	.750"	.520"	.250"	0.21	0.19	0.17	0.15
619-6016	5771*	5771B	No	.750"	.520"	.375"	0.22	0.20	0.18	0.15
619-6018	5772*	5772B	No	.750"	.520"	.500"	0.22	0.20	0.18	0.15
619-6020	5770*	5770B	Yes	.750"	.520"	.250"	0.30	0.27	0.25	0.21
619-6022	5771*	5771B	Yes	.750"	.520"	.375"	0.32	0.29	0.26	0.22
619-6024	5772*	5772B	Yes	.750"	.520"	.500"	0.33	0.30	0.27	0.23

* Add 02800000 to the manufacturer's number when placing your order. † Add 02804000 to the manufacturer's number when placing your order.

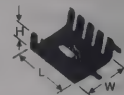
Narrow, Low Profile For TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0315	50410	50410B	TO-220	0.700"	.700"	.85"	.30	.27	0.24	0.22
619-0320	50422	50422B	TO-220	1.450"	.700"	.85"	.43	.38	0.35	0.30

* Add 2800000 to the manufacturer's number when placing your order.

Vertical Mount for TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0160	5630*	5630B	TO-220	1.380"	1.000"	.500"	0.38	0.34	0.31	0.26
619-0161	5630†	5630D	TO-220	1.380"	1.000"	.500"	0.68	0.61	0.55	0.47

* Add 02800000 to the manufacturer's number when placing your order. † Add 02000000 to the manufacturer's number when placing your order for tin plated.

Trim, Low-Profile for TO-202



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-6036	5773	5773B	TO-202	.750"	.520"	.375"	0.23	0.21	0.19	0.16
619-6038	5774	5774B	TO-202	.750"	.520"	.500"	0.22	0.20	0.18	0.15

* Add 04800000 to the manufacturer's number when placing your order.

Economy, Low Profile For TO-126, TO-127 and TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0230	5073	5073B	TO-126	.750"	.750"	.375"	0.20	0.18	0.17	0.14

* Add 02800000 to the manufacturer's number when placing your order.

Heavy Duty, Extruded For TO-218 and TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-6072	5810	5810B	TO-218	1.00"	.640"	.640"	0.94	0.84	0.77	0.65

* Add 02802500 to the manufacturer's number when placing your order.

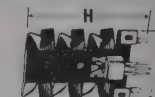
Soldered or Twisted Tabs For Vertical Mounting For TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0130	5632	5632B	TO-220	1.37"	.500"	2.187"	0.42	0.38	0.35	0.29

* Add 02800000 to the manufacturer's number when placing your order.

Small, Wave-Solderable For TO-220



Stock No.	Mfr.'s Type*	Prev Type	Case Style	Dimensions			EACH			
				L	W	H	1-24	25-99	100-499	500-Up
619-0322	5925	5925B	TO-220	.875"	.250"	1.30"	0.60	0.54	0.48	0.42

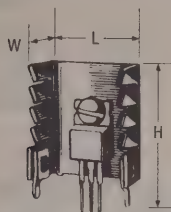
* Add 02803400 to the manufacturer's number when placing your order.

Heat Sinks, Conductive Adhesive and Compounds



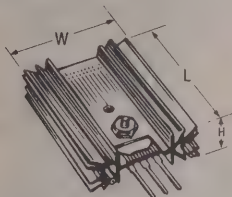
All material is aluminum alloy with a black, anodized finish unless otherwise noted.

Wave-Solderable, Twisted Fin For TO-220



Stock No.	Mfr.'s Type	Prev Type	Dimensions			EACH			
			L	W	H	1-24	25-99	100-499	500-Up
619-6064	593002B03400	5930B	1.00"	.500"	1.380"	.71	.64	.58	.49

Extrusion With Solderable Pins For TO-218 and TO-220



Stock No.	Mfr.'s Type	Prev Type	Dimensions			EACH			
			L	W	H	1-24	25-99	100-499	500-Up
619-0370	531002C02500*	60130-010P	1.380"	.500"	1.000"	.67	.61	.55	.47
619-0375	531102C02500*	60130-015P	1.380"	.500"	1.500"	.80	.72	.65	.55

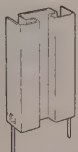
*Gold Chromate Finish.

Slip-On For TO-92



Stock No.	Mfr.'s Type	Prev Type	Dimensions			EACH			
			L	W	H	1-24	25-99	100-499	500-Up
619-0770	575200B00000	5752B	0.602	0.025	0.72	.24	.22	.20	.17

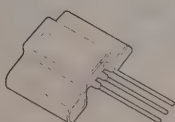
Plug-In For TO-220



Stock No.	Mfr.'s Type	Prev Type	Dimensions			EACH			
			L	W	H	1-24	25-99	100-499	500-Up
619-0780	574502B00000*	5745B	0.86	0.395	0.75	.28	.25	.23	.21
619-6032	574502B03300**	5745B33	0.86	0.395	0.75	.52	.47	.43	.36

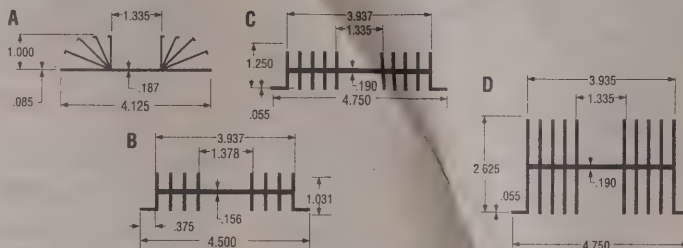
*No tabs (Not shown). **Vertical mount, 0.375" tinned tabs for soldering directly to PC board.

Vertical Mount For TO-126

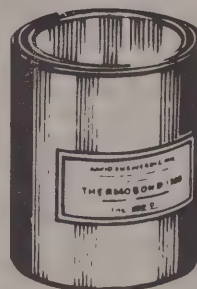


Stock No.	Mfr.'s Type	Prev Type	Dimensions			EACH			
			L	W	H	1-24	25-99	100-499	500-Up
619-9990	577500B00000	5775B	0.775	0.32	0.52	.30	.27	.25	.21

4 Foot Length Extrusion (Cut, Debarred and Washed) Not Anodized



Stock No.	Mfr.'s Type	Fig.	Weight Lbs.	EACH		
				1-4	5-9	10-Up
619-0503	600802F00000	A	4.80	40.14	32.85	27.79
619-0504	600852F00000	B	5.20	35.81	29.30	24.79
619-0505	600502F00000	C	5.60	51.23	41.91	35.46
619-0506	600552F00000	D	10.00	82.14	67.21	56.87



Ther-O-Bond Adhesive

Ther-O-Bond is a 2-part thermally conductive epoxy adhesive system that also has good electrical insulating qualities. It bonds readily to metal, ceramics, glass, plastics and many other materials. An easy-to-spread thixotropic paste, it offers high heat transfer, low shrinkage, and a coefficient of thermal expansion comparable to that of copper and aluminum. It cures overnight at room temperature, or in 2 hours at 65°C. Pot life is about 60 minutes.

Typical Properties — Series 1500.
Color: Black. Thermal Conductivity, Btu/ft.²/hr./°F/in.: 9.0. Tensile Strength, psi @ 25°C: 9800. Dielectric Strength, Volt/Mil: 600.

Stock No.	Mfr.'s Type	Prev Type	Package	Size	EACH		
					1-4	5-9	10-Up
619-0005	159900F00000	Ther-O-Bond 1500-Q	Can (Resin), Bottle (Hardener)	1 Qt.	69.58	64.23	59.64

Ther-O-Link 1000 Thermally-Conductive Compound

Ther-O-Link Series 1000 compound was developed to reduce the high thermal resistance of the air gap otherwise present between mating surfaces of a heat sink and semiconductor. It provides an excellent thermal path by displacing the air gap between the two mating surfaces. Ther-O-Link provides a low thermal resistance of only 0.05°C/W when using a 0.001" film on a one-inch square area. Ther-O-Link will not become hard, and retains its viscous consistency even after continuous operation up to 200°C. It has the consistency of a viscous hand lotion and will wet-out the surfaces and displace more air than heavier compounds. Ther-O-Link is easily brushed on to the mating surfaces of semiconductor devices. When applying, spread or brush the compound evenly over the entire mating surface. For maximum performance, proper torque should be used when mounting stud-mounted devices. The compound can easily be removed with a damp cloth using any commercially-available clean-up solvent.

Typical Properties — Series 1000. Specific Gravity: 2.1-2.1. Viscosity: Paste. Thermal Conductivity, Btu/ft.²/hr./°F/in.: 5.2. Thermal Resistivity, °C in./watt: 52. Volume Resistivity, ohm-cm: 10¹⁵. Dielectric Strength, volts/mil: 250. Weight Loss, % after 24 Hours at 200°C: 0.6.

Stock No.	Mfr.'s Type	Prev Type	Package	Size	EACH		
					1-9	10-19	20-Up
619-0001	100200F00000	Ther-O-Link 1002	Tube	2 Oz.	7.27	5.95	5.03
619-0002	100500F00000	Ther-O-Link 1005	Tube	5 Oz.	13.54	11.08	9.38
619-0003	100800F00000	Ther-O-Link 1008	Can	8 Oz.	18.60	15.22	12.88
619-0004	101600F00000	Ther-O-Link 1016	Can	1 Lb.	23.09	18.89	15.99

Shooter Stand Alone Low Cost EPROM Programmer

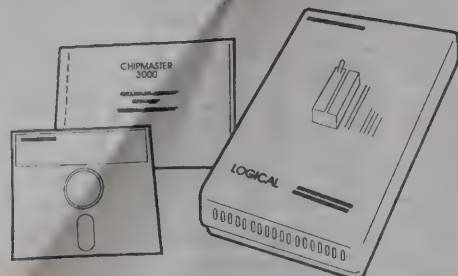
- ▶ Stand Alone or PC Based Through Serial RS-232 Port
- ▶ Supports EPROMs and EEPROMs
- ▶ Load, Program, Verify From Front Panel
- ▶ Upload/Download Motorola, Intel Binary, Hex Files
- ▶ Edit Files in PC or In Shooter RAM
- ▶ Works with Dumb Terminal or Any PC
- ▶ Compact Size Fits in Briefcase
- ▶ Free IBM PC Communications Software (ProLink)
- ▶ Ideal for Engineers, Technicians and Field Personnel
- ▶ Built-In DIP Socket, Optional PLCC Adapters
- ▶ One Year Warranty
- ▶ Satisfaction Guaranteed



Stock No.	Mfr.'s Type	Capacity Device Size	Device Technology	Memory Internal RAM	EACH
864-0100	PROPP4-512	512 K	E/EEPROM	512 K	495.00

Chipmaster 3000 — 40 Pin Software Controlled/Pin Driven PC Based Universal Programmer and Chipmaster 2000 — 48 Pin Software Controlled PC Based Universal Programmer with Parallel PC Port Interface

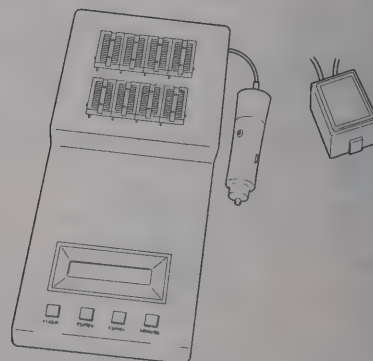
- ▶ Support Over 1000 Devices: PALs, PLDs, GALs, EPLDs, CPLDs, FPGAs, PROMs, EPROMs, EEPROMs, FLASH EPROMs, and Single Chip and Embedded Micros
- ▶ All From One Single Socket, No Adapters Required
- ▶ Works with Any IBM PC/AT/XT Compatible
- ▶ User Friendly PC Based Software
- ▶ Free Lifetime BBS Device Update
- ▶ Includes Free PLD Assembler/Compiler
- ▶ Includes Free Telephone Support
- ▶ Requires IBM PC or Compatible To Operate
- ▶ One Year Warranty
- ▶ Satisfaction Guaranteed



Stock No.	Mfr.'s Type	Description	EACH
864-0400	PROCM3-000	Chipmaster 3000	995.00
865-0450	PROCM2-000	Chipmaster 2000 with Parallel Port Interface	995.00

XPRO-1 Stand Alone Intelligent EPROM/FPGA Gang Programmer

- ▶ Copy, Program, Verify, Test Chips, EPROMs, PROMs, Micros Stand Alone or PC Based
- ▶ Easy To Use LCD and Keypad Lets Your Program-In Most Frequent Used Devices
- ▶ Built In High Speed Serial Port, Lets You Integrate with PC in DOS or Windows 3.1
- ▶ 1, 4, 8 Meg Internal RAM Buffer Options, Allows Data Storage Within Unit
- ▶ Single Socket or Gang of 8 Adapter in DIP or PLCC Direct Docking Heads
- ▶ High Speed Gang Algorithms for Fast Production Throughput
- ▶ Cluster Multiple Units for Expanded for Production Setup (64 EPROMs At A Time)
- ▶ Powerful Development Facility, Download in Motorola, Intel, Binary, Hex File Formats
- ▶ Programs EPROM, EEPROMs, Serial PROMs, Micros, FPGAs, EPLDs
- ▶ Lifetime Free Software Update Via BBS, 100% Made-In-USA
- ▶ Battery Backed Up, Protects Against Accidental Data Loss Due to Power Glitches
- ▶ 12-Bit DAC Controlled, Highly Accurate, Requires No Calibration
- ▶ External Power Source, UL, CSA, VDE Approved, ISO 9000 Traceability
- ▶ Optional TSOP, PCMCIA, PQFP, BGA, PGA, SOIC, LCC Socket Adapters



Stock No.	Mfr.'s Type	Description	Capacity	Memory	EACH
864-2000	PROXP1-101*	XPRO-1 Base Unit	1 Meg	1 Meg	795.00
864-2010	PROXP1-104*	XPRO-1 Base Unit	4 Meg	4 Meg	995.00
864-2020	PROXP1-108*	XPRO-1 Base Unit	8 Meg	8 Meg	1295.00
864-2030	MODXP1-SD32	32 Pin DIP Socket	—	—	99.00
864-2035	MODXP1-GP28	32 Pin PLCC Socket, 8 Gang for Devices with a 28 Pin Footprint	—	—	595.00
864-2040	MODXP1-GD32	32 Pin DIP Socket, 8 Gang	—	—	495.00
864-2045	MODXP1-GP32	32 Pin PLCC Socket, 8 Gang	—	—	595.00
864-2050	MODXP1-GD40	40 Pin DIP Socket, 4 Gang	—	—	495.00
864-2055	MODXP1-GD44	44 Pin PLCC Socket, 4 Gang	—	—	595.00
864-2060	MODXP1-UM1	28/32/40 Pin Universal EPROM and 87XX DIP and PLCC Adapter	—	—	495.00

*Each base unit requires at least one programming head (MODXP1-XXXX). Call for Xilinx, Altera, AMD, Lattice, PLD/FPGA adapter lists.

UV Erasers Ultra Fast EPROM — Erasing 1-200 Devices at a Time

- ▶ One Year Warranty
- ▶ Satisfaction Guaranteed

UV Eraser to Meet Every Need

The Logical Devices family of UV eraser are professionally designed for erasing UV EPROMs and microcontrollers at an optimum speed and safety. All products are designed to avoid any leakage of Ultraviolet rays which can be harmful to human eyes and skin. Each unit is equipped with a safety interlock switch which is activated only when the unit tray is sealed shut. The Ultraviolet Eraser units come in a variety of sizes and models and could even be custom made to a specific application.



Stock No.	Mfr.'s Type	Description	Capacity	Timer	Erase Time	Dimension Inches	EACH
864-1000	ERAPME-000	Palm Erase	1	No	30 Min.	2 x 4 x 2	52.45
864-1100	ERAT8N-000	QUV-T8/N	10	No	30 Min.	5.25 x 13 x 3.5	74.26
864-1200	ERAT8Z-000	QUV-TT8/Z	15	Yes	20 Min.	5.25 x 13 x 3.5	149.95
864-1300	ERALUV-000	Ultralite	50	Yes	20 Min.	12.5 x 12.5 x 4.7	299.00
864-1400	ERAMAX-000	Ultralite-Max	100	Yes	20 Min.	13.5 x 19 x 5	495.00

All Spectroline erasers are handsomely styled of rugged, anodized aluminum and stainless steel. They have a safety interlock to protect the user against accidental exposure to hazardous short wave (254 nm) UV radiation. Also, the devices are protected by conductive foam pads which prevent electrostatic charge build-up. **All models are UL listed and meet OSHA safety standards. PE-Series are CSA approved.**

Mfr.'s Type	Auto Timer Shut-Off	Chip Erasing Capacity	Typical Intensity (μW/cm ²)
PE-140	No	9	8,000
PE-140T	Yes	9	8,000
PE-240T	Yes	12	9,600
PL-265T	Yes	30	9,600
PR-125T	Yes	25	17,000

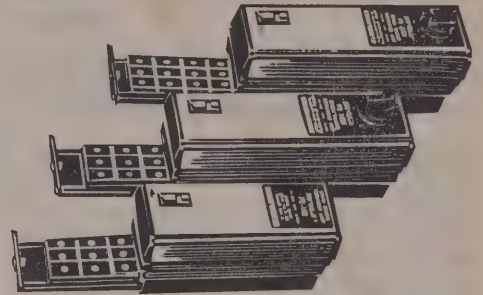
Mfr.'s Type	Auto Timer Shut-Off	Chip Erasing Capacity	Typical Intensity (μW/cm ²)
PR-320T	Yes	42	17,000
PC-1100A	Yes	84	18,500
PC-2200A	Yes	168	18,500
PC-3300A	Yes	252	18,500
PC-4400A	Yes	336	18,500

PE-Series Lamps

- Small Capacity, Medium Intensity
- Efficient and Complete Erasing in as Little as 11 to 13 Minutes, Depending on the Model
- Type PE-240T Erases 12 Chips, Type PE-140 and PE-140T, 9 Chips
- CSA Approved

PE-140, PE-140T, and PE-240T are desktop lamps specifically designed for personal and small-system users. They are the perfect choice for fast and complete EPROM erasure. The PE-140 and PE-140T use a single 4 watt UV tube, while the PE-240T uses two 4 watt UV tubes. Tube life is rated at 6,000 hours. Safety features include fully shielded UV tubes with UV-absorbing light indicators to signal when tubes are lit. The PE-140T and PE-240T feature the added convenience of a 60-minute timer for automatic unit shut-off.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986-0140	PE-140	Lamp with One 4-watt Tube	2"W x 6 5/8"L x 5/8"H	145.00
986-0141	PE-140T	Lamp with Timer and One 4-watt Tube	2"W x 6 5/8"L x 5/8"H	189.00
986-0240	PE-240T	Lamp with Timer and Two 4-watt Tubes	2"W x 6 5/8"L x 5/8"H	215.00
986-2537	BLE-2537S	Tube for PE-Series Lamps		27.50



PL-265T Lamp

- Medium Capacity, Medium Intensity
- Compact and Economical
- Erases up to 30 Chips
- Efficient and Complete Erasing in as Little as 11 Minutes
- Accepts PC Boards up to 4" x 9"

PL-265T is ideal for data processing centers and other medium-volume EPROM users. This unit uses two 6-watt UV tubes. Tube life is rated at 6,000 hours. The PL-265T lamp erases up to 30 EPROM chips or will accept PC boards up to 4" x 9". A specular aluminum reflector assures maximum intensity. The loading drawer contains a removable tray insert which is adjustable to varying heights to ensure optimum exposure. Safety features include UV-absorbing light indicators to signal when tubes are lit. A 60-minute timer automatically shuts off unit at the end of each erasing cycle.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986-0265	PL-265T	Lamp with Timer and Two 6-watt Tubes	4 1/8"W x 9 7/8"L x 1 3/8"H	319.00
986-6254	BLE-6254S	Tube for PL-265T		31.25

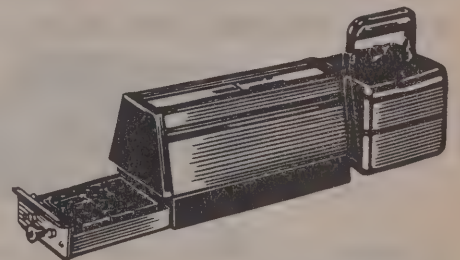


PR-Series Lamps

- PR-125T Erases 25 Chips
- PR-320T Erases 42 Chips
- Medium Capacity, High Intensity
- Complete Erasing in as Little as 6 Minutes

PR-125T and PR-320T are designed for medium to large-volume EPROM users. The PR-Series features high-intensity UV grid tubes that provide maximum irradiance uniformity, for extremely fast and efficient erasing. Grid tube life is rated at 5000 hours. They can completely erase EPROMs on PC boards up to 4" x 9". The PR-125T can hold up to 25 EPROMs while the PR-320T accommodates up to 42 individual EPROMs. A specular aluminum reflector assures maximum intensity. The loading drawer contains a removable insert which is adjustable to varying heights to ensure optimum exposure. Safety features include UV-absorbing light indicators to signal when tubes are lit. Other features include a 60-minute timer which automatically shuts off the unit and a carrying handle to ease portability.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986-0125	PR-125T	Lamp with Timer and Grid	4 1/8"W x 9 7/8"L x 1 3/8"H	495.00
986-0320	PR-320T	Lamp with Timer and Grid	4 1/8"W x 9 7/8"L x 1 3/8"H	725.00
986-2600	G260N0	Grid for PR-125T	2" x 6" Grid Area	354.17
986-4800	G480N0	Grid for PR-320T	4" x 8" Grid Area	566.67



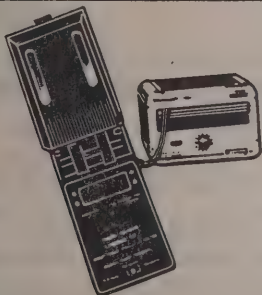
11

Digital Ultraviolet Radiometers

- Measure UV Intensity with ±5% Accuracy
- Reliable Solid-State Circuitry
- Calibrated to NIST Standards
- Perfect for Calculations
- Durable Plastic Case

DM-254X and DS-254E precisely measure the UV output of EPROM erasers. They make erase time calculations easy and accurate, and are perfect for monitoring the useful life of your eraser's UV source. The DS-254E not only measures UV irradiance, but actually calculates proper erasing time. Both units feature 4 1/2 digit LED display, measuring range 0-19, 990μW/Cm² with accuracy of ±5%. Calibrated to NIST standards. Both come complete with four non-rechargeable, 1.5V alkaline batteries.

Stock No.	Mfr.'s Type	Description	EACH
98600245	DM-254X	Digital UV Radiometer	735.00
98600254	DS-254E	EPROM Meter/Calculator	1102.50

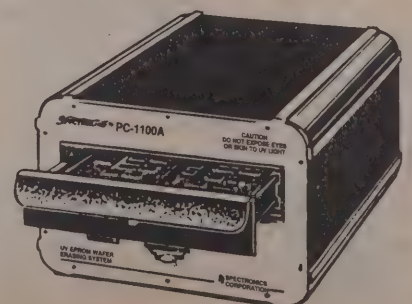


PC-Series Cabinets

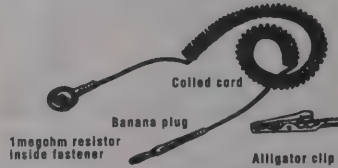
- Large Capacity, Ultra-High Intensity
- Complete Erasing in Less than 5.5 Minutes
- Erase from 84 to 336 Chips Depending on Model
- Accepts PC Boards from 8" x 12" to 32" x 12"

PC-1100A, PC-2200A, PC-3300A, and PC-4400A Erasing Cabinets are specifically designed for high-volume production requirements. In as little as 5.5 minutes, their high-intensity, UV grid lamps completely erase programmed memories. Quartz grids are mounted on a specular-aluminum reflector, providing uniform irradiance with a typical peak intensity of 18,500μW/cm². The 8" x 8" modular assemblies feature a special drop-in design making replacement quick and easy. As well as erasing individual EPROMs, these cabinets will accept various quantities of PC boards, wafers, and metric cards. The PC-3300 and PC-4400A will accommodate open-face stocking tubes. UV-absorbing light indicators signal when grids are lit. Chamber temperature is controlled by powerful internal cooling fans, maintaining maximum UV intensity and prolonging grid life, which is rated at 5000 hours. Also features adjustable tray to ensure optimum exposure.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986Q1100	PC-1100A	Cabinet with Timer and Grid	8 3/8"W x 12"L x 1 3/8"H	2082.50
986Q2200	PC-2200A	Cabinet with Timer and 2 Grids	16 3/8"W x 12"L x 1 3/8"H	3167.50
986Q3300	PC-3300A	Cabinet with Timer and 3 Grids	24 3/8"W x 12"L x 1 3/8"H	4375.00
986Q4400	PC-4400A	Cabinet with Timer and 4 Grids	32 3/8"W x 12"L x 1 3/8"H	5594.16
986Q7500	G750N02	Grid Assembly		1027.08



Wrist Straps, Grounding Cords and Wrist Strap Tester



The wrist strap consists of a wrist band and a grounding cord. Grounding cord length is the extended length for the coiled cords. The molded cap on the grounding cord that snaps onto the wristband contains a 1 megohm resistor.

Wrist Straps with Grounding Cords

617-2211. 2211. Small Size band (4 1/2"-6") with 5' coiled cord	EACH	22.56
617-2003. 2212. Medium Size band (5 1/2"-7 1/4") with 5' coiled cord	EACH	22.56
617-2222. 2222. Medium Size band (5 1/2"-7 1/4") with 10' coiled cord	EACH	27.17
617-2004. 2213. Large Size band (6 1/2"+) with 5' coiled cord	EACH	22.56
617-2026. 2214. Adjustable band with 5' coiled cord	EACH	26.52
617-2027. 2224. Adjustable band with 10' coiled cord	EACH	32.98
617-2259. 2259. Lay-in Adjustable band with 5' coiled cord	EACH	12.75
617-2272. 2272. Highland™ Adjustable band with 5' coiled cord	EACH	9.90

Wrist Straps Only

617-2201. 2201. Small Size band (4 1/2"-6") only	EACH	8.95
617-2000. 2202. Medium Size band (5 1/2"-7 1/4") only	EACH	8.95
617-2001. 2203. Large Size band (6 1/2"+) only	EACH	8.95
617-2028. 2204. Adjustable band only	EACH	10.92
617-0209. 2209. Disposable wrist strap	EACH	1.37
617-2271. 2271. Highland™ Adjustable band only	EACH	4.50

Grounding Cords Only

617-2002. 2210. Coiled grounding cord — 5'	EACH	18.10
617-2038. 2220. Coiled grounding cord — 10'	EACH	21.95
617-2273. 2270. Highland™ Coiled grounding cord — 5'	EACH	6.40

Periodic Wrist Strap Tester

The 3M Model 746 Wrist Strap Tester is a compact unit that can be used for daily testing in a production facility; periodic testing at telephone central offices and remote sites; and by field service personnel. The "Tester" comes with a 110/120 AC adapter and the unit can be wall-mounted. A long-life lithium battery provides back-up power for portable applications or during power failures.

617-0747. 746C. Certified/Calibrated	EACH	430.77
617-0748. 746	EACH	338.46



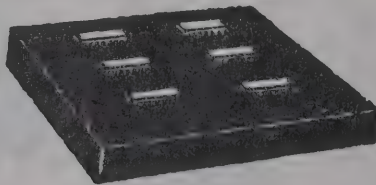
Shoe Grounding Assembly

This long lasting assembly effectively grounds personnel when they are in contact with conductive flooring. One size fits most shoes and boots. A comfortable elastic handle strap and 24-inch long conductive ribbon for insertion into the shoe complete the ground path to the operator. To be effective, the shoe grounders must be worn on both feet. Models are available with a one megohm or a 240K ohms resistor. Contains a one megohm resistor. **Note: The 2051 Grounding Assembly is not to be used in areas where**

the individual may come in contact with electrical circuitry exceeding 250 volts.

617-2051. 2051	EACH	10.79
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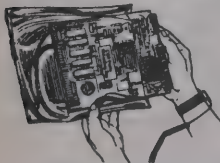
Velostat® Electrically Conductive Foam



This crosslinked polyethylene foam provides both physical and electrostatic protection for sensitive microelectronic parts. Conductive qualities are compounded directly into the material using a carbon impregnation process.

VELOSTAT Crosslinked Polyethylene Conductive Foam

617-2035. 2803. 1/4" thick, 24" x 36" sheet	EACH	34.17
617-2010. 920210-R. 1/4" thick, two 4" x 4" sheets	PER PK./2	2.95
617-2036. 2803. 3/8" thick, 24" x 36" sheet	EACH	48.28
617-2011. 920211-R. 3/8" thick, two 4" x 4" sheets	PER PK./2	3.42
617-2037. 2803. 1/2" thick, 24" x 36" sheet	EACH	68.42



Static Shielding Bags and Bag Check

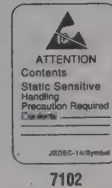
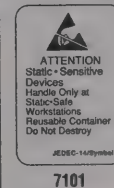
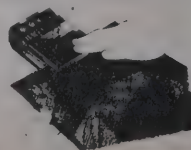
EMBOSSED Transparent Static Shielding Bags 3-mil wall thickness. First dimension is the bag opening size. Dimensions are inside dimensions.

617-2017. 2100E. 3" x 5"	PER PK./100	17.96
617-2005. 920205-R(2100E). 3" x 5"	PER PK./10	3.65
617-2019. 2100E. 5" x 8"	PER PK./100	38.69
617-2006. 920206-R(2100E). 5" x 8"	PER PK./10	7.73
617-2020. 2100E. 6" x 10"	PER PK./100	44.76
617-2021. 2100E. 8" x 12"	PER PK./100	55.78
617-2007. 920207-R(2100E). 8" x 12"	PER PK./10	11.02
617-2008. 920208-R(2100E). Assortment	PER PK./10	5.64

Bag Check

The 705 Bag Check provides an easy way to identify 3M 2100E/2110E Static-Shielding Bags which are suitable for reuse. Three resistance ranges (0-1 K, 0-10 K, and 0-50 K ohms) can be selected to verify the "around-the-bag" electrical resistance of the bag. Red and green LEDs indicate test results. A calibrator is included with each bag check. An A/C Adapter is optional.

617-0705. 705SP. With AC	EACH	210.90
617-0706. 705SP. Without AC	EACH	194.46



Anti-Static Labels

Model 7101. Reusable orange with black type JEDEC-14 symbol.

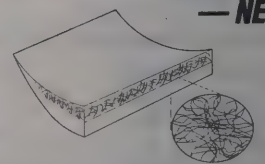
617-7101. 7101	PER ROLL/500	16.15
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Model 7102. Destructible yellow with black type JEDEC-14 symbol.

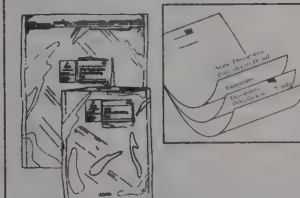
617-7102. 7102	PER ROLL/500	16.15
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2750 Static-Shielding Bag — Transparent and Reusable

- Transparent — 70% Light Transmission
- Reusable Without Verification — Electrical Properties Guaranteed for the Life of the Bag
- 7 Mils Density Polyethylene
- Meets Shielding and Static-Dissipative Requirements of 81705C
- Volume-Loaded, Long Lasting Anti-Stat Effective Down to 10% RH
- <6% Conductive Stainless Steel Fibers (Non-Corroding)



617-7104. 2750. 3" x 5"	PER PK./100	21.80
617-7106. 2750. 4" x 6"	PER PK./100	28.44
617-7108. 2750. 6" x 8"	PER PK./100	48.47
617-7110. 2750. 8" x 8"	PER PK./100	57.94
617-7112. 2750. 8" x 10"	PER PK./100	65.72
617-7114. 2750. 10" x 12"	PER PK./100	90.02
617-7116. 2750. 10" x 14"	PER PK./100	103.44
617-7118. 2750. 12" x 14"	PER PK./100	120.70



1900/1910 Static Shielding Bags

1900 Series Static Shielding Bags

- Metal-In Static-Shielding Bag
- Polyester Layer Thickness: 0.48 Mil

Use this more economical static-shielding bag for less demanding applications where reuse and high durability are not a prime consideration.

617-1900. 1900. 3" x 5"	PER PK./100	7.65
617-1901. 1900. 4" x 6"	PER PK./100	8.85
617-1902. 1900. 6" x 10"	PER PK./100	16.37
617-1903. 1900. 8" x 10"	PER PK./100	20.20
617-1904. 1900. 10" x 12"	PER PK./100	25.65
617-1905. 1900. 11" x 15"	PER PK./100	32.49
617-1906. 1900. 15" x 18"	PER PK./100	47.18

1910 Series Static Shielding Bags

- 1900 Static-Shielding Bags with a Dual-Track Closure System
- Metal-In Static-Shielding Bags
- Polyester Layer Thickness: 0.48 Mil

617-1910. 1910. 3" x 5"	PER PK./100	10.44
617-1911. 1910. 4" x 6"	PER PK./100	12.06
617-1912. 1910. 6" x 10"	PER PK./100	22.40
617-1913. 1910. 8" x 10"	PER PK./100	28.65
617-1914. 1910. 10" x 12"	PER PK./100	35.31
617-1915. 1910. 10" x 14"	PER PK./100	38.83
617-1916. 1910. 11" x 15"	PER PK./100	44.44

Dissipative Three-Layer Floor and Table Mats

3M 8200 Series Mats are soft table and floor mats with a unique three-layer construction. The top layer is durable static-dissipative vinyl which has sufficiently low resistivity to discharge static-laden conductors, yet will prevent the shorting of pins on the backs of printed circuit boards laid on the mat.

8200 Series Floor Mat

Includes one 15 ft. (4.6M) 3040 Ground Cord and two 3050 Female Snap Fasteners (installed).

Stock No.	Mfr.'s Type	Description	EACH
617-8201	8201	4' x 6' Brown Floor Mat	201.00
617-8203	8203	4' x 6' Gray Floor Mat	201.00
617-8205	8205	4' x 6' Granite Floor Mat	201.00

8210 Series Table Mat

Includes two 3050 Female Snap Fasteners (installed) and one 3048 Wrist Strap Grounding System.

Stock No.	Mfr.'s Type	Description	EACH
617-8211	8211	2' x 4' Brown Table Mat	92.23
617-8213	8213	2' x 4' Gray Table Mat	92.23
617-8214	8214	2' x 4' Blue Table Mat	92.23
617-8215	8215	2' x 4' Granite Table Mat	92.23



Work Station Grounding Kits

Each Work Station Grounding Kit contains:

- ▶ Table Mat: 2 x 4 ft. (0.6 x 1.2m)
- ▶ Floor Mat: 4 x 6 ft. (1.2 x 1.8m)
- ▶ 3040 Ground Cord: 15 ft. (4.6m)
- ▶ 3048 Grounding System For Wrist Strap/Table Mat
- ▶ 2214 Adjustable Wrist Strap

8011 Series

A complete static control solution for the work environment that requires more rigid surfaces with higher conductivity. Both table and floor mats are made from black Velostat conductive plastic for optimum static protection.

617-2040. 8011 (Black).....EACH 218.41

8020 Series

The 8020 Work Station Grounding Kits provide the complete static protection offered by all 3M kits. Both the floor and table mats are made from our soft three-layer static-dissipative material.

617-8023. 8023 (Gray).....EACH 262.16
617-8024. 8024 (Blue).....EACH 262.16
617-8026. 8025 (Granite).....EACH 262.16

8030 Series

These kits contain two different types of static control mats. The table mat is made of the soft three-layered, static-dissipative 8200 material (optional color), while the floor mat is of the more rigid, conductive black Velostat material.

617-8029. 8030 (Gold).....EACH 250.92
617-8033. 8033 (Gray).....EACH 250.92
617-8036. 8035 (Granite).....EACH 250.92

Work Station Monitors

Work Station Monitors use DC current to make a resistance determination. They continuously pulse a signal which is returned to the monitor through a special wrist strap and cord that contain two separate sets of independent conductors. They measure operator resistance to ground, have a resistor by-pass warning, use a safe, low current signal pulse, provide dual ground paths, and have passive system actuation. Remote Input Jack Size: 3/16" x 1" x 1/2".

617-0719. 720.....EACH 138.47



Scotch™ 40 Anti-Static Utility Tape

— NEW —

3M Scotch™ 40 Anti-Static Utility Tape represents a breakthrough in PSA tape technology. This new tape, which generates less than 50 volts on unwind and removal from stainless steel, helps prevent ESD damage to sensitive electronic components in manufacturing environments. Use this tape a third hand to hold work orders, notes or documentation in place, or to hold down obstructions. This tape can also be used as a sealing tape to secure static shielding bags, boxes containing electronic components, DIP tubes or to hold IC rails.

617-7150. 40 (1/2" x 72 Yds.).....PER ROLL 10.22
617-7155. 40 (3/4" x 72 Yds.).....PER ROLL 15.33

Portable Field Service Grounding Kits and Telecommunications Field Service Kit

Portable Field Service Grounding Kits

The 3M 8501 Portable Field Service Kit provides effective static protection in a compact package for the electronics field technician. The entire kit folds to a size that fits easily into most tool cases. Two pockets sewn into the work surface provide storage for the cords. The work surface can be personalized with your company's logo.

3M 8501 Portable Field Service Kit meets the requirements of MIL-W-87893, Type III.
617-2009. 8501.....EACH 61.80

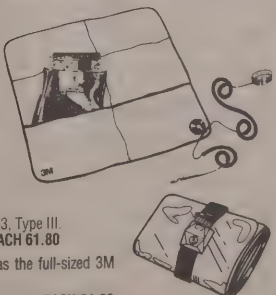
The (8505) small lightweight kit offers the same level of static control as the full-sized 3M 8501 Field Service Kit, yet is small enough to fit in a shirt pocket.

617-8502. 8505.....EACH 64.60

Telecommunications Field Service Kit

The 8502 Static-Dissipative Field Service Kit is a specially designed static-dissipative kit for installation in remote, unattended telephone switching enclosures. The work surface has a strip of 3M Hook and Loop™ Fastener Tape stitched to the back so it can be suspended from the permanently mounted instruction sign.

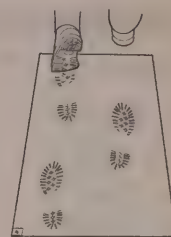
617-8503. 8502.....EACH 86.70



Clean-Walk Mats

- ▶ Long Lasting 2 MIL Polyethylene Backing
- ▶ Mats Can Adhere To Any Clean, Dry Floor
- ▶ Unique Design Has No Beveled Edge Or Frame To Trap Dirt
- ▶ Large Surface Has Room For Two Steps To Effectively Capture Contaminants

617-5800. Model 5800 (18" x 36").....PER PK./30 30.01

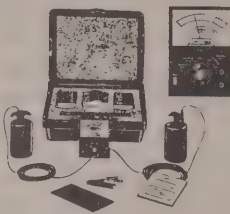


Test Kit for Control Surfaces

The 3M 701 Test Kit contains a lightweight, user-friendly megohmmeter plus all of the components needed to make testing mats and other surfaces simple and accurate. All of the items are packaged in a foam-lined carrying case.

The kit is compatible with EOS/ESD Standard S4.1-1990, "Worksurfaces-Resistive Characterization" and with MIL-W-87893A, "Workstation, Electrostatic Discharge (ESD) Control."

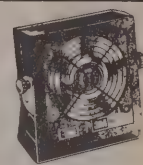
617-0702. Model 701. Test Kit. Certified/CalibratedEACH 813.85
617-0701. Model 701. Test Kit.....EACH 735.97



Ionized Air Blower

This compact electrical 961 Ionized Air Blower neutralizes static charge on nonconductive materials and helps prevent static from damaging sensitive electronic components. Designed to be very user-friendly, the ionizer's gentle air flow does not disturb papers or delicate components, and the fan is extremely quiet at low speed. 100/120V, 50/60Hz.

617-0961. Model 961. Ionized Air BlowerEACH 469.20

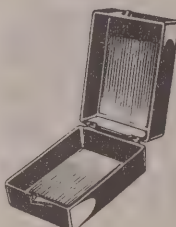


VELOSTAT®

Electrically Conductive Hinged Container

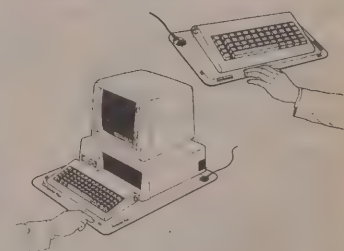
This rugged container protects your static sensitive PC boards or other devices from all external static fields or static charges on personnel and materials that exceed 20,000 volts. Made of carbon-loaded electrically conductive polyolefin plastic. Strong, light weight, non-corrosive, ideal for storage and shipping. Molded pin hinges are far more durable than traditional snap hinges. Color: black.

617-2029. Model 4021. 27 1/2" x 19 1/2" x 1 1/2" deepEACH .92
617-2012. Model 4022. 37 1/2" x 19 1/2" x 1 1/2" deepEACH 1.22
617-2030. Model 4023. 29 1/2" x 31 1/2" x 1 1/2" deepEACH 1.53
617-2031. Model 4024. 7" x 31 1/2" x 1" deepEACH 3.06
617-2032. Model 4025. 7" x 5" x 1/2" deepEACH 6.71



Computer And Keyboard Control Panels

Placed under your PC system, 3M Static Control Pads drain away static charge instantly when touched. The unique layered construction not only creates a static-free environment, but also cushions your equipment, prevents slippage and reduces noise. The pads come in both full system and keyboard sizes.

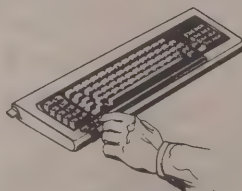


Stock No.	Mfr.'s Type	Description	Color	EACH
617-9200	9200	Computer Pad 23" x 26"	Brown	52.53
617-9202	9202	Computer Pad 23" x 26"	Gray	52.53
617-2013	9210	Keyboard Pad 23" x 9.5"	Brown	30.02
617-9212	9212	Keyboard Pad 23" x 9.5"	Gray	30.02

First Touch™ Static Control Keyboard Strip

Adhesive-backed strip mounts on keyboard and prevents garbled data, loss of memory, lock-up, and other problems caused by static electricity. Static charge drains harmlessly from operator's body each time hand contacts strip. Includes 7 ft. grounding cord.

617-2014. 9250. Keyboard Static Control StripEACH 14.30



Static Sensor

The 3M 709 Static Sensor is an accurate, hand-held, lightweight unit designed to measure static voltages on objects and surfaces. The 709 features a digital (LCD) display and two range settings: LOW to measure up to 1990 volts and HIGH to measure up to 19,900 volts. The sensor comes with one standard 9 volt transistor battery and has a battery test circuit, which displays the battery voltage level on the LCD readout when activated. For remote monitoring or permanent recording, the 709 provides two pin-type output jacks.

617-0710. Model 709. Static Sensor. Certified/CalibratedEACH 621.54
617-0709. Model 709. Static Sensor.....EACH 539.82



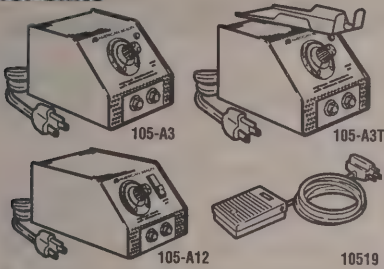
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**See Sections 6 and 15 for additional products.

Power Units



NOTE: All American Beauty power units are standard 120 VAC, 60 Hz, with 3-wire cord and NEMA plug. Also available on special order for 220/240 VAC, 60 Hz. All power ratings based on 50% duty cycle.

Variable Power Control Unit

Infinitely variable, stepless dialing. Ideal where precise settings and repeatability are essential. Dial reads zero to 100, gives exact guide for duplicating heat output at a later date. **Wattage Range:** 0 to 100 W. Pilot light. Fuse. Ventilated steel case, 3 3/4" x 3 7/8" x 5 1/4" (9.53 x 9.84 x 13.34 cm) with black and white crackle finish. **Shipping Weight:** 7 1/2 lbs. (3.40 kg). **709-2303.** Model 105-A3-120.....EACH 207.80

V-3500 Variable Voltage Dual Soldering Station

- ▶ Output Voltage Infinitely Variable from 0% to 100% of Line Voltage
- ▶ Accepts Miniature and Pencil-Type Irons Up to 50 Watts
- ▶ 3-Conductor Power Outlets for Two Irons (Irons Not Included, Order Separately)

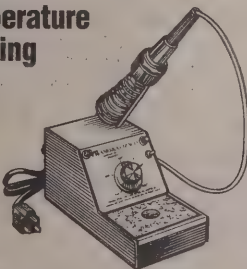


Gives the operator simultaneous, independent control of two soldering irons for special purposes such as: a) alternate use of two irons to compensate for large heat requirements; b) when different size irons are needed by the same operator; c) controlling iron output during idle situations.

709-3500. Model V3500.....EACH 181.00

5000 Series Temperature Controlled Soldering Stations

- ▶ Holds Temperature to Within $\pm 5^\circ\text{F}$ (9°C) or Less
- ▶ Zero Cross-Switching, Total Grounding of the Station's Iron and All-Metal Housing to Protect Sensitive Work
- ▶ Iron Completely Isolated when Idling in Station's Spring-Type Holder
- ▶ Iron Equipped with Paragon Quality Tip No. 646 (Chisel)
- ▶ Deep-Well, Self-Moistening Tip Cleaner
- ▶ Meets or Exceeds MIL SPECS, Including DOD-2000-1B
- ▶ 120 AC, 60 Hz 3-Wire Cord, NEMA Plug



Three 50-watt all-electric stations. Each utilize a different mode of temperature selection to meet different needs. **Overall Size:** Length — 8 7/8"; Width — 3 3/4"; Height — 8 1/4" (22.54 x 9.53 x 20.95 cm) including soldering iron holder.

Model 5000. Offers continuous temperature selection from 600° to 800°F. **709Q5000.** Model 5000.....EACH 318.00

Model 5100. Specifications similar to Model 5000 except temperature selection limited to four most used settings — 600°, 650°, 700°, 750°F (316°, 343°, 371°, 399°C). **709Q5100.** Model 5100.....EACH 318.00

Model 5200. Specifications similar to Model 5000 except that this model has no external temperature controls. Temperature set by supervisor by means of selector control inside of cabinet. Settings limited to 600°, 650°, 700°, 750°F (316°, 343°, 371°, 399°C). Replacement sponges and Paragon Quality® tips are available from your Allied Distributor. **709Q5200.** Model 5200.....EACH 318.00

Variable Power Control Unit with Automatic Switching

Same as 105-A3-120, except for cradle-type ON-OFF switch for wirestripping applications. Power turns ON when handpiece is lifted from cradle, OFF when handpiece is returned to cradle. Eliminates need for footswitch. Extends element life. Saves power. **Shipping Weight:** 7 1/2 lbs. (3.40 kg). **709-6060.** Model 105-A3T-120.....EACH 258.60

Medium Power, Infinitely Variable Unit

A power range of 0 to 250 watts (0.8 to 2.8 volts) makes this unit a desirable power source for a wide variety of handpieces. Combines rugged construction with economy and convenience. Stepless dialing from 0% to 100% of power range for precision and repeatability. Has ON/OFF switch, pilot light and fuse. Ventilated steel case with black and white crackle finish. **Size:** 7 1/8" x 4 1/2" x 3 11/16" (18.10 x 11.43 x 9.37 cm). **Shipping Weight:** 7 3/4 lbs. (3.52 kg). **709-6050.** Model 105-A12-120.....EACH 296.80

Footswitches

For foot control of all power units up to an including 1000 W. Eliminates sparking on contact and removal of electrodes from work. Provides more accurate timing of soldering operations. Recommended in most applications. A rugged industrial switch with six-foot (1.83 m), three-wire cord and NEMA plug. **Shipping Weight:** 1 lb. (.45 kg). **709-2310.** Model 10519. 1-4.....EACH 40.00

5-Up.....EACH 37.00

V-3600 Variable Voltage Soldering Station

- ▶ Output Voltage Infinitely Variable from 0% to 100% of Line Voltage
- ▶ 3-Conductor Power Outlet for Iron (Iron Not Included, Order Separately)
- ▶ Spring-Type Iron Holder

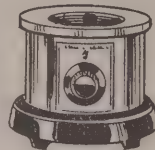


Powers and controls one soldering iron. Plug in almost any iron up to 60 watts to make a complete soldering station. **709-3600.** Model V3600.....EACH 121.00

Model V3800S. Sponge for V3600, V3500, 5000, 5100, 5200 Soldering Station. **709-3800.** Model V3800S.....PER PKG./6 7.66

General-Purpose Solder Pots

Cast iron crucible. Depth: 1 1/2". Heat Range: adj. 325°-750°. **Model 300.** Center tapped, 1/4-20. I.D. 2 1/4". **Size:** Height — 5 1/8"; Base Dia. — 5 3/4"; Top O.D. — 4 3/4". Includes dross skimmer. **Model 600.** Center tapped, 5/16"-18 I.D. 3 1/2". **Size:** Height — 5 1/2"; Base Dia. — 7"; Top O.D. — 6". Cast iron base. Includes dross skimmer.

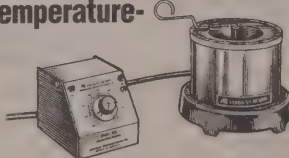


Stock No.	Mfr.'s Type	Capacity	Elements	Shipping Wt.	EACH
709-1300	300	1 lb.	(2) 160 W	6 1/2 lbs.	210.00
709-1600	600	2 1/2 lbs.	(2) 300 W	9 lbs.	240.00

709-6035. Model 9301. Element for 300/301.....EACH 22.96
709-9300. Model 9300. Element for 600.....EACH 25.00

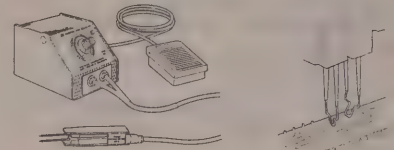
Solid State, Temperature-Controlled Solder Pots

Model 675 features remote control module with solid-state, close tolerance temperature control $\pm 5^\circ\text{F}$ from set point. Meets or exceeds all MIL spec. requirements including DOD-2001-B. 400-800°F range. 2 3/4 lb. capacity. Removable dross skimmer included. Permanently attached control module can be placed up to 18" from solder pot.



709Q675. Model 675.....EACH 667.80

Surface Mount Handwork System Kit — NEW —

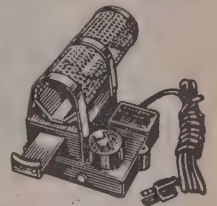


Designed for rework, salvage and manual fabrication of SMD circuits. One tool does it all — holds the SMD, solders and desolders. The handpiece is a micro-tweezer whose gripping points are also heating elements, specially shaped to work between closely spaced SMDs. To protect adjacent components, traces and substrates, no heat is applied until the tweezer is firmly positioned. Only then is current turned on via Footswitch to supply a controlled level of heat — just enough for soldering and desoldering of two size flat pack SMDs. The kit consists of the Power Unit (105A3-120V), a Footswitch (10519), Elements (105156, 105157, 105160), and a 105131 handpiece.

709Q6070. Model 105SMD-120. Kit.....EACH 417.50

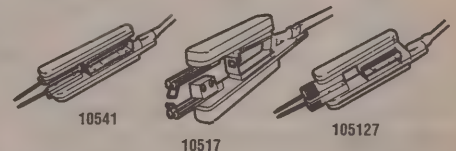
Temperature Regulating Stands

Maintain soldering iron at preset safe idle temperature, during downtime. Fast return to full on. Extends element life, prevents cooking and detinning tips. Saves current. **Note:** For perforated guard (as shown) add "SG" to catalog number. 3-wire cord with NEMA plug, standard.



709-0475. Model 475. For 100-600 W Irons.....EACH 127.00
709-0476. Model 476. For 30-85 W Irons.....EACH 131.00
709-4750. Model 475SG.....EACH 132.00
709-4760. Model 476SG.....EACH 137.00

Tweezers



Regular Tweezer

For "squeeze and pull" stripping of thermoplastic insulation from wires up to 14 gauge. Now improved to meet increasing need for faster stripping of "tough" insulations such as Teflon and other PTFE-based materials. Now accepts special flat-blade heating elements designed to mount at 90° for a more powerful bite. Still accepts standard elements that mount at 45°. Strips lengths 1/8" to 1 1/2" (3.18 to 38.10 mm). Use with 15 to 100 W power (50 W for continuous operation; 100 W with intermittent switching). **Length:** 4 1/2" (11.43 cm). **Weight:** 4 oz. (.11 kg). **Cord:** 4' (1.22 m). **Shipping Weight:** 1 lb. (.45 kg). **709-2319.** Model 10517. 1-3.....EACH 114.00
4-Up.....EACH 105.00
709-2322. Element.....PER PKG./2 3.40

Regular Tweezer

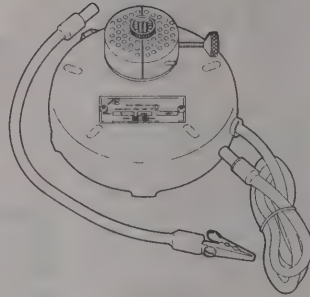
For perfect contact and control on microminiature setups. Holds part for soldering. Stainless steel electrodes .078" (1.98 mm) dia., may be formed or bent. Space between electrodes 0" to 3/8" (0 to 9.53 mm). Use with 15 to 100 W power. **Length:** 5" (12.70 cm). **Weight:** 4 oz. (.11 kg). **Cord:** 4' (1.22 m). **Shipping Weight:** 1 lb. (.45 kg). **709-2313.** Model 10541. 1-3.....EACH 83.20
4-Up.....EACH 76.84

Medium Tweezer

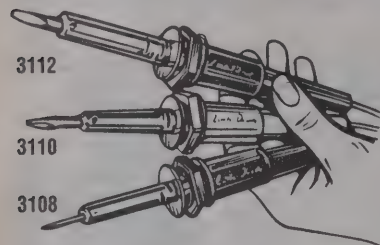
Handles connections up to 1/2" (12.7 mm) dia. including heavy gauge wire, terminals, lugs, posts, etc. Replaceable stainless steel electrodes .125" (3.18 mm) dia. may be bent to fit job. Use with 15 to 250 W power. **Length:** 7" (17.78 cm). **Weight:** 9 oz. (.26 kg). **Cord:** 4' (1.22 m), ten gauge stranded wire. **Shipping Weight:** 2 lbs. (.91 kg). **709-6040.** Model 105127. 1-3.....EACH 191.40
4-Up.....EACH 159.50

Model 105V12 Roundhouse

- Industrial and Model/Hobby Applications
- Great for Holding Small Parts
- Versatile Holding Fixture for Your Resistance Soldering Needs
- Provides Return Path to American Beauty Resistance Power Units
- Functions as a Stand-Alone Workstation, Too
- No-Stick Aluminum Vise Resists Solder Build-Up
- Precision Vise Has Positionable Chromed Pins to Securely Hold Rectangular, Round and Even Odd-Shaped Parts
- Requires Only 5 1/2" Benchtop Space
- Comes with 12" Extension Lead with Alligator Clip
- Vise Diameter: 2"
- Overall Height: 3.5"



709-6030. Model 105V12.....EACH 70.00



Little Dandy® Miniature Irons

Here's an economy-line of miniature irons that will stand up to rugged treatment without "letdown" performance. Easy to use, fits comfortably in your hand, and gives you unbelievably long service. Use for custom jobs or production runs. No sweat for Little Dandy Irons!

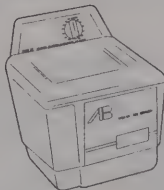
Little Dandy Irons

Stock No.	Mfr.'s Type	Wattage	Tip Size	EACH
709-3108	3108-20	20	1/8"	45.25
709-3110	3110-30	30	3/16"	45.70
709-3112	3112-50	50	1/4"	56.00

Tips for Above

Stock No.	Mfr.'s Type	Size	Description	EACH
709-3643	643	3/16"	Chisel	6.66
709-3617	617	3/16"	Tapered Chisel	6.66
709-3715	715	1/4"	Tapered Chisel	7.16

Bench-Top Ultrasonic Cleaners

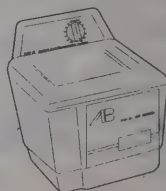


Model S-5500 Ultrasonic Cleaner
Tank Size: 9 x 5 x 4" (22.86 x 12.7 x 10.16 cm) with a 3-quart capacity. Overall Size: 12 x 9 x 7 1/2" (30.48 x 22.86 x 19.05 cm) high. 125 watts RF input. Stainless steel tank. Duralac coated steel housing. Solid-state circuitry on a G-10 board. Stainless steel tank cover included. Weight: 14 lbs. (6.35 kg).

709Q6090. Model S-5500.....EACH 769.70
709Q6095. Model S-5510 Deluxe.....EACH 1001.90

Model S-3300 Ultrasonic Cleaner

- Clean Components and Small Instruments
- 100% American Made
- Stainless Steel



The small size and simple operation of this ultrasonic cleaner makes cleaning practical at work bench or lab table. Completely self-contained and self-tuned with solid state circuitry for dependability and long life. Stainless steel tank with stainless steel tank cover. One pilot-lighted on/off switch. No radio-frequency interference. Virtually indestructible lead zirconate titanate transducer. Capacity: 1/2 gal. (1.8 liters). Tank Size: 5 1/2" x 6" x 4" (14.0 x 15.2 x 10.2 cm). 50 W cleaning power. 75 W input. Shipping Weight: 7 lbs.

709Q6080. Model S-3300.....EACH 526.80
709Q6085. Model S-3310.....EACH 716.00

Soldering Irons for Industrial Use



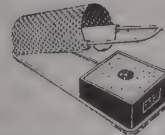
Rugged and dependable soldering irons, ideal for industrial applications. Special iron-plated tips, available for all models, greatly reduce pitting. Casing and body are of one-piece seamless steel. Rubberoid-coated "stay-cool" handles. 6-ft. (1.8 m) cords. Choice of models from light to heavy-duty. UL listed.

Model 3138-LT. 100 Watts. Cooling baffle; stand. 12 7/8" (32.7 cm) long. For 110-120 VAC/DC. Weight: 2 1/4 lbs. (1.02 kg).
709-0045. 1-3.....EACH 83.50 4-Up.....EACH 77.07

Model 3158-LT. 200 Watts. For medium-heavy work. With stand. 13 5/8" (34.61 cm) long. 110-120 VAC/DC. Weight: 3 lbs. (1.36 kg).
709-0048. 1-3.....EACH 105.00 4-Up.....EACH 96.00

Model 3178-LT. 300 Watts. For special production-line applications. With stand. For 110-120 VAC/DC. Weight: 4 lbs. (1.81 kg).
709-0051. 1-3.....EACH 113.00 4-Up.....EACH 104.00

Safety Soldering Iron Stand



Provides a stable holder for irons up to 3/4" diameter. Perforated guard allows ventilation of element and protects operator from accidental contact. Handle support adjusts to various iron designs. Overall Size: 8" x 3" x 4" (203.2 x 76.2 x 101.6 mm). Shipping Weight: 1 1/4 lbs.

709-3575. Model 577.....EACH 38.00

Miniature Tip Cleaner

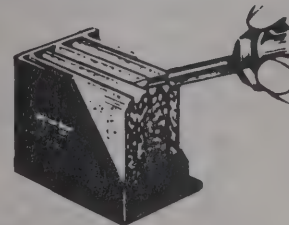
Low profile case is self-contained water well. Simple wick keeps sponge wet for days. Wipings from solder tip drop into well, leaving sponge free of contaminants. Made of high impact, no-burn plastic and stainless steel. Size: 2 3/4" x 2 5/8" x 1 1/4".



709-0481. Model 481.....EACH 16.50
709-4810. Replacement Sponges...PER PKG./6 6.66

One-Pass Tip Cleaner

- Handiest Way to Clean Tips
- Eliminates Cleaning Problems



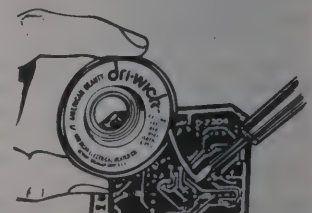
One pass between wet cellulose sponges cleans entire tip. Eliminates the former cleaning problems of tip-plate damage, linting, stray solder pellets. Water-well (3/4" deep) keeps sponges wet and ready to use all day. The high impact styrene holder has a non-slip, rubberized base, bored for bench mounting. Ideal for workroom, classroom, and hobbyist.

Stock No.	Mfr.'s Type	Description	Size	Weight	EACH
709-4800	480 -	Complete tip cleaner	2 1/2" x 2 3/4" x 3 1/2"	3/4 lb.	7.60
709-4801	480-S*	Replacement sponge	—	1 oz.	4.16

*Complete set of 4 sponges.

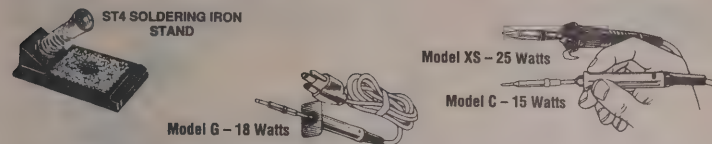
Dri-Wick® Fine De-Soldering Tool on a Spool

Tested, proved...and backed by American Beauty. Dri-Wick is used in U.S. space program, at flight centers and by subcontractors. Proved most efficient for de-soldering, re-work, salvage. Any place you can put solder, you can remove it in a second with Dri-wick. Lay Dri-wick on joint and apply tip of hot soldering iron. Capillary action draws out all solder, leaves joint clean, ready for salvage or rework. Specially woven copper, each strand coated with water-white resin. Packaged 5 ft. per spool, 25 spools per carton. (No. 484-6, 2 1/2 ft. spools.) Six widths. Test quickly indicate best width to use. Table below gives general guidance.



Stock No.	Mfr.'s Type	Width	EACH
709-4841	484-1	.025" (.63 mm)	2.20
709-4842	484-2	.050" (1.27 mm)	2.20
709-4843	484-3	.075" (1.90 mm)	2.20
709-4844	484-4	.095" (2.41 mm)	2.42
709-4845	484-5	.130" (3.30 mm)	2.54
709-4846	484-6	.200" (5.08 mm)	2.80

Soldering Irons for Microelectronic Circuits



- ▶ Long-lasting Elements → Designed for Production Line Service
- ▶ Heat to Full Operating Temperature in Seconds ... Hold Constant Tip Temperature
- ▶ Safe for Delicate Components
- ▶ Maximum Heat Transfer Efficiency with Slide-on Replaceable Tips
- ▶ All Models Meet OSHA Standards for Safety
- ▶ 3-Wire Ground Plug

Soldering irons ruggedly built for long-lasting, heavy-duty service and production line use. Fast heat-up and recovery time, efficient heat transfer assure steady tip temperature and superior performance in all microelectronic soldering applications. Low current leakage and near-infinite insulation of heating elements from tip eliminate risk of damage to transistors, integrated circuits and other delicate components, and assure safety of the operator. Interchangeable tips in a variety of sizes and shapes cover a full range of soldering requirements. No set screws to freeze and break. Three models, three power ranges: 15 watts, 18 watts, 25 watts. Cords are ultra-flexible for easy handling. For 110-120 V, 50-60 Hz AC.

Stock No.	Mfr.'s Type	L. In.	Wt. Oz.	Power Watts	°F Temp Range*	EACH	
						1-5	6-Up
728-0220	C-3U	6 1/2	3	15	665-700	19.75	18.25
728-0320	G-3U	6 1/2	3	18	700-750	20.25	19.10
728-0520	XS	8 3/4	4	25	750-800	24.00	23.10

*Temperature depends on voltage. All Models have 3-prong grounded plug.

Replacement Elements		
728-0200. Model C-E	EACH	10.50
728-0300. Model G-E	EACH	10.50
728-0500. Model XS-E	EACH	12.15

ST4 Stand for Miniature Iron. Weight: 2 lbs.	
728-0440	EACH 9.55

Temperature Control Stations/Irons

PSU-24 Power Supply Unit. PSU-24 Power Supply, a versatile unit which operates on 115 VAC and accepts all popular 50 Watt or less 24 Volt soldering irons. Equipped with a built in spring holder and a selection of 3 bezels to accommodate most makes of irons, this rugged bench top soldering station has a removable sponge tray. 728-0024. Model PSU-24 (Power Supply Only) ... EACH 95.00

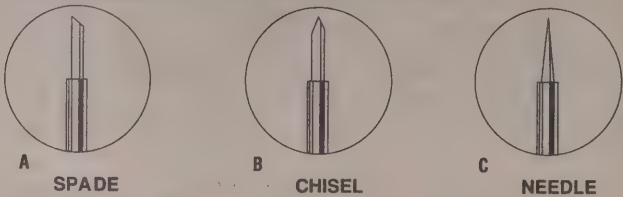
TCSU-1 Temperature Control Station. Features precise temperature control by using a sliding potentiometer with a 1 to 10 setting. Ideal for use with heat and voltage sensitive components, the tip is positively grounded and zero crossing electronic switching eliminates RF interference and magnetic fields. 728-0100. Model TCSU-1 (Station Only) ... EACH 173.55

TCSU-D2 Temperature Control Station. Features dial selectable temperatures from ambient to 450° with ±5%°C accuracy and 1°C display resolution. A thermocouple monitors the tip temperature and provides positive feedback at all times. The tip is positively grounded and zero crossing electronic switching eliminates RF interference and magnetic fields. 728-0102. Model TCSU-D2 (Station Only) ... EACH 345.40

Standard Irons

Stock No.	Mfr.'s Type	Use With Station	Watts	EACH	
				1-49	50-Up
728-0124	TCS-24	PSU-24	50	69.40	67.14
728-0135	CSTC	TCSU-1	30	74.37	67.98

Tips for Models C, G, and CSTC 30



Iron-Plated Tips (Long Life)

Size In.	Stock No.	Fig.	Type	Stock No.	Fig.	Type	EACH	
							1-49	50-Up
3/64	728-1602	A	Spade 6-IS	728-1600	B	Chisel 6-IC	2.70	2.40
1/16	728-4605	A	Spade 46-IS	728-4600	B	Chisel 46-IC	2.70	2.40
3/32	728-1202	A	Spade 2-IS	728-1200	B	Chisel 2-IC	2.70	2.40
1/8	728-8605	A	Spade 86-IS	728-8600	B	Chisel 86-IC	2.70	2.40
3/16	728-1801	C	Needle 8X	728-1800	C	Needle 8-I	2.70	2.40

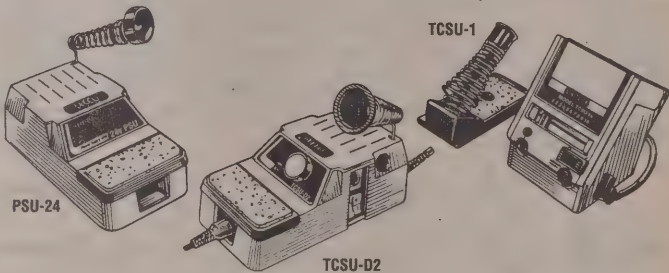
*Bare Copper.

Nickel-Plated Tips (Economy)

Size In.	Stock No.	Fig.	Type	Stock No.	Fig.	Type	EACH	
							1-49	50-Up
3/64	728-1606	A	Spade 6-NS	728-1604	B	Chisel 6-NC	1.80	1.65
1/16	728-4615	A	Spade 46-NS	728-4610	B	Chisel 46-NC	1.80	1.65
3/32	728-5605	A	Spade 56-NS	728-5600	B	Chisel 56-NC	1.80	1.65
1/8	728-8615	A	Spade 86-NS	728-8610	B	Chisel 86-NC	1.80	1.65

Tips for Model XS and XTC50

Stock No.	Mfr.'s Type	Size In.	Fig.	Description	EACH	
					1-49	50-Up
728-1100	50-IC	3/32	A	3/32 Chisel	3.50	3.15
728-1151	52-IC	3/16	A	3/16 Chisel	3.50	3.15

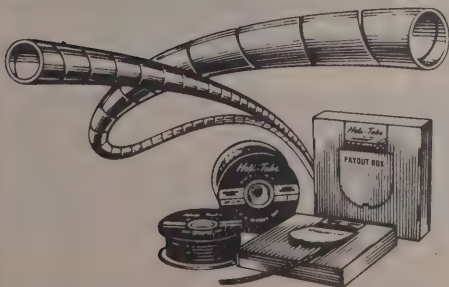


Spirally Cut Cable Wrap

U.L. Recognized Heli-Tube® is a spirally cut, expandable plastic cable harness. Bundles wires, cables or hoses firmly but allows flexibility. Wraps on like tape, can be re-used, quickly and simply. Resists abrasion and insulates. Clamps bundles to standoff. Dampens vibration. Can have wire breakouts in any orientation. Wires can be routed or re-routed after Heli-Tube® is in place; either new wires or replacement wires. Stocked by Allied in 100' spools of Clear Polyethylene, Black Polyethylene, and Black Fire-Resistant Polyethylene. The Clear Polyethylene is a low cost material ideal for general applications. Not affected by ordinary solvents and

extremely resistant to abrasion. **Maximum Operating Temperature:** 101°C to 215°F. **Minimum Operating Temperature:** -76°C to -105°F. **MIL Spec. and Approvals:** Fed. Spec. LP390, MIL 1631D, MIL P26692. The Black Polyethylene is ultra-violet-resistant which permits it to be used in direct sunlight for long periods of time. Same temperature range and MIL spec. as Clear Polyethylene. The Black Fire-Resistant Polyethylene is self-extinguishing. **Maximum Operating Temperature:** 93°C to 200°F. **Minimum Operating Temperature:** -19°C to -1°F.

Heli-Tube



Stock No.	Mfr.'s Type	Material	O.D.	Wall Thickness	Pitch	Maximum Bundle Range	PER 100 FT.	
							1-9	10-49
728-9005	HT1/4C2	Clear Polyethylene	0.250	.035	0.375	3/16-2"	13.62	12.57
728-9010	HT1/4C	Clear Polyethylene	0.250	.045	0.375	3/16-2"	13.75	12.70
728-9015	HT1/2C	Clear Polyethylene	0.500	.062	0.563	3/8-4"	28.88	26.66
728-9020	HT3/4C	Clear Polyethylene	0.750	.065	0.750	3/4-5"	43.53	40.19
728-9025	HT1C	Clear Polyethylene	1.000	.095	1.000	1-7"	83.58	77.16
728-9040	HT1/4UR	Black Polyethylene	0.250	.045	0.375	3/16-2"	15.77	14.55
728-9045	HT1/2UR	Black Polyethylene	0.500	.062	0.500	3/8-4"	30.58	28.23
728-9050	HT3/4UR	Black Polyethylene	0.750	.065	0.750	3/4-5"	47.77	44.09
728-9055	HT1UR	Black Polyethylene	1.000	.095	1.000	1-7"	92.33	85.24
728-9030	HT1/4FR-B	Fire-Resistant Black	0.250	.045	0.375	3/16-2"	34.32	31.38
728-9035	HT1/2FR-B	Fire-Resistant Black	0.500	.062	0.563	3/8-4"	81.30	75.05
728-9065	HT1/8N	Nylon Natural	0.125	.015	0.187	1/16-1/2"	10.19	9.40
728-9070	HT1/4N		0.250	.025	0.375	3/16-2"	27.93	21.02
728-9075	HT3/8N		0.375	.035	0.438	3/16-3"	43.37	40.04
728-9080	HT1/2N		0.500	.035	0.500	3/8-4"	65.40	59.95
728-9085	HT3/4N		0.750	.032	0.750	1/2-5"	136.27	125.78
728-9090	HT1N		1.000	.032	1.000	1-7"	167.40	154.52
728-9095	HT1/4N-B	Nylon Black	0.250	.025	0.375	3/16-2"	24.49	22.45
728-9105	HT3/8N-B	Ultra-violet Resistant	0.375	.035	0.438	3/16-3"	47.84	43.85
728-9110	HT1/2N-B	for Outdoor Use	0.500	.035	0.500	3/8-4"	70.00	64.17
728-9115	HT3/4N-B		0.750	.032	0.750	1/2-5"	147.03	135.73
728-9120	HT1N-B		1.000	.032	1.000	1-7"	183.82	169.68

Solid-State Temperature Controlled Solder Station

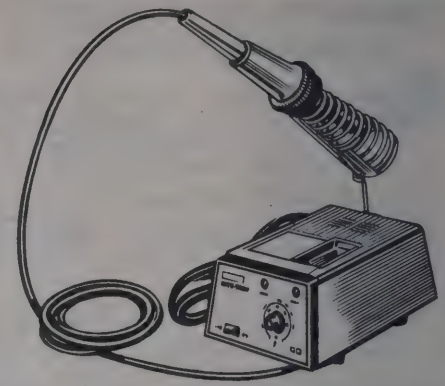
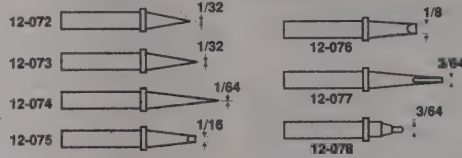
Auto-temp solder station for precise temperature control. Features electronically controlled low-voltage system and LED power indicator. User-set temperature with front panel control. Fast warm-up. CMOS-safe, fully grounded conical tip included — a wide variety of tips available. Provides accurate control over a range of 200° to 900°F with meter indication of exact temperature at all times. Designed for production or service of sensitive electronic circuits. **Specifications.** Line Voltage: 110-125VAC. **Heater Power:** 48W. **Heater Voltage:** 24V. Comes with tip, cleaning sponge, and iron holder.

EACH 119.40

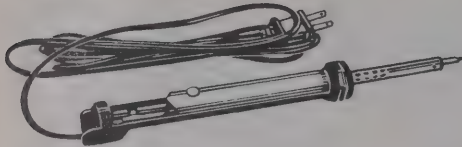
Replacement Tips

Iron-clad copper tips — premium quality, long life for continuous heavy-duty soldering.

Stock No.	Mfr.'s Type	EACH
796-0160	12-072	6.99
796-0165	12-073	6.99
796-0170	12-074	7.89
796-0175	12-075	6.99
796-0180	12-076	6.99
796-0185	12-077	6.99
796-0190	12-078	6.99



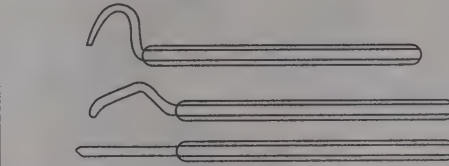
Solder Popper



The Solder Popper combines the popular snap-vacuum solder removal tool with a soldering iron for fast, one-hand operation, and is an excellent tool for field repair or production work. Has a tightly sealed vacuum pump that snaps up all of the solder quickly. A removable reservoir stores solder and cleans out in seconds. The 30-watt iron melts solder rapidly and features a long-life tip that unscrews for easy replacement.

Solder Popper
796-2157, Type 12-2157 EACH 47.61
Replacement Tip
796-2160, Type 12-2160 EACH 4.56
Replacement 'O' Ring Seal
796-2161, Type 12-2161 EACH 1.22

Precision Probes



Stainless steel probes that have been popular for a long time are now even more valued as soldering/desoldering aids in SMD assemblies. Stainless is non-contaminating, static-free and will not solder. Needle point tips permit exact placement. Hex handles prevent rolling, allows better grip.

Stock No.	Mfr.'s Type	Description	EACH
796-2260	12-2260	5 1/2" Probe-Straight	4.00
796-2264	12-2264	5 1/2" Probe-Hooked	4.00
796-2266	12-2266	5 1/2" Probe-Curved	4.00
796-2270	12-2270	Set of all 3 Probes	12.04

Solder Wick (Pure Copper)

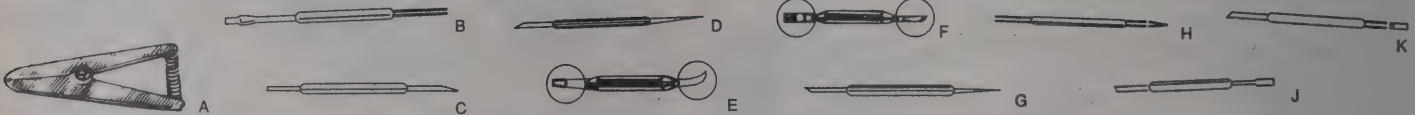


GC/3S Wick is a superior solder absorbing wick for complete solder removal. Wicking starts faster than with conventional wicks due to a unique rosin. Faster wicking means for less trouble with excessive heat that damages components and PC board traces. Available on 25 ft. or 5 ft. spools.

Stock No.	Mfr.'s Type	Size	Color Coded	Nominal Size W x Thk.	EACH
796-0436	22-436*	2	yellow	.060 x .016"	2.29
796-0437	22-437*	3	green	.080 x .028"	2.39
796-0438	22-438*	4	blue	.100 x .028"	2.49
796-0441	22-441†	2	yellow	.060 x .016	9.79
796-0442	22-442†	3	green	.080 x .028"	10.09
796-0443	22-443†	4	blue	.100 x .028"	12.93

*5-ft. length. †25-ft. length.

Soldering Aids



(A) 9077 Heat Sink. Protects from heat. Made of aluminum — solder will not stick. Self-closing; free hands. 3 oz.
796-9077 EACH 1.87
(B) 9088 Brush. Wire brush and chrome-tipped holding end. 4 oz.
796-9088 EACH 4.00
(C) 9076 Angle End-Tool. 4 oz.
796-9076 EACH 4.00
(D) 9075 Straight End-Tool. Double ends ream, hold or pry. Chromed. 4 oz.
796-9075 EACH 4.00
(E) 9093 Soldering Probe. For printed-circuit work. 8". 3 oz.
796-9093 EACH 4.00
(F) 9094 PC Board Brush and Scraper. Stainless steel brush on one end, steel scraper on other. 8" overall length.
796-9094 EACH 4.00
(G) 9069 Reamer and Scraper Tip. Chrome-plated. Ends insulated. Scrape joints, ream lug holes. Wt. 4 oz.
796-9069 EACH 4.00

(H) 9073 Brush and Forked Tip. For PC work. Forked tip for twisting or holding wires. Ends insulated. 3 oz.
796-9073 EACH 4.00
(J) 9074 Brush and Scraper Tip. Brush for dusting away excess solder, scraper for joints. Ends insulated. 3 oz.
796-9074 EACH 4.00
(K) 9086 Straight Reamer and Forked Tip. Steel, chrome-plated. For lug holes, forked tip holds wires. 3 oz.
796-9086 EACH 4.00

Soldering Fluxes

Formulated to meet all manufacturing techniques, including highly specialized assembly procedures. Includes a highly efficient Rosin Residue Remover. Use with all metals except aluminum.
Solder Paste No. 10-1207. Fast acting flux base for PC work. Non-corrosive.
796-1207, 1 1/2 oz. (42 gms.) can EACH 4.59
Solder Flux Remover and Cleaner. No. 22-270. 16 AVDP oz. aerosol.
796-2037 EACH 10.19

Tempmaster Soldering Iron

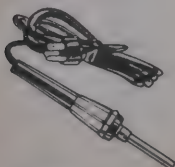
The Tempmaster is an iron for practically all uses. The temperature may be user-set from very low (barely melting 60/40 solder) up to 840°F for brute-force work. Lower temperatures at about mid-range are ideal for most assembly and service work. Higher ranges may be used when heating large areas or solder removal braid. Temperature setting is readily adjusted by turning a control on the handle with a screwdriver. The Tempmaster has a grounded tip via 3-prong U-plug for ESD damage prevention. Replacement tips are available in a variety of shapes (see GC Nos. 12-072 through 12-078).



796-1248, Model 12-048 EACH 48.75

25 Watt Soldering Iron

A well made iron that is tough enough for daily use in production or at the service bench. Three-wire grounded tip prevents inducing ESD failures. A wide range of long-life tips is available (Nos. 12-072 through 12-078) for special applications.



796-1238, Model 12-038 EACH 29.58

Featherweight 16 Soldering Iron

A fine tipped iron that is ideal for soldering or desoldering in delicate circuits. Lightweight and very easy to handle. Sixteen watts keep temperature lower for safe work with ICs and other heat-sensitive devices.



796-1225, Model 12-025 EACH 17.52
Replacement Tip
796-1226, Model 12-026 EACH 2.97



Heat Gun

UL Listed, 115V AC. A dual range heat gun for use in heating shrink tube and drying coatings, adhesives, etc. Low temperature range setting produces a nominal 700°F (2,000 BTUs), high range 975°F (4,000 BTUs). Maximum setting draws 10 Amps, low heat draws 5 Amps. A light weight design that is easy to handle. Designed so that it may be put down to cool without a special holder.



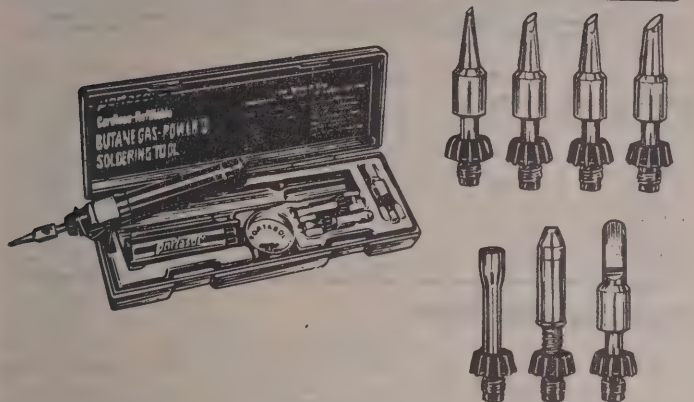
796-1297, Model 12-997 EACH 73.81

15pc Electronic Tech. Tool Kit

A compact and complete quality kit of precision tools. "Excellent kit for the lab or field technician." The pliers of this kit are constructed of drop forged steel for durability, with an excellent cutting edge. This kit also includes 6 precision jeweler's screwdrivers, measuring tape, and a useful utility knife. These tools are packed in high density foam in a sturdy plastic carrying case for organization and longevity. Contains the following: 4 1/2" end nipper plier, 4 1/2" needle nose plier, 4 1/2" diagonal cutting plier, 4 1/2" long nose plier, 4 1/2" bent nose plier, 4 1/2" flat nose plier, 4 1/2" lineman's plier, 6 pc. precision screwdrivers, 1 yd. measuring tape, and 5 1/2" utility knife.

796-1277, Model 12-277 EACH 124.59

P-1 Cordless, Refillable Butane Gas-Power'd Soldering Tool



Designed and engineered for micro-precision soldering applications, the patented Portasol® soldering tool is cordless, refillable, and operates up to 90 continuous minutes on standard butane lighter fuel. The tool is ergonomically designed to minimize operator fatigue, at a weight of 2.5 oz. and length of less than 7", can be used for virtually any anti-static* soldering or desoldering applications. The tool eliminates all risk of leakage current to sensitive circuits and allows anti-static soldering. Product features include a fast, flint sparked ignition in the cap and an adjustable temperature control for providing the equivalent of 10-60 watts of power. This allows the tool to melt solder in less than 40 seconds. Refilling the tool is simple and takes only 20 seconds. The unit comes standard with 2.4 mm (3/32") soldering tip. A complete range of optional soldering tips, 1.0 mm (1/32"), 2.4 mm (3/32"), 3.2 mm (1/8"), 4.8 mm (3/16"), and heat tool accessories make the unit ideal for a variety of applications. Heat tool accessories include a blow torch, hot blower and hot knife.

797-0230. Complete kit. P-1K-B Kit	EACH	66.32
797-0225. Portable Unit and P-1-B Unit with 2.4 mm tip	EACH	34.93
797-0235. Model T-1. 1.0 mm 1/32"	EACH	9.93
797-0240. Model T-2. 2.4 mm 3/32"	EACH	9.93
797-0245. Model T-3. 3.2 mm 1/8"	EACH	9.93
797-0250. Model T-4. 4.8 mm 3/16"	EACH	9.93
797-0255. Model T-7. Hot Knife	EACH	9.93
797-0260. Model T-6. Hot Blower	EACH	9.93
797-0265. Model T-5. Blow Torch	EACH	9.93

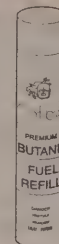


Butane Gas

— NEW —

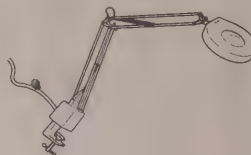
A premium grade butane for use in the Portasol® soldering iron, Portasol professional and all other similar tools that require butane fuel. This is a quality butane that contains no contaminants and will not clog valves or deactivate catalytic conversion materials.

796-1213. Model 12-133. 1-5	EACH	4.66
6-11	EACH	3.67



Long Reach Fluorescent Magnifying Work Lamp

— NEW —



An excellent lamp for PC repair or rework or other assemblies requiring magnification. A 22 watt circular fluorescent bulb supplies even, shadow-free light for a center-mounted magnifying (3-diopter) lens. Lamp arms reach up to 45°. This lamp is UL Listed and well made for many years of use. 5 ft. cord.

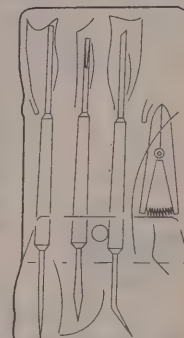
796-9801. Model 22-423. 1-5	EACH	149.79
6-11	EACH	110.00

Solder Aid Kit

— NEW —

Seven tools provide complete solder maintenance capabilities to technicians, hobbyists, and electronics designers. Spring-loaded "extra fingers" clamp onto hot wires, while sharp-angels scraping tool cleans away excess solder with ease and accuracy. Hard to reach wires are quickly tamed with versatile wire clip. Smooth out solder beads with handy brush and detail tiny circuitry with 30° angled soldering prong. Kit contains the right tools for every job.

796-9800. Model 9065. 1-5	EACH	6.63
6-11	EACH	4.81



Rosin Flux Solder Removal Braid



When it comes to removing the Blob, the original Soder-Wick® Brand is still the best. Removing blobs, bridge, icicles or faulty components is quick and easy work for Soder-Wick® Brand Desoldering Braids. Years of innovative research has expanded our line. Fine-Braid™ with pure white rosin flux.

ESD Packaging

Stock No.	Mfr.'s Type	Size Color	Width	Length	EACH		
					1-24	25-99	100-Up
898-8015	80-1-5	White	.030	5'	2.29	2.06	1.91
898-8025	80-2-5	Yellow	.060	5'	2.29	2.06	1.91
898-8035	80-3-5	Green	.080	5'	2.29	2.06	1.91
898-8045	80-4-5	Blue	.110	5'	2.29	2.06	1.91
898-8055	80-5-5	Brown	.145	5'	2.98	2.68	2.49
898-8065	80-6-5	Red	.210	5'	3.13	2.82	2.61
898-8020	80-2-10	Yellow	.060	10'	4.10	3.70	3.44
898-8030	80-3-10	Green	.080	10'	4.10	3.70	3.44
898-8040	80-4-10	Blue	.110	10'	4.69	4.22	3.92

No-Clean Solder Removal Braid

898-6015	60-1-5	White	.030	5'	2.55	2.29	2.13
898-6025	60-2-5	Yellow	.060	5'	2.55	2.29	2.13
898-6035	60-3-5	Green	.080	5'	2.55	2.29	2.13
898-6045	60-4-5	Blue	.110	5'	2.99	2.76	2.57
898-6055	60-5-5	Brown	.145	5'	3.16	2.92	2.71
898-6065	60-6-5	Red	.210	5'	4.30	3.97	3.69
898-6011	60-1-10	White	.030	10'	4.52	4.06	3.77
898-6021	60-2-10	Yellow	.060	10'	4.52	4.06	3.77
898-6031	60-3-10	Green	.080	10'	4.52	4.06	3.77

Rosin Fluxed

898-4000	50-1-5	White	.030	5'	2.50	2.08	1.92
898-4005	50-2-5	Yellow	.060	5'	2.50	2.08	1.92
898-4010	50-3-5	Green	.080	5'	2.60	2.17	2.00
898-5045	50-4-5	Blue	.110	5'	2.90	2.42	2.33
898-4020	50-5-5	Brown	.145	5'	3.20	2.66	2.46
898-4025	50-6-5	Red	.210	5'	3.44	2.87	2.65
898-5029	50-1-10	White	.030	10'	4.19	3.84	3.55
898-5030	50-2-10	Yellow	.060	10'	4.19	3.84	3.55
898-5031	50-3-10	Green	.080	10'	4.31	3.67	3.41
898-5032	50-4-10	Blue	.110	10'	4.80	4.40	4.06
898-5033	50-5-10	Brown	.145	10'	5.40	4.95	4.57

Kester "44" Rosin Core Solder

Fast-acting and instant wetting design allows for faster soldering. The non-corrosive, non-conductive flux is ideal where a strong, long-lasting bond is needed. Available in any size ranging from .005" to .250". Also available for Fed Spec QQ-S-571d. Two standard put-ups: 1 lb. and 5 lb. spools; 20 lb. spools available on special order.



Stock No.	Mfr.'s Type	Alloy	Unit Spool	Dia. (In.)	Gauge	PER LB.
833-5040	24-4060-0061	40/60	1 lb.	.062	16	9.26
833-9994	26-4060-0061	40/60	5 lb.	.062	16	46.30
833-5041	24-4060-0066	40/60	1 lb.	.093	16	8.54
833-5060	24-6040-0018	60/40	1 lb.	.025	25	14.14
833-5070	24-6040-0027	60/40	1 lb.	.031	21	12.58
833-5090	24-6040-0039	60/40	1 lb.	.040	19	12.40
833-5100	24-6040-0053	60/40	1 lb.	.050	18	11.86
833-5105	26-6040-0053	60/40	5 lb.	.050	18	59.60
833-5110	24-6040-0061	60/40	1 lb.	.062	16	11.34
833-5120	26-6040-0061	60/40	5 lb.	.062	16	56.70
833-5125	24-6040-0066	60/40	1 lb.	.093	13	10.62
833-5126	24-6337-0010	63/37	1 lb.	.020	25	17.98
833-5130	24-6337-0027	63/37	1 lb.	.031	21	12.86
833-5133	24-6337-0039	63/37	1 lb.	.040	19	13.67
833-5140	24-6337-0061	63/37	1 lb.	.062	16	11.62

285 Mildly Activated Rosin Core Solder

Conforms to Type RMA of Fed Spec QQ-SS-571 and is on the qualified products list. "285" has high mobility and fast spreading action.

Stock No.	Mfr.'s Type	Alloy	Unit Spool	Dia. (In.)	Gauge	PER LB.
833-5127	24-6337-9700	63/37	1 lb.	.020	25	17.98
833-5129	24-6337-9713	63/37	1 lb.	.031	21	12.86



Kester Solid Wire Solder

Equal to Kester "44" in consistency and use. Standard put-ups are 1 lb. and 5 lb. spools; 20 lb. spools and 50 lb. reels also available

Stock No.	Mfr.'s Type	Alloy	Unit Spool	Dia. (In.)	Gauge	PER LB.
833-5150	14-4060-0125	40/60	1 lb.	.125	11	8.54
833-5160	14-5050-0125	50/50	1 lb.	.125	11	9.58
833-5190	14-6040-0125	60/40	1 lb.	.125	11	10.62

Lead Free Wire Solder

Stock No.	Mfr.'s Type	Alloy	Unit Spool	Dia. (In.)	Gauge	PER LB.
833-5191	14-7016-0125	98/2AG	1 lb.	.125	11	18.18
833-5192	14-7080-1001	95/5SB	1 lb.	.093	13	14.38
833-5194	14-0000-8053	Aquabond	1 lb.	.093	13	14.98

331 Water Soluble Core Solder

More effective than rosin fluxes in soldering difficult metals. Residue can be completely removed with simple water rinse.

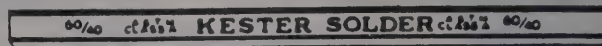
Stock No.	Mfr.'s Type	Alloy	Unit Spool	Dia. (In.)	Gauge	PER LB.
833-1455	24-6337-6401	63/37	1 lb.	.020	25	17.98
833-1456	24-6337-6403	63/37	1 lb.	.031	21	12.86

Kester Acid Wire Solder

The Original Acid-Core Solder. Kester Acid-Core Solder meets all the requirements of "general soldering work". Provides the maximum efficiency — the least labor and material costs. Do not use on electrical work.

Stock No.	Mfr.'s Type	Alloy	Unit Spool	Dia. (In.)	Gauge	PER LB.
833-5195	24-4060-2437	40/60	1 lb.	.125	11	9.00

Kester Bar Solder



Available in all the tin-lead alloys. Uniform distribution of tin lead alloys provides for more efficient and easy application.

Stock No.	Mfr.'s Type	Composition	Bar Weight	PER LB.
833-4995	04-3070-000	30% tin, 70% lead	1 lb.	4.92
833-4997	04-4060-000	40% tin, 60% lead	1 lb.	5.84
833-4998	04-5050-000	50% tin, 50% lead	1 lb.	6.76
833-5000	04-6040-000	60% tin, 40% lead	1 lb.	7.60
833-5010	04-6337-000	63% tin, 37% lead	1 lb.	7.92

Electronic Silver Solder

Stock No.	Mfr.'s Type	Composition	Dia.	AWG	Weight	EACH
833-1120	83-7145-0415	2% silver, 62% tin, 36% lead	.020"	24	1 oz.	3.16
833-1125	24-7150-0018	2% silver, 62% tin, 36% lead	.025"	22	1 lb.	19.80
833-1130	24-0062-0053	2% silver, 62% tin, 36% lead	.050"	18	1 lb.	16.24

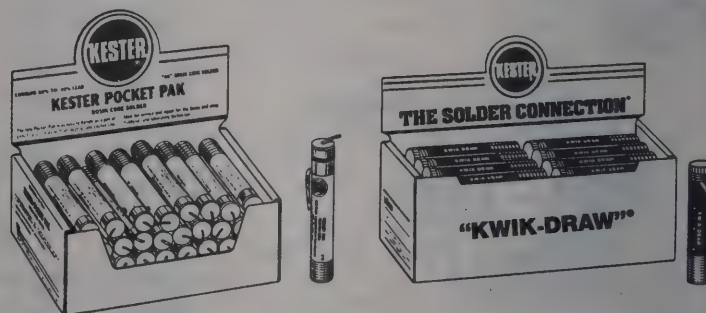
Flux Pens



Kester Flux Pen is a unique tool for rework and touch-up soldering. It allows controlled application of flux, eliminating the mess from flux bottles. The chisel point allows for work in very confined spaces. The flux pen is ideally suited for tab assembly no-clean and surface mount rework application because it can deliver flux to a specific area.

Stock No.	Mfr.'s Type	Description	Volume (Oz.)	EACH
833-5196	83-1000-0186	Formula #186 RMA Flux	.33	4.14
833-5197	83-1000-0951	Formula #951 No Clean	.33	4.14
833-5198	83-1002-0450	Formula #450 Organic Acid Water Soluble Flux	.33	4.14

Pocket Pak and Kwik Draw



Handy, clear, plastic pocket size solder dispenser.

Stock No.	Mfr.'s Type	Description	Alloy	Dia. (In.)	Volume (oz.)	EACH
833-5030	83-4000-0000	Pocket Pak	60/40	.031	.5	1.12
833-5020	83-3000-0000	Kwik Draw	60/40	.050	1.3	1.88

245 No Clean Flux Core Solder

Leaves a low amount of residue which is both visually negligible and electrically safe. Does not require cleaning, is environmentally safe, and needs no CFC solvents.

Stock No.	Mfr.'s Type	Alloy	Unit Spool	Dia. (In.)	Gauge	PER LB.
833-1445	24-6337-8807	63/37	1 lb.	.020	25	17.98
833-1450	24-6337-8800	63/37	1 lb.	.031	21	12.86
833-1105	24-6337-8813	63/37	1 lb.	.040	19	13.50
833-1100	24-6040-8813	60/40	1 lb.	.040	19	13.50
833-1110	24-6040-8800	60/40	1 lb.	.031	21	13.50
833-1115	24-6040-8807	60/40	1 lb.	.020	25	18.60

Ultratorch® Heat Tools

- ▶ Most Complete Line of Heat Tools to Choose From
- ▶ Top Quality Tools for Professionals
- ▶ Featuring "New" Self-Igniting Models
- ▶ Easy to Handle
- ▶ Instant Heat
- ▶ No Electrical Interference
- ▶ Complete Range of Soldering and Heat Tip Sizes Available

Introducing the most complete line of multifunctional portable soldering irons, butane torches and flameless heat tools. They are completely cordless, running on butane refill fuel, which means no AC current or battery is required. There is no electrical leakage or radio interference.

These unique heat tools perform a variety of tasks . . . from soldering to shrinking and terminating insulated solder preforms and environmental splices. They are lightweight and easy to handle, so you can carry them with you to any job.

Newly introduced to the line are the self-igniting models.

Specifications

	Mini UT-50	UT-100	UT-100Si	UT-200	UT-200Si
Overall Length					
With soldering tip	165 mm (6.5")	242 mm (9.5")	260 mm (10.3")	286 mm (11.3")	300 mm (11.9")
With heat tip	154 mm (6.0")	227 mm (9.0")	247 mm (9.8")	268 mm (10.5")	282 mm (11.2")
As torch	132 mm (5.2")	199 mm (7.9")	—	235 mm (9.3")	—
Weight (when gas filled)	2.2 oz.	3.7 oz.	5.5 oz.	8.8 oz.	9.0 oz.
Approximate Temperature					
Soldering tip	200-450°C (392-842°F)	200-500°C (392-932°F)	250-500°C (482-932°F)	300-530°C (572-986°F)	250-530°C (482-986°F)
Heat tip	430°C (806°F)	700°C (1292°F)	650°C (1202°F)	700°C (1292°F)	540°C (1004°F)
Torch	1260°C (2372°F)	1260°C (2372°F)	No torch mode	1260°C (2372°F)	No torch mode
Gas Capacity Container	6.3 ml (2.7 gm)	28 ml (15.8 gm)	28 ml (15.8 gm)	63 ml (33.8 gm)	63 ml (33.8 gm)
Approximate Operating Time (one gas filling)	20 min. at #3 setting	2 hrs. at #3 setting	3 hrs. at #3 setting	2.6 hrs. at #3 setting	4.5 hrs. at #3 setting

UT-100 and UT-100Si

UT-100 — Compact, Yet High-Performance Heat Tool

The Standard Ultratorch comes complete with one ejector for soldering and heat tip applications; and one ejector for torch applications. Also included is a heat shrink attachment, a tool holder, a solder sponge, a spanner wrench, soldering tip, heat tip and a metal carrying case. Optional accessories available.

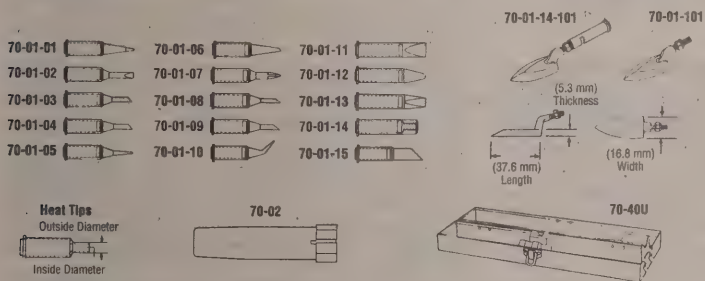
861-1500. UT-100.EACH 108.90

UT-100Si — Self Igniting Model

UT-100Si comes complete with one ejector for soldering, a soldering and heat tip, a spanner wrench, open end wrench, shrink attachment and protective cap. All existing UT-100 soldering and heat tips will also fit your new self-igniting UT-100Si Ultratorch. **Note: The self-igniting Ultratorch operates only as a soldering iron and heat tool. NO TORCH MODE.**

861-1311. UT-100Si.EACH 89.00

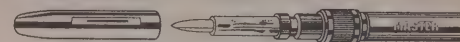
Optional Accessories



All available soldering and heat tips and attachments are interchangeable between UT-100 and UT-100Si.

Stock No.	Mfr.'s Type	Description	EACH
861-0101	70-01-01	1 mm dia. tapered needle soldering tip	12.86
861-0102	70-01-02	3.3 mm dia. chisel soldering tip (standard)	12.86
861-0103	70-01-03	2 mm dia. spade soldering tip	12.86
861-0104	70-01-04	3 mm dia. spade soldering tip	12.86
861-0105	70-01-05	0.5 mm dia. tapered needle soldering tip	12.86
861-0106	70-01-06	2 mm dia. micro spade soldering tip	12.86
861-0107	70-01-07	0.5 mm dia. square tapered pyramid soldering tip	12.86
861-0108	70-01-08	2 mm dia. 35° spade soldering tip	12.86
861-0109	70-01-09	3 mm dia. 35° spade soldering tip	12.86
861-0110	70-01-10	1 mm dia. offset tapered needle soldering tip	12.86
861-0111	70-01-11	8 mm dia. high powered chisel soldering tip	15.33
861-0112	70-01-12	3 mm dia. high powered round head needle soldering tip	15.33
861-0113	70-01-13	5 mm dia. high powered long tapered chisel and soldering tip	15.33
861-0114	70-01-14	8.4 tip adapter (4 mm dia. x .7 pitchman)	15.33
861-1181	70-01-15	7 mm dia. 45° spade soldering tip	15.33
861-1183	70-01-14-101	Flat iron tip	35.03
861-1182	70-01-101	Flat iron tip	19.58
861-1550	70-01-50	2.5/1.59 (O.D./I.D. mm)	15.33
861-1551	70-01-51	4.25/3.3 (O.D./I.D. mm)	12.86
861-1552	70-01-52	(Standard) 5.7/4.9	12.86
861-1553	70-01-53	8.0/7.4	12.86
861-0002	70-02	Protective cap	6.72
861-0040	70-40U	Metal box for tool	17.93
861-5177	51773	Butane fuel — 145 gm (5 1/8 oz.)	3.90

Mini UT-50

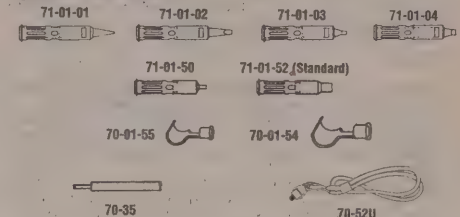


Smartly Styled Pen Sized Heat Tool

The heat tool fits in your shirt pocket for absolute portability. It's as small as a pen, but has the power of an 80 watt soldering iron. Comes standard with a protective cap, soldering tip and heat tip.

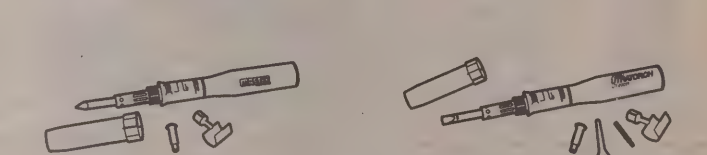
861-1520. UT-50.EACH 96.00

Optional Accessories



Stock No.	Mfr.'s Type	Description	EACH
861-7101	71-01-01	1 mm dia. tapered needle soldering tip	12.86
861-7102	71-01-02	2.4 mm dia. chisel soldering tip (standard)	12.86
861-7103	71-01-03	2 mm dia. spade soldering tip	12.86
861-7104	71-01-04	3 mm dia. spade soldering tip	12.86
861-7150	71-01-50	2.3/1.5 (O.D./I.D. mm)	12.86
861-7152	71-01-52	5.6/4.7 (O.D./I.D. mm) (standard)	12.86
861-1555	70-01-55	Heat shrink attachment	5.19
861-1554	70-01-54	Heat shrink attachment	5.19
861-0035	70-35	Ejector spanner wrench	3.42
861-0052	70-52U	Carrying strap	5.54
861-5177	51773	Butane fuel — 145 gm (5 1/8 oz.)	3.90

UT-200 and UT-200Si



UT-200 — You Can Really Depend On This Power!

They're the "big brothers" of the Ultratorch family, with more power (BTUs) to do the job. The Jumbo UT-200 includes one ejector for soldering and heat tip and one ejector for torch applications. Also included is a soldering tip, heat tip, heat shrink attachment and protective cap.

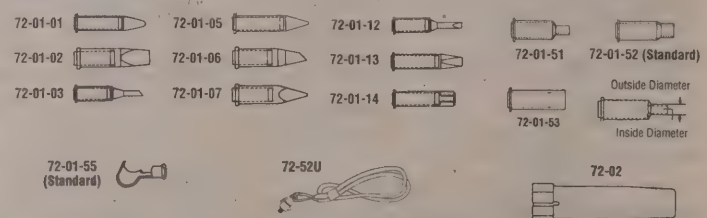
861-1525. UT-200.EACH 109.00

UT-200Si — Self Igniting Model

The Jumbo UT-200Si comes complete with a soldering and heat tip, spanner wrench, open end wrench, heat shrink attachment, ejector for soldering and heat applications, and protective cap. All existing Jumbo tips will also fit your new self-igniting version. **Note: The self-igniting Ultratorch operates only as a soldering iron and heat tool. NO TORCH MODE.**

861-1312. UT-200Si.EACH 129.00

Optional Accessories



Stock No.	Mfr.'s Type	Description	EACH
861-7201	72-01-01	3 mm dia. tapered needle soldering tip	29.49
861-7202	72-01-02	10 mm dia. chisel soldering tip (standard with 200)	29.49
861-7203	72-01-03	4 mm dia. spade soldering tip	29.49
861-1186	72-01-05	1.5 mm dia. tapered needle soldering tip	29.49
861-7206	72-01-06	4 mm dia. micro spade soldering tip	29.49
861-7207	72-01-07	1.5 mm dia. tapered pyramid soldering tip (standard with 200)	29.49
861-7212	72-01-12	4 mm dia. chisel soldering tip	29.49
861-7213	72-01-13	12.5 mm dia. spade soldering tip	29.49
861-7214	72-01-14	Soldering tip adapter	29.49
861-7251	72-01-51	5.6/3.6 (O.D./I.D. mm)	29.49
861-7252	72-01-52	8.7/6.6 (Standard) (O.D./I.D. mm)	29.49
861-7253	72-01-53	11.5/9.7 (O.D./I.D. mm)	29.49
861-7255	72-01-55	Heat shrink attachment	7.55
861-7261	72-52U	Carrying strap	3.42
861-7256	72-02	Protective cap	7.08
861-5177	51773	Butane fuel — 145 gm (5 1/8 oz.)	3.90

Master Heat Gun® and Varitemp®

Both Master Heat Gun and Varitemp heat guns provide the following features:

- Double Protected Element Housing
- Reinforced, Mica-Insulated Ceramic Heating Elements
- Sturdy Die-Cast Aluminum Housing Is Rugged and Light Weight
- Adjustable Air Intake Controls Air Volume And Temperature Range
- Powerful High Speed Universal Motor
- Externally Accessible Brush Holders

Master Heat Guns®

The number one choice of industry. Has a rugged aluminum die-cast construction for heavy duty use. Four models provide temperatures up to 300°F, 500°F, 750°F and 1,000°F. "Wherever fast, portable flameless heat is the need."

Varitemp®

- The Varitemp Provides A Safe Way To Heat Sensitive Materials Such As Thermoset Resins and Potting Compounds, When Exact Temperatures Are Needed
- The Dial-In Temperature Control Can Be "Locked-In" To The Required Temperature For Each Individual Job. This Feature Is Unique In That Once It Is Locked, It Cannot Be Accidentally Changed To An Incorrect Temperature

The Variable temperature version of the Master Heat Gun. One model provides temperatures from ambient to 1000°F. It also has identical air flow characteristics to the Master Heat Gun. We recommend using the Varitemp in the laboratory where specific temperatures are required. It is also recommended for spot drying, defrosting and softening thermoplastic sheet, rod and tubing. All Master Heat Gun® attachments are interchangeable with the Varitemp® heat gun.

Master Heat Gun

Stock No.	Mfr.'s Type	Temp.		Volts	Amps	Watts	EACH
		°F	°C				
861-1602	HG-201A	200-300	93-149	120	5.0	600	97.00
861-1603	HG-301A	300-500	149-260	120	12.0	1440	97.00
861-1604	HG-501A	500-750	260-399	120	14.0	1680	97.00
861-1605	HG-751B	750-1000	399-538	120	14.5	1740	97.00

Varitemp Heat Gun

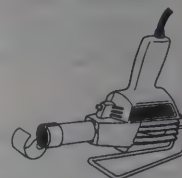
861-1506	VT-750C	Ambient-1000	538	120	14.5	1740 Max.	139.00
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The Master-Mite® Heat Gun

The Master-Mite is a lightweight complete bench-top heating system, equipped to perform jobs without the excess air flow. It comes standard with an adjustable stand, a standard 650°F (343°C) heating element and a heat shrink attachment. The air flow rating is 3.8 CFM 700 FPM.

Weighing only 28 ounces, the Master-Mite can be hand-held for jobs such as vinyl repair or drying film without causing operator fatigue. The adjustable stand allows the operator to work with both hands free. The quiet operation and low power draw (4.5 amps, maximum) of the brushless continuous-duty motor, assures you of a quiet work environment. Size: 8.875" L x 3.375" W x 7" H. Nozzle Opening Dia.: 1". Heating Element: 3.875" long. Net Weight: 1.75 lbs. Shipping Weight: 3 lbs. Cord Length: 7 ft.



Stock No.	Mfr.'s Type	Volts	Hz	Amps	EACH
861-1610	10008	120	60	4.5	69.00
861-2609	10009	220	50/60	2.0	69.00
861-2610	10010	240	50/60	1.9	69.00

Replacement Heating Elements

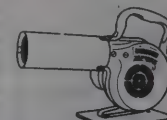
Stock No.	Mfr.'s Type	Color	Temp.		Volts	Watts	EACH
			°F	°C			
861-1615	20012	Blue	500	260	120	340	25.45
861-1613	20013	Silver	650	343	120	475	25.45
861-1620	20014	Black	800	427	120	525	25.45
861-2633	20033	Blue	500	260	220	400	25.45
861-2634	20034	Silver	650	343	220	450	25.45
861-2635	20035	Black	800	427	220	500	25.45
861-2636	20160	Blue	500	260	240	400	25.45
861-2161	20161	Silver	650	343	240	450	25.45
861-2162	20162	Black	800	427	240	500	25.45

Attachments and Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-2230	20230	High temperature pinpoint attachment with element kit (standard with 10011)	37.74
861-3201	30201	Solder preform attachment	27.72
861-1709	40060	Deflector attachment-slide-on deflector encapsulates shrink tubing with even heat distribution (standard)	6.49
861-1710	40061	Pinpoint attachment — 1/4" concentration of heat exactly where you want it	14.15
861-1711	50675	Adjustable stand (standard)	8.85
861-1774	51074	High temperature pinpoint attachment (standard with 10011) For use ONLY with heating element #20217	16.51

The Masterflow® Heat Blower

The Masterflow heat blower is the perfect answer wherever a continuous high volume of dry hot air is needed. It is ideal for installation on machinery and equipment for localized heating applications. The non-slip rubber-backed base permits a full 90° rotation of the blower for use in any position on workbench or assembly line. Three models offer temperatures of 300°, 500° and 750°F (150°, 260°, 400°C). The Masterflow features a quiet, oversize squirrel-cage blower which delivers up to 47 CFM 2,200 FPM through a 1.875" diameter nozzle and a brushless shaded-pole motor for continuous 24-hour operation. The hot/cold/off toggle switch permits blowing cool air which cools down the heating element after use and eliminates residual heat. Overall Dimensions: 12" L x 6" W x 9" H, 6" x 6" base (except AH-301 and AH-302, 9" L x 6" W x 9" H. Nozzle Diameter: 2.625" O.D., 1.875 air opening. Net Weight: 6 lbs. Shipping Weight: 8 lbs. Cord Length: 6 ft.



Stock No.	Mfr.'s Type	Temp.		Volts	Amps	Watts	EACH
		°F	°C				
861-1607	AH-301	300	150	120	10.0	1200 (UL/CSA)	159.00
861-3607	AH-302	300	150	220-240	5.2	1200	159.00
861-1608	AH-501	500	260	120	14.0	1680 (UL)	159.00
861-3608	AH-502	500	260	220-240	7.3	1680	159.00
861-1609	AH-751	750	400	120	18.0	2160 (UL)	159.00
861-3609	AH-752	750	400	220-240	9.4	2160	159.00

Attachments and Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-1712	40309	Heat shrink attachment 1 1/4" O.D.	11.79

Replacement Heating Elements

Stock No.	Mfr.'s Type	Description	Volts	Watts	EACH
861-0815	815	Replacement for AH-301	120	1200	24.53
861-0816	816	Replacement for AH-302	220/240	1200	24.53
861-3310	30310	Replacement for AH-501	120	1680	31.13
861-3311	30311	Replacement for AH-502	220/240	1680	33.73
861-1109	30312	Replacement for AH-751	120	2160	22.85
861-3313	30313	Replacement for AH-752	220/240	2160	22.85

Replacement Heating Element Kits and Optional Accessories

Stock No.†	Mfr.'s Type	Description	Ship Wt. (Oz.)	EACH
861-1630	HAS-042K	Element kit for HG-201A	4	23.46
861-1631	HAS-041K	Element kit for HG-301A	4	23.46
861-1632	HAS-011K	Element kit for HG-501A	4	23.46
861-1633	HAS-043K	Element kit for HG-751B and VT-750C	4	23.46
861-1007	BAS-103K	Brush and Spring Kit (All Models)	1	3.37
861-1660	A-160-HG	Shrink tubing attachment for tubing to 3/4" O.D.	—	13.21
861-1670	A-170-HG	Shrink tubing attachment for tubing from 3/4" to 2" O.D.	—	15.92
861-1706	51309*	Pinpoint heat attachment	—	18.05
861-2670	A-203-HG	Extra-wide (8") shrink tubing attachments for tubing up to 3/4" O.D.	—	42.93
861-5113	51013	Form fitted storage and carrying case	—	55.32
861-5124	51024*	Spreader attachment, spreads heat to 8"	—	42.11
861-3020	30202*	Solder-sleeve attachment	—	29.32
861-5142	51542	Glass protector attachment	—	10.26
861-5143	51543	Spreader attachment spreads heat to 2 1/4"	—	10.26
861-5144	51544	Reducer attachment reduces heat to 1/8"	—	10.26

*Not recommended for use with HG-751B and HG-752A models. †All accessories and replacement parts carried in Allied's inventory. Contact your local Allied sales office for assistance.

Proheat® Heat Gun and Proheat Varitemp® Heat Guns



Proheat® Heat Gun

This heat gun with temperature settings of 570° and 1050°F (299 and 565°C); and airflow of 15 CFM at 3650 FPM meets the requirements of most materials. The variety of attachments available makes the Proheat heat gun adaptable for a wide variety of uses including aircraft and marine applications.

The Proheat features a DC permanent magnet motor that is compatible with all electrical frequencies. The compact, ergonomically-designed "Lexan" housing, enclosed ceramic heating element and wrap-around air intake assure you of a lightweight (1 lb. 10 oz.), easy-to-use source of flameless heat whether you're working with shrinkable packaging materials, spot-drying paint, bending plastics/laminates or activating adhesives.

*Registered Trademark of General Electric.

Proheat Varitemp® Heat Gun

This easy-to-use heat gun offers all the features of the Proheat heat gun, plus variable temperature control that allows the user to dial in any temperature from ambient to 1050°F (565°C). The airflow rating is 15 CFM at 3650 FPM. Its thermostatic control maintains the pre-selected temperature and prevents heat back-up or overheating when airflow is restricted. The Supervisor Temperature Lock-in feature allows pre-setting or temperature and sealing of access opening to assure compliance with pre-set temperature.

The Proheat Varitemp is suited to applications such as activating adhesives and potting compounds, curing and setting adhesives and epoxy resins. It is ideal for use in confined spaces or for applications where its lightweight construction can prevent operator fatigue.

Proheat® Heat Gun

Stock No.	Mfr.'s Type	Description	Temp.		Volts	Amps	Watts	Hz	EACH
			°F	°C					
861-1003	PH-1100	Proheat Heat Gun	570 1050	299 565	120	6	750 1500	50-400	73.00

Proheat Varitemp® Heat Gun

861-1200	PH-1200	Proheat Varitemp Heat Gun	1050	565	120	12 Max.	1500 Max.	50-400	132.00
861-1201	PH-1200-1	Complete heat shrink system. Includes Proheat Varitemp Heat Gun, bench stand, reducer and specialty connector attachment	—	—	—	—	—	—	155.00

Optional Accessories

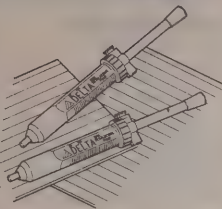
Stock No.†	Mfr.'s Type	Description	EACH
861-3504	35004	Heating element kit for PH-1100	35.57
861-3531	35031	Element kit, 120 V with thermocouple for PH-1200	30.42
861-3517	35017	Shrink attachment	12.86
861-3516	35016	Spreader attachment	18.87
861-3526	35026	Nozzle shield	11.56
861-3527	35027*	Specialty connector with reducer attachment	37.63
861-5216	35216	Bench stand	10.85
861-5079	50379*	Reducer attachment	21.11
861-5198	51598*	Specialty connector	7.86

*For use with PH-1200 only. †Available accessories are designed to be used with both the Proheat Heat Gun and the Proheat Varitemp Heat Gun.

Desoldering Pump

— NEW —

- ▶ Durable Corrosion Resistant Plastic Construction
- ▶ Precision Metal Plunger
- ▶ Corrosion Treated Springs
- ▶ Regulated Return (1 Millisecond ±30%)
- ▶ Insulated Vacuum Pulse
- ▶ Uniform Reset Pressure (11 in./lbs. ±20%)
- ▶ Cushioned Shock Reduction (Pulse Release to Minimize Board Damage)

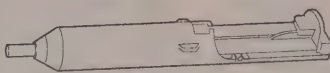


A specially engineered desolder pump made to high specifications and providing precise repeatable operation. Fitted with a Teflon Tip.

827-0100. DP-100. High Vacuum Desoldering Pump.....	EACH 20.70
827-0200. DP-200. High Vacuum Desoldering Pump, ESD Safe.....	EACH 28.69
827-0101. DPT-100. 1 Tip for DP-100/140.....	EACH 3.45
827-0201. DPT-200. 1 Tip for DP-200.....	EACH 4.75

Desoldering Pump

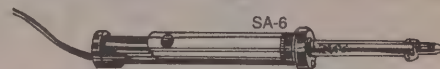
— NEW —



- ▶ Precision Regulated Return
- ▶ Replaceable Tip
- ▶ Compact, Anti-Corrosive Plastic Housing
- ▶ Precision Metal Plunger
- ▶ Sealed Vacuum Chamber
- ▶ Easy Cleaning

827-0140. DP-140. Standard Desoldering Pump.....	EACH 19.25
827-0101. DPT-100. 1 Tip for DP-100/140.....	EACH 3.45

Electric Desoldering Pump



REPLACEMENT TIP	NOZZLE HOLE DIAMETER
SAT-6-059	.059" (1.5mm)
SAT-6-070	.070" (1.77mm)

- ▶ Portable Hand Held Desoldering Iron
- ▶ Self Contained Suction Power and Heating Element
- ▶ Lightweight 4 oz. (113 gms)
- ▶ Compact Size 10 1/4" (26 cm)
- ▶ Simple One Hand Desoldering
- ▶ No Factory Air Required

827-6115. Model SA-6-115.....	EACH 50.60
827-6059. Model SAT-6-059. Tip only.....	EACH 7.59
827-6070. Model SAT-6-070. Tip only.....	EACH 7.59

SA-500 Series Soldering Stations

- ▶ High Power Soldering with No Trade-Offs
- ▶ 600°F to 800°F Operating Range for Multi-Application Use
- ▶ Precise RTD Temperature Control for Excellent Stability and Repeatability
- ▶ Powerful 70W Heating Element for Quick Recovery on Heavy Joints
- ▶ Six Extra-Fine, Fine and Heavy Duty Tips Listed Below, More Available as Special Order
- ▶ Directly Grounded Tip to Meet MIL-STD-2000 Resistance and Voltage Requirements
- ▶ Light-Weight, ESD-Safe Handle for Maximum Operator Comfort, Component Safety
- ▶ Low Profile, Small Foot-Print Housing Uses Minimum Bench Space
- ▶ Low Cost, High Reliability with 12 Month Station Warranty



Hand soldering in the 1990s will require a highly flexible station; one with high power for boards with exceptional thermal demands, a wide range of tips for standard and micro components and consistent performance for cost-effective and reliable results. OK Industries SA-570 Series is a part of a new generation of soldering products with no trade-offs; designed for quick recovery, durability and low cost.

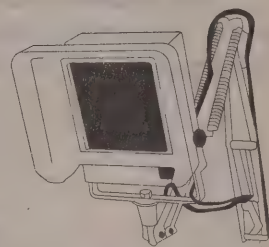
Stock No.	Mfr.'s Type	Description	EACH
827-0007	SA-571	115 V, 50/60 Hz Model	126.50
827-0008	SA-572	Variable Temp., 70 W Macro Handle, 230 VAC	152.00
827-5711	SA-571X	Variable Temp., 70 W Station with Fume Extraction Adapter, 115 VAC	161.00
827-5712	SA-572X	Variable Temp., 70 W Station with Fume Extraction Adapter, 230 VAC	170.00
827-0017	SA-561E	115 V, 50/60 Hz Model ESD Safe	159.85
827-5620	SA-562E	ESD Safe Variable Temp., 70 W Micro Handle Soldering Station, 230 VAC	170.00

Stock No.	Mfr.'s Type*	Description	Tip Dia.	EACH
827-0001	S9-108S	Chisel 45	2.0 mm	6.33
827-0002	S9-116S	Chisel 45	4.0 mm	6.33
827-0003	S9-203S	Conical	0.8 mm	7.99
827-0004	S9-208S	Conical	2.0 mm	6.33
827-0005	S9-305S	Double Flat	1.2 mm	6.33
827-0006	S9-112L	Chisel 45	3.0 mm	6.33

*Other sizes and styles available upon request.

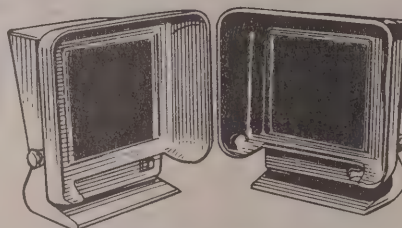
SA-91 Series Articulated Arm-Mounted Fume Absorber

- ▶ Bench-Mounted Fume Absorber Preserves Valuable Bench Space
- ▶ Articulating Arm Allows Optimized Positioning
- ▶ Bench Mounting Clamp and Two Filters Come Complete with Unit
- ▶ ESD-Safe Version Available with Static-Dissipative Housing



827-0009. Model SA-91.....	EACH 230.00
827-0010. Model SA-91-E.....	EACH 241.50

Benchtop Fume Absorbers



- ▶ Aerodynamic Hood Design Effectively Draws Irritating Soldering Fumes Away from the Work Area
- ▶ Carbon-Impregnated Filters Trap 80% of the Airborne Pollutants Most Commonly Associated with Headaches, Nausea, Eye Disease and Occupational Asthma

- ▶ Compact Size, Low Profile and Adjustable Stand Allow Convenient Placement Where the Most Protection from Noxious Fumes is Needed
- ▶ ESD-Safe Version Available with Static-Dissipative Housing Protects Delicate Components As Well As Operators

827-9115. Model SA-9-115.....	EACH 115.00
827-9116. Model SA-9E-115 (ESD).....	EACH 140.00

IC Insertion/Extraction Kits, Tools and Accessories



Insertion/Extraction Kit

WK-7, a kit of DIP IC extractors and inserters to accommodate all ICs from 8 to 40 pins. All tools that engage conductive surfaces are CMOS safe and include grounding lugs where appropriate. The kit consists of extractors EX-1 to 14-16 pin devices, and EX-2 for 14-16 pin devices, and EX-2 for 14-16 pin devices, and EX-2 for 14-16 pin devices.

827-4007. Model WK-7 Kit.....	EACH 75.00
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Insertion/Extraction Tools

For highly sensitive MOS and CMOS ICs. Ground strap may be easily attached. Durable chrome ABS construction features precision parts for long life and easy on-hand operation. For use with DIP sockets.

827-1417. MOS-1416.....	EACH 18.95
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For easy insertion of 24-28 pin ICs, same features as MOS-1416. For use with DIP sockets.

827-1420. MOS-2428.....	EACH 19.50
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This insertion tool also aligns bent-out pins. A twist of the handle compresses the pins to proper .600 inch spacing and locks the IC into the tool. Then simply place the tool on the socket and depress the plunger for instant and accurate insertion. Features heavy chrome plating throughout for reliable static dissipation. Includes terminal lug for attachment to ground strap. For use with DIP sockets.

827-1418. MOS-40.....	EACH 20.70
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MOS-1416 MOS-2428 MOS-40

Extractor Tools

Universal PLCC Extractor Tools

- ▶ Extracts PLCCs from 20 Pins through 84 Pins from Any Socket without Damage to Chip
- ▶ Spring Loaded One-Hand Design Requires No Pulling, Just Squeeze Handles and Chip is Lifted from the Socket
- ▶ ESD Safe Handles for Use on all Static Safe Components (EX-5)
- ▶ Machined Stainless Steel for Long Life (EX-5)
- ▶ EX-6 -ABS Handles and Stamped Steel



827-4011. Model EX-5. ESD safe.....	EACH 23.00
827-4012. Model EX-6. Low cost.....	EACH 7.99

DIP Extraction Tool with Pin Straightener

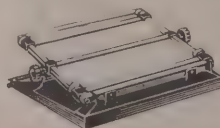
Narrow profile permits tool to work on densely spaced patterns while unique extraction mechanism, assures accuracy as well as excellent "feel". Additionally, the tool includes a unique pin straightener built into handle. Patented.

827-4015. Model EX-2.....	EACH 23.75
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Circuit Troubleshooting Kit

- ▶ Spring Loaded Guides to Accommodate Different Board Sizes
- ▶ Angled Board Position for Ease of Use
- ▶ Adjustable Foam-Lines Retaining Cover
- ▶ Removable Center Bar
- ▶ Replaceable Foam and Conductive Foam Available

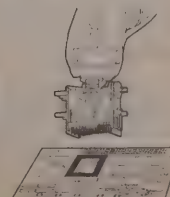


These four printed circuit board holders are constructed of rugged steel components for durability as well as stability in use. The frame rotates a full 360° and steel backed foam cover opens (from either end) to expose component side of PC board for stuffing components, testing, or assembly work. Close and lock cover to hold components in place then flip over frame on pivot to allow for final work on PCB.

Stock No.	Mfr.'s Type	Maximum Board Size Without Center Bar	Outside Dimensions	EACH
827-7500	PCBH-60	10.6" x 8.6" (270 mm x 220 mm)	15 1/2" x 11" (341 mm x 242 mm)	172.50
827-7505	PCBH-70	19.6" x 8.6" (500 mm x 220 mm)	25" x 11 3/4" (550 mm x 258.5 mm)	212.75
827-7515	PCBH-90	19.6" x 13.8" (500 mm x 350 mm)	25" x 17" (550 mm x 374 mm)	293.25

PGA-X Insertion Extraction Tool

Pin Grid Array inserter and extractor easily adjusts to fit all sizes of PGA's from 12 x 12 to 26 x 26 pins. One hand operation lifts PGA's evenly without damage to devices, board or socket. Includes molded carrying case.



827-4013. Model PGA-X.....	EACH 224.25
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Adjustable Precision Wire Strippers

— NEW —

Feature adjustment dial for six settings. Calibrated wire stop adjustable for desired insulation strip length. Operator squeezes tool and pulls in one motion, allowing 4 hardened steel blades to cleanly cut wire insulation. Pocket-size and lightweight, less than 1 oz. Calibrated strip length is 2". ABS housing.



Stock No.	Mfr.'s Type	Strips	EACH
825-0500	ST-500	20-30 AWG wire	50.60
825-0550	ST-550	18-28 AWG wire	50.60

Battery Powered Wire Wrapping Tools

— NEW —

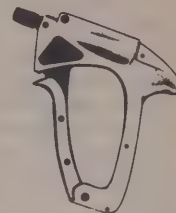
The BW-928 battery-powered unit accepts standard bits and sleeves for 24-30 AWG wire. Feature positive indexing, LEXAN® housing, 8-ounce weight. Reversible for unwrapping by turning batteries over. Available with or without backforce to prevent overwrapping. Wrapping speed 3000 RPM. Uses 2 standard "C" rechargeable NiCad batteries, ordered separately. BW-520 industrial duty battery powered tool accommodates 22-30 AWG wire. Wrapping speed 3000 RPM. Rechargeable NiCad batteries included.



Stock No.	Mfr.'s Type	Housing	EACH
825-1011	BW-928-BF	Industrial Reversible	186.00
825-7020	BW-520-BF	Battery Wrap — Back Force	259.62
825-7030	BW-520-BF-U	Battery Unwrap Tool — Back Force	319.70

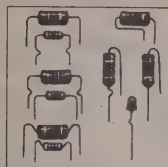
Chuck Type Manual Wire-Wrapping Tool

The SPEED-WRAP tool is designed to produce wire-wrapped connections by merely squeezing the trigger. This model makes full use of bits and sleeves made for use in electric or air driven wire-wrapping tools, both regular and modified. It will accommodate wire from AWG 22 through AWG 32. For production line and field service use in the electronic, telecommunications and appliance industries.



Stock No.	Mfr.'s Type	Housing	EACH
825-2001	G100/R3278	Aluminum	121.99
825-2002	G200/R3278	Lexan®	87.00

Lead Bender Crimper

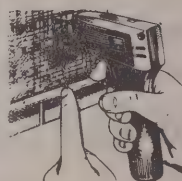


LB-100. Unique lead bender and crimper handles all common axial components and can be used on many radial and "TO" packages as well. The lead bending section enables simple right-angle layover of leads on any centers from 0.375 to 1.500" (9.5-38.1 mm) while an additional feature enables "vertical" bends. For applications requiring "stand-off" or "snap-in" lead forms, just use the built-in crimper. This device is easily adjusted for both lead diameter and crimp size and requires no additional tooling or die changes. Simply set the adjusting screw, insert the lead, and crimp. May be hand-held or mounted in a vise.

827-1100. Model LB-100 EACH 28.75

Portable Wire Wrapping Tool (Model BW-2630)

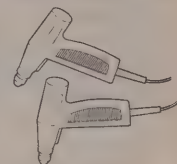
Quick on the draw, on performance and durability. The pistol grip design Model BW-2630 is a revolutionary, rugged ABS construction wire-wrapping tool that operates on 2 standard "C" Nicad batteries (not included) and accepts either of two specially designed bits. Bit Model BT-30 is for wrapping 30 AWG wire onto .025" square pins; BT-2628 wraps 26-28 AWG wire. Also includes both positive indexing and anti-overwrapping mechanisms — features usually found on models of this type costing much more.



827-2631. Model BW-2630. Wrapping Tool EACH 71.30
827-3630. Model BT-30. Bit EACH 19.50
827-3628. Model BT-2628. Bit EACH 19.50

Electric Wire Wrapping Tools

The OK-20 and OK-21 Series Wire Wrapping tools offer high speed, light weight and improved ergonomics. The tools are ideal for both prototyping and production wire wrapping applications. OK-20 Series incorporates a longer 2-finger trigger to reduce repetitive motion injuries. **Input Voltage: 115 V AC/DC.**



Stock No.	Mfr.'s Type	Trigger	Backforce	Unwrap	EACH
825-7085	OK-20-BF	2 Finger	Yes	—	201.25
825-7050	OK-21	Single	—	—	189.75
825-7010	OK-21-BF	Single	Yes	—	201.25
825-7002	OK-21-U	Single	—	Yes	212.75
825-7004	OK-21-BF-U	Single	Yes	Yes	207.00

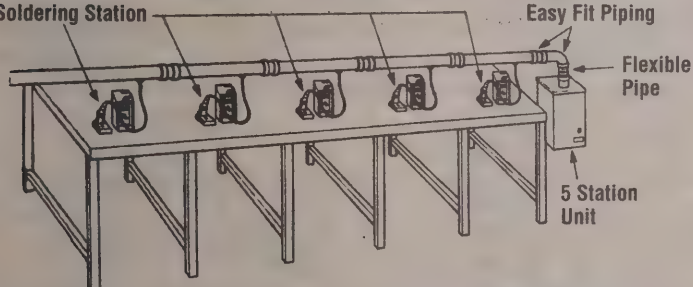
Pur-Air Fume Extraction And Purification Systems

Soldering Station

Easy Fit Piping

Flexible Pipe

5 Station Unit



Typical Pur-Air 5 Station Application Using EP-051 KS Kit

- ▶ Three Stage Filtration To Class 100 Cleanroom Standard
- ▶ Exhaust Can Be Recycled Back Into Workshop
- ▶ Low Noise Level (50 dB)
- ▶ 34 Liters/Min. At Each Tip Extraction

Exposure To Flux Fumes (And Other Gases) Is Known To Cause:

- ▶ Occupational Asthma
- ▶ Irritation To Eyes, Nose And Throat
- ▶ Excessive Employee Sick Time

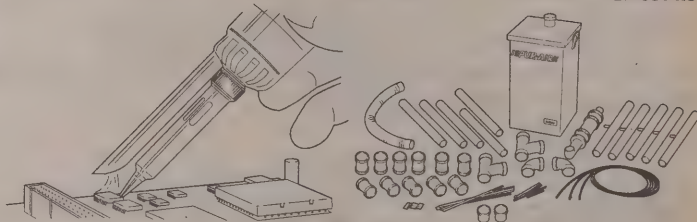
With today's concern about occupational asthma and personal exposure to flux fumes, OK Industries has launched a range of extraction and purification systems which comply with OSHA standards. OK Industries Pur-Air Systems incorporate a HEPA (High Efficiency Particle Air) filter which removes 99.997% of all airborne particles down to .3 micron, chemical/gas filter which eliminates the hazardous gases and noxious odors from the solder fumes, and a prefilter for removing large particles. These kits are complete turnkey systems that provide fool proof custom set-up for most applications. 115 V, 60 Hz.

Stock No.	Mfr.'s Type	Description	No. of Points			Air Flow Liter/Min.	PER KIT	
			Tip	Micro	Macro		1	2-Up
82708510	EP-051KS	Fume Extraction Kit/5 tips	5	—	—	34 Ltr. per tip	1786.60	1667.50
82708512	EP-051KS2	Fume Extraction Kit/2 micro arms	—	2	—	200 Ltr. per arm	1908.95	1800.00
82708511	EP-051KS1	Fume Extraction Kit/1 macro arm	—	—	1	600 Ltr. per arm	1848.95	1782.50

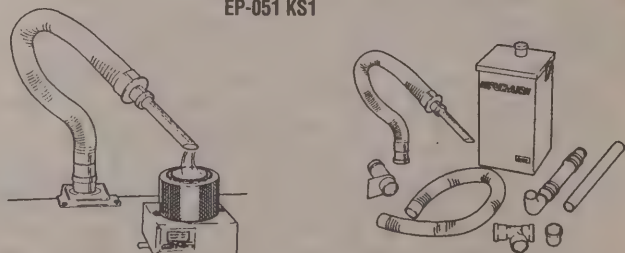
Iron Adapter Kits

Stock No.	Mfr.'s Type	Description	EACH
827-8513	S4-EK	Micro iron clip adapter for SAI-640	56.35
827-8514	S9-EK	Macro iron clip adapter for SAI-690	56.35
827-8515	DS03-951	Weller micro iron adapter for extraction	31.87
827-8516	DS03-902	STD Weller soldering iron kit single screw fixing, fits many types of other irons with screw fixing	31.87
827-8517	DS03-929	Metcal iron adapter kit	38.24
827-8518	DS03-927	Hakko iron adapter kit	31.87
827-8519	DS03-910-5	Iron cleaning brush (Qty 5)	28.69

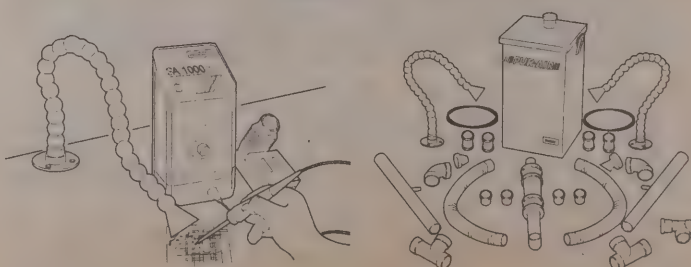
EP-051 KS



EP-051 KS1



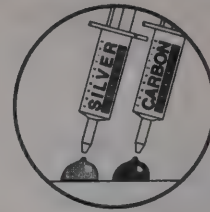
EP-051 KS2



7100/7200 Circuit Works Conductive Grease

Circuit Works Conductive Greases provide electrical and thermal conductivity, proven lubrication properties, and protection from moisture, oxidation and other environmental hazards. 7100 Circuit Works Silver Conductive Grease. Contains pure silver for maximum electrical and thermal conductivity while maintaining superior lubrication properties. 7200 Circuit Works Carbon Conductive Grease. Relies on cost-effective carbon for good conductivity and lubrication properties. Both greases are inert, thermally stable over a wide temperature range, and exhibit excellent lubricating properties when used at low to moderate loads and speeds. Circuit Works greases use advanced silicone lubrication technology to protect components against moisture, corrosion, radiation and oxidation while remaining compatible with metal, rubber and plastic.

— NEW —



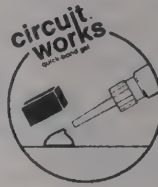
974-0011. 7100 Silver Grease.....	EACH 11.95
974-0012. 7200 Carbon Grease.....	EACH 11.95

4300 Circuit Works Quick-Bond Kit

Circuit Works Quick-Bond Gel and Accelerator. Provide strong instant bonding of metals, rubbers, and plastics in design, prototype and repair applications.

Not for use on polyethylene or polypropylene.

- ▶ Provides Strong, Instant Bonding to Rubbers, Metals and Plastics
- ▶ Gel Formula Is Easy to Apply and Stays in Place; Ideal for Filling Gaps, Wide Tolerances or Bonding Dissimilar Materials
- ▶ Triple Distilled Cyanoacrylate for Long Shelf-Life and Improved Adhesive Performance
- ▶ Quick-Bond Accelerator Insures Reliable Instant Bonding
- ▶ Accelerator Is Safe for Metals, Plastics and Rubbers; Contains No Ozone Depleting Materials
- ▶ Adhesive Features Excellent Resistance to Impact, Weathering and Thermal Cycling

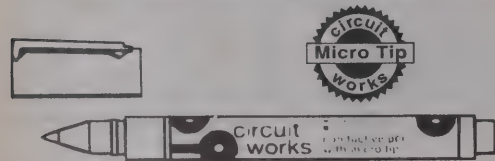


Circuit Works Quick-Bond Gel is a nonmigrating cyanoacrylate gel that provides superior bond strength on a variety of materials and features excellent resistance to thermal cycling, impact and weathering. The gel is easy to apply and will not flow to unwanted areas after application. Quick-Bond Accelerator can be painted on or applied directly over Quick-Bond Gel for instant bonding. Recommended for design, prototype and repair applications, Circuit Works Quick-Bond Gel features excellent adhesion to plastics, rubbers and metals and is ideal for filling gaps, wide tolerances, or bonding dissimilar materials. Use Quick-Bond Gel to fixture surface mount components, tack jumper wires, mount components, provide strain relief and for shallow potting applications.

Quick-Bond Gel bonds in 30-60 seconds without accelerator. Brush on or apply accelerator directly over adhesive. Instant bonding will occur. Adhesive is cured in 5-10 seconds after contacting accelerator. Allow 243 hours for maximum properties. Service temperature is -65°F to 200°F (-54°C to 93°C) with a softening point of 329°F (165°C). Aluminum-to-aluminum tensile strength is 3770 psi.

974-0006. 4300. Quick Bond Kit.....	EACH 6.95
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Micro Tip 2200 Circuit Works Conductive Pen



Use to: Repair, Prototype, Shield, Connect, Jumper and more....

- | | |
|-------------------------------|-----------------------------|
| New Micro Tip Version | ▶ Improved Silver Conductor |
| ▶ Fine Line Conductive Traces | ▶ Precise Trace Application |



- | | |
|--|--|
| ▶ Makes Instant Conductive Silver Traces | ▶ Lower the Cost of PCB Fabrication and Repair |
| ▶ Dries in Minutes at Room Temperature | ▶ Speed Prototype and Design of PCBs |
| ▶ Valved Pen Tip for Easy Application | ▶ Cut Rework Time and Materials |
| ▶ Can Be Soldered at Low Temperatures | |
| ▶ Use Where Conductive Traces Are Needed | |

Draw precise conductive silver traces, jumpers and shielding as easily as writing with a 2200 Circuit Works Conductive Pen. The new Micro Tip version applies fine line conductive silver traces with added precision. Circuit board traces can be repaired easily and quickly. Try this improved version of the 2200 Circuit Works Conductive Pen on your next repair, prototype or rework project.

Use the 3300 Circuit Works Overcoat Pen to repair solder mask for complete circuit board repair.

974-0005. 2200-MT.....	EACH 12.95
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3300 Circuit Works Overcoat Pen

- ▶ Insulates Against Shorting and Arcing
- ▶ Protects Against Abrasion, Moisture and Chemicals
- ▶ Helps Prevent Static Discharge Problems on Sensitive Circuits
- ▶ Matches the Coloring and Durability of Solder Masks for Nearly Invisible Repairs
- ▶ Dries in Minutes at Room Temperature with Minimal Shrinkage
- ▶ Compatible with the 2200 Circuit Works Conductive Pen

Planned Products brings together valved pen and conformal coating technologies in the Circuit Works Overcoat Pen. The 3300 pen applies a tough conformal overcoat to protect and insulate circuit boards, components and delicate electronics as easily as writing. Used primarily to repair solder mask, the 3300 Circuit Works Overcoat Pen makes it easy to insulate against high-voltage arcing and corona shorts in addition to protecting against moisture, abrasion, chemicals, fungus and other environmental hazards. Use the 3300 Circuit Works Overcoat Pen to speed research and development, design, prototype and repair projects. The 3300 overcoat material improves the reliability of circuit board modifications and repairs by eliminating the possibility of shorting, arcing and environmental damage. Engineers, technicians and hobbyists are using the Circuit Works Overcoat Pen to cut rework and repair costs while speeding their design, prototype and repair projects. The 3300 material air dries in 5-10 minutes at room temperature to a



circuit works
overcoat pen

durable tack-free protective coating. The material can be heat cured at 250-300°F in 10-15 minutes for demanding applications. Maximum temperature is 400°F, which allows the material to act both as a spot solder mask for inline soldering operations and a durable conformal overcoat for modifications and repairs after soldering. At higher temperatures, the material can be soldered through for easy board modification and repair if necessary.

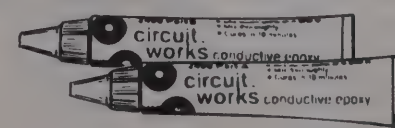
974-0002. 3300. Clear Overcoat Pen.....	EACH 12.95
974-0003. 3300. Green Overcoat Pen.....	EACH 12.95
974-0007. 3300. Dark Green Overcoat Pen.....	EACH 12.95
974-0008. 3300. Red Overcoat Pen.....	EACH 12.95
974-0009. 3300. Blue Overcoat Pen.....	EACH 12.95

2400 Circuit Works Conductive Epoxy

- | | |
|---------------------------------------|--|
| ▶ Solderless Electronic Connections | ▶ Two Part, Easy to Mix, 1 to 1 Ratio System |
| ▶ Quick No or Low Heat Cure | ▶ Convenient Tubed Packaging |
| ▶ Strong Electronic Component Bonding | ▶ Small, Cost Effective Quantities |
| ▶ Maximum Conductivity | |

Use this two part electrically conductive silver epoxy for quick connections and bonding in electronic design, prototype and repair projects. Applications include circuit board repair, surface mount connections, static discharge, shielding and grounding. The material is ideal for solderless connections and bonding of heat sensitive components. The 2400 Circuit Works Conductive Epoxy bonds aggressively to a wide variety of materials including solder, mylar, glass and copper.

The new epoxy shows good conductivity in 8 hours and is fully cured in 24 hours at 75°F (24°C). Rapid curing is still possible in 10-15 minutes with heating to 212°F (100°C). The



circuit works
conductive epoxy

new formulation provides even better conductive room temperature bonding for circuit repair, surface mount connections, static discharge and grounding applications. The new material is ideal for solderless connections and conductive bonding of heat sensitive components.

Use this product with the 2200 Circuit Works Conductive and 3300 Overcoat pens for complete design, prototype and repair.

974-0004. 2400 Conductive Epoxy.....	EACH 14.95
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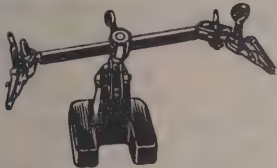
Soldering Iron Holder and Cleaner



Type 64-2078. All-in-one solder station helps keep your workbench free from solder splatters and burn marks. Coil holder protects you and your work while the convenient sponge pad cleans soldering tip.

910-2078. Type 64-2078EACH 6.49

Double-Hand Holder

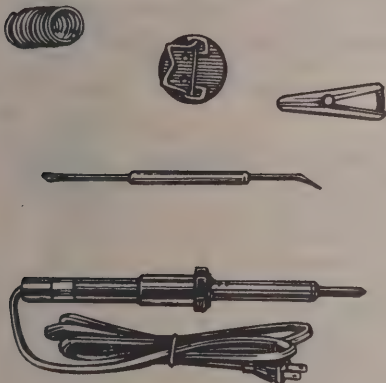


► Extra "Hands" to Hold Work

Type 64-2093. Ball joints permit movement to best working angle. Alligator clips hold small shapes securely. Solid cast-iron base prevents tipping.

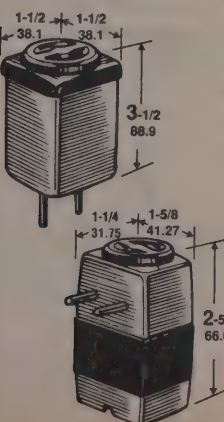
910-2156. Type 64-2093EACH 9.99

Beginners 5-Piece Soldering Set



Type 64-2802. Everything you need for basic soldering. Includes 30-watt U.L. listed pencil soldering iron, soldering iron stand, coil of solder, heat sink and soldering aid and instructions.

910-2157. Type 64-2802EACH 7.99



Foreign Travel Adapters

► Convert 220/240 Volts to 120VAC 50/60 Hz

Converter-Adapter

Type 273-1402. Allows use of 120 VAC irons, broilers, heating pads, etc. from 220/240 volts. Rated at 1000 watts. Built-in thermostat automatically prevents overheating and overloading. $3\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$ ". 3 oz.

910-5255. Type 273-1402EACH 17.99

Step-Down Transformer

Type 273-1401. For completely safe operation of 120 VAC electric razors, radios, calculators, etc. from 220/240 VAC. Also great for battery rechargers. Rated at 40 watts. Thermally protected. $1\frac{1}{8} \times 2\frac{5}{8} \times 1\frac{1}{4}$ ". $9\frac{1}{2}$ oz.

910-5250. Type 273-1401EACH 16.99

Cutting Tools and Strippers



Type 64-1919 Automatic Wire Stripper. Strips wire from #8 to #22 gauge in seconds. Removes insulation cleanly without nicking or breaking wire for smooth, professional quality work. Lightweight, yet extremely durable. 7".

910-1919. Type 64-1919EACH 11.99

Type 64-2129 Wire Stripper/Cutter. Spring-loaded tool strips #12 to #24 wires. Handy tool has easy-grip handle. Shpg. wt. $\frac{1}{2}$ lb.

910-5931. Type 64-2129EACH 2.99

Dial Type 64-1952 Stripper/Cutter. Versatile spring-loaded stripper and cutter adjusts to any gauge wire from #12 to #24. Flush cutting action. Plastic cushioned grips.

910-5803. Type 64-1952EACH 4.49

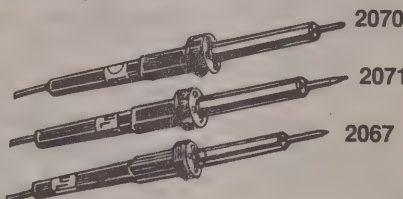
Type 64-1866. Perfect for temporary heat sink and picking up parts. Three-position lock, curved serrated tip. Box joint construction. Stainless steel.

910-2144. Type 64-1866EACH 4.99

Type 64-823. Easy-to-use hand-held sheet metal cutter. Cuts up to 18-gauge steel, $\frac{1}{16}$ " copper, aluminum and plastic.

910-2142. Type 64-823EACH 10.99

Soldering Irons



Type 64-2070B. 25-Watt Pencil Iron. Insulated. $\frac{5}{32}$ " screw in tip. 600-640°F. With stand.

910-6420. Type 64-2070BEACH 6.49

Replacement Tip. Type 64-2073.

910-2148. Type 64-2073EACH 1.19

Type 64-2071 40-Watt Pencil Iron. As above, but with $\frac{1}{4}$ " tip.

910-2149. Type 64-2071EACH 7.49

Replacement Tip. Type 64-2072.

910-2150. Type 64-2072EACH 1.29

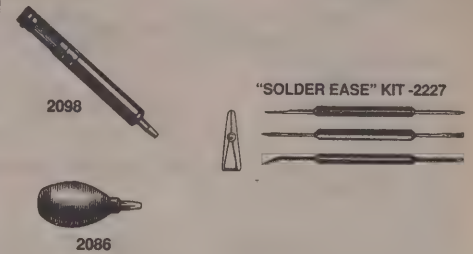
Type 64-2067 30-Watt Pencil Iron. Lightweight 7" long.

910-2151. Type 64-2067EACH 4.99

Replacement Tip. Type 64-2065.

910-2152. Type 64-2065EACH 1.19

Soldering Aids



Type 64-2098 Vacuum Desoldering Tool. Aluminum. Sturdy aluminum housing with nonstick tip and side-mounted trigger button. Disassembles easily for cleaning. $7\frac{3}{4}$ " long.

910-2154. Type 64-2098EACH 6.99

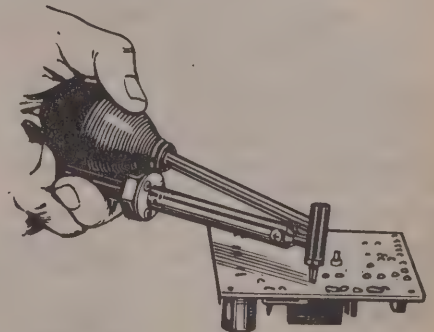
Type 64-2227 "Solder Ease" Kit. Special kit containing four tools for improved soldering. Aluminum heat sink protects transistors and diodes when soldering, gives a firm grip. Fine-point probe aids soldering on printed circuits. Stainless steel hardened probe, steel brush and scraper helps keep circuit clean as you solder. Also with heat sink. **Shipping Weight:** $\frac{1}{2}$ lb.

910-5937. Type 64-2227EACH 4.19

Type 64-2086 Vacu-Bulb. Takes up solder safely, easily with vacuum action. No spattering. Teflon tip.

910-2155. Type 64-2086EACH 2.79

"One-Hand" Electric Desoldering Iron



Type 64-2060. Makes repairs quickly and cleanly. The easy way to remove or replace old electronic parts from circuit boards. With handle, bulb, desoldering unit and tip, 5-foot cord. Rated 45 watts. U.L. listed.

910-2145. Type 64-2060EACH 8.49

Replacement Tip. Type 64-2061.

910-2146. Type 64-2061EACH .99

10,000 Volt Dielectric Vinyl Electrical Tape



Type 64-2350. Protect your electrical connections. Hundreds of industrial, household, shop and auto uses. **Size:** $\frac{3}{4}$ " $\times$ 66'.

910-5950. Type 64-2350EACH 1.99

Handy 5-pack of PVC electrical tape. Type 64-5960. 5 popular colors for practically any job. Each roll $\frac{3}{4}$ " $\times$ 12'.

910-5960. Type 64-2340PER PK./5 2.49

Handles

Model 7500 Grounded 3-Wire Handle.

The handle, when assembled with the S or HP Series heaters, is completely grounded from tip to plug and eliminates electrostatic tip potential. A unique, spring-loaded ground plate reflects heat away from the operator's hand. For use only with S or HP heaters.

972-8750. Model 7500.....EACH 33.76

Model 7760 Cool Grip Handle. Convection-cooled, molded grip for "clean room" use. Octagonal handle prevents rolling. Stainless steel heat reflector. Accepts all Standard Line heaters and integral heaters/tips, including the S and HP series. Red.

972-8776. Model 7760.....EACH 16.28

Type 100 Tip Adapter may be used with heater 537-S, 1237-S and 4037-S. See below.

Model 8800 Soldering Iron Holder. Holds most irons with 5/16" to 7/16" dia. heater cases. Tip sponge, tray. Non-skid. Not for Princess or ceramic type heaters.

972-8800. Model 8800.....EACH 35.66

Pyramid Tips. Type 1236-S. Long life iron, silver plated; 3.50" L, .365" D, .015" point. Type 4036-S. Tellurium copper, iron clad, silver plated; 3.60" L, .365" D, .031" point.

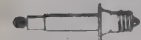
972-8132. Type 1236-S. 900°F, 33 W.....EACH 26.14

972-8133. Type 4036-S. 1100°F, 45 W.....EACH 32.28

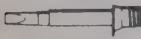
Interchangeable Heaters



535S



537S, 1237S, 4037S



1233S



4039S

1/8" Heaters for Thread-in Tips. Type 535S. 3.25" L, .365" D. Type 1235S. 3.50" L, .365" D. Type 4035S. 3.50" L, .365" D.

972-0535. Type 535S. 700°F, 23 W.....EACH 22.42

972-1235. Type 1235S. 800°F, 33 W.....EACH 22.42

972-4035. Type 4035S. 900°F, 45 W.....EACH 25.24

1/4" Heater for Thread-on Tips. Type 537S. 3.15" L, .365" D. Type 1237S. 3.40" L, .365" D. Type 4037S. 3.50" L, .365" D.

972-5929. Type 537S. 700°F, 23 W.....EACH 19.98

972-5930. Type 1237S. 700°F, 33 W.....EACH 21.78

972-5933. Type 4037S. 700°F, 45 W.....EACH 25.42

Large Taper Chisel. Tellurium copper tip. Type 1233S. 3.65" L, .365" D, .200" point. Type 4033S. Iron-clad silver plated tip; 3.92" L, .365" D, .200" point.

972-1233. Type 1233S. 900°F, 33 W.....EACH 23.08

972-4033. Type 4033S. 1000°F, 45 W.....EACH 31.36

Short Taper Chisel. Tellurium copper tip. Type 4039S. iron-clad silver plated, 3.60" L, .365" D.

972-4039. Type 4039S. 1000°F, 45 W.....EACH 32.28

Desoldering Pumps and Replacement Tips



7880

7882



7881

7883

972-7880. Model 7880. Desoldering Pump.....EACH 23.46

972-7881. Model 7881. AS Desoldering Pump.....EACH 32.12

972-7882. Model 7882. Tip for 7880.....EACH 4.94

972-7883. Model 7883. Tip for 7881.....EACH 8.34

Desoldering Pumps



WDP-07



WDP-12



WDP-07A



WDP-12A

Easy lightweight operation. Plunger seal spring creates strong suction. Screw-in tips ensure strong vacuum. Aluminum body withstands high temperatures.

Desoldering Pumps

984-9950. Model WDP-07. .07" Tip.....EACH 22.12

984-9951. Model WDP-07A. .07" Tip, Anti-Static.....EACH 33.06

984-9952. Model WDP-12. .12" Tip.....EACH 22.12

984-9953. Model WDP-12A. .12" Tip, Anti-Static.....EACH 33.06

Replacement Tips

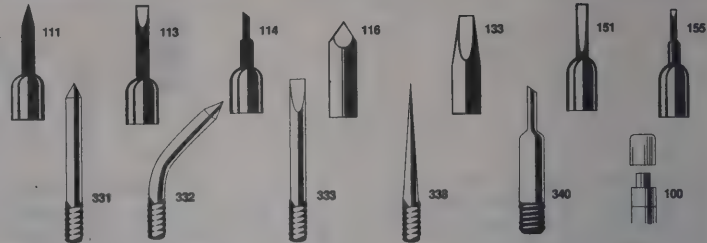
984-9954. Model WDT-07. .07" Tip.....EACH 5.10

984-9955. Model WDT-07A. .07" Tip, Anti-Static.....EACH 8.92

984-9956. Model WDT-12. .12" Tip.....EACH 5.10

984-9957. Model WDT-12A. .12" Tip, Anti-Static.....EACH 8.92

Standard Line Tips



1/4" tips are thread-on; 1/8" and 3/16" are thread-in. Fit Standard Line heaters (above) or Princess heat capsules (below). Use type 100 Adapter for installation of 1/8" thread-in tiptlet into thread-on heater. "PL" prefix tips are iron-clad tellurium copper, silver plated; others are unplated copper alloy.

Stock No.	Mfr.'s Type	Size	Description	Length x Dia.	EACH
972-8100	PL111	1/4"	Pencil	11/16 x 1/8"	5.96
972-8111	111	1/4"	Pencil	11/16 x 1/8"	3.16
972-8112	PL113	1/4"	Chisel	11/16 x 1/8"	5.96
972-8114	PL114	1/4"	Micro Spade	7/16 x .050"	5.96
972-8001	PL116	1/4"	Pyramid	1 x 5/16"	6.86
972-8115	PL133	1/4"	Taper Chisel	11/16 x 1/8"	6.76
972-8116	PL151	1/4"	Screwdriver	11/16 x 1/8"	6.06
972-8117	PL155	1/4"	Stepped Chisel	11/16 x 1/16"	6.06
972-8118	PL331	1/8"	Pencil	3/4 x 1/8"	4.76
972-8119	331	1/8"	Pencil	3/4 x 1/8"	2.68
972-8127	PL332	1/8"	Offset Pencil	5/8 x 1/8"	4.76
972-8120	PL333	1/8"	Chisel	3/4 x 1/8"	4.76
972-8121	333	1/8"	Chisel	3/4 x 1/8"	2.68
972-8002	PL338	1/8"	Taper Needle	1 1/8 x 1/8"	4.76
972-8122	PL340	1/8"	Micro Spade	9/16 x 1/16"	4.76

Thread-On Adapter. Adapts 1/8" thread-in tiptlet to standard line 1/4" thread-on heater. 972-0100. Type 100.....EACH 3.14

Anti-Seize. Lubricant for metals operating at high temperatures. Reduces tip thread seizure. 972-8802. Type 8001. 1/2 oz. tube.....EACH 5.56

Model 6966C Heat Gun



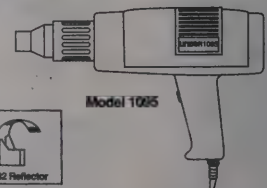
Ruggedly constructed, yet weighing only 13 oz., the 6966C is comfortable to the grip, easy to use, and the handle remains cool to the touch even after extended use. There is a convenient 3-way switch at the trigger position. A 3/8" air stream from the nozzle directs the heat to the exact area desired. Air flow temperature at the nozzle reaches approximately 750°F to 800°F in seconds. A 6 ft. 3-wire cord assures maximum operational flexibility. **Specifications. Temperature:** 750°-800°F. 120 volts AC, 3-wire grounded plug, 6 foot cord. Includes heat gun, 6 foot cord, suspension ring, and shrink tubing reflectors, reducing baffle, precision reflector.

972-6966. Model 6966C. Heat Gun.....EACH 157.76

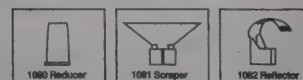
6965A Heat Gun Stand. This optional accessory holds the gun within reach for immediate use and positions the gun for hands-off operation.

972-6965. Model 6965A. Heat Gun Stand.....EACH 22.28

Model 1095 Heat Gun



1095 Accessories
(Also for use on Model 6970 Heat Gun)



The Ungar heat guns provide flameless heat for applying heat shrink tubing, curing epoxy, loosening adhesives, heating liquids, thawing frozen pipes, stripping paint and many other applications. Rugged design and high and low temperature settings make this heat gun ideal for use in the laboratory, production line, repair shop or home. 1000 watts (maximum), 120V-AC, 60 Hz, 3-wire grounded, 790°F-low, 1200°F-high. U.L. Listed.

972-1095. Model 1095. Heat Gun.....EACH 61.12

972-1080. Model 1080. Reducer for Concentrating Heat.....EACH 7.02

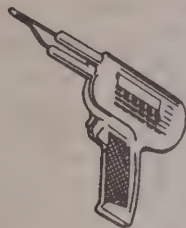
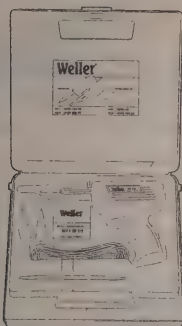
972-1081. Model 1081. Scraper for Paint Stripping.....EACH 7.02

972-1082. Model 1082. (Formerly 6955) Reflector for Heat Shrink.....EACH 7.02

Dual-Heat Soldering Guns

Heavy Duty Soldering Gun Kit

— NEW —



D550PK kit contains type D550 soldering gun with 2-position trigger selection of dual heats. Tin-plated copper tip heats up in 6 seconds. Twin lights to illuminate work. Kit comes with 1 sealing tip, flux brush, soldering aid tool, 40/60 rosin-core solder, plastic carrying case and booklet. 260/200 W, 120 V, 50/60 Hz. Order extra tips separately below.

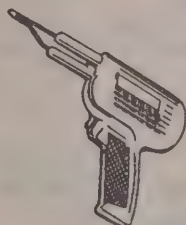
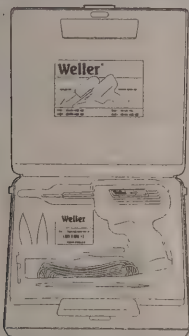
984-0551. D550PK.....EACH 63.96
984-0550. D550. Soldering Gun Only.....EACH 54.96

Replacement Tips and Parts

984-5904. 6130. Cutting tip with hex nut.....EACH 4.62
984-9060. 6140. Smoothing tip with hex nut.....EACH 4.62
984-5902. 7250. Standard tip 2 per card.....EACH 4.62
984-9061. 7250N. Standard tip with hex nut.....EACH 4.62
984-7324. 7324. Switch for dual heat model.....EACH 10.28
984-9062. 7417. Tip nuts.....EACH .74
984-9063. D550-RH. Right and left housing.....EACH 11.50

Medium Duty Soldering Gun Kit

— NEW —



8200PK eight-piece soldering kit contains 8200 all-purpose gun, with trigger selection of high or low output. Gun heats up in 6 seconds. High-efficiency tip of tin-plated pure copper. Light illuminates work. Compact, balanced pistol grip design, 2-wire cord. Kit also includes 1 soldering tip, 1 sealing tip, 1 cutting tip, flux brush, soldering aid tool, coil of 40/60 rosin-core solder, sturdy plastic carrying case, and soldering hints booklet. 140/100 W, 120 V, 50/60 Hz. Order extra tips separately below. UL listed.

984-8205. 8200PK.....EACH 47.14
984-8200. 8200. Soldering Gun Only.....EACH 40.46

Replacement Tips and Parts

984-9065. 6110. Cutting tip with hex nut.....EACH 4.62
984-9066. 6120. Smoothing tip with hex nut.....EACH 4.62
984-5901. 7135. Standard tip 2 per card.....EACH 4.62
984-9983. 8125. Iron plated tip 2 per card.....EACH 4.62
984-7325. 7325. Tip nuts.....EACH 1.98
984-9065. 8200-RH. Right and left housing.....EACH 11.50

Tempmatic® Soldering Gun

Model GT. Combines temperature-controlled operation with the convenience of a pistol-shaped, trigger-operated gun with small-frame pencil iron. Quick heating, patented powerhead gives control of maximum temperature for damage-free soldering. Requires #7A long-life 700°F, 3/16" chisel point powerhead or #6B, 600°F, 1/8" conical powerhead. Powerhead ejection button. 110-120 V, 60 Hz AC.



Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-3700	GT	Solder Gun Body	28.48	21.36	18.94
984-0707	7A	700°F Powerhead	73.38	55.04	48.80
984-0706	6B	600°F Powerhead	73.38	55.04	48.80

W60P Series Irons

— NEW —

- Line Voltage High Quality Portable Tool... Controlled Output and Temperature
- Weller "Closed Loop" Method of Controlling Max. Tip Temperature, Protecting Temperature Sensitive Components
- Iron Features Stainless Steel Modular Plug-In Heater Construction, Greater Soldering Efficiency
- Comes with CT5A7, 700°F 1/16" Dia. Screwdriver Tip



Stock No.	Mfr.'s Type	Description	V	W	Hz	EACH
984-2515	W60P	Soldering iron with CT5A7 tip	120	60	50/60	73.66
984-0601	W60P-3	Same as W60P but with 3-wire cord	120	60	50/60	80.00

Replacement Parts

Stock No.	Mfr.'s Type	Description	EACH
984-9070	HEW100P	Heater assembly for W100P	38.46
984-1306	PH60	Soldering iron stand assembly	22.56
984-9071	SFA100	Spring and funnel assembly	14.32
984-0205	TC205	Sponge	1.96
984-5051	HEW60P	Heater assembly for W60P	32.82

Premium-Plated Replacement Tips

CT series tips are solid copper, plated with iron, nickel and chromium, precision ground and provide maximum heat transfer from heater to tip.

Stock No.	Mfr.'s Type	Description	Temp.	EACH		
				1-11	12-47	48-Up
984-1001	CT5A6	1/16" Screwdriver	600°F	7.52	5.64	5.00
984-1002	CT5A7	1/16" Screwdriver	700°F	7.52	5.64	5.00
984-1003	CT5A8	1/16" Screwdriver	800°F	7.52	5.64	5.00
984-1005	CT5B7	3/32" Screwdriver	700°F	7.52	5.64	5.00
984-1008	CT5C7	1/8" Screwdriver	700°F	7.52	5.64	5.00
984-1009	CT5C8	1/8" Screwdriver	800°F	7.52	5.64	5.00
984-1011	CT5D7	3/16" Screwdriver	700°F	7.52	5.64	5.00
984-1012	CT5D8	3/16" Screwdriver	800°F	7.52	5.64	5.00

— NEW —

W100PG Series Irons

- Line Voltage High Quality Portable Tool... Controlled Output and Temperature
- Weller "Closed Loop" Method of Controlling Max. Tip Temperature, Protecting Temperature Sensitive Components
- Iron Features Stainless Steel Modular Plug-In Heater Construction, Greater Soldering Efficiency
- Nominal Heat-Up Time With CT6E7 Tip: 110 Seconds
- Comes with CT6F7, 700°F 1/4" Dia. Screwdriver Tip



Stock No.	Mfr.'s Type	Description	V	W	Hz	EACH
984-2520	W100PG	Soldering iron with CT6F7 tip	120	100	50/60	72.30
984-9075	W100P-3	Same as W100PG but with 3-wire cord	120	100	50/60	87.96

Premium-Plated Replacement Tips

CT series tips are solid copper, plated with iron, nickel and chromium, precision ground and provide maximum heat transfer from heater to tip.

Stock No.	Mfr.'s Type	Description	Temp.	EACH		
				1-11	12-47	48-Up
984-1015	CT6D7	3/16" Screwdriver	700°F	10.76	8.07	7.16
984-9076	CT6C7	1/8" Screwdriver	700°F	10.76	8.07	7.16
984-9077	CT6C6	1/8" Screwdriver	600°F	10.76	8.07	7.16
984-9078	CT6D6	3/16" Screwdriver	600°F	10.76	8.07	7.16
984-9079	CT6E6	1/4" Screwdriver	600°F	10.76	8.07	7.16
984-9080	CT6E7	1/4" Screwdriver	700°F	10.76	8.07	7.16
984-9081	CT6E8	1/4" Screwdriver	800°F	10.76	8.07	7.16

"Marksman" Soldering Iron

Model SP-23 Featherweight 25-Watt Pencil Iron. Features long-reach stainless steel barrel. Thin, nickel-plated removable tip. Excellent for detailed work. Develops 750°F For 115 VAC. Shipping Weight: 8 oz.



984-2423. 1-11.....EACH 10.85 48-Up.....EACH 9.62

Tips for SP23 (Card of Two)

984-2425. Type MT1. 1-11.....EACH 4.22
12-47.....EACH 3.17 48-Up.....EACH 2.81
984-2427. Type MT3. 1-11.....EACH 4.22
12-47.....EACH 3.17 48-Up.....EACH 2.81

Weller® Ungar 2024 Series

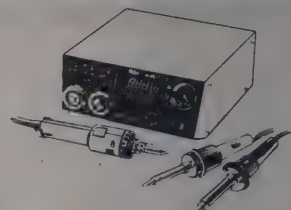
The 2024 service center is a shop air tool used for electronic repair and rework. Increased production is made possible by rapid heat up and vacuum response, with temperature variation from 500°F-850°F. Tiplet clogging is decreased with the built-in trigger time delay circuit. This feature insures complete flow of solder into the collector tube. The unit operates with either inline or pistol-grip style handles. Other features include the iron holder, which may be customized for the operator by allowing for adjustment of the angle. The 2024 is totally ESD safe.



984-9700. 2024P. Desolder system with 5098AS desolder pistol.....	EACH	693.00
984-9702. 2024IL. Desolder system with 5088AS inline desolder iron.....	EACH	693.00

Weller® WRS 3000

- ▶ ESD Safe, UL Listed
- ▶ Operator Lock-Out
- ▶ Completely Self-Contained
- ▶ Digital Readout
- ▶ Dimensions: 9.6" (W) × 4.1" (H) × 10.6" (L)
- ▶ Power Input: 300 W
- ▶ Meets MIL-SPECS
- ▶ Maximum Air Flow For The Hot-Air Pencil Is 10/L Min.; For Desoldering Vacuum Is 20.7 Hg
- ▶ Temperature Range For Hot Air Is 300°F-980°F; For Solder/Desolder It's 300°F-850°F



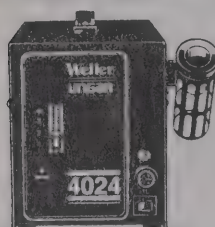
The Weller WRS 3000 is designed to handle all rework and repair of mixed technology boards. It has a built-in microprocessor that provides simultaneous controlled desoldering, soldering and hot air functions with complete accuracy and reliability. Temperature, hot air time and automatic temperature set-back can be programmed. An operator lock-out feature prevents any unauthorized changes. The WRS 3000 has its own internal pump — eliminating the need for shop air — and is compatible with both Weller and Ungar products and is totally ESD safe.

* Blades sold separately.

984-9715. WRS3000. Power unit, 120 V, tools sold separately.....	EACH	1536.38
984-9716. EC1201AP. 40-W macro soldering iron with ETA tip and stand.....	EACH	132.26
984-9717. HAP1. 100-W hot-air pencil, stand, and two tiplets.....	EACH	262.20
984-9719. DS58. 60-W in-line desoldering tool, 4006 tiplet.....	EACH	280.00
984-9720. WST20. Temperature-controlled thermal wire-stripper*.....	EACH	454.28
984-9721. 58725726. 12-, 16- and 24-AWG blade.....	EACH	57.60
984-9722. 58725729. 12-, 14- and 24-AWG blade.....	EACH	57.46
984-9723. 58725732. 14-, 18-, 22- and 26-AWG blade.....	EACH	57.46
984-9724. 58725718. Flat cable stripper.....	EACH	61.50
984-9725. 58725723. Cutting knives.....	EACH	23.92

Weller® Ungar 4024 Series

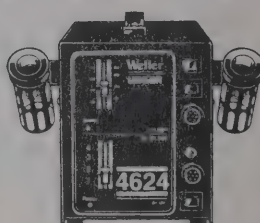
This self-contained, electronically controlled desoldering system has an internal vacuum pump, which provides flexibility for the user, but has been made quieter than older stations. Tiplet clogging is decreased with the built-in trigger time delay circuit. This feature insures complete flow of solder into the collector tube. Other features include the adjustable iron holder. The 4024 is totally ESD safe and operates with either inline or pistol-grip style handles.



984-9703. 4024P. Desolder system with 5098AS desolder pistol.....	EACH	740.68
984-9704. 4024IL. Desolder system with 5088AS inline desolder iron.....	EACH	740.68

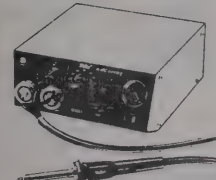
Weller® Ungar 4624 Series

The 4624 is a self-contained soldering and desoldering system for rework and repair. Increased production is made possible by rapid heat up and vacuum response, with temperature variation from 500°F-850°F. Tiplet clogging is decreased with the built-in trigger time delay circuit. This feature insures complete flow of solder into the collector tube. It operates with the 9931AS 24 VAC soldering irons (listed below) and either the inline or pistol-grip desoldering tools. Features include quiet pump operation and adjustable, non-slip iron holders for maximum operator flexibility. The 4624 is UL listed, CUL listed and ESD safe.



984-9705. 4624P. Solder/Desolder system with 5098AS desolder pistol.....	EACH	968.20
Type 4624IL. Solder/Desolder system with 5088AS inline desolder iron and 9931AS Macro soldering iron.....		
984-9706. 46241L.....	EACH	968.20

Weller® WRS 1000

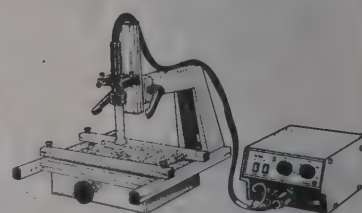


The Weller WRS 1000 station is designed to handle a variety of rework and repair tasks. A selector switch allows the user to choose either the standard hot air tool supplied with the unit or another Weller/Ungar soldering or desoldering iron. The WRS 1000 has its own internal pump — eliminating the need for shop air — and comes complete with a hot air pencil. It is compatible with both Weller and Ungar products and is totally ESD safe. (ADP1 adapter must be used).

984-9730. WRS1000. Rework system, 120 V, hot-air pencil and stand.....	EACH	1042.38
984-9732. ADP1. Tool adapter.....	EACH	48.84

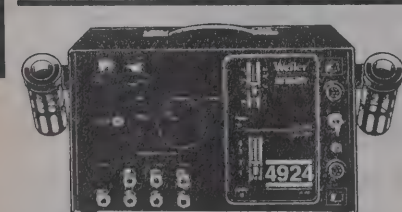
Weller® WHA 1000 Hot Air SMD Rework System

- ▶ Nozzle Design Promotes Preheating of Component, Can Be Used With Other Manufacturer's Nozzles by Using Adapters
- ▶ Micrometer Adjustment Precisely Replaces Chips as Small as 25 Mil
- ▶ Unique Vacuum Pickup Eliminates Need For Additional Tools To Remove Chips; Precise Temperature Control Reduces Thermal Stress
- ▶ Available With Heated or Nonheated Rework Tables
- ▶ Also WHA 2000 Is Available as a Self Contained Unit



984-9740. WHA1000. Complete hot-air station, with tool and stand.....	EACH	1670.76
984-9741. WHA101. Rework-stand arm.....	EACH	1151.96
984-9742. WHA102. Rework table, non-heated, 13" × 24".....	EACH	572.36
984-9743. WHA103. Rework table, heated, 120 V, 13" × 24".....	EACH	862.16
984-9745. WHA104. Combo stand, non-heated table.....	EACH	1702.02
984-9746. WHA105. Combo stand, heated table, 120 V.....	EACH	2553.04
984-9747. 58736833. Nozzle; pin count: QFP — 120, 128, 144; PLCC — 84.....	EACH	172.50
984-9748. 58736814. Nozzle, pin count: QFP — 64, PLCC — 44.....	EACH	176.80
984-9749. 58736843. Nozzle, 5°, SOJC, DSO pin count: 16.....	EACH	172.50

NOTE: Other nozzles are available.



Weller® Ungar 4924 Series

The new 4924 service center is designed to handle virtually all repair and rework applications. Totally ESD safe, it can be powered continuously or by means of a foot pedal, and has three voltage ranges for use with a broad range of tools. The 4924 has its own internal pump — eliminating the

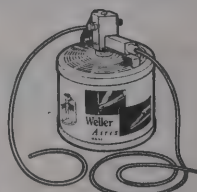
need for shop air — and is substantially quieter than older stations. Desoldering or heat shrinking is made possible by means of an air reversal switch, which changes from vacuum to hot air flow. Tiplet clogging is decreased with the built-in trigger time delay circuit. This feature insures complete flow of solder into the collector tube. Temperature can be controlled from 500°F-850°F for either of two desoldering handles and from 550°F-850°F for any of two 24 VAC soldering irons. An adjustable angled iron holder allows the unit to be customized to suit the operator.

984-9708. 4924P. Service center with 5098AS desolder pistol.....	EACH	1992.88
984-9710. 4924IL. Service center with 5088AS inline desolder iron.....	EACH	1992.88

Weller® Airex Fume-Extraction System

- ▶ Quiet Operation, Utilizes Factory Air Supply
- ▶ Compact — Requires Very Little Space
- ▶ Low Operation Costs
- ▶ Long Service Life
- ▶ Easy to Install
- ▶ Serves 1 or 2 Stations

AIREX is a complete 3-stage filter that insures 99.97% filtration of particles. It connects to soldering irons with integral fume extraction or converted soldering irons with a clip-on extractor kit.



984-9750. WAX1. AIREX fume-extraction system.....	EACH	395.00
984-9751. WAXH1. Replacement extractor hose.....	EACH	9.70
984-9752. WAXF1. Replacement filter.....	EACH	208.00
984-9753. WAXSF1. Replacement silencer filter.....	EACH	5.86
984-9754. WAXK2. Kit for connecting two soldering irons.....	EACH	57.78

Weller®/Fumex Table-Top Air Cleaner

- ▶ Ambient and Source Extraction Modes in One Unit
- ▶ Activated Carbon-Impregnated Pre-Filter and ASHRAE-Rated Panel Filter Are Standard
- ▶ 20,000 Hour-Rated Ball-Bearing Motor
- ▶ 115 V, 50 Hz-60 Hz
- ▶ Thermal Overload Protection
- ▶ Ambient Air-Flow (100 SCFM), Source Air-Flow (60 SCFM)
- ▶ Whisper-Quiet Centrifugal Blower
- ▶ 18-AWG Steel Cabinet
- ▶ Compact: 10" (W) × 9" (H) × 14" (D)
- ▶ Two-Year Limited Warranty

The size, flexibility, and convenience of the table-top air cleaner allows use anywhere around the work area to assure clean, safe breathing air for employees. Snap on the included duct adapter and flex hose, and it becomes a high-efficiency extraction unit.

984-9755. WRX1. Table-top air cleaner.....	EACH	645.40
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Bend-A-Light Flexible Light Tools

— NEW —

Operates on two replaceable AA Batteries (included). Small diameter shaft reaches in tight places. High intensity lamp provides brilliant beam. Durable ABS plastic construction. Goes where other lights won't. Bends and stays in any position.

991-6511. Model 6511. 11" Bend-A-Light.....	EACH 15.95
991-6516. Model 6516. 16" Bend-A-Light.....	EACH 22.95
991-6518. Model 6518. Replacement Bulb.....	EACH 6.95
991-6517. Model 6517. Magnetic Retriever.....	EACH 3.95

Brighteyes Pro Headlights

— NEW —

Adjustable sockets let you aim the light beams higher, lower or to either side. Automatically lights when you put them on. Switches off when you fold the bows in. Fits over glasses. Wear them comfortably with most glasses.

991-6525. Model 6525. Bright Eyes.....	EACH 13.95
991-6526. Model 6526. Replacement Bulb.....	EACH .95
991-6527. Model 6527. Carrying Case.....	EACH 4.95

WAHL Filer/Sander

— NEW —



- ▶ Industrial Quality
- ▶ Up to 45 Minutes of Continuous Operation Per Full Battery Charge
- ▶ Complete Recharge in 4 Hours; Partial Charge in Less
- ▶ Red LED Indicates Power to Stand; Green LED Indicates Unit is Charging
- ▶ Reciprocal, 6,000 Strokes-Per-Minute Action With Approximate .100" Stroke Length
- ▶ Lightweight and Balanced for Comfortable Operation
- ▶ Sanding and Filing Tips Quickly and Firmly Snap On and Off
- ▶ Complete Range of Sanding and Filing Accessories Available
- ▶ Ideal for Reaching into Tight Spots and for Quick, Easy Precision Finishing, Deburring, and Sanding

991-6750. Model 6750. Filer/Sander, Cordless.....	EACH 61.99
991-6780. Model 6780. Corded With 19 accessories.....	EACH 61.99

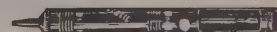
Accessories

991-6733. Model 6733. Replacement Battery.....	EACH 6.25
991-6760. Model 6760. Flat Needle File.....	EACH 3.95
991-6761. Model 6761. Round Needle File.....	EACH 3.95
991-6762. Model 6762. Triangle Needle File.....	EACH 3.95
991-6763. Model 6763. Half Round Needle File.....	EACH 3.95
991-6764. Model 6764. Sander Pad Asst. 100, 220, 400 Grit.....	EACH 3.95
991-6765. Model 6765. Sander Sheets 400 Grit, 12 each.....	EACH 3.95
991-6766. Model 6766. Sander Sheets 220 Grit, 12 each.....	EACH 3.95
991-6767. Model 6767. Sander Sheets 100 Grit, 12 each.....	EACH 3.95
991-6768. Model 6768. Sander Sheets 4 each 100, 220, 400 Grit.....	EACH 3.95

Anti-Static and Static-Free Desoldering Tools and Tips



7420



7425

Static-Free Desoldering Tool

Model 7420. 8.25" precision-built desoldering tool and replacement tip. Barrel made of nylon glass; tip made of conductive carbon fiber. Outer Diameter: 1.03" Tip O.D.: .113"

991-7420. Model 7420. Desoldering Tool.....	EACH 10.95
991-7421. Model 7421. Replacement Tip.....	EACH 3.60

Anti-Static Desoldering Tool

Model 7425. 8.62" precision-built desoldering tool and replacement tip. Barrel made of conductive polypropylene; tip made of conductive carbon fiber. Outer Diameter: .79" Tip I.D.: .113"

991-7425. 7425. Desoldering Tool.....	EACH 10.95
991-7426. 7426. Replacement Tip.....	EACH 3.60

Cordless Soldering Irons

Cordless convenience, lightweight and 50 W performance. Tip temperature reaches 700°F in 5 sec. Up to 125 soldered connections per battery charge. Nickel cadmium batteries feature long service life. Isolated-tip design eliminates electrical leakage and the need for grounding when soldering in delicate solid-state equipment. Designed for good "feel" and balance — only 8" long. Weight: 8 oz. Built-in light. Safety lock switch prevents accidental heating. Standard batteries recharge from charging stand or from 12 V automotive battery. Full line of accessories and several complete kits provide variety of selections.

"Quick Charge" Iso-Tip

Recharges in 3 to 4 1/2 hours from complete discharge. Nickel cadmium battery can withstand high-rate charging without damage (cannot overcharge).

991-7700. Model 7700. Iso-Tip Soldering Iron. With recharging stand and No. 7545, 7546 tips.....	EACH 39.95
991-7728. Model 7728. Recharging Stand.....	EACH 12.50
991-7733. Model 7733. Replacement Battery.....	EACH 11.95

Iso-Tip "60"

Allows 20% continuous soldering when kept in charger between uses. Recharges fully in one hour and automatically switches to energy-saving charge rate when battery is full (cannot overcharge). LED shows when battery is charged.*

991-7800. Model 7800. Iso-Tip Soldering Iron. With recharging stand, and No. 7577, 7545 tips.....	EACH 54.95
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*Batteries available by special order.

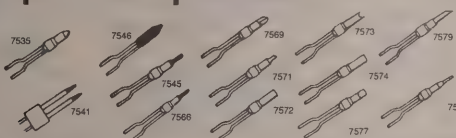
Power Pro Soldering Iron

High Capacity cordless iron with high efficiency soldering tips. The Power Pro includes a recharging stand and hi-efficiency tip #7545-100 fine tip and #7577-100 chisel tip. Complete recharge in four hours.* LED in recharge stand to indicate charging status. Isolated tip design to eliminate electrical leaks and damage. Tip performance up to 900°F.

991-7904. Type 7904. Power Pro Soldering Iron.....	EACH 54.95
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*Batteries available by special order.

Soldering Tips For Iso-Tip Cordless

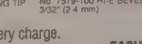
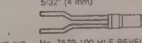
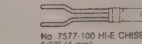
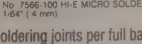
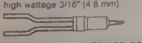
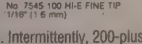
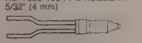
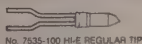


Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-Up
991-7535	7535	Regular Tip No. 5 — 5/32"	3.95	3.10
991-7545	7545	Fine Tip No. 2 — 1/16"	3.95	3.10
991-7541	7541	Circuit Breaker Tip	3.95	3.10
991-7546	7546	Heavy Duty Tip No. 6 — 13/16"	3.95	3.10
991-7466	7566	Micro Soldering Tip — 1/64"	3.95	3.10
991-7569	7569	"V" Tip No. 5 — 5/32"	3.95	3.10
991-7571	7571	Beveled Tip No. 2 — 1/16"	3.95	3.10
991-7572	7572	Blunt Tip No. 5 — 5/32"	3.95	3.10
991-7573	7573	Tinning Tip No. 5 — 5/32"	3.95	3.10
991-7574	7574	Concave Cen. Tip No. 5 — 5/32"	3.95	3.10
991-7577	7577	Chisel Tip No. 5 — 5/32"	3.95	3.10
991-7579	7579	Beveled Tip No. 3 — 3/32"	3.95	3.10
991-7596	7596	Knife Tip — 1/32"	3.95	3.10

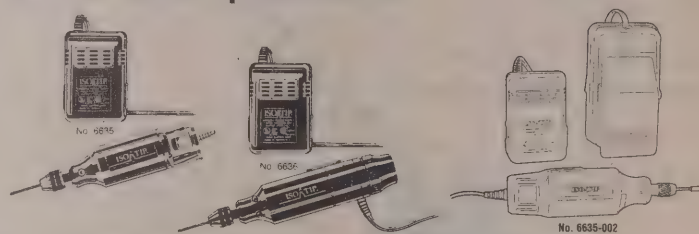
Hi-Efficiency Tips for Type 7904 Soldering Iron

Six variations to choose from. Requires less power to heat tip. Heats tip faster — approximately 5 seconds. Longer soldering time per full battery charge — up to 30 minutes. Intermittently, 200-plus soldering joints per full battery charge.

991-4500. 7545-100. Hi-E Fine Tip 1/16" (1.6 mm).....	EACH 4.25
991-7577. 7577-100. Hi-E Chisel Tip 5/32" (4 mm).....	EACH 4.25
991-3500. 7535-100. Hi-E Regular Tip 5/32" (4 mm).....	EACH 4.25
991-6600. 7566-100. Hi-E Micro Tip 1/64" (4 mm).....	EACH 4.25
991-4600. 7546-100. Hi-E Heavy Duty Tip (High Wattage) 1/16" (4.8 mm).....	EACH 4.25
991-7900. 7579-100. Hi-E Beveled Tip 3/32" (2.4 mm).....	EACH 4.25



ISO-TIP® Multi-Purpose Minidrills



- ▶ Low Voltage/High Power
- ▶ Fan Cooled
- ▶ Lightweight/Balanced Design

- ▶ Permanently Lubricated Ball Bearing
- ▶ Three-Jaw Universal Chuck up to .140" Shank
- ▶ Long 6-Foot Cord

Model 6635 Constant Speed Minidrill

Operates at 21,000 RPM with on/off switch conveniently located at the top of the drill.

991-6635. Model 6635.....	EACH 61.95
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Model 6636 Variable Speed Minidrill

Features variable speed operation from 10,000 to 21,000 RPM. Control knob at the top of the drill rotates to vary speed from "off" to maximum power.

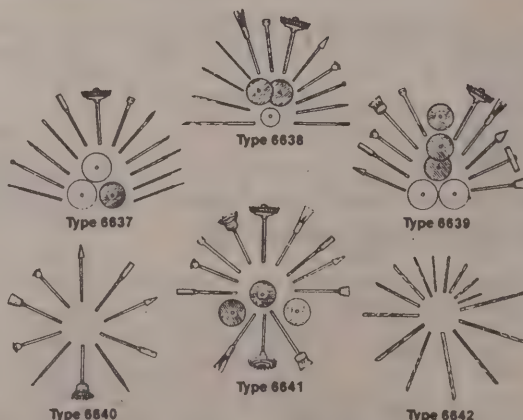
991-6636. Model 6636.....	EACH 78.95
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Model 6635-002 Multi-Purpose Minidrill Kit

Lightweight, high speed minidrill features variable speed foot control (10,000 - 21,000 RPM). Collet chuck with four collets and universal chuck. Chucks accept all accessories up to .140" shank. Durable carrying case included.

991-6634. Model 6635-002.....	EACH 97.95
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Drill Accessories



Accessory assortments for 6600 series drills. Type 6637 Contains: drills, bits, cutters, saws, cutting and grinding wheels, brushes, arbor. 6638: drill bits, brushes, grinders, cutters, cutting wheels, saws, arbor. 6639: polishers, cutters, grinders. 6640: diamond grinder, brushes, grinding wheels and stones. 6641: brushes, cutters. 6642: 1 each bit sizes 76, 73, 67, 65, 61, 56, 54, 52, 50, 47, 43, 41, 38, 35, 32.

991-6637. Type 6637. 15 Pc. Assorted Modeling Set.....	EACH 23.95
991-6638. Type 6638. 15 Pc. Assorted All Purpose Set.....	EACH 19.95
991-6639. Type 6639. 15 Pc. Polishing, Cutting, Grinding Set.....	EACH 19.95
991-6640. Type 6640. 10 Pc. High Performance Grinding Set.....	EACH 20.95
991-6641. Type 6641. 15 Pc. Grinding, Cutting, Brushing Set.....	EACH 21.95
991-6642. Type 6642. 15 Pc. Steel Drill Set.....	EACH 15.95

Weller® WP Series Professional Soldering Irons

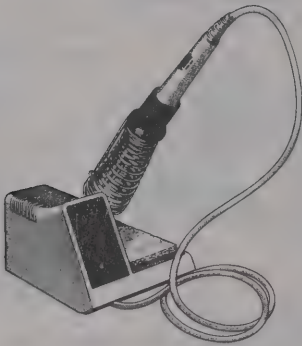


- ▶ Quick Change Knurled Collar Makes Changing Heaters Simple
- ▶ Small, Lightweight Handle Now With Cushioned Grip
- ▶ Iron-Plated Tips For Long Life and Greater Soldering Efficiency
- ▶ Ideal For A Wide Variety Of Electronic and Electrical Work
- ▶ Three Wattages Available: 25, 30 and 35 W

Weller introduces a new line of professional soldering irons with interchangeable heating elements. Just a twist of the knurled collar and the element can be unplugged and changed for the required wattage. Now a single handle plus three different elements effectively gives you a trio of irons to handle different jobs. For additional safety, all irons come with a three-wire cord. Heaters are available in 25, 30 and 35 watts plus 8 interchangeable, iron plated tips that make the WP Series suitable for a wide variety of electrical and electronic work.

Add the comfort of the new cushion grip handle, and you'll see why the Weller WP Series Soldering Irons are taking a turn for the better.

WCC100 Electronic Soldering Station



- ▶ Electronically Controlled Station, With Compact Design, Is Ideal For The Novice Soldering Buff
- ▶ The 40 Watt Soldering Pencil Is Fitted With An ETA Tip and Can Be Used With The Full Range Of Weller ET Series Tips
- ▶ Temperature Is Adjustable From 350°F to 850°F and Is Stable Within 10°F At Idle
- ▶ Zero Voltage Circuit Ensures That No High Voltage Spikes Or Magnetic Fields Are Present At Tip To Damage Sensitive Components
- ▶ 3-Wire Grounded Power Cord, UL Recognized
- ▶ Lighted On/Off Switch; Impact Resistant Housing and Iron Handle
- ▶ UL Listed

984-9100. WCC100. Complete station with 40 W iron, 120 V, 60 W, 60 HzEACH 139.40
984-2266. WCC101. Soldering iron with ETA tip, 24 V, 40 W.....EACH 59.38

Replacement Parts

984-2265. WCC102. Heater assembly for WCC101 iron.....EACH 17.54
984-2267. WCC103. Sensor assembly for WCC101 iron.....EACH 10.38
984-2268. WCC104. SpongeEACH 1.20
984-2269. WCC105. Spring and funnel assembly.....EACH 5.88

Thermal Thrust, High Capacity Tips

Thermal Thrust, High Capacity Tips for use with the 921ZX Temperature Controlled Soldering Station. Ideal for high mass and heavy ground plane applications.

Stock No.	Mfr.'s Type	Tip	Description	Tip Size In. (mm)	Reach In. (mm)	EACH
972-9056	9056**		Conical	0.02 (0.50)	0.50 (12.70)	9.36
972-9057	9057**		Screwdriver	0.03 (0.76)	0.50 (12.70)	9.36
972-9058	9058**		Screwdriver	0.05 (1.27)	0.50 (12.70)	9.36
972-9059	9059**		Screwdriver	0.07 (1.77)	0.50 (12.70)	9.36
972-9060	9060**		Screwdriver	0.10 (2.54)	0.50 (12.70)	9.36
972-9061	9061**		Screwdriver	0.13 (3.30)	0.50 (12.70)	9.36

**Note - must use 9919 Tip Retainer Assembly.

Stock No.	Mfr.'s Type	Description	EACH
984-2500	WP25	Professional 25 watt soldering iron with ST3 Tip	38.36
984-2505	WP30	Professional 30 watt soldering iron with ST3 Tip	41.42
984-0435	WP35	Professional 35 watt soldering iron with ST3 Tip	48.26

Replacement Tips

Stock No.	Mfr.'s Type	Tip Size In. (mm)	Description	EACH
984-0001	ST1	1/16 (1.6)	Screwdriver	5.94
984-0008	ST2	3/32 (2.4)	Screwdriver	5.94
984-0009	ST3	1/8 (3)	Screwdriver	5.94
984-0026	ST4	3/16 (4.8)	Screwdriver	5.94
984-2260	ST5	1/32 (0.8)	Single Flat	5.94
984-0019	ST6	1/32 (0.8)	Screwdriver	5.94
984-0020	ST7	1/32 (0.8)	Conical	5.94
984-0021	ST8	1/16 (1.6)	Narrow screwdriver	5.94

IMPORTANT: Use only Weller® tips. Use of non-Weller components may void product warranty if the non-Weller component causes damage to the unit.

Replacement Heaters*

984-0023	HE25	—	For 25 watt iron	17.96
984-0024	HE30	—	For 30 watt iron	21.84
984-0027	HE35	—	For 35 watt iron	24.02

*Heater replacements include heater and knurled collar.

921ZX Soldering Station

Introducing Our Most Affordable Temperature-Controlled Station Ever

- ▶ Electronically Controlled-Zero Cross Circuitry
- ▶ Spike Free — ESD Safe
- ▶ Ceramic Heater Rated For Exceptionally Long Life
- ▶ Variable Control — Fully Adjustable 550°-850°
- ▶ Over 19 Tips Available Including SMT Tips
- ▶ External Fuse and Calibration Access
- ▶ Cool, Lightweight Handpiece



Now you can get the quality, dependability, and reputation of a Weller soldering station at a price that's very competitive. The ceramic heating element is exceptionally reliable and long lasting. Should it ever need replacing, the new element just plugs in. There are no tools required. The 24 V handle is not only safe, it is cool and comfortable. The 921ZX is electronically controlled and fully adjustable. It is ESD safe/MIL compliant. The 921ZX carries a full one year warranty, and you have the Weller/Ungar technical service department available to help you with any questions or problems.

Stock No.	Mfr.'s Type	Tip Included	Voltage	Handle Wattage	Hz	Footprint	Pencil Weight	EACH
972-9215	921ZX1	9018	120 V	60*	60	7" x 3 3/16"	2.9 oz./82.21 g	167.12

*Handle wattage is rated at full load. Idle wattage is approximately 20 watts.

Accessories and Replacement Parts

Stock No.	Mfr.'s Type	Description	EACH
984-9904	9904	Replacement sponge	4.26
972-2115	2115	Temperature lockout kit	6.65
972-9908	9908	Replacement heating element	19.02
972-9037	9037	Tip retainer assembly for standard tips	19.02
972-9919	9919	Tip retainer assembly for thermal thrust tips	19.02

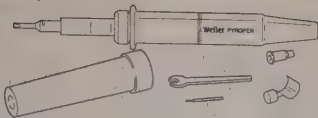
Standard Tips

Stock No.	Mfr.'s Type	Tip	Description	Tip Size In. (mm)	Reach In. (mm)	EACH
972-9010	9010†		Precision point	0.01 (0.25)	0.78 (19.81)	10.84
972-9011	9011†		Spade	0.03 (0.76)	0.71 (18.03)	9.36
972-9012	9012†		Screwdriver	0.05 (1.27)	0.62 (15.74)	9.36
972-9013	9013†		Spade	0.06 (1.52)	0.71 (18.03)	9.36
972-9014	9014†		Spade	0.02 (0.50)	0.85 (21.59)	9.36
972-9015	9015†		Screwdriver	0.07 (1.77)	0.70 (17.78)	9.36
972-9016	9016BK†		Screwdriver	0.09 (2.28)	0.55 (13.97)	8.72
972-9017	9017†		Screwdriver	0.03 (0.76)	0.60 (15.24)	9.36
972-9018	9018†		Screwdriver	0.05 (1.27)	0.60 (15.24)	9.36
972-9019	9019†		Short spade	0.03 (0.76)	0.45 (11.43)	9.36
972-9050	9050†		Conical	0.02 (0.50)	0.85 (21.59)	9.36
972-9051	9051†		Screwdriver	0.13 (3.30)	0.50 (12.70)	9.36
972-9052	9052†		Short spade	0.02 (0.50)	0.45 (11.43)	9.36
972-9054	9054	—	Tip Adapter 1/8"	—	—	5.60

†Note: Must use 9037 Tip Retainer Assembly.

WPA2 Self-Igniting Pyropen®

- ▶ Lightweight/Completely Portable
- ▶ Runs on LP Gas For Three Hours of Operation (Refill With Butane Lighter Gas)
- ▶ Press Self-Igniting Button and Iron Is Ready To Solder In 30 Seconds...No Need for Matches Or Sparklighter
- ▶ 14 Tip Combinations Available
- ▶ Temperature Control 482° F-932° F/250° C-500° C
- ▶ Inactive Hot Air Nozzles For Low Temperature Heat
- ▶ Wide Variety of User Applications In Work Shop For Repairs Or Hobbies



984-7600. WPA2. Self-igniting cordless soldering iron	EACH 132.28
984-7605. WPAPC. Pyropen plastic cap	EACH 7.50
984-7606. WPAE. Pyropen ejector	EACH 11.00
984-7607. WPAB. Pyropen burner	EACH 20.84
984-7608. WPACN. Pyropen cap nut	EACH 14.04

Flux Dispensers

Standard and ESD 2 oz. squeeze-bottle flux dispensers. Stainless steel needles.



Standard



Static Dissipative (ESD)

984-7615. FD2. Dispenser with .020" x 1.0" Needle	EACH 2.90
984-7616. FD21. Dispenser with .008" x 1.0" Needle	EACH 2.90
984-7617. FD22. Dispenser with .050" x 1.0" Needle	EACH 2.90
984-7618. FD3. Dispenser with .008", .020" and .050" x 1.0" Needle	EACH 3.28
984-7619. FD2N. Needles; .020" x 1.0"	PER PKG./10 5.92
984-7620. FD21N. Needles; .008" x 1.0"	PER PKG./10 5.92
984-7621. FD22N. Needles; .050" x 1.0"	PER PKG./10 5.92
984-7622. FD2D. ESD Dispenser with .020" x 1.0" Needle	EACH 3.70
984-7623. FD21D. ESD Dispenser with .008" x 1.0" Needle	EACH 3.70
984-7624. FD22D. ESD Dispenser with .050" x 1.0" Needle	EACH 3.70

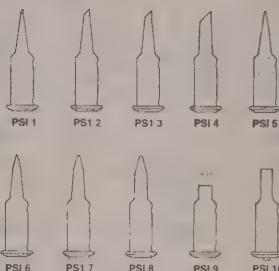
D650 Soldering Gun



- ▶ Reliable New Industrial-Quality Tool
- ▶ Highest Power Output of All Our Soldering Guns: 300 Watts in High Trigger Position and 200 Watts in Low Trigger Position
- ▶ Features Nickel-Plated Copper Secondary, Heat-Resistant Thermoplastic Housing
- ▶ Heavy-Duty Grounded Cord
- ▶ Wide Selection of Soldering, Cutting and Smoothing Tips Available

984-3725. D650	EACH 74.28
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Iron-Plated Tips



984-3735. PSI 1	EACH 11.20
984-3736. PSI 2	EACH 11.20
984-3737. PSI 3	EACH 11.20
984-3738. PSI 4	EACH 11.20
984-3739. PSI 5	EACH 11.20
984-3740. PSI 6	EACH 11.20
984-3741. PSI 7	EACH 11.20
984-3742. PSI 8	EACH 11.20
984-3743. PSI 9	EACH 11.20
984-3744. PSI 10	EACH 11.20

Weller® Portasol® PSI-100

- ▶ Rugged Stainless Steel Body
- ▶ Uses Standard Butane Fuel
- ▶ Runs For Up To Two Hours On A Single Butane Refill
- ▶ Ten Professional-Quality, Iron-Plated Tips Available
- ▶ Self-Igniting Portable Gas Soldering Heat Tool
- ▶ Solders, Heat Shrinks, Cuts Nylon Rope
- ▶ Temperature Adjustable Up To 1,076°F



984-4500. PSI-100	EACH 89.68
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TC205 Sponge

- ▶ One Standard Size Fits All Weller Soldering and Desoldering Tool Stands

984-0205. TC205. Sponge For Tool Stand	EACH 1.96
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SH-2 Dual Soldering Stations Holder



- ▶ System Holder Can Hold Any Combination of the "EC" Series, "WTCP" Series, "WTL1000" Series Stations
- ▶ Each Holder Comes With Complete Assembly Instructions

SH-2. Dual soldering stations holder,	
984-7625. SH-2	EACH 52.06

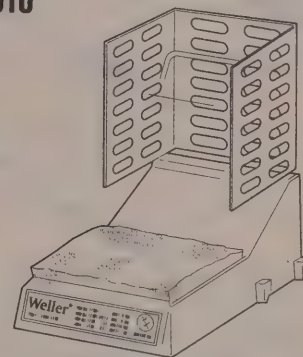
Scrub-It™ Solvent Dispensers

Distribute solvent through brush. Type SD74 has nylon bristles. SD74H has horsehair bristles for anti-static applications.



984-7611. SD74	EACH 9.80
984-7612. SD74H	EACH 9.80

DS2010



- ▶ Desoldering Tool Stand With Base, Sponge and Holder
- ▶ For All Weller Desoldering Irons

DS2010. Desoldering Iron Stand Assembly,	
984-7630. DS2010	EACH 53.98

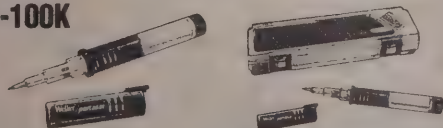
Butane Cylinder WB1



- ▶ 70 ml Butane Cylinder
- ▶ Premium Butane Fuel

984-3730. WB1	EACH 3.06
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Portasol® PSI-100K

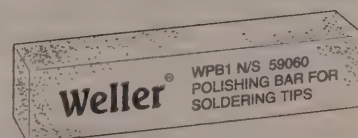


Kit Includes PSI-100 Soldering Tool, PSI 6 (2.4 mm) double flat tip, PSI 9 Hot Blower, PSI 8 (4.8 mm) double flat tip, PSI 10 Hot Knife, cleaning sponge, and rugged storage case. Fuel not included.

984-4505. PSI-100K	EACH 98.98
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WPB1 Polishing Bar

- ▶ Used For Cleaning Soldering Tips
- ▶ Removes Plastic Resins, Silicone Grease and Other Chemicals From The Tip
- ▶ Do Not Overdo This Cleaning As This Could Remove The Iron Plating and Ruin the Tip
- ▶ After Cleaning Tip, Always Refin It Immediately To Prevent Oxidation



984-7610. WPB1. Polishing bar for soldering tips	EACH 8.10
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Weller® EC Series Soldering Stations

— NEW —

EC2002M Series

The EC2002M Series has a three digit LED read out displaying temperature settings and tip temperature with resolution of $\pm 1^\circ\text{F}$. Tip temperature "set" mode included in the dial control. With the addition of the WCM1-Calibrator the station has the following features; user calibration, lockout, $\frac{1}{2}$ read out, temperature set-back and automatic shut off. Continuously variable tip temperature from 350-850°F. Positive temperature coefficient sensor deep inside tip provides temperature feedback to maintain tip temperature at set point. Zero crossing control of heater current to eliminate RF/EMI and accurate time proportioning to reduce tip temperature hysteresis are features of the control circuit and ensure against any high voltage spikes or magnetic fields on the soldering tip. A transformer isolates the EC power unit from the AC line. External fuse allows easy maintenance by user. 24 VAC isolated voltage drives the heating element. The irons are interchangeable on all EC units and do not require recalibration. Power unit provided with extra large sponge and iron holder. All EC stations meet the following Mil Specs DOD STD 2000-1A, DOD STD 1686, Mil-S-45743, W-S-6356 and W-S-570.

Stock No.	Mfr.'s Type	Description	EACH
984-0500	EC2002M-1	Complete station with EC1201A 42 W handpiece and ETA tip	398.24
984-0510	EC2002M-2	Complete station with EC1302A 20 W handpiece and EPH101	398.24
984-0502	EC2002M-3	Complete station with EC1503A 42 W high performance handpiece and EMA tip	416.68
984-0515	WCM1	Calibrator for Micro-Controller Stations	192.24

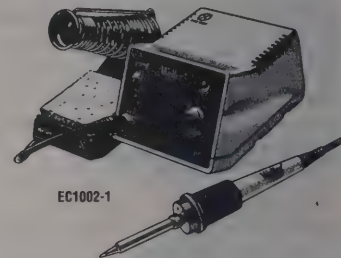
EC1002 Series

The EC1002 Series is a dial controlled electronic soldering station. The dial is calibrated in 10°F (6°C) steps and provides accurate temperature control at all times. The control of the station ensures maintenance of the temperature selected ($\pm 10^\circ\text{F}$). The unit is fully calibratable by the user and has an external fuse for ease of maintenance. The irons are interchangeable on all EC units and do not require recalibration. Power unit provided with extra large sponge and iron holder. All EC stations meet the following Mil Specs DOD STD 2000-1A, DOD STD 1686, Mil-S-45743, W-S-6356 and W-S-570.

984-0100	EC1002-1	Complete station with EC1201A 42 W handpiece and ETA tip	289.50
984-3000	EC1002-2	Complete station with EC1302A 20 W handpiece and EPH101	289.50
984-6004	EC1002-3	Complete station with EC1503A 42 W high performance handpiece and EMA tip	307.82

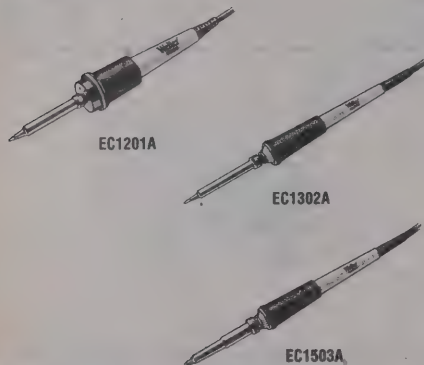


EC2002M-1



EC1002-1

Weller® Irons and Tips For ESD Soldering

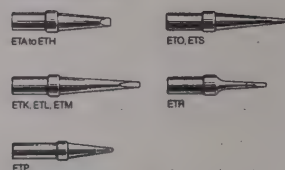


EC1201A

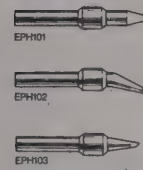
EC1302A

EC1503A

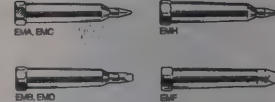
WELLER ET Series Soldering Tips



WELLER EPH Series Soldering Tips



WELLER EM Series Soldering Tips



Tips

The following tips fit the EC1201A soldering iron:

Stock No.	Mfr.'s Type	Description	Tip Size	EACH
984-0210	ETA	Screwdriver	.06"	6.34
984-0222	ETB	Screwdriver	.09"	6.34
984-0300	ETC	Screwdriver	.12"	6.34
984-0301	ETD	Screwdriver	.18"	6.34
984-0302	ETH	Screwdriver	.03"	6.34
984-0303	ETK	Long screwdriver	.04"	6.34
984-0304	ETL	Long screwdriver	.07"	6.34
984-0305	ETM	Long screwdriver	.12"	6.34
984-0306	ETO	Long conical	.03"	6.34
984-0232	ETP	Conical	.03"	6.34
984-0307	ETR	Narrow screwdriver	.06"	6.34
984-0308	ETS	Long conical	.01"	6.34

Tips (continued)

The following tips fit the EC1302A soldering iron:

Stock No.	Mfr.'s Type	Description	Tip Size	EACH
984-3201	EPH101	Micro point	.01"	6.62
984-3202	EPH102	Bent conical	.03"	6.62
984-3271	EPH103	Single flat	.03"	6.62
984-3205	EPH105	Single flat	.04"	6.62
984-3206	EPH106	Screwdriver	.06"	6.62
984-0109	EPH109	Conical	.03"	6.62

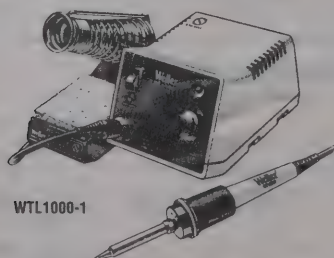
The following tips fit the EC1503A soldering iron:

Stock No.	Mfr.'s Type	Description	Tip Size	EACH
984-3272	EMA	Chisel	.06"	15.06
984-3273	EMB	Chisel	.09"	15.06
984-8810	EMD	Conical	.01"	15.06
984-5015	EMF	Conical	.04"	15.06
984-3274	EMC	Bent conical	.01"	15.06
984-5016	EMH	Chisel	.03"	15.06

Irons

Stock No.	Mfr.'s Type	Description	EACH
984-1201	EC1201A	40 W Soldering Iron with ETA tip	112.46
984-5025	EC1302A	20 W Iron with EPH101 tip	112.46
984-1504	EC1503A	42 W Soldering Iron with EMA tip	130.78

WTL1000 Soldering Stations



WTL1000-1

Tip temperature controlled by Thermolock® "keys" — provides operator lockout. Tip temperature automatically set to within $\pm 10^\circ\text{F}$ with insertion of different Thermolock® "key". Safety features powers iron down to 350°F if "key" is removed while unit is on. Electrostatic dissipative (ESD, Safe), UL listed. For use with 40, 20, and 42 watt irons. Iron stand, with tip storage, positions left, right or remotely off main unit. **Spec. Compliance:** DOD-STD-2000, Mil-S-45743, W-S-6356, W-S-570 and DOD-STD-1686.

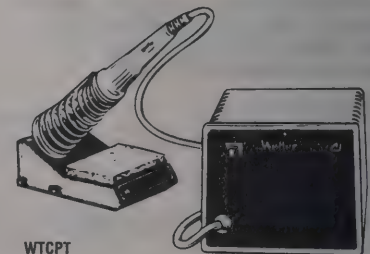
Stock No.	Mfr.'s Type	Description	EACH
984-9924	WTL1000-1	ESD station EC1201A, 40 W pencil, ETA tip, stand and keys	288.36
984-9960	WTL1000-2	ESD station EC1302A, 20 W pencil, EPH101 tip, stand and keys	288.36
984-9962	WTL1000-3	ESD station EC1503A, 42 W pencil, EMA tip, stand and keys	306.70

Controlled Output Station

- Automatic Output and Temperature Control
- Lightweight Iron
- UL Listed
- Impact-Resistant Case

Model WTCPT. This closed-loop, low-voltage circuit automatically controls output and temperature in three ranges: 600°F (315°C), 700°F (371°C), and 800°F (427°C). The operator selects temperatures by changing grounded, heat-sensing tip with the knurled thumbscrew. This unit's lightweight iron has locking designs for interchangeability and a nonburnable silicone rubber cord. The power unit is in an impact-resistant case and has a unitized on/off rocker switch with indicator light, nonheat-sinking iron holder, storage tray for extra tips, and tip cleaning sponge. **Cord:** 3-wire 4.5' (1.4 m) long. **Tip:** $\frac{1}{16}$ " (1.58 mm) screwdriver tip 700°F (371°C) PTA7 furnished. UL Listed. Features the TC201P iron and is safe for IC soldering.

984-2507, 1-11 EACH 167.12



WTCPT

12-47 EACH 125.34

Replacement Tips for WTCPT Soldering Station

Stock No.	Mfr.'s Type	Description	Temp.	EACH		
				1-11	12-47	48-Up
984-1506	PTA6	$\frac{1}{16}$ " Screwdriver	600°F	6.70	5.03	4.46
984-2106	PTH6	$\frac{1}{32}$ " Screwdriver	600°F	6.70	5.03	4.46
984-2306	PTL6	$\frac{5}{16}$ " Long screwdriver	600°F	6.70	5.03	4.46
984-1507	PTA7	$\frac{1}{16}$ " Screwdriver	700°F	6.70	5.03	4.46
984-1907	PTB7	$\frac{3}{32}$ " Screwdriver	700°F	6.70	5.03	4.46
984-1907	PTC7	$\frac{1}{8}$ " Screwdriver	700°F	6.70	5.03	4.46
984-2107	PTH7	$\frac{1}{32}$ " Screwdriver	700°F	6.70	5.03	4.46
984-2307	PTL7	$\frac{5}{16}$ " Long screwdriver	700°F	6.70	5.03	4.46
984-2350	PTM7	$\frac{1}{8}$ " Long screwdriver	700°F	6.70	5.03	4.46

Stock No.	Mfr.'s Type	Description	Temp.	EACH		
				1-11	12-47	48-Up
984-1500	PTAA7	$\frac{1}{16}$ " Single flat	700°F	6.70	5.03	4.46
984-2000	PTDD7	$\frac{3}{16}$ " Single flat	700°F	6.70	5.03	4.46
984-2370	PTP7	$\frac{1}{32}$ " Conical	700°F	6.70	5.03	4.46
984-2030	PTF7	$\frac{1}{32}$ " Conical flat	700°F	6.70	5.03	4.46
984-1508	PTA8	$\frac{1}{16}$ " Screwdriver	800°F	6.70	5.03	4.46
984-1908	PTC8	$\frac{1}{8}$ " Screwdriver	800°F	6.70	5.03	4.46
984-2308	PTL8	$\frac{5}{16}$ " Long screwdriver	800°F	6.70	5.03	4.46
984-1505	PTAA8	$\frac{1}{16}$ " Single flat	800°F	6.70	5.03	4.46
984-1995	PTDD8	$\frac{3}{16}$ " Single flat	800°F	6.70	5.03	4.46

Tronic Kleen™

- ▶ Ozone Safe Formula
- ▶ Leaves No Residue
- ▶ Ultimate Purity
- ▶ Safe on Paint, Plastics and Insulations
- ▶ Rapid Dry

Contact Cleaner is a special solvent recently developed for use in white rooms for cleaning of sophisticated spacecraft instruments, controls and computers. An extremely high-purity solvent cleaner for cleaning critical metallic and non-metallic surfaces. Removes grease or dirt from sensitive electronic, television or telephone contacts. Does not attack plastics or wire insulations.

596-1000. 4025. Aerosol. 19.7 Fl. oz. 1-11EACH 4.89
12-23EACH 4.07



Tronic Kleen™ of Lube

- ▶ Ozone Safe Formula
- ▶ Ultimate Purity
- ▶ Rapid Dry
- ▶ Safe on Paint, Plastics and Insulations
- ▶ Second Spraying Leaves a Lubricated Surface

Contact Cleaner and Lube is a special solvent recently developed for use in white rooms for cleaning of sophisticated spacecraft instruments, controls and computers. An extremely high-purity solvent cleaner for cleaning critical metallic and non-metallic surfaces. Removes grease or dirt from sensitive electronic, television or telephone contacts. Does not attack plastics or wire insulations. A light spray after cleaning will leave a lubricated surface.

596-1001. 4035. Aerosol. 19.7 Fl. oz. 1-11EACH 4.89
12-23EACH 4.07

SS-500

- ▶ Electronic, Electrical, Industrial
- ▶ Non-Flammable Safety Solvent
- ▶ Cleaner-Degreaser
- ▶ High Di-Electric Strength Low Toxicity

The high solvent power of SS-500 quickly dissolves oils, fats and resins without attacking many plastics, coatings, varnishes or maskings. These solvent properties are particularly important where such items as electronic components, electrical insulation and metals are being cleaned.

596-4635. 4650. Aerosol. 20 Fl. oz. 1-11EACH 4.81
12-23EACH 4.01

Flux-Gone

- ▶ Ozone Safe Formula
- ▶ Contains No Freon
- ▶ Leaves No Residue
- ▶ Quickly Removes Resin Flux, Organic Flux, Soldering Oils, Grease and Other Contaminants

Flux-Gone is a heavy duty solvent that removes solder fluxes, grease, oil, silicones, waxes and other soils leaving a clean residue-free surface. Thorough cleaning makes Flux-Gone the ideal cleaner for all electronic cleaning.

596-1003. 6250. Aerosol. 20 Fl. oz. 1-11EACH 4.88
12-23EACH 4.07

Pro Duster

- ▶ Ozone Safe Formula
- ▶ Contains No Freon
- ▶ Moisture Free
- ▶ Zero Residue
- ▶ Non-Abrasive

Effectively removes microscopic lint, dust, ferrous oxides and other particulates.

596-1002. 6315. Aerosol. 10 Fl. oz. 1-11EACH 9.45
12-23EACH 8.55

421 Silicone Spray

- ▶ Industrial Commercial Machine Shop Transportation
- ▶ Stops Sticking and Squeaking
- ▶ Retards Corrosion
- ▶ Unaffected by Temperature Ranging from -40°F to 400°F

421 Silicone stops squeaking, sticking, binding and retards corrosion. Makes cleaning easier and quicker. Saves valuable time, protects and preserves equipment. Use on any surface — metal, glass, rubber, plastic, painted finishes and fabrics. It is odorless, colorless, non-staining and heat stable — unaffected by temperature ranging from -40° to 400°F. It has unusually low surface-tension properties.

596-1005. 10015. Aerosol. 16 Fl. oz. 1-11EACH 4.88
12-23EACH 4.07

Freeze

- ▶ Ozone Safe Formula
- ▶ Contains No Freon
- ▶ Contains No Prop. 65 Chemicals
- ▶ Instant Chilling to -40°C
- ▶ Quickly Tracks Thermal Intermittents
- ▶ Quick Location Due to Heat Failure
- ▶ Indispensable Tool in Electronic Repair

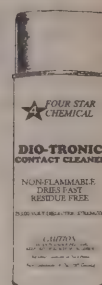
596-1006. 6300. Aerosol. 12 oz. 1-11EACH 9.26
12-23EACH 8.55

Dio-Tronic Electronic Component Cleaner

- ▶ Non-Polar Solvent HCFC
- ▶ Replacement for Freon TF
- ▶ No 1,1,1-Trichloroethane
- ▶ No TF Solvent
- ▶ No Citrus Oil
- ▶ No Petroleum Distillates
- ▶ 26,000 Volt Dielectric Strength
- ▶ Non-Flammable
- ▶ Dries Fast — Residue Free

A high purity, high di-electric, non-flammable spray specially formulated for removing oil, grease, condensation and other contaminants from sophisticated electronic parts. Quick drying formula will not harm Neoprene W, Buna N, Buna S, Silicone Rubber, Butyl, Natural Rubber, Thiokol FA, Hypalon 40, Viton A, Adiprene L, Nordel, Delrin, Zytel, Nylon, Teflon, PVC and Polyurethane. **Note:** Do not use on Styrene or Polystyrene. For other plastics, test on inconspicuous area first. Use on circuit boards, terminals, relays, switches, contacts, circuit breakers, tuners, control panels, motors and other electronic equipment.

596-4075. 4075. Aerosol. 12 oz. 1-11EACH 7.99
12-23EACH 7.25



LB36

- ▶ For Industrial, Machine Shops, Transportation
- ▶ Prevents Rust
- ▶ Loosens Nuts and Bolts
- ▶ Dries Wet Electrical Contacts
- ▶ Non Conductive

LB-36 is a water displacing and anti-corrosion spray. It creeps along surfaces and into cracks to lubricate, prevent rust, loosen frozen parts and displace water. Its uses in the automotive, marine, sporting goods, farm, aviation, electrical and mechanical maintenance fields are unlimited. When an automotive, marine, or any other engine has stalled due to water in the ignition system, just spray on LB-36. It displaces the water and the engine can be started immediately. While working on the engine, LB-36 is an invaluable tool in loosening nuts and bolts, and parts that have been corroded and frozen together. It is also sprayed on all moving parts to make them operate smoother, such as carburetor linkages, windshield wipers, etc.

596-9735. 9735. Aerosol. 12 Fl. oz. 1-11EACH 4.82
12-23EACH 4.02

T.H.C.

- ▶ Professional Video and Audio Tape Head Cleaner
- ▶ Contains No Freon
- ▶ Leaves No Residue
- ▶ Thorough Audio and Video Head Cleaner
- ▶ Removes Deposits from Tape Heads Capstans and Rollers

Safe on metal, rubber, nylon and most plastics. Non-flammable — thorough cleaning action. Do not use on PVC or styrene plastics.

596Q1004. 10850. Liq. 4 oz.PER PK./24 114.00

Block-Out

- ▶ Micronic Protective and Repellent Cleaner and Coating for Plastics/Glass
- ▶ Cleans as It Protects
- ▶ Clear, Invisible, Anti-Fog, Anti-Static
- ▶ Repels Dirt, Dust, Chemicals, Salt Finger Smudges
- ▶ Reduces Wear and Scratching
- ▶ Marks on Treated Surfaces Are Easily Wiped Off
- ▶ Makes Treated Glass and Plastics Easier and Faster to Clean
- ▶ Effective Indoors and Outdoors
- ▶ Rain Helps Wash Outside of Treated Windows
- ▶ Prevents Fogging on Bathroom and Locker Room Mirrors
- ▶ Improves Illumination and Visibility
- ▶ Reduces Maintenance Time — Long Lasting
- ▶ Contains No Abrasives, Waxes or Acids
- ▶ Leaves No Gummy Residue
- ▶ Effective in All Kinds of Weather

Meets the Following Specifications and Tests: MIL-C-25769H stress crazing of aircraft transparencies; MIL-P-25690 stretched modified acrylic sheet; MIL-P-83310 plastic sheet polycarbonate; MIL-P-5425 sheet acrylic plastic; Douglas Aircraft CSD-1-Aircraft transparency; Douglas Aircraft CSD-1-Sandwich corrosion; Boeing Letter-Lexan 9600.

596-6745. 6745. Liq. Qt. 1-11EACH 7.23
12-23EACH 6.02

Anti-Stat

- ▶ End Static Shocks
- ▶ Neutralize Static Electricity
- ▶ Minimize Danger of Fire or Explosion
- ▶ Reduce Product Loss
- ▶ Decrease Downtime
- ▶ Stop all Carpet Shocks
- ▶ Non-Staining
- ▶ Non-Corrosive
- ▶ Non-Oily
- ▶ Non-Greasy
- ▶ Will Not Discolor or Ring

596-1815. 1815. Liq. Qt. 1-11EACH 6.85
12-23EACH 5.70

E-Z-Poxy 20

- ▶ Make Steel-Hard Repairs in 20 Minutes

Each stick of E-Z-Poxy 20 contains premeasured, steel-reinforced epoxy resin and hardener side by side. Equal amounts are easily broken or cut off as needed. Mixing is accomplished quickly and easily. When the putty-like product is uniform in color, and when all streaks disappear it can be applied to the surface being repaired and will set up steel-hard in 20 minutes.

596-8415. 8415. 2 oz. 1-11EACH 8.16
12-23EACH 7.23

12

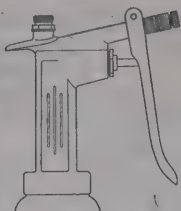
SprēZ Equipment

All products listed on this page must be dispensed with the eZ 100 all metal sprayer (sold separately).

Model eZ 100. Precision Trigger Sprayer.
596-1017. 1-11EACH 28.50
12-23EACH 24.25

Model eZ 100-25. Brass Extension Tube.
596-1018. 1-11EACH 7.25
12-23EACH 6.15

Model eZ 100-75. Spiral Insert.
596-1019. 1-11EACH 1.00
12-23EACH .85



SprēZ T.H.C

- ▶ Thorough Audio and Video Head Cleaner
- ▶ Removes Deposits from Tape Heads, Capstans and Rollers
- ▶ Leaves No Residue
- ▶ T.H.C. is Safe on Metal, Nylon and Most Plastics
- ▶ Professional Video and Audio Magnetic Tape Head Cleaner
- ▶ 16 Fluid Ounces



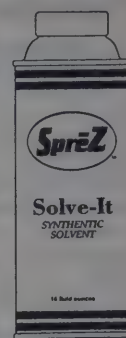
596Q1011. eZ10850PER PK./12 75.12

SprēZ SOLVE-IT

- ▶ Synthetic Solvent Degreaser That Safely Solves

A new environmentally safe blend of solvents for cleaning and degreasing. It does not contain chlorinated, freon or flammable solvents. A safe replacement for 111 trichloroethane, freon, perchloroethylene, mineral spirits, kerosene, and citrus solvents. 16 Fluid Ounces.

596-1016. eZ4725. 1-11EACH 4.83
12-23EACH 4.00



SprēZ TRONIC KLEEN™

- ▶ Ozone Safe Formula
- ▶ Leaves No Residue
- ▶ Ultimate Purity

- ▶ Safe On Paint, Plastics and Insulations
- ▶ Rapid Dry

TRONIC KLEEN is a special solvent recently developed for use in white rooms for cleaning of sophisticated spacecraft instruments, controls and computers. An extremely high-purity solvent cleaner for cleaning critical metallic and non-metallic surfaces. Removes grease or dirt from sensitive electronic, television or telephone contacts. Does not attack plastics or wire insulations. (Authorized by USDA for use in federally inspected meat and poultry plants.) TRONIC KLEEN consists of an ultimate purity solvent which contains no freon or other chlorinated solvent.

596-1007. eZ4025. 16 Fluid Ounces. 1-11EACH 3.66
12-23EACH 3.04



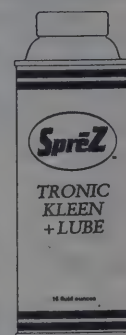
SprēZ TRONIC KLEEN™ + LUBE

- ▶ Ozone Safe Formula
- ▶ Ultimate Purity
- ▶ Rapid Dry

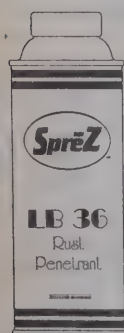
- ▶ Safe On Paint, Plastics and Insulations
- ▶ Second Spraying Lubricates

TRONIC KLEEN + LUBE is a special solvent recently developed for use in white rooms for cleaning of sophisticated spacecraft instruments, controls and computers. An extremely high-purity solvent cleaner for cleaning critical metallic and non-metallic surfaces. Removes grease or dirt from sensitive electronic, television or telephone contacts. Does not attack plastics or wire insulations. A light spray after cleaning will leave a lubricated surface. TRONIC KLEEN + LUBE consists of an ultimate purity solvent plus silicone lubricant, which contains no freon or other chlorinated solvent.

596-1012. eZ4035. 16 Fluid Ounces. 1-11EACH 3.66
12-23EACH 3.04



SprēZ LB 36



- ▶ Loosens Nuts and Bolts
- ▶ Dries Wet Electrical Contacts
- ▶ Non Conductive
- ▶ Prevents Rust

LB-36 is a water displacing and anti-corrosion spray. Its uses in the automotive, marine, sporting goods, farm, and aviation, electrical and mechanical maintenance fields are unlimited.

596Q1010. eZ9735. 16 Fluid OuncesPER PK./12 45.24

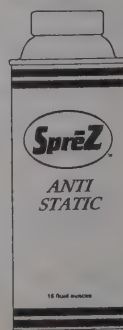
SprēZ ANTI STATIC

- ▶ End Static Shocks
- ▶ Neutralize Static Electricity
- ▶ Minimize Danger of Fire or Explosion
- ▶ Reduce Product Loss
- ▶ Decrease Downtime

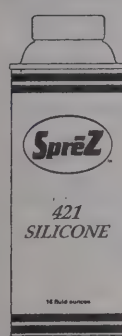
- ▶ Stop All Carpet Shocks
- ▶ Non-Staining
- ▶ Non-Corrosive
- ▶ Non-Oily
- ▶ Non-Greasy
- ▶ Will Not Discolor or Ring

ANTI STATIC is the answer to all of your static electricity problems — just spray on as needed. ANTI STATIC's modern chemical action reduces static charges generated by friction or atmospheric conditions. Continued use actually builds immunity against future static build up.

596-1009. eZ1815. 16 Fluid Ounces. 1-11EACH 2.93
12-23EACH 2.51



SprēZ 421 SILICONE



- ▶ Stops Sticking
- ▶ Stops Squeaking
- ▶ Retards Corrosion
- ▶ Effective From -40°F to 400°F

421 SILICONE stops squeaking, sticking, binding and retards corrosion. Makes cleaning easier and quicker. Saves valuable time, protects and preserves equipment. Use on any surface — metal, glass, rubber, plastic, painted finishes and fabrics. It is odorless, colorless, non-staining and heat stable — unaffected by temperatures ranging from -40°F to 400°F. It has unusually low surface-tension properties.

596Q1013. eZ10025. 16 Fluid OuncesPER PK./12 44.28

SprēZ MOISTURE GONE

- ▶ Penetrates Through Water
- ▶ Restores Electric Current to Water Damaged Equipment
- ▶ Residual Anti-Corrosive Coating
- ▶ Will Not Harden, Evaporate, or Become Brittle

Specifications. Odor: Sweet solvent. Color: Light amber. Spray Pattern: Circular, medium sized particles. Flammability: Non-flammable.

596Q1014. eZ9710. 16 Fluid OuncesPER PK./12 44.28



SprēZ SAFETY SOL



- ▶ Non-Flammable Safety Solvent
- ▶ Cleaner Degreaser
- ▶ High Dielectric Strength
- ▶ Flushes Surface Clean
- ▶ Leaves No Residue
- ▶ Does Not Contain 1,1,1 Trichloroethane

The high solvent power of SAFETY SOL quickly dissolves oils, grease, fats and resins without attacking many plastics, coatings, varnishes or maskings. These solvent properties are particularly important where such items as electronic components, electrical insulation and metals are being cleaned.

596Q1015. eZ4655. 16 Fluid OuncesPER PK./12 44.28

New Series II Chemicals



Airjet

Airjet contains no CFCs, VOCs or HCFCs. Formulated for dusting and cleaning of components and equipment. Contains 100% of 1,1,1,2-tetrafluoroethane which is an alternative for those "dusters" which contain Freon® 12 and Freon® 22 product. Used for blowing dust and residue out of hard to reach places without scratching.

796-1910. 19-8475. 12 oz. (340 gms.) Aerosol.....	EACH	9.35
796-9826. 19-8475-6. 6 oz. (170 gms.) Aerosol.....	EACH	7.00
796-9825. 19-8508. 8 oz. (227 gms.) Aerosol.....	EACH	10.43
796-9827. 19-8475-SF. 12 oz. (340 gms.) Aerosol, Static Free.....	EACH	9.75

Freeze Mist

Freeze Mist contains no CFCs, VOCs or HCFCs. A refrigerant spray, Freeze Mist is used to locate thermal intermittents in electronic components and thermal fitting metal parts. Cools to -60°F.

796-1911. 19-8410. 12 oz. (340 gms.) Aerosol.....	EACH	9.35
796-9846. 19-8410-6. 6 oz. (170 gms.) Aerosol.....	EACH	7.00
796-9824. 19-8410-SF. 12 oz. (340 gms.) Aerosol, Static Free.....	EACH	10.00

Big Bath

Excellent cleaner and degreaser for removing dirt, oil, grease, and fluxes from electronic and electrical components including switches, meters, PC boards, etc. Contains an HCFC blend with no Class I CFCs. This high pressure spray dissolves and flushes away all contaminants. **Note:** All plastic surfaces should be checked for compatibility. **Environmental Data.** CFC: 0%. HCFC: 92%. Cl. Solvent: 0%. ODP: 10. VOC: 5%.

796-1912. 19-902. 12 oz. (340 gms.) Aerosol.....	EACH	6.25
796-1913. 19-903. 22 oz. (624 gms.) Aerosol.....	EACH	11.00
796-9849. 19-902-SF. 12 oz. (340 gms.) Aerosol, Static Free.....	EACH	7.50
796-9847. 19-903-SF. 22 oz. (624 gms.) Aerosol, Static Free.....	EACH	13.25

Dry Kleen

Dry Kleen is formulated to clean all electrical controls, contacts, relays, and other components where oil and grease is not desired. It will not damage electrical parts when used properly. **Note:** All plastic surfaces should be checked for compatibility. **Environmental Data.** CFC: 0%. HCFC: 50%. Cl. Solvent: 26%. ODP: 10. VOC: 47%.

796-1914. 19-8669. 16 oz. (454 gms.) Aerosol.....	EACH	6.33
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VCR Magnetic Head Cleaner

Removes dust, dirt and oxide from heads on VCRs, cassette recorders, and computer drives. Evaporates quickly and leaves no residue. **Note:** All plastic surfaces should be checked for compatibility.

796-1915. 19-5302. 2 oz. (59 ml.) Bottle.....	EACH	3.66
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Heavy-Duty Component Cleaner/Degreaser

Excellent heavy duty cleaner/degreaser for removing dirt, oil, grease, and fluxes from electronic and electrical contacts in switches, motors, PC boards, etc. This product is formulated to dissolve and flush away all contaminants. **Note:** All plastic surfaces should be checked for compatibility. **Environmental Data.** CFC: 0%. HCFC: 65%. Cl. Solvent: 0%. ODP: 10. VOC: 32%.

796-1916. 19-620. 16 oz. (454 gms.) Aerosol.....	EACH	8.33
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Super Kleen

Super Kleen is formulated to clean all electrical controls, relays and other components where oil and grease is not desired. It will not damage any parts when used properly. **Note:** All plastic surfaces should be checked for compatibility. **Environmental Data.** CFC: 0%. HCFC: 97%. Cl. Solvent: 0%. ODP: 10. VOC: 0%.

796-1917. 19-624. 22 oz. (624 gms.) Aerosol.....	EACH	10.40
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Component Bath

Excellent general use cleaner/degreaser for removing dirt, oil, grease and fluxes for electronic and electrical contacts in switches, motors, PC boards, etc. This product is formulated to dissolve and flush away all contaminants. **Note:** All plastic surfaces should be checked for compatibility. **Environmental Data.** CFC: 0%. HCFC: 97%. Cl. Solvent: 0%. ODP: 10. VOC: 0%.

796-1918. 19-901. 16 oz. (454 gms.) Aerosol.....	EACH	13.00
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General Use Flux Solv

General Use Flux Solv is excellent for the removal of most ionic and rosin fluxes from electronic components, PC boards or other surfaces requiring a general use flux remover. **Note:** All plastic surfaces should be checked for compatibility. **Environmental Data.** CFC: 0%. HCFC: 95%. Cl. Solvent: 2%. ODP: 10. VOC: 2%.

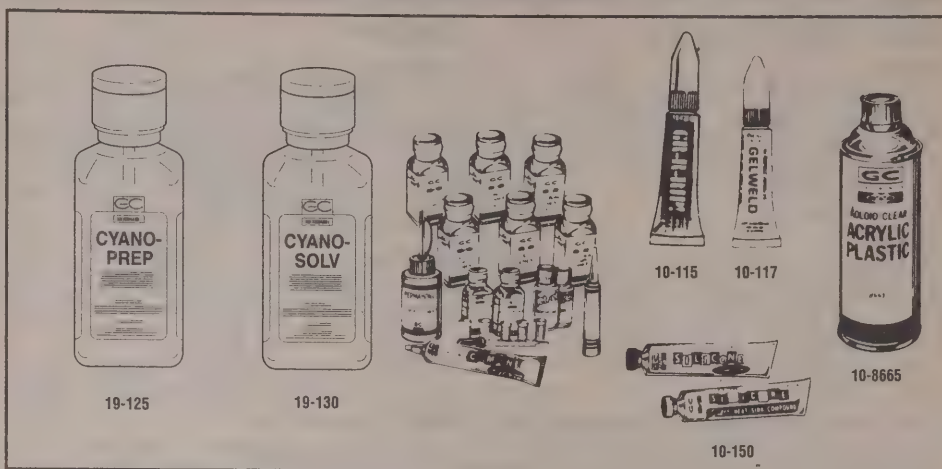
796-1919. 19-228. 16 oz. (454 gms.) Aerosol.....	EACH	10.71
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Extra Strength Flux Solv

Extra Strength Flux Solv is excellent for the removal of most ionic and non ionic fluxes from electronic components, PC boards or any other surface requiring an extra strength flux remover. **Note:** All plastic surfaces should be checked for compatibility. **Environmental Data.** CFC: 0%. HCFC: 85%. Cl. Solvent: 6%. ODP: 10. VOC: 12%.

796-1920. 19-270. 16 oz. (454 gms.) Aerosol.....	EACH	8.95
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All GC Aerosols, except as noted, contain no ecology-damaging fluorocarbons.



Anti Static Products

Anti static formulations minimize the risk of electrostatic damage to sensitive components.

Static Null

Neutralizes and prevents static electricity from reforming. May be used on circuit boards, printers, paper, carpeting, clothing etc. Non-greasy formula.

796-9899. 19-1004. 9.75 Avdp. Oz. Aerosol.....	EACH	5.45
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Optical Cleaner

Contains silicone-glycol polymers which provide a high luster and minimize or eliminate dust attracting static. Cleans dust, dirt and grime without leaving streaks or dulling residue.

796-9897. 19-1710. 16 Fl. Oz. Trigger Sprayer.....	EACH	4.98
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Static-Free CRT Cleaner

For all glass and plastic surfaces. Contains grease cutting ammonia. Cleans dust, dirt and grime without leaving streaks or dulling residue. Economical for home or industry.

796-9898. 19-1700. 14 Avdp. Oz. Aerosol.....	EACH	4.98
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Adhesives

Cyano-Prep/Accelerator

Surface activator and cleaner for all cyanoacrylate adhesives. Provide better, faster curing bonds on materials generally difficult to bond.

796-9833. 19-125. 4 Fl. Oz. (29 ml.) Bottle.....	EACH	5.50
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Cyano-Solv

Solvent for cyanoacrylate adhesives including GR-R-RIP. Releases cyanoacrylate adhesive bonds. Used to clean clothes, tools, spills, etc.

796-9834. 19-130. 1 Fl. Oz. (29 ml.) Bottle.....	EACH	3.56
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GC Epoxy Putty

A two part epoxy in a single tube. Amount needed is cut off and kneaded together. Two minute work life. Applications include: Plumbing repairs, works under water. Electrical, use in place of tape. **Dielectric Strength:** 400 volts/mil. Sets hard in 20 minutes, may be drilled and tapped. **Maximum Useful Temperature:** 300°F.

796-9831. 19-348. 4 Oz. (113.4 gms.) Tube.....	EACH	7.50
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GC Potting Epoxy

Black opaque highly filled epoxy used for potting and encapsulating electronic circuits. Use to environmentally protect or conceal circuits. This product is excellent when used with GC Chassis Boxes. **Working Time (Pot Life):** 1 hour. **Mix Ratio:** 1 to 1. **Temperature Range:** -40° to 180°F. **Electrical Properties.** **Volume Resistivity:** 10¹² at 300°F. **Dielectric Constant:** 4.2 (10⁴ CPS at 77°F). **Dissipation Factor:** .014 (10⁴ CPS at 77°F).

796-9828. 19-823. 9 Oz. Kit.....	EACH	11.38
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Conductive Epoxy

Electrically conductive two part for attaching electrical components. **Mix Ratio:** 1 to 3. **Pot Life:** 40 minutes. **Cure** 24 hours. **Volume Resistivity:** 5.0 x 10⁹ ohm-cm max.

796-9850. 19-2092. 5 gms. Kit.....	EACH	17.90
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Coatings

Koloid-Clear Acrylic Plastic

Acrylic, ester resin base.

796-8665. 19-8665. 15 Oz. (422 gms.) Aerosol.....	EACH	7.29
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Q-Dope

Polystyrene, fast-drying. Leaves a clear protective coating.

796-4335. 10-3702. 2 Fl. Oz. Bottle.....	EACH	4.19
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796-4340. 10-3704. 4 Fl. Oz. Bottle.....	EACH	4.99
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Corona Dope

Quick-drying black lacquer of cellulosic resin. Excellent dielectric, arc and corona resisting properties and protects against moisture, atmospheric effects.

796-4345. 10-4702. 2 Fl. Oz. Bottle.....	EACH	5.39
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Static Free Big Bath

An excellent cleaner, degreaser for removing dirt, oil, grease and fluxes from electronic and electrical equipment. Effective on switches, motors, PC boards, etc. Displaces moisture. Check for compatibility on sensitive plastics.

796-9849. 19-902-SF. 12 Avdp. Oz. Aerosol.....	EACH	7.50
796-9847. 19-903-SF. 22 Avdp. Oz. Aerosol.....	EACH	13.25

Static Free Air Jet

For dusting and cleaning of components and equipment especially in hard to reach places. Nonflammable.

796-9827. 19-8475-SF. 12 Avdp. Oz. Aerosol.....	EACH	9.75
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Static Free Freeze Mist

A refrigerant spray used to locate thermal intermittents in electronic equipment and for thermal fitting. Nonflammable.

796-9824. 19-8410-SF. 12 Avdp. Oz. Aerosol.....	EACH	10.00
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High Strength Flux Remover

A refrigerant spray used to locate thermal intermittents in electronic equipment and for thermal fitting. Nonflammable.

796-4290. 10-7517. 12 Avdp. Oz. Aerosol.....	EACH	7.19
796-4285. 10-7521. 18 Avdp. Oz. Aerosol.....	EACH	10.09

5-Minute Epoxy Cement

Clear, fast-curing two-part Epoxy. Handle in 8-12 minutes.

796-4290. 10-114. 2 Fl. Oz. Tubes.....	EACH	5.29
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GR-R-RIP

World famous alpha cyanoacrylate rapid bonding adhesive. Bond strength not affected by temperatures from -112°F to +212°F (-80°C to +100°C).

796-4219. 10-115. 0.75 Fl. Oz. Tube.....	EACH	4.49
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Gelweld — Gel Cyanoacrylate Adhesive

Alpha Cyanoacrylate super strength adhesive in a "gel" form — will not drip or run. Fills gaps well.

796-4217. 10-117. .101 Fl. Oz. Tube.....	EACH	4.49
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Electronic Grade Silicone Sealant/Adhesive

One part non-corrosive, neutral cure electronic grade silicone sealant. Will remain flexible from -60°C to +200°C (-70°F to +390°F). An excellent adhesive for many electrical and electronic applications where corrosion to metals is a problem. Good dielectric properties, high surface resistivity and resists electrical tracking. Meets the requirements of Mil-A-46146A-Type 1; meets the requirements of FDA status, FDA Regulation #177.260.

796-9845. 19-155. 3 Fl. Oz. (90 ml.) Tube.....	EACH	5.50
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Silicone Rubber Adhesive Sealant

Excellent elastomer cures to a tough rubbery solid. Resists weathering, vibration and exposure to oil, moisture, ozone and temperatures from sub-zero to 450°F. Cures in 20 minutes.

796-4305. 10-150. 3 Fl. Oz. Tube Clear.....	EACH	6.99
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Plastic Cement

Perfect for all plastics; acetates, butyrates, vinyls, phenolics.

796-3630. 10-324. 2 Oz. (57 gms.).....	EACH	4.59
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Red X Corona Dope

Thixotropic polyester base red enamel. Excellent adhesion. Is oil and waterproof. Insulation of high voltage components especially in high humidity areas.

796-2068. 10-5002. 2 Fl. Oz. Bottle.....	EACH	7.39
796-3645. 10-5012. 12 1/4 Avdp. Oz. Aerosol.....	EACH	7.79

Red Gtpt. Insulating Varnish

Alkyd based resistant to environmental extremes, including oils, water, acids and alkalis. Retains high dielectric strength even if wet.

796-3670. 10-9002. 2 Fl. Oz. Bottle.....	EACH	5.59
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Printed Circuit Soldering Chemicals

Silver Print. Draw or repair printed circuits. Made of pure silver. Air drying.

796-2035. 22-201. 1/2 Troy Oz. Bottle.....	EACH	52.99
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All GC Aerosols, except as noted, contain no ecology-damaging fluorocarbons.

Contact/Tuner Cleaners

Jiffy Bath

Consists of solvents, safe for use on most materials. It possesses a balanced ratio of cleaning solvents to lubricating and protecting ingredients. Contains silicone oils which will not oxidize and will remain active as protective coating and lubricating agent for years, even under adverse environmental conditions such as high humidity and contaminated atmosphere. One of the most universal and safe contact cleaners and may be used on all rotating and sliding contacts in any types of switches or controls.

796-1963. 19-638. 4 Oz. Aerosol.....EACH 3.26
796-9815. 19-640. 10 Oz. Aerosol.....EACH 7.00

DE-OX-ID

Light, oil based contact treatment compound with active ingredients to counteract oxidation. Lowers contact resistance, inhibits arcing, lubricates and protects against corrosion. For use on connectors, sockets, potentiometers, switch contacts, battery connections, telescoping antennas, relay and thermostat contacts. Should be applied sparingly (e.g. with a toothpick or a hypodermic needle injector) on dirty, dusty and heavily oxidized contacts. Precleaning with a solvent type cleaner is recommended. Best results are obtained with small amounts.

796-9839. 19-1906. 4 Oz. (113.4 gms.). Aerosol.....EACH 6.50

GC Bath Contact Cleaner/Degreaser for De-Energized Equipment

GC Bath is formulated as a heavy duty cleaner/degreaser. Exceptional performance can be expected where heavy buildups of grease, oil, dirt, grime, adhesive, and other unwanted substances are encountered. This strong action product can be sprayed on the surface to break down, wash away, and clean grease from equipment, floors, work areas, engines, metal parts, and any area needed to be cleaned. GC Bath has been found to be effective to remove adhesive and adhesive overspray from surfaces. Test for compatibility with sensitive plastics. GC Bath is formulated with no chlorinated solvents and thus has no ozone depleting chemicals. No CFCs. No HCFCs.

796-9848. 19-725. 10 Oz. Aerosol.....EACH 6.38

Little Bath

Hydrocarbon (petroleum) based cleaner/lubricant. Provides long lasting lubricating and oxidation protection for electrical controls and contacts. Applications include: Switches, contacts, potentiometers, tools, mechanical and electrical components. Not for use on energized equipment. Safe for most plastics, check for compatibility.

796-9841. 19-723. 4 Oz. (113.4 gms.). Aerosol.....EACH 3.60

GC Flux Solv for De-Energized Equipment

GC Flux Solv is excellent for the removal of ionic and Non-ionic fluxes from electronic components, PC boards or other surfaces requiring an extra strength flux remover. Fast evaporation. GC Flux Solv is formulated with no chlorinated solvents and thus has no ozone depleting chemicals. No CFCs or HCFCs.

796-9843. 19-825. 10 Oz. Aerosol.....EACH 6.48

Cleaning Compounds

GC Natural Citrus Cleaner

Excellent non-corrosive cleaner/degreaser with pleasant citrus scent. Safely removes most adhesives, plastics and tape residue. Created out of concern for the environment, this natural citrus cleaner is effective for removal of adhesives, grease, oil, stains, road tar, rubber marks, residue from decals, heel marks, graffiti, lipstick, release agents, and even soap film. Use where chlorinated solvents are not recommended. This can be used safely on most substrates, including painted surfaces, glass, porcelain, concrete, and is compatible with most plastics. This product does not contain ozone depleting chemicals. No CFCs. No HCFCs.

796-9838. 19-700. 12 Oz. Aerosol.....EACH 7.75
796-9896. 19-704. 4 Oz. Aerosol.....EACH 2.98

Special Chemicals

Polystyrene O-Dope Thinner

Thins polystyrene base dopes and cements.

796-4360. 10-4104. 4 Fl. Oz. Bottle.....EACH 4.29

EMI-RFI Shield

An extremely conductive graphite coating. Adheres to glass, plastics for protecting circuitry from external interference or containing low level signals. 75 ohms/square at 1 mil.

796-4375. 10-4807. 12 Avdp Oz. Aerosol.....EACH 21.29

Silicone Heat Sink Compound

Zinc oxide filled silicone grease with heat transfer properties. Does not soften under elevated temperatures. Will not dry and harden.

796-8109. 10-8109. 1 Fl. Oz. Tube.....EACH 10.89

Silicone Compound

Soft Inert Silicone Grease for moisture proofing connections with excellent dielectric properties. Also lubricant for rubber and plastics.

796-8101. 10-8101. 1 Fl. Oz. Tube.....EACH 9.99

Type 44 Heat Sink Compound

Non-contaminating Synthetic-Ester based, capable of moving 46% more heat than other compounds. Passed Western Electric Std. KS-21343 and exceeds MIL performance Spec. MIL-C-47009.

796-4390. 10-8118. 1/2 Fl. Oz. Tube.....EACH 11.59

796-4395. 10-8120. 1 Fl. Oz. Tube.....EACH 18.49

796-4400. 10-8126. 1 Pound Jar.....EACH 62.00

Type 22-270 Solder Flux Remover and Cleaner

Convenient, fast and easy to use. Removes all types of organic flux. Use within one hour of soldering. Simply spray and wash from top to bottom. No CFCs. No HCFCs.

796-2037. 22-270. 16 Avdp Oz. Aerosol.....EACH 10.19

Liquid Solder Flux

Completely non-corrosive liquid solder flux consisting of a solution of special rosin in alcohol. Contains no traces of acids or chlorides and is completely safe to use on even the most delicate electronic equipment.

796-4202. 10-4202. 2 Fl. Oz. (59 ml). Bottle.....EACH 4.67

Lubricants

Lubriplate

Grease type super lubricant reduces friction loss, prevents rust and corrosion.

796-2040. 10-2302. 1 1/4 Oz. (50 gms.). Tube.....EACH 4.89

GC 70 Rust Penetrant and Lubricant

Effectively cleans most surfaces of grease, tar, grime, and contains a long lasting lubricant that continues to lubricate long after other products have evaporated. Use on dies and molds, tools, vending equipment, windows, doors, locks, rusted bolts or fittings, linkages, cables, chains, cranks, electronic gear, battery terminals, plus thousands of other uses.

796-9816. 19-070. 10 Oz. Aerosol.....EACH 2.50

GC TFE Coat

GC TFE Coat is all purpose dry film coating that contains minutes Teflon particles in tough, durable, long lasting binder (paint). Resistant to friction, chemical corrosion, rust and weathering.

796-9817. 19-800. 14.5 Oz. (411 gms.). Aerosol.....EACH 6.25

GC Dry TFE

GC Dry TFE is an all purpose dry film lubricant and release agent that contains minute Teflon particles to lubricate where a dry lubricant is needed. Excellent as a mold release and for potting compounds.

796-9818. 19-810. 4 Oz. (113.4 gms.). Aerosol.....EACH 4.25

Conductive Grease and Anti-Oxidant Compound

A lithium soap base grease with Zinc and graphite fillers. As a lubricant, it will dissipate static charges (use only in light load applications). Also useful for wire connectors and aluminum conduit joints. Penetrates aluminum oxide to maintain inter-strand and inter-conductor current paths. Guards against oxidation, improves conductivity and produces a cooler connection.

796-9821. 19-820. 1 Oz. Tube.....EACH 3.10

Graphite Lubricant

Dry powdered graphite is the finest lubricant for metal, wood, plastic, and rubber. (No solvents to harm plastics.) Guards against sticking and dirt build up. Reduces wear and corrosion. Ideal for many uses including locks, hinges, doors, wheels, and rubber parts.

796-9822. 19-821. 1 1/4 Oz. Squeeze Bottle.....EACH 2.90

GC Compu-Lube Moly/PTFE Lubricant

Super low friction, low wear, low viscosity lubricant for the micro computer age. Effective from -60 to +500°F. Applications: Computers, CD and VCR units, printers and all high speed mechanisms.

796-9819. 19-832. 0.5 Fl. Oz. (14 ml). Squeeze Tube.....EACH 6.50

Non-Aerosol Cleaner

Isopropyl Alcohol (Anhydrous). This extremely pure alcohol is frequently the recommended cleaner by manufacturers of tape heads, disc drives, etc. Does an excellent job of dissolving and removing oxides from recording heads, also an excellent degreaser. This pure alcohol contains no water, usually a problem with alcohols, and leaves no residue. Suggested for use with swabs, clean cloth, or by immersion.

796-1507. 10-1507. One Pint (16 Fl. Oz.) Can.....EACH 6.09

Cements

Service Cement

Quick drying and waterproof clear cement. Use on porous or semi-porous materials such as metals, plastics, etc.

796-4320. 10-302. Btl. 2 Fl. Oz. Bottle.....EACH 5.59

796-4325. 10-304. Btl. 4 Fl. Oz. Bottle.....EACH 5.89

Rubber to Metal Cement

Bonds synthetic rubber, metal, wood, and plastic. Dries quickly and produces a lasting bond.

796-4330. 10-352. 2 Fl. Oz. Bottle.....EACH 4.59

GC Bond Nitrile Cement

Produces a waterproof, resilient, and long-lasting flexible bond on metals and glass. Dries 15 to 30 minutes.

796-3640. 10-4302. 2 Fl. Oz. Bottle.....EACH 5.39

Epoxy Glue

Specified by N.A.S.A. for use in its space program. Super grip, slow set. A drop holds tons. Two 2 oz. (57 gms.) tubes of resin and hardener.

796-2098. 10-347. 2 Oz. (57 gms.). Tube.....PER PKG./2 11.65

Acrylic Cement

Specially formulated to mend acrylic materials such as lucite and plexiglass. Forms an inseparable, usually invisible joint.

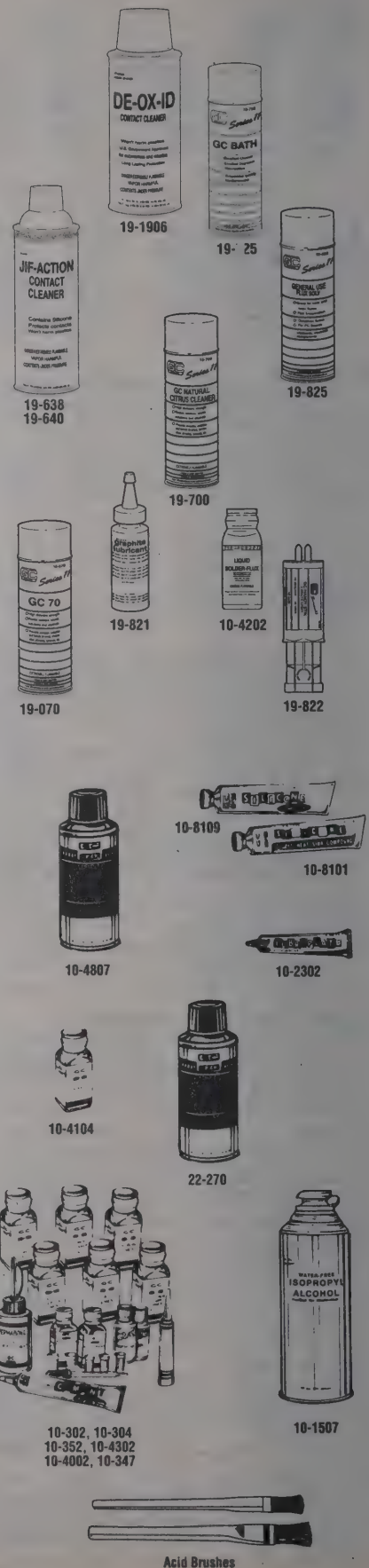
796-2060. 10-4002. 2 Oz. (57 gms.). Bottle.....EACH 4.19

Acid Brushes

Brushes for cleaning with solvents, applying coatings and a host of other uses. These brushes are economical enough to use as throw-aways in many applications. Or may be used repeatedly with cleaners such as Freon TF, Chlorothene, Flux Solv, etc. Handles are of tin plated steel and bristles a medium-fine horse hair. Also fine for dusting keyboards, optics, etc. All 6" long, width below refers to width at base of bristles.

Stock No.	Mfr.'s Type	Width (Bristle)	Qty. Per Pkg.	Description	PER PKG.*
796-0251	10-251	3/8"	4	No. 1 Acid Brush	2.29
796-0252	10-252	7/16"	4	No. 2 Acid Brush	2.49
796-0253	10-253	1/2"	3	No. 3 Acid Brush	2.49
796-0255	10-255	3/4"	2	No. 5 Acid Brush	2.69
796-0259	10-249	—	—	Assortment, 7 pcs.	6.09

*NOTE: Bulk pricing can be obtained if you have bulk requirements of 1000+.



Standard Fluxes, Thinners, and Cleaners



Chemicals

#5768 Bio-Clean Saponifier

Saponifiers turn rosin residue into a water soluble soap. #5768 is used as an alternative to ozone depleting chemicals used to remove rosin flux residues. A 4% to 10% solution is made with water and then followed by a water rinse. Available in quart and 1 gallon units.

833-6214. 63-0000-5768. 1 gallon.....EACH 51.20
833-6215. 62-0000-5768. 1 quart.....EACH 20.60

Residue Remover

Formula 5315 Residue Remover

Kester No. 5315 is a solvent blend designed for use as a cleaner for automated conveyor fingers in soldering machines. It is specifically developed for removal of built up residues from low solids "No-Clean" fluxes. Continuous use of 5315 prevents excessive flux residues from contaminating the conveyor and transferring to the circuit board assembly. The solvent cleaner is more effective than isopropyl alcohol and other commonly used solvents.

833-1135. 63-0000-5315. 1 gallon.....EACH 29.60
833-1136. 62-0000-5315. 1 quart.....EACH 11.80

RMA Fluxes

186 RMA Mildly Activated Rosin Flux

Kester's standard mil-approved rosin flux for electronics. It can be applied by dip, wave, foam, and other methods. Available in quart and 1 gallon units.

833-6300. 63-0000-0186. 1 gallon.....EACH 47.80
833-6200. 62-0000-0186. 1 quart.....EACH 19.20

Water Soluble Fluxes

1429 Water Soluble All Purpose Flux

Has been one of Kester's standard water washable materials for a long time. It is capable of soldering to most metals including some mild steels, but is not generally used for wave soldering. Available in quart and 1 gallon units.

833-6304. 63-0000-1429. 1 gallon.....EACH 33.60
833-6305. 62-0000-1429. 1 quart.....EACH 13.40

2224-25 Organic Acid Water Soluble Flux

Kester's strongest flux for wave soldering. It is recommended where component and board quality are difficult to control. Available in quart and 1 gallon units.

833-6306. 63-0025-2224. 1 gallon.....EACH 37.00
833-6307. 62-0025-2224. 1 quart.....EACH 14.80

2331-ZX Neutral pH Water Soluble Flux

Relatively mild and safe water soluble flux used for electronic assembly. The residues left after soldering are still conductive, however, and must be removed in most applications. Available in quart and 1 gallon units.

833-1225. 63-0097-2331. 1 gallon.....EACH 40.40
833-1226. 62-0097-2331. 1 quart.....EACH 16.20

HF-1189 VOC (Volatile Organic Compound) Free Water Soluble Flux

A water based, halide (chloride) free liquid flux that combines moderate activity with environmental friendliness. It contains no alcohols which are photochemically reactive and been linked to global warming. The residue left after soldering must be cleaned with water. Available in quart and 1 gallon units.

833-6308. 63-0086-1189. 1 gallon.....EACH 81.80
833-6309. 62-0086-1189. 1 quart.....EACH 32.80

120 Thinner

A mixture of alcohols used to replace lost solvent in 186 liquid flux. Solvent is commonly lost when liquid flux is applied by foaming or waving. Available in quart and one gallon units.

833-6301. 63-0000-0120. 1 gallon.....EACH 23.80
833-6201. 62-0000-0120. 1 quart.....EACH 9.60

Low Solids, No Clean Fluxes

951, 2% Low Solids No-Clean Flux

Kester's best selling Low solids flux. It combines good activity with no visible residue after wave soldering. The low solids content helps to eliminate defects when soldering bottom side surface mount components, but overall board and component solderability must be good for best results. #951 can be foamed, waved or sprayed and also comes in a flux pen. Available in quart and one gallon units.

833-6202. 63-0000-0951. 1 gallon.....EACH 35.00
833-6203. 62-0000-0951. 1 quart.....EACH 14.00

110 Thinner

Contains a mixture of alcohols used to replace solvents lost when using #951 liquid flux. Available in quart and one gallon units.

833-6204. 63-0000-0110. 1 gallon.....EACH 26.60
833-6205. 62-0000-0110. 1 quart.....EACH 10.60

#961, 3% Low Solids No-Clean Flux

A higher activity version of Kester #951 which has better solderability, but leaves behind a little more residue. It is recommended when component solderability or boards design require a flux which is slightly more active than #951. Available in quart and 1 gallon units.

833-6206. 63-0000-0961. 1 gallon.....EACH 36.40
833-6207. 62-0000-0961. 1 quart.....EACH 14.60

#111-B Thinner

Contains a mixture of alcohols which are used to replace solvents lost when using Kester #961 liquid flux. Available in quart and 1 gallon units.

833-6208. 63-0002-0111. 1 gallon.....EACH 25.60
833-6209. 62-0002-0111. 1 quart.....EACH 10.20

#970 VOC (Volatile Organic Compound) Free No-Clean Flux

The way that all liquid fluxes will eventually evolve. It combines environmental friendliness with cost effective no-clean technology. It is a water based, halide free liquid flux that can be applied by dip, spray, wave or foam. Although thinning is not normally required, ordinary deionized water can be used. Kester has applied for a patent to protect the technology. Available in quart and 1 gallon units.

833-6210. 63-0000-0970. 1 gallon.....EACH 57.00
833-6211. 62-0000-0970. 1 quart.....EACH 22.80

RA Fluxes

1515 RA 15% Solids Activated Rosin Flux

Developed for wave soldering of consumer or non-critical electronic assemblies. It can also be used for other general applications. Even though 1515 is a fully activated flux many customers do remove the residue after cleaning. Available in quart and 1 gallon units.

833-6302. 63-0000-1515. 1 gallon.....EACH 33.40
833-6303. 62-0000-1515. 1 quart.....EACH 13.40

Formula 4662 Thinner

A mixture of alcohols used to replace lost solvent in Kester formulas 1515, 2224-25, and 2331-ZX. Available in quart and 1 gallon units.

833-1230. 63-0000-4662. 1 gallon.....EACH 22.80
833-1231. 62-0000-4662. 1 quart.....EACH 9.20

1544 RA 50% Solids Activated Rosin Flux

The liquid version of Kester 44 resin. The high solids content gives it good heat stability for dipping and hand applications. Available in quart and 1 gallon units.

833-1201. 63-0000-1544. 1 gallon.....EACH 38.60
833-1200. 62-0000-1544. 1 quart.....EACH 15.40

104 Thinner for 1544

Available in quart and 1 gallon units.

833-1202. 63-0000-0104. 1 gallon.....EACH 33.40
833-1203. 62-0000-0104. 1 quart.....EACH 13.40

Anti-Static Products

Zero Charge Static Dissipative Treatment

Durable static-dissipative treatment for any surface. No carbon or metal fillers, non-sluffing, non-corrosive, ammonia-free. Will not fade, yellow, or shrink paper or corrugated fiber. Use on cardboard storage or shipping boxes, paper, carpet, draperies, foam, clothing, smocks, packing material, plastic, glass, and metal.

907-1734. 1734-Qt. 1 Qt. Ready to use.....EACH 11.97
907-2735. 1734-Pint. Pint. Concentrate.....EACH 9.63

1726 Zero Charge Anti-Stat

Zero Charge Anti-Stat is a Chloride-Free Industrial Grade topical Anti-Stat with no free amines. The extremely low surface tension provides excellent wetting to eliminate hot spots or voids. Safe on plastic. Will not attract dust or particulate contamination. Designed for use on any area or material where static buildup causes problems. **Meets or Exceeds:** MIL-B-81705B and NFPA 56A.

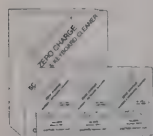
907-1686. 1726-QT*. 1 Qt. With Sprayer.....EACH 11.82
*Ready to use.



1743 Zero Charge Anti-Static Screen and Keyboard Cleaner

For optical clarity and distortion free reading. Removes grease, dust, salts, grime, inks, fingerprints, nicotine, syrups, soot, and carbon paper residue. Safe on ceramics, plastic, glass, metal, and elastomers. Use with Zero Charge Anti-Static Techclean Swabs to clean hard to reach areas.

907-1687. 1743-QT. 1 Qt.....EACH 12.15
907-2687. 1743-50 PK. 50 Packet Box.....EACH 14.11



1742 ETC

An anti-static cleaner for computer enclosures, plastic, glass and metal. Effectively removes dirt, nicotine, grease, oil, inks, dust, fingerprints and grime. Non-Streaking, Non-Abrasive, Non-Flammable, Non-Scratching.

907-1653. 1742-Qt. 1 Qt.....EACH 11.47



1733 Zero Charge Anti-Static Mat and Table Top Cleaner

Anti-static, non-abrasive cleaner for general use in all areas. Leaves no film, non-streaking, non-flammable and non-scratching. Contains no alkali or ammonia. Will not leave a soap scum or hard water buildup that can cause an insulation barrier on static-sensitive areas. Can be used in conjunction with Techclean Wipers (No. 2350) or standard paper towels.

907-1733. 1733-Qt. 1 Qt.....EACH 9.27
907-2733. 1733-G. 1 Gal.....EACH 22.24
907-1735. 1733-PT.....EACH 7.65



1702 Zero Charge Anti-Static Hand Lotion

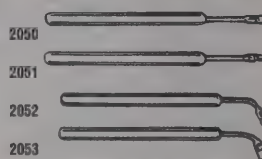
Specifically formulated to dissipate static charge from operators' hands and helps to eliminate electrostatic discharge on electric components and equipment. Formulated with Aloe Vera for a deep, penetrating, soothing action. Contains no silicone or lanolin. Non-greasy, non-sticky, odorless and fast absorbing.

907-2702. 1702-8FP. 8FL.oz.....EACH 3.83



Inspection Station and Instrument Cleaning Brushes

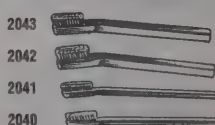
- ▶ Easy-Grip 1/4" Delron Handles
- ▶ Small Diameter for Use Under Magnification (1/8" Neck)
- ▶ Straight and Angled Handles
- ▶ Solvent Resistant
- ▶ Brush Face 3/16" x 1/16". Overall Length 5 1/2"



Stock No.	Mfr.'s Type	Bristle Material	Bristle Angle	Application	EACH	
					1-11	12-24
907-2050	2050-1	Nylon	Straight	Light cleaning	7.25	6.20
907-2051	2051-1	.003 St. steel	Straight	Precious metal, stubborn debris	8.25	7.58
907-2052	2052-1	.003 St. steel	75° Angle	Precious metal, stubborn debris	8.25	7.58
907-2053	2053-1	Nylon	75° Angle	Light cleaning	8.25	7.58

Cleanroom Brushes

- ▶ Anodized Aluminum Handles
- ▶ Rebristtable
- ▶ ESD-Safe Stainless Steel or Natural Horsehair bristles
- ▶ Bristle Length 7/16"
- ▶ Overall Length 6 1/2"



Stock No.	Mfr.'s Type	Bristle Material	Brush Face	Application	EACH	
					1-11	12-24
907-2040	2040-1	Horse hair	1/8" x 1 1/4"	Light and medium accumulations	7.25	6.70
907-2041	2041-1	.003 St. steel	1/8" x 1 1/4"	Oxides and deposits for precious metals	8.64	7.98
907-2042	2042-1	Horse hair	3/8" x 1 1/4"	Same as 2040 for larger areas	12.63	11.89
907-2043	2043-1	.003 St. steel	3/8" x 1 1/4"	Same as 2041 for larger areas	13.48	13.00

SMT Stencil Cleaners and Wipers — NEW —

SMT Stencil Cleaner

Hydrocarbon-based, non-ozone depleting stencil cleaner effectively removes solder paste from screens, misprinted boards and equipment. Its proprietary blend works on most wet or dried thick film and solder paste compositions. Ideal for hand cleaning application equipment and misprinted substrates. The solvent's high flash point reduces risk of flammability. Its non-corrosive nature makes the cleaner a perfect choice for precious metals.

907-7001. 1693-25Q. 25 Qt. 1-23.....EACH 5.19 24-Up.....EACH 4.79
907-7002. 1693-DSP. DSP. 1-11.....EACH 15.90 12-Up.....EACH 14.67



SMT Stencil Wiper

Specifically designed for cleaning surface mount stencils and screening equipment.

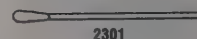
907-7000. 2358-50. 1-5.....PK./50 45.82 6-Up.....PK.50 42.29

Tech Swabs

2301 Cotton/Wood Swab, Single-Tip

3/16" wide cotton wrapped tip, cushions 6" wood handle, static neutral swab, antistatic package. Packed in cleanroom.

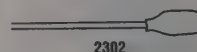
907-2300. 2301-100.....PK./100 2.21
907-2301. 2301-1000.....PK./1000 20.08



2302 Absorb-Tip Foam Swab

7/16" foam tip, 6" ESD-safe polypropylene handle, 100% lint-free, non-contaminating solvent resistant polyurethane foam tip. Antistatic package. Packed in cleanroom.

907-1685. 2302-50.....PK./50 9.82
907-2302. 2302-1000.....PK./1000 117.44



2303 Narrow-Tip Foam Swab

1/4" foam tip, 6" ESD safe polypropylene handle. 100% lint-free, non-contaminating, solvent resistant polyurethane foam tip. Antistatic package. Packed in cleanroom.

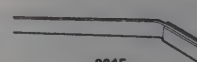
907-2303. 2303-50.....PK./50 9.35
907-2704. 2303-1000.....PK./1000 124.90



2314/15 Chamois-Tip Head Cleaner Swabs

Low-lint synthetic chamois tip, ESD-safe polypropylene handle.

907-2314. 2314-50-Straight Head.....PK./50 18.62
907-2715. 2314-1000-Straight Head.....PK./1000 295.20
907-2316. 2315-50-Angled Head.....PK./50 19.04
907-2317. 2315-1000-Angled Head.....PK./1000 311.20



Tech Clean Wipes

2350 Techclean Wiper

Highly durable, high absorbing, hydroentangled cellulose/polyester wipe with extra low particulate and chemical extractables. Antistatic package. Packed in cleanroom.

907-2350. 2350-100. 9" x 9".....PK./100 14.35

Technical Cleaning Brushes

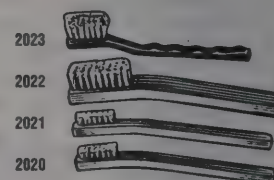
- ▶ Heavy Duty Metal Handles
- ▶ No Contaminating Adhesives
- ▶ Non-Static Generating Natural Bristles
- ▶ Can Be Used With or Without Fluids
- ▶ Bristles Material-Horse Hair, Except 2030-Goat Hair



Stock No.	Mfr.'s Type	Bristle Length/Cut	Overall Length	Handle Dia.	Application	EACH	
						1-11	12-24
907-2030	2030	1/8" Bristle	3 9/16"	1/8"	Fine detail cleaning or fluid application	5.25	4.72
907-2031	2031	1/4" Chisel Trim	5 3/16"	3/16"	Side "A" light cleaning	5.25	4.72
907-2032	2032	1/4" Chisel Trim	5 3/16"	3/16"	Side "B" med. accumulations	5.25	4.72
907-2033	2033	1/2" Bristle Width	5 1/8"	3/8"	General circuit board detailing solder balls or heavy flux Duster/Cleaner	3.83	3.53

General Cleaning Brushes

- ▶ Easy-Grip Polypropylene or Static-Neutral Wood Handles
- ▶ Non-Static-Generating Bristles of Metal or Natural Horse, Goat or Hog's Hair
- ▶ Bristle Tips Cut to Maximize Cleaning and Minimize Bristle Wear for Long Brush Life



Stock No.	Mfr.'s Type	Bristle Material	Handle Material	Brush Face	Application	EACH	
						1-11	12-24
907-2020	2020	Horse hair	Wood	5/16" x 1 3/8"	General flux removal, light cleaning	1.95	1.83
907-2021	2021	Hog's hair	Wood	5/16" x 1 3/8"	Stubborn, dried or gummy residues	2.95	2.61
907-2022	2022	Hog's hair	Wood	1" x 2 1/4"	Same as 2021 for larger areas	5.85	5.54
907-2023	2023	Horse hair	Polypropylene	5/16" x 1 1/4"	Dusting from any surface, fine crevices	2.95	2.55

Eco Line

— NEW —



Cleaner/Degreaser	
907-1621. 1620-10S	EACH 8.28
907-1622. 1620-P	EACH 7.76
Flux Remover	
907-1623. 1621-10S	EACH 8.47
907-1624. 1621-P	EACH 7.94
Contact Cleaner	
907-1627. 1622-10S	EACH 8.14
907-1628. 1622-P	EACH 7.89
Dust Remover	
907-1631. 1623-8S	EACH 7.62
Tape Head Cleaner	
907-1632. 1624-10S	EACH 8.08
907-1633. 1624-P	EACH 7.68



Cleaner

1635 Flux Stripper WB

A synthetic water based cleaner which when added to water makes a non-foaming solution that easily removes flux residue. Contains no inorganic bases or phosphates and is non-aggressive toward copper. Biodegradable. In diluted form can be used with reactive metals. Contains a non-silicone anti-foam agent which is effective on the rosin soap produced in deionized water.

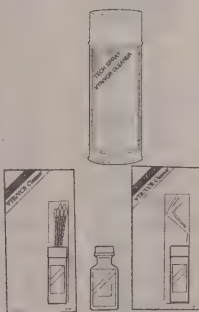
907-1635. 1635-G. 1 Gal.	EACH 51.12
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VTR/VCR Kit/Cleaner

1690 VTR/VCR Kit/Cleaner

A complete maintenance kit to keep your VTR/VCR operating at the peak of efficiency. Contains six Techclean Swabs and one 6-dram bottle of VTR/VCR cleaner. An excellent cleaner for magnetic tape heads, video tape heads, video cassette recorder and computer tape heads. Safe on plastics, tape and rubber. Non-Flammable; Non-Conductive, Leaves no residue. Removes dirt — nicotine — film and oxides. Leaves no Newton Rings.

907-1684. 1690-DPK. Kit.....	EACH 5.07
907-1683. 1690-DP. 2 oz. Btl. Cleaner	EACH 4.64
907-3683. 1690-12 S. 12 oz. Aerosol Cleaner.....	EACH 9.01
907-3684. 1690-DPKC. Chamois Swab.....	EACH 6.34



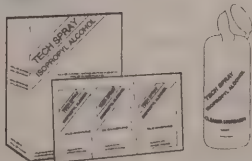
Isopropyl Alcohol

99% pure, anhydrous isopropanol for all purpose cleaning. Excellent for tape head cleaning, removal of fluxes, light oils, polar soils, and white mineral residue. Can be used as a thinner for most fluxes. 1610-GS is a plastic bladder in a box for easy pouring and economical shipping.

907-1645. 1610-P. 1 Pint in Shatterproof Glass.....	EACH 6.58
907-1650. 1610-G. 1 Gallon in Metal.....	EACH 31.92
907-1654. 1610-GS. 1 Gallon Plastic in Box.....	EACH 15.21
907-1655. 1610-5G. 5 Gallon in Plastic.....	EACH 76.00

Isopropyl Alcohol Presaturated Pads

- ▶ Tape Head Cleaning
- ▶ Photocopying Equipment
- ▶ Connectors
- ▶ Medical Equipment
- ▶ Microwave and Telephone Circuitry
- ▶ Relays
- ▶ Data Processing Equipment



907-1738. 1610-DSP. 48 Wipes in Up-Right Dispenser.....	EACH 12.84
907-1739. 1610-50PK. 50 Pre-Saturated Packets Per Carton.....	PK./50 15.00

1-800-858-4043 Techline

Envi-Ro-Tech™

Envi-Ro-Tech™ Anti-Static Freezer 1747

100% HFCs, no CFCs, no HCFCs. A rapidly evaporating HFC-134a product that contains an anti-static agent. Because HFCs do not harm the ozone, this product has a zero ozone depletion factor. This product is used as a trouble shooting aid in static sensitive areas for intermittently faulting capacitors, resistors, semiconductors, and other defective components. Also detects cold solder joints and oxidized junctions.

907-1747. 1747-10S. 10 Oz. Aerosol	EACH 9.95
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Envi-Ro-Tech™ 1672

100% HFCs, no CFCs, no HCFCs. An HFC-134a based, rapidly evaporating liquid that chills to minus 62°F. Because HFCs do not harm the ozone, this product has a zero ozone depletion factor. Used as a trouble shooting aid for intermittently faulting capacitors, resistors, semiconductors, and other defective components this tool speeds up the rework process. Also detects cold solder joints, cracks in printed circuit boards, and oxidized junctions.

907-0027. 1672-10S. 10 Oz. Aerosol.....	EACH 9.48
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Envi-Ro-Tech™ 1679

No CFCs, no HCFCs. Envi-Ro-Tech™ 1679 is an alcohol based general duty defluxer for RA, RMA, and SA type fluxes. Can be used as an all purpose cleaner to remove light oils, silicones, waxes, greases, and similar contaminants often found in electronics manufacturing.

907-1679. 1679-P. Pint.....	EACH 9.92
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Envi-Ro-Tech™ 1671

100% HFCs, no CFCs, no HCFCs. Formulated with HFC-134a, this exceptionally pure, moisture free, inert gas removes particles without the use of harmful solvents. Because HFCs do not harm the ozone, this product has a zero ozone depletion factor. This product removes microscopic contaminants, lint, dust, metallic oxide deposits, and other soils.

907-1629. 1671-6S. 6 Oz. Aerosol.....	EACH 6.66
907-1630. 1671-10S. 10 Oz. Aerosol.....	EACH 8.99
907-1640. 1671-10RS. 10 Oz. Aer. Ref (for use with 1990 attachment)	EACH 7.62

Envi-Ro-Tech™ For Commercial Use Only

Envi-Ro-Tech™ 1677* General Purpose Cleaner-Degreaser

No CFCs and No 1,1,1-Trichloroethane. Contains HCFCs. Fast acting and highly effective cleaner containing a proprietary blend of HCFC. Safe for cleaning most electronic equipment. Used to remove oils, greases, dirt, silicone, fluxes and similar soils.

907-1676. 1677-12S. 12 Oz. Aerosol.....	EACH 8.93
907-1677. 1677-22S. 22 Oz. Aerosol.....	EACH 12.65

Envi-Ro-Tech™ 1675* Heavy Duty Cleaner-Degreaser

No CFCs and No 1,1,1-Trichloroethane. Contains HCFCs. Fast acting and highly effective cleaner containing a proprietary blend of HCFCs. Used to penetrate and dissolve non-polar soils such as oil, grease, wax, tar, adhesive, and rosin. Also an excellent cleaning product for electronic and electrical equipment, machinery, and metal parts.

907-1649. 1675-12S. 12 Oz. Aerosol.....	EACH 10.37
907-1651. 1675-22S. 22 Oz. Aerosol.....	EACH 14.96

Envi-Ro-Tech™ 1676* General Purpose Defluxer

No CFC's and No 1,1,1-Trichloroethane. Contains HCFCs. General duty defluxer for RA, RMA, and SA type fluxes. Can be used as an all purpose cleaner to remove light oils, silicones, waxes, greases, and similar contaminants often found in electronics manufacturing.

907-1600. 1676-12S. 12 Oz. Aerosol.....	EACH 10.54
907-1605. 1676-22S. 22 Oz. Aerosol.....	EACH 15.39

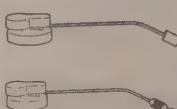
Envi-Ro-Tech™ 1678* Light Duty Defluxer

No CFC's and No 1,1,1-Trichloroethane. Contains HCFCs. Light duty defluxer for Type R and water soluble fluxes. Can be used as cleaner to remove light oils, polar soils, and white residue. Drying agent for water and removes water stains and mineral traces.

907-1615. 1678-12S. 12 Oz. Aerosol.....	EACH 8.93
907-1620. 1678-22S. 22 Oz. Aerosol.....	EACH 14.03

*This product is not recommended for acrylic, polystyrene, or polycarbonate materials. Always test in an inconspicuous area before use.

Duster Directional Attachment 1990 and 1991



Allows directional control of spray for dusters 1671-10RS, 1668-12ROFS while maintaining upright can position.

907-1990. 1990.....	EACH 8.93
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Multi-Directional Brush Attachment for Solvents with 3 Brushes

907-1991. 1991.....	EACH 14.93
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Axarel 2200 1694 Degreaser/Defluxer

No CFCs, no 1,1,1-Trichloroethane and no HCFCs. A hydrocarbon-based cleaner for a wide range of soils including oils, and rosin-based fluxes. No rinsing is required. Safe on most surfaces.

907-1692. 1694-10S.(use only with brush attachment 1991)	EACH 10.12
907-1693. 1694-PT. 1 pt. in ESD-Safe trigger Spray.....	EACH 11.00
907-1694. 1694-G. 1 gallon in metal.....	EACH 70.00

Electronic Reference and Purchasing System — NEW —

- ▶ Complete Product Catalog
- ▶ Product Specification Sheets
- ▶ Material Safety Data Sheets
- ▶ Complete Pricing
- ▶ Competitive Cross Reference
- ▶ Accessory Guides
- ▶ Purchase Order Generation

All this in an easy-to-use Microsoft® Windows based program. System Requirements: Microsoft® Windows 3.1 or greater, 19 MB of hard disk space. For best video performance, use at least a 256 color display driver. Due to a high compression rate, installation may take up to twenty minutes.

907Q7003. SA043EACH 33.00

Rubber Rejuvenator Platen Cleaner — NEW —

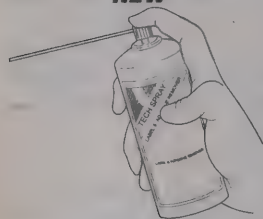
Rubber Rejuvenator/Platen Cleaner is a specially designed, hydrocarbon cleaner that cleans and revitalizes rubber rollers and platens. Use on rollers in office paper handling equipment such as copiers, FAX machines, postage machines, laser printers and others. Improves rubber grip and reduces misfeeds and jams. Also cleans typewriter and printer platens removing dirt and inks for cleaner printing.

907-7004. 1612-DSPEACH 15.64
907-7005. 1612-25QEACH 4.78

**— NEW —****Label and Adhesive Remover**

Label and Adhesive Remover is a specially designed, hydrocarbon cleaner that safely removes labels and adhesive gums from equipment and products. Effectively removes gummy residues, labels, stickers, ink marks, beverage spills and other contaminants commonly found on equipment housings without damaging plastics. Solvent has a pleasant odor.

907-7006. 1613-25QEACH 4.78
907-7007. 1613-6SEACH 7.55

**Production Chemicals****Wondermask™ P 2211**

Peelable temp. solder mask for any wave solder system. Non-contaminating. Excellent resistance to polar and non-polar solvent systems. Can be used as a spot mask, mask prior to conformal coating, or as a protective storage or shipping shield. Self-leveling; quick film formation. Non-ammoniated.

907-0165. 2211-8SQ. 8 oz. Air/Therm. CureEACH 7.06

Wondermask W 2205

A temporary protective water soluble masking agent. Easily and completely removed in normal hot water washing cycle. Leaves no residue. Non Flammable - Non Corrosive - Non Contaminating - Non Dripping.

907-1697. 2205-8SQ. 8 oz. Air/Therm. CureEACH 6.72

**1978 Silicone Free Heat Sink Compound**

Features exceptionally low bleed and evaporation characteristics. Will not harden, dry out, or melt; will not contaminate wave and solder baths. Meets or exceeds KS 21343 and MIL-C-47113. Use with both metal and plastic.

907-0190. 1978-DP. 2 oz. tubeEACH 8.42

**1977 Transistor Silicone Grease**

A heat conductive material used to coat the bases of power transistors as they are connected to heat sinks. The grease is heat conductive and will draw the heat away from the transistor allowing it to run cooler.

907-1977. 1977-DP. 1 oz. Squeeze TubeEACH 5.27

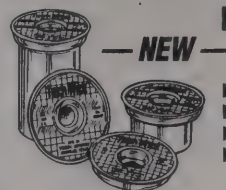
Envi-Ro-Tech Fine-L-Kote® Remover*

No Methylene Chloride. Effectively and safely removes most conformal coatings, including acrylic, epoxy, urethane, and some silicones. Can also be used to remove enamels, paints, varnishes and lacquers. This product quickly removes tar, adhesives, crayon, rubber, and carbon.

907-0195. 1618-P. 1 Pint in MetalEACH 15.22

907-0196. 1618-G. 1 Gallon in MetalEACH 72.00

*This product is not recommended for acrylic, polystyrene, or polycarbonate materials. Always test in an inconspicuous area before use.

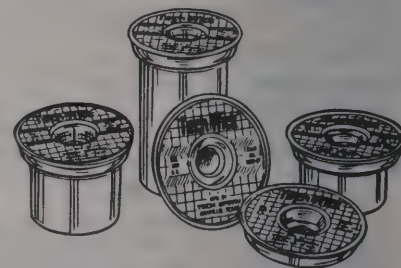
**No-Clean Wick Desoldering Braid**

- ▶ Removes Up to Four Times More Solder
- ▶ Residue Halide Free and Non-Conductive
- ▶ Does Not Have to Be Cleaned Off the Board
- ▶ Designed to Improve Reworking Efficiency in Both Conventional and No-Clean Operations

Stock No.	Mfr.'s Type	Length	Width	EACH	
				1-24	25-100
907-8000	1814-5F	5'	.030"	1.92	1.51
907-8001	1815-5F	5'	.060"	1.92	1.51
907-8002	1816-5F	5'	.085"	1.92	1.51
907-8003	1817-5F	5'	.100"	2.10	1.65
907-8004	1818-5F	5'	.145"	2.56	2.01
907-8005	1819-5F	5'	.210"	2.74	2.15

Pro Wick® Desoldering Braid

- ▶ Pure Copper Braid
- ▶ Fine Braid Construction Enhances Wicking Action
- ▶ Mildest Non-Activated White Rosin Flux Ensures Safe, Clean Operation
- ▶ Meets MIL-F-142560D Type R NASA NNB 5300.4 (3A-1), NPC 200-4, SP-5002



Stock No.	Mfr.'s Type	Length	Width	EACH	
				1-24	25-100
907-1820	1801-5F	5'	.030"	1.56	1.30
907-1821	1801-10F	10'	.030"	2.78	2.32
907-1822	1802-5F	5'	.060"	1.56	1.30
907-1823	1802-10F	10'	.060"	2.78	2.32
907-1824	1803-5F	5'	.085"	1.60	1.33
907-1825	1803-10F	10'	.085"	3.50	3.20
907-1826	1804-5F	5'	.100"	1.70	1.42
907-1827	1804-10F	10'	.100"	3.14	2.62
907-1836	1805-5F	5'	.145"	2.08	1.77
907-1837	1805-10F	10'	.145"	3.76	3.13
907-1838	1806-5F	5'	.210"	2.22	1.85
907-1839	1806-25F	25'	.210"	10.34	8.75
907-1828	1808-5F*	5'	.030"	2.00	1.82
907-1829	1808-10F*	10'	.030"	2.94	2.45
907-1830	1809-5F*	5'	.060"	1.62	1.34
907-1831	1809-10F*	10'	.060"	2.94	2.49
907-1832	1810-5F*	5'	.085"	1.76	1.46
907-1833	1810-10F*	10'	.085"	2.98	2.48
907-1834	1811-5F*	5'	.100"	1.94	1.61
907-1835	1811-10F*	10'	.100"	3.25	2.70
907-1840	1812-5F*	5'	.145"	2.08	1.73
907-1841	1812-10F*	10'	.145"	3.74	3.11
907-1842	1813-5F*	5'	.210"	2.34	1.95

*Static dissipative bobbin. Other lengths available upon request.

Fine-L-Kote

Tough conformal coatings for PC boards, components, and electrical equipment. Protects against corrosive atmosphere, salt, water, dilute acids, and alkali solutions. Prevents formation of conducting films or moisture. Formulated with OPTI/SCAN, an ultraviolet material for conformity checks under a black light.

Stock No.	Mfr.'s Type	Type	Unit	EACH
907-0135	2102-12S	SR*	12 oz. Aerosol	14.96
907-1710	2103-12S	AR	12 oz. Aerosol	12.41
907-2104	2104-P	UR	1 Pint	30.00
907-2114	2104-12S	UR	12 oz. Aerosol	13.52
907-2116	2106-12S	HT*	12 oz. Aerosol	13.18

*Silicone.

1-800-858-4043 TECH Line

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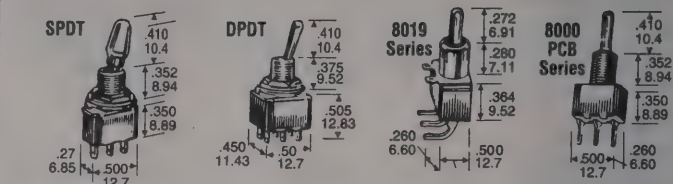
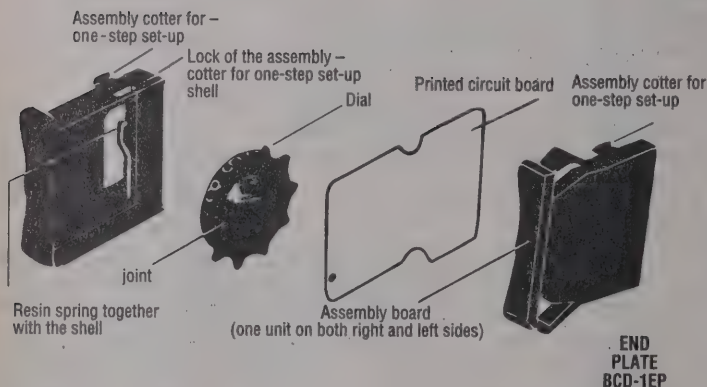
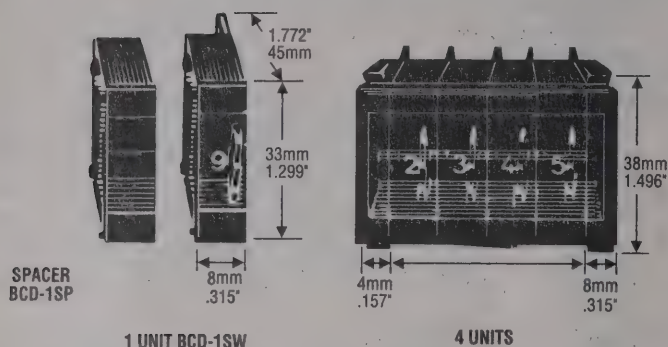
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Snap Assembly Thumbwheel Switches

Subminiature Toggle Switches



For manual control, solid-state devices and miniature circuits. Single pole types are 1/4" thin, double poles less than 1/2" square. Single hold mounting. 1/4" threaded bushing. **Nominal rating:** 5 amps, 125 VAC or 24VDC. **Initial contact resistance:** 5 milliohms. **Insulation resistance:** 10,000 megohms. **Life under load:** 50,000 make/break cycles. Bat handles have 30° throw. Silver contact. Solder terminals. PCB Series are subminiature for direct insertion in PC boards. Terminals are silver plated.

SPDT-3 Terminals

Stock No.	Mfr.'s Type	Action	EACH			
			1-49	50-99	100-999	1000-Up
250-0140	8014	On-Off-On	2.26	1.98	1.84	1.72
250-0130	8013	On-None-On	2.06	1.81	1.66	1.53
250-0131	8013A	On-None-On*	2.32	1.97	1.55	1.30
250-0141	8014A	On*-Off-On*	2.50	2.18	2.01	1.87
250-0142	8014B	On-Off-On*	2.39	2.10	1.95	1.64
250-0133	8013PCB	On-None-On	2.16	1.83	1.60	1.41

DPDT-6 Terminals

250-0120	8012	On-Off-On	2.26	1.95	1.85	1.45
250-0110	8011	On-None-On	2.63	2.10	2.00	1.71
250-0111	8011A	On-None-On*	2.09	1.71	1.59	1.47
250-0121	8012A	On*-Off-On*	2.71	2.16	1.80	1.50
250-0122	8012B	On-Off-On*	2.28	1.72	1.51	1.40
250-0123	8012PCB	On-Off-On	2.46	2.15	2.00	1.87

*Indicates Momentary Position.

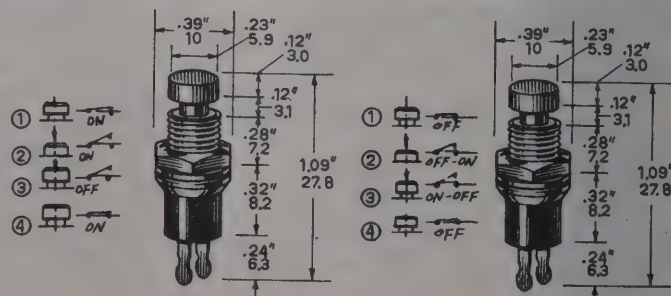
SPDT-3 Terminals

250-0190	8019	On-None-On	2.76	2.43	2.25	1.08
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Color Coded Caps for 8000 Series Switches

Stock No.	Mfr.'s Type	Cap Color	PER PKG./100			
			1-49	50-99	100-999	1000-Up
250-0001	8000-01	White	1.97	1.73	1.52	1.43
250-0002	8000-02	Black	1.97	1.73	1.52	1.43
250-0003	8000-03	Red	1.97	1.73	1.52	1.43
250-0005	8000-05	Yellow	1.97	1.73	1.52	1.43
250-0006	8000-06	Green	1.97	1.73	1.52	1.43
250-0007	8000-07	Blue	1.97	1.73	1.52	1.43

Bushing-Mounted Pushbutton Butt Contact Switches



Butt contacts for simplified operation. Solder-lug standard terminal. SPST operation. Requires 1/4" diameter mounting hole. Mounting hardware included. Rated 0.5 amp at 120 VAC.

Stock No.	Mfr.'s Type	Action	Shaft Color	EACH			
				1-99	100-499	500-999	1000-2499
250-3241	R13-24A	N.O.	Red	.92	.83	.76	.70
250-3242	R13-24B	N.C.	Black	.92	.83	.76	.70

► Similar to Interswitch and Intermarket Series Thumbwheel Products

All parts of the thumbwheel switches are assembled by a lock one step only without use of screw. The resin springs are made for the joint cotter on basis of human mechanics providing soft and comfort push for assembly. Complete assembly can be achieved on lock only by pushing the spring of the shell into the cotter hole from the front. Useful as a controller of sheets for copiers, temperature and numerical quality or as a timer. End plate is fitted on both ends of the switch set. The resin spring, together with the shell easily locks the parts on the cotter hole.

High reliability and longterm stability — quick, easy installation no additional screws required for mounting — ideal for preset counters, temperature controller, timer and automatic central equipments use where presetting is required.

Specifications. Operating Temperature: -40°C - +85°C. Switching Load (Resistance): AC50V/DC28V, 10µA-0.15A. Continuous Load: 1A max. Contact Resistance: 100 milliohms (initial), 200 milliohms max. (after life test). Insulation Resistance (terminal to case): 1000 megohms min. Insulation Resistance (terminal to terminal): 100 megohms min. Electrical Life: over than 20 × 10⁴ time switching between any two adjacent positions.

Materials. Body and Wheel: Acetal resin. Printed Circuit Boards: hard gold plated copper on epoxy fiberglass. Contacts: gold plated Be-Cu alloy.

Stock No.	Mfr.'s Type	EACH		
		1-99	100-999	1000-Up
242-1001	BCD-1SW	4.15	3.83	3.56
242-1002	BCD-1EP	1.46	1.29	1.13
242-1003	SP-11	1.32	1.22	1.13

Disconnect Switches

- ▶ 600 V
- ▶ UL/CSA Pending
- ▶ High Short Circuit Withstand Rating
- ▶ Meets IEC 947-1, 2, 3

Altech offers two switch types, the Standard with Toggle or Lever operators and the Compact with Lever operators. Typical applications include: Disconnect, Safety, ON-OFF, Emergency, Maintenance and Distribution. Mount on DIN rail or to panel; front panel mount versions are available. Order basic switch and operators separately (except for Toggle operated types).

Standard, Tubular Screw Terminals with Toggle Operator

Stock No.	Mfr.'s Type	Amp	Wire AWG	Dimensions mm (in.)			EACH
				Height	Width	Depth	
767-1000	KST3.25	25 A	14-6	69.0 (2.72)	51.0 (2.01)	66.0 (2.60)	29.30
767-1005	KST3.30	30 A	14-6	69.0 (2.72)	51.0 (2.01)	66.0 (2.60)	30.65
767-1010	KST3.40	40 A	14-6	69.0 (2.72)	51.0 (2.01)	66.0 (2.60)	32.00
767-1015	KST3.60	60 A	14-4	72.5 (2.85)	53.0 (2.09)	86.0 (3.39)	42.80
767-1020	KST3.80	80 A	14-1	72.5 (2.85)	53.0 (2.09)	86.0 (3.39)	44.60

Standard, Tubular Screw Terminals with Lever Operator

767-1025	KSR3.25	25 A	14-6	69.0 (2.72)	51.0 (2.01)	66.0 (2.60)	29.30
767-1030	KSR3.30	30 A	14-6	69.0 (2.72)	51.0 (2.01)	66.0 (2.60)	30.65
767-1035	KSR3.40	40 A	14-6	69.0 (2.72)	51.0 (2.01)	66.0 (2.60)	32.00
767-1040	KSR3.60	60 A	14-4	72.5 (2.85)	53.0 (2.09)	86.0 (3.39)	46.25
767-1045	KSR3.80	80 A	14-1	72.5 (2.85)	53.0 (2.09)	86.0 (3.39)	48.25

Compact Lever, Screw-Cage Terminals

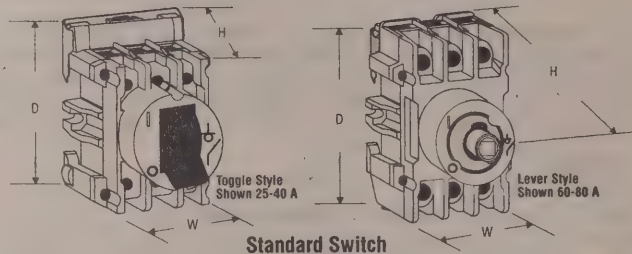
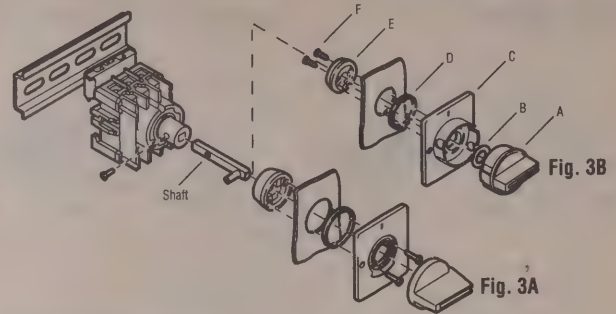
767-1050	KS3.25	25 A	14-6	80.0 (3.15)	36.0 (1.42)	75.0 (2.95)	32.25
767-1055	KS3.30	30 A	14-6	80.0 (3.15)	36.0 (1.42)	75.0 (2.95)	33.70
767-1060	KS3.40	40 A	14-6	80.0 (3.15)	36.0 (1.42)	75.0 (2.95)	35.20
767-1065	KS3.60	60 A	14-1	80.0 (3.15)	36.0 (1.42)	75.0 (2.95)	50.85

Compact Auxiliary Switch

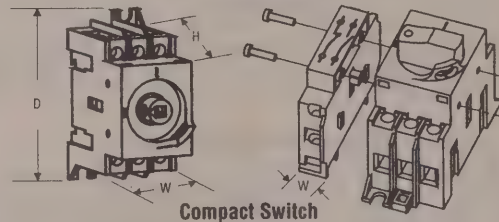
Supplied with 1 n.o./n.c. contact. Can be field attached. Can be installed on the left and/or right side of the Compact Switch. Order as required.

767-1070	KSA1	10 A	22-12	80.0 (3.15)	13.0 (0.51)	75.0 (2.95)	16.95
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Panel or DIN Rail
Mount Switch
shown with
Door Operator Kit.

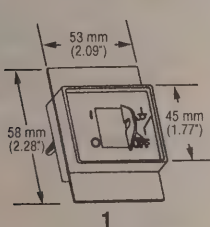


Standard Switch

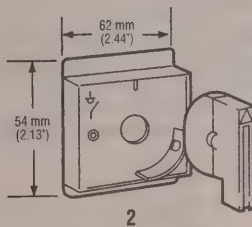


Compact Switch

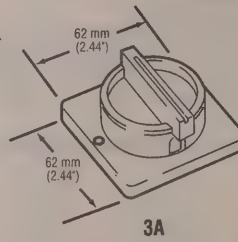
Switch Accessories



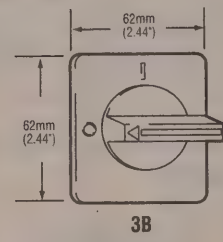
1



2



3A



3B

Cover Plate, 45 mm (1.77") Cut-Out, for Standard Toggle Type Switches

Stock No.	Mfr.'s Type	Fig.	Description	Cover/Operator Color	Protection Rating	Use With Switch Type	EACH
767-1075	PMR333.10	1	Single Padlock (up to 40 A)	Lt. Gray/—	—	KST3.25 — KST3.40	2.30
767-1080	PMR334.10	1	Single Padlock (60 A and 80 A)	Lt. Gray/—	—	KST3.60 — KST3.80	2.40

Cover Plate and Operator with Integral Shaft for Mounting in 45 mm Cut-Out for Standard Lever Type Switches

767-1085	KK57.18	2	Padlock in open and closed positions (up to 40 A)	Lt. Gray/Black	—	KSR3.25 — KSR3.40	6.05
767-1090	KK57.19	2	Padlock in open and closed positions (60 A and 80 A)	Lt. Gray/Black	—	KSR3.60 — KSR3.80	6.05

Door Operator Kit, Oil Tight, Water Tight for Standard and Compact Switches (See Illustration Above)

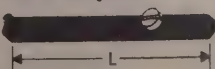
Use With Extension Shaft KK22.xx (order separately). Supplied as a Kit, consisting of: A-Operator, B-Seal Ring (KK48), C-Front Plate, D-Seal Ring, E-Fixing Ring, F-2 Mounting Screws (Refer to Figs. 3A and 3B above).

767-1095	KK29	3A	0-1 Selector Positions	Black/Black	IP54	KSR3 — all, KS3 — all	8.25
767-2000	KK48	3B	0-1 Selector Positions Triple Padlock in Open Position	Yellow/Red	IP65	KSR3 — all, KS3 — all	11.25
767-2005	KK48.01	3B	0-1 Selector Positions Triple Padlock in Open Position	Black/Black	IP65	KSR3 — all, KS3 — all	10.85
767-2010	KK48.02	3B	ON-OFF Selector Positions Triple Padlock in Open Position	Black/Black	IP65	KSR3 — all, KS3 — all	10.85

Operator with Integral Shaft for Compact Switches

767-2015	PMR241	—	Basic Selector	—/Black	—	KS3 — all	3.75
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Extension Shafts for Standard and Compact Switches

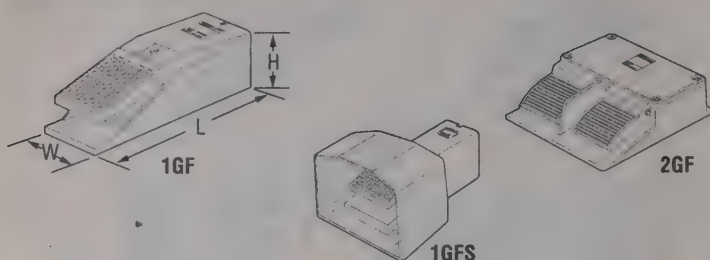


Connect door operator lever to DIN rail or back panel mounted switch, refer to Figs. 3A and 3B. Material: Steel, zinc plated, yellow chromate. Dimensions: 5 x 5 mm (.197 x .197).

Stock No.	Mfr.'s Type	Length mm (in.)	EACH
767-2020	KK22.40	40.0 (1.58)	3.05
767-2025	KK22.50	50.0 (1.97)	3.20
767-2030	KK22.60	60.0 (2.36)	3.40
767-2035	KK22.70	70.0 (2.75)	3.60
767-2040	KK22.80	80.0 (3.15)	3.80
767-2045	KK22.90	90.0 (3.54)	4.05
767-2050	KK22.100	100.0 (3.94)	4.20

Stock No.	Mfr.'s Type	Length mm (in.)	EACH
767-2055	KK22.110	110.0 (4.33)	4.40
767-2060	KK22.120	120.0 (4.72)	4.65
767-2065	KK22.130	130.0 (5.12)	4.80
767-2070	KK22.140	140.0 (5.51)	5.45
767-2075	KK22.180	180.0 (7.09)	6.20
767-2080	KK22.305	305.0 (12.01)	6.40

GF Foot Switch



Attractive and sturdy GF Series Foot Switches are available in one, two and three pedal models with and without Foot Shields for demanding industrial and medical applications. Standard Press to Start — Release to Stop Momentary Contacts are available in Slow Make/Break or Snap Action configurations. Foot Switches with Maintained contacts remain in the ON or OFF position until the pedal is activated again. No need to maintain foot

GF Foot Switch

One Pedal (1GF) with One Threaded Hole for Strain Relief PG 13.5
Dimensions (W × H × L): 70 × 72 × 220 mm (2.76 × 2.84 × 8.66").

Stock No.	Mfr.'s Type	Switch Function ¹ (For Each Pedal)	Current/Voltage	EACH
767-0002	51.101	Momentary — Slow Make/Break	SPDT-DB 16 A/400 VAC	70.00
767-0004	51.111	Momentary — Snap Action	SPDT-DB 16 A/400 VAC	77.00
767-0006	51.103	Maintained	SPDT-DB 16 A/400 VAC	108.05

Two Pedal (2GF) with One Threaded Hole for Strain Relief PG 16
Dimensions (W × H × L): 190 × 63 × 220 mm (7.48 × 2.48 × 8.66").

767-0008	51.201	Momentary — Slow Make/Break	SPDT-DB 16 A/400 VAC	131.00
767-0010	51.211	Momentary — Snap Action	SPDT-DB 16 A/400 VAC	144.50
767-0012	51.203	Maintained	SPDT-DB 16 A/400 VAC	160.50

Three Pedal (3GF) with Two Threaded Holes for Strain Reliefs PG 13.5
Dimensions (W × H × L): 315 × 131 × 250 mm (15.75 × 5.16 × 9.84").

767-0014	51.301	Momentary — Slow Make/Break	SPDT-DB 16 A/400 VAC	270.50
767-0016	51.321	Momentary — Snap Action	SPDT-DB 16 A/400 VAC	287.50
767-0018	51.303	Maintained	SPDT-DB 16 A/400 VAC	299.50

¹Other switching functions are available.



GF Foot Switch with Foot Shield

One Pedal (1GFS) with One Threaded Hole for Strain Relief PG 13.5
Dimensions (W × H × L): 156 × 138 × 265 mm (6.14 × 5.43 × 10.43").

Stock No.	Mfr.'s Type	Switch Function ¹ (For Each Pedal)	Current/Voltage	EACH
767-0020	51.151	Momentary — Slow Make/Break	SPDT-DB 16 A/400 VAC	95.00
767-0022	51.161	Momentary — Snap Action	SPDT-DB 16 A/400 VAC	101.00
767-0024	51.153	Maintained	SPDT-DB 16 A/400 VAC	124.00

Two Pedal (2GFS) with One Threaded Hole for Strain Relief PG 16
Dimensions (W × H × L): 280 × 130 × 250 mm (12.40 × 5.12 × 9.84").

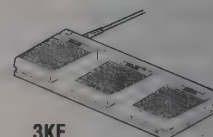
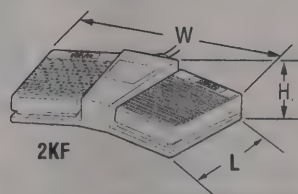
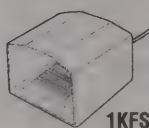
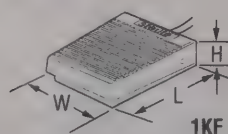
767-0026	51.251	Momentary — Slow Make/Break	SPDT-DB 16 A/400 VAC	197.49
767-0028	51.261	Momentary — Snap Action	SPDT-DB 16 A/400 VAC	207.50
767-0030	51.253	Maintained	SPDT-DB 16 A/400 VAC	222.50

Three Pedal (3GFS) with Two Threaded Holes for Strain Reliefs PG 13.5
Dimensions (W × H × L): 400 × 131 × 215 mm (15.75 × 5.16 × 8.46").

767-0032	51.351	Momentary — Slow Make/Break	SPDT-DB 16 A/400 VAC	358.20
767-0034	51.371	Momentary — Snap Action	SPDT-DB 16 A/400 VAC	375.50
767-0036	51.353	Maintained	SPDT-DB 16 A/400 VAC	387.50

¹Other switching functions are available.

KF Foot Switch



Compact KF Series Foot Switches are available in one, two and three pedal models for industrial and medical applications. Standard foot switches are offered with 2 m (6'6") cable. Select a KF Series Foot Switch with a Reed Switch or with the Snap Action

One Pedal (1KF) with Cable, No Connector

Dimensions (W × H × L): 71 × 27 × 96 mm (2.80 × 1.06 × 3.78").

Stock No.	Mfr.'s Type	Switch Type	Switch Function ¹ (For Each Pedal)	Current/Voltage	EACH
767-0038	51.601	Reed	SPST-NO	1.5 A/12-250 V AC/DC	43.80
767-0040	51.611	Reed	SPDT	1.0 A/12-250 V AC/DC	50.30
767-0042	51.616	Microswitch	SPDT	5.0 A/12-250 V AC/DC	41.80

One Pedal (1KFS) with Foot Shield and Cable, No Connector

Dimensions (W × H × L): 148 × 113 × 158 mm (5.83 × 4.45 × 6.22").

767-0044	51.631	Reed	SPST-NO	1.5 A/12-250 V AC/DC	80.20
767-0046	51.641	Reed	SPDT	1.0 A/12-250 V AC/DC	86.50
767-0048	51.646	Microswitch	SPDT	5.0 A/12-250 V AC/DC	78.20

Microswitch for higher switching capacity. KF Foot Switches are equipped with non-skid pedals and slip resistant feet. Foot Shields are available for the one pedal models. **Materials:** Polyamide 66. **Standard Color:** Black. **Protection:** Up to IP67 (Nema 4).

Two Pedal (2KF) with Cable, No Connector

Dimensions (W × H × L): 210 × 40.5 × 111 mm (8.27 × 1.59 × 4.37").

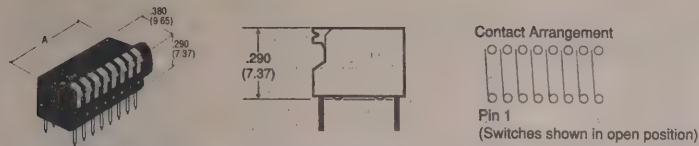
Stock No.	Mfr.'s Type	Switch Type	Switch Function ¹ (For Each Pedal)	Current/Voltage	EACH
767-0050	51.731	Reed	SPST-NO	1.5 A/12-250 V AC/DC	138.50
767-0052	51.741	Reed	SPDT	1.0 A/12-250 V AC/DC	144.95
767-0054	51.746	Microswitch	SPDT	5.0 A/12-250 V AC/DC	129.50

Three Pedal (3KF) with Cable, No Connector

Dimensions (W × H × L): 290 × 31 × 125 mm (11.42 × 1.22 × 4.92").

767-0056	51.801	Reed	SPST-NO	1.5 A/12-250 V AC/DC	224.80
767-0058	51.806	Reed	SPST-NC	1.0 A/12-250 V AC/DC	244.20
767-0060	51.811	Microswitch	SPST-NO	5.0 A/12-250 V AC/DC	218.50
767-0062	51.812	Microswitch	SPST-NC	5.0 A/12-250 V AC/DC	218.50

7000 Series DIP Switches



Single pole, single throw, side actuated, low profile. Lead Spacing: .100 x .300. Lead Length: .140 below mounting surface.

Unsealed*

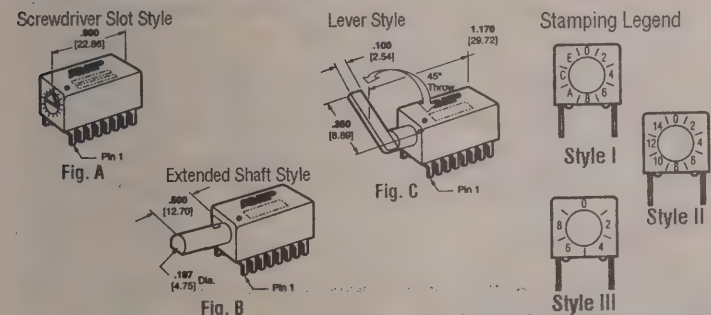
Stock No.	Mfr.'s Type	No. of Switches	EACH		
			1-24	25-99	100-499
512-7000	1-435802-0	2	3.11	2.14	1.71
512-7001	435802-2	3	3.18	2.19	1.83
512-7002	435802-3	4	3.26	2.25	1.94
512-7003	435802-4	5	3.32	2.29	2.05
512-7004	435802-5	6	3.38	2.35	2.08
512-7005	435802-6	7	3.41	2.47	2.11
512-7006	435802-1	8	3.57	2.63	2.14
512-7007	435802-7	9	3.53	2.72	2.19
512-7008	435802-8	10	3.78	2.75	2.30

*All are bottom sealed.

Sealed

Stock No.	Mfr.'s Type	No. of Switches	1-24	25-99	100-499
512-7009	1-435802-3	2	3.17	2.37	1.82
512-7010	1-435802-4	3	3.24	2.41	1.88
512-7011	1-435802-5	4	3.31	2.50	1.99
512-7012	1-435802-6	5	3.37	2.55	2.10
512-7013	1-435802-7	6	3.43	2.58	2.13
512-7014	1-435802-8	7	3.41	2.61	2.16
512-7015	1-435802-9	8	3.52	2.66	2.19
512-7016	2-435802-0	10	3.84	2.74	2.35
512-7017	2-435802-2	12	7.38	5.24	4.32

Preprogrammed PCB Switches

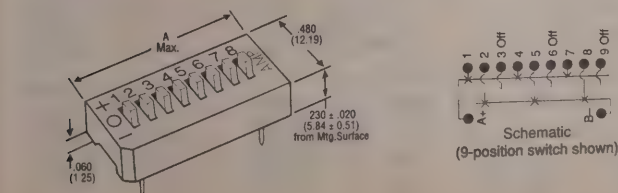


Voltage Rating: 120 Vms Max. Current Rating: 1 Amp max. Life Expectancy: 500 revolutions. Screwdriver Slot Style: Bottom sealed.

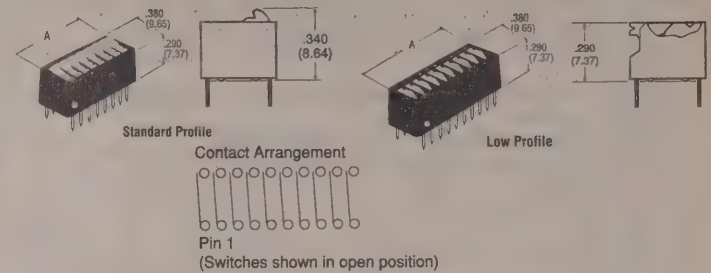
Stock No.	Mfr.'s Type	Switch Type	Fig.	No. of Positions	Stamping Legend	EACH	
						1-24	25-99
512-7050	53137-5	Hexadecimal w/complement	A	16	I	6.79	6.27
512-7076	53137-6	Hexadecimal w/complement	A	16	II	6.79	6.27
512-7051	54792-1†	Hexadecimal w/complement	A	16	III	7.08	6.53
512-7052	54792-2†	Hexadecimal w/complement	A	16	II	7.08	6.53
512-7053	53919-2	BCD w/complement	A	10	III	6.79	6.27
512-7054	54778-1†	BCD w/complement	A	10	III	7.08	6.53
512-7077	54359-1	Hexadecimal w/complement	B	16	—	8.11	7.49
512-7078	54308-1	BCD w/complement	B	10	—	6.75	6.23
512-7079	53921-1	Input/Output	C	2	—	7.28	6.24

†With removable Tape Seal.

7800 Series Trinary Slide Switch



7100 Series DIP Switches



Single pole, single throw. Lead Spacing: .100 x .300. Lead Length: .140 below mounting surface.

Standard Profile (Unsealed)*

Stock No.	Mfr.'s Type	No. of Switches	EACH		
			1-24	25-99	100-499
512-7018	2-435640-9	2	2.19	1.57	1.37
512-7019	3-435640-0	3	2.31	1.53	1.41
512-7020	435640-2	4	2.37	1.57	1.45
512-7021	435640-3	5	2.40	1.76	1.49
512-7022	435640-4	6	2.46	1.81	1.52
512-7023	435640-1	7	2.49	1.84	1.54
512-7024	435640-5	8	2.55	1.70	1.58
512-7025	435640-6	9	2.61	1.90	1.62
512-7026	435640-7	10	2.63	1.74	1.63
512-7043	3-435640-2	12	3.37	2.55	2.40

Standard Profile (Sealed)

Stock No.	Mfr.'s Type	No. of Switches	1-24	25-99	100-499
512-7027	3-435640-3†	2	2.33	1.71	1.42
512-7046	3-435640-4†	3	2.37	1.74	1.46
512-7028	3-435640-5	4	2.41	1.76	1.50
512-7029	3-435640-6	5	2.45	1.79	1.54
512-7030	3-435640-7	6	2.51	1.85	1.57
512-7031	3-435640-8	7	2.54	1.88	1.59
512-7032	3-435640-9	8	2.60	1.90	1.63
512-7047	4-435640-0	9	2.66	1.93	1.67
512-7033	4-435640-1	10	2.68	1.96	1.68
512-7048	4-435640-3	12	3.42	2.61	2.45

Low Profile (Unsealed)*

Stock No.	Mfr.'s Type	No. of Switches	1-24	25-99	100-499
512-7049	435668-1	2	2.07	1.57	1.49
512-7061	435668-2	3	2.14	1.62	1.54
512-7034	435668-3	4	2.21	1.71	1.59
512-7062	435668-4	5	2.64	1.93	1.64
512-7063	435668-5	6	2.70	1.98	1.67
512-7064	435668-6	7	2.73	2.01	1.69
512-7035	435668-7	8	2.81	2.07	1.74
512-7045	435668-9	9	2.90	2.13	1.80
512-7066	1-435668-1	12	3.39	2.55	2.39

Low Profile (Sealed)

Stock No.	Mfr.'s Type	No. of Switches	1-24	25-99	100-499
512-7067	2-435668-6	2	2.46	1.82	1.52
512-7068	3-435668-3	3	2.56	1.87	1.57
512-7036	3-435668-4	4	2.63	1.93	1.62
512-7037	3-435668-5	5	2.67	1.96	1.67
512-7038	2-435668-5	6	2.73	2.01	1.70
512-7069	2-435668-7	7	2.77	2.04	1.72
512-7039	2-435668-8	8	2.84	2.12	1.77
512-7040	2-435668-9	9	2.91	2.15	1.82
512-7041	3-435668-0	10	2.93	2.18	1.83
512-7042	3-435668-2	12	3.74	3.17	2.71

*All switches are bottom sealed. †UV sealed.

This switch series is a double throw, dual in-line package (DIP) switch primarily designed for logic level switching. Switch is capable of controlling AC and DC current.

Electrical Circuits: 5 volts at 100 milliamperes or 24 volts at 25 milliamperes in the switching mode and 50 volts at 1.5 amperes in the non-switching mode. Lead Spacing: .100 x .300.

Stock No.	Mfr.'s Type	No. of Switches	Color	EACH		
				1-24	25-99	100-499
512-7080	436172-3	8	Gray	3.62	3.32	3.06
512-7081	436891-1	8	Red	3.06	2.81	2.59
512-7085	436172-2	9	Gray	4.31	3.97	3.69

6000 Series Rotary Switches

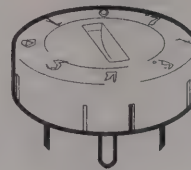
— NEW —

- ▶ Compact Design — Small Diameter, Low Profile Switches Are Ideal For PC Board Mounting
- ▶ Wide Choice Of Outputs: 8-Position Binary Coded Octal, 10-Position Binary Coded Decimal, 16-Position Hexadecimal and 10- Or 16-Position Single Pole
- ▶ Versatile Application — Styles Include Slotted, Bar Type and Thumbwheel Versions For Hand Rotation
- ▶ Economical — Board Mounting Eliminates Need For Input-Output Wiring To Perform Switching Functions
- ▶ Positive Switching — Contacts Have Positive Detent Action
- ▶ All Switch Positions Easily Identified By Large Readable Characters Or Dots
- ▶ Optimum Reliability — Fully Enclosed Design Protects Contacts Against Contamination

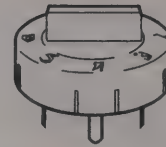
Electrical. Current/Voltage Rating: Switching — 115 VAC or 28 VDC at 125 milliamperes max.; Nonswitching — 115 VAC or 28 VDC at 250 milliamperes max. **Durability:** 1000 cycles. **Dielectric Breakdown Voltage:** 500 VDC. **Mechanical and Environmental.** **Operating Torque:** 2-12 inch-ounces initial and after durability. **Operating Temperature:** -18°C to +88°C. **Storage Temperature:** -45°C to +88°C.

Stock No.	Mfr.'s Type	No. of Pos.	Description	Style	Dia. (In.)	EACH	
						1-9	10-24
512-7100	435174-1	8	Screwdriver/Coin Actuated	BCD	.750	14.47	13.35
512-7102	1-435174-1	8	Bar-Type Knob	BCD	.750	8.76	8.08
512-7104	1-435174-3*	8	Bar-Type Knob	BCD	.750	9.64	8.90
512-7106	435005-1	10	Screwdriver/Coin Actuated	BCD	.750	8.76	8.08
512-7108	435123-1	10	Bar-Type Knob	BCD	.750	8.76	8.08
512-7110	435128-1	10	Thumbwheel	BCD	.950	10.27	9.48
512-7112	1-435097-1	10	Screwdriver/Coin Actuated	Single Pole	.750	10.13	9.35

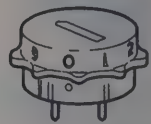
*With dots. ‡With number and letters.



Screwdriver/
Coin-Actuated Switch



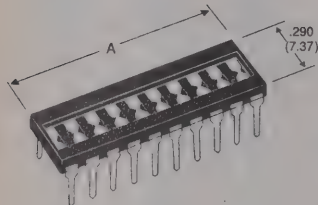
Bar-Type
Knob Switch



Thumbwheel
Switch

Stock No.	Mfr.'s Type	No. of Pos.	Description	Style	Dia. (In.)	EACH	
						1-9	10-24
512-7114	2-435097-1	10	Bar-Type Knob	Single Pole	.750	10.13	9.35
512-7116	435097-1	10	Thumbwheel	Single Pole	.950	17.27	15.94
512-7118	435167-1	16	Screwdriver/Coin Actuated	Hexadecimal	.920	20.98	19.36
512-7120	1-435167-1	16	Bar-Type Knob	Hexadecimal	.920	9.23	8.52
512-7122	2-435167-1	16	Thumbwheel	Hexadecimal	1.100	13.87	12.80
512-7124	3-435167-1‡	16	Thumbwheel	Hexadecimal	1.100	24.97	23.05
512-7126	1-435004-1	16	Bar-Type Knob	Single Pole	.920	17.78	16.41

7600 Series DIP Shunts



Standard Shunt. Standard Pressure. Lead Spacing: .100 x .300. **Lead Length:** .140 below mounting surface. **Color:** Black.

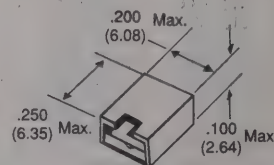
Stock No.	Mfr.'s Type	No. of Pos.	Overall Length Dim. A (In.)	EACH		
				1-99	100-499	500-999
512-7128	435704-2	2	.2	.43	.38	.30
512-7130	435704-3	3	.3	.85	.76	.66
512-7055	435704-4	4	.4	.45	.40	.32
512-7132	435704-5	5	.5	.48	.43	.35
512-7056	435704-6	6	.6	.50	.49	.40
512-7057	435704-7	7	.7	.53	.48	.41
512-7058	435704-8	8	.8	.56	.51	.40
512-7134	435704-9	9	.9	.59	.53	.46
512-7059	1-435704-0	10	1.0	.62	.55	.49
512-7060	1-435704-2	12	1.2	.67	.60	.53

DIP Shunt Programming Tool

512-7065. Type 435862-1 EACH 27.87

Post Shunts

- ▶ One-Piece Contact Construction
- ▶ High Normal Forces
- ▶ 94V-0 Rated Housings
- ▶ Underwriters Laboratories Inc., File No. E28476; A CSA Certified File No. LR 16455

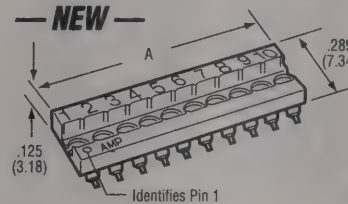


Two-position, low profile shunts.

Stock No.	Mfr.'s Type	Switch Type With Slot	Contact Plating	PER SET/10	
				1-24	25-99
512-7070	531220-2	.100 Centerline	15 µ" Gold	1.76	1.62
512-7071	531220-3	.100 Centerline	30 µ" Gold	1.82	1.66
512-7072	531220-1	.100 Centerline	Tin	1.54	1.41
512-7073	850102-1	.100 Centerline*	30 µ" Gold	1.87	1.71
512-7074	531230-3	.200 Centerline	30 µ" Gold	2.22	2.04
512-7075	531230-1	.200 Centerline	Tin	1.83	1.68

*Without slot.

— NEW —



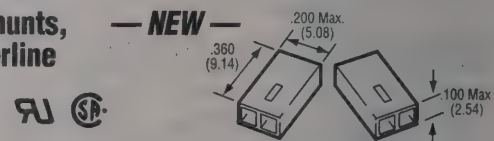
Surface Mount Shunt, Machine Insertable

Compatible with commercially available IC insertion equipment and SMT assembly practices including vapor-phase reflow and infrared soldering techniques. **Color:** Grey.

Stock No.	Mfr.'s Type	No. of Pos.	Overall Length Dim. A (In.)	EACH		
				1-99	100-499	500-999
512-7136	382341-2	2	.2	.90	.79	.73
512-7138	382341-3	3	.3	.94	.82	.71
512-7140	382341-4	4	.4	.98	.86	.79
512-7142	382341-5	5	.5	1.02	.89	.82
512-7144	382341-6	6	.6	1.06	.93	.85
512-7146	382341-7	7	.7	1.10	.96	.89
512-7148	382341-8	8	.8	1.14	1.00	.92
512-7150	382341-9	9	.9	1.18	1.03	.95
512-7152	1-382341-0	10	1.0	1.22	1.07	.98
512-7154	1-382341-2	12	1.2	1.30	1.14	1.05

Tandem Spring Shunts, .100 (2.54) Centerline

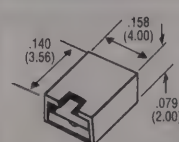
— NEW —



Stock No.	Mfr.'s Type	Housing Color	Contact Plating	EACH		
				1-99	100-499	500-999
512-7162	3-530153-2	Black.	15 µ" Gold	.41	.36	.31
512-7164	530153-1	Natural	30 µ" Gold	.54	.47	.39
512-7166	530153-2	Black	30 µ" Gold	.51	.45	.38
512-7168	1-530153-2	Black	50 µ" Gold	.67	.59	.46
512-7170	2-530153-2	Black	100 µ" Tin	.31	.27	.23

2 mm Mini-Shunts, .079 (2.00) Centerline

— NEW —



Stock No.	Mfr.'s Type	Housing Color	Contact Plating	PER SET/10	
				1-24	25-99
512-7156	382575-3	Black	15 µ" Gold	1.59	1.46
512-7158	382575-2	Black	30 µ" Gold	1.47	1.35
512-7160	382575-1	Black	100 µ" Tin	1.40	1.29

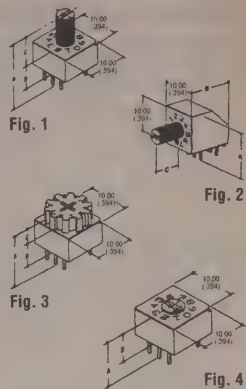
DIP Switches

DR Series Rotary DIP Switch

DR Series Features highest contact reliability with a pin-point high contact pressure mechanism providing longer life expectancy by penetrating oxides and sulfurized film allowing more than 10000 rotations. Insert molded terminals and internal "O" ring allow wave soldering and immersion cleaning. 32 styles to choose from: screwdriver, knob and shaft types are available in both upright and right angle versions. Plus your choice of 4 standard output codes. **Specifications. Contact Rating:** 0.4 VA @ 20 VDC (max.). **Initial Contact Resistance:** 50 milliohms max. @ 2 VDC. **Insulation Resistance:** 1000 milliohms min. @ 100 VDC. **Dielectric Strength:** 300 VAC 1 minute. **Operating Temperature Range:** -10°C to +85°C. **Life Expectancy:** 10000 rotations. Surface mount types available on special order.

Stock No.	Mfr.'s Type	Positions	Description	Fig.	Dimensions — In.						EACH		
					Lead Spacing	A	B	C	D	E	1-249	250-999	1000-2499
758-0278	DRD10	10	"D" Flush Actuator: BCD	4	.100 × .300	.382	.236	—	—	—	3.69	3.50	3.32
758-0280	DRD16	16	"D" Flush Actuator: Hexadecimal	4	.100 × .300	.382	.236	—	—	—	3.98	3.78	3.59
758-0282	DRD10RA	10	"D" Flush Actuator Right Angle: BCD	2*	.100 × .200	.540	.472	.012	—	—	4.26	4.04	3.83
758-0284	DRD16RA	16	"D" Flush Actuator Right Angle: Hexadecimal	2*	.100 × .200	.540	.472	.012	—	—	4.70	4.46	4.23
758-0286	DRM10	10	"M" Mini Shaft Actuator: BCD	1	.100 × .300	.670	.236	.287	—	—	5.99	5.69	5.40
758-0290	DRM16	16	"M" Mini Shaft Actuator: Hexadecimal	1	.100 × .300	.670	.236	.287	—	—	4.92	4.67	4.43
758-0292	DRM10RA	10	"M" Mini Shaft Actuator Right Angle: BCD	2	.100 × .200	.540	.472	.287	—	—	5.21	4.95	4.70
758-0294	DRM16RA	16	"M" Mini Shaft Actuator Right Angle: Hexadecimal	2	.100 × .200	.540	.472	.287	—	—	5.65	5.36	5.09
758-0296	DRW10	10	"W" Mini Wheel Actuator: BCD	3	.100 × .300	.512	.236	.130	—	—	4.12	3.91	3.71
758-0298	DRW16	16	"W" Mini Wheel Actuator: Hexadecimal	3	.100 × .300	.512	.236	.130	—	—	4.57	4.34	4.12
758-0300	DRW10RA	10	"W" Mini Wheel Actuator Right Angle: BCD	2*	.100 × .200	.540	.472	.130	—	—	4.99	4.73	4.49

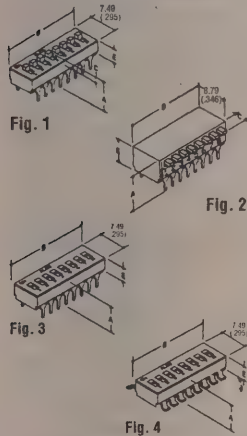
* Actuator style varies from drawing



AD Series Auto Insertable DIP Switch

Unique ceramic substrate allows soldering temperature of 245°C ±5% for up to 30 seconds. Auto-insertable using standard insertion equipment. Gas tight contacts (280000 PSI). Allows wave soldering and aqueous or solvent cleaning without the use of tape seals. **Base:** PBT encapsulated ceramic. **Cover and Actuation:** PBT 94V-0. Gold flash beryllium copper moving contacts. Solder coated brass fixed contact and terminal. **Operating Force:** Less than 800 grams. **Contact Rating:** 4VA at 20VDC max. **Operating Temperature:** -30°C to +86°C. **Dielectric Strength:** 500VAC rms at sea level. **Life Expectancy:** 5000 operations.

Stock No.	Mfr.'s Type	Positions	Description	Fig.	Dimensions — In.						EACH		
					Lead Spacing	A	B	C	D	E	1-99	100-499	500-999
758-0302	ADE02	2	Extended Actuator — PC Term.	1	.100	.334	.278	.039	—	.167	2.07	1.47	1.22
758-0304	ADE04	4	Extended Actuator — PC Term.	1	.100	.334	.478	.039	—	.167	2.34	1.67	1.38
758-0306	ADE06	6	Extended Actuator — PC Term.	1	.100	.334	.678	.039	—	.167	2.71	1.94	1.59
758-0308	ADE08	8	Extended Actuator — PC Term.	1	.100	.334	.878	.039	—	.167	2.87	2.08	1.81
758-0310	ADE10	10	Extended Actuator — PC Term.	1	.100	.334	1.078	.039	—	.167	3.30	2.34	2.05
758-0312	ADF02	2	Flush Actuator — PC Term.	3	.100	.295	.278	—	—	.167	1.97	1.48	1.22
758-0314	ADF04	4	Flush Actuator — PC Term.	3	.100	.295	.478	—	—	.167	2.34	1.67	1.38
758-0316	ADF06	6	Flush Actuator — PC Term.	3	.100	.295	.678	—	—	.167	2.45	1.84	1.59
758-0318	ADF08	8	Flush Actuator — PC Term.	3	.100	.295	.878	—	—	.167	2.58	1.94	1.59
758-0320	ADF08S	8	Flush Actuator — S Term. Surface Mount	4	.100	.175	.878	—	—	.167	3.56	2.54	2.20
758-0322	ADF04S	4	Flush Actuator — S Term. Surface Mount	4	.100	.175	.478	—	—	.167	2.70	2.03	1.67
758-0324	ADP02	2	Piano Actuator — PC Term.	2	.100	.394	.278	.083	—	.266	2.35	1.76	1.45
758-0326	ADP04	4	Piano Actuator — PC Term.	2	.100	.394	.478	.083	—	.266	2.84	2.03	1.67
758-0328	ADP06	6	Piano Actuator — PC Term.	2	.100	.394	.678	.083	—	.266	3.13	2.23	1.94
758-0330	ADP08	8	Piano Actuator — PC Term.	2	.100	.394	.878	.083	—	.266	3.56	2.54	2.20



GD Series DIP Switch

- ▶ High Temperature Plastics Provide Process Compatibility with Reflow Soldering up to 260°C
- ▶ Tape Seal Corner Notch, No Cumbersome Tape to Interfere with Component Placement Equipment
- ▶ Gold-to-Gold Contact System Provides High Reliability
- ▶ Thru Board or SMD Terminals. SMD Configuration Facilitates Cost Savings Through the Use of Smaller PC Boards and Enhanced Board Density
- ▶ Variety of Actuator Styles to Satisfy Every Application

The GD Series Dip Switch family from Augat/Alcoswitch offers you slide, piano, rocker and button actuator styles in thru board and surface mount terminal configurations. High temperature polymers provide compatibility with reflow soldering temperature as high as 260°C. Standard tape seal with unique corner notch to facilitate removal. Bifurcated gold contacts provide the reliability your programming requirements demand.

GDH Half Pitch Dip Switch

Stock No.	Mfr.'s Type	Poles	Description	Fig.	Dimensions — In.			EACH		
					Lead Spacing	A	B	1-99	100-499	500-999
758-0332	GDH02S	2	Half Pitch .050" (1.27mm) SMD Term. Spacing	1	.050	.091	.144	3.00	2.25	1.95
758-0334	GDH04S	4	Half Pitch .050" (1.27mm) SMD Term. Spacing	1	.050	.091	.244	3.73	2.67	2.31
758-0336	GDH08S	8	Half Pitch .050" (1.27mm) SMD Term. Spacing	1	.050	.091	.444	4.83	3.63	3.14
758-0338	GDH10S	10	Half Pitch .050" (1.27mm) SMD Term. Spacing	1	.050	.091	.544	5.55	4.16	3.61

Note: Tube packaging standard. Tape and reel packaging optional for GDS and GDH versions

GDS Low Profile Slide Actuator

Stock No.	Mfr.'s Type	Positions	Description	Fig.	Lead Spacing	A	B	1-99	100-499	500-999
758-0340	GDS02	2	Low Profile Slide Actuator	2	.100	.272	.194	2.07	1.56	1.28
758-0342	GDS04	4	Low Profile Slide Actuator	2	.100	.272	.394	2.46	1.76	1.44
758-0344	GDS06	6	Low Profile Slide Actuator	2	.100	.272	.594	2.71	2.03	1.68
758-0346	GDS08	8	Low Profile Slide Actuator	2	.100	.272	.794	3.06	2.19	1.90
758-0348	GDS10	10	Low Profile Slide Actuator	2	.100	.272	.994	3.30	2.48	2.15

GDP Classic Piano Actuator

Stock No.	Mfr.'s Type	Positions	Description	Fig.	Lead Spacing	A	B	1-99	100-499	500-999
758-0350	GDP02	2	Classic Profile Piano Actuator	3	.100	.443	.238	2.47	1.85	1.53
758-0352	GDP04	4	Classic Profile Piano Actuator	3	.100	.443	.438	2.82	2.02	1.75
758-0354	GDP06	6	Classic Profile Piano Actuator	3	.100	.443	.638	3.28	2.34	2.03
758-0356	GDP08	8	Classic Profile Piano Actuator	3	.100	.443	.838	3.55	2.67	2.31
758-0358	GDP10	10	Classic Profile Piano Actuator	3	.100	.443	1.038	4.03	3.02	2.62

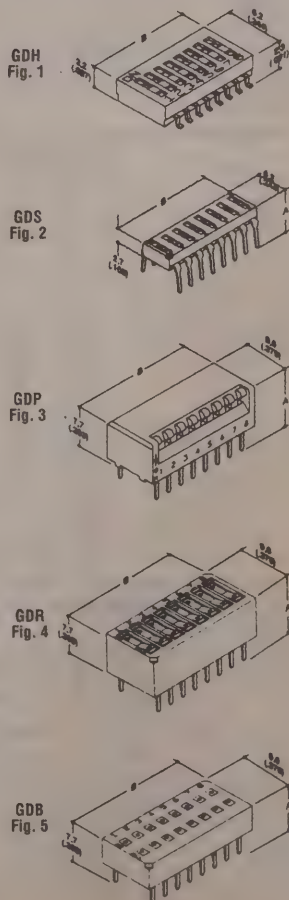
GDR Recessed Rocker Actuator

Stock No.	Mfr.'s Type	Positions	Description	Fig.	Lead Spacing	A	B	1-99	100-499	500-999
758-0360	GDR02	2	Recessed Rocker Actuator	4	.100	.421	.238	2.59	1.85	1.53
758-0362	GDR04	4	Recessed Rocker Actuator	4	.100	.421	.438	2.82	2.02	1.75
758-0364	GDR06	6	Recessed Rocker Actuator	4	.100	.421	.638	3.12	2.34	2.03
758-0366	GDR08	8	Recessed Rocker Actuator	4	.100	.421	.838	3.73	2.67	2.31
758-0368	GDR10	10	Recessed Rocker Actuator	4	.100	.421	1.038	4.03	3.02	2.62

GDB Flush Rocker Actuator

Stock No.	Mfr.'s Type	Positions	Description	Fig.	Lead Spacing	A	B	1-99	100-499	500-999
758-0370	GDB02	2	Flush Rocker Actuator	5	.100	.321	.238	2.59	1.85	1.53
758-0372	GDB04	4	Flush Rocker Actuator	5	.100	.321	.438	2.82	2.02	1.75
758-0374	GDB06	6	Flush Rocker Actuator	5	.100	.321	.638	3.12	2.34	2.03
758-0376	GDB08	8	Flush Rocker Actuator	5	.100	.321	.838	3.55	2.67	2.31
758-0378	GDB10	10	Flush Rocker Actuator	5	.100	.321	1.038	4.03	3.02	2.62

Note: Tube packaging standard. Tape and reel packaging optional for GDS and GDH versions. All versions are available in SMD termination. Add suffix "S" to the Mfr.'s. Type



TSP Series — Tiny Sealed Pushbutton Switch

- ▶ Rating: 0.4VA Max. at 20 VAC/DC
- ▶ High Temperature Plastics — Liquid Crystal Polymer (LCP)
- ▶ Specifically Designed for Thru-Hole and Surface Mount Applications — Tin/Lead Plated Terminals
- ▶ Washable Process Sealed Construction — Internal Actuator O-Ring

Material Specifications: Contacts: Copper alloy with gold over nickel plating. **Case Material:** Thermoplastic (LCP). **Actuator Material:** Thermoplastic (Nylon). **Terminals:** Tin/Lead plated. **Typical Performance Characteristics:** Contact Rating: 0.4VA max. at 20VDC or peak AC. Life Expectancy: 80000 cycles. Operating Temperature: -30°C to +85°C.

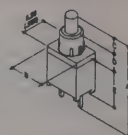


Fig. 1

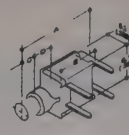


Fig. 2

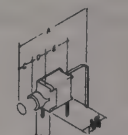


Fig. 3



Fig. 4

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — mm (in.)						EACH		
				Lead Spacing	A	B	C	D	E	1-249	250-999	1000-2499
758-0192	TSPD11CGPC0	SPST: Sealed PC — N.O. Momentary — Black Actuator	1	.200	.855	—	.200	.170	.360	4.21	4.00	3.80
758-0194	TSPD11CGRA0	SPST: Sealed Right Angle — N.O. Momentary — Black Actuator	2	.200	.753	—	.200	.156	.374	4.83	4.59	4.36
758-0196	TSPD11CGVRA0	SPST: Sealed Angle Vert. Right — N.O. Momentary — Black Actuator	3	.200	.940	—	.200	.156	.374	4.16	3.56	2.97
758-0200	TSPD11CGPCV0	SPST: Sealed PC w/ Support Bracket — N.O. Momentary — Black Actuator	4	.200	.860	—	.200	.156	.374	5.20	3.12	2.72

NOTE: Suffix for actuator color — 0 = Black, 2 = Red, 6 = Blue

FSM Series — Tactile Pushbutton Switch

Material Specifications: Contacts: FSM: Silverplate. FSM1-8: Beryllium copper. **Case:** Thermoplastic. **Terminals:** Silverplate. **Typical Performance Characteristics:** Contact Rating: 50mA at 12VDC. Life Expectancy: FSM: 20000 cycles, FSM1-8: 300000 cycles. Operating Temperature: -40°C to +80°C. Actuation Force: 150 Grams average.

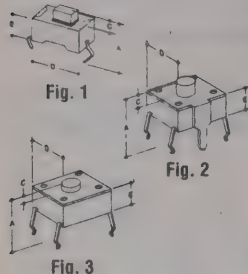


Fig. 1



Fig. 2

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — in.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-999
758-0206	FSMJ	SPST: Off/(On) When Depressed	1	.256	.282	.138	.060	.236	.138	.52	.49	.46
758-0208	FSMJ1	SPST: Off/(On) When Depressed with ground terminal	2	.256 x .177	.295	N/A	.028	.244	.142	.40	.38	.36
758-0210	FSMJ3	SPST: Off/(On) When Depressed	3	.256 x .177	.295	N/A	.028	.244	.142	.40	.38	.36
758-0212	FSMJ2	SPST: Off/(On) When Depressed with ground terminal	2	.256 x .177	.381	N/A	.055	.244	.197	.40	.38	.36
758-0214	FSMJ4	SPDT: Off/(On) When Depressed	3	.256 x .177	.323	N/A	.055	.244	.189	.40	.38	.36
758-0216	FSMJ5	SPDT: Off/(On) When Depressed with ground terminal	2	.256 x .177	.539	N/A	.134	.244	.276	.40	.38	.36
758-0218	FSMJ6	SPDT: Off/(On) When Depressed	3	.256 x .177	.536	N/A	.135	.244	.276	.40	.38	.36
758-0220	FSMJ7	SPDT: Off/(On) When Depressed with ground terminal	2	.256 x .177	.736	N/A	.232	.244	.374	.40	.38	.36
758-0222	FSMJ8	SPDT: Off/(On) When Depressed	3	.256 x .177	.733	N/A	.233	.244	.374	.40	.38	.36

MPS3/MSPS Series — Snap Action Pushbutton Switch

Material Specifications: Contacts: MPS: Silver. MPS5: Silver. **Case Material:** MPS: Thermoset. MPS5: Black phenolic resin. **Actuator Material:** MPS: Brass. MPS5: Brass. **Terminals:** Silver Plate. **Typical Performance Characteristics:** Contact Rating: MPS: 3 Amps at 115VAC or 28VDC. MPS5: 5 Amps at 125VAC or 28VDC. Life Expectancy: MPS: 50000 Actuations. Operating Temperature: MPS: -15°C to +70°C. MPS5: -15°C to +75°C.

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — in.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-999
758-0166	MPS103F*	SPDT: Wire Lug — Momentary	1	.180	1.286	.315	.420	.315	.394	5.53	4.70	4.42
758-0168	MPS203R	DPDT: Wire Lug — Momentary	1	.180	1.286	.512	.420	.315	.394	7.39	6.28	5.91
758-0170	MPS103FPC*	SPDT: PCB Mount — Momentary	1	.180	1.670	.310	.420	.315	.430	5.79	4.92	4.63
758-0178	MPS103FRA*	SPDT: Momentary — Right Angle	2	N/A	1.023	.315	.315	.315	.384	7.01	5.95	5.60
758-0180	MPS103DRA*	SPDT: Push-On/Push-Off — Right Angle	2	N/A	1.122	.315	.315	.236	.384	8.43	7.17	6.74
758-0184	C220	Black Cap with 0.39" Diameter used on MPA, MPE, MPS	—	—	—	—	—	—	—	.43	.40	.38
758-0186	C222	Red Cap with 0.39" Diameter used on MPA, MPE, MPS	—	—	—	—	—	—	—	.43	.40	.38
758-0188	C230	Black Cap with 0.59" Diameter used on MPA, MPE, MPS	—	—	—	—	—	—	—	.57	.54	.51
758-0190	C232	Red Cap with 0.59" Diameter used on MPA, MPE, MPS	—	—	—	—	—	—	—	.57	.54	.51

* Caps not supplied, order separately.

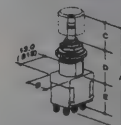


Fig. 1

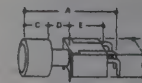


Fig. 2

Pushbutton Switch MPA/MPE/MPG Series

Molded-in heat terminals eliminate switch mechanism contamination. Gold flash contacts and terminals inhibit oxidation and extend shelf life. Diallyl phthalate cases permit these switches to withstand wide temperature ranges. Each switch has one-piece bushing to reduce the possibility of tear-off damage when mounting. All hardware is supplied unmounted. **Contact Rating:** 6 amps at 125VAC; 3 amps at 250VAC; 4 amps at 28VDC. Solid silver contacts. **Operating Force:** 2.5 to 4.4 lbs. **Plunger Travel:** 125° avg. **Insulation Resistance:** 1000 ohms. **Dielectric Strength:** 1500V rms at sea level. **Life Expectancy:** 50K operations. Terminal seal included at no extra charge. Order cap separately.



Fig. 1



Fig. 2

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — in.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-999
758-9899	MPA106D*	SPDT: Wire Lug Push-On/Push-Off	2	.170	1.600	.315	.472	.280	.680	6.32	6.00	5.70
758-0122	MPA106F*	SPDT: Wire Lug Momentary	2	.170	1.600	.315	.472	.280	.680	6.74	5.51	4.85
758-0124	MPA206R*	DPDT: Wire Lug Momentary	2	.170 x .190	1.602	.512	.472	.280	.680	8.68	7.10	6.25
758-0126	MPA206N*	DPDT: Wire Lug Push-On/Push-Off	2	.170 x .190	1.602	.512	.472	.280	.680	8.68	7.10	6.25
758-0130	MPE106D*	SPDT: Wire Lug Push-On/Push-Off Splashproof	2	.170	1.618	.320	.472	.280	.690	8.23	6.73	5.92
758-0132	MPE106F*	Splashproof DPDT: Wire Lug Momentary	2	.170	1.618	.320	.472	.280	.690	8.23	6.73	5.92
758-0134	MPE206R*	Splashproof DPDT: Wire Lug Momentary	2	.170	1.610	.512	.472	.280	.690	10.10	8.26	7.27
758-0136	MPE206N*	DPDT: Wire Lug Push-On/Push-Off Splashproof	2	.170 x .190	1.610	.512	.472	.280	.690	10.10	8.26	7.27
758-0138	MPG106D*	Mustang Pushbutton SPDT: Wire Lug Push-On/Push-Off	2	.170	1.405	.315	.315	.473	.460	8.81	7.21	6.34
758-0140	MPG106F*	Mustang Pushbutton SPDT: Wire Lug Momentary	2	.170	1.405	.315	.315	.473	.460	8.81	7.21	6.34
758-0142	MPG206R*	Mustang Pushbutton SPDT: Wire Lug Push-On/Push-Off	2	.170	1.405	.512	.315	.473	.460	10.67	8.73	7.68
758-0144	MPA103C	SPST: Wire Lug Normally Open - Black Cap	1	N/A	1.122	.354	.236	.236	.500	3.37	2.87	2.70
758-0146	MPA103D	SPDT: Push-On/Push-Off (Tactile) - Black Cap	1	N/A	1.122	.354	.236	.236	.500	5.97	5.08	4.78
758-0148	MPA103F	SPDT: Momentary (Tactile) - Black Cap	1	N/A	1.122	.354	.236	.236	.500	5.97	5.08	4.78

* Caps not supplied. Refer to Switch 7 for standard caps ** Black cap supplied. Refer to full line catalog, model number C90

MP/MSP Series Pushbutton Switch

Material Specifications: Contacts: MSPF/MSP3/MSPS: Silver plate. MSPM: Gold. **Case Material:** MSPF: Thermoset. MSPM: Steel. MSP3/MSPS: Thermoplastic. **Actuator Material:** MSPM: Nylon. MSPF/MSP3/MSPS: Thermoplastic. **Terminals:** Silver plate. **Typical Performance Characteristics:** Contact Rating: MSPF: 0.5 Amps at 125VAC. MSPM: 1.0 VA optimum (100 mA max. 50 VDC max). MSP3: 3 Amps at 125 VAC. MSPS: 0.5 Amps at 125 VAC. Life Expectancy: MSPF: 10000 Cycles min. MSPM: 500000 Cycles at 0.1VA. MSP3/MSPS: 10000 Cycles. Operating Temperature: MSPF: -20°C to 80°C. MSPM: -10°C to 80°C. MSP3/MSPS: -20°C to 80°C.

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — in.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-999
758-0150	MSPF101C	SPST: Normally Open — Red Plunger	2	.140	.980	N/A	.256	.374	.176	3.93	3.22	2.83
758-0152	MSPF101BC0	2 Circuit: Normally Open-Normally Closed — Black Plunger	2	.177	.980	N/A	.256	.374	.176	4.76	3.90	3.43
758-0154	MSPM101C1*	SPST: Normally Open, Pin Terminals — Red Cap	1	.284	1.640	.510	.480	.320	.560	12.20	11.59	11.01
758-0156	MSPM101CS1	SPST: Normally Open, Lug Terminals — Red Cap	1	.280	1.240	.510	.160	.320	.560	11.80	11.21	10.64
758-0158	MSP103B	SPST: Normally Closed — Black Plunger	2	.242	1.039	.410	.098	.235	.520	2.89	2.36	2.08
758-0160	MSP103C	SPST: Normally Open — Red Plunger	2	.242	1.039	.410	.098	.235	.520	2.89	2.36	2.08
758-0162	MSPS103C2	SPST: Normally Open — Red Plunger	1	.189	1.050	.310	.201	.252	.380	1.60	1.31	1.16
758-0164	MSPS103C0	SPST: Normally Open — Black Plunger	1	.189	1.050	.310	.201	.252	.380	1.60	1.31	1.16

* Caps model number C22 supplied

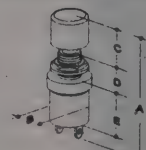


Fig. 1

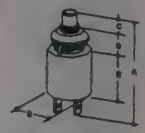
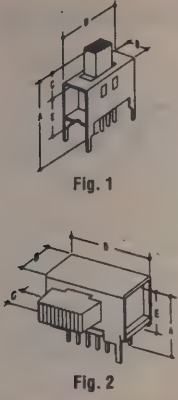


Fig. 2

MSS Series Slide Switch

Designed for PC applications. These slide switches save installation time and eliminate wiring errors. Available in vertical or right angle mount with mounting tabs on the perimeter of the frames for added stability. All switches in this series feature a positive wiping action to assure low contact resistance and make-before-break action. **Contact Rating:** Silver, 300mA at 125VAC. **Contact Resistance:** 30 milliohms max. **Insulation Resistance:** 1000 megohms min. **Dielectric Strength:** 500V rms at sea level.

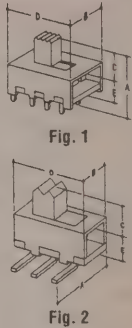


Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — In.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-249	250-499
758-0224	MSS1200	SDPT: Silver	1	.079	.740	.228	.197	.551	.327	1.22	.75	.62
758-0226	MSS1200RG	SPDT: Right Angle Lever — Gold	2	.079	.559	.220	.157	.700	.413	1.74	1.89	1.00
758-0228	MSS1300R	SP3P: Right Angle Lever — Silver	2	.079	.570	.276	.335	.984	.346	1.48	.92	.84
758-0230	MSS2200	DPDT: Silver	1	.079	.630	.220	.090	.551	.394	1.21	.79	.73
758-0232	MSS2200G	DPDT: Gold	1	.079	.630	.220	.090	.551	.394	1.85	1.20	1.11
758-0234	MSS2250	DPDT: Silver — Large Actuator	1	.079	.630	.220	.090	.551	.329	1.38	.90	.82
758-0236	MSS2250R	DPDT: Right Angle Large Actuator — Silver	2	.079	.968	.227	.433	.551	.413	1.38	.83	.77
758-0238	MSS4200	4PDT: Silver	1	.079	.531	.236	.374	.639	.413	1.48	.92	.85
758-0240	MSS4200G	4PDT: Gold	1	.079	.827	.370	.315	.591	.394	2.85	1.85	1.80
758-0242	MSS4200R	4PDT: Right Angle Lever — Silver	2	.079	.827	.370	.315	.591	.394	1.82	1.13	1.03
758-0244	MSS4200RG	4PDT: Right Angle Lever — Gold	2	.079	.512	.370	.276	.567	.394	3.09	2.81	1.95

SLS Series Slide Switch

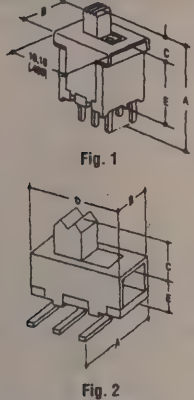
Performance Specifications: Contact Rating: SLS 250mA at 125VAC, 150mA at 12VDC. SLSA 500mA at 125 VAC, 200mA at 12 VDC. Life Expectancy: 6,000 Cycles. Operating Temperature: SLSA -20°C to +85°C. SLS -10°C to +60°C. Material Specifications: Contacts: Silver plate. Case Material: Steel. Actuator Material: Polycarbonate. Terminals: Silver plate. Terminal Board: Phenolic.

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — In.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-999
758-0246	SLS121PC	SPDT: PC Mount — 2 Positions	1	.126	.560	.220	.197	.433	.197	.95	.83	.76
758-0248	SLS121RA	SPDT: PC Mount — Right Angle	2	.126	.393	.220	.197	.433	.201	1.13	.94	.87
758-0250	SLS220PC	SP2P: PC Mount — Wiping Contacts	1	.126 x .196	.579	.402	.197	.535	.276	1.63	1.36	1.26
758-0252	SLS230PC	DP3P: PC Mount — Wiping Contacts	1	.126 x .196	.579	.402	.197	.661	.280	1.75	1.54	1.42
758-0254	SLS131PC	SP3P: PC Mount	1	.126	.563	.230	.197	.395	.236	1.29	1.22	1.15
758-0256	SLS131RA	SP3P: Right Angle	2	.126	.383	.220	.197	.590	.201	1.47	1.39	1.32
758-0258	SLSA1201	SPDT: Turret Terminal	1	.120	.488	.230	.130	.410	.230	1.24	.94	.77
758-0260	SLSA2201	DPDT: Turret Terminal	1	.120 x .130	.594	.319	.189	.465	.276	1.35	1.01	.84



PC Mount Slide Switch — TSS Tiny Series

These compact pushbutton switches are used in a variety of applications such as: instrumentation, telecom systems, computers, etc. Contacts and terminals are fully gold plated for dependability in frequent switching and gold solderability. Right angle models are ideal for PC board edge mounting. Contacts and terminals are fully gold plated for dependability in frequent switching and gold solderability. Right angle models are ideal for PC board edge mounting. **Contact Rating:** 0.4 VA max. at 20VDC or peak AC. **Contact Resistance:** 20 milliohms max. **Insulation Resistance:** 1000 megohms min. at 500VDC. **Dielectric Strength:** 1000V rms at sea level. Thermoset plastic case material. Gold over nickel barrier plating. **Plunger Travel:** Approximately .030".



Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — In.						EACH		
				Lead Spacing	A	B	C	D	E	1-49	50-99	100-249
758-0262	TSS11DGPC	SPDT: On-None-On	1	.100	.620	.206	.110	.400	.380	3.02	2.66	2.47
758-0264	TSS21NGPC	DPDT: On-None-On	1	.200	.620	.360	.110	.400	.380	4.70	4.46	4.23
758-0266	TSS11DGRA	SPDT: Right Angle -On-None-On	2	.100	.520	.206	.110	—	.380	2.74	2.22	1.96
758-0268	TSS11DG1RA	SPDT: Right Angle -On-None-On, Flush Actuator	2	.098	.410	.205	—	—	.410	2.61	2.22	1.96
758-0270	TSS21NGRA	DPDT: Right Angle -On-None-On	2	.100	.620	.360	.110	—	.380	5.69	4.83	4.26
758-0272	TSS11DG1PC	SPDT: On-None-On, Flush Actuator	2	.100	.512	.209	—	—	.380	2.47	2.10	1.86
758-0274	TSS41NGPC	4PDT: On-None-On	1	.100	.569	.360	.110	—	.319	7.96	6.77	5.97
758-0276	TSS41NGRA	4PDT: Right Angle -On-None-On	2	.100	.512	.382	.110	.618	.319	9.93	8.44	7.45

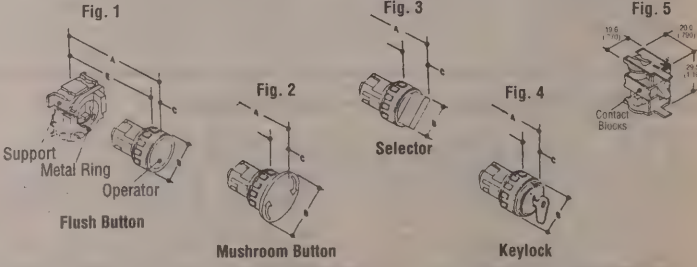
Reliant '22 Series Oil Tight Industrial Controls

- Fits 7/8" (22 mm) Diameter Holes
- Protection Level: 1 P 65
- Buttons Are Full Size
- Meets NEMA 1, 12, 13
- Finish: Matte Black Bezel
- Simple "No-Tool" Mounting
- Fully Insulated — Thermoplastic or Heavy-Duty Metal Bushings
- Contacts: Double-Break Silver Snap-Block, 6A @ 600 VAC
- Stackable

These controls utilize a snap-on contact block system with pushbuttons for a variety of switching configurations — momentary and maintained, lighted and unlighted, round and square keylocks and selectors. Suited for direct and pilot duty. Maximum contact rating of 6 A at 600 VAC. Contemporary front panel design. Order contact blocks separately.

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — In.						EACH		
				Lead Spacing	A	B	C	D	E	1-9	10-99	100-499
758-0500	RM010*	Flush Round Button — Momentary — Metal Threaded Bushing	1	—	1.496	1.16	.450	—	1.043	13.24	12.22	10.67
758-0600	RT010*	Flush Round Button — Momentary — Thermoplastic Threaded Bushing	1	—	1.496	1.16	.450	—	1.043	6.46	6.13	5.82
758-0504	RM0502	Red Mushroom Button — Momentary — Metal Bayonet	2	—	2.185	1.57	1.140	—	1.043	18.30	16.89	15.69
758-0506	RT0502	Red Mushroom Button — Momentary — Thermoplastic Threaded Bushing	2	—	2.185	1.57	1.140	—	1.043	11.63	11.04	10.48
758-0508	RM0532	Red Mushroom Button — Push-Pull — Metal Threaded Bushing	2	—	2.185	1.57	1.140	—	1.043	27.70	26.30	24.98
758-0510	RM0452	Red Mushroom Button — Maintained — Metal Bushing	2	—	2.185	1.57	1.140	—	1.043	19.82	18.29	16.99
758-0512	RM3040	Black Selector Operator — 2 Pos. 60° Throw — Maintained — Metal Bushing	2	—	2.087	1.16	1.040	—	1.043	16.94	15.64	14.52
758-0514	RM0652	Red Mushroom Button, Push to lock/Twist Release — Metal Threaded Bushing	2	—	2.185	1.57	1.140	—	1.043	22.29	19.04	17.68
758-0516	RM201	Key Lock Operator — Maintained — 2 Pos. 60° Throw — Metal Threaded Bushing	4	—	1.929	1.16	.886	—	1.043	28.83	26.61	24.71
758-0518	F40	Normally Closed Contact Block w/Quick Connects — Red Plunger	5	—	—	—	—	—	—	6.02	5.56	5.16
758-0520	F50	Normally Open Contact Block w/Quick Connects — Green Plunger	5	—	—	—	—	—	—	5.78	5.34	4.96
758-0522	V40	Normally Closed Contact Block — Screw Terminal — Red Plunger	5	—	—	—	—	—	—	5.78	5.34	4.96
758-0524	V50	Normally Open Contact Block — Screw Terminal — Green Plunger	5	—	—	—	—	—	—	5.78	5.34	4.96

*Specify color by adding suffix # (0) Black, (2) Red, (5) Green



MT Green Series

These switches are best known for their ease of mounting and actuation as well as for long term reliability. Variety and quality are designed in, not added on. The miniature "Green Series" features the following: molded-in terminals, anti-push-in toggle, hi-torque bushing, gold flash terminals, UL Listed (File No. E46765). **Contact Rating:** 6 amps at 125 VAC, 3 amps at 250 VAC, 4 amps at 28 VDC. **Contact Resistance:** Below 10 milliohms. **Insulation Resistance:** 1000 megohms min. Solid silver contacts. Green diallyl phthalate case. () denotes momentary.

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — In.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-Up
758-5560	MTA106D	SPDT: Wire Lug — On-None-On	1	.170	1.279	.320	.413	—	.354	4.04	3.72	3.53
758-0062	MTA106E	SPDT: Wire Lug — On-Off-On	1	.170	1.279	.320	.413	.315	.354	5.32	4.36	3.83
758-0064	MTA106G	SPDT: Wire Lug — (On)-Off-(On)	1	.170	1.279	.320	.413	.315	.354	5.69	4.65	4.10
758-0066	MTA106DPC	SPDT: PCB Mount — On-None-On	1	.170	1.373	.315	.413	.315	.354	4.46	3.65	3.21
758-0068	MTA206N	DPDT: Wire Lug — On-None-On	1	.100 x .100	1.279	.512	.413	.315	.354	5.98	4.89	4.31
758-0070	MTA206P	SPDT: Wire Lug — On-Off-On	1	.100 x .100	1.279	.512	.413	.315	.354	7.04	5.76	5.07
758-0072	MTA206NPC	DPDT: PCB Mount — On-None-On	1	.100 x .100	1.373	.512	.413	.315	.354	6.15	5.03	4.43
758-0076	MTE206N	DPDT: Wire Lug, Splash Proof — On-None-On	1	.100 x .100	1.120	.512	.410	.300	.410	7.12	5.82	5.13
758-0078	MTE206N	DPDT: Wire Lug, Flatted Toggle — On-None-On	1	.100 x .100	1.350	.512	.490	.320	.390	7.39	6.04	5.32
758-0080	MTL106D	SPDT: Wire Lug, Locking Toggle — On-None-On	1	.170	1.500	.320	.669	.320	.430	8.06	6.60	5.81
758-0082	MTL206N	DPDT: Wire Lug, Locking Toggle — On-None-On	1	.100 x .100	1.500	.512	.669	.320	.430	9.18	7.51	6.61
758-0084	MTM106DRA	SPDT: Right Angle, Short Toggle — On-None-On	2	.170	1.300	.310	.410	.300	.480	5.52	4.51	3.97
758-0086	MTM106DPC	SPDT: PCB Mount, Short Toggle — On-None-On	1	.170	0.980	.320	.270	.320	.390	4.46	3.65	3.21
758-0088	MTG206N	DPDT: Wire Lug, Large Toggle — On-None-On	1	.100 x .100	1.272	.510	.450	.469	.354	7.93	6.49	5.71

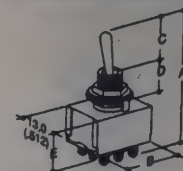


Fig. 1

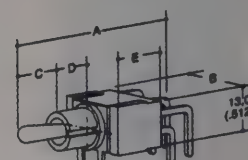


Fig. 2

Tiny Sealed Toggle Switch

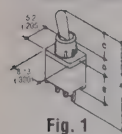


Fig. 1

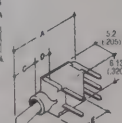


Fig. 2

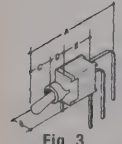


Fig. 3

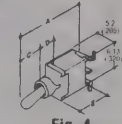


Fig. 4

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — In.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-Up
758-0090	TST11DGPC1D	SPDT: Sealed Vertical — On-None-On P.C.	1	.100	.861	—	.206	.170	.360	5.45	3.27	3.10
758-0092	TST11DGRAID	SPDT: Sealed Right Angle — On-None-On P.C.	2	.100	.759	—	.206	.156	.374	6.06	5.75	5.46
758-0094	TST11DGVRAID	SPDT: Sealed Vert. Right Angle — On-None-On P.C.	3	.100	.946	—	.206	.156	.374	5.36	3.37	2.92
758-0098	TST11EGPCID	SPDT: Sealed P.C. — On-Off-On	1	.100	.861	—	.206	.170	.396	5.57	3.34	2.90
758-0100	TST11EGRAID	SPDT: Sealed Right Angle — On-Off-On P.C.	2	.100	.759	—	.206	.156	.374	5.11	3.07	2.66
758-0102	TST11EGVRAID	SPDT: Sealed Vert. Right Angle — On-Off-On P.C.	3	.100	.946	—	.206	.156	.374	5.99	3.59	3.12
758-0104	TST11FGPCID	SPDT: Sealed P.C. — On-None-(On)	1	.100	.861	—	.206	.170	.374	5.53	3.32	2.87
758-0106	TST11FGRAID	SPDT: Sealed Right Angle — On-None-(On) P.C.	2	.100	.759	—	.206	.156	.374	5.57	3.34	2.90
758-0108	TST11FGVRAID	SPDT: Sealed Vert. Right Angle — On-None-(On) P.C.	3	.100	.946	—	.206	.156	.374	6.26	3.76	3.26
758-0110	TST11GGRAID	SPDT: Sealed Right Angle — (On)-Off-(On) P.C.	2	.100	.759	—	.206	.156	.360	7.81	7.02	6.31
758-0114	TST11EGSRAID	SPDT: Sealed Surface Mount R.A. — On-Off-On	4	.100	.759	—	.206	.156	.374	7.81	7.02	6.31

Gemini Series Rocker Switches

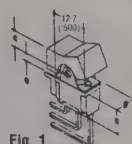


Fig. 1

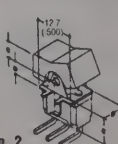


Fig. 2

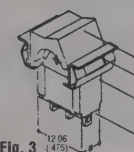


Fig. 3

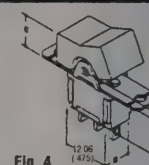


Fig. 4

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions — In.						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-Up
758-0002	A101J3ZQ0	SPDT: Large Rocker — Silver Contacts — On-None-On	4	.185	—	.265	.310	.138	.370	2.83	2.62	2.18
758-0004	A103J1ZQ0	SPDT: Small Rocker — Silver Contacts — On-Off-On	4	.185	—	.265	.310	.138	.370	2.92	2.61	2.18
758-0006	A201J3ZQ0	DPDT: Large Rocker — Silver Contacts — On-None-On	4	.185	—	.450	.310	.138	.370	6.70	6.23	5.74
758-0008	A101J51ZQ00	SPDT: Snap-in Rocker — Silver Contacts — On-None-On	3	.185	—	.265	.280	.138	.370	4.02	2.69	2.41
758-0010	A201J51ZQ00	DPDT: Snap-in Rocker — Silver Contacts — On-None-On	3	.185	—	.450	.230	.138	.350	5.90	5.44	2.41
758-0012	A203J51ZQ00	DPDT: Snap-in Rocker — Silver Contacts — On-Off-On	3	.185	—	.450	.280	.138	.370	6.99	4.68	4.19
758-0014	A101J1AQ0	SPDT: Right Angle — Silver Contacts — On-None-On	2	.185	—	.265	.310	.169	.409	5.76	5.32	4.94
758-0016	A201J1AQ0	DPDT: Small Rocker Right Angle — Silver Contacts — On-None-On	2	.185	—	.450	.310	.169	.370	7.51	5.03	4.51
758-0018	A101J1AV2Q0	SPDT: Vertical Right Angle — Silver Contacts — On-None-On	1	.150	—	.265	.311	.236	.370	4.82	3.23	2.89
758-0020	A101J1AV2B0	SPDT: Vertical Right Angle — Gold Contacts — On-None-On	1	.150	—	.265	.310	.235	.370	3.24	2.90	2.42
758-0022	A201JAV2Q00	DPDT: Small Rocker Vertical Right Angle — Silver Contacts — On-None-On	1	.150	—	.450	.311	.236	.370	9.31	8.60	7.98
758-0024	AE101J1AQ0	SPDT: Sealed Small Rocker Right Angle — Silver Contacts — On-None-On	2	.185	—	.265	.310	.169	.408	4.59	3.07	2.75
758-0026	AE101J1AB0	SPDT: Sealed Right Angle — Gold Contacts — On-None-On	2	.185	—	.265	.310	.169	.408	5.70	5.26	4.88
758-0028	AE201J1AQ0	DPDT: Sealed Small Rocker Right Angle — Silver Contacts — On-None-On	2	.185	—	.450	.310	.169	.408	8.85	8.16	7.58

Miniature Toggle Switches — Gemini Series

Machined brass, heavy nickel-plated toggle. Rigid one-piece die-cast, copper flash, heavy nickel-plated bushing and frame. DAP case for electrical performance and mechanical strength. "Captured" design eliminates possibility of displacement due to shock. Epoxy seal of terminals is standard. Electrical Life: 80,000 cycles SPDT, all others 40,000 cycles. Contact Rating: Silver 5 Amps @ 120 VAC; Gold 0.4VA @ 20 VDC max. Insulation Resistance: 1,000 megohms min. at 500 VDC. Dielectric Strength: 1,000 V rms at sea level. Contact Resistance: 30 milliohms max. Operating Temperature: -30°C to +85°C.

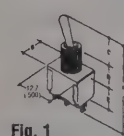


Fig. 1

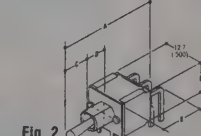


Fig. 2

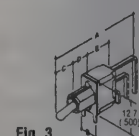
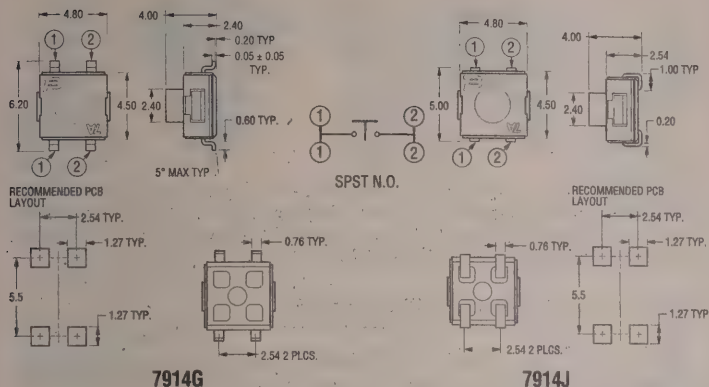


Fig. 3

Stock No.	Mfr.'s Type	Description	Fig.	Dimensions (In.)						EACH		
				Lead Spacing	A	B	C	D	E	1-99	100-499	500-Up
758-0030	A101SYZQ	SPDT: Silver, Wire Lug — On-None-On	1	.185	1.278	.264	.410	.350	.358	3.47	2.32	2.08
758-0032	A101SYCQ	SPDT: Silver, PCB — On-None-On	1	.185	1.362	.264	.410	.350	.350	3.30	2.21	1.98
758-0034	A103SYZQ	SPDT: Silver, Wire Lug — On-Off-On	1	.185	1.278	.264	.410	.350	.358	3.98	2.67	2.39
758-0036	A103SYCQ	SPDT: Silver, Wire Lug — (On)-Off-(On)	1	.150	1.278	.264	.410	.350	.358	4.34	2.91	2.61
758-0038	A201SYZQ	DPDT: Silver, Wire Lug — On-None-On	1	—	1.265	.450	.410	.350	.350	5.21	3.49	3.13
758-0060	A201SYCQ	DPDT: Silver, PCB — On-None-On	1	.185	1.362	.453	.410	.350	.350	4.97	3.33	2.98
758-0042	A101KZQ	SPDT: Silver, Wire Lug Locking Toggle — On-None-On	1	.185	1.560	.270	.580	.315	.350	8.24	5.52	4.94
758-0044	A101P3YZQ	SPDT: Silver, Flatted Toggle — On-None-On	1	.185	1.305	.270	.450	.350	.350	6.41	4.30	3.85
758-0046	A201P3YZQ	DPDT: Silver, Flatted Toggle — On-None-On	1	.185	1.305	.453	.450	.350	.358	6.41	4.30	3.85
758-0048	A101MD9AQ	SPDT: Silver, Right Angle — On-None-On	2	.185	1.050	.270	.270	.280	.500	3.42	2.85	2.63
758-0050	A201MD9AQ	DPDT: Silver, Right Angle — On-None-On	2	.185 x .190	1.200	.450	.270	.280	.500	7.28	4.88	4.37
758-0052	A101MD9AV2Q	SPDT: Silver, Vertical Right Angle — On-None-On	3	.150	1.362	.267	.260	.287	.350	4.48	3.00	2.69
758-0054	AE101SD1CQ	SPDT: Silver, Sealed, PCB — On-None-On	1	.185	1.350	.219	.480	.250	.350	3.26	2.18	1.95
758-0056	AE101MD1AB	SPDT: Gold, Sealed, Right Angle — On-None-On	2	.185	1.050	.260	.300	.250	.500	6.04	5.49	5.03
758-0058	AE101MD1AV2Q	SPDT: Silver, Sealed, Vert., Right Angle — On-None-On	3	.150	1.350	.260	.282	.282	.358	3.78	3.43	3.15

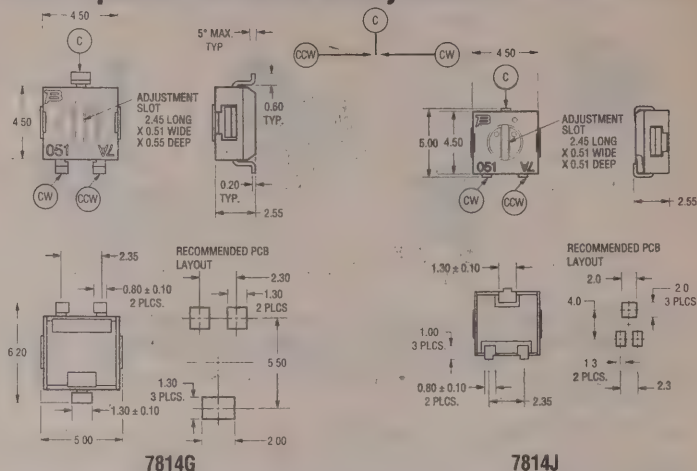
4 mm Square and Sealed Switch



Compatible with all surface mount soldering processes and all popular vacuum pick-and-place equipment. Meets EIA/EIAJ/IPC/VRCI SMD standard outline dimensions. Top or side actuated. **Current Contact Rating:** 100 mZ max. **Max. Voltage:** 24 V. Switch is normally open type. **Operating Temperature Range:** -55°C to +125°C.

754-0250. 7914G-1-000E.....PER PK./100 79.00
754-0252. 7914J-1-000E.....PER PK./100 79.00

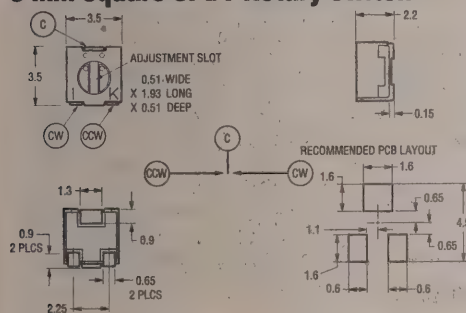
4 mm Square SPDT Sealed Rotary Switch



Compatible with all surface mount soldering processes and all popular vacuum pick-and-place equipment. Meets EIA/EIAJ/IPC/VRCI SMD standard outline dimensions. **Max. Current Contact Rating:** 100 mA. **Max. Voltage:** 24 V. **Operating Temperature Range:** -55°C to +125°C. **Rotational Life:** 50 cycles. Non-shorting contact timing. Switch is single pole double throw type. Withstands 260° soldering heat for 10 seconds.

754-0255. 7814G-1-051E.....PER PK./100 160.00
754-0257. 7814J-1-051E.....PER PK./100 160.00

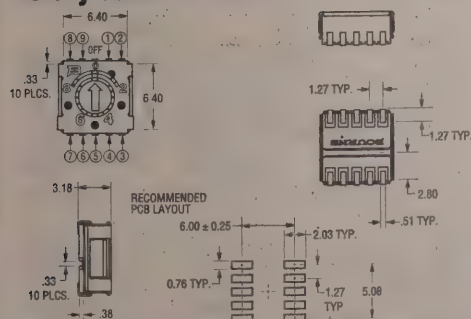
3 mm Square SPDT Rotary Switch



This low level signal switch is compatible with all surface mount soldering processes. Withstands 260° soldering heat. **Rotational Life:** Type 7813J-1-051E — 50; Type 7813J-1-023E — 2000 cycles. **Max. Current Contact Rating:** 100 mA. **Max. Voltage:** 24 V. Non-shorting contact timing. Switch is single pole double throw type. **Operating Temperature Range:** -55°C to +125°C.

754-0260. 7813J-1-051E.....PER PK./100 160.00
754-0261. 7813J-1-023E.....PER PK./100 200.00

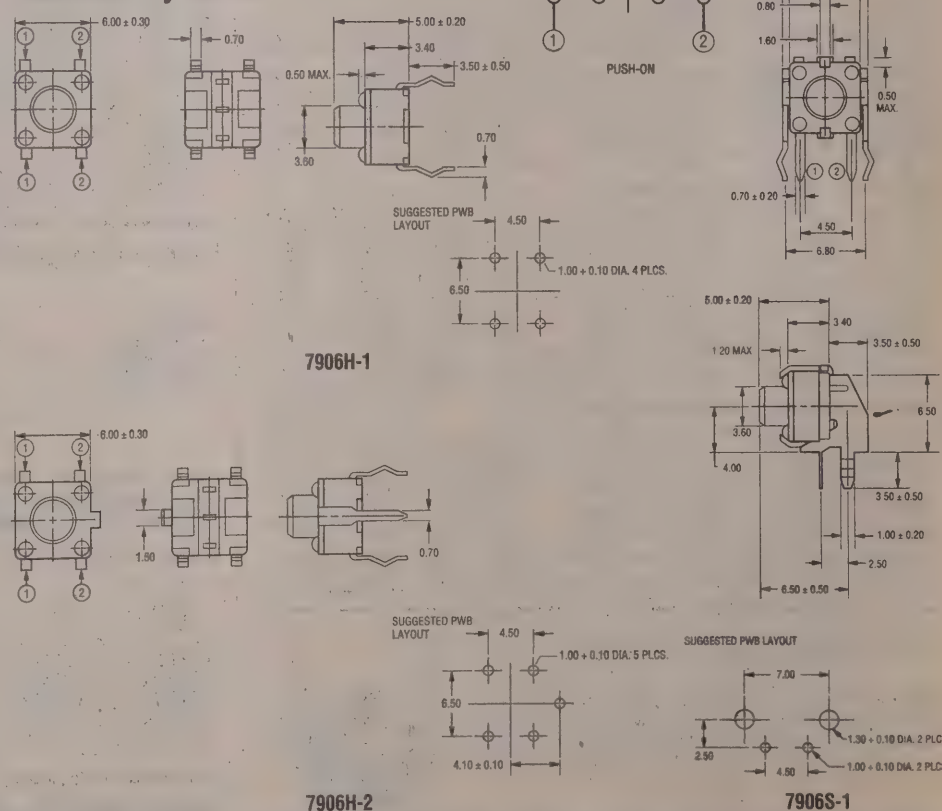
6 mm Square Sealed 10-Position Rotary Selector Switch



Miniature industrial rotary selector switch. Vertical adjust. Rugged surface mount design. Switch is SP9T, break-before-make timing. "0" position is off with no contact made. Withstands 260° soldering heat for five seconds. **Max. Current Contact Rating:** 100 mA. **Max. Voltage:** 24 V. **Operating Temperature Range:** -55°C to +125°C.

754-0265. 7643J-1-010. 1-99.....EACH 2.86
100-499.....EACH 2.00

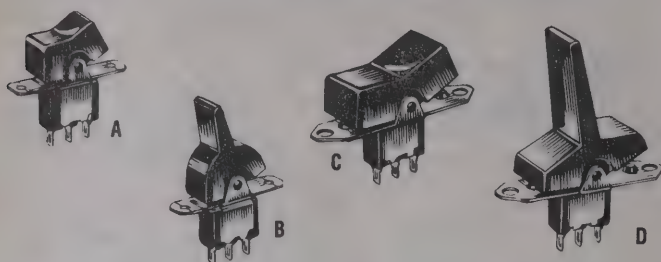
6mm Square Washable Key Switch



This low level signal switch is wave solderable, board washable, and has 20 mA maximum current with 15 VDC maximum voltage. The SPST switch is available in either vertical or horizontal actuation and with or without ground terminal. Contact bounce is 3 ms max. for on position and 10 ms max. for off position. Switch is normally open type (push-on). Withstands 260° soldering heat for five seconds. **Operating Temperature Range:** -20°C to +70°C.

754-0266. 7906H-1-000. Vertical Actuation. 1-99.....EACH .25
100-499.....EACH .21
754-0267. 7906H-2-000. Vertical Actuation. 1-99.....EACH .30
100-499.....EACH .25
754-0268. 7906S-1-000. Horizontal Actuation. 1-99.....EACH .35
100-499.....EACH .31

Panel-Mounted Rocker and Lever Handle Switches



Contact Rating: 5 Amps at 120 VAC or 28 VDC; 2 Amps at 250 VAC. **Operating Temp.:** -30° to 85°C. **Rocker and lever handles:** Black Nylon. **Bushings:** brass, nickel-plated. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Mounting Bracket:** stainless steel. **Case:** red diallyl phthalate. **Included hardware:** nuts, screws, lockwashers, and standoffs.

Small Rocker (Fig. A) Mounting Hole Center .937"

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0005	7101J1ZQE2	SPDT	On-None-On	5.32	4.39	3.70	2.96
676-0010	7103J1ZQE2	SPDT	On-Off-On	5.85	4.81	4.13	3.29
676-0015	7105J1ZQE2	SPDT	Mom-Off-Mom	5.98	4.92	4.13	3.71
676-0020	7108J1ZQE2	SPDT	On-None-Mom	5.98	4.92	4.13	3.29
676-0025	7201J1ZQE2	DPDT	On-None-On	7.47	6.38	5.20	4.17
676-0030	7203J1ZQE2	DPDT	On-Off-On	8.37	6.87	5.79	4.62
676-0035	7205J1ZQE2	DPDT	Mom-Off-Mom	8.37	6.87	5.79	4.62
676-0040	7208J1ZQE2	DPDT	On-None-Mom	8.60	7.05	5.93	4.73

Small Lever Handle (Fig. B) Mounting Hole Centers .937"

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0045	7101J2ZQE2	SPDT	On-None-On	5.79	4.86	4.17	2.96
676-0050	7103J2ZQE2	SPDT	On-Off-On	6.32	5.28	4.51	4.05
676-0055	7105J2ZQE2	SPDT	Mom-Off-Mom	6.45	5.39	4.60	3.29
676-0060	7108J2ZQE2	SPDT	On-None-Mom	6.45	5.39	4.60	3.29
676-0065	7201J2ZQE2	DPDT	On-None-On	7.94	6.85	5.67	5.09
676-0070	7203J2ZQE2	DPDT	On-Off-On	8.84	7.34	6.26	4.62

Large Rocker (Fig. C) Mounting Hole Centers 1.375"

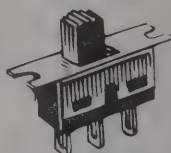
Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0075	7101J3ZQE2	SPDT	On-None-On	5.79	4.87	4.17	3.74
676-0080	7103J3ZQE2	SPDT	On-Off-On	6.32	5.28	4.51	3.29
676-0085	7105J3ZQE2	SPDT	Mom-Off-Mom	6.45	5.39	4.60	4.13
676-0091	7108J3ZQE2	SPDT	On-None-Mom	6.45	5.39	4.60	3.29
676-0095	7201J3ZQE2	DPDT	On-None-On	7.94	6.85	5.67	4.17
676-0100	7203J3ZQE2	DPDT	On-Off-On	8.84	7.34	6.26	4.62
676-0105	7205J3ZQE2	DPDT	Mom-Off-Mom	8.84	7.34	6.26	4.62
676-0110	7208J3ZQE2	DPDT	On-None-Mom	9.07	7.52	6.40	4.73

Large Lever Handle (Fig. D) Mounting Hole Centers 1.375"

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0115	7101J4ZQE2	SPDT	On-None-On	6.21	5.28	4.76	2.96
676-0120	7103J4ZQE2	SPDT	On-Off-On	6.74	5.70	5.10	3.29
676-0125	7105J4ZQE2	SPDT	Mom-Off-Mom	6.87	5.81	5.17	3.29
676-0130	7201J4ZQE2	DPDT	On-None-On	8.36	7.27	6.26	4.17
676-0135	7203J4ZQE2	DPDT	On-Off-On	9.26	7.76	6.84	4.62
676-0140	7205J4ZQE2	DPDT	Mom-Off-Mom	9.26	7.76	6.84	5.87
676-0145	7208J4ZQE2	DPDT	On-None-Mom	9.49	7.94	6.99	4.73

Panel-Mounted Slide Switches

Contact Rating: 6 Amps at 120 VAC or 28 VDC; 3 Amps at 250 VAC. **Operating Temp.:** -30° to 65°C. **Actuator:** Black Nylon. **Housing:** stainless steel. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. All models UL/CSA listed.



Solder Terminals

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0250	1101M1S3ZQE2	SPDT	On-None-On	3.56	2.79	2.40	1.72
676-0255	1103M1S3ZQE2	SPDT	On-Off-On	4.15	3.31	2.83	2.14
676-0261	1108M1S3ZQE2	SPDT	Mom-None-On	4.05	3.16	2.71	2.14
676-0265	1201M1S3ZQE2	DPDT	On-None-On	6.69	5.46	4.53	4.06
676-0270	1203M1S3ZQE2	DPDT	On-Off-On	7.65	5.98	5.14	4.62

Snap-In Rocker and Lever Handle Switches



Contact Rating: 5 Amps at 120 VAC or 28 VDC; 2 Amps at 250 VAC. **Operating Temp.:** -30° to 85°C. **Rocker and lever handles:** Black Nylon. **Bushings:** brass, nickel plated. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Mounting Bracket:** stainless steel. **Case:** red diallyl phthalate.

Small Rocker With Bezel (Fig. E) Panel Cutout .500 x .600"

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0150	7101J51ZQE22	SPDT	On-None-On	5.79	4.86	4.17	3.04
676-0155	7103J51ZQE22	SPDT	On-Off-On	6.32	5.28	4.51	4.05
676-0160	7105J51ZQE22	SPDT	Mom-Off-Mom	6.45	5.39	4.60	4.13
676-0165	7107J51ZQE22	SPDT	On-Off-Mom	6.45	5.39	4.60	3.37
676-0170	7108J51ZQE22	SPDT	On-None-Mom	6.45	5.39	4.60	3.37
676-0175	7201J51ZQE22	DPDT	On-None-On	7.94	6.85	6.25	5.09
676-0180	7203J51ZQE22	DPDT	On-Off-On	8.84	7.35	6.26	5.62
676-0185	7205J51ZQE22	DPDT	Mom-Off-Mom	8.84	7.35	6.26	5.06
676-0190	7207J51ZQE22	DPDT	On-Off-Mom	9.07	7.52	6.84	4.81
676-0195	7208J51ZQE22	DPDT	On-None-Mom	9.07	7.52	6.84	4.82

Small Lever Handle With Bezel (Fig. F) Panel Cutout .500 x .600"

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0200	7101J61ZQE22	SPDT	On-None-On	5.79	4.86	4.17	3.74
676-0205	7103J61ZQE22	SPDT	On-Off-On	6.32	5.28	4.51	4.05
676-0210	7105J61ZQE22	SPDT	Mom-Off-Mom	6.45	5.39	4.60	4.13
676-0215	7107J61ZQE22	SPDT	On-Off-Mom	6.45	5.39	4.60	4.13
676-0220	7108J61ZQE22	SPDT	On-None-Mom	6.45	5.39	4.60	3.74
676-0225	7201J61ZQE22	DPDT	On-None-On	7.94	6.85	5.67	5.09
676-0230	7203J61ZQE22	DPDT	On-Off-On	8.84	7.96	6.26	5.62
676-0235	7205J61ZQE22	DPDT	Mom-Off-Mom	8.84	7.96	6.26	5.62
676-0240	7207J61ZQE22	DPDT	On-Off-Mom	9.07	8.15	7.47	5.74
676-0245	7208J61ZQE22	DPDT	On-None-Mom	9.07	8.15	7.47	4.81

PC-Mounted Slide Switches



Contact Rating: 0.4 Va max. at 20 VAC or VDC max. **Operating Temp.:** -30° to 65°C. **Actuator:** Black Nylon. **Housing:** stainless steel. **Contacts and terminals:** brass with gold plate over nickel plate. **Switch support:** brass or steel, electrotin plated.

PC Terminals/Right Angle Mounting (Fig. G)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0275	1101M2S3ABE2	SPDT	On-None-On	3.85	3.08	2.71	2.13
676-0280	1103M2S3ABE2	SPDT	On-Off-On	4.52	3.60	3.14	2.42
676-0285	1108M2S3ABE2	SPDT	Mom-None-On	4.34	3.45	3.03	2.42
676-0290	1201M2S3ABE2	DPDT	On-None-On	7.27	6.04	5.16	4.00
676-0295	1203M2S3ABE2	DPDT	On-Off-On	8.23	6.56	5.77	4.45

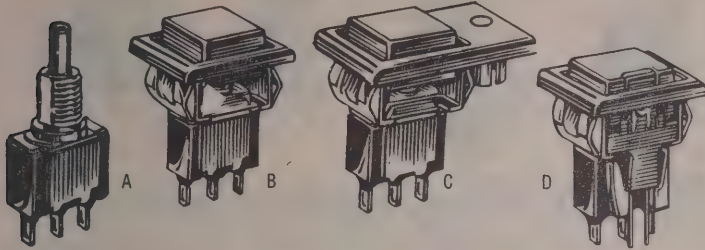
PC Terminals with Right Angle Mounting (Fig. H)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0300	1101M2S3AV2BE2	SPDT	On-None-On	3.85	3.08	2.71	2.18
676-0305	1103M2S3AV2BE2	SPDT	On-Off-On	4.52	3.60	3.14	2.42
676-0310	1108M2S3AV2BE2	SPDT	Mom-None-On	4.34	3.45	3.03	2.42
676-0315	1201M2S3AV2BE2	DPDT	On-None-On	7.27	6.04	5.16	4.00
676-0320	1203M2S3AV2BE2	DPDT	On-Off-On	8.23	6.62	5.77	4.26

PC Terminals/Support Bracket (Fig. J)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0325	1101M2S3V3BE2	SPDT	On-None-On	3.85	3.08	2.71	2.18
676-0330	1103M2S3V3BE2	SPDT	On-Off-On	4.52	3.60	3.14	2.42
676-0335	1108M2S3V3BE2	SPDT	Mom-None-On	4.34	3.45	3.03	2.42
676-0340	1201M2S3V3BE2	DPDT	On-None-On	7.27	6.04	5.16	4.00
676-0345	1203M2S3V3BE2	DPDT	On-Off-On	8.23	6.56	6.20	4.26

Panel-Mounted Switches



Bushings: brass, nickel plated. **Plungers:** glass filled Nylon. **Cap and bezel:** Black Nylon. **Case:** red diallyl phthalate. **Operating temp.:** -30°C to 65°C. **Included hardware:** 2 nuts, locking ring, and lockwasher, where applicable.

8 x 25 models. **Contact rating:** 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

8 x 21 models. **Contact rating:** 1 Amp at 120 VAC or 28 VDC, or 0.4 VA max. at 20 VAC or DC max. **Common contact and terminal:** brass, with gold plate over nickel plate. **Normally open and normally closed contacts:** coin silver, with gold plate over nickel plate. **8 x 6 x models.** **Contact rating:** 6 Amps at 120 VAC or 28 VDC; 3 Amps at 250 VAC (816X-UL). **Center contact and terminals:** brass, silver plated. **End contacts:** silver, silver plated.

A '2' at the end of each part number indicates a black actuator; a '22' indicates a black actuator and black bezel; and a '223' indicates a black actuator, black bezel, and a red LED.

Snap-Action Momentary with Solder Terminals (Fig. A) Bushing 1/4-40 UNS-2A, Term spacing .185"

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0400	8121SHZGE	SPDT	On-Mom	7.15	6.62	5.36	4.05
676-0405	8125SHZBE	SPDT	On-Mom	5.14	4.26	3.41	2.77
676-0410	8221SHZGE	DPDT	On-Mom	11.47	9.61	7.87	5.82
676-0415	8225SHZBE	DPDT	On-Mom	7.08	5.89	4.77	4.28
676-0420	8321SHZGE	3PDT	On-Mom	16.79	14.07	11.54	8.51
676-0425	8325SHZBE	3PDT	On-Mom	13.84	11.48	9.23	7.49
676-0430	8421SHZGE	4PDT	On-Mom	21.11	17.71	14.57	10.69
676-0435	8425SHZBE	4PDT	On-Mom	16.86	14.01	11.30	9.17

Alternate Action and Momentary with Solder Terminals (Fig. A) Bushing 1/4-40 UNS-2A

676-0440	8161SHZQE2	SPDT	On-On	5.78	4.78	3.83	2.91
676-0445	8168SHZQE2	SPDT	On-Mom	5.78	4.78	3.83	2.77
676-0450	8261SHZQE2	DPDT	On-On	10.31	8.54	6.85	5.22

Snap Action Momentary with Cap and Bezel (Fig. B) Panel Cut Out .500 x .600"

676-0455	8121J81ZE22	SPDT	On-Mom	8.53	7.20	5.93	4.63
676-0460	8125J81ZE22	SPDT	On-Mom	5.72	4.84	3.99	3.01
676-0465	8221J81ZE22	DPDT	On-Mom	12.05	10.19	8.44	6.33
676-0470	8225J81ZE22	DPDT	On-Mom	7.66	6.47	5.34	4.40

Alternate Action Momentary with Cap and Bezel (Fig. B) Panel Cut Out .500 x .600"

676-0475	8161J81ZE22	SPDT	On-On	6.36	5.36	4.40	3.95
676-0480	8168J81ZE22	SPDT	On-Mom	6.36	5.36	4.40	3.95
676-0485	8261J81ZE22	DPDT	On-On	10.89	9.12	7.43	5.73

Snap Action Momentary with Cap and Bezel for LED (Fig. C)

676-0490	8121J82ZE22	SPDT	On-Mom	8.55	7.22	6.01	4.64
676-0495	8125J82ZE22	SPDT	On-Mom	5.74	4.86	4.07	3.36
676-0500	8221J82ZE22	DPDT	On-Mom	12.13	10.27	8.53	6.41
676-0505	8225J82ZE22	DPDT	On-Mom	7.74	6.55	5.43	4.47

Alternate Action and Momentary with Cap and Bezel for LED (Fig. C)

676-0510	8161J82ZE22	SPDT	On-On	6.38	5.38	4.49	3.50
676-0515	8168J82ZE22	SPDT	On-Mom	6.38	5.38	4.49	3.50
676-0520	8261J82ZE22	DPDT	On-On	10.97	9.20	7.51	5.81

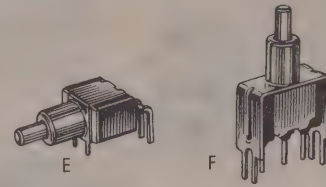
Snap Action Momentary with Cap, Bezel and Rect. LED (Fig. D)

676-0525	8121J85ZE223	SPDT	On-Mom	10.00	8.67	7.64	5.46
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Alternate Action and Momentary with Cap, Bezel, and Rect. LED (Fig. D) Panel Cut Out .600 x .500"

676-0530	8161J86ZE223	SPDT	On-On	7.83	6.83	6.11	5.49
676-0535	8168J86ZE223	SPDT	On-Mom	7.83	6.83	6.11	4.32

PC-Mounted Switches



Bushings: brass, nickel plated. **Plungers:** glass filled Nylon. **Cap:** Black Nylon. **Case:** red diallyl phthalate. **Operating temp.:** -30°C to 65°C.

8 x 25 models. **Contact rating:** 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

8 x 21 models. **Contact Rating:** 1 Amp at 120 VAC or 28 VDC, or 0.4 VA max. at 20 VAC or DC max. **Common contact and terminal:** brass, with gold plate over nickel plate. **Normally open and normally closed contacts:** coin silver, with gold plate over nickel plate.

8 x 6 x models. **Contact rating:** 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass with gold plate over nickel plate.

Snap-Action Momentary/Right Angle Mounting (Fig. E)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0540	8125SD9ABE	SPDT	On-Mom	5.43	4.55	3.73	3.05
676-0545	8225SD9ABE	DPDT	On-Mom	7.66	6.47	5.40	4.45

Alternate Action and Momentary/Right Angle Mounting (Fig. E)

676-0550	8161SH9ABE2	SPDT	On-On	6.07	5.07	4.14	3.19
676-0555	8168SH9ABE2	SPDT	On-Mom	6.07	5.07	4.14	3.19
676-0560	8261SH9ABE2	DPDT	On-On	10.89	9.12	7.49	5.78

Snap-Action and Momentary With Support Bracket (Fig. F)

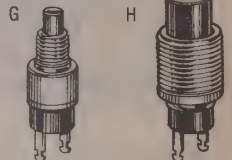
676-0565	8121SD9V3GE	SPDT	On-Mom	8.24	6.91	5.67	4.33
676-0570	8125SD9V3BE	SPDT	On-Mom	5.43	4.55	3.73	3.05

Subminiature Pushbutton Switches

Bushing: brass, nickel plated. **Plunger:** Black phenolic or glass filled polyester. **Case:** black diallyl phthalate. **Operating temp.:** -30°C to 65°C. **Included hardware:** nut and lockwasher. **Contacts:** coin silver, silver plated. **Terminals:** brass, silver plated.

853 x models. **Contact rating:** 1 Amp at 120 VAC or 28 VDC (UL).

855 x models. **Contact rating:** 3 Amps at 120 VAC or 28 VDC (UL).



1/4"-40 Threaded Bushing With Solder Terminals (Fig. G)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0580	8531MZQE2	SPST	Off-Mom	4.75	3.30	2.86	2.17
676-0585	8532MZQE2	SPST	Off-Mom	4.75	3.30	2.86	2.56
676-0590	8533MZQE2	SPST	On-Mom	5.32	3.69	3.17	2.42
676-0595	8534MZQE2	SPST	On-Mom	5.32	3.69	3.17	2.85
676-0600	8531MZQE2	SPST	Off-Mom	4.75	3.30	2.86	2.56
676-0605	8532MZQE2	SPST	Off-Mom	4.75	3.30	2.86	2.56

15/32"-32 Threaded Bushing With Solder Terminals (Fig. H)

676-0610	8531TZQE2	SPST	Off-Mom	5.22	3.77	3.29	2.18
676-0615	8532TZQE2	SPST	Off-Mom	5.22	3.77	3.29	2.18
676-0620	8533TZQE2	SPST	On-Mom	5.79	4.16	3.60	3.23
676-0625	8534TZQE2	SPST	On-Mom	5.79	4.16	3.60	3.23
676-0630	8551TZQE2	SPST	Off-Mom	5.22	3.77	3.29	2.95
676-0635	8552TZQE2	SPST	Off-Mom	5.22	3.77	3.29	2.95

Microminiature Pushbutton Switches

Bushing: brass, nickel plated, 8-40 UNS 2A, HT .175. **Plunger:** Black Nylon or glass filled. **Case:** diallyl phthalate. **Operating temp.:** -30°C to 65°C. **Included hardware:** nut. **Contacts:** coin silver, silver plated.

8631, 8632 models. **Contact rating:** 500 mA at 120 VAC or 28 VDC; 250 mA at 250 VAC (UL). **Terminals:** brass, silver plated.

8633 models. **Contact rating:** 250 mA at 120 VAC or 28 VDC; 125 mA at 250 VAC. **Terminals:** coin silver.

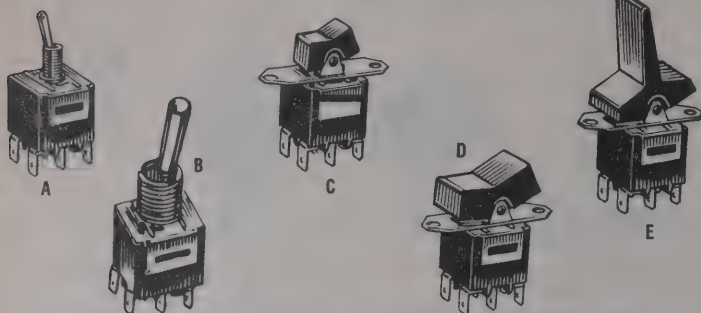
Solder Terminals (Fig. J)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0641	8631Z02	SPST	Off-Mom	4.52	3.38	2.90	2.35
676-0645	8632Z02	SPST	Off-Mom	4.52	3.38	2.90	2.59
676-0650	8633Z02*	SPST	On-Mom	4.70	3.32	3.01	2.69

PC Terminals (Fig. K)

676-0655	8631CQ	SPST	Off-Mom	4.60	3.46	2.98	2.64
676-0660	8632CQ	SPST	Off-Mom	4.60	3.46	2.98	2.64

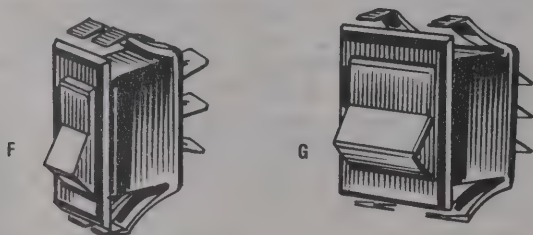
*This switch comes standard with epoxy seal.

9000 Series Power Switches (10 Amps)


Contact rating: 10 Amps at 125 VAC or 28 VDC; 5 Amps at 250 VAC. **Operating Temp:** -30°C to 85°C. **Toggles:** brass, chrome plated. **Bushing:** brass, nickel plated. **Rockers and lever handles:** Black nylon. **Terminals:** brass, electroplated. **End Contacts:** silver cadmium oxide. **Center contacts:** brass, silver plated. **Agency listings:** UL, CSA, VDE, SEV, and SEMKO. **Included hardware:** nut, locking ring, and lockwasher. **Overall case size:** .750L x .750W x .760H.

DPDT Toggle, Rocker, and Lever Handle Switches

Stock No.	Mfr.'s Type	Fig.	Switch Function	EACH		
				1-99	100-499	500-999
676-0700	9221SH3Z4QD	A	On-On	23.45	14.85	13.67
676-0705	9221TCWZ4QD	B	On-On	24.65	16.05	14.93
676-0710	9221J1Z4QD2	C	On-On	23.95	15.35	14.16
676-0715	9221J3Z4QD2	D	On-On	23.95	15.35	14.16
676-0720	9221J4Z4QD2	E	On-On	23.95	15.35	14.16

C Series Power Rocker Switches


Housing and actuator: Nylon, black. **Movable contact:** copper, silver plated. **Contacts and Terminals:** copper, silver plated (15 Amp models, copper). **Electrical life:** 10,000 make-and-break cycles at full load. **Dielectric strength:** 2,500 V rms min. at sea level. All models UL, CSA.

Stock No.	Mfr.'s Type*	Desc.	Fig.	EACH		
				1-99	100-499	500-999
677-0730	C122J12S205PQF, VDE, SEV, SEMKO	SPST	F	2.71	2.08	1.81
677-0735	C221J12S205QA	DPDT	G	4.70	3.44	2.90
677-0740	C222J12S205QA	DPST	G	4.44	3.25	2.74
677-0745	C222J12S205PQF, VDE, SEV, SEMKO	DPST	G	5.27	4.08	3.57

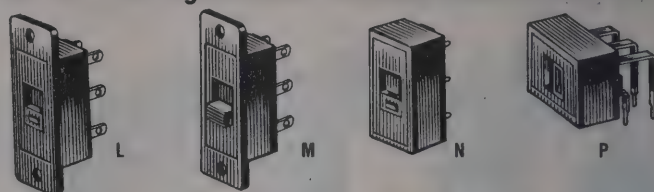
*Rating at 125, 250 VAC.

D Series Miniature Power Rocker Switches


Housing and actuator: Nylon, black. **Contacts and Terminals:** copper, silver plated. **Movable contacts:** coin silver, silver plated. **Electrical life:** 10,000 make-and-break cycles at full load. **Dielectric strength:** 1000V rms min. at sea level.

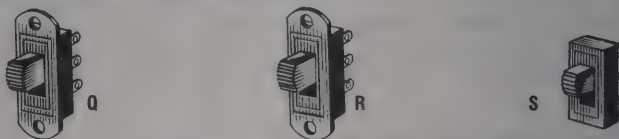
Stock No.	Mfr.'s Type	Desc.	Fig.	EACH		
				1-99	100-499	500-999
677-0775	D501J12S215QA*	SPDT	J	2.56	1.87	1.58
677-0780	D501J12S215QF†	SPDT	J	2.92	2.23	1.94
677-0851	D601J12S215QA*	DPDT	K	3.99	2.92	2.46
677-0790	D601J12S215QF†	DPDT	K	4.64	3.57	3.11

*10.5 Amps-UL/CSA. †10(6), 5(3) Amps-UL/CSA/VDE.

Power and Voltage-Select Slide Switches


UL/CSA Rating: 10.1 Amps at 125 VAC; 4 Amps at 28 VDC; 5 Amps at 250 VAC. **VDE Rating:** 2 (0.5/250 VAC T85). **Housing and top plate:** Nylon, black. **Actuator:** glass filled polyester. **Contacts and terminals:** copper, silver plated. **Insulation resistance:** 10⁹ Ohms min. **Electrical life:** 10,000 make-and-break cycles at full load.

Stock No.	Mfr.'s Type	Desc.	Fig.	Actuator Marking	EACH		
					1-99	100-499	500-999
677-0755	V80212SS05Q	DPDT	L	230/115	3.23	2.39	2.03
677-0760	V80201SS05Q	DPDT	M	None	3.13	2.29	2.18
677-0765	V80212MS02Q	DPDT	N	230/115	3.23	2.39	2.22
677-0770	V80212MA08Q	DPDT	P	230/115	3.52	2.68	2.32

S Series Slide Switches


Contact rating: 6 Amps at 125 VAC; 6 Amps at 250 VAC; 1 Amp at 125 VDC (UL/CSA). **Housing, top plate, and actuator:** Nylon, black. **Contacts and terminals:** copper, silver plated. **Insulation resistance:** 10⁹ Ohms min. **Electrical life:** 10,000 make-and-break cycles at full load.

Stock No.	Mfr.'s Type	Desc.	Fig.	EACH		
				1-99	100-499	500-999
677-0795	S102031SS03Q	SPDT	Q	1.23	1.03	.90
677-0800	S202031SS03Q	DPDT	R	1.58	1.32	1.16
677-0805	S202031MS02Q	DPDT	S	1.96	1.43	1.21

L Series Miniature Slide Switches


Contact rating: 4 Amps at 125 VAC; 2 Amps at 250 VAC; 0.5 Amp at 125 VDC (UL/CSA). **Housing, top plate, and actuator:** Nylon, black. **Contacts and terminals:** copper, silver plated. **Insulation resistance:** 10⁹ Ohms min. **Electrical life:** 10,000 make-and-break cycles at full load.

Stock No.	Mfr.'s Type	Desc.	Fig.	EACH		
				1-99	100-499	500-999
677-0810	L102021ML04Q	SPDT	T	1.35	1.00	.85
677-0815	L202011MS02Q	DPDT	U	1.90	1.72	1.55
677-0820	L212132MV02Q	DPDT-Mom.	V	2.15	1.62	1.40

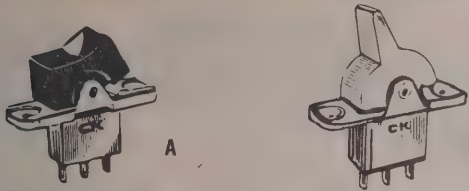
MP Series Mechanical Pushbutton Switches


Contact rating: 0.4 VA max. at 20 VAC or DC max. **Switching function:** SPDT momentary. **Case:** glass filled Nylon. **Cap:** polycarbonate-ABS blend. **Contacts and terminals:** brass, with gold plate over nickel plate. **Operating temp.:** -30°C to 65°C. **Operating force:** 150 grams typ. **Electrical life:** 1,000,000 actuations min. at full load.

Stock No.	Mfr.'s Type	Cap Width	Fig.	Cap Color	LED Color(s)	EACH		
						1-99	100-499	500-999
677-0825	MP01R01CBE	.486	W	White	None	2.85	2.16	1.86
677-0830	MP01R02CBE	.486	W	Black	None	2.73	2.56	2.36
677-0835	MP01R113CBE	.486	X	White	Red	3.25	3.16	2.92
677-0840	MP01R123CBE	.486	X	Black	Red	3.13	2.80	2.68
677-0845	MP01R2133CBE	.486	Y	White	Red, Red	3.65	2.96	2.66
677-0850	MP01R2233CBE	.486	Y	Black	Red, Red	3.53	2.84	2.54
677-0855	MP01R2236CBE	.486	Y	Black	Red, green	3.64	3.35	3.11
677-0860	MP01S01CBE	.679	W	White	None	2.87	2.18	1.88
677-0865	MP01S02CBE	.679	W	Black	None	2.75	2.40	2.22
677-0870	MP01S113CBE	.679	X	White	Red	3.28	2.59	2.29
677-0875	MP01S123CBE	.679	X	Black	Red	3.16	2.83	2.61
677-0880	MP01S2133CBE	.679	Y	White	Red, Red	3.68	2.99	2.69
677-0885	MP01S2233CBE	.679	Y	Black	Red, Red	3.56	2.87	2.57
677-0890	MP01S2236CBE	.679	Y	Black	Red, Green	3.67	2.96	2.68

Rocker, Slide DIP and Sealed Toggle Switches

Panel-Mtd. Sealed Rocker and Lever Handle Switches



Contact rating: 7.5 Amps at 125 VAC; 3 Amps at 250 VAC (UL/CSA). **Operating temp.:** -30°C to 85°C. **Case and bushing:** glass filled Nylon. **Actuator:** Nylon, black with internal O-ring seal. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Terminal seal:** epoxy. **Included hardware:** nuts, screws, lockwashers, and standoffs.

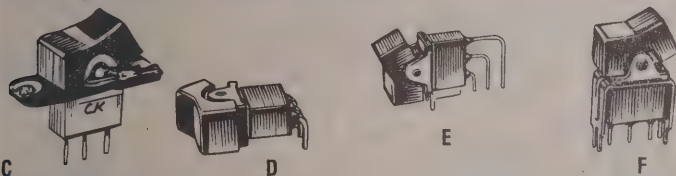
Rocker (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1000	E101J1ZQE2	SPDT	On-None-On	5.47	4.26	4.08	3.79
676-1005	E103J1ZQE2	SPDT	On-Off-On	6.51	5.05	4.47	4.17
676-1010	E105J1ZQE2	SPDT	Mom-Off-Mom	6.51	5.05	4.47	4.17
676-1015	E201J1ZQE2	DPDT	On-None-On	7.84	6.25	5.76	4.96
676-1020	E203J1ZQE2	DPDT	On-Off-On	9.21	7.12	6.31	5.89
676-1025	E205J1ZQE2	DPDT	Mom-Off-Mom	9.21	7.12	6.31	5.89
676-1030	E211J1ZQE2	DPDT	On-On-On	10.33	7.95	7.02	6.56

Lever Handle (Fig. B)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1035	E101J2ZQE2	SPDT	On-None-On	5.50	4.29	3.83	3.57
676-1040	E103J2ZQE2	SPDT	On-Off-On	6.54	5.08	4.51	4.21
676-1045	E105J2ZQE2	SPDT	Mom-Off-Mom	6.54	5.08	4.51	4.21
676-1050	E201J2ZQE2	DPDT	On-None-On	8.16	6.57	5.66	5.28
676-1055	E203J2ZQE2	DPDT	On-Off-On	9.24	7.15	6.36	5.93
676-1060	E205J2ZQE2	DPDT	Mom-Off-Mom	9.24	7.15	6.36	5.93
676-1065	E211J2ZQE2	DPDT	On-On-On	10.36	7.98	7.07	6.60

PC-Mtd. Sealed Rocker Switches



Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** -30°C to 85°C. **Case and Bushing:** glass filled Nylon. **Actuator:** Nylon, black with internal O-ring seal. **Contacts and terminals:** brass, with gold plate over nickel plate.

PC Terminals (Fig. C)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1070	E101J1CBE2	SPDT	On-None-On	5.50	4.34	3.84	3.59
676-1075	E103J1CBE2	SPDT	On-Off-On	6.59	5.13	4.53	4.23
676-1080	E105J1CBE2	SPDT	Mom-Off-Mom	6.59	5.13	4.53	4.23
676-1085	E201J1CBE2	DPDT	On-None-On	8.29	6.70	5.73	5.35
676-1090	E203J1CBE2	DPDT	On-Off-On	9.37	7.28	6.43	6.00
676-1100	E205J1CBE2	DPDT	Mom-Off-Mom	9.37	7.28	6.43	6.00
676-1105	E211J1CBE2	DPDT	On-On-On	10.49	8.11	7.14	6.67

PC Terminals/Right Angle Mounting (Fig. D)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1110	E101J1ABE2	SPDT	On-None-On	5.76	4.55	4.10	3.83
676-1115	E103J1ABE2	SPDT	On-Off-On	6.80	5.34	4.90	4.57
676-1120	E105J1ABE2	SPDT	Mom-Off-Mom	6.80	5.34	4.90	4.57
676-1125	E201J1ABE2	DPDT	On-None-On	8.71	7.12	6.24	5.83
676-1130	E203J1ABE2	DPDT	On-Off-On	9.79	7.70	6.94	6.48
676-1135	E205J1ABE2	DPDT	Mom-Off-Mom	9.79	7.70	6.94	6.48
676-1140	E211J1ABE2	DPDT	On-On-On	10.91	8.53	7.66	7.15

PC Terminals/Right Angle Mounting (Fig. E)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1145	E101J1AV2BE2	SPDT	On-None-On	5.76	4.55	4.10	3.83
676-1150	E103J1AV2BE2	SPDT	On-Off-On	6.80	5.34	4.90	4.57
676-1155	E105J1AV2BE2	SPDT	Mom-Off-Mom	6.80	5.34	4.90	4.57
676-1160	E201J1AV2BE2	DPDT	On-None-On	8.71	7.12	6.24	5.83
676-1165	E203J1AV2BE2	DPDT	On-Off-On	9.79	7.70	6.94	6.48
676-1170	E205J1AV2BE2	DPDT	Mom-Off-Mom	9.79	7.70	6.94	6.48
676-1175	E211J1AV2BE2	DPDT	On-On-On	10.91	8.53	7.66	7.15

PC Terminals/Support Bracket (Fig. F)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1180	E101J1V3BE2	SPDT	On-None-On	6.05	4.84	4.40	4.11
676-1185	E103J1V3BE2	SPDT	On-Off-On	7.09	5.63	5.09	4.75
676-1190	E105J1V3BE2	SPDT	Mom-Off-Mom	7.09	5.63	5.09	4.75
676-1195	E201J1V3BE2	DPDT	On-None-On	9.08	7.49	6.63	6.19
676-1200	E203J1V3BE2	DPDT	On-Off-On	10.16	8.07	7.33	6.84
676-1205	E205J1V3BE2	DPDT	Mom-Off-Mom	10.16	8.07	7.33	6.84

Washable Slide DIP Switches



Contact rating: carry—100 mA max. at 50 VDC, switch—100 mA max. at 5 VDC or 25 mA max. at 25 VDC. **Operating temp.:** -40°C to 85°C. **Case and cover:** glass filled polyester, red. **Actuator:** glass filled Nylon, white. **Contacts:** WE #1 over palladium silver over nickel over phosphor bronze. **Terminals:** solder clad over phosphor bronze.

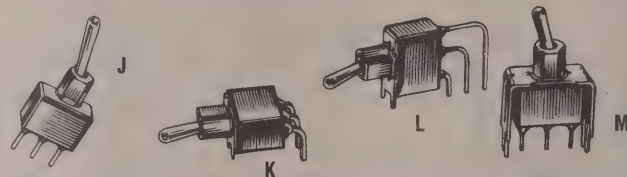
Vertical Mounted DIP Switches (Fig. G)

Stock No.	Mfr.'s Type	Number of Positions	EACH			
			1-24	25-99	100-499	500-999
676-1210	BD01	1	1.59	1.24	1.09	1.04
676-1215	BD02	2	1.62	1.37	1.13	1.06
676-1220	BD03	3	1.65	1.39	1.15	1.07
676-1225	BD04	4	1.77	1.48	1.21	1.15
676-1230	BD05	5	1.79	1.51	1.25	1.17
676-1235	BD06	6	1.89	1.58	1.30	1.21
676-1240	BD07	7	1.97	1.66	1.37	1.29
676-1245	BD08	8	2.03	1.72	1.40	1.32
676-1250	BD09	9	2.08	1.76	1.45	1.37
676-1255	BD10	10	2.22	1.85	1.53	1.43
676-1260	BD12	12	2.18	1.89	1.65	1.56

Right Angle Mounted DIP Switches (Fig. H)

Stock No.	Mfr.'s Type	Number of Positions	EACH			
			1-24	25-99	100-499	500-999
676-1255	BD04AV	4	2.26	1.99	1.79	1.73
676-1270	BD08AV	8	2.51	2.21	1.98	1.90

PC-Mtd. Sealed Toggle Switches



Contact rating: 0.4 VA max. at 20 VAC or. **Operating temp.:** -30°C to 85°C. **Case and bushing:** glass filled Nylon. **Toggle:** brass, chrome plated with internal O-ring seal. **Contacts and terminals:** brass, with gold plate over nickel plate.

PC Terminals (Fig. J). Spacing: .185". Actuator length: .500".

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1275	E101SD1CBE	SPDT	On-None-On	5.85	3.84	3.36	3.13
676-1280	E103SD1CBE	SPDT	On-Off-On	6.09	4.63	4.04	3.77
676-1285	E105SD1CBE	SPDT	Mom-Off-Mom	6.09	4.63	4.04	3.77
676-1290	E107SD1CBE	SPDT	On-Off-Mom	6.09	4.63	4.04	3.77
676-1295	E108SD1CBE	SPDT	On-None-Mom	6.09	4.63	4.04	3.77
676-1300	E201SD1CBE	DPDT	On-None-On	7.79	6.20	5.24	4.89
676-1305	E203SD1CBE	DPDT	On-Off-On	8.87	6.78	5.94	5.55
676-1310	E205SD1CBE	DPDT	Mom-Off-Mom	8.87	6.78	5.94	5.55
676-1315	E207SD1CBE	DPDT	On-Off-Mom	8.87	6.78	5.94	5.55
676-1320	E208SD1CBE	DPDT	On-None-Mom	8.87	6.78	5.94	5.55
676-1325	E211SD1CBE	DPDT	On-On-On	9.98	7.61	6.66	6.21
676-1330	E215SD1CBE	DPDT	Mom-On-Mom	10.91	8.29	7.26	6.77

PC Terminals/Right Angle Mounting (Fig. K). Actuator length: .300".

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1335	E101MD1ABE	SPDT	On-None-On	5.26	4.05	3.61	3.37
676-1340	E103MD1ABE	SPDT	On-Off-On	6.30	4.84	4.30	4.01
676-1345	E105MD1ABE	SPDT	Mom-Off-Mom	6.30	4.84	4.30	4.01
676-1350	E201MD1ABE	DPDT	On-None-On	8.21	6.62	5.76	5.37
676-1355	E203MD1ABE	DPDT	On-Off-On	9.29	7.20	6.46	6.03
676-1360	E205MD1ABE	DPDT	Mom-Off-Mom	9.29	7.20	6.46	6.03
676-1365	E211MD1ABE	DPDT	On-On-On	9.83	7.45	6.23	6.12

PC Terminals/Right Angle Mounting (Fig. L). Actuator length: .300".

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1370	E101MD1AV2BE	SPDT	On-None-On	5.26	4.05	3.61	3.37
676-1375	E103MD1AV2BE	SPDT	On-Off-On	6.30	4.84	4.30	4.01
676-1380	E105MD1AV2BE	SPDT	Mom-Off-Mom	6.30	4.84	4.30	4.01
676-1385	E201MD1AV2BE	DPDT	On-None-On	8.21	6.62	5.47	5.08
676-1390	E203MD1AV2BE	DPDT	On-Off-On	9.29	7.20	6.13	6.04
676-1395	E205MD1AV2BE	DPDT	Mom-Off-Mom	9.29	7.20	6.13	6.04
676-1400	E211MD1AV2BE	DPDT	On-On-On	10.41	8.03	6.81	6.69

PC Terminals/Support Bracket (Fig. M). Actuator length: .300".

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1405	E101MD1V3BE	SPDT	On-None-On	5.55	4.34	3.72	3.65
676-1410	E103MD1V3BE	SPDT	On-Off-On	6.59	5.13	4.37	4.29
676-1415	E105MD1V3BE	SPDT	Mom-Off-Mom	6.59	5.13	4.37	4.29
676-1420	E201MD1V3BE	DPDT	On-None-On	8.58	6.99	5.84	5.73
676-1425	E203MD1V3BE	DPDT	On-Off-On	9.66	7.57	6.50	6.39
676-1430	E205MD1V3BE	DPDT	Mom-Off-Mom	9.66	7.57	6.50	6.39
676-1435	E211MD1V3BE	DPDT	On-On-On	10.78	8.40	7.18	7.05

BP Series Side Actuated DIP Switches

High temperature materials (UL 94V-0)—withstands soldering temperatures. SPST switch function—1,2,3,4, 5,6,7,8,10, and 12 position models. Reverse throw models available. Side actuators with positive detent. Reliable wiping contact mechanism—self cleaning. Gold and tin plated contacts available. All terminals tin plated for solderability. Epoxy terminal seal standard. Tape seal available. Splash resistant.



Stock No.	Mfr.'s Type	No. Poles	"A"	EACH		
				1-24	25-99	100-499
676-6005	BP01KE	1	.217 (5.50)	1.93	1.62	1.06
676-6010	BP02KE	2	.315 (8.00)	2.18	1.83	1.20
676-6015	BP03KE	3	.413 (10.50)	2.33	1.96	1.28
676-6020	BP04KE	4	.512 (13.00)	2.40	2.02	1.32
676-6025	BP05KE	5	.610 (15.50)	2.48	2.09	1.37
676-6030	BP06KE	6	.709 (18.00)	2.69	2.25	1.48
676-6035	BP07KE	7	.807 (20.50)	2.75	2.31	1.51
676-6040	BP08KE	8	.906 (23.00)	2.92	2.45	1.60
676-6045	BP10KE	10	1.102 (28.00)	3.22	2.71	1.77
676-6050	BP12KE	12	1.299 (33.00)	3.53	2.96	1.94

LD Series Sealed* Low Profile DIP Switches

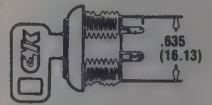
Machine insertable—low profile. Process sealed construction—withstands soldering and cleaning processes—removable polyimide top tape seal STD. Designed with high temperature materials (UL 94V-0). Recessed side actuators and positive detent—prevent accidental activation. Bifurcated gold plated contacts—no lubricants required. Tin-lead alloy coats all sides of terminals.



Stock No.	Mfr.'s Type	No. Poles	"A"	EACH		
				1-24	25-99	100-499
676-8085	LD04HOK	4	.470 (11.94)	2.74	1.95	1.58
676-8090	LD05HOK	5	.570 (14.48)	2.93	2.09	1.69
676-8095	LD06HOK	6	.670 (17.02)	3.17	2.26	1.83
676-8100	LD07HOK	7	.770 (19.56)	3.41	2.43	1.97
676-8105	LD08HOK	8	.870 (22.10)	3.65	2.60	2.11
676-8110	LD10HOK	10	1.070 (27.18)	3.89	2.77	2.25

P Series Low Profile Key Switches

High reliability switch—single pole and two pole models. Ratings from low level to 4 amps @ 125 V AC. One piece switch and lock housing—four standard colors—custom colors available. Smallest behind-the-panel clearance—approximately .600 inches. Supervisory key capability.



Stock No.	Mfr.'s Type	No. Poles	Num. of Positions	EACH		
				1-99	100-499	500-999
677-1650	P101133WM03N02*	SP	1	3.18	2.65	2.33
677-1655	P1011U3WM03N02*	SP	1,2	3.18	2.65	2.33
677-1660	P201133WM03N02*	DP	1	3.38	2.82	2.48
677-1665	P2011U3WM03N02*	DP	1,2	3.38	2.82	2.48
677-1670	P101133WM03D02†	SP	1	3.33	2.80	2.48
677-1675	P1011U3WM03D02†	SP	1,2	3.33	2.80	2.48
677-1680	P201133WM03D02†	DP	1	3.53	2.97	2.63
677-1685	P2011U3WM03D02†	DP	1,2	3.53	2.97	2.63

*With mounting nut. †With mounting clip.

A Series Switchlocks



Contact rating: switch—2.5 Amps at 125 VAC or 28 VDC; 150 MA at 250 VAC or DC, carry—5 amps continuous. Electrical life: 15,000 make-and-break cycles at full load. Insulation resistance: 10⁹ ohms min. Dielectric strength: 1,000 V rms min. at sea level. Lock: zinc alloy, stainless facing, four tumbler mechanism. Switch housing and top plate: glass filled Nylon. Movable contact: coin silver, silver plated. Stationary contacts and terminals: brass, silver plated. Included hardware: hex nut. Two nickel keys supplied. All models UL, CSA.

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH		
					1-99	100-499	500-999
677-1500	A114132N2N2NQ	SP	5	1	10.22	8.62	7.63
677-1505	A1141U2N2N2NQ	SP	5	1,2	10.22	8.62	7.63
677-1510	A115132N2N2NQ	SP	1	1	10.22	8.62	7.63
677-1515	A1151U2N2N2NQ	SP	1	1,3	10.22	8.62	7.63
677-1520	A214132N2N2NQ	DP	5	1	11.45	9.64	8.53
677-1525	A2141U2N2N2NQ	DP	5	1,2	11.45	9.64	8.53
677-1530	A215132N2N2NQ	DP	1	1	11.65	9.81	8.66
677-1535	A2151U2N2N2NQ	DP	1	1,3	11.65	9.81	8.66
677-1540	A314132N2N2NQ	3P	5	1	13.20	11.18	9.88
677-1545	A3141U2N2N2NQ	3P	5	1,2	13.20	11.18	9.88
677-1550	A315132N2N2NQ	3P	1	1	13.29	11.18	9.88
677-1555	A3151U2N2N2NQ	3P	1	1,3	13.29	11.18	9.88
677-1560	A420192N2N2NQ	4P	6	1	15.96	13.41	11.83

Y Series Tubular Switchlocks



Contact rating: 4 amps at 125 VAC or 28 VDC; 2 amps at 250 VAC. Electrical life: 10,000 make-and-break cycles at full load. Insulation resistance: 9 million ohms min. Dielectric strength: 1,000 V rms min. at sea level. Stainless steel facing on the 6 tumbler tubular locks. Switch housing and top plate glass filled polyester. Silver-plated copper terminals and contacts. Hardware and two keys included. UL/CSA.



Y Series Switchlocks

Contact rating: 4 amps at 125 VAC or 28 VDC; 2 amps at 250 VAC (UL/CSA). Electrical life: 10,000 make-and-break cycles at full load. Insulation resistance: 10⁹ ohms min. Dielectric strength: 1,000 V rms min. at sea level. Lock: zinc alloy, stainless steel facing, four tumbler mechanism. Switch housing and top plate: glass filled nylon. Contacts and terminals: copper, silver plated. Included hardware: nut. Two nickel keys supplied.

Four Tumbler With Positive Detent

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH		
					1-99	100-499	500-999
677-1700	Y100AA2C203NQ	SP	2	1,2,3	8.41	7.01	6.15
677-1705	Y100AB2C203NQ	SP	3	1,2,3,4	9.43	7.87	6.90
677-1710	Y101132C203NQ	SP	5	1	7.89	6.58	5.78
677-1720	Y1011U2C203NQ	SP	5	1,2	7.89	6.58	5.78
677-1725	Y200AA2C203NQ	DP	2	1,2,3	9.74	8.12	7.13
677-1735	Y201132C203NQ	DP	5	1	9.23	7.70	6.75
677-1745	Y2011U2C203NQ	DP	5	1,2	9.23	7.70	6.75

Four Tumbler Anti-static With Positive Detent

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH		
					1-99	100-499	500-999
677-1750	Y101132R203NQ	SP	5	1	8.47	7.16	6.36
677-1760	Y1011U2R203NQ	SP	5	1,2	8.47	7.16	6.36
677-1765	Y201132R203NQ	DP	5	1	9.81	8.28	7.33
677-1775	Y2011U2R203NQ	DP	5	1,2	9.81	8.28	7.33

Four Tumbler Momentary

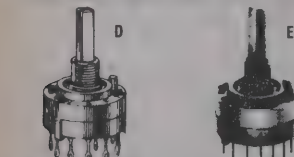
Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH		
					1-99	100-499	500-999
677-1800	Y108122A203NQ	SP	4	1	9.66	8.43	7.48
677-1810	Y208122A203NQ	DP	4	1	10.47	8.85	7.86

Six Tumbler Tubular with Solder Lug

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH		
					1-99	100-499	500-999
677-1820	Y101132V203NQ	SP	5	1	7.89	6.58	5.78
677-1825	Y1011U2V203NQ	SP	5	1,2	7.89	6.58	5.78
677-1830	Y201132V203NQ	DP	5	1	9.23	7.70	6.75
677-1835	Y2011U2V203NQ	DP	5	1,2	9.23	7.70	6.75

Six Tumbler Tubular Anti-Static with Solder Lug

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH		
					1-99	100-499	500-999
677-1840	Y101132W203NQ	SP	5	1	8.47	7.16	6.36
677-1845	Y1011U2W203NQ	SP	5	1,2	8.47	7.16	6.36
677-1850	Y201132W203NQ	DP	5	1	9.81	8.28	7.33
677-1855	Y2011U2W203NQ	DP	5	1,2	9.81	8.28	7.33



A Series Rotary Switches

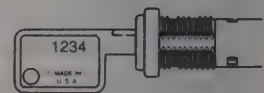
Solder Terminals (Fig. D)

Stock No.	Mfr.'s Type	No. Poles	Number of Positions	EACH		
				1-99	100-499	500-999
677-1600	A11215RNCQ	SP	12	3.22	2.77	2.43
677-1605	A20615RNCQ	DP	6	3.51	2.92	2.57
677-1610	A30415RNCQ	3P	4	3.61	3.01	2.64
677-1615	A40315RNCQ	4P	3	3.98	3.32	2.91

PC Terminals (Fig. E)

Stock No.	Mfr.'s Type	No. Poles	Number of Positions	EACH		
				1-99	100-499	500-999
677-1620	A11215RNCQ	SP	12	3.32	2.77	2.43
677-1625	A20615RNCQ	DP	6	3.51	2.92	2.57
677-1630	A30415RNCQ	3P	4	3.61	3.01	2.64
677-1635	A40315RNCQ	4P	3	3.98	3.32	2.91

YM Series Miniature Switchlock



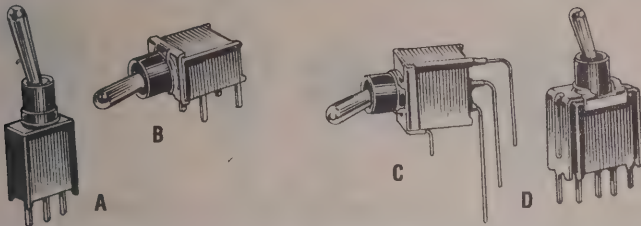
12mm miniature size. Stainless steel facing standard. Quick connect and wire lead terminal styles. Rating: 4 amps at 125 VAC; 2 amps at 250 V AC. T65, class 1, (VDE); (UL/CSA).

Stock No.	Mfr.'s Type	No. Poles	Terminal Style	EACH		
				1-99	100-499	500-999
677-1640	YM061U2C205NQ	SP	110 quick conn.	8.41	7.01	6.15
677-1645	YM061U2C2WCNQ	SP	Wire lead	9.14	7.74	6.88

Reference Chart

Ref No.	Lock Config. (Viewed from key end.)	Indexing	Ref No.	Lock Config. (Viewed from key end.)	Indexing	Ref No.	Lock Config. (Viewed from key end.)	Indexing	Ref No.	Lock Config. (Viewed from key end.)	Indexing
1	POS. 1 2 3	45° indexing	3	POS. 1 2 3	45° indexing	4	POS. 1 2 3	45° indexing mom.	6	POS. 1 2 3	30° indexing
2	POS. 1 2 3	45° indexing				5	POS. 1 2 3	90° indexing			

Sealed Tiny Toggle Switches



Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** -30°C to 85°C. **Toggle:** brass, chrome plated, with internal O-ring seal. **Case and bushing:** glass filled Nylon. **Contacts and terminals:** brass, with gold plate over nickel plate. **Terminal seal:** epoxy.

PC Terminals (Fig. A). Actuator length: .400".

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1800	ET01SD1CBE	SPDT	On-None-On	5.58	4.24	3.71	3.47
676-1805	ET03SD1CBE	SPDT	On-Off-On	6.32	4.80	4.19	3.91
676-1810	ET08SD1CBE	SPDT	On-None-Mom	6.32	4.80	4.19	3.91

PC Terminals/Right Angle Mounting (Fig. B). Actuator length: .240".

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1815	ET01MD1ABE	SPDT	On-None-On	5.79	4.45	3.97	3.71
676-1820	ET03MD1ABE	SPDT	On-Off-On	6.53	5.01	4.44	4.15
676-1825	ET08MD1ABE	SPDT	On-None-Mom	6.53	5.01	4.44	4.15

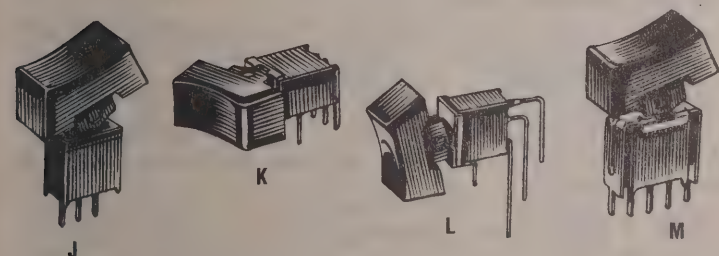
PC Terminals/Right Angle Mounting (Fig. C)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1830	ET01MD1AVBE	SPDT	On-None-On	5.79	4.45	3.97	3.71
676-1835	ET03MD1AVBE	SPDT	On-Off-On	6.53	5.01	4.44	4.15
676-1840	ET08MD1AVBE	SPDT	On-None-Mom	6.53	5.01	4.44	4.15

PC Terminals With Support Bracket (Fig. D)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1845	ET01MD1V3BE	SPDT	On-None-On	5.79	4.45	3.97	3.71
676-1850	ET03MD1V3BE	SPDT	On-Off-On	6.53	5.01	4.44	4.15
676-1855	ET08MD1V3BE	SPDT	On-None-Mom	6.53	5.01	4.44	4.15

Sealed Tiny Rocker Switches



Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** -30°C to 85°C. **Rocker:** Nylon, black with internal O-ring seal standard. **Case and bushing:** glass filled Nylon. **Contacts and terminals:** brass, with gold plate over nickel plate. **Terminal seal:** epoxy.

PC Terminals (Fig. J)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1860	ET01J1CBE2	SPDT	On-None-On	6.08	4.74	4.20	3.92
676-1865	ET03J1CBE2	SPDT	On-Off-On	6.82	5.30	4.67	4.36
676-1870	ET08J1CBE2	SPDT	On-None-Mom	6.82	5.30	4.67	4.36

PC Terminals/Right Angle Mounting (Fig. K)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1875	ET01J6ABE2	SPDT	On-None-On	6.29	4.95	4.46	4.16
676-1880	ET03J6ABE2	SPDT	On-Off-On	7.03	5.51	4.93	4.60
676-1885	ET08J6ABE2	SPDT	On-None-Mom	7.03	5.51	4.93	4.60

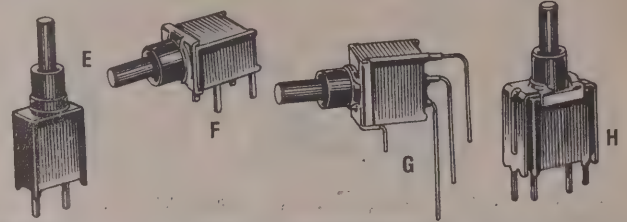
PC Terminals/Right Angle Mounting (Fig. L)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1890	ET01J1AVBE2	SPDT	On-None-On	6.29	4.95	4.46	4.16
676-1895	ET03J1AVBE2	SPDT	On-Off-On	7.03	5.51	4.93	4.60
676-1900	ET08J1AVBE2	SPDT	On-None-Mom	7.03	5.51	4.93	4.60

PC Terminals With Support Bracket (Fig. M)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1905	ET01J1V3BE2	SPDT	On-None-On	6.29	4.95	4.46	4.16
676-1910	ET03J1V3BE2	SPDT	On-Off-On	7.03	5.51	4.93	4.60
676-1915	ET08J1V3BE2	SPDT	On-None-Mom	7.03	5.51	4.93	4.60

Sealed Tiny Pushbutton Switches



Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** -30°C to 85°C. **Case and bushing:** glass filled Nylon. **Plunger:** Thermoplastic polyester, black, with internal O-ring seal. **Contacts and terminals:** brass, with gold plate over nickel plate. **Terminal seal:** epoxy.

PC Terminals (Fig. E)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-1920	EP11SD1CBE	SPST	Off-Mom	4.22	3.31	2.83	2.64
676-1925	EP12SD1CBE	SPDT	On-Mom	5.70	4.45	3.79	3.53

PC Terminals/Right Angle Mounting (Fig. F)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-1930	EP11SD1ABE	SPST	Off-Mom	4.43	3.60	3.32	3.09
676-1935	EP12SD1ABE	SPDT	On-Mom	5.91	4.66	4.04	3.77

PC Terminals/Right Angle Mounting (Fig. G)

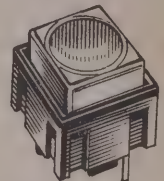
Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-1940	EP11SD1AVBE	SPST	Off-Mom	4.51	3.60	3.20	2.99
676-1945	EP12SD1AVBE	SPDT	On-Mom	5.99	4.74	4.16	3.88

PC Terminals/Support Bracket (Fig. H)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-1950	EP11SD1V3BE	SPST	Off-Mom	4.43	3.60	3.09	2.88
676-1955	EP12SD1V3BE	SPDT	On-Mom	5.91	4.66	4.04	3.77

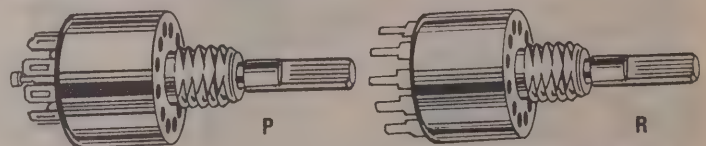
Pushbutton Key Switches

Contact rating: 25 mA max. at VAC or DC max. **Operating temp.:** -30°C to 65°C. **Case and bushing:** glass filled Nylon. **Actuator:** Black ABS or polycarbonate-ABS blend, matte finish. **Movable contact:** beryllium copper, silver plated. **Stationary contacts and terminals:** brass, silver plated.



Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1960	KS11R21CQ	SPST	Off-Mom	1.62	1.21	1.03	.96
676-1965	KS11R22CQ	SPST	Off-Mom	1.50	1.09	.90	.84
676-1970	KS12R21CQ	SPDT	On-Mom	1.70	1.27	1.09	1.00
676-1975	KS12R22CQ	SPDT	On-Mom	1.58	1.15	.96	.88

Half-Inch Rotary Switches



Contact rating: Switch-250 mA max. at 125 VAC or 28 VDC; Carry-6 Amps continuous, non-shorting contacts. **Electrical life:** 10,000 make-and-break cycles at 150 mA, 125 VAC or 28 VDC. **Insulation resistance:** 10¹⁰ Ohms min. **Dielectric strength:** 600 V rms min. at sea level. **Housing and bushing:** zinc alloy, bright zinc plated with clear chromate finish. **Bushing:** 1/4-28UNF-2A, .250" length. **Actuator:** zinc alloy, nickel plated. **Base:** diallyl phthalate, with insert molded terminals. **Contacts and terminals:** brass, silver plated. **Indexing:** MA00, MB00, models -36°; MC00, MD00 models -30°. All models have full 360° rotation with no stops. Stop pins are supplied for user-selectable stops. **Included hardware:** nut and lockwasher.

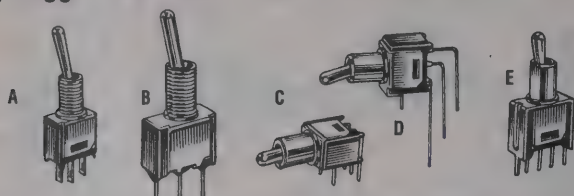
Solder Terminals (Fig. P)

Stock No.	Mfr.'s Type	Desc.	Number of Positions	EACH			
				1-24	25-99	100-499	500-999
676-1980	MA00L1NZQ	SP	10	11.56	7.74	6.60	6.16
676-1985	MC00L1NZQ	SP	12	11.83	7.92	6.76	6.31
676-1990	MB00L1NZQ	DP	5	12.83	8.59	7.33	6.84
676-1995	MD00L1NZQ	DP	6	13.20	8.86	7.54	7.04

PC Terminals (Fig. R)

Stock No.	Mfr.'s Type	Desc.	Number of Positions	EACH			
				1-24	25-99	100-499	500-999
676-2000	MA00L1NCQ	SP	10	11.83	7.92	6.76	6.31
676-2005	MC00L1NCQ	SP	12	12.08	8.17	6.90	6.44
676-2010	MB00L1NCQ	DP	5	13.08	8.84	7.47	6.97
676-2015	MD00L1NCQ	DP	6	13.45	9.11	7.69	7.17

Tiny Toggle Switches



Toggles: brass, chrome plated. **Bushings:** brass, nickel plated 10-48UNS-2A. **Included hardware:** nut, locking ring, and lockwasher.

Switches not right angle mounted or with support bracket. **Contact rating:** 3 Amps at 120 VAC or 28 VDC (UL) for all models with On-None-On switch function, all others 2 Amps at 120 VAC or 28 VDC. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated.

Switches with right angle mounting or support bracket. **Contact rating:** 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

Solder Terminals (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2400	T101SHZOE	SPDT	On-None-On	5.74	4.02	3.86	2.67
676-2405	T103SHZOE	SPDT	On-Off-On	6.92	4.83	4.61	3.14
676-2410	T108SHZOE	SPDT	On-None-Mom	6.92	4.83	4.61	3.14
676-2415	T201SHZOE	DPDT	On-None-On	8.87	6.52	6.07	4.08
676-2420	T203SHZOE	DPDT	On-Off-On	10.09	7.12	6.84	4.62
676-2425	T208SHZOE	DPDT	On-None-Mom	10.46	7.33	7.06	4.62
676-2430	T211SHZOE	DPDT	On-On-On	11.36	8.26	7.67	5.18

PC Terminals (Fig. B)

676-2435	T101SHCOE	SPDT	On-None-On	5.66	4.05	3.76	2.67
676-2440	T103SHCOE	SPDT	On-Off-On	6.84	4.86	4.51	3.19
676-2445	T201SHCOE	DPDT	On-None-On	8.71	6.36	5.87	4.18
676-2450	T203SHCOE	DPDT	On-Off-On	9.93	6.96	6.64	5.96

PC Terminals/Right Angle Mounting (Fig. C)

676-2455	T101MH9ABE	SPDT	On-None-On	5.87	4.32	4.01	2.90
676-2460	T103MH9ABE	SPDT	On-Off-On	7.05	5.14	4.77	3.43
676-2465	T201MH9ABE	DPDT	On-None-On	9.13	6.85	6.36	5.71

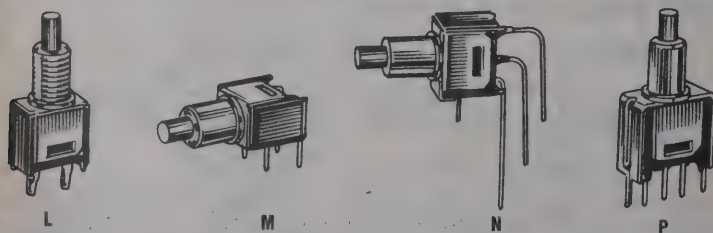
PC Terminals/Right Angle Mounting (Fig. D)

676-2470	T101MH9AVBE	SPDT	On-None-On	5.87	4.32	4.01	2.64
676-2475	T103MH9AVBE	SPDT	On-Off-On	7.66	5.57	5.17	3.42
676-2480	T108MH9AVBE	SPDT	On-None-Mom	7.66	5.57	5.17	3.42
676-2485	T201MH9AVBE	DPDT	On-None-On	9.13	6.85	6.36	4.64
676-2490	T203MH9AVBE	DPDT	On-Off-On	10.35	7.68	7.13	5.18
676-2500	T208MH9AVBE	DPDT	On-None-Mom	10.72	7.94	7.37	5.18
676-2505	T211MH9AVBE	DPDT	On-On-On	11.62	8.57	7.96	5.74

PC Terminal With Support Bracket (Fig. E)

676-2510	T101MH9V3BE	SPDT	On-None-On	5.58	4.34	4.03	3.60
676-2515	T103MH9V3BE	SPDT	On-Off-On	6.76	5.14	4.77	3.42
676-2520	T201MH9V3BE	DPDT	On-None-On	9.13	6.52	6.06	4.45

Tiny Pushbutton Switches



Plunger: thermoplastic polyester. **Bushings:** brass, nickel plated. **Included hardware:** nut, locking ring, and lockwasher.

Switches with solder terminals. **Contact rating:** 1-Amp at 120 VAC or 28 VDC (UL listed). **Contacts:** coin silver, silver plated. **Terminals:** Brass, silver plated.

Switches with PC terminals. **Contact rating:** 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

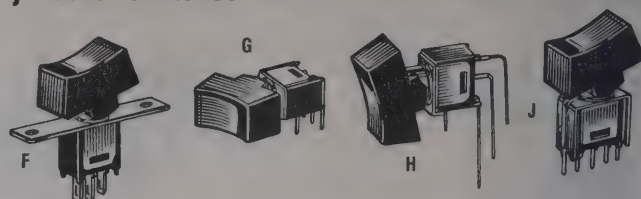
Tiny Slide Switches

Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** -30°C to 85°C. **Actuator:** Nylon, black. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, with gold plate over nickel plate.

PC Terminals

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2695	TS01CBE	SPDT	On-None-On	4.40	3.00	2.66	2.01
676-2697	TS03CBE	SPDT	On-Off-On	4.98	3.38	2.99	2.68

Tiny Rocker Switches



Actuator: Nylon, black. **Bushings:** brass, nickel plated. **Included hardware:** nuts, screws, lockwashers, and standoffs.

Switches with solder terminals. **Contact rating:** 3 Amps at 120 VAC or 28 VDC (UL) for all models with On-None-On switch function, all others 2 Amps at 120 VAC or 28 VDC. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated.

Switches with PC terminals. **Contact rating:** 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

Solder Terminals (Fig. F)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2525	T101J1ZOE2	SPDT	On-None-On	6.24	4.68	4.34	3.05
676-2530	T103J1ZOE2	SPDT	On-Off-On	7.42	5.49	5.10	3.58
676-2535	T108J1ZOE2	SPDT	On-None-Mom	8.03	5.92	5.50	3.58
676-2540	T201J1ZOE2	DPDT	On-None-On	9.37	7.06	6.56	4.51
676-2545	T203J1ZOE2	DPDT	On-Off-On	10.59	7.89	7.33	5.05
676-2550	T208J1ZOE2	DPDT	On-None-Mom	10.96	8.15	7.57	5.05

PC Terminals/Right Angle Mounting (Fig. G)

676-2555	T101J6ABE2	SPDT	On-None-On	6.37	4.85	4.50	4.04
676-2560	T103J6ABE2	SPDT	On-Off-On	7.55	5.46	5.26	3.86
676-2565	T108J6ABE2	SPDT	On-None-Mom	8.16	6.09	5.66	3.86
676-2570	T201J1ABE2	DPDT	On-None-On	9.63	7.28	6.84	5.08
676-2575	T203J1ABE2	DPDT	On-Off-On	10.85	7.88	7.61	5.62
676-2580	T208J1ABE2	DPDT	On-None-Mom	11.22	8.09	7.86	5.62

PC Terminals/Right Angle Mounting (Fig. H)

676-2585	T101J1AVBE2	SPDT	On-None-On	6.37	4.85	4.50	3.33
676-2590	T103J1AVBE2	SPDT	On-Off-On	7.55	6.09	5.66	3.86
676-2595	T108J1AVBE2	SPDT	On-None-Mom	8.16	6.60	5.66	3.86
676-2600	T201J1AVBE2	DPDT	On-None-On	9.63	7.98	7.37	5.08
676-2605	T203J1AVBE2	DPDT	On-Off-On	10.85	8.88	7.61	5.62
676-2610	T208J1AVBE2	DPDT	On-None-Mom	11.22	9.17	7.86	5.62

PC Terminals With Support Bracket (Fig. J)

676-2615	T101J1V3BE2	SPDT	On-None-On	6.37	5.25	4.50	3.33
676-2620	T103J1V3BE2	SPDT	On-Off-On	7.55	6.13	5.26	3.86
676-2625	T108J1V3BE2	SPDT	On-None-Mom	8.16	6.60	5.66	3.86
676-2630	T201J1V3BE2	DPDT	On-None-On	9.63	7.98	6.84	4.88
676-2635	T203J1V3BE2	DPDT	On-Off-On	10.56	8.88	7.61	4.22
676-2640	T208J1V3BE2	DPDT	On-None-Mom	11.22	9.17	7.86	4.22

Solder Terminal (Fig. L)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2645	TP11SHZOE	SPST	Off-Mom	6.14	4.80	4.11	2.05
676-2650	TP12SHZOE	SPDT	On-Mom	8.33	6.38	5.47	4.91
676-2655	TP21SHZOE	DPST	Off-Mom	10.91	8.58	7.36	4.22

PC Terminals/Right Angle Mounting (Fig. M)

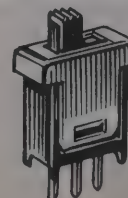
676-2660	TP11SH9ABE	SPST	Off-Mom	6.51	5.17	4.43	3.22
676-2665	TP12SH9ABE	SPDT	On-Mom	8.62	6.75	5.79	4.19
676-2670	TP21SH9ABE	DPST	Off-Mom	11.63	9.28	7.96	4.78

PC Terminals/Right Angle Mounting (Fig. N)

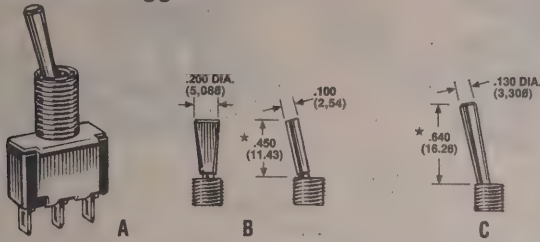
676-2675	TP12SH9AVBE	SPDT	On-Mom	8.62	6.75	5.79	3.05
676-2680	TP21SH9AVBE	DPST	Off-Mom	11.63	9.28	7.96	4.78

PC Terminals with Support Bracket (Fig. P)

676-2685	TP12SH9V3BE	SPDT	On-Mom	8.62	6.75	5.79	3.41
676-2690	TP21SH9V3BE	DPST	Off-Mom	11.63	9.28	7.96	6.45



Panel-Mounted Toggle Switches



Contact rating: 5 Amps at 120 VAC or 28 VDC. 2 Amps at 250 VAC. **Operating temp.:** -30°C to 85°C. **Toggles:** brass, chrome plate. **Bushings:** brass, nickel plated. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Case:** red diallyl phthalate. **Included hardware:** 2 nuts, locking ring, and lockwasher.

Round Toggle (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3000	7101SYZQE	SPDT	On-None-On	4.44	3.78	3.24	3.03
676-3005	7103SYZQE	SPDT	On-Off-On	5.32	4.28	3.57	3.29
676-3010	7105SYZQE	SPDT	Mom-Off-Mom	5.16	4.38	3.76	3.51
676-3015	7107SYZQE	SPDT	On-Off-Mom	5.16	4.38	3.76	3.51
676-3020	7108SYZQE	SPDT	On-None-Mom	5.45	4.39	3.66	3.37
676-3025	7201SYZQE	DPDT	On-None-On	6.56	5.58	4.79	4.47
676-3030	7203SYZQE	DPDT	On-Off-On	7.84	6.34	5.32	4.92
676-3035	7205SYZQE	DPDT	Mom-Off-Mom	7.84	6.34	5.32	4.92
676-3040	7207SYZQE	DPDT	On-Off-Mom	8.07	6.52	5.47	5.05
676-3045	7208SYZQE	DPDT	On-None-Mom	8.07	6.52	5.47	5.05
676-3050	7211SYZQE	DPDT	On-On-On	7.94	6.65	5.70	5.32
676-3055	7213SYZQE	DPDT	On-On-Mom	9.19	7.41	6.20	5.73
676-3060	7215SYZQE	DPDT	Mom-On-Mom	9.19	7.41	6.20	5.73
676-3065	7301SYZQE	3PDT	On-None-On	11.96	9.67	8.11	7.48
676-3070	7303SYZQE	3PDT	On-Off-On	12.71	10.26	8.60	7.93
676-3075	7305SYZQE	3PDT	Mom-Off-Mom	15.99	12.86	10.74	9.89
676-3080	7401SYZQE	4PDT	On-None-On	16.57	13.39	11.22	10.37
676-3085	7403SYZQE	4PDT	On-Off-On	17.61	14.21	11.90	10.99
676-3090	7405SYZQE	4PDT	Mom-Off-Mom	19.24	15.50	12.96	11.97
676-3095	7408SYZQE	4PDT	On-None-Mom	19.24	15.50	12.96	11.97
676-3100	7411SYZQE	4PDT	On-On-On	20.39	16.41	13.71	12.65
676-3105	7413SYZQE	4PDT	On-On-Mom	20.39	16.41	13.71	12.65
676-3110	7415SYZQE	4PDT	Mom-On-Mom	20.39	16.41	13.71	12.65

Flatted Toggle (Fig. B)

676-3115	7101P3YZQE	SPDT	On-None-On	5.48	4.77	4.40	3.81
676-3120	7103P3YZQE	SPDT	On-Off-On	6.26	5.22	4.51	4.13
676-3125	7105P3YZQE	SPDT	Mom-Off-Mom	6.39	5.33	4.60	4.21
676-3130	7107P3YZQE	SPDT	On-Off-Mom	6.39	5.33	4.60	4.21
676-3135	7108P3YZQE	SPDT	On-None-Mom	6.39	5.33	4.60	4.21
676-3140	7201P3YZQE	DPDT	On-None-On	7.60	6.47	5.54	5.17
676-3145	7203P3YZQE	DPDT	On-Off-On	8.78	7.28	6.26	5.76
676-3150	7205P3YZQE	DPDT	Mom-Off-Mom	8.78	7.28	6.26	5.76
676-3155	7207P3YZQE	DPDT	On-Off-Mom	9.01	7.46	6.41	5.89
676-3160	7208P3YZQE	DPDT	On-None-Mom	9.01	7.46	6.41	5.89

PC-Mounted Toggle Switches

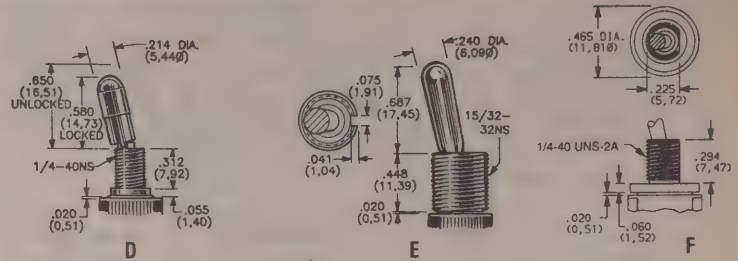
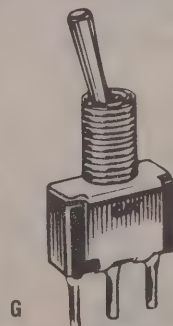
Operating temp.: -30°C to 85°C. **Toggle:** brass, chrome plated. **Bushing:** brass, nickel plated. **Case:** red diallyl phthalate.

Models not right angle mounted. **Contact rating:** 5 Amps at 120 VAC or 28 VDC; 2 Amps at 250 VAC. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated.

Right angle mounted models. **Contact rating:** 0.4 VA max. at 20 VAC or VDC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

PC Terminals (Fig. G)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3400	7101SYCQE	SPDT	On-None-On	4.87	3.94	3.30	3.03
676-3405	7103SYCQE	SPDT	On-Off-On	5.40	4.36	3.65	3.35
676-3410	7105SYCQE	SPDT	Mom-Off-Mom	5.53	4.47	3.74	3.43
676-3415	7107SYCQE	SPDT	On-Off-Mom	5.53	4.47	3.74	3.43
676-3420	7108SYCQE	SPDT	On-None-Mom	5.53	4.47	3.74	3.43
676-3425	7201SYCQE	DPDT	On-None-On	7.10	6.01	4.90	4.48
676-3430	7203SYCQE	DPDT	On-Off-On	8.00	6.50	5.48	5.03
676-3435	7205SYCQE	DPDT	Mom-Off-Mom	8.00	6.50	5.48	5.03
676-3440	7207SYCQE	DPDT	On-Off-Mom	8.23	6.68	5.63	5.16
676-3445	7208SYCQE	DPDT	On-None-Mom	8.23	6.68	5.63	5.16



Long Round Toggle (Fig. C)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3165	7101L1YZQE	SPDT	On-None-On	4.79	3.86	3.22	2.97
676-3170	7103L1YZQE	SPDT	On-Off-On	5.32	4.28	3.57	3.29
676-3175	7201L1YZQE	DPDT	On-None-On	6.94	5.85	4.74	4.32
676-3180	7203L1YZQE	DPDT	On-Off-On	7.84	6.34	5.32	4.92
676-3185	7301L1YZQE	3PDT	On-None-On	11.91	9.62	8.06	7.48
676-3190	7401L1YZQE	4PDT	On-None-On	16.57	13.39	11.22	10.37

Locking Toggle (Fig. D)

676-3195	7101KZQE	SPDT	On-None-On	7.13	6.05	5.59	4.84
676-3200	7103KZQE	SPDT	On-Off-On	7.05	6.01	5.30	4.96
676-3205	7105KZQE	SPDT	Mom-Off-Mom	7.18	6.12	5.39	5.04
676-3210	7107KZQE	SPDT	On-Off-Mom	7.18	6.12	5.39	5.04
676-3215	7108KZQE	SPDT	On-None-Mom	7.18	6.12	5.39	5.04
676-3220	7201KZQE	DPDT	On-None-On	9.25	7.55	6.97	6.04
676-3225	7203KZQE	DPDT	On-Off-On	9.57	8.10	6.76	6.59
676-3230	7301KZQE	3PDT	On-None-On	13.69	11.40	9.84	9.15
676-3235	7303KZQE	3PDT	On-Off-On	14.44	11.99	10.33	9.60

Large Round Toggle (Fig. E)

676-3240	7101TZQE	SPDT	On-None-On	6.11	5.18	4.54	4.27
676-3245	7103TZQE	SPDT	On-Off-On	6.64	5.60	4.89	4.59
676-3250	7105TZQE	SPDT	Mom-Off-Mom	6.77	5.71	4.98	4.67
676-3255	7108TZQE	SPDT	On-None-Mom	6.77	5.71	4.98	4.67
676-3260	7201TZQE	DPDT	On-None-On	8.26	7.17	6.06	5.67
676-3265	7203TZQE	DPDT	On-Off-On	9.16	7.66	7.05	6.59
676-3270	7301TZQE	3PDT	On-None-On	13.28	10.99	9.43	8.77
676-3275	7303TZQE	3PDT	On-Off-On	14.03	11.58	9.92	9.23
676-3280	7401TZQE	4PDT	On-None-On	17.89	14.71	12.54	12.13
676-3285	7403TZQE	4PDT	On-Off-On	18.93	15.53	13.22	12.28

Splash Proof Toggle (Fig. F)

676-3290	7101SCWZQE	SPDT	On-None-On	5.58	4.65	4.01	3.61
676-3295	7103SCWZQE	SPDT	On-Off-On	6.11	5.07	4.36	4.21
676-3300	7105SCWZQE	SPDT	Mom-Off-Mom	6.24	5.18	4.45	4.01
676-3305	7108SCWZQE	SPDT	On-None-Mom	6.24	5.18	4.45	4.01
676-3310	7201SCWZQE	DPDT	On-None-On	7.73	6.64	5.53	5.01
676-3315	7203SCWZQE	DPDT	On-Off-On	8.63	6.84	6.11	5.56
676-3320	7301SCWZQE	3PDT	On-None-On	12.75	10.46	8.90	8.12
676-3325	7401SCWZQE	4PDT	On-None-On	17.36	14.18	12.01	11.01

PC Terminals Right Angle Mtg. (Fig. H)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3450	7101MD9ABE	SPDT	On-None-On	4.94	4.58	4.20	3.88
676-3455	7103MD9ABE	SPDT	On-Off-On	5.52	4.70	4.03	3.76
676-3460	7105MD9ABE	SPDT	Mom-Off-Mom	5.74	4.68	3.95	3.67
676-3465	7107MD9ABE	SPDT	On-Off-Mom	5.74	4.68	3.95	3.67
676-3470	7108MD9ABE	SPDT	On-None-Mom	5.74	4.68	3.95	3.67
676-3475	7201MD9ABE	DPDT	On-None-On	7.55	6.41	5.50	5.13
676-3480	7203MD9ABE	DPDT	On-Off-On	8.42	6.92	5.90	5.51

PC Terminals Right Angle Mtg. (Fig. J)

676-3485	7101MD9AV2BE	SPDT	On-None-On	4.94	4.20	3.60	3.36
676-3490	7103MD9AV2BE	SPDT	On-Off-On	6.09	5.03	4.30	3.93
676-3495	7107MD9AV2BE	SPDT	On-Off-Mom	6.09	5.03	4.30	3.93
676-3500	7201MD9AV2BE	DPDT	On-None-On	8.22	7.13	6.02	5.49
676-3505	7205MD9AV2BE	DPDT	Mom-Off-Mom	9.12	7.62	6.60	6.04
676-3510	7207MD9AV2BE	DPDT	On-Off-Mom	9.35	7.80	6.75	6.17
676-3515	7208MD9AV2BE	DPDT	On-None-Mom	9.35	7.80	6.75	6.17

Switches

Multisection switches can be made by ordering number of sections desired and accessories such as end plates and blank sections. **Description.** Thumbwheel: matte black with unsealed switch contacts. **Operating Voltage:** 50 mV to 28 VDC or 120 VAC. **Operating temperature:** -10°C to 65°C. **Body and Wheel:** ABS plastic. **Rotor contacts:** precious metal on copper alloy. **Stator contacts:** hard gold over nickel over 2 oz. copper on epoxy fiberglass. **Contact rating:** 1 Amp continuous carry, 100 mA max. switched current. **Insulation resistance:** 10⁹ ohms min. **Dielectric strength:** 500 V RMS min. at sea level between common terminal and any output.

C & K Model No. (Individual Sections)

Front Mount	Rear Mount	Front Mount with Diode Provision	Rear Mount with Diode Provision	Description
301109000 301309M00	301119000 301319M00	301109100 —	301119100 —	Decimal; 1 pole 10 pos. Decimal; 2 pole 10 pos. (Special board: request terminal location, mechanical and electrical details.)
301609400	301619400	301409100 —	301419100 —	Resistor decade; 1-2-2-2-2 code Decimal; 1 pole 11 pos.
302109000 302209000	302119000 302219000	302109100 302209100	302119100 302219100	BCD 1-2-4-8; 10 pos. Octal 1-2-4; 8 pos. (Stopped between 0-7 incl.)
302309000 302409000	302319000 302419000	302309100 302409100	302319100 302419100	Complement of BCD 1-2-4-8; 10 pos. Complement of Octal 1-2-4; 8 pos. (Stopped between 0-7 incl.)
302809700 303509000	302819700 303519000	— 303509100	— 303519100	Complement of 9's Complement; 10 pos. BCD 1-2-4-8 with separate common to Not True Bits; 10 pos.
304109000 304209000	304119000 304219000	304109100 304209100	304119100 304219100	BCD 1-2-4-8 with Complement, one common; 10 pos. Octal 1-2-4 with Complement, one common; 8 pos. (Stopped between 0-7 incl.)
306109000 307109000	306119000 307119000	306109100 307109100	306119100 307119100	SPDT repeating; 10 pos. Plus (+) and Minus (-) alternating. Binary Coded Hexadecimal; 16 pos.

Stock No.	Mfr.'s Type	EACH			
		1-49	50-99	100-499	500-999
676-2100	301109000	5.42	5.18	5.03	4.69
676-2105	301119000	5.42	5.18	5.03	4.69
676-2110	301109100	7.57	6.99	6.49	6.05
676-2115	301119100	7.57	6.99	6.49	6.05
676-2120	301309M00	8.00	7.60	7.20	6.80
676-2125	301319M00	8.00	7.60	7.20	6.80
676-2130	301409100	7.57	6.99	6.49	6.05
676-2135	301419100	7.57	6.99	6.49	6.05
676-2140	301609400	5.42	5.18	5.03	4.69
676-2145	301619400	5.42	5.18	5.03	4.69
676-2150	302109000	5.42	5.18	5.03	4.69
676-2155	302119000	5.42	5.18	5.03	4.69
676-2160	302109100	7.57	6.99	6.49	6.05
676-2165	302119100	7.57	6.99	6.49	6.05
676-2170	302209000	6.48	5.99	5.56	5.19
676-2175	302219000	6.48	5.99	5.56	5.19
676-2180	302209100	8.18	7.55	7.01	6.55
676-2185	302219100	8.18	7.55	7.01	6.55
676-2190	302309000	5.42	5.18	5.03	4.69
676-2195	302319000	5.42	5.18	5.03	4.69
676-2200	302409000	6.48	5.99	5.56	5.19
676-2205	302419000	6.48	5.99	5.56	5.19

Stock No.	Mfr.'s Type	EACH			
		1-49	50-99	100-499	500-999
676-2210	302809700	5.42	5.18	5.03	4.69
676-2215	302819700	5.42	5.18	5.03	4.69
676-2220	303509000	11.75	10.85	10.07	9.40
676-2225	303519000	11.75	10.85	10.07	9.40
676-2230	303509100	13.45	12.42	11.53	10.76
676-2235	303519100	13.45	12.42	11.53	10.76
676-2240	304109000	9.07	8.37	7.77	7.25
676-2245	304119000	9.07	8.37	7.77	7.25
676-2250	304109100	10.77	9.94	9.23	8.61
676-2255	304119100	10.77	9.94	9.23	8.61
676-2260	304209000	9.07	8.37	7.77	7.25
676-2265	304219000	9.07	8.37	7.77	7.25
676-2270	304209100	10.77	9.94	9.23	8.61
676-2275	304219100	10.77	9.94	9.23	8.61
676-2280	306109000	5.42	5.18	5.03	4.69
676-2285	306119000	5.42	5.18	5.03	4.69
676-2290	306109100	7.57	6.99	6.49	6.05
676-2295	306119100	7.57	6.99	6.49	6.05
676-2300	307109000	11.75	10.85	10.07	9.40
676-2305	307119000	11.75	10.85	10.07	9.40
676-2310	307109100	13.45	12.42	11.53	10.76
676-2315	307119100	13.45	12.42	11.53	10.76

Hardware for Field Assembly

Screws for Field Assembly

Stock No.	Mfr.'s Type	Number of Sections		EACH
		Front Mtg.	Rear Mtg.	
676-2320	412701000	3-4	3	1.58
676-2325	412702000	5-7	4-6	1.58
676-2330	412703000	8-10	7-9	1.58
676-2335	412704000	11-13	10-12	.39
676-2340	412705000	14-16	13-15	.39
676-2345	402900000	Stop Pins	Stop Pins	.16

Accessories

Stock No.	Mfr.'s Type	Description	EACH
676-2350	400802000	Rear mtg. blank section (plain)	1.09
676-2355	400402000	Rear mtg. end plate	.32
676-2360	413502000	Front mtg. blank section (plain)	1.32
676-2365	413402000	Front mtg. end plate	1.19
676-2370	406100652	Nut driver	5.93
676-2375	403500000	Nut (2 Required Per Assembly)	.16
676-2380	613801000	Connector	10.43



Front Mounting



Rear Mounting



4008



4035



4127-XX



4029



4004



4135



6138

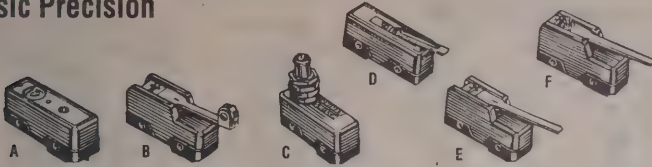


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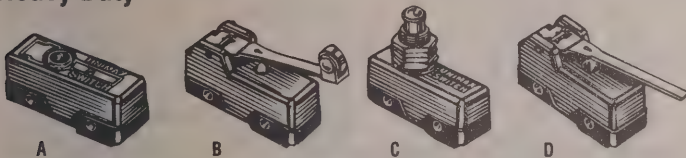
Basic Precision



Basic precision switch, is used in applications requiring minimum pretravel and overtravel, with moderate operating force. 20 Amps at 125, 250, 480 VAC; 1/2 Amp 125 VDC, 1/4 Amp 250 VDC; UL and CSA. Last digit in Mfr.'s Type indicates termination: -1 solder terminals; -5 screw terminals.

Stock No.	Mfr.'s Type	Figure	Actuator Type	O.F. Oz.	P.T. In.	O.T. In.	EACH		
							1-99	100-499	500-999
677-0005	HBS2KCB4SP011C	A	Pin Plunger	9-13	.020	.005	7.30	5.90	5.70
677-0010	HBS2KCB4SP055C	A	Pin Plunger	9-13	.020	.005	7.41	6.01	5.81
677-0015	HBS2KCB4SA011C	B	Hinged Roller Lever	1-3.5	.094-.312	.156	8.46	7.06	6.86
677-0020	HBS2KCB4SA055C	B	Hinged Roller Lever	1-3.5	.094-.312	.156	8.53	7.13	6.93
677-0021	HBS2KCB4SF011C	C	Reverse Act. Lever	10	.08	.09	9.26	7.86	7.66
677-0022	HBS2KCB4SF055C	C	Reverse Act. Lever	10	.08	.09	9.33	7.93	7.73
677-0025	HBS2KCB4SL011C	D	Large Plunger	9-13	.020	.220	9.47	8.07	7.87
677-0030	HBS2KCB4SL011C	D	Leaf Spring	9-13	.156	.062	8.10	6.70	6.50
677-0035	HBS2KCB4SL055C	D	Leaf Spring	9-13	.156	.062	8.17	6.77	6.57
677-0040	HBS2KCB4ST011C	E	Long Hinged Lever	1-2.5	.38	.19	8.24	6.84	6.64
677-0045	HBS2KCB4ST055C	E	Long Hinged Lever	1-2.5	.38	.19	8.31	6.91	6.71
677-0050	HBS2KCB4STX11C	F	Adj. Hinged Lever	2	.19	.09	9.04	7.64	7.44
677-0055	HBS2KCB4STX55C	F	Adj. Hinged Lever	2	.19	.09	9.11	7.71	7.51

Heavy Duty



Precision switch, used for control of heavy duty electric circuits, including motor loads up to 2 HP at 250 VAC, 1 HP, 125 VAC. 20 Amps at 125, 250, 480 VAC; 10 Amps 125 VAC, lamp load, inrush current 75 Amps at 480 VAC. UL and CSA. Last digit in Mfr.'s Type indicates termination: -1 solder terminals -5 screw terminals.

Stock No.	Mfr.'s Type	Figure	Actuator Type	O.F. Oz.	P.T. In.	O.T. In.	EACH		
							1-99	100-499	500-999
677-0023	HL2KJC3D055C	A	Stub Plunger	22	.050	.093	13.71	11.43	11.11
677-0065	HL2KJC3P055C	A	Pin Plunger	14-22	.050	.010	11.68	9.40	9.08
677-3000	HL2KJC3A055C	B	Hinged Roller Lever	2.5	.470	.062	12.84	10.56	10.24
677-0075	HL2KJC3J055C	C	Large Plunger	14-22	.050	.219	13.78	11.50	11.18
677-0085	HL2KJC3T055C	D	Long Hinged Plunger	2.5	.590	.078	12.62	10.34	10.02

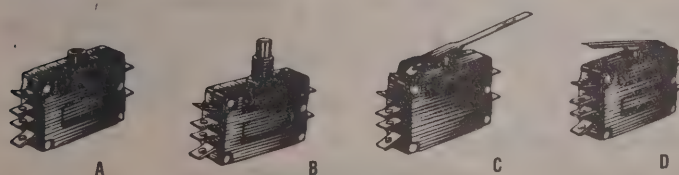
General Purpose



General Purpose Switch is designed for applications that require fully enclosed high-performance low cost, snap-acting switches with quick connect terminals. It is used where moderate pretravel and overtravel are required. 15 Amp, 125, 250 VAC, 3/4 HP, 125 VAC; 1 1/2 HP, 250 VAC; UL and CSA.

Stock No.	Mfr.'s Type	Figure	Actuator Type	O.F. Oz.	P.T. In.	O.T. In.	EACH		
							1-99	100-499	500-999
677-2005	ASKHC2A04AC	A	Hinged Roller Lever	4	.312	.312	4.49	3.06	3.00
677-2015	ASKHC2P04AC	B	Plastic Button	12	.281	.050	3.47	2.04	1.98
677-2015	ASKHC2T04AC	C	Hinged Lever	4	.312	.312	3.76	2.33	2.27
677-2020	ASKHC2J04AC	D	Threaded Bushing	20	.050	.187	4.12	2.69	2.63
677-2025	ASKHC2B04AC	E	Large Red Button	20	.050	.050	5.47	4.92	4.42
677-2030	ASKHC2B14AC	E	Large Black Button	20	.050	.050	5.47	4.92	4.42

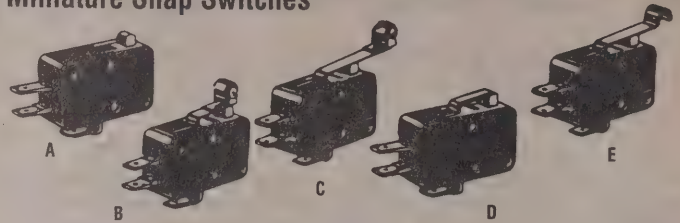
General Purpose Double Pole Double Throw



Same electrical rating as A Series, but double pole double throw.

Stock No.	Mfr.'s Type	Figure	Actuator Type	O.F. Oz.	P.T. In.	O.T. In.	EACH		
							1-99	100-499	500-999
677-2035	ADPDC2P04AC	A	Plastic Button	30	.050	.050	8.36	4.84	4.68
677-2040	ADPDC2J04AC	B	Threaded Bushing	30	.050	.187	9.01	5.49	5.33
677-2045	ADPDC2T04AC	C	Hinged Lever	6	.312	.187	8.65	5.13	4.97
677-2050	ADPDC2L04AC	D	Integral Leaf	18	.281	.062	8.65	5.13	4.97

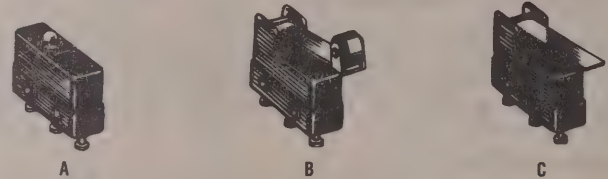
Miniature Snap Switches



The TM Series miniature switches are for control of heavy duty electrical circuits up to 10A, 250 VAC. Available with .187 quick-connect terminals.

Stock No.	Mfr.'s Type	Figure	Actuator Type	O.F. Grams	P.T.	O.T.	EACH		
							1-99	100-499	500-999
677-2215	TMCGD6SP0040C	A	Basic Pin Type	75	.056	.040	4.33	2.83	1.71
677-2220	TMCGD6SA1040C	B	Short Roller Lever	90	.070	.040	5.01	3.51	2.39
677-2225	TMCGD6SA1540C	C	Std. Roller Lever	45	.160	.065	5.04	3.54	2.42
677-2230	TMCGD6ST1040C	D	Short Lever	90	.080	.040	4.62	3.12	2.00
677-2235	TMCGD6ST1440C	E	Simulated Roller	50	.140	.062	4.69	3.19	2.07

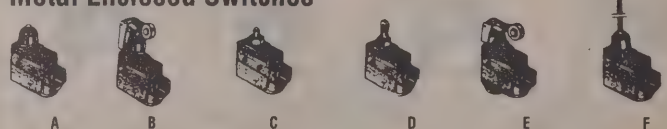
Subminiature Snap Switches



The LM Series of SPDT snap-acting switches affords long life and reliable switching in a compact subminiature package. Rated at 5A, 250 VAC, these switches have single turret terminals.

Stock No.	Mfr.'s Type	Figure	Actuator Type	O.F. Oz.	P.T.	O.T.	EACH		
							1-99	100-499	500-999
677-2240	LMGGE2POC	A	Basic Pin Type	3-5	.030	.005	4.90	3.92	3.78
677-2245	LMGGE2AOC	B	Roller Lever	1.4	.085	.011	5.99	5.01	4.87
677-2250	LMGGE2TOC	C	Rigid Lever	1.8	.085	.011	5.77	4.79	4.65

Metal Enclosed Switches

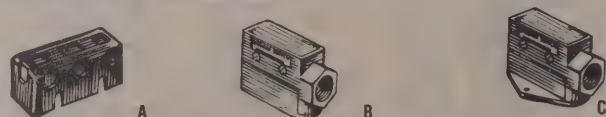


Snap-acting switches enclosed in metal housings that protect the basic switch against mechanical damage and offer methods of sealing to protect against moisture, dust, oil and corrosive atmospheres. Meets NEMA specifications 1, 2, 5, 12.

Stock No.	Mfr.'s Type	Figure	Actuator Type	O.F. Oz.	P.T. IN.	O.T. IN.	EACH		
							1-99	100-499	500-999
677-0105	KS80TS	A	Sealed Plunger	9-24	.080	.220	25.44	22.81	25.09
677-0110	KS80TS	B	Roller Lever	10-20	.190	.220	34.51	31.88	35.36
677-0115	KS80TS	C	Plain Plunger	9-13	.020	.220	23.63	21.00	23.51
677-0120	KS80TS	D	Roller Plunger	9-13	.020	.140	27.26	24.63	29.40
677-0125	KS80TS	E	Roller Lever	10-18	.190	.160	33.06	30.43	36.07
677-0130	KS80TS	F	Semi-Rigid Rod	*	*	*	27.26	24.63	28.28

*Operates under direct pressure on rod end or by 15" max. lateral movement.

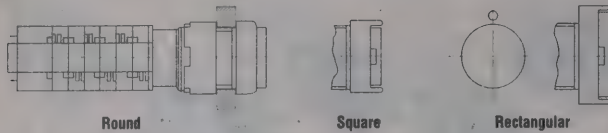
Terminal and Switch Enclosures



Terminal and switch enclosures, used to install HB and HL type switches with electric conduit, electrical tubing, or armored cable. The switch is inserted through the open top of the enclosure where it is secured by two screws that are supplied with the unit. The lower section is removable for easy access to terminals. TC-1, a molded phenolic cover for terminals only, has knock-outs for convenient positioning of wire.

Stock No.	Mfr.'s Type	Figure	Actuator Type	EACH		
				1-99	100-499	500-999
677-0090	TC-1	A	Terminal cover only	2.18	1.67	1.57
677-0095	TC-2	B	Enclosure Through Bolt Mount	35.12	31.62	28.10
677-0100	TC-3	C	Enclosure Flange Mount	43.76	39.33	34.97

Series 75 Lighted Pushbutton Switches



The RAFI Series 75 panel-mounted switches include momentary and alternate action lighted pushbuttons and keylocks. Each is designed to mount in a 16.2mm diameter panel cutout. Units are rated at 4A at 120/240VAC, and are available in one, two, three, and four pole models. Standard soldering terminals are silver (gold contacts available on request). The series 75 are recognized by UL, CSA, and VDE. Operating life at 250VAC/2A exceeds 200,000 operations. Cataloged units feature a black collar.

18 mm Round Bezel and Lens

Stock No.	Mfr.'s Type	Switch Action	No. of Poles	EACH		
				1-24	25-249	250-499
677-4035	1.15108.451	Momentary	1	10.76	9.93	9.22
677-4036	1.15108.452	Momentary	2	15.85	14.63	13.58
677-4037	1.15108.453	Momentary	3	22.71	20.96	19.47
677-4038	1.15108.551	Latching	1	12.86	11.87	11.02
677-4039	1.15108.552	Latching	2	17.96	16.58	15.40
677-4040	1.15108.553	Latching	3	23.06	21.99	19.77

Series 75 Anti-Static Keylocks

The RAFI Series 75 panel-mounted keylock switches are designed to mount in a 16.2mm diameter panel cutout. Units are rated at 4A at 120/240VAC. Each features silver contacts (gold contacts available on request) and are designed to tolerate more than 14KV of electrostatic discharge. Units are recognized by UL, CSA, and VDE. Cataloged units feature a black collar.

18 mm Round Bezel Keylocks

Stock No.	Mfr.'s Type	No. of Poles	Rotating Angle	Key Removal at	Switch Action	EACH		
						1-24	25-249	250-499
677-4000	1.15108.851	1	90°	0°	Latching	33.10	30.55	28.37
677-4001	1.15108.911	1	90°	0° & 90°	Latching	33.10	30.55	28.37
677-4002	1.15108.852	2	90°	0°	Latching	38.53	35.56	33.02
677-4003	1.15108.912	2	90°	0° & 90°	Latching	34.41	31.76	29.50
677-4004	1.15108.941	1	45°	0°	Momentary	29.55	27.27	25.32
677-4005	5.58004.721	Spare keys for any of the above keylocks				4.20	3.87	3.60

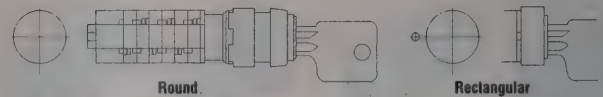
24 mm Square Bezel and Lens

Stock No.	Mfr.'s Type	Switch Action	No. of Poles	EACH		
				1-24	25-249	250-499
677-4041	1.15108.251	Momentary	1	10.76	9.93	9.22
677-4042	1.15108.252	Momentary	2	15.85	14.63	13.58
677-4043	1.15108.253	Momentary	3	20.90	19.29	17.91
677-4073	1.15108.351	Latching	1	17.96	16.58	15.40
677-4044	1.15108.352	Latching	2	23.06	21.29	19.77
677-4045	1.15108.353	Latching	3	27.38	26.04	24.90

18 mm x 24 mm Rectangular Bezel and Lens

677-4046	1.15108.051	Momentary	1	10.76	9.93	9.22
677-4047	1.15108.052	Momentary	2	15.85	14.63	13.58
677-4048	1.15108.053	Momentary	3	21.93	20.24	18.80
677-4049	1.15108.151	Latching	1	17.38	16.04	14.90
677-4050	1.15108.152	Latching	2	17.96	16.58	15.40
677-4051	1.15108.153	Latching	3	23.06	21.29	19.77

Note: Each of the above switches must be ordered with an appropriate colored lens cap, light diffuser, and incandescent lamp. Please see "accessories" below.



18 mm x 24 mm Rectangular Bezel Keylocks

Stock No.	Mfr.'s Type	No. of Poles	Rotating Angle	Key Removal at	Switch Action	EACH		
						1-24	25-249	250-499
677-4006	1.15108.571	1	90°	0°	Latching	33.10	30.55	28.37
677-4007	1.15108.631	1	90°	0° & 90°	Latching	33.10	30.55	28.37
677-4008	1.15108.572	2	90°	0°	Latching	38.53	35.56	33.02
677-4009	1.15108.632	2	90°	0° & 90°	Latching	38.53	35.56	33.02
677-4010	1.15108.661	1	45°	0°	Momentary	33.10	30.55	28.37
677-4011	5.58004.721	Spare keys for any of the above keylocks				4.20	3.87	3.60

Series 25 Snap-In Mount, Lighted Pushbuttons



The RAFI Series 25 momentary action, lighted pushbuttons are designed to mount in the popular 16.2mm diameter panel cutout...without the need for any installation tools. Simply insert into the drilled panel cutout, press the pushbutton once, and the snap-in locking mechanism secures the assembly to the front panel. Each unit features SPST gold-plated contacts designed for a maximum load of 100mA at 24V. The Series 25 pushbuttons feature black bezels and a 25mm square operator button designed to meet industrial-grade "water-tight" sealing requirements (IP65). Electrical connections are made via a 4-pole flat cable insulation displacement connector (IDC) - thus eliminating the need for soldering or stripping insulation.

Stock No.	Mfr.'s Type	Color Button	Type Pushbutton	EACH		
				1-24	25-249	250-499
677-4012	1.15150.006/1002	Clear	Flush	10.16	9.38	8.71
677-4013	1.15150.006/1306	Red	Flush	10.16	9.38	8.71
677-4014	1.15150.006/1403	Yellow	Flush	10.16	9.38	8.71
677-4015	1.15150.006/1505	Green	Flush	10.16	9.38	8.71
677-4016	1.15150.006/1607	Blue	Flush	10.16	9.38	8.71
677-4017	1.15150.106/1002	Clear	Protruding	13.73	12.67	11.77
677-4018	1.15150.106/1306	Red	Protruding	13.73	12.67	11.77
677-4019	1.15150.106/1403	Yellow	Protruding	13.73	12.67	11.77
677-4020	1.15150.106/1505	Green	Protruding	13.73	12.67	11.77
677-4021	1.15150.106/1607	Blue	Protruding	13.73	12.67	11.77
677-4022	1.15150.206/1002	Clear	Recessed	14.00	12.92	12.00
677-4023	1.15150.206/1306	Red	Recessed	14.00	12.92	12.00
677-4024	1.15150.206/1403	Yellow	Recessed	14.00	12.92	12.00
677-4025	1.15150.206/1505	Green	Recessed	14.00	12.92	12.00
677-4026	1.15150.206/1607	Blue	Recessed	14.00	12.92	12.00
677-4027	1.15154.006	Red (unlighted)	Stop pushbutton	13.70	12.64	11.74

Note: Each of the above lighted pushbutton switches must be ordered with the appropriate lamp (see available voltages below) and cable connector.

Stock No.	Mfr.'s Type	Operating Voltage (Incandescent Lamp)	EACH		
			1-24	25-249	250-499
677-4028	1.90142.001	6V/0.7W	3.71	3.43	3.18
677-4029	1.90142.002	12V/0.7W	4.25	3.92	3.64
677-4030	1.90142.003	24V/0.7W	4.46	4.12	3.82
677-4031	5.92025.368	Flat Cable IDC Connector	1.71	1.58	1.47

Series 75 Accessories

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-249	250-499
677-4052	5.49257.011/1002	18mm Round Lens Cap, Clear	.41	.38	.35
677-4053	5.49257.011/1303	18mm Round Lens Cap, Red	.41	.38	.35
677-4054	5.49257.011/1402	18mm Round Lens Cap, Yellow	.41	.38	.35
677-4055	5.49257.011/1502	18mm Round Lens Cap, Green	.41	.38	.35
677-4056	5.49257.011/1601	18mm Round Lens Cap, Blue	.41	.38	.35
677-4057	5.49275.036/1002	24mm Square Lens Cap, Clear	.35	.32	.30
677-4058	5.49275.036/1303	24mm Square Lens Cap, Red	.35	.32	.30
677-4059	5.49275.036/1402	24mm Square Lens Cap, Yellow	.35	.32	.30
677-4060	5.49275.036/1502	24mm Square Lens Cap, Green	.35	.32	.30
677-4061	5.49275.036/1601	24mm Square Lens Cap, Blue	.35	.32	.30
677-4062	5.49275.032/1002	18mm x 24mm Rectangular Lens Cap, Clear	.35	.32	.30
677-4063	5.49275.032/1303	18mm x 24mm Rectangular Lens Cap, Red	.35	.32	.30
677-4064	5.49275.032/1402	18mm x 24mm Rectangular Lens Cap, Yellow	.35	.32	.30
677-4065	5.49275.032/1502	18mm x 24mm Rectangular Lens Cap, Green	.35	.32	.30
677-4066	5.49275.032/1601	18mm x 24mm Rectangular Lens Cap, Blue	.35	.32	.30
677-4067	5.72050.000/0202	18mm Round Legend Insert/Diffuser	.26	.24	.22
677-4068	5.73013.000/0202	24mm Square Legend Insert/Diffuser	.28	.26	.24
677-4069	5.73012.000/0202	18mm x 24mm Rectangular Legend Insert/Diffuser	.28	.26	.24
677-4070	1.90100.021	6V/0.3W T4.5 Incandescent Lamp	2.43	2.24	2.08
677-4071	1.90100.022	12V/0.48W T4.5 Incandescent Lamp	2.43	2.24	2.08
677-4072	1.90100.023	24V/0.48W T4.5 Incandescent Lamp	2.78	2.56	2.38

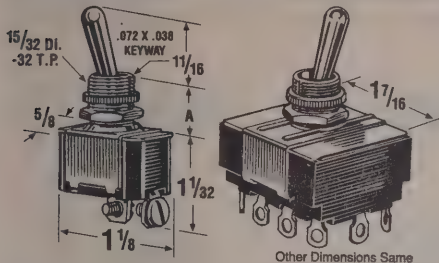
Ordering details: A Series 75 lighted pushbutton assembly consists of the basic switch, colored lens cap, legend insert/diffuser and lamp. For example, to order a 24mm square red latching lighted pushbutton with two poles and 12V lamp one would order Mfr.'s Type 1.15108.352, 5.49275.036/1303, 5.73013.000/0202, and 1.90100.022.

Optional Accessories For Series 25 Snap-In Mount Pushbuttons

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-249	250-499
677-4032	5.37700.124	4-Conductor Flat Cable, 1 meter length	1.76	1.63	1.51
677-4033	1.90900.001	Lamp Extractor Tool	4.55	4.20	3.90
677-4034	5.05800.042	Tool for de-mounting pushbuttons from front of panel	4.51	4.16	3.87

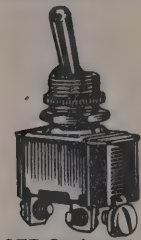
Heavy Duty AC Rated Toggle Switches

General Purpose switches rated at 15 AMP, 125 VAC and 28 VDC and 10 AMPs at 250 VAC. UL listed and CSA certified in single, double, three and four pole configurations. All are rated 3/4 H.P.—15/32" bushing—11/16" Toggle.

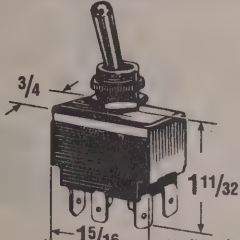


2FA Series

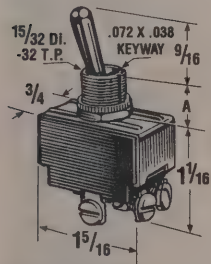
IK Series



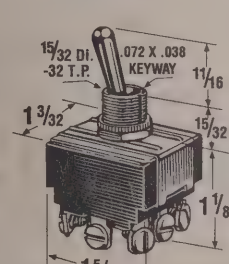
2FB Series
6FB Series



2GM Series



2GK Series



HM Series

Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH			
				1-24	25-49	50-99	100-249
683-0048	2FA53-73	S.P.S.T. ON-NONE-OFF	Solder	3.10	2.48	2.01	1.55
683-0049	2FA53-73-TABS	S.P.S.T. ON-NONE-OFF	Spade	3.10	2.48	2.01	1.55
683-0050	2FA54-73	S.P.S.T. ON-NONE-OFF	Screw	3.55	2.84	2.31	1.77
683-0051	2FB53-73	S.P.D.T. ON-NONE-ON	Solder	3.81	3.04	2.47	1.91
683-0052	2FB53-73-TABS	S.P.D.T. ON-NONE-ON	Spade	3.81	3.04	2.47	1.91
683-0053	2FB54-73	S.P.D.T. ON-NONE-ON	Screw	4.49	3.84	2.93	2.25
683-0054	2FC53-73	S.P.D.T. ON-OFF-ON	Solder	3.81	3.05	2.47	1.91
683-0055	2FC53-73-TABS	S.P.D.T. ON-OFF-ON	Spade	3.81	3.05	2.47	1.91
683-0056	2FC54-73	S.P.D.T. ON-OFF-ON	Screw	4.49	3.59	2.93	2.25
683-0057	6FC54-73*	S.P.D.T. ON-OFF-ON	Screw	6.36	5.09	4.13	3.18
683-0058	2GK50-73	D.P.S.T. ON-NONE-OFF	Solder	5.83	5.30	4.86	4.48
683-0059	2GK51-73	D.P.S.T. ON-NONE-OFF	Spade	4.91	3.93	3.19	2.46
683-0060	2GK54-73	D.P.S.T. ON-NONE-OFF	Screw	5.81	4.65	3.77	2.90
683-0061	2GL50-73	D.P.D.T. ON-NONE-ON	Solder	5.87	4.71	3.82	2.94
683-0062	2GL51-73	D.P.D.T. ON-NONE-ON	Spade	5.87	4.71	3.82	2.94
683-0063	2GL54-73	D.P.D.T. ON-NONE-ON	Screw	7.21	5.77	4.69	3.60
683-0064	2GM50-73	D.P.D.T. ON-OFF-ON	Solder	5.87	4.71	3.82	2.94
683-0065	2GM51-73	D.P.D.T. ON-OFF-ON	Spade	5.87	4.71	3.82	2.94
683-0066	2GM54-73	D.P.D.T. ON-OFF-ON	Screw	7.21	5.77	4.69	3.60
683-0067	HK250-73	3.P.S.T. ON-NONE-OFF	Solder	9.65	7.72	6.28	4.82
683-0068	HK251-73	3.P.S.T. ON-NONE-OFF	Spade	9.65	7.72	6.28	4.82
683-0069	HK254-73	3.P.S.T. ON-NONE-OFF	Screw	11.41	9.31	7.42	5.70
683-0070	HL250-73	3.P.D.T. ON-NONE-ON	Solder	11.86	9.49	7.72	5.94
683-0071	HL251-73	3.P.D.T. ON-NONE-ON	Spade	11.86	9.49	7.72	5.94
683-0072	HL254-73	3.P.D.T. ON-NONE-ON	Screw	14.18	11.34	9.22	7.09
683-0073	HM250-73	3.P.D.T. ON-OFF-ON	Solder	11.86	9.49	7.72	5.94
683-0074	HM251-73	3.P.D.T. ON-OFF-ON	Spade	11.86	9.49	7.72	5.94
683-0075	HM254-73	3.P.D.T. ON-OFF-ON	Screw	15.89	14.44	13.24	12.22
683-0076	IK250-73	4.P.S.T. ON-NONE-OFF	Solder	13.22	10.58	8.60	6.61
683-0077	IK251-73	4.P.S.T. ON-NONE-OFF	Spade	13.22	10.58	8.60	6.61
683-0078	IK254-73	4.P.S.T. ON-NONE-OFF	Screw	14.68	11.74	9.54	7.34
683-0079	IL250-73	4.P.D.T. ON-NONE-ON	Solder	16.14	12.91	10.49	8.07
683-0080	IL251-73	4.P.D.T. ON-NONE-ON	Spade	16.14	12.91	10.49	8.07
683-0081	IL254-73	4.P.D.T. ON-NONE-ON	Screw	19.41	15.53	12.61	9.71
683-0082	IM250-73	4.P.D.T. ON-OFF-ON	Solder	16.14	12.91	10.49	8.07
683-0083	IM251-73	4.P.D.T. ON-OFF-ON	Spade	23.72	19.77	18.25	16.94
683-0084	IM254-73	4.P.D.T. ON-OFF-ON	Screw	19.41	15.53	12.61	9.71

*Momentary On Action

Nylon Insulated Toggle Switches

Series D switches have self-cleaning wiping action contacts suitable for both power and low-level switching nylon flat or bat lever actuators and bushing/frame super structure for double insulated requirements. UL listed, CSA certified. Series rated at 10 AMP 125 VAC, 5 AMP 250 VAC, 1/2 H.P. 125-250 VAC, 10 AMP 28 VDC.

Paddle Toggle Actuator

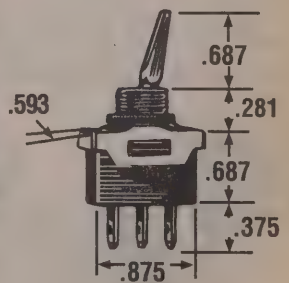
Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH			
				1-24	25-49	50-99	100-249
683-0085	DA100-PB-B	S.P.S.T. ON-NONE-OFF	Solder/Spade	1.97	1.58	1.28	.99
683-0086	DA105-PB-B	S.P.S.T. ON-NONE-OFF	Wire	2.89	2.31	1.88	1.45
683-0087	DB100-PB-B	S.P.D.T. ON-NONE-ON	Solder/Spade	2.20	1.76	1.43	1.10
683-0088	DC100-PB-B	S.P.D.T. ON-OFF-ON	Solder/Spade	2.20	1.76	1.43	1.10

Bat Toggle Actuator

Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH			
				1-24	25-49	50-99	100-249
683-0089	DAT100-BB-B	S.P.S.T. ON-NONE-OFF	Solder/Spade	1.97	1.58	1.28	.99
683-0090	DA105-BB-B	S.P.S.T. ON-NONE-OFF	Wire	2.89	2.31	1.88	1.45
683-0091	DB100-BB-B	S.P.D.T. ON-NONE-ON	Solder/Spade	2.20	1.76	1.43	1.10
683-0092	DC100-BB-B	S.P.D.T. ON-OFF-ON	Solder/Spade	2.20	1.76	1.43	1.10



DA105-PB-B



DA100-PB-B

General Purpose Pushbutton Switches

6 AMP 125 VAC—3 Amp 250 VAC. UL listed and CSA certified.

Slow make/slow break momentary AC only.

Stock No.	Mfr.'s Type*	Switch Action	Terminals	Cap	EACH			
					1-24	25-49	50-99	100-249
683-0093	P26A-1D-RMB*	S.P.M.O.	Solder	Metal	3.48	2.78	2.26	1.74
683-0094	P26L-1D-RMB*	S.P.N.C.	Solder	Metal	3.48	2.78	2.26	1.74
683-0095	P27A-BL	S.P.N.O.	Solder	Black	4.28	3.89	3.57	3.29
683-0097	P27L-BL	S.P.N.C.	Solder	Black	3.83	3.06	2.49	1.92

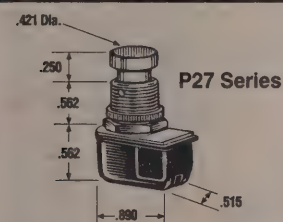
*Not shown

15 AMP 125 VAC—10 AMP 250 VAC

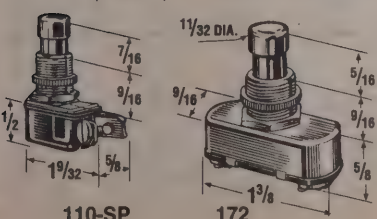
Stock No.	Mfr.'s Type	Switch Action	Terminals	Cap	EACH			
					1-24	25-49	50-99	100-249
683-0099	170	S.P.N.C.	Screw	Metal	5.95	4.76	3.87	2.98
683-0100	172	S.P.N.O.	Screw	Metal	5.95	4.76	3.87	2.98

Quick Make/Quick Break Maintained AC/DC. 6 AMP 125 VAC—3 AMP 250 VAC. UL listed and CSA certified.

Stock No.	Mfr.'s Type	Switch Action	Terminals	Cap	EACH			
					1-24	25-49	50-99	100-249
683-0101	110-SP	S.P.S.T.	Screw	Metal	5.90	4.72	3.83	2.95
683-0102	111-16P	S.P.S.T.	Wire	Metal	5.90	4.72	3.83	2.95

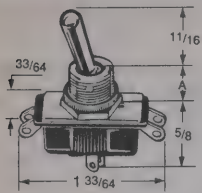


P27 Series

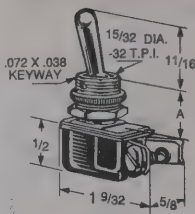


110-SP

172



112, 216, 315, 516,
28B, 28K, 28L Series



110, 111,
160 Series

General Purpose AC-DC Toggle Switches

Quick Make and Break AC-DC Rated 6 Amps 125 VAC, 3 Amps 250 VAC
CSA certified 15/32" bushing 11/16" toggle.

Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH			
				1-24	25-49	50-99	100-249
683-0103	110-73	S.P.S.T ON-NONE-OFF	Solder	3.72	3.38	3.10	2.86
683-0104	110-5-73	S.P.S.T ON-NONE-OFF	Screw	4.53	3.62	2.94	2.27
683-0105	111-16-73	S.P.S.T ON-NONE-OFF	Wire	4.37	3.50	2.84	2.19
683-0106	28B62-73	S.P.S.T ON-NONE-OFF	Solder	4.14	3.31	2.69	2.07
683-0107	28K62-73	D.P.S.T ON-NONE-OFF	Solder	5.96	4.77	3.87	2.98
683-0108	28K65-73	D.P.S.T ON-NONE-OFF	Wire	7.89	6.31	5.13	3.95
683-0109	28L62-73	D.P.D.T ON-NONE-ON	Solder	7.25	5.80	4.72	3.63

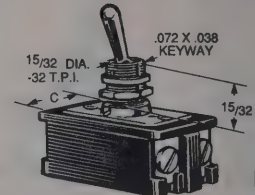
Heavy Duty AC-DC Toggle Switches

16 Amps, 125 VAC 8 Amps 250 VAC 1 HP 125-250 VAC

Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH			
				1-24	25-49	50-99	100-249
683-0110	DK284-73	D.P.S.T.	Screw	6.32	5.06	4.11	3.16

20 AMPS 125 VAC — 10 AMPS 250 VAC — 1-1/2 H.P. 125-250 VAC

Stock No.	Mfr.'s Type	Switch Action	Terminals	1-24	25-49	50-99	100-249
683-0111	EK204-73	D.P.S.T.	Screw	9.41	7.54	6.12	4.71



D SERIES



LRA

RA/RSC



RA/VISI

Curvette Snap-In Switches

Slow-make and break action. .250 quick connect terminals. 16 amps 125 VAC — 10 amps 250 VAC, 10(4) amps — 250 W. CSA and VDE certified. Rated life 50 M cycles at rated load. Also features our unique visi-rocker—two-color molded curved rocker for low cost "ON" indication.

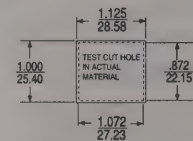
Stock No.	Mfr.'s Type	Switch Action	Rocker Color	EACH			
				1-24	25-49	50-99	100-249
683-0112	RA911-RB-B-O-N	S.P.S.T ON-NONE-OFF	Black	1.45	1.16	.94	.72
683-0113	RA911-VB-B-O-V	S.P.S.T ON-NONE-OFF	Visi-Rocker*	1.65	1.32	1.07	.83
683-0114	RA911-VB-B-I-V	S.P.D.T ON-NONE-OFF	Visi-Rocker* with on-off imprint	1.85	1.48	1.20	.93
683-0115	RB911-RB-B-O-N	S.P.D.T ON-NONE-ON	Black	1.93	1.54	1.25	.97
683-0116	RC911-RB-B-O-N	S.P.D.T ON-OFF-ON	Black	1.93	1.54	1.25	.97
683-0117	LRA911-RS-B/125	S.P.S.T ON-NONE-OFF Lighted	Red	2.95	2.36	1.92	1.48

*Curvette Visi-Rocker has a second color molded-in for attractive low cost "ON" indication.

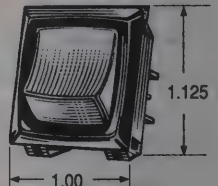
SC High Inrush Curvette Snap-In Switches

Designed to handle current surges over 100 amps. CSA certified for 20 amps 125 VAC — 15 amps 250 VAC.

Stock No.	Mfr.'s Type	Switch Action	Rocker Color	EACH			
				1-24	25-49	50-99	100-249
683-0118	RSCA711-RB-B-O-N	S.P.S.T ON-NONE-OFF	Black	2.00	1.61	1.30	1.01
683-0119	RGSCA711-RB-B-O-N	S.P.S.T ON-NONE-OFF	Black	2.48	1.98	1.61	1.24
683-0120	LRGSCA221-RS-B-O/125N	D.P.S.T ON-NONE-OFF Lighted	Red	4.80	3.84	3.12	2.40



RGS/LRGS



Miniature Curvette Snap-In Switches

These double insulated miniature switches offer self-cleaning wiping action. Contact system rated at 4 amps 250 VAC — 8 amps 125 VAC, 6(4) amps 250 VAC. CSA and VDE certified. Also features our unique Visi-Rocker two molded curved rocker for low cost "ON" indication.

Stock No.	Mfr.'s Type	Switch Action	Terminals	Rocker Color	EACH			
					1-24	25-49	50-99	100-249
683-0121	62111421-O-O-N	S.P.D.T ON-NONE-ON	Solder	Black	1.78	1.41	1.16	.88
683-0122	62112421-O-O-N	D.P.D.T ON-NONE-ON	Solder	Black	2.00	1.76	1.43	1.10
683-0123	62116916-O-O-N	S.P.S.T ON-NONE-OFF	Solder	Black	1.42	1.13	.92	.71
683-0124	62115919-O-O-V*	D.P.S.T ON-NONE-OFF	.187 Tabs	Visi-Rocker	2.78	2.56	2.38	2.22
683-0125	62116919-O-9-V*	D.P.S.T ON-NONE-OFF	.187 Tabs	Visi-Rocker with O-1 Mtg.	1.42	1.13	.92	.71

*Curvette Visi-Rocker has a second color molded-in for attractive low cost "ON" indication.



MOUNTING HOLE
Panel Thickness:
.030 - .156
.762 3.96

Dimensions same for all models

Heavy Duty Rocker Switches

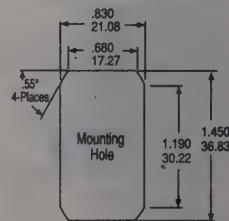
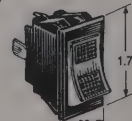
These full-size rocker switches are designed for AC and low voltage DC applications. They include a slow make, slow break contact mechanism, nylon snap-in brackets and are available to resolve most insulation requirements. They are rated at 15 amps 125 VAC, 28 VDC, 10 amps 250 VAC 3/4 H.P. CSA certified.

Stock No.	Mfr.'s Type	Switch Action	Terminals	Rocker Color	EACH			
					1-24	25-49	50-99	100-249
683-0126	TIGA90-6S-BL-NBL	S.P.S.T ON-NONE-OFF	Solder	Black	5.02	4.56	4.18	3.86
683-0127	TIGK50-6S-BL-NBL	D.P.S.T ON-NONE-OFF	Solder	Black	5.36	4.29	3.49	2.68
683-0128	LTILA50-6S-BL-RC-NBL	S.P.S.T ON-NONE-OFF	Solder	Black with Red Light	4.76	3.81	3.10	2.39



TIGA

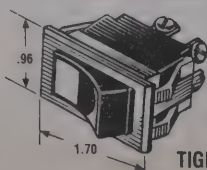
LTIL



Drip Dry Rocker Switches

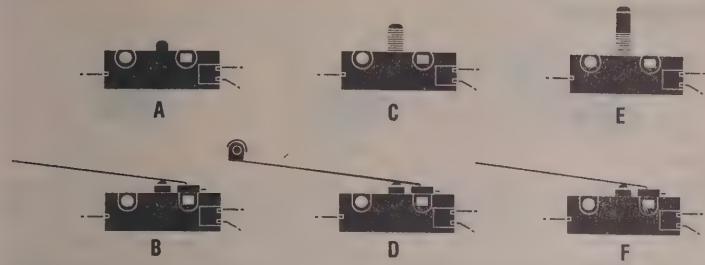
We have modified the tippette switches above to provide front panel dust and moisture protection with built in seal feature.

Stock No.	Mfr.'s Type	Switch Action	Terminals	Rocker Color	EACH			
					1-24	25-49	50-99	100-249
683-0129	TIGA54-6S-BL-WBL	S.P.S.T ON-NONE-OFF	Screw	Black	6.24	5.67	5.20	4.80
683-0130	TIGK54-6S-BL-WBL	D.P.S.T ON-NONE-OFF	Screw	Black	7.08	6.85	6.74	6.64



TIGK54

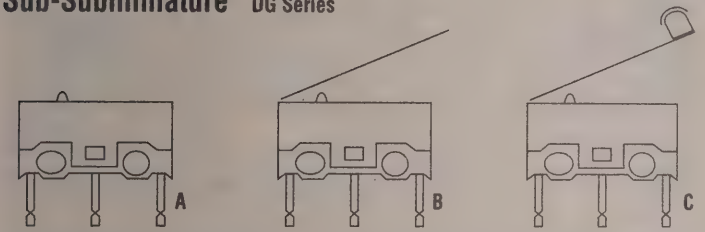
General Purpose Single Pole E Series



Ratings: E13 – 15 amps 125/250 VAC, 3/4 H.P., 125 VAC–1 1/2 H.P., 250 VAC; E14 – 25 amps 125/250 VAC, 1 H.P., 125 VAC–2 H.P., 250 VAC.

Stock No.	Mfr.'s Type	Fig.	Operating Force (max. gms.)	Actuator Length/Description Dimension in Inches	EACH 1-9
908-1435	E13-00E	A	425	Button	2.57
908-1440	E13-00H	B	100	1.500 Actuator std. ratio	3.41
908-1445	E13-00J	C	425	Plastic button ferrule mount	2.80
908-1450	E13-00K	D	100	1.391 Roller std. ratio	4.17
908-1455	E13-00M	E	425	Metal button ferrule mount	3.57
908-1460	E13-50H	F	65	1.750 Actuator high ratio	3.41

Sub-Subminiature DG Series



Compact size: .504" long x .255" high x .228" wide. Gold or silver contacts. **Insertion molded terminals:** printed circuit mountable. Wave solderable. Automatic assembly insures consistent quality. DG1 rated 3 amps at 125 VAC; 2 amps at 30 VDC. DG2 rated 50mA at 30 VDC.

Stock No.	Mfr.'s Type	Fig.	Operating Force (max. gms.)	Current	Actuator	Actuator Length	EACH 1-9
908-1495	DG1C-B1AA	A	140	2A	Button	—	3.23
908-1500	DG1C-B1LA	B	45	2A	Lever	.169	3.37
908-1505	DG1C-B1RA	C	45	2A	Roller	.075	3.49
908-1510	DG2C-B1AA	A	140	50mA	Button	—	3.80
908-1515	DG2C-B1LA	B	45	50mA	Lever	.169	3.62
908-1520	DG2C-B1RA	C	45	50mA	Roller	.075	3.74

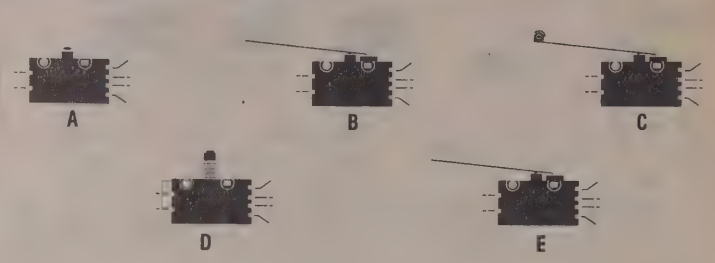
Levers And Thumbwheels



L series leverwheel switches and **T series** thumbwheel switches are rated 28V @ 0.125 amp, 3 amps carrying current, except **T50** units rated 50V @ 0.125 amp, 3 amps carrying current. **Contact resistance:** 0.1 ohm max. **Insulation resistance:** 1000 Mohms. **Dielectric strength:** 50, 55, 56, 57, 59, 65, 75 series 500VAC; 10, 11, 20 series 1000VAC. Mounting hardware is required to hold the switch modules together. Switches are available in gloss black finish (suffix "A") or matte black finish (suffix "M"). Switches available in backmount—L10, L20, T10, T20, T50, T57 and front mount L11, T11, T55, T56, T65, T25 and T59.

Stock No.	Mfr.'s Type	Output Code	Positions	Readout	EACH 1-9
908-1545	T10-02A	BCD	10	0-9	10.78
908-1550	T10-52A	BCD W/Ext board-for diodes	10	0-9	13.92
908-1565	T20-02A	BCD	10	0-9	9.33
908-1570	T20-02M	BCD	10	0-9	9.72
908-1575	T20-04A	BCD & Comp 1 Common	10	0-9	12.82
908-1580	T20-52A	BCD W/Ext board for diodes	10	0-9	11.68
908-1585	L20-02A	BCD	10	0-9	11.68
908-1590	L20-52A	BCD W/Ext board for diodes	10	0-9	13.45
908-1595	L20-02M	BCD	10	0-9	12.07
908-1600	T50-02M	BCD	10	0-9	8.28
908-1605	T50-52M	BCD W/Ext board for diodes	10	0-9	10.78
908-1610	T55-02M	BCD	10	0-9	9.60
908-1615	T56-02M	BCD	10	0-9	9.94
908-1620	T59-02M	BCD	10	0-9	4.73

General Purpose Double Pole E Series

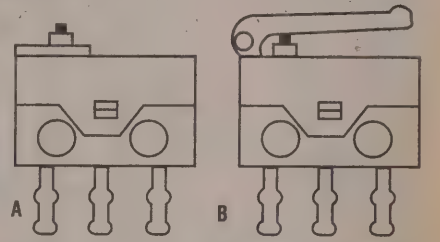


Ratings: E19 – 15 amps 125/250 VAC, 3/4 H.P., 125 VAC–1 1/2 H.P., 250 VAC; E20 – 25 amps 125/250 VAC, 1 H.P., 125 VAC–2 H.P., 250 VAC.

Stock No.	Mfr.'s Type	Fig.	Operating Force (max. gms.)	Actuator Length/Description Dimension in Inches	EACH 1-9
908-1465	E19-00A	A	850	Button	4.95
908-1470	E19-00H	B	205	1.500 Actuator std. ratio	5.87
908-1475	E19-00M	D	850	Metal button ferrule mount	5.97
908-1480	E19-50H	E	130	1.750 Actuator high ratio	5.87
908-1485	E20-00A	A	1280	Button	7.43
908-1490	E20-00K	C	425	.652 Roller std. ratio	9.00

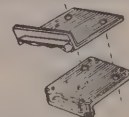
Ultra-Subminiature DH Series

Ultra miniature for dramatic space savings. Just .322" wide x .244" high x .106" deep. **Lightweight:** 0.3 grams. Designed for low energy applications. Choice of button or lever actuator. **Insertion molded terminals:** printed circuit mountable. Wave solderable. Automatic assembly insures consistent quality.



Stock No.	Mfr.'s Type	Fig.	Operating Force (max. gms.)	Current	Actuator	Actuator Length	EACH 1-9
908-1525	DH1C-B1AA	A	90	500mA	Button	—	4.25
908-1530	DH1C-B1PA	B	50	500mA	Lever	—	4.37
908-1535	DH2C-B1AA	A	90	50mA	Button	—	4.50
908-1540	DH2C-B1PA	B	50	50mA	Lever	—	4.61

End Caps



Order 1 left and 1 right end cap per assembly.

Stock No.	Mfr.'s Type	Fits Model	Description	EACH 1-9
908-1625	009-0498	T10/L10	Left Gloss	.35
908-1630	009-0499	T10/L10	Right Gloss	.35
908-1635	009-0705	T10/L10	Left Matte	.35
908-1640	009-0706	T10/L10	Right Matte	.35
908-1665	009-1034	T20/L20	L/R Gloss	.35
908-1670	009-1153	T20/L20	L/R Matte	.35
Stock No.	Mfr.'s Type	Fits Model	Description	EACH 1-9
908-1675	609-0970	T50	L/R Matte	.35
908-1680	609-0801	T55	Left Matte	.35
908-1685	609-0799	T55	Right Matte	.35
908-1690	609-0754	T56	Left Matte	.35
908-1695	609-0756	T56	Right Matte	.35
908-1700	609-1346	T59	Left Matte	.35
908-1705	609-1347	T59	Right Matte	.35

Rods



Order Two Rods Per Assembly

Stock No.	Mfr.'s Type	Fits Model	Description	EACH 1-9
908-1710	12-0147	T/L 10	1 Module	.21
908-1715	12-0148	T/L 10	2 Module	.21
908-1720	12-0149	T/L 10	3 Module	.21
Stock No.	Mfr.'s Type	Fits Model	Description	EACH 1-9
908-1725	12-0150	T/L 10	4 Module	.21
908-1730	12-0340	T20/L20	1 Module	.14
908-1735	12-0341	T20/L20	2 Module	.14
908-1740	12-0342	T20/L20	3 Module	.14
908-1745	12-0343	T20/L20	4 Module	.14
908-1750	12-0640	T50	1 Module	.14
908-1755	12-0641	T50	2 Module	.14
908-1760	12-0642	T50	3 Module	.14
908-1765	12-0643	T50	4 Module	.13

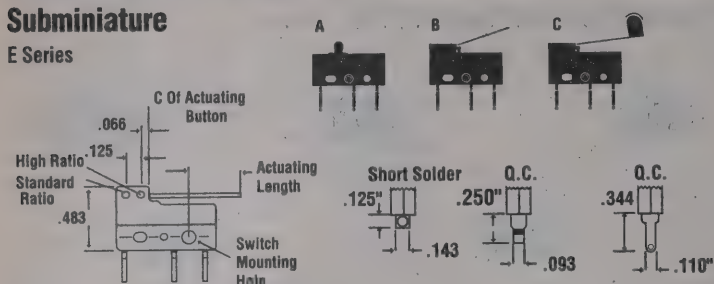
Fasteners

Order Four Fasteners Per Assembly

Stock No.	Mfr.'s Type	For Series	EACH 1-9
908-1770	12-0744	L20/T20/T50/T65	.04
908-1775	12-0093	T10/L10/L11	.05
Stock No.	Mfr.'s Type	For Series	EACH 1-9
908-1780	607-0011	T20/T50	.07
908-1785	607-0017	T65	.07

Subminiature

E Series



► UL Recognized and CSA Certified

Ratings: E61 — 5 amps 125/250 VAC; E62 — 10.1 amps 125/250 VAC 1/4 H.P.; 125 VAC; E63 — 0.1 amps 125 VAC. Gold Crosspoint Contacts. **Actuators.** Many special forms and lengths of actuators are available. Standard type integral hinged lever and roller actuators are available in choice of 2 pivot positions. Actuator lengths are dimensioned from centerline of switch mounting hole as shown. **Terminals.** Subminiature series available in three standard terminal types.

Stock No.	Mfr.'s Type	"DA" Series Equivalent	Fig.	Terminal	Circuitry	Operating Force (Max. gms.)	Actuator Length/Description Dimension in Inches	EACH	
								1-9	
908-1265	E61-00A	—	A	.093 QC	SPDT	90	Button	3.50	
908-1270	E61-00H	—	B	.093 QC	SPDT	27	.271 Actuator std. ratio	4.12	
908-1275	E61-00K	—	C	.093 QC	SPDT	30	.201 Roller std. ratio	4.45	
908-1280	E61-10A	—	A	SS	SPDT	90	Button	3.50	
908-1285	E61-10H	—	B	SS	SPDT	27	.271 Actuator std. ratio	4.12	
908-1290	E61-10K	—	C	SS	SPDT	30	.201 Roller std. ratio	4.45	
908-1295	E61-50H	—	B	.093 QC	SPDT	9	.396 Actuator high ratio	4.12	
908-1300	E61-50K	—	C	.093 QC	SPDT	10	.326 Roller high ratio	4.45	
908-1305	E61-60H	—	B	SS	SPDT	9	.396 Actuator high ratio	4.12	
908-1310	E62-00A	—	A	.093 QC	SPDT	212	Button	3.50	
908-1315	E62-00H	—	B	.093 QC	SPDT	56	.271 Actuator std. ratio	4.12	
908-1320	E62-00K	—	C	.093 QC	SPDT	65	.201 Roller std. ratio	4.45	
908-1325	E62-10A	—	A	SS	SPDT	212	Button	3.50	
908-1330	E62-10H	—	B	SS	SPDT	56	.271 Actuator std. ratio	4.12	
908-1335	E62-10K	—	C	SS	SPDT	65	.201 Roller std. ratio	4.45	
908-1340	E62-50H	—	B	.093 QC	SPDT	20	.396 Actuator high ratio	4.12	
908-1345	E62-60H	—	B	SS	SPDT	20	.396 Actuator high ratio	4.12	
908-1350	E63-00A	DA3C-F1AA	A	.093 QC	SPDT	90	Button	5.73	
908-1355	E63-00H	DA3C-F1LB	B	.093 QC	SPDT	27	.271 Actuator std. ratio	6.28	
908-1360	E63-00K	DA3C-F1RB	C	.093 QC	SPDT	30	.201 Roller std. ratio	6.82	
908-1365	E63-10K	DA3C-D1RB	C	SS	SPDT	30	.201 Roller std. ratio	6.95	
908-1370	E63-30A	DA3C-B1AA	A	.110 QC	SPDT	90	Button	5.73	

Miniature Light and Standard Force

D4 Series/E Series



D4 Series — International; E Series — General purpose. **Ratings:** E21, D41 — 0.1 amps 125 VAC Gold Crosspoint Contacts; E22, D42 — 3 amps 125/250 VAC; E23, D43 — 5 amps, 1/4 H.P., 125/250 VAC; E33, D44 — 10 amps, 1/2 H.P., 125/250 VAC; E34, D45 — 15 amps, 1/2 H.P., 125/250 VAC. All listed are SPDT type.

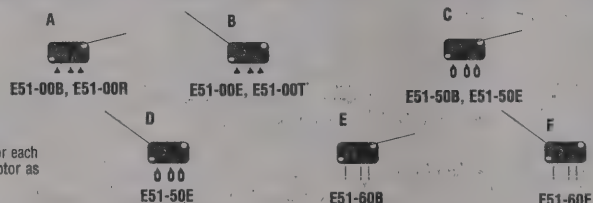
Mfr.'s Type	"DA" Series Equivalent	Fig.	Terminal	Operating Force (Max. gms.)	Actuator Length/Description Dimension in Inches	E Series		D4 Series	
						Stock No.	EACH 1-9	Stock No.	EACH 1-9
E21-00A	D41C-R1AA	A	QC	75	Button	908-1005	4.32	908-1010	4.04
E21-00AX	D41L-R1AA	A	QC	15	Button	908-1015	4.60	908-1020	4.07
E21-50H	—	B	QC	35	1.400 Actuator std. ratio	908-1025	4.73	—	—
E21-50K	—	C	QC	35	1.340 Roller std. ratio	908-1030	5.18	—	—
E21-85HX	D41L-R1XL	B	QC	2	2.932 Actuator high ratio	908-1035	4.98	908-1040	4.42
E22-00A	D42C-R1AA	A	QC	75	Button	908-1045	2.72	908-1050	2.29
E22-00AX	D42L-R1AA	A	QC	15	Button	908-1055	3.05	908-1060	2.70
E22-00K	—	C	QC	75	.810 Roller std. ratio	908-1065	3.64	—	—
E22-50H	—	B	QC	35	1.400 Actuator std. ratio	908-1070	2.97	—	—
E22-50HX	—	B	QC	8	1.400 Actuator std. ratio	908-1075	3.44	—	—
E22-50K	—	C	QC	35	1.340 Roller std. ratio	908-1080	3.47	—	—
E22-55HX	—	B	QC	4	2.752 Actuator std. ratio	908-1085	3.44	—	—
E22-85HX	D42L-R1XL	B	QC	2	2.932 Actuator high ratio	908-1090	3.44	908-1095	2.90
E23-00A	D43C-R1AA	A	QC	170	Button	908-1100	3.01	908-1105	2.15
E23-00K	—	C	QC	170	.810 Roller std. ratio	908-1110	3.43	—	—
E23-50H	D43C-R1AA	B	QC	10	2.752 Actuator std. ratio	908-1115	3.41	—	—
E23-50K	—	C	QC	86	1.340 Roller std. ratio	908-1120	3.43	—	—
E23-85HX	D43L-R1ML	B	QC	6	2.932 Actuator high ratio	908-1125	3.41	908-1170	2.87
E33-00A	—	A	QC	285	Button	908-1130	2.55	—	—
E33-00AX	D44L-R1AA	A	QC	75	Button	908-1135	3.01	908-1140	2.53
E33-00K	D44C-R1RA	C	QC	285	.810 Roller std. ratio	908-1145	3.43	908-1150	3.33
E33-20K	—	C	Solder	285	.810 Roller std. ratio	908-1155	3.50	—	—
E33-50H	—	B	QC	144	1.400 Actuator std. ratio	908-1160	2.94	—	—
E33-50K	—	C	QC	144	1.340 Roller std. ratio	908-1165	3.43	—	—
E33-55HX	—	B	QC	17	2.752 Actuator std. ratio	908-1170	3.41	—	—
E33-75HX	—	B	QC	22	1.580 Actuator high ratio	908-1175	3.41	—	—
E33-85HX	D44L-R1ML	B	QC	10	2.932 Actuator high ratio	908-1180	3.41	908-1185	2.87
E34-00A	D45C-R1AA	A	QC	400	Button	908-1190	2.55	908-1195	2.06
E34-00K	—	C	QC	400	.810 Roller std. ratio	908-1200	3.43	—	—
E34-50H	—	B	QC	200	1.400 Actuator std. ratio	908-1205	4.52	—	—
E34-85HX	—	B	QC	13	2.932 Actuator high ratio	908-1215	3.41	—	—

Low Torque

E Series

► UL Recognized and CSA Certified; VDE Approved

Actuators. Wireform actuators are supplied unassembled for each switch. Wireforms may be readily assembled to switch rotor as shown. **Ratings:** E51 — 6 amps 250 VAC.



Stock No.	Mfr.'s Type	Fig.	Rotation	Circuitry	Terminal Description Dimension in Inches	EACH	
						1-9	
908-1220	E51-00B	A	Clockwise	SPDT	Std. parallel QC (.205" x .032")	7.55	
908-1225	E51-00E	A	Counter Clockwise	SPDT	Std. parallel QC (.205" x .032")	7.55	
908-1230	E51-00R	B	Clockwise	SPDT	Std. parallel QC (.187" x .020")	7.55	
908-1235	E51-00T	B	Counter Clockwise	SPDT	Std. parallel QC (.187" x .020")	7.55	
908-1240	E51-50B	C	Clockwise	SPDT	Vertical twist QC (.205" x .032")	7.55	
908-1245	E51-50E	D	Counter Clockwise	SPDT	Vertical twist QC (.205" x .032")	7.55	
908-1250	E51-50R	C	Clockwise	SPDT	Vertical twist QC (.187" x .020")	7.55	
908-1255	E51-60B	E	Clockwise	SPDT	Vertical straight QC (.205" x .032")	7.55	
908-1260	E51-60E	F	Counter Clockwise	SPDT	Vertical straight QC (.205" x .032")	7.55	

Panel Mount Pushbutton Single Pole and Weatherproof

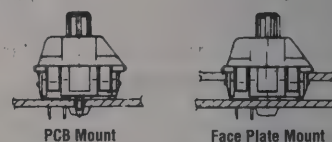
Ratings: E68 — 0.1 amps 125 VAC, Gold Crosspoint Contacts; E69 — 10 amps 125/250 VAC; E72 — 10.1 amps, 1/4 H.P. — 125/250 VAC, 1/4 H.P. — 125/250 VAC; E79 — 10 amps 125/250 VAC, 1/2 H.P., 125/250 VAC.

Stock No.	Mfr.'s Type	Fig.	Terminal	Circuitry	Operating Force (Max. gms.)	Description	EACH	
							1-9	
908-1375	E68-00A	A	.187 QC	SPDT	425	Basic momentary action	5.33	
908-1380	E68-30A	B	.187 QC	SPDT	425/285	Momentary "Cheater interlock"	6.28	
908-1385	E69-00A	A	.187 QC	SPDT	425	Basic momentary action	3.29	
908-1390	E69-30A	B	.187 QC	SPDT	425/285	Momentary "Cheater interlock"	4.20	
908-1395	E69-40A	C	.187 QC	SPDT	425	Short button momentary	3.29	
908-1400	E79-00A	A	.187 QC	DPDT	680	Basic momentary action	5.28	
908-1405	E79-30A	B	.187 QC	DPDT	757/567	Momentary "Cheater interlock"	6.93	
908-1410	E72-40A*	D	10* 16 Gage	SPDT	300	Button	9.72	
908-1415	E72-40H*	E	10* 16 Gage	SPDT	67	.858 Actuator	10.38	

*Weatherproof.

Keyboard Switches Low Profile DIN-Compatible

Series MX



Electrical Specifications. Contact Rating: 10 ma max. Voltage: 12 V max. AC/DC Current: 10 ma max. Initial Contact Resist: 200 mΩ (typical 25 mΩ). Life: 5 V/1 ma; (50 million operation).

908-1420, MX1A-11NN, Std. force, linear, face plate mount. 1-9.....EACH 1.00
908-1425, MX1A-11NW, Std. force, linear, PCB mount. 1-9.....EACH 1.00

Gold "Crosspoint" Contact

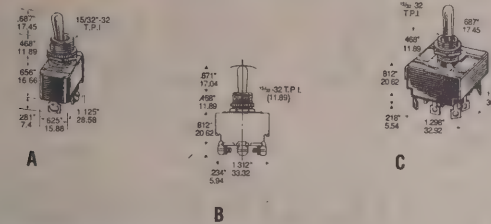


Electrical Specifications. Contact Rating: 125 max/28 V. Voltage: 28 V AC/DC. Current: 125 ma. Initial Contact Resist.: 200 mΩ max. Life: Momentary >20 million. Alt-Action > than 5 million.

Mechanical Specifications. Pretravel: (2.4 ±.8 mm). Total Travel: (4 mm). Operating Force: 2.5 oz, typical (70 grams). Feel: Linear — positive stop. Mounting: Cover plate only.

908-1430, M73-0120, T-stem 0 degree momentary (SPST). 1-9.....EACH 2.70

Bat Lever Switches



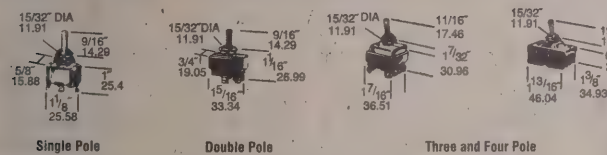
General Purpose AC Only Bat Lever Switches

Designed to provide high interrupting capacity in a small phenolic base. Contacts are silver plated. 3/4 HP, 15/32" slotted sleeve length. UL Recognized.

Stock No.	Mr.'s Type	Circuit	Action	Term. Type	Fig.	Amps		EACH		
						125 VAC	250 V	1-24	25-49	50-99
717-0520	7802K31	SPST	On-None-Off	Screw	A	20	10	2.63	2.31	1.92
717-0521	7802K11	SPST	On-None-Off	Solder Lug	A	20	10	2.37	2.08	1.74
717-0600	7802K21	SPST	On-None-Off	250 Quick Conn.	A	20	10	2.37	2.08	1.74
717-0528	7802K32	SPDT	On-Off-On	Screw	A	20	10	3.26	2.86	2.38
717-0530	7802K33	SPDT	On-None-On	Screw	A	20	10	3.19	2.80	2.33
717-0601	7802K37	SPDT	On*-Off-On*	Screw	A	20	10	5.43	5.01	4.17
717-0602	7803K31	DPST	On-None-Off	Screw	B	20	10	4.19	3.68	3.07
717-0539	7803K11	DPST	On-None-Off	Solder Lug	B	20	10	3.53	3.10	2.58
717-0540	7803K32	DPDT	On-Off-On	Screw	B	20	10	4.91	4.53	3.78
717-0542	7803K12	DPDT	On-Off-On	Solder Lug	B	20	10	4.19	3.68	3.07
717-0544	7803K33	DPDT	On-None-On	Screw	B	20	10	4.90	4.52	3.78
717-0546	7803K13	DPDT	On-None-On	Solder Lug	B	20	10	4.19	3.68	3.07
717-0603	7803K37	DPDT	On*-Off-On*	Screw	B	20	10	7.83	7.23	6.02
717-0604	7804K31	3PST	On-None-Off	Screw	C	20	10	8.25	7.61	6.34
717-0605	7804K32	3PDT	On-Off-On	Screw	C	20	10	10.44	9.63	8.03
717-0606	7804K33	3PDT	On-None-On	Screw	C	20	10	11.94	11.01	9.18
717-0607	7805K32	4PDT	On-Off-On	Screw	C	20	10	13.04	12.04	10.04
717-0608	7805K33	4PDT	On-None-On	Screw	C	20	10	13.04	12.04	10.04

*Momentary.

AC Rated Toggle Switches



Single Pole

Stock No.	Mr.'s Type	Circuit	Amps @		HP @ 250 VAC	Terminals	EACH	
			125 V	250 V			1-24	25-49
757-4885	7580K4	On-Off	6	3	—	Screw	2.18	1.92
757-4888	7580K7	On-Off	6	3	—	Solder	1.98	1.75
757-4887	7580K6	On-Off	6	3	—	Solder	1.98	1.75
757-4001	7500K14	On-Off	15	10	3/4	Screw	2.35	2.06
757-4021	7501K13	On-Off	15	10	3/4	Solder	2.17	1.90
757-4022	7501K15	On-Off	15	10	3/4	250 Spade	2.17	1.90
757-4926	7582K6	On-On	6	3	—	Solder	2.29	2.03
757-4870	7576K2*	On-Off	30	25	—	Screw	6.28	5.80
757-4201	7504K4	On-On	15	10	3/4	Screw	3.00	2.64
757-4225	7505K4	On-On	15	10	3/4	Solder	2.58	2.27
757-4906	7581K6	On-Off-On	6	3	—	Solder	2.29	2.03
757-4070	7502K13	On-Off-On	15	10	3/4	Screw	3.00	2.64
757-4270	7509K5*	On-Off-On	—	10	1/2	Screw	4.13	3.80
757-4091	7503K13*	On-Off-On	15	10	3/4	Solder	2.58	2.27

Double Pole

Stock No.	Mr.'s Type	Circuit	Amps @		HP @ 250 VAC	Terminals	EACH	
			125 V	250 V			1-24	25-49
757-4940	7590K4	On-Off	6	3	—	Screw	3.52	3.10
757-4942	7590K6	On-Off	6	3	—	Solder	3.06	2.69
757-4500	7560K5	On-Off	15	10	3/4	Screw	3.95	3.47
757-4560	7561K4	On-Off	15	10	3/4	Solder	3.32	2.93
757-5004	7592K4	On-On	6	3	—	Screw	4.18	3.68
757-5006	7592K6	On-On	6	3	—	Solder	3.43	3.02
757-4760	7564K6	On-On	15	10	3/4	Screw	6.71	5.31
757-4805	7565K5	On-On	15	10	3/4	Solder	3.95	3.47
757-4807	7565K7	On-On	15	10	3/4	250 Spade	3.95	3.47
757-4970	7591K4	On-Off-On	6	3	—	Screw	4.15	3.64
757-4972	7591K6	On-Off-On	6	3	—	Solder	3.33	2.92
757-4590	7562K4	On-Off-On	15	10	3/4	Screw	4.61	4.25
757-4720	7563K4	On-Off-On	15	10	3/4	Solder	3.95	3.47

Three Pole

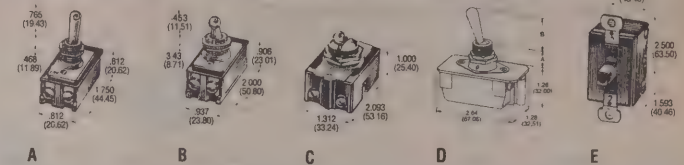
Stock No.	Mr.'s Type	Circuit	Action	Term. Type	Fig.	Amps		EACH		
						125 VAC	250 V	1-24	25-49	50-99
757-5070	7700K2	On-Off	On-Off	Screw	A	15	10	7.25	6.69	
757-5071	7700K1	On-Off	On-Off	Solder	A	15	10	6.22	5.74	
757-5090	7702K2	On-On	On-On	Screw	A	15	10	9.24	8.53	
757-5095	7702K1	On-On	On-On	Solder	A	15	10	7.68	7.09	
757-5080	7701K2	On-Off-On	On-Off-On	Screw	A	15	10	9.22	8.49	

Four Pole

Stock No.	Mr.'s Type	Circuit	Action	Term. Type	Fig.	Amps		EACH		
						125 VAC	250 V	1-24	25-49	50-99
757-5170	7690K8	On-Off	On-Off	Screw	A	15	10	8.59	7.93	
757-5205	7695K5	On-On	On-On	Solder	A	15	10	9.43	8.70	
757-5182	7692K13	On-Off-On	On-Off-On	Screw	A	15	10	10.71	9.89	
757-5190	7693K2	On-Off-On	On-Off-On	Solder	A	15	10	9.43	8.70	

*Momentary contact in "On" position.

Medium and Heavy Duty Toggle Switches (AC/DC)

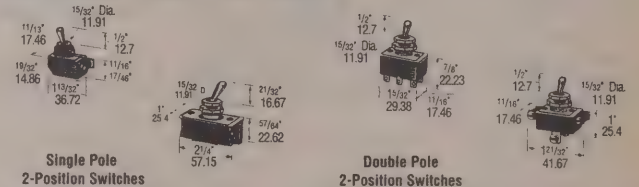


These switches have contacts with a quick-make/quick-break wiping action. The three-position switches offer a unique positive center stop feature, which assures that the lever cannot be thrown from one side through the center "Off" position without stopping. This design feature is a major factor in the widespread acceptance of these switches for motor reversing and speed control applications. Copper and bronze contacts are standard, as well as brass screw terminals.

Stock No.	Mr.'s Type	Circuit	Fig.	Amps		EACH		
				125 V	250 V	1-24	25-49	50-99
717-0705*	7321K3	SPST	A	12 A	6 A (1 HP)	4.54	4.19	3.50
717-0710*	7320K3	DPST	A	16 A	8 A (1 HP)	4.28	3.93	3.30
717-0720*	7360K8	DPST	B	20 A	10 A (1.5 HP)	5.71	5.26	4.39
717-0725*	7402K5	DPST	C	20 A	20 A (2 HP)	11.91	10.99	9.16
717-0730*	7402K4	DPST	D	20 A	20 A (2 HP)	9.89	9.13	7.61
717-0745†	7814K2	DPDT	C	14 A	7 A (3/4 HP)	70.84	56.18	50.56
717-0750†	7815K3	3PDT	C	10 A	5 A (1/2 HP)	99.09	78.59	70.73
717-0755†	7816K2	4PDT	C	10 A	5 A	117.35	93.07	83.76
717-0760†	7810K2	DPDT	E	20 A	10 A	89.88	71.28	64.15
717-0765†	7811K2	DPDT	E	30 A	20 A	57.90	53.44	44.54
717-0770†	7812K2	3PDT	E	30 A	20 A	158.62	125.80	119.51
717-0775†	7813K2	4PDT	E	30 A	20 A	169.33	134.29	127.57

Action: *Off-On (Bat); **Off-On (Ball); †On-Off-On.

AC-DC Rated Toggle Switches



Quick-make, quick-break contact with wiping action. Arc-resistant 15/32" diameter bushing; mounting hardware included. UL and CSA listed. All have 11/32" bushing length, except (†) have 15/32". Weight: 2 oz.

Single Pole 2-Position Switches

Stock No.	Mr.'s Type	Circuit	Amps @		HP @ 250 V		Terminals	EACH	
			125 V	250 V	AC	DC		1-24	25-49
757-6302	8280K115	On-Off	—	3	—	—	Solder	2.45	2.27
757-6555	8295K107	On-Off	—	3	—	—	Screw	3.42	2.99
757-7040	8381K107	On-Off	6	3	—	—	Solder	2.55	2.34
757-7097	8396K108†	On-Off	6	3	—	—	Screw	2.98	2.73
757-7096	8396K107	On-Off	6	3	—	—	Screw	2.98	2.73
757-3751	7321K3†	On-Off	16	8	*	*	Screw	4.54	4.19
757-3770	7361K5†	On-Off	20	10	1	1 1/2	Screw	6.09	5.62

Double Pole 2-Position Switches

Stock No.	Mr.'s Type	Circuit	Amps @		HP @ 250 V		Terminals	EACH	
			125 V AC-DC	250 V DC	AC	DC		1-24	25-49
757-6840	8370K107†	On-Off	6	3	—	—	Solder	4.45	4.09
757-6895	8372K107†	On-Off	6	3	—	—	Screw	5.45	5.01
757-3720	7320K2	On-Off	16	8	*	*	Screw	4.28	3.93
757-3760	7360K7	On-Off	20	10	1 1/2	1 1/2	Screw	5.71	5.26
757-3761	7360K8†	On-Off	20	10	1 1/2	1 1/2	Screw	5.71	5.26
757-3802	7402K3	On-Off	—	20	2	2	Screw	9.89	9.13
757-3803	7402K4†	On-Off	—	20	2	2	Screw	9.89	9.13
757-6910	8373K107†	On-On	6	3	—	—	Solder	5.12	4.75

*Rated 1 HP @ 125 VAC and DC.

AC-DC Designer Line Toggle Switches

The lever and bushing on these switches are constructed of durable, high-strength thermo plastic. Lever color is black. Double insulated, quick-make, quick-break contact mechanism. Nylon bushing 15/32" dia. 11/32" long. Solder lug terminals. UL/CSA listed.

On-On Circuit

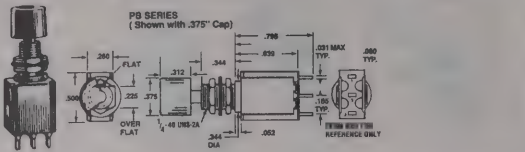
Stock No.	Mr.'s Type	Amps		EACH	
		125 V	250 V	1-24	25-49
757-6520	8282K127C†	3 A	1 A	3.41	3.14
757-6940	8373K127C†	6 A	3 A	5.45	5.01

On-Off Circuit

Stock No.

PB Series Pushbutton Switches

Maintained and Momentary



Panel mount. PB series with 3 cap sizes and colors, sold separately. See table below. **Specifications.** Contact Rating: 6 A at 125 VAC; 3 A at 250 VAC; 6 A at 28 VDC, resistive (UL listed). 100,000 make-and-break cycles for maintained models; 60,000 for momentary, resistive load only. Coin silver contacts. Solder lugs. Other terminals styles available upon request.

Stock No.	Mfr.'s Type	Circuit (Momentary)	EACH		
			1-24	25-99	100-249
757-0780	PB-12300ZQ	SPDT On/On	3.98	3.14	2.91
757-0781	PB-12600ZQ	SPDT On/(On)	3.98	3.14	2.91

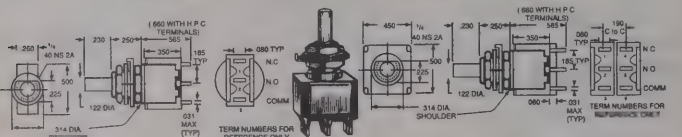
Caps For Above

757-0784. W-KN-14. Black. .375 diameter	EACH	.27
757-0785. W-KN-14A. White. .375 diameter	EACH	.32
757-0786. W-KN-14B. Red. .375 diameter	EACH	.27
757-0789. W-KN-12B. Red. .200 diameter	EACH	.21
757-0900. W-KN-31. Black. .310 diameter	EACH	.25
757-0901. W-KN-31A. White. .310 diameter	EACH	.34
757-0902. W-KN-31B. Red. .310 diameter	EACH	.25

Momentary Snap Action

PS SERIES - SPDT

PS SERIES - DPDT



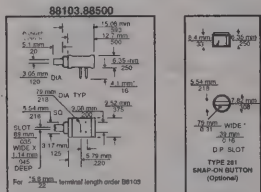
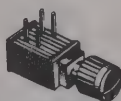
Specifications. Contact Rating: 5 A resistive (1 pole), 1 A resistive (2 pole) at 125 VAC or 28 VDC (UL listed) or 0.4 Volt-amp (VA) maximum at 28 V max. (AC or DC). 60,000 cycles minimum at full load resistive. Center and End Contact: 1 and 5 A, brass, silver inlay and gold flash for solderability. .4 VA-brass, 50 milliohm gold plated over nickel. Epoxy seal is standard. Caps sold separately.

Stock No.	Mfr.'s Type	Terminal/Rating	Circuit	EACH		
				1-24	25-99	100-249
757-0790	PS1-100Q	S.L. 5 A	SPDT	5.22	4.07	3.75
757-0793	PS2-100B	PC. 4 VA	SPDT	3.94	3.22	2.76
757-0794	PS1-200Q	S.L. 1 A	DPDT	7.25	5.82	5.26
757-0795	PS2-200Q	PC. 1 A	DPDT	7.45	6.02	5.20
757-0796	PS1-200B	S.L. .4 VA	DPDT	4.78	3.82	3.41

Caps For Above

757-0800. W-KN-16B. Red. .200 diameter	EACH	.19
757-0804. W-KN-18. Black. .450 sq. diameter	EACH	.22
757-0805. W-KN-18A. White. .450 sq. diameter	EACH	.22
757-0806. W-KN-18B. Red. .450 sq. diameter	EACH	.22

PCB Subminiature Pushbutton Switch

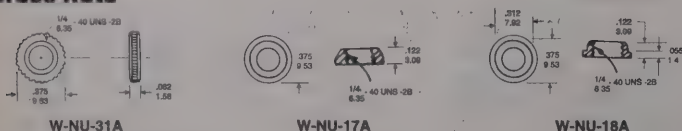


"Crossed Wire" contact system eliminates bounce. High contact pressure gives low contact resistance. Drain holes permit complete flux washdown. Solid silver contacts with gold over nickel plate. Momentary or Latch-Down (depress plunger and rotate 30° clockwise) operation. **Current Ratings:** 1 A at 6 VDC and 12 VDC; 0.5 A at 28 VAC and 125 VAC. 2 circuit poles and throw. Right Angle PC mounting. **Note:** Optional snap-on buttons should be ordered separately.

Stock No.	Mfr.'s Type	Terminal Length (in.)	EACH		
			1-24	25-49	50-99
757-0100	B8500	.160 (4.1mm)	2.39	2.11	1.96

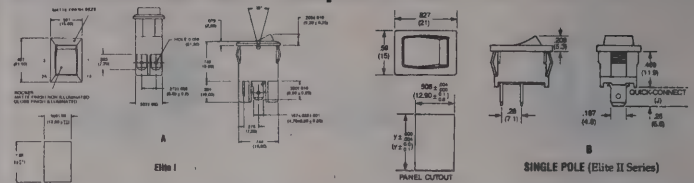
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
757-0281	P281R	Red Snap-On Button	.24	.21	.19
757-0282	P281B	Black Snap-On Button	.24	.21	.19

Dress Nuts



For Toggle Switches with 1/4-40-2 A Bushings.		
757-9912. W-NU-31A. Knurled	EACH	.27
757-9917. W-NU-17A. Knurled	EACH	.13
757-9918. W-NU-18A. Beveled with Flats.	EACH	.32

Elite Series Miniature Snap-In Rockers

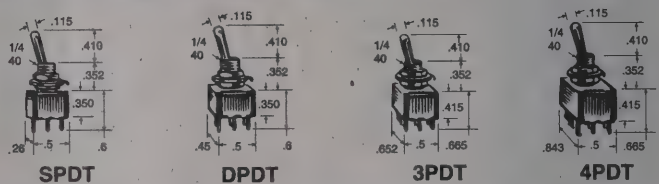


The Elite I Mini Rocker Switch Series is ideal for use in electronic instrumentation, data processing, communications, appliances, medical equipment, and any application within specifications. Lighted and non-lighted available. **Current Ratings:** 8 A at 125 VAC, 6 A at 250 VAC. **Contact Resistance:** 10 milliohms max. **Contact Material:** Silver inlay over copper. **Termination:** .187 quick-connect.

Stock No.	Mfr.'s Type	Switch Action	Description	Poles	Fig.	EACH		
						1-24	25-49	50-99
757-5500	E120M11J	On-None-Off	Non-lighted	2PST	A	1.22	1.12	.96
757-5505	E110MR11J	On-None-Off	Lighted w/red button, 125 V neon	1PST	A	2.05	1.89	1.61
757-5510	E120MR11J	On-None-Off	Lighted w/red button, 125 V neon	2PDP	A	2.26	2.09	1.77
757-5515	E20M11J*	On-None-Off	Non-lighted	1PST	B	.91	.84	.71

*10 A at 125 V ac.

Miniature Toggle Switches, Panel Mount



Panel Mount

One hole mounting, 1/4" threaded bushing, bat lever. **Contact Rating:** 6 A at 225 VAC/28 VDC; 3 A at 250 VAC. UL Listed. Coin silver contacts, solder lug terminals. Includes mounting hardware.

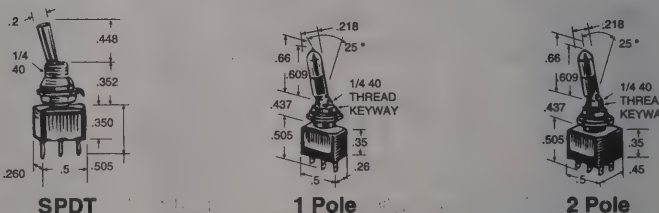
Stock No.	Mfr.'s Type	Circuit (Momentary)	Contact	EACH		
				1-24	25-99	100-Up
757-3351	A121S1YQ	On-Off-On	SPDT	4.15	3.31	2.88
757-3353	A123S1YQ	On-None-On	SPDT	3.60	2.87	2.50
757-9356	A126S1YQ	On-None-(On)	SPDT	4.15	3.31	2.88
757-9357	A127S1YQ	(On)-Off-(On)	SPDT	4.15	3.31	2.88
757-3361	A131S1YQ	On-Off-(On)	SPDT	4.15	3.31	2.88
757-9381	A221S1YQ	On-Off-On	DPDT	5.48	4.66	4.12
757-9883	A223S1YQ	On-None-On	DPDT	4.78	4.09	3.61
757-9386	A226S1YQ	On-None-(On)	DPDT	5.64	4.79	4.23
757-9387	A227S1YQ	(On)-Off-(On)	DPDT	5.48	4.66	4.12
757-9392	A232S1YQ	On-On-On	DPDT	6.03	5.09	4.97
757-3422	A321S1YQ	On-Off-On	3PDT	9.84	7.65	6.71
757-3423	A323S1YQ	On-None-On	3PDT	9.22	7.21	6.31
757-3451	A421S1YQ	On-Off-On	4PDT	12.28	10.33	9.15
757-3453	A423S1YQ	On-None-On	4PDT	11.45	9.70	8.59

PC Mount

Same as panel mount except they are furnished with straight terminals. Terminals are gold flash over silver. Epoxy seal standard. Rating 5 A at 28 VAC/DC. Includes mounting hardware.

Stock No.	Mfr.'s Type	Circuit (Momentary)	Contact	EACH		
				1-24	25-99	100-Up
757-9501	A121S1YQ	On-Off-On	SPDT	4.02	3.38	2.95
757-9503	A123S1YQ	On-None-On	SPDT	3.50	2.94	2.57
757-9505	A221S1YQ	On-Off-On	DPDT	5.62	4.80	4.26
757-9507	A223S1YQ	On-None-On	DPDT	4.92	4.23	3.75

Miniature Flat Handle and Lever-Lock Switches

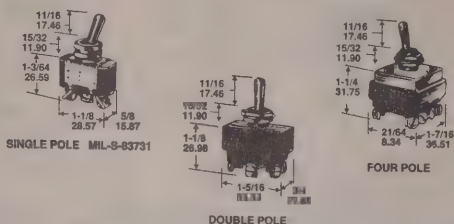


Flat Handle: Flat lever — brass, satin chrome finish. Rated 6 A at 125 VAC, 28 VDC; 3 A at 250 VAC. UL listed. Solder lug terminals. **Lever Lock:** Prevents accidental actuation — lever must be lifted and moved to other position. All switches include mounting hardware.

Stock No.	Mfr.'s Type	Circuit (Momentary)	Contact	EACH		
				1-24	25-99	100-Up
757-3321	A121P32Y5ZQ	On-Off-On	SPDT	4.90	4.26	3.83
757-3323	A123P32Y5ZQ	On-None-On	SPDT	4.38	3.82	3.45
757-9203*	A123K12KZQ	On-None-On	SPDT	5.27	4.71	4.34
757-3414	A221P32Y5ZQ	On-Off-On	DPDT	6.43	5.61	5.07
757-3416	A223P32Y5ZQ	On-None-On	DPDT	5.73	5.04	4.56
757-3213*	A223K12KZQ	On-None-On	DPDT	6.62	5.93	5.45

*Lever Lock.

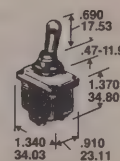
MIL-S-3950 Teeter Totter Action Environmentally-Sealed Toggle Switch



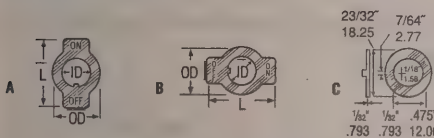
Technical drawing of a 1/2 HP motor. Dimensions are shown in inches and millimeters:

- Top shaft height: .690" (17.53 mm)
- Shaft diameter: .47-11.8
- Motor body height: 1.18" (29.97 mm)
- Motor body width: 1.270" (32.26 mm)
- Motor body depth: .635" (16.13 mm)

SINGLE POLE
MIL-S-3950



DOUBLE POLE



MIL-S-3950. Improved teeter totter mechanism provides positive "feel" and reliable return action. Silver contacts. Anodized aluminum bushing and cover; molded melamine/phenolic base. Sealed according to MIL-S-3950 standards. **Weight:** 2 oz. Flush screw terminals.

Single Pole

Stock No.	Mfr.'s Type	Gov't. MS No.	Circuit	EACH		
				1-24	25-49	50-99
826-8199	8500K9	24523-22	On-None-Off	15.55	14.27	13.17
826-8200	8500K1	24523-21	On-Off-On	15.55	13.85	12.78
826-8201	8500K2	24523-27	On*-Off-On*	15.55	13.85	12.78
826-8203	8500K4	24523-23	On-None-On	15.55	13.85	12.78

Double Pole

826-8449	8501K9	24524-22	On-None-Off	20.86	18.57	17.17
826-8442	8501K2	24524-27	On*-Off-On*	20.86	18.57	17.14
826-8441	8501K1	24524-21	On-Off-On	20.86	18.57	17.14

*Momentary

826-8127	7662K7†	25068-21	On-Off-On	35.88	26.91	19.73
826-6827	7672K5†	25068-27	On* -Off-On*	53.13	49.05	45.54

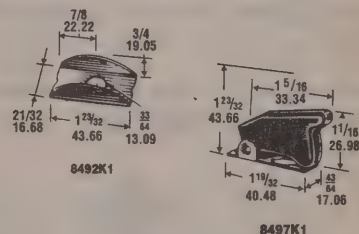
*Momentary

Stock No.	Mfr.'s Type	Fig.	EACH	
			1-24	25-49
757-2813	30-5632-4	A	.14	.12
757-2816	30-5632-13	B	.14	.12

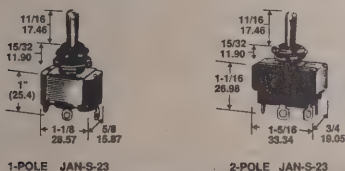
One-Pole Mounting Switch Guards

757-2229, Type 29-761, 1-4 PER PKG./100 10.00

Prevents accidental operation of toggle switches. **8492K1 (MS24417-1)**: With pin in place, toggle will operate in left and center, but not extreme right pos. Metal. Black. **8497K1 (MS25224-1)**: Returns lever to off position when guard is closed. (For Full-Throw/Single Throw switches).



Switches



15 A @ 125 VAC, 20 A @ 30 VDC. Solder lug terminals. All are Single Throw except $\pm$ which indicates Double Throw. **Weight:** 2 oz.

Single Pole

Stock No.	Mfr.'s Type	JAN No. ST-	Circuit	EACH		
				1-24	25-49	50-99
757-3421	7300K38	42A	On-None-Off	5.63	4.60	3.94
757-3424	7302K38	42D	On-None-On	7.15	5.85	5.41
757-3425	7301K38	42E	On-Off-On	7.94	6.49	4.93
757-9427	7306K38	42G	On*-Off-On*	8.07	6.63	6.16
757-9428	7305K38	42H	On-Off-On*	8.07	6.63	6.16

Double Pole

757-3521	7310K38	52K	On-None-Off	8.02	6.58	4.96
757-3522	7312K38†	52N	On-None-On	9.89	8.13	6.13
757-3523	7311K38†	52P	On-Off-On	14.16	11.63	8.77
757-3525	7317K38†	52R	On-None-On*	10.47	8.58	7.95
757-7910	7316K38†	52S	On* - Off-On*	10.94	8.98	8.35
757-9527	7315K38†	52T	On-Off-On*	11.61	9.52	7.20

* Momentary.

Cutler Hammer

Cutler Hammer has been a leading manufacturer of standard and custom-designed UL recognized power switches for more than fifty years. Many of our products have international approvals, reflecting our commitment to the world market. Cutler Hammer switches are specified wherever highest quality standards are a requirement. We are proud that our switches, which range from heavy duty 800-ampere power toggles to miniature pushbuttons, are represented in every major electrical catalog. The switches shown in this catalog are typical of the products currently being used in existing equipment manufacturers. Special switches not shown in this catalog are available upon request. Please contact the factory for details. Cutler Hammer welcomes inquiries to meet your specific requirements.

General Purpose Momentary AC Switches

Push switches with slow-make/slow-break butt type contacts. 7836K11A/7835K11A Series rated at 3 A, 120 VAC; 1 A, 250 VAC; 1/10 HP, 120 VAC. Solder lug terminations. Bushing .562" (14.27 mm) long. 7836K11A/7835K11A Series UL recognized, CSA Listed.

Stock No.	Mfr.'s Type	Fig.	Circuit	Action	EACH		
					1-24	25-49	50-99
717-0421	7836K11A†	A	SPST	Off-Mom-On	6.01	5.56	4.64
717-0420	7835K11A†	A	SPST	On-Mom-Off	6.01	5.56	4.64
717-3033	7836K11C†	B	SPST	Off-Mom-On	6.06	5.07	4.56
717-0426	7836K11D†	B	SPST	Off-Mom-On	6.57	6.06	5.07
717-3004	7835K11C†	B	SPST	On-Mom-Off	6.63	6.11	5.12
717-3005	7835K11D†	B	SPST	On-Mom-Off	6.64	6.13	5.21

Switch and Panel Seals

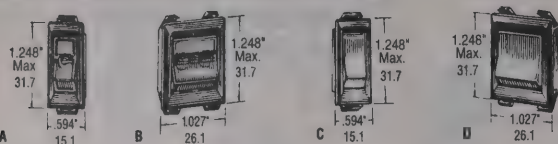
Military types perform three functions; provide vibration resistance for mounting nut; seal mounting hole; seal switch lever to 15 psi. Made of gray silicon rubber. Commercial type 80151 is black neoprene, comes in two parts, boot and nut which together form a switch seal. All others come molded as a complete switch seal. **Shipping Weight:** 1 oz.



Multi-Flex

Stock No.	Mfr.'s Type	Threads	MIL-B-5423	EACH		
				1-24	25-49	50-Up
760-0001	50151	15/32-32	1 A1	2.37	2.05	1.88
760-0008	5168	15/32-32	2 A3	2.37	2.05	1.88
760-0051	40151	15/32-325/16	7 B21	2.25	1.95	1.78
760-0022	30122	3/8-32	9 C2	2.08	1.80	1.65
760-0152	80151	15/32-32	Comm.	1.43	1.13	.89

Miniature Snap-In AC Rocker Switches



These switches come in lighted and non-lighted versions in a variety of standard or custom colors. They are UL, CSA and VDE approved. Ideal applications include appliances, electronic instrumentation, data processing, communications, medical and office equipment and many others in both domestic and foreign markets. Options available are legend stamping, solder lugs, independent lamp circuits, special and matched colors, high inrush capabilities. Aesthetically pleasing yet ruggedly functional with traditional Cutler Hammer quality, these switches are ideal for up-front applications where both appearance and reliability are required. The smoothly rounded bezel and gently contoured rocker have a soft matte finish that blends in with the most sophisticated product designs. When a switch has to be more than just a switch, Cutler Hammer's rocker switch offers that designer touch that will enhance any product line.

Lighted Type (All Rated: 15 A, 125 V; 10 A, 250 V)

Stock No.	Mfr.'s Type*	Fig.	Circuit	Action	Lens Color†	EACH		
						1-24	25-49	50-99
717-0835	1500R11E	A	SPST	On-None-Off	R	2.42	2.14	1.72
717-0840	1500A11E	A	SPST	On-None-Off	A	2.30	2.03	1.72
717-0846	1500G11E	A	SPST	On-None-Off	G	2.30	2.03	1.72
717-2501	2500R11E	B	DPST	On-None-Off	R	3.68	3.23	3.09
717-0855	2500A11E	B	DPST	On-None-Off	A	2.89	2.54	2.16
717-0861	2500G11E	B	DPST	On-None-Off	G	2.89	2.54	2.16

*Other lamp voltages are available. †Color Code: R=Red; A=Amber; G=Green.

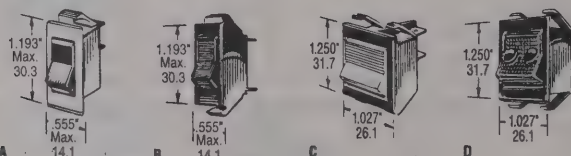
Non-Lighted Type (All Rated: 15 A, 125 V; 10 A, 250 V)

Stock No.	Mfr.'s Type	Fig.	Circuit	Action	EACH		
					1-24	25-49	50-99
717-0780	1500-11E	C	SPST	On-None-Off	.96	.89	.71
717-0785	1501-11E	C	SPST	Mom. On-None-Off	1.74	1.54	1.24
717-0790	1502-11E	C	SPST	On-None-On	1.54	1.38	1.15
717-0795	1503-11E	C	SPDT	On-None-Mom. On	1.68	1.57	1.37
717-0800	1504-11E	C	SPDT	On-Off-On	1.58	1.37	1.11
717-0805	2500-11E	D	DPST	On-None-Off	1.64	1.44	1.17
717-0810	2501-11E	D	DPST	Mom. On-None-Off	1.96	1.74	1.51
717-0815	2502-11E	D	DPDT	On-None-On	2.34	2.07	1.79
717-0820	2503-11E	D	DPDT	On-None-Mom. On	2.73	2.42	2.09

Rocker Switches With On-Off Legends (All Rated: 15 A, 125 V; 10 A, 250 V)

Stock No.	Mfr.'s Type	Fig.	Circuit	Action	1-24	25-49	50-99
717-0825	1500-11E71	C	SPST	On-None-Off	1.50	1.33	1.08
717-0830	2500-11E735	D	DPST	On-None-Off	2.02	1.79	1.60

Miniature Rocker Switches



1.071 MIN. 1.079 MAX. (27.20 27.40)	480 MIN. 486 MAX. (12.20 12.34)	Recommended panel cutout for types 400, 403, 410, 420, 423, 427, 433, 496	.872 MIN. .880 MAX. (22.15 22.35)	(22.00 22.10)	1.071 MIN. 1.079 MAX. (27.20 27.40)	Recommended panel cutout for types 600, 603, 610, 613, 620, 623, 632, 633
MINIMUM PANEL THICKNESS .030 (0.75) MAXIMUM PANEL THICKNESS .118 (3.00) PANEL CUTOUT			MINIMUM PANEL THICKNESS .030 (0.75) MAXIMUM PANEL THICKNESS .118 (3.00) PANEL CUTOUT			

Slow-make, slow-break action. Combination quick connector/solder lug terminals. Silver inlay over copper contact material. 5000 hours minimum lamp life. **Rated Life:** 50,000 cycles minimum at rated load. All rated 22 A (resistive load) at 125 VAC/16 (4) A 250 VAC. **Color Code:** A = Amber; R = Red; G = Green; B = Black.

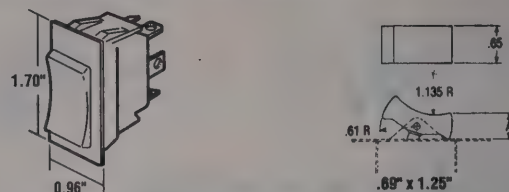
High Inrush "H" Series Switches

Stock No.	Mfr.'s Type	Fig.	Poles	Description	EACH		
					1-24	25-49	50-99
717-1085	1600H11E	A	1PST	Standard Gloss Finish	1.39	1.22	.98
717-1090	1600HM11E	A	1PST	Standard Gloss Finish	1.25	1.16	.98
717-1095	1600HR11E	B	1PST	Red Lens 125 V Neon Lamp	2.86	2.52	2.17
717-1501	2600H11E	C	2PST	Standard Gloss Finish	2.02	1.77	1.43
717-1105	2600HM11E	C	2PST	Standard Gloss Finish	1.82	1.68	1.43
717-1110	2600HR11E	D	2PST	Red Lens 125 V Neon Lamp	3.24	2.85	2.43

Stock No.	Mfr.'s Type	Fig.	Color	Model with Lever Up Center Down	Poles	EACH		
						1-24	25-49	50-99
717-1010	1600R-11E	B	R	On-None-Off	1PST	2.66	2.35	2.03
717-2600	2600R-11E	D	R	On-None-Off	2PST	3.02	2.66	2.26
717-1065	2600-11E	C	B	On-None-Off	2PST	1.76	1.55	1.25
717-1076	2604-11E	C	B	On-Off-On	2PDT	2.35	2.07	1.75
717-1120	2601-11E	C	B	On-None-Off	2PST	2.02	1.77	1.43

Lighted or non-lighted versions available in standard black gloss or optional matte finish. Handles high inrush currents up to 100 A Peak for 10 milliseconds @ 250 VAC. Electrical life rated at 10,000 cycles minimum. **Operating Temperature:** 0°C to +85°C. *Momentary.

Snap-In Mount Rockette Switches

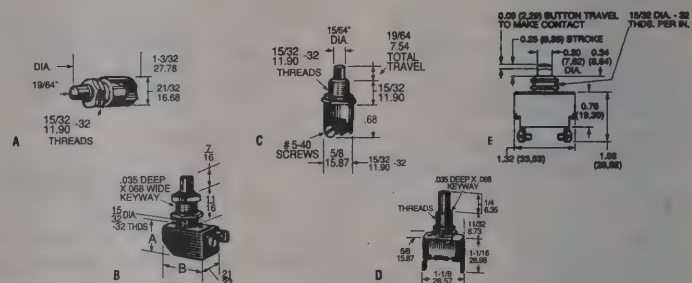


The rocker switches offer a remarkable silicone rubber seal that protects contacts and mechanisms better than conventional seal and boot combinations. The switches resist contaminants such as sand, dust and moisture with both base to frame seal and an actuator seal. Available in one and two-pole. Rated 15 A, 125 VAC; 10 A, 250 VAC. Spade terminals (brass).

Stock No.	Mfr.'s Type*	Description	Circuit	EACH		
				1-24	25-49	50-99
757-5520	8055K23ZTV	SPST W/Concave Rocker	On-None-Off	4.25	3.92	3.28
757-5525	8055K43ZTV	DPST W/Concave Rocker	On-None-Off	5.54	5.10	4.26

*Other terminations available.

AC or AC/DC Rated Switches



Mfr.'s Type	Dimensions (In.)	
	A	B
8411K11	15/32	3/8
8411K12	15/32	3/8
8411K13	1/4	1/4
8411K7	15/32	13/32
8411K8	15/32	13/32
7208K104	.69	1.09

Multi-Purpose AC/DC Pushbutton Switches

These have slow-make, slow-break contacts. Hardware unassembled.

Single Pole — Momentary — Normally Open

Stock No.	Mfr.'s Type	Fig.	Rating @		Button Color	Terminals	EACH		
			125 V	250 V			1-24	25-49	50-99
757-2305	8411K11	A	3/4 A	1/4 A	Black	Spade	1.58	1.37	1.20
757-2309	8411K12	A	3/4 A	1/4 A	Black	Screw	1.89	1.63	1.43
757-2311	8411K13	A	3/4 A	1/4 A	Red	Spade	1.68	1.44	1.26

Single Pole — Momentary — Normally Closed

Stock No.	Mfr.'s Type	Fig.	Rating @ 125 V	Rating @ 250 V	Button Color	Terminals	1-24	25-49	50-99
757-2337	8411K7	A	3/4 A	1/4 A	Black	Screw	1.97	1.74	1.46
757-2340	8411K8	A	3/4 A	1/4 A	Black	S. Lug	1.74	1.55	1.23

AC/DC Pushbutton Switches

AC-DC switches are quick-make, quick-break. Mounting hardware supplied unassembled.

Push-On/Push-Off Switches (SPST)

Stock No.	Mfr.'s Type	Fig.	Rating @ 125 V	Rating @ 250 V	Button Color	Terminals	1-24	25-49	50-99
757-2908	7208K104	B	6 A	3 A DC	Nickel	Screw	4.55	4.20	3.90

AC Pushbutton Switches

AC rated pushbutton switches feature slow-make, slow-break momentary contact mechanism. Bright nickel plated button. 15/32" (11.9 mm) dia. bushing. Mounting hardware supplied unassembled.

Single Pole — Normally Open

Stock No.	Mfr.'s Type	Fig.	Rating @			Terminals	EACH		
			125 V	250 V	125/250 V		1-24	25-49	50-99
757-2364	8440K2	C	3 A	—	—	S. Lug	4.11	3.62	3.06
757-2363	8440K3	C	3 A	—	—	Screw	4.31	3.92	3.36
757-2369	8442K4	D	6 A	3 A	—	Screw	2.87	2.52	2.10
757-2373	8444K4	D	15 A	10 A	1/3 HP	Screw	3.1Q	2.73	2.27

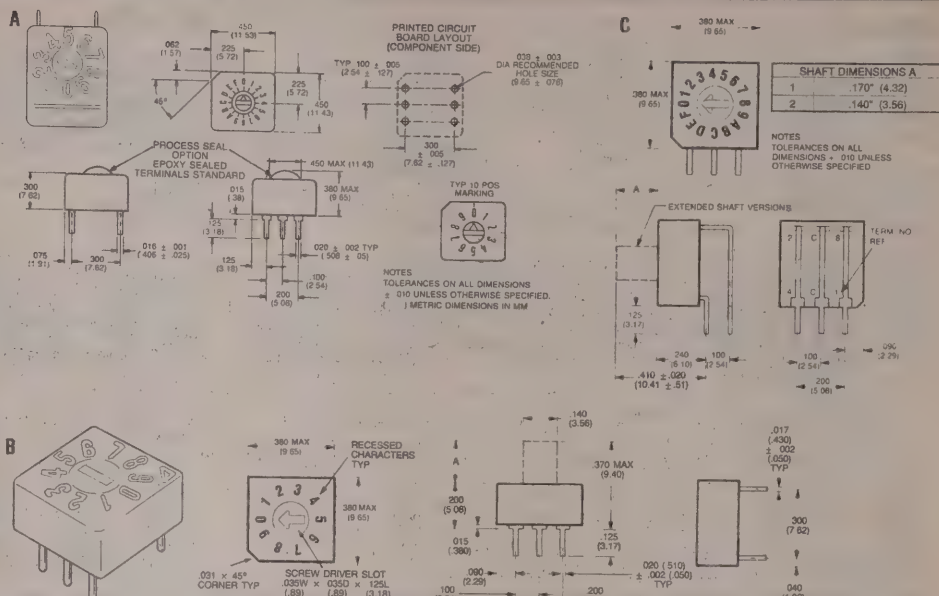
Double Pole — Normally Open

Stock No.	Mfr.'s Type	Fig.	Rating @ 125 V	Rating @ 250 V	Button Color	Terminals	1-24	25-49	50-99
757-2383	8448K2	E	15 A	10 A	—	Screw	4.44	4.20	3.60

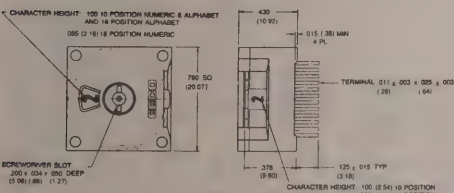
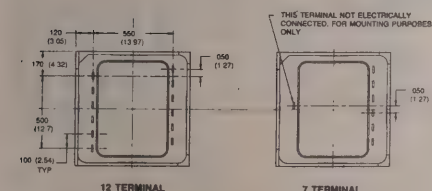
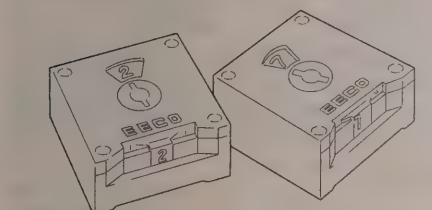
Printed Circuit Board Switches

Micro Dips

Stock No.	Mfr.'s Type	No. of Pos.	Fig.	Housing Color	EACH	
					1-99	100-499
594-0005	230056GB	10	A	Gray	3.60	3.32
594-0010	230057GB	16	A	Yellow	3.13	2.89
594-0015	350008GS	8	B	Brown	2.00	1.84
594-0020	351008GS	8	C	Brown	2.40	2.21
594-0025	350108GS	8	B	Brown	2.31	2.13
594-0030	350002GS	10	B	Red	1.91	1.76
594-0035	351002GS	10	C	Red	2.40	2.21
594-0040	350102GS	10	C	Red	2.31	2.13
594-0045	350012GS	10	B	Orange	2.28	2.10
594-0050	351012GS	10	C	Orange	2.40	2.21
594-0055	350112GS	10	B	Orange	2.00	1.84
594-0060	350035GS	16	B	Green	2.35	2.16
594-0065	351035GS	16	C	Green	2.53	2.33
594-0070	350135GS	16	B	Green	2.40	2.21
594-0075	350041GS	16	B	Blue	2.35	2.16
594-0080	351041GS	16	C	Blue	2.53	2.33
594-0085	350141GS	16	B	Blue	2.40	2.21

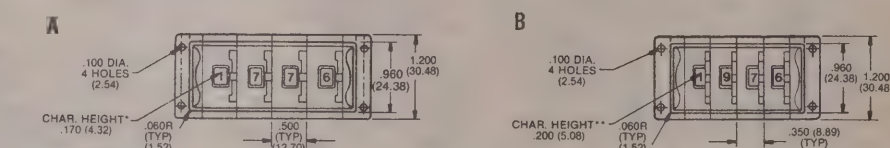


StripSwitch



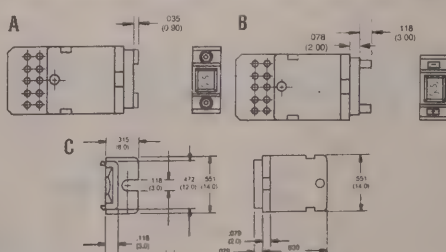
Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH	
				1-99	100-499
594-0090	276002M	10	BCD 1-2-4-8	4.88	4.50
594-0095	276057M	16	Hex 1-2-4-8	5.75	5.30

1776/1976 Series Thumbwheel



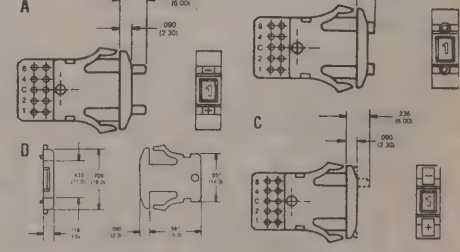
Stock No.	Mfr.'s Type	Description	No. of Pos.	Fig.	EACH	
					1-99	100-499
594-0100	177602GN	BCD 1-2-4-8 (Gloss)	10	A	11.11	10.26
594-0105	177602MN	BCD 1-2-4-8 (Matte)	10	A	12.31	11.36
594-0110	197602GN	BCD 1-2-4-8 (Gloss)	10	B	11.11	10.26
594-0115	197602MN	BCD 1-2-4-8 (Matte)	10	B	12.31	11.36

1000 Series Thumbwheel and Pushwheel



Stock No.	Mfr.'s Type	Description	No. of Pos.	Fig.	EACH	
					1-99	100-499
594-0120	100102J	Push-set (Rear)	10	A	5.01	4.63
594-0125	100202J	Pen-set (Rear)	10	B	5.01	4.63
594-0130	E10SJ	End piece (Pair)	—	C	.93	.86

1100 Series Thumbwheel and Pushwheel



Stock No.	Mfr.'s Type	Description	No. of Pos.	Fig.	EACH	
					1-99	100-499
594-0135	110102J	Push-set (Front)	10	A	5.01	4.63
594-0140	110202J	Pen-set (Front)	10	B	5.01	4.63
594-0145	110302J	Lock-set (Front)	10	C	5.01	4.63
594-0150	E21SJ	End piece (Pair)	—	D	.93	.86

Hardware Kits for Thumbwheel/Pushwheels

Stock No.	Mfr.'s Type	Description	EACH
594-0155	77SG-1	Rods (Stainless Steel) (Gloss)	4.66
594-0160	77SG-2	Rods (Stainless Steel) (Gloss)	4.66
594-0165	77SG-3	Rods (Stainless Steel) (Gloss)	4.66
594-0170	77SG-4	Rods (Stainless Steel) (Gloss)	4.66
594-0175	77SG-5	Rods (Stainless Steel) (Gloss)	4.66
594-0180	77SM-1	Rods (Stainless Steel) (Matte)	5.66
594-0185	77SM-2	Rods (Stainless Steel) (Matte)	5.66

Stock No.	Mfr.'s Type	Description	EACH
594-0190	77SM-3	Rods (Matte)	5.66
594-0195	77SM-4	Rods (Matte)	5.66
594-0200	77SM-5	Rods (Matte)	5.66
594-0205	96SG-1	Stainless Steel (Gloss)	4.66
594-0210	96SG-2	Stainless Steel (Gloss)	4.66
594-0215	96SG-3	Stainless Steel (Gloss)	4.66
594-0220	96SG-4	Stainless Steel (Gloss)	4.66

Stock No.	Mfr.'s Type	Description	EACH
594-0225	96SG-5	Stainless Steel (Gloss)	4.66
594-0230	96SM-1	Stainless Steel (Matte)	5.66
594-0235	96SM-2	Stainless Steel (Matte)	5.66
594-0240	96SM-3	Stainless Steel (Matte)	5.66
594-0245	96SM-4	Stainless Steel (Matte)	5.66
594-0250	96SM-5	Stainless Steel (Matte)	5.66

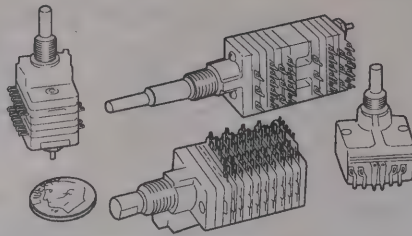
Series C1

Standards

- Dialyl Phthalate Material
- 30° Index (2-12 Pos.)
- .250" Shaft Length
- Solder Lug Terminals
- Adjustable Stops

Options

- Right Angle and Rear PC Terminal
- Dual Concentric Designs
- Watertight Seals
- Keylocks



Series C1 is the ideal rotary switch to specify when space is at a premium and dependable switching is a priority. The subminiature, rectangular design is a fully enclosed, environment-proof package that helps keep dirt and moisture out of the contact area, while keeping the lubricant sealed in for long life and high reliability. Its modular design allows for a wide variety of switching configurations to suit your needs. **Electrical Ratings (Resistive):** Silver plated brass contacts — .10 A at 125 VAC, .25 A at 28 VDC. **Contact Resistance (Ohms — Initial):** Silver plated brass — .005 or less. **Current Carrying Capacity:** 6 A. **Maximum Temperature Rise:** 30°C. **Voltage Breakdown (Sea Level):** 600 VAC. **Rotational Torque (Variable):** 5 to 30 in. oz. **Stop Strength:** Acetal housing material — 5 in. lbs. **Minimum Mechanical Life:** 25,000 cycles. **Available Index Angles:** 30°, 60°, 90°.

Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
747-6505	C1D0112S-A	747-6535	C1D0112N-A	01	02-12	10.32	6.88	6.02
747-6510	C1D0206S-A	747-6540	C1D0206N-A	02	02-06	10.50	7.00	6.13
747-6515	C1D0304S-A	747-6545	C1D0304N-A	03	02-04	10.68	7.12	6.23
747-6520	C1D0212S-A	747-6550	C1D0212N-A	02	02-12	12.05	8.04	7.04
747-6525	C1D0406S-A	747-6555	C1D0406N-A	04	02-06	15.54	10.36	9.07
747-6530	C1D0604S-A	747-6560	C1D0604N-A	06	02-04	12.78	8.52	7.46

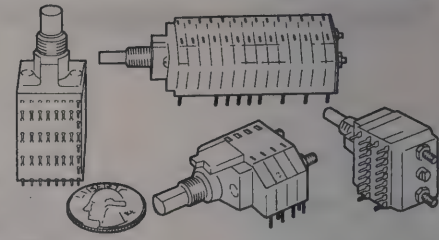
Series C3

Standards

- Polyester Material
- 30° Index (2-12 Pos.)
- .250" Shaft Length
- Right Angle PC Mount
- Adjustable Stops

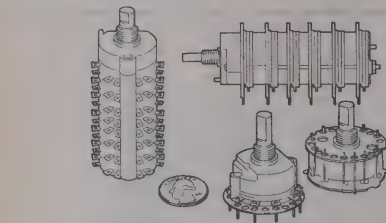
Options

- 8 Pin Model
- Watertight Seals
- Keylocks



An ideal solution to high density, printed circuit module switching requirements is the Series C2 switch. Either the 12-pin or the 8-pin version can do the job well. These switches feature fully enclosed, environment-proof bodies with in-line PC terminals, a proven 25,000+ cycle detent mechanism, and the ability to provide complicated switching patterns in a minimum of space. The Series 400 is the preferred device by those in the data transfer, instrumentation, and stereo markets. **Electrical Ratings (Resistive):** Silver plated brass contacts — .10 A at 125 VAC, .25 A at 28 VDC. **Contact Resistance (Ohms — Initial):** Silver plated brass — .030 max. **Current Carrying Capacity:** 6 A. **Maximum Temperature Rise:** 30°C. **Voltage Breakdown (Sea Level):** 750 VAC. **Rotational Torque (Variable):** 5 to 30 in. oz. **Stop Strength:** Die cast housing material — 8 in. lbs. **Minimum Mechanical Life:** 25,000 cycles. **Available Index Angles:** 30°, 60°, 90°.

Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
747-6565	C3P0112S-A	747-6595	C3P0112N-A	01	02-12	10.14	6.76	5.92
747-6570	C3P0206S-A	747-6600	C3P0206N-A	02	02-06	10.32	6.88	6.02
747-6575	C3P0304S-A	747-6605	C3P0304N-A	03	02-04	10.50	7.00	6.13
747-6580	C3P0212S-A	747-6610	C3P0212N-A	02	02-12	12.54	8.36	7.32
747-6585	C3P0406S-A	747-6615	C3P0406N-A	04	02-06	12.90	8.60	7.53
747-6590	C3P0604S-A	747-6620	C3P0604N-A	06	02-04	13.32	8.88	7.77



Series C4

Standards

- Dialyl Phthalate Material
- 30° Index (2-16 Pos.)
- .375" Shaft Length

The most versatile of all the enclosed rotary switches, the Series C4 provides a fully enclosed, modular, environment-proof package that helps keep dirt and moisture out of the contact area, while locking in lifetime lubricants. The modular design allows for a wide range of switching configurations, while the rugged, wear-compensating detent and thermostat modules provide a powerful construction to satisfy the most demanding industrial, computer or other commercial application. **Electrical Ratings (Resistive):** Silver plated brass contacts — .3 A at 125 VAC, .5 A at 28 VDC. **Contact Resistance (Ohms — Initial):** Silver plated brass (standard material) — .003 or less; Silver alloy — .002 or less. **Current Carrying Capacity:** 15 A. **Maximum Temperature Rise:** 30°C. **Voltage Breakdown (Sea Level):** 1000 VAC. **Rotational Torque (Variable):** 12 to 95 in. oz. **Stop Strength:** Acetal housing material (standard material) — 10 in. lbs.; Die cast housing material — 25 in. lbs. **Minimum Mechanical Life:** 25,000 cycles. **Available Index Angles:** 22.5°, 30°, 36°, 45°, 60°, 90°, 180°.

- Solder Lug Terminals
- Adjustable Stops

Options

- Right Angle, Rear Mount
- Vertical Mount, and Front Mount PC Terminal
- Keylocks
- Spring Return
- UL Listing
- BCD Output

Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
747-6625	C4D0112S-A	747-6685	C4D0112N-A	01	02-12	9.12	6.08	5.32
747-6630	C4D0206S-A	747-6690	C4D0206N-A	02	02-06	9.30	6.20	5.43
747-6635	C4D0304S-A	747-6695	C4D0304N-A	03	02-04	9.48	6.32	5.53
747-6640	C4D0212S-A	747-6700	C4D0212N-A	02	02-12	11.76	7.84	6.86
747-6645	C4D0406S-A	747-6705	C4D0406N-A	04	02-06	12.12	8.08	7.07
747-6650	C4D0604S-A	747-6710	C4D0604N-A	06	02-04	14.88	9.92	8.68

Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
747-6655	C4D0312S-A	747-6715	C4D0312N-A	03	02-12	14.40	9.60	8.40
747-6660	C4D0606S-A	747-6720	C4D0606N-A	06	02-06	14.88	9.92	8.68
747-6665	C4D0904S-A	747-6725	C4D0904N-A	09	02-04	15.42	10.28	9.00
747-6670	C4D0412S-A	747-6730	C4D0412N-A	04	02-12	17.04	11.36	9.94
747-6675	C4D0806S-A	747-6735	C4D0806N-A	08	02-06	17.70	11.80	10.33
747-6680	C4D1204S-A	747-6740	C4D1204N-A	12	02-04	18.36	12.24	10.71

Series C6

Standards

- Polyester Material
- 30° Index (2-12 Pos.)

- .312" Shaft Length
- Solder Lug Terminals
- Adjustable Stops

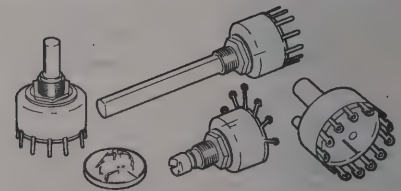
Options

- Rear PC Terminals
- Flag Terminals

The Series C6 is an economical, one deck, washable switch with a minimum mechanical life of 25,000 cycles. This unique design features a 360° housing-to-deck snap fit, insert molded terminals, and O-ring sealing options (both internal shaft and external panel). It is ideal for applications where process or environmental moisture or contamination concerns must be solved. **Electrical Ratings (Resistive):** Silver plated brass contacts — 1.0 A at 125 VAC. **Contact Resistance (Ohms — Initial):** Silver plated brass less than .020 ohms. **Current Carrying Capacity:** 5 A. **Maximum Temperature Rise:** 30°C. **Voltage Breakdown (Sea Level):** 1000 VAC. **Rotational Torque (Variable):** 15 in. oz. **nominal. Stop Strength:** Adjustable stop housing — 5 in. lbs. minimum; Fixed stop housing — 12 in. lbs. **nominal. Minimum Mechanical Life:** 25,000 cycles. **Available Index Angles:** 30°.

Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
—	—	747-6745	C6P0206N-A	02	02-06	5.70	3.80	3.33
—	—	747-6750	C6P0304N-A	03	02-04	7.02	4.68	4.10

Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
—	—	747-6755	C6P0403N-A	04	02-03	7.32	4.88	4.27
—	—	747-6760	C6P0112N-A	01	02-12	5.40	3.60	3.15



Series M6

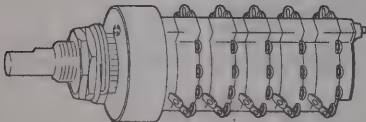
Standards

- Dialyl Phthalate Material
- 30° Index (2-12 Pos.)
- .437" Shaft Length

- Solder Lug Terminals
- Adjustable Stops
- UL Listed

Options

- Keylocks
- Spring Return
- Waterproof Mount



Series M6 switches utilize a technologically advanced, versatile design that enables standard modular units to be combined in a myriad of complex switching applications. They are meticulously hand assembled and tested for the ultimate reliability/quality necessary for exacting applications. All modules are rigidly stacked together into a rugged, vibration-proof unit designed to meet MIL-S-3786, Style SR04 requirements for materials, life, shock, vibration, salt spray, explosion, thermal shock, high altitude, sand, dust, fungus, moisture resistance, etc. **Electrical Specifications. Interrupting Ratings:** 2.5 amps resistive at 120 VAC (UL1054), 2.0 amps resistive at 30 VDC (UL1054). **Continuous Rating:** 12 amps for 20°C max. temperature rise. **Contact Resistance:** .005 ohms (maximum). **Insulation Resistance:** 10⁹ megohms (min.). **Dielectric:** 1500 VRMS initial, minimum (1000 VRMS — UL1054). **Thermal EMF:** Less than .5 microvolts per degree. **Mechanical Specifications. Size:** 1.0" diameter, enclosed construction. **Decks:** 1-20. **Poles:** 1-48. **Positions:** 2-12. **Indexing:** 30°, 36°, 45°, 60°, 90°. **Mounting:** Single hole 3/8"-32 NEF-2A bushing with non-turn washer. **Panel:** 1/4" maximum thickness. **Rotational Torque:** 10-60 oz.-in. **Stop Strength:** 15 in. lbs. (min.). **Temperature Range:** -65°C to 125°C. **Life:** 50,000 cycles (min.) per MIL-S-3786. **Shock:** High-impact per MIL-S-3786. **Vibration:** 10-2000 Hz per MIL-S-3786. **Altitude:** High-altitude to 70,000 ft.

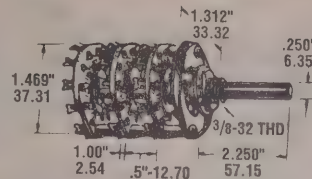
Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
747-6765	M6D0112S-A	747-6795	M6D0112N-A	01	02-12	48.72	32.48	28.42
747-6770	M6D0206S-A	747-6800	M6D0206N-A	02	02-06	51.06	34.04	29.79
747-6775	M6D0304S-A	747-6805	M6D0304N-A	03	02-04	70.95	65.49	60.81

Shorting		Non-Shorting		Poles	Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
747-6780	M6D0212S-A	747-6810	M6D0212N-A	02	02-12	66.72	44.48	38.92
747-6785	M6D0406S-A	747-6815	M6D0406N-A	04	02-06	66.96	44.64	39.06
747-6790	M6D0604S-A	747-6820	M6D0604N-A	06	02-04	104.65	96.60	89.70

Rotary Switches

Series D4C

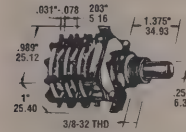
Feature maximum voltage flash-over points, high-Q, low-loss ceramic bodies; minimum inter-circuit capacity; insulated front-back clips. Positive 30° indexing; adjustable stop or continuous rotation. All rated 1.5A @ 28VDC, 500mA @ 115VAC. Hardware incl. **Wt.:** 3 oz./section.



Non-Shorting		Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type				1-49	50-99	100-Up
747-7001	D4C0112N	747-7000	D4C0112S	1	2-12	1	22.49	17.00	12.94
747-7003	D4C0206N	747-7002	D4C0206S	2	2-6	1	22.82	14.91	13.13
747-7006	D4C0212N	747-7004	D4C0212S	2	2-12	2	34.42	22.50	19.81
747-7155	D4C0312N	—	—	3	2-12	3	46.86	30.63	26.97
—	—	747-7010	D4C0406S	4	2-6	2	35.40	23.14	20.38
747-7013	D4C0412N	—	—	4	2-12	4	59.59	38.95	34.30
747-7021	D4C0605N	—	—	6	2-5	2	37.31	24.39	21.48
747-7023	D4C0606N	—	—	6	2-6	3	48.75	31.87	28.06
747-7025	D4C0612N	—	—	6	2-12	6	83.70	54.71	48.18

Series D2D

Positive 30° indexing, adjustable stops. Dual ball side thrust indexing. Sections .203" thick, spaced .031". **Rated:** 0.55A @ 28VDC; make and break, 170mA @ 115VAC. **Capacity:** 7 amps.



Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH		
Stock No.	Mfr.'s Type				1-49	50-99	100-Up
747-0701	D2D0112N	1	2-12	1	20.58	13.45	11.85
747-0703	D2D0206N	2	2-6	1	21.57	14.10	12.41
747-0707	D2D0305N	3	2-5	1	23.78	15.54	13.69
747-0711	D2D0406N	4	2-6	2	30.20	19.74	17.38
747-0721	D2D0605N	6	2-5	2	34.15	22.32	19.66

Series D4C

Excellent quality ceramic sections for use in assembly of special switches for commercial and industrial applications. Designed for use with index assemblies PA-300 and PA-302 below. **Shpg. wt.:** 2 oz.

Shorting		Non-Shorting		Total Poles	No. of Pos.	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-49	50-99	100-Up
747-0800	D4C-0	747-0801	D4C-1	1	2-12	16.56	11.04	9.66
—	—	747-0803	D4C-3	2	2-6	17.10	11.40	9.98
—	—	747-0805	D4C-5	3	2-5	18.90	12.60	11.13

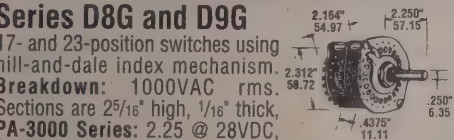
Series D4

Hardware for assembling miniature switches. Each contains a 30° PA index assembly, adjustable stop plate, assorted spacers, tie bolts, nuts, fiber spacer washers, lock washers, instructions, 3 oz.

Stock No.	Mfr.'s Type	Shaft Length	Sections	EACH		
				1-49	50-99	100-Up
747-7045	D4-300	2"	1-3	13.32	8.88	7.77
747-0802	D4-302	6"	7-9	45.90	30.60	26.78

Series D8G and D9G

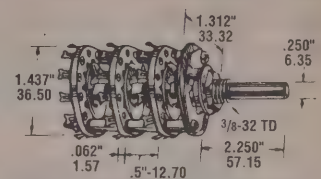
17- and 23-position switches using hill-and-dale index mechanism. **Breakdown:** 1000VAC rms. Sections are 25/16" high, 1/16" thick, **PA-3000 Series:** 2.25 @ 28VDC, 1.0A @ 115VAC; 20° indexing; 2 11/64" wide. **PA-4000:** 1.5A @ 28VDC, 0.230A @ 115VAC; 15° indexing; 1 31/32" wide. **Wt.:** 4 oz.



Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH		
Stock No.	Mfr.'s Type				1-49	50-99	100-Up
747-8001	D8G0117N	1	2-17	1	24.21	15.83	13.94
747-8003	D8G0217N	2	2-17	2	35.94	27.17	23.49
747-7230	D8G0417N	4	2-17	4	54.96	35.93	31.64
747-0806	D9G0123N	1	2-23	1	22.49	14.70	12.94
747-0808	D9G0223N	2	2-23	2	33.64	21.99	19.36
747-0810	D9G0423N	4	2-23	4	53.07	34.69	30.55

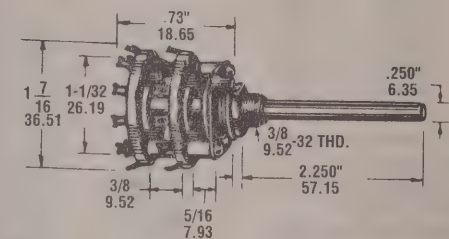
Series D4G

30° indexing; adjustable stop. 1.5A @ 28VDC; 500mA @ 115VAC. Index assemblies and hardware identical to PA-2000 Series. Phenolic insulated. Hardware incl. **Shpg. wt.:** 3 oz.



Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH		
Stock No.	Mfr.'s Type				1-49	50-99	100-Up
747-0842	D4G0111N	1	2-11	1	15.05	9.84	8.66
747-7065	D4G0205N	2	2-5	1	15.07	9.85	8.67
747-0844	D4G0211N	2	2-11	2	20.19	13.20	11.62
747-7080	D4G0303N	3	2-3	1	15.05	9.84	8.66
747-7085	D4G0311N	3	2-11	3	25.32	16.55	14.57
747-0846	D4G0405N	4	2-5	2	20.25	13.24	11.66
747-0848	D4G0411N	4	2-11	4	30.34	19.83	17.46
747-0850	D4G0511N	5	2-11	5	35.92	23.48	20.67
747-0852	D4G0603N	6	2-3	2	20.38	13.32	11.73
747-0854	D4G0605N	6	2-5	3	25.56	16.71	14.21

Series D3C



Miniature ceramic rotary switches, 1.312" diameter. Positive 30° indexing. **Adjust stop:** 1.0A @ 115VAC. 2.6A @ 28VDC. Lockwasher, nut included. **Weight:** 4 oz.

Shorting

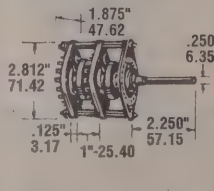
Stock No.	Mfr.'s Type	Total Poles	No. of Pos.	No. of Sec.	EACH		
					1-49	50-99	100-Up
747-0812	D3C0205S	2	2-5	1	35.90	23.46	20.66
747-0814	D3C0111S	1	2-11	1	35.90	23.46	20.66
747-0816	D3C0211S	2	2-11	2	59.96	39.20	34.52
747-0818	D3C0303S	3	2-3	1	36.94	24.15	21.26
747-0820	D3C0405S	4	2-5	2	61.03	39.89	35.13

Non-Shorting

Stock No.	Mfr.'s Type	Total Poles	No. of Pos.	No. of Sec.	EACH		
					1-49	50-99	100-Up
747-0822	D3C0111N	1	2-11	1	35.90	23.46	20.66
747-0824	D3C0205N	2	2-5	1	35.90	23.46	20.66
747-0826	D3C0211N	2	2-11	2	59.96	39.20	34.52
747-0828	D3C0303N	3	2-3	1	36.94	24.15	21.26
747-0830	D3C0405N	4	2-5	2	61.03	39.89	35.13

Series E4C

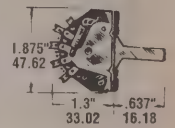
Silicone-treated ceramic switches for transmitters, industrial and commercial controls, and test gear. **Rated** 9A at 115VAC (resistive). **Breakdown:** 3000V rms. 20° positive indexing; adjustable stop. All metal parts except clips, contacts and index spring are cadmium plated. Coin silver contacts. Non-shorting. **Bushing:** 3/8" x 32 thread, 3/8" long. **Flatted shaft:** 1/4" x 2 1/4" from mounting surface. 1/8" thick ceramic sections. 1" between sections. **Wafer size:** 2 x 2 13/16". **Av. wt.:** 4 oz.



Stock No.	Mfr.'s Type	Total Poles	No. of Pos.	No. of Sec.	EACH		
					1-49	50-99	100-Up
747-0832	E4C0117N	1	2-17	1	88.13	57.61	50.73
747-0834	E4C0208N	2	2-8	1	98.01	64.07	56.42
747-0836	E4C0217N	2	2-17	2	151.04	98.73	86.94
747-0838	E4C0305N	3	2-5	1	100.02	65.38	57.57
747-0840	E4C0605N	6	2-5	2	173.00	113.08	99.58

Series E2

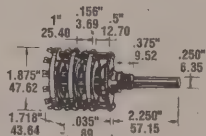
Nylon rotor silver-plated brass clips, contacts, 30° indexing. **Breakdown:** 1000VAC rms. Contacts rated 1.5A @ 28VDC; 230mA @ 115VAC rms. Two 6-32 tapped holes on 1 5/8" ctrs. Phenolic insul. *positive; ‡ pos., spring return. 3 positions.



Non-Shorting		Total Poles	EACH		
Stock No.	Mfr.'s Type		1-49	50-99	100-Up
747-9800*	E2G0203N	2*	13.06	8.54	7.52
747-0858	E2G0203N-1	2‡	13.35	8.72	7.68

Series D7C

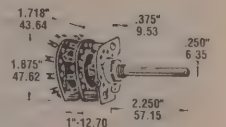
Silicone-treated for band charge and tap-switch use. **Breakdown:** 1500V rms. All rated 2.25A @ 28VDC; 1.0A @ 115VAC, make and break, resistive. **Front plate:** 1 23/32 x 1 7/8" dia. 1/2" from plate and between sections for 1- and 2- sections switches. 1" spacing for others. **Bushing:** 3/8" dia. x 3/8" long. **Shaft:** 1/4" dia. x 2 1/4" long. Positive 30° indexing; 2 adj. stops. Mtg. nut, lockwasher, 3 oz. per section.



Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH		
Stock No.	Mfr.'s Type				1-49	50-99	100-Up
747-0860	D7C0111N	1	2-11	1	22.71	14.85	13.07
747-0862	D7C0211N	2	2-11	2	37.29	24.37	21.46
747-7205	D7C0405N	4	2-5	2	36.72	24.00	21.13
747-0864	D7C0605N	6	2-5	3	50.66	33.11	29.16

Series D7G

Ideal for band changes and general tap switch use where miniaturization not necessary. Index assemblies and hardware, same as Series 2500. Positive 30° indexing. **Rated** 2.25A @ 28VDC, 1.0A @ 115VAC, make and break resistive. Nut washer incl. **Wt.:** 3 oz./sect.



Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH		
Stock No.	Mfr.'s Type				1-49	50-99	100-Up
747-0866	D7G0211N	2	2-11	2	23.02	15.05	13.25

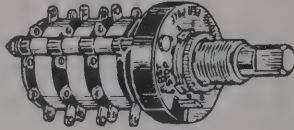
How To Select

42D, 44D, 71D and 56D Series are adjustable stop rotary switches. As listed, they are available with one or two poles per deck. Stop pins or washers can be removed from the front of the switch and replaced to set the number of positions per pole from two to the maximum number noted. Selections of the switch series depends upon the switching current requirements and the size restrictions of the application. The Series 56D is a single deck design with the lowest switching current rating, 200 mA, but requiring the least

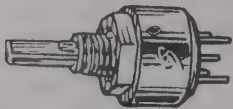
amount of space. The Series 50D and 51D and CD are also single deck designs. Their switching current rating is also 200 mA. The Series 42D and 44D switch up to 1 ampere of current, but are the largest in diameter at one inch. The Series 71D is GRAYHILL's most popular multi-deck switch providing a mid range 250 mA switching in an approximate one-half inch diameter. These switches are form, fit and function equivalent to their fixed stop counterparts, which can also be ordered from Allied Electronics.

42D and 44D Series 1 Amp Adjustable Stop Rotary

Fully enclosed switches interchange with fixed stop models. **Electrical Ratings:** make/break 1 amp, carry 10 amps at 115 VAC, resistive. **Insulation Resistance:** 50,000 megohms initial, 10,000 megohms minimum. Non-shorting contacts. $\frac{3}{16}$ -32NEF bushing. **Behind-Panel Depth:** 1-deck, 1.025"; 2-deck, 1.371"; 3-deck, 1.717"; 4-deck, 2.063". **42D Series:** 10-position switch. 36° indexing. 1" diameter. **44D Series:** 12-position switch. 30° indexing. 1.162" diameter.



Stock No.	Mr.'s Type	Poles	Decks	EACH	
				1-24	25-99
948-7224	42D36-01-1-AJN	1	1	29.11	23.29
948-7225	42D36-01-2-AJN	2	1	30.35	24.28
948-7226	42D36-02-1-AJN	1	2	37.92	30.34
948-7227	42D36-02-2-AJN	2	2	40.43	32.34
948-7228	44D30-01-1-AJN	1	1	29.87	23.90
948-7229	44D30-01-2-AJN	2	1	31.13	24.90
948-7230	44D30-02-1-AJN	1	2	39.69	31.75
948-7231	44D30-02-2-AJN	2	2	42.18	33.74
948-7232	44D30-03-1-AJN	1	3	49.50	39.60
948-7233	44D30-03-2-AJN	2	3	53.21	42.57
948-7234	44D30-04-1-AJN	1	4	59.27	47.42



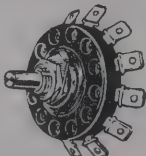
50 and 51 Series 200 mA, 0.5" (12,7) Diameter Rotary Switches

50 and 51 Series single-deck adjustable stop switches with non-shorting contacts. Make/break 200 mA, Type number with P is PC mount, others solder lug. Type number with C is military style, others are not. 50 Series is 36° indexing, 51 Series is 30°.

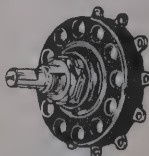
Stock No.	Mr.'s Type	Poles	Positions	EACH	
				1-24	25-99
948-7834	50CD36-01-1-AJN	1	10	18.35	14.68
948-7836	50CD36-01-2-AJN	2	5	22.74	18.19
948-7838	50D36-01-1-AJN	1	10	13.60	10.88
948-7840	50D36-01-2-AJN	2	5	16.81	13.45
948-7842	51CD30-01-1-AJN	1	12	19.31	15.45
948-7844	51CD30-01-2-AJN	2	6	23.50	18.80
948-7846	51D30-01-1-AJN	1	12	14.65	11.72
948-7848	51D30-01-2-AJN	2	6	17.74	14.19
948-7850	50CDP36-01-1-AJN	1	10	18.96	15.17
948-7852	50CDP36-01-2-AJN	2	5	23.36	18.69
948-7854	50DP36-01-1-AJN	1	10	14.22	11.38
948-7856	50DP36-01-2-AJN	2	5	17.42	13.94
948-7858	51CDP30-01-1-AJN	1	12	19.92	15.94
948-7860	51CDP30-01-2-AJN	2	6	24.12	19.30
948-7862	51DP30-01-1-AJN	1	12	15.26	12.21
948-7864	51DP30-01-2-AJN	2	6	18.36	14.69

19 Series 15-Amp Power Tap Rotary Switches

UL Recognized. Single pole, single deck units have 2 to 11 positions plus common, with 30° indexing. Available in solder lug terminal with 0.125" wire hole or Faston terminal with 0.080" wire hole. 15 amps, 120 VAC, non-inductive load. **Contact Resistance:** 10 milliohms at 2 VDC and 100 mA; contacts are non-shorting. **Insulation Resistance:** 100,000 megohms. **Voltage Breakdown:** 2500 VAC.



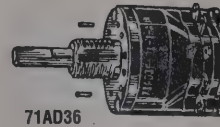
Faston Terminal



Solder Terminal

Stock No.	Mr.'s Type	Poles	Positions	EACH	
				1-24	25-99
948-7274	19001-2UL	2	Solder	18.04	14.43
948-7275	19001-3UL	3	Solder	18.98	15.18
948-7276	19001-4UL	4	Solder	19.95	15.96
948-7277	19001-5UL	5	Solder	20.92	16.74
948-7278	19001-6UL	6	Solder	21.89	17.51
948-7279	19001-7UL	7	Solder	22.85	18.28
948-7280	19001-8UL	8	Solder	23.84	19.07
948-7281	19001-10UL	10	Solder	25.77	20.62
948-7282	19001-11UL	11	Solder	26.71	21.37
948-7283	19101-3UL	3	Faston	18.98	15.18
948-7284	19101-4UL	4	Faston	19.95	15.96
948-7285	19101-5UL	5	Faston	20.92	16.74
948-7286	19101-6UL	6	Faston	21.89	17.51
948-7287	19101-7UL	7	Faston	22.85	18.28
948-7288	19101-8UL	8	Faston	23.84	19.07
948-7289	19101-10UL	10	Faston	25.77	20.62
948-7290	19101-11UL	11	Faston	26.71	21.37

71 Series 1/4 Amp, 1/2" Diameter Adjustable Stop Rotary Switches



71AD36



71ADF36

71 Series multi-deck, single shaft switches are adjustable stop. **Insulation Resistance:** 10,000 megohms minimum. **Voltage Breakdown:** 500 VAC minimum. Meet moisture, shock, salt spray, explosion and stop strength requirements of MIL-S-3786. 71AD are standard style with solder lug terminals and 0.125" diameter shaft; 71BD same but have 0.250" diameter shaft. 71ADF are PC mount with 0.125" diameter shaft; 71BDF same but have 0.250" diameter shaft. All are either 30° or 36° angle of throw. **Behind-Panel Depth:** 1-deck, $\frac{9}{16}$ "; 2-deck, 1".

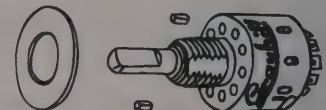
Stock No.	Mr.'s Type	Decks	Positions	EACH	
				1-24	25-99
948-7235	71AD36-01-1-AJN	1	10	13.15	10.52
948-7236	71AD36-01-2-AJN	2	5	13.60	10.93
948-7237	71AD36-02-1-AJN	1	10	17.03	13.62
948-7238	71AD36-02-2-AJN	2	5	18.09	14.47
948-7239	71AD30-01-1-AJN	1	12	13.15	10.52
948-7240	71AD30-01-2-AJN	2	6	13.66	10.93
948-7241	71AD30-02-1-AJN	1	12	17.03	13.62
948-7242	71AD30-02-2-AJN	2	6	18.09	14.47
948-7243	71BD36-01-1-AJN	1	10	13.15	10.52
948-7244	71BD36-01-2-AJN	2	5	13.66	10.93
948-7245	71BD36-02-1-AJN	1	10	17.03	13.62
948-7246	71BD36-02-2-AJN	2	5	18.09	14.47
948-7247	71BD30-01-1-AJN	1	12	13.15	10.52
948-7248	71BD30-01-2-AJN	2	6	13.66	10.93
948-7249	71BD30-02-1-AJN	1	12	17.03	13.62
948-7250	71BD30-02-2-AJN	2	6	18.09	14.47

Printed Circuit Terminals

948-7251	71ADF36-01-1-AJN	1	10	14.37	11.50
948-7252	71ADF36-01-2-AJN	2	5	14.90	11.92
948-7253	71ADF30-01-1-AJN	1	12	14.37	11.50
948-7254	71ADF30-01-2-AJN	2	6	14.90	11.92
948-7255	71ADF30-02-2-AJN	2	6	20.76	16.61
948-7256	71BDF36-01-1-AJN	1	10	14.37	11.50
948-7257	71BDF36-02-1-AJN	1	10	19.72	15.78
948-7258	71BDF36-02-2-AJN	2	5	20.76	16.61
948-7259	71BDF30-01-1-AJN	1	12	14.37	11.50
948-7260	71BDF30-01-2-AJN	2	6	14.90	11.92

56 Series 1/2" Diameter Single Rotary Switches

Economically priced, high quality, single deck rotary switches from GRAYHILL require a minimum of space. Rated to make and break 200 mA of current at 115 VAC or 30 VDC, resistive load for 10,000 cycles of operation. Maximum contact resistance is 100 milliohms, minimum of 10,000 megohms. Insulation resistance, and 600 VAC voltage breakdown. The Series 56 switches that are listed below are adjustable stop to allow you to set and reset the number of positions per pole to suit the application's need. These switches have non-shorting contacts, please contact Allied Electronics for shorting contact types.



Solder Lug Terminals — Part Nos. Containing 'S' Have Shaft/Panel Seal

Stock No.	Mr.'s Type	Poles	Positions	EACH	
				1-24	25-99
948-7166	56D36-01-1-AJN	1	10	8.86	7.09
948-7167	56D36-01-2-AJN	2	5	9.86	7.89
948-7173	56SD36-01-1-AJN	1	10	9.62	7.70
948-7174	56SD36-01-2-AJN	2	5	10.63	8.50
948-8004	56D30-01-1-AJN	1	12	9.15	7.32
948-7165	56D30-01-2-AJN	2	6	10.15	8.12
948-7171	56SD30-01-1-AJN	1	12	9.92	7.94
948-7172	56SD30-01-2-AJN	2	6	10.92	8.74

Printed Circuit Terminals — Part Nos. Containing 'S' Have Shaft/Panel Seal

948-7181	56DP36-01-1-AJN	1	10	9.15	7.32
948-7182	56DP36-01-2-AJN	2	5	10.15	8.12
948-7188	56SDP36-01-1-AJN	1	10	9.92	7.94
948-7189	56SDP36-01-2-AJN	2	5	10.92	8.74
948-8012	56DP30-01-1-AJN	1	12	9.44	7.55
948-7180	56DP30-01-2-AJN	2	6	10.45	8.36
948-8014	56SDP30-01-1-AJN	1	12	10.22	8.18
948-7187	56SDP30-01-2-AJN	2	6	11.22	8.98

Dual-In-Line Package Switches

76 Series Rocker-Actuated DIP Switches

- ▶ High Pressure Spring and Ball Contact System Assures Reliable Switching, Positive Positioning and Immunity To Shock and Vibration
- ▶ Epoxy-Sealed Bases Keep Switches Contamination-Free
- ▶ Sealed Bases Make Underside Of Switch Impenetrable To Cleaning Solutions and Impurities



Rated at 150 mA for 10,000 cycle life, SPST and SPDT DIP switches. Available with low profile, raised and recessed rocker actuators plus, for easy access panel-edge mounting, use the PIANO-DIP® switch. Switch Height With Raised Rocker: .295". With Recessed Rocker: .247". PIANO-DIP Style: .281". 10,000 operation life. Numerical suffix indicates number of rockers. 'S' after suffix indicates top tape seal.

SPST Raised Rocker

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-7602	76SB02	0.28	2.71	1.90	1.25
948-7102	76SB02S	0.28	2.88	2.02	1.32
948-7603	76SB03	0.38	2.78	1.95	1.28
948-7103	76SB03S	0.38	3.00	2.10	1.38
948-7604	76SB04	0.48	2.88	2.02	1.32
948-7104	76SB04S	0.48	3.06	2.14	1.41
948-7605	76SB05	0.58	3.00	2.10	1.38
948-7105	76SB05S	0.58	3.18	2.23	1.46
948-7606	76SB06	0.68	3.06	2.14	1.41
948-7106	76SB06S	0.68	3.24	2.27	1.71

SPDT Tape-Sealed Recessed Rocker

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-7121	76RSB02S	0.28	2.88	2.02	1.78
948-7122	76RSB03S	0.38	3.00	2.10	1.85
948-7123	76RSB04S	0.48	3.06	2.14	1.88
948-7124	76RSB05S	0.58	3.18	2.23	1.96
948-7125	76RSB06S	0.68	3.24	2.27	2.00

SPST Piano-DIP® Switch

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-9016	76PSB02	0.28	3.20	2.24	1.81
948-9017	76PSB02S	0.28	3.38	2.37	1.92
948-9018	76PSB03	0.38	3.29	2.30	1.87
948-9019	76PSB03S	0.38	3.47	2.43	2.13
948-7603	76PSB04	0.48	3.38	2.37	1.92
948-7138	76PSB04S	0.48	3.56	2.49	2.03
948-7631	76PSB05	0.58	3.42	2.39	1.95
948-7139	76PSB05S	0.58	3.61	2.53	2.06
948-7632	76PSB06	0.68	3.52	2.46	2.00

SPST Surface Mount Piano-DIP® Switch

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-9808	76HPSB02	0.28	3.62	2.53	2.38
948-9810	76HPSB04	0.48	3.76	2.63	1.98

SPDT Raised Rocker

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-7115	76SC02	0.38	3.63	3.35	3.03
948-7116	76SC02S	0.38	3.82	3.52	3.18
948-7117	76SC03	0.58	3.87	3.56	3.21

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-7607	76SB07	0.78	3.12	2.18	1.64
948-7107	76SB07S	0.78	3.29	2.30	1.74
948-7608	76SB08	0.88	3.24	2.27	1.71
948-7108	76SB08S	0.88	3.38	2.37	1.78
948-7609	76SB09	0.98	3.29	2.30	1.74
948-7109	76SB09S	0.98	3.47	2.43	1.82
948-7610	76SB10	1.08	3.32	2.32	1.75
948-7110	76SB10S	1.08	3.53	2.47	2.31
948-7612	76SB12	1.28	3.53	2.47	2.31
948-7112	76SB12S	1.28	3.53	2.47	2.31

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-7126	76RSB07S	0.78	3.29	2.30	2.03
948-7127	76RSB08S	0.88	3.38	2.37	2.08
948-7128	76RSB09S	0.98	3.47	2.43	2.13
948-7129	76RSB10S	1.08	3.53	2.47	2.18
948-9813	76HPSB08	.88	4.29	3.10	2.44

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-7140	76PSB06S	0.68	3.70	2.59	2.10
948-7633	76PSB07	0.78	3.61	2.53	2.06
948-7141	76PSB07S	0.78	3.80	2.66	2.16
948-7634	76PSB08	0.88	3.66	2.56	2.07
948-7142	76PSB08S	0.88	3.84	2.69	2.18
948-7635	76PSB09	0.98	3.80	2.66	2.16
948-7143	76PSB09S	0.98	3.99	2.79	2.27
948-7636	76PSB10	1.08	3.94	2.76	2.24
948-7144	76PSB10S	1.08	4.12	2.88	2.33

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-9812	76HPSB06	0.68	3.99	2.79	2.62
948-9813	76HPSB08	0.88	4.29	3.10	2.44

Stock No.	Mfr.'s Type	Length (in.)	EACH		
			1-24	25-99	100-999
948-7118	76SC03S	0.58	4.07	3.75	3.40
948-7119	76SC04	0.78	4.12	3.80	3.43
948-7120	76SC04S	0.78	4.31	3.98	3.58

Machine Insertable MIDIP® Series 90 Surface Mount Series 90HBW, 90HBJ

Series 90

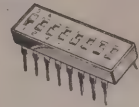
- ▶ Low Profile .165" Alternative

Series 90HBW

- ▶ "Gull-Wing" Surface Mount
- ▶ Pick/Place Compatible
- ▶ Process Compatible To 260°C

Series 90HBJ

- ▶ "J-Bend" Surface Mount
- ▶ Pick/Place Compatible
- ▶ Process Compatible To 260°C



Series 90 — SPST

Stock No.	Mfr.'s Type	No. Per Tube	Switch Length (in.)	EACH		
				1-24	25-99	100-999
948-9020	90B02S	60	0.27	3.53	2.47	2.18
948-9021	90B03S	47	0.37	3.62	2.53	2.23
948-7902	90B04S	37	0.47	3.10	2.17	1.91
948-7904	90B05S	31	0.57	3.53	2.47	2.18
948-7906	90B06S	26	0.67	3.62	2.53	2.23
948-7908	90B07S	23	0.77	3.67	2.57	2.26
948-7910	90B08S	20	0.87	3.05	2.13	1.88
948-7912	90B09S	18	0.97	3.85	2.69	2.36
948-7914	90B10S	16	1.07	4.07	2.85	2.51

Series 90HBW — SPST

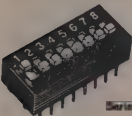
Stock No.	Mfr.'s Type	No. Per Tube	Switch Length (in.)	EACH		
				1-24	25-99	100-999
948-9029	90HBW02S	60	0.27	4.86	3.40	2.76
948-9030	90HBW03S	47	0.37	5.00	3.50	2.84
948-9031	90HBW04S	37	0.47	4.28	3.00	2.43
948-9032	90HBW05S	31	0.57	4.86	3.40	2.76
948-9033	90HBW06S	26	0.67	5.00	3.50	2.84
948-9034	90HBW07S	23	0.77	5.04	3.53	2.86
948-9035	90HBW08S	20	0.87	4.19	2.93	2.38
948-9036	90HBW09S	18	0.97	5.31	3.72	3.01
948-9037	90HBW10S	16	1.07	5.63	3.94	3.20

Series 90HBJ — SPST

Stock No.	Mfr.'s Type	No. Per Tube	Switch Length (in.)	EACH		
				1-24	25-99	100-999
948-9040	90HBJ02S	60	1.27	5.40	3.78	3.07
948-9042	90HBJ03S	47	0.37	5.55	3.89	3.15
948-9044	90HBJ04S	37	0.47	4.75	3.33	2.70
948-9046	90HBJ05S	31	0.57	5.40	3.78	3.07
948-9048	90HBJ06S	26	0.67	5.55	3.89	3.15
948-9050	90HBJ07S	23	0.77	5.60	3.92	3.18
948-9052	90HBJ08S	20	0.87	4.65	3.26	2.64
948-9054	90HBJ09S	18	0.97	5.90	4.13	3.35
948-9056	90HBJ10S	16	1.07	6.25	4.38	3.55

78 Series Slide-Actuated

78 Series. 150 mA DIP switches provide 10,000-operation life. SPST circuitry with raised slide actuators. Switch Height: .295". For other 78 Series slide styles — including SPDT, DPDT and multiple pole single throw circuitries — contact your nearest Allied location. The suffix 'S' on switch type numbers indicates top tape seal is included. Use high pressure spring and ball contact system.



Stock No.	Mfr.'s Type	Actuators	Length (in.)	EACH		
				1-24	25-99	100-999
948-7637	78B02	2	0.28	2.59	1.81	1.60
948-7145	78B02S	2	0.28	2.77	1.94	1.70
948-7638	78B03	3	0.38	2.65	1.88	1.65
948-7146	78B03S	3	0.38	2.86	2.00	1.76
948-7639	78B04	4	0.48	2.77	1.94	1.70
948-7147	78B04S	4	0.48	2.95	2.07	1.81
948-7640	78B05	5	0.58	2.86	2.00	1.76
948-7148	78B05S	5	0.58	3.04	2.13	1.86
948-7641	78B06	6	0.68	2.95	2.07	1.81
948-7149	78B06S	6	0.68	3.13	2.19	1.93
948-7642	78B07	7	0.78	3.00	2.10	1.85
948-7150	78B07S	7	0.78	3.18	2.23	1.96
948-7643	78B08	8	0.88	3.00	2.16	1.90
948-7151	78B08S	8	0.88	3.27	2.29	2.01
948-7644	78B09	9	0.98	3.18	2.23	1.96
948-7152	78B09S	9	0.98	3.36	2.35	2.06
948-7645	78B10	10	1.08	3.22	2.25	1.98
948-7153	78B10S	10	1.08	3.40	2.38	2.10

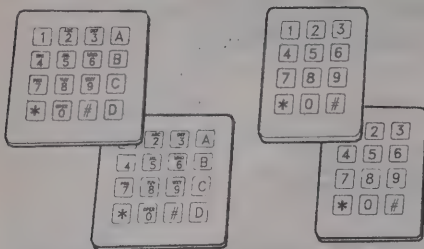
94H Series BCD Coded Output Rotary DIP Switches



Surface Mount Flush	Perpendicular Flush	Perpendicular Extended	Right Angle Flush	Right Angle Extended
.36" x .39" x .20"	.38" x .39" x .20"	.38" x .39" x .47"	.28" x .43" x .40"	.55" x .43" x .44"

- ▶

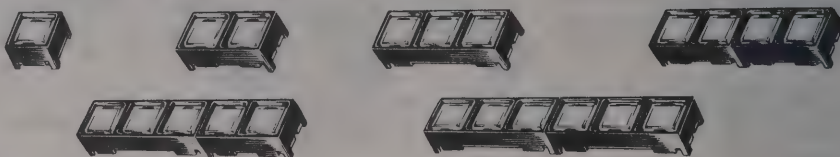
Series 96



- ▶ Economical Conductive Rubber Keypads
- ▶ Excellent Operator Feedback
- ▶ Drop-in Replacement for Dome Contact Keypads
- ▶ Compatible with High Resistance Logic Inputs
- ▶ Choice of Black/White or White/Black Legends
- ▶ Matrix (Row and Column) Circuitry

Stock No.	Mfr.'s Type	Buttons	Legend	EACH	
				1-99	100-499
948-7874	96AB2-102-F	12	Blk on Wht	11.00	8.25
948-7876	96AB2-152-F	12	Wht on Blk	11.00	8.25
948-7878	96BB2-006-F	16	Blk on Wht	12.25	9.19
948-7880	96BB2-056-F	16	Wht on Blk	12.25	9.19

87 Series Keyswitches — Provide Low Profile, Custom In-Line or Keypad Arrangements



- ▶ Stackable Horizontally and Vertically
- ▶ Maintains 1/2" Button Centers
- ▶ Audible and Tactile Feedback
- ▶ Logic Compatible, 10 mA 24 VDC
- ▶ 3,000,000 Operations Per Button

- ▶ Single Pole/Common Bus Circuitry
- ▶ Post Mounted; PC Termination
- ▶ Snap-off Cap for Insertable Legend
- ▶ Legend Insert Sheet Available

Stock No.	Mfr.'s Type	Configuration	Circuitry*	Dimensions .350" Typ. High	EACH	
					1-99	100-499
948-7372	87DC3-201	1 Button	SPST	.490 Typ. Sq.	2.36	1.77
948-7373	87DC3-201	2 Button	SP/CB.	.490 x .990	3.40	2.55
948-7374	87EC3-201	3 Button	SP/CB	.490 x 1.490	4.38	3.29
948-7375	87FC3-201	4 Button	SP/CB	.490 x 1.990	5.85	4.39
948-7376	87GC3-201	5 Button	SP/CB	.490 x 2.490	7.29	5.47
948-7377	87HC3-201	6 Button	SP/CB	.490 x 2.990	8.09	6.07
948-7378	87AC2046	Legends	—	—	3.98	3.67

*SP/CB = Single Pole/Common Bus.

82 Series — Telephone-Like Keypads In Any Button Configuration



- ▶ PC Mountable, Stackable Horizontally or Vertically
- ▶ Maintains Comfortable 11/16" Button Centers
- ▶ Long Stroke, Wiping Contacts
- ▶ Slotted Cap For Insertable Legend
- ▶ Legend Insert Sheet Available

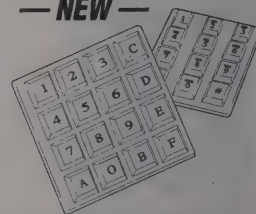
Stock No.	Mfr.'s Type	Buttons	Circuit	EACH	
				1-99	100-499
948-7381	82-101-71	1	SPST	2.96	2.22
948-7382	82-101-74	1	4PST	3.82	2.87
948-7383	82-201-41	2	SPST	4.78	3.59
948-7384	82-201-44	2	4PST	6.42	4.82
948-7385	82-301-61	3	SPST	6.58	4.93
948-7386	82-301-64	3	4PST	8.51	6.38
948-7387	82-601-81	6	SPST	11.99	8.99
948-7388	82-601-84	6	4PST	16.77	12.58

Legend Sheets

948-7389. 82AC2017-1. 1-99	EACH 4.32
100-499	EACH 3.24

Series 84LS 12 and 16 Button Environmentally Sealed Keypads

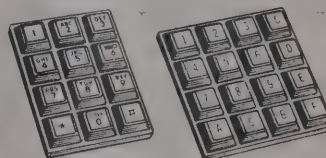
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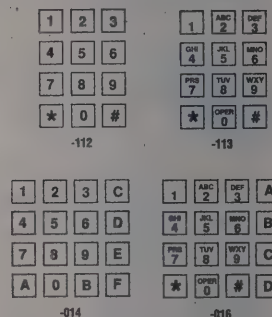
Series 84LS 12 and 16 button keypads have matrix circuitry output and are completely sealed by a silicon rubber boot. Legends are epoxy printed on the top surface of the boot. 3 × 4 legend is numeric telephone and 4 × 4 is hexadecimal notation as shown in the figure. 3 × 4 is 2.35" × 3.1"; 4 × 4 is 3.1" × 3.1". Termination accommodates standard connector. Integral studs mount to panel. Rated for 3,000,000 operations per button; 10 mA at 24 VDC.

948-9820, 84LS-AB2-112, 3 × 4 Keypad, Matrix. 1-99	EACH 37.90
100-499	EACH 34.98
948-9822, 84LS-BB2-014, 4 × 4 Keypad, Matrix. 1-99	EACH 40.55
100-499	EACH 37.43

84S Series Environmentally Sealed Keyboards



- ▶ Silicone Rubber Boot Keyboard Seal
- ▶ Logic Compatible; 3,000,000 Operations
- ▶ Standard RFI/EMI Shielding Available
- ▶ Audible and Tactile Feedback
- ▶ Stud Mounting
- ▶ Comfortable 3/4" Button Centers
- ▶ Matrix (Row and Column) Circuitry



EMI/RFI Shielded

Stock No.	Mfr.'s Type	Buttons	EACH	
			1-99	100-499
948-7800	84S-AB2-112-N	12	42.81	32.11
948-7802	84S-AB2-113-N	12	42.81	32.11
948-7804	84S-AC2-112-N	12	48.31	36.23
948-7806	84S-AC2-113-N	12	48.31	36.23
948-7810	84S-BB2-014-N	16	45.85	34.39
948-7812	84S-BB2-016-N	16	45.85	34.39
948-7814	84S-BC2-014-N	16	54.38	40.78
948-7816	84S-BC2-016-N	16	54.38	40.78

Non-Shielded

948-7818	84SN-AB2-112-N	12	42.59	31.94
948-7820	84SN-AB2-113-N	12	42.59	31.94
948-7822	84SN-AC2-112-N	12	48.06	36.05
948-7824	84SN-AC2-113-N	12	48.06	36.05
948-7826	84SN-BB2-014-N	16	45.62	34.22
948-7828	84SN-BB2-016-N	16	45.62	34.22
948-7830	84SN-BC2-014-N	16	54.11	40.58
948-7832	84SN-BC2-016-N	16	54.11	40.58

Pushbutton Switches and Hardware

Pushbutton Switches and Hardware



Butt Contact Switches (A, B, C, K)

- ▶ Miniature and Economical SPST Switches
- ▶ Positive Feel (30-17), Overtravel (30-15), and SPDT PC Mount (M) Versions

Wiping Contact Types (D, E, F, G, I, J)

- ▶ Self-Cleaning, Reliable At Low Voltage
- ▶ SPDT and DPDT Circuitry
- ▶ Capped (46-102), and Decorative (I, J) Styles

Snap Action Contact Types (H)

- ▶ Rapid Make and Break For High Current

Accessories (for D, H)



- ▶ Decorative Bezel (7C) Replaces Mounting Nut
- ▶ Guard (10C) Prevents Accidental Actuation

Type 7C1040-1. Overall Diameter: 0.77".

948-0001.....EACH .65

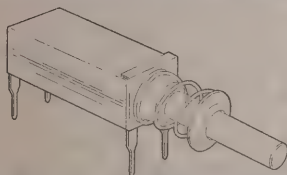
Type 10C1015-1. Overall Diameter: 0.89".

948-0002.....EACH .81

Stock No.	Mfr.'s Type	Fig.	Amps 115 VAC Res.	Circuitry	Button	Dimensions			EACH		
						Mfg. Hole	Behind Panel	O.A. Ht.	1-9	100-499	500-999
948-7190	39-1	A	1/2	SPST-NO	Red	11/64	.315	.615	3.10	2.32	1.98
948-7191	39-2	A	1/4	SPST-NC	Blk	11/64	.490	.780	4.79	3.59	3.07
948-7192	39-3	A	1/2	SPST-NO	Blk	11/64	.315	.615	3.10	2.32	1.98
948-7193	30-1	B	1	SPST-NO	Red	17/64	.592	.992	2.04	1.53	1.31
948-7194	30-2	B	1	SPST-NC	Blk	17/64	.605	1.005	2.29	1.72	1.47
948-7195	30-3	B	1	SPST-NO	Blk	17/64	.592	.992	2.04	1.53	1.31
948-7196	30-15	B	1	SPST-NO	Red	17/64	.667	1.077	2.54	1.90	1.63
948-7197	30-17/Red	C	1	SPST-NO	Red	31/64	.958	1.350	5.02	3.76	3.21
948-7198	10-9	D	1	SPST-NO	Blk	31/64	.965	1.500	3.61	2.71	2.31
948-7199	4001	D	1	SPST-NO	Blk	31/64	.965	1.500	3.61	2.71	2.31
948-7200	4002	D	1	SPST-NC	Blk	31/64	.965	1.500	3.61	2.71	2.31
948-7201	23-1	E	1/4	SPST-NO	Red	21/64	.633	1.059	3.99	2.99	2.55
948-7202	46-101/Red	F	1/4	SPDT-BBM	Red	17/64	.890	1.327	3.87	2.90	2.48
948-7203	46-101/Blk	F	1/4	SPDT-BBM	Blk	17/64	.890	1.327	3.87	2.90	2.48
948-7204	46-102/Red	F	1/4	SPDT-BBM	Red	17/64	.890	1.327	3.88	2.91	2.48
948-7205	46-102/Blk	F	1/4	SPDT-BBM	Blk	17/64	.890	1.327	3.88	2.91	2.48
948-7206	46-110/Red	F	1/4	SPDT-BBM	Red	17/64	.890	1.327	3.77	2.83	2.41
948-7207	46-200/Red	G	1/4	DPDT-BBM	Red	17/64	.921	1.560	7.45	5.59	4.77
948-7208	46-200/Blk	G	1/4	DPDT-BBM	Blk	17/64	.921	1.560	7.45	5.59	4.77
948-7210	2201	H	10	SPSR-NO	Red	31/64	1.176	1.903	10.92	8.19	6.99
948-7211	2202	H	10	SPST-NC	Blk	31/64	1.176	1.903	11.65	8.74	7.46
948-7212	46-01-08-500-0303	I	1/4	DPDT	Red	.51 sq.	1.194	1.380	12.25	12.94	11.04
948-7213	46-05-05-502-0707	J	1/4	SPDT-BBM	Blk	.51 sq.	1.179	1.527	11.35	8.51	7.26
948-7214	46-05-05-502-0303	J	1/4	SPDT-BBM	Red	.51 sq.	1.179	1.527	11.35	8.51	7.26
948-7215	46-05-07-502-0707	J	1/4	SPDT-BBM	Blk	.51 sq.	1.428	1.776	16.81	12.61	10.76
948-7216	46-05-07-502-0303	J	1/4	SPDT-BBM	Red	.51 sq.	1.428	1.776	16.81	12.61	10.76
948-7217	46-05-08-502-0707	J	1/4	DPDT-BBM	Blk	.51 sq.	1.188	1.536	15.10	11.33	9.66
948-7218	46-05-08-502-0303	J	1/4	DPDT-BBM	Red	.51 sq.	1.188	1.536	15.10	11.33	9.66
948-7219	30-05-01-502-0707	J	1	SPST-NO	Blk	.51 sq.	.932	1.280	13.95	10.46	8.93
948-7220	30-05-01-502-0303	J	1	SPST-NO	Red	.51 sq.	.932	1.280	13.95	10.46	8.93
948-7221	30-04-04-502-0303	K	1	SPST-NO	Red	.51 sq.	1.132	1.480	17.74	13.31	11.35
948-7222	39-251/Red	K	1/4	SPDT-BBM	Red	PC	—	.328	1.84	1.38	1.18
948-7223	39-251/Blk	K	1/4	SPDT-BBM	Blk	PC	—	.328	1.84	1.38	1.18

Series 38 Miniature Alternate Action Pushbutton Switches

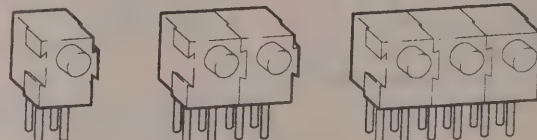
— NEW —



Alternate Action Pushbutton Switch can be used as ON/OFF switch with silver plated contacts. Mounted on PC board, dimensions are 1.25" D x .35" H x .32" W. Rated for 25,000 operations. Silver-Plated contacts rated 1.0 A at 28 VDC. Gold-plated contacts rated 2 A at 30 VDC. O-ring sealed switches are process compatible.

Stock No.	Mfr.'s Type	Contact	Sealed	EACH	
				1-99	100-499
948-9800	38AT-2-H-1-N	Gold	No	3.85	3.55
948-9802	38AT-2-H-1-S	Gold	O-ring seal	4.35	4.01
948-9804	38AT-2-H-2-N	Silver	No	3.85	3.55
948-9806	38AT-2-H-2-S	Silver	O-ring seal	4.35	4.01

Miniature, Edge Mount, Stackable, Pushbutton Switches, and LEDs

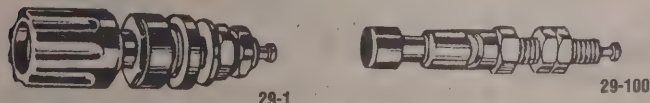


- ▶ Stackable, Provides Custom Switch Arrangements
- ▶ .200" Button Centers When Stacked
- ▶ SPST-N.O., SPST-N.C. Circuitry In The Same Package
- ▶ Process Compatible, Internally Sealed Plunger
- ▶ Status/Reset Or Press To Test Functions With Companion LED
- ▶ Rated At 1/4 Amp At 115 VAC Resistive For 500,000 Operations

948-7500.	Type 32-1. SPST-N.O., SPST-N.C. 1-99.....	EACH 1.82
948-9814.	Type 32LED-Red. Red LED and holder, Red body. 1-99.....	EACH .73
948-9816.	Type 32LED-GRN. Green LED and holder, Red body. 1-99.....	EACH .73
948-9818.	Type 32LED-YEL. Yellow LED and holder, Red body. 1-99.....	EACH .73

Hardware

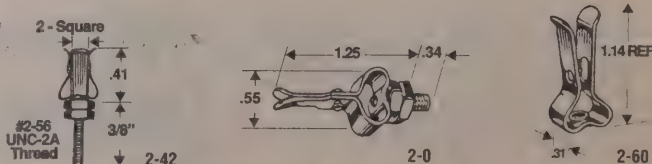
29 Series Binding Posts



- ▶ Straight Skirt Binding Posts Rated Up To 15 A For 3/16" Panels (29-1)
- ▶ 20 A Push-Post™ Has Spring Pressure To Assure Positive Contact; In Standard (29-100), Capless (29-110), and Insulated (29-104) Versions

Stock No.	Mfr.'s Type	Cap Color	Mounting Hole Dia. (In.)	EACH		
				1-99	100-499	500-999
948-7390	29-1B	Black	3/8	3.98	3.67	3.41
948-7391	29-1R	Red	3/8	3.98	3.67	3.41
948-7392	29-100B	Black	11/64	2.66	2.46	2.28
948-7393	29-100R	Red	11/64	2.66	2.46	2.28
948-7394	29-110	No Cap	11/64	2.53	2.02	1.90
948-7395	29-104B	Black	29/64	3.65	3.36	3.12
948-7396	29-104R	Red	29/64	3.65	3.36	3.12

2 Series Test Clips



- ▶ Standard Size Test Clips With (2-0) and Without (2-60) Stud
- ▶ Threaded Miniature Test Clip (2-20) Mounts On Thick Panels Up To .25"
- ▶ Ultra Miniature Clips Save Space and Handle Single Or Double Leads

Stock No.	Mfr.'s Type	Mounting	Height (In.)	EACH		
				1-99	100-499	500-999
948-7397	2-0	Std. Thread Stud	1.59	1.54	1.41	1.31
948-7398	2-60	Studless	1.14	1.54	1.41	1.31
948-7399	2-20	Mini Thread Stud	1.16	1.74	1.60	1.48
948-7400	2-41	Ultra. Single	.79	1.74	1.60	1.48
948-7401	2-42	Ultra. Double	.79	1.36	1.72	1.60



Reed Switches

Highest quality reed switches feature contacts hermetically sealed in a protective atmosphere. Protected contacts mean reliable operation in wet, oily, dirty—even explosive—environments.

Glass capsule size ranges from a compact 2-inch glass length down to under 1/4-inch long! Ideal for use in proximity switches, flow meters, counting devices, limit switches, reed relays and precision instrumentation.

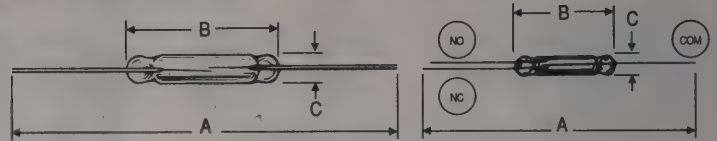
Actuate time: 3 millisecond or less on 2-inch capsules; 1 millisecond or less on capsules under 1-inch in length.

Typical life expectancy 50 million operations. **Contacts:** Form A (SPST-N.O.) or Form C (SPDT), may be actuated by permanent magnet or coil. Magnets and coils sold below.

Average shipping weight: 1 ounce each.

Microminiature Reed Switches

Stock No.	Mfr.'s Type*	Form†	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
			A	B	C								1-24	25-49
808-0001	HSR-003DT	A	1.050	.210	.055	0.25	0.01	30	150	5-15	M-01	C-01	2.56	2.13
808-0002	HSR-067RT	A	1.240	.460	.070	4.00	0.20	30	250	15-25	M-01	C-01	1.40	1.16
808-0003	HSR-042RT	A	1.850	.370	.090	4.00	0.20	100	200	25-35	M-02	C-01	2.18	1.82
808-0004	HSR-069RT	A	1.240	.540	.101	4.00	0.20	30	250	20-40	M-02	C-01	1.14	0.95



Miniature Reed Switches

Stock No.	Mfr.'s Type*	Form†	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
			A	B	C								1-24	25-49
808-0005	HSR-520RT	C	2.000	.600	.125	3.0	0.25	100	200	15-40	M-02	C-02	3.54	2.95
808-0006	HSR-102RT	A	2.190	.800	.122	10.0	0.50	200	350	20-40	M-02	C-02	1.14	0.95
808-0007	HSR-101RT	A	2.090	.800	.091	10.0	0.50	200	300	20-40	M-02	C-02	1.08	0.90
808-0008	HSR-1015RT	A	2.190	.800	.101	10.0	0.50	200	350	20-40	M-02	C-02	1.06	0.88
808-0009	HSR-510RT	C	2.000	.590	.105	3.0	0.25	100	200	20-40	M-02	C-02	3.06	2.55
808-0010	HSR-740RT	A	2.190	.800	.101	10.0	0.50	300	1200	25-35	M-02	C-02	4.76	3.97

Standard Reed Switches

Stock No.	Mfr.'s Type*	Form†	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
			A	B	C								1-24	25-49
808-0011	HSR-190RT	A	3.230	2.100	.210	15.0	1.00	250	500	60-80	M-04	C-04	1.94	1.62
808-0012	HSR-630RT	C	3.390	1.300	.210	25.0	1.00	200	250	40-70	M-04	C-04	2.71	2.48
808-0013	HSR-194WT	A	3.230	2.100	.210	50.0	2.00	350	500	65-75	M-04	C-04	3.34	2.78

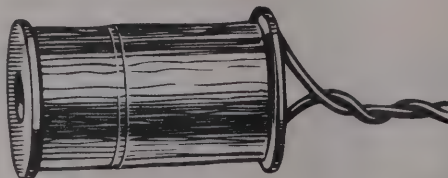
High Voltage and High Power Reed Switches

Stock No.	Mfr.'s Type*	Form†	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
			A	B	C								1-24	25-49
808-0014	HSR-830RT	C	3.390	1.300	.210	25.0	1.00	250	1000	65-85	M-03	C-04	4.20	3.50
808-0015	HSR-834WT	C	3.390	1.300	.210	100.0	3.00	500	1000	65-80	M-03	C-04	5.80	4.83
808-0016	HSR-V10K	A	3.230	2.100	.210	50.0	3.00	7500	10000	100-140	M-04	C-03	7.86	6.55
808-0017	HSR-780RT	A	3.200	2.000	.215	25.0	1.50	1500	3000	60-80	M-04	C-04	3.28	2.73
808-0018	HSR-790WT	A	3.230	2.000	.215	50.0	2.50	1000	2500	60-80	M-04	C-04	4.36	3.63
808-0019	HSR-156WT	A	3.200	1.700	.190	100.0	3.00	50	300	60-90	M-04	C-03	3.04	2.53

Notes: † Form A: SPST; Form C: SPDT. *R: Rhodium Contacts; D: Durel Contacts; W: Tungsten Contacts; T: Tin-Plated External Leads (Last 2 letters in Type No.)

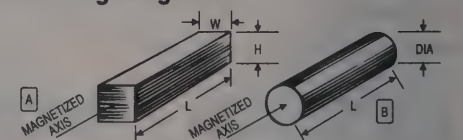
Reed Switch Test Coils

The coils described below are used for testing magnetic characteristics of reed switches. Pull-In, Drop-Out, Operate Time, Bounce Time, and Release Time are typical parameters measured using one of these coils. Coil specifications reference EIA/NARM RS 421-A for dry reed switches. MIL Spec MIL-S-55433.



Stock No.	Mfr.'s Type	NARM RS-421 Coil #	MIL-S-55433 Coil #	Number of Turns	Approx. Coil Ohms	Bobbin Dimensions Length x I.D. x O.D.	Recommended		EACH	
							Maximum Current	Maximum Voltage	1-24	25-49
808-0021	C-01	I	B	5,000	830	.435 x .110 x .325	0.02	24 VDC	8.20	6.83
808-0022	C-02	II	A	10,000	3700	.775 x .125 x .350	0.02	40 VDC	12.36	10.30
808-0023	C-03	III	C	10,000	1400	1.100 x .250 x .700	0.02	40 VDC	8.43	7.78
808-0024	C-04	IV	D	10,000	600	2.050 x .225 x .575	0.02	24 VDC	12.36	10.30

Actuating Magnets



The quality magnets below are available for operation of our dry reed switches. They feature temperature stable Alnico V material magnetized lengthwise for strong consistent operation. The variety of sizes enables you to match your proximity or motion application to our switch and magnet with ease and satisfaction.

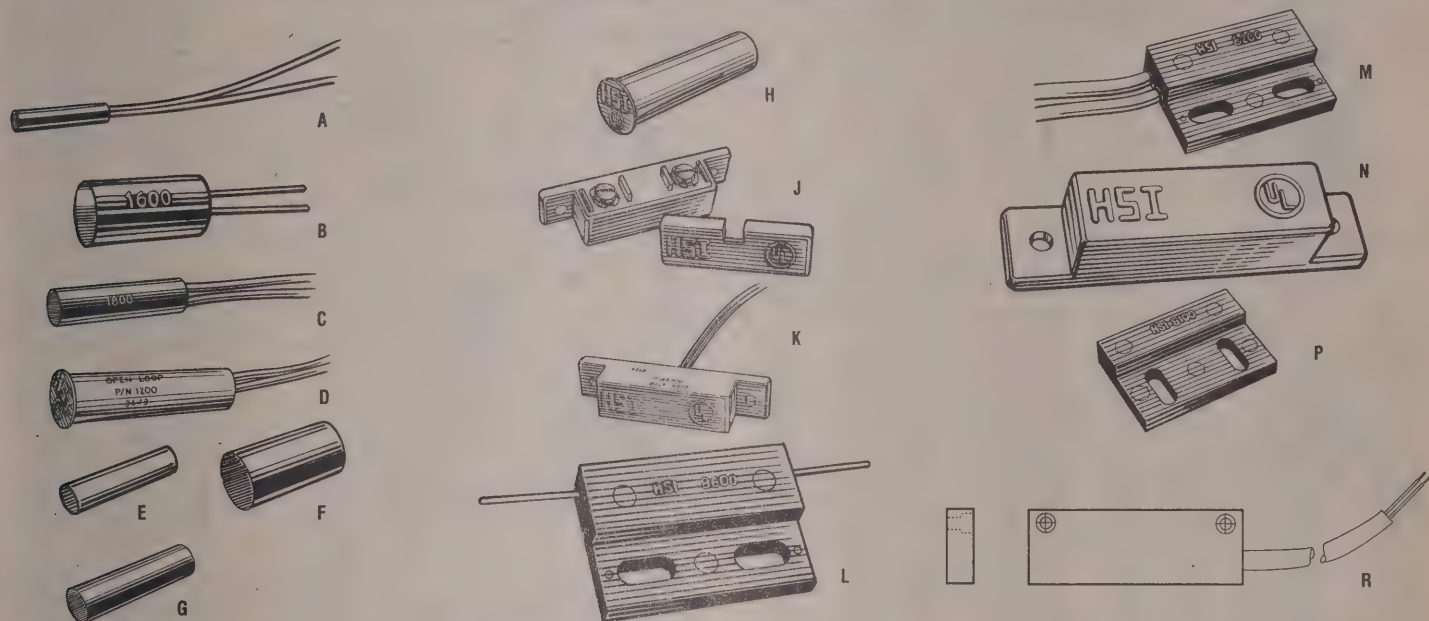
Stock No.	Mfr.'s Type	Fig.	Size Inches	EACH	
				1-24	25-49
808-0025	M-01	A	1/16 x 1/16 x 1/2	1.56	1.30
808-0026	M-02	A	1/8 x 1/8 x 3/4	1.98	1.85
808-0027	M-03	A	3/16 x 3/16 x 1	2.12	1.95
808-0028	M-04	A	1/4 x 1/4 x 1	2.32	2.14
808-0029	M-05	B	1/4 Dia. x 1.4	2.86	2.38



Proximity Sensors

Hermetic Switch, Inc. manufactures a variety of two part magnetic proximity sensors (sensor and actuator). All sensors feature hermetically sealed reed switch contacts that can survive harsh environments. Specially selected epoxy potting materials and rugged plastic cases withstand the impacts and forces of the real world. Many models are listed with Underwriters Laboratories, verifying that they have passed rigorous testing. The

sensors listed in this catalog are designed for use in alarm systems, automotive, consumer products, industrial controls, safety interlock, and many other applications. New to the Hermetic Switch line the 9000 series Power Proximity Sensors (Fig. R below) which offer contact ratings up to 200 watts D.C. Leaded units have color coded leads for easy identification.



Power Proximity Sensors

Stock No.	Mfr.'s Type	Form ^a	Switching Capabilities					Dimensional Data Inches				Fig.	Notes	EACH	
			Max Watts	Max VAC	Max VDC	Max Amps	Brkdn VDC Min.	Length	Diameter Width	Wire Length	Oper. Dist.			1-24	25-49
808-9100	9100	A	25	120	120	1.0	200	3.00	1.000	12	.750 ¹	R	SPST-NO	4.53	4.18
808-9105	9200	B	25	120	120	1.0	200	3.00	1.000	12	.750 ¹	R	SPST-NC	5.18	4.78
808-9110	9300	C	25	120	120	1.0	200	3.00	1.000	12	.750 ¹	R	SPDT	5.82	5.37
808-9115	9125	A	100	120	120	3.0	300	3.00	1.000	12	.750 ¹	R	SPST-NO	5.63	5.20
808-9120	9225	B	100	120	120	3.0	150	3.00	1.000	12	.750 ¹	R	SPST-NC	6.27	5.78
808-9125	9325	C	100	120	240	3.0	150	3.00	1.000	12	.750 ¹	R	SPDT	6.53	6.03
808-9130	9150	A	200	240	240	3.0	300	3.00	1.000	12	.500 ¹	R	SPST-NO	6.90	6.37
808-9135	9250	B	200	240	240	3.0	300	3.00	1.000	12	.500 ¹	R	SPST-NC	7.50	6.92
808-9140	9350	C	200	240	240	3.0	300	3.00	1.000	12	.500 ¹	R	SPDT	8.07	7.45
808-9145	9000		Actuator for 9000 Series					3.00	1.000	—	—	—	Matched Actuator	3.62	3.34

Cylindrical Proximity Sensors

808-1025*	808-1030†	1100	A	3.00	30	30	.25	200	1.510	.365	6	.750*	D	UL Listed	2.05	1.89
808-1035*	808-1040†	1200	B	3.00	30	30	.25	200	1.510	.365	6	.750*	D	UL Listed	3.56	2.97
808-1045*	808-1050†	1300	C	3.00	30	30	.25	200	1.510	.365	6	.750*	D	UL Listed	3.72	3.10
808-2000‡	—	1500	A	0.25	30	30	.01	150	0.480	.095	3	.125*	A	World's Smallest	6.90	5.75
808-2001‡	—	1600	A	3.00	100	100	.25	200	0.500	.250	1	.125*	B	PC Board Design	3.46	2.88
808-2002‡	—	1700	A	7.00	100	100	.25	250	1.000	.250	6	.200*	C	Fits 1/4" hole	3.08	2.57
808-2003‡	—	1800	B	3.00	100	100	.25	200	1.000	.250	6	.200*	C	Fits 1/4" hole	5.60	4.67
808-2004‡	—	1900	C	3.00	100	100	.25	200	1.000	.250	6	.200*	C	Fits 1/4" hole	5.94	4.95
808-2006*	808-2007†	1000	Actuator for 1100, 1200, 1300					1.510	.365	—	—	H	UL Listed	2.00	1.67	
808-2008*	—	1005	Actuator for part 1500					0.440	.100	—	—	E	Alnico Magnet	1.36	1.13	
808-2009*	—	1006	Actuator for part 1600					0.500	.250	—	—	F	Custom Actuator	1.98	1.65	
808-2010*	—	1007	Actuator for 1700, 1800, 1900					1.000	.250	—	—	G	Matched Actuator	2.52	2.10	

Screw Mounted Proximity Sensors

Stock No.		Mfr.'s Type	Form ^a	Switching Capabilities					Dimensional Data Inches					Fig.	Notes	EACH	
				Max Watts	Max VAC	Max VDC	Max Amps	Brkdn VDC Min.	Length	Width	Thick	Wire Length	Oper. Dist.			1-24	25-49
808-1055*	808-1060†	5100	A	3.0	30	30	0.25	200	2.562	.750 ¹	.575	—	1.0"	J	UL Listed	2.22	2.05
808-1065*	808-1070†	5200	B	3.0	30	30	0.25	200	2.562	.750 ¹	.575	—	1.0"	J	UL Listed	3.70	3.08
808-1075*	808-1080†	5300	C	3.0	30	30	0.25	200	2.562	.750 ¹	.575	—	1.0"	J	UL Listed	4.02	3.35
808-1085*	808-1090†	6100	A	3.0	30	30	0.25	200	2.562	.550	.575	6.000	1.0"	K	UL Listed	2.17	2.00
808-1095*	808-1100†	6200	B	3.0	30	30	0.25	200	2.562	.550	.575	6.000	1.0"	K	UL Listed	3.70	3.08
808-1105*	808-1110†	6300	C	3.0	30	30	0.25	200	2.562	.550	.575	6.000	1.0"	K	UL Listed	3.98	3.32
808-1000‡	—	8200 ²	A	10.0	200	200	0.50	250	1.125	.750	.250	6.000	0.5	M	UL Listed	2.68	2.23
808-1005‡	—	8300 ²	C	3.0	100	100	0.25	300	1.125	.750	.250	6.000	0.5	M	UL Listed	4.84	4.03
808-1010‡	—	8400 ²	B	3.0	100	100	0.25	200	1.125	.750	.250	0.450	0.5	L	Low Profile	3.26	2.72
808-1015‡	—	8500 ¹	A	360.0	240 ²	—	1.50	400	1.125	.750	.250	6.000	0.5	M	High Power	9.46	7.88
808-1016‡	—	8510	B	360.0	240 ²	—	1.50	400	1.125	.750	.250	6.000	0.5	M	High Power	9.46	7.88
808-1155‡	—	8600 ²	A	10.0	200	200	0.50	350	1.125	.750	.250	0.450	0.5	L	Low Profile	2.18	2.02
808-2011*	808-2012†	5000	Actuator for 5100, 5200, 5300						2.562	.550	.575	—	—	N	UL Listed	2.76	2.30
808-2013*	808-2014†	6000	Actuator for 6100, 6200, 6300						2.562	.550	.575	—	—	N	UL Listed	2.76	2.30
808-1020‡	—	8100 ³	Actuator for 8000 Series						1.125	.750	.250	—	—	P	Custom Actuator	2.17	2.00

*Brown. †White. ‡Black. Notes: 1. Parts #8500 and #8510 are for AC loads only. Sensor will latch on with DC loads and will remain on until voltage is removed. 2. 8000 series sensors: .125 wide x .281 long horizontal slot to .656 centers. 3. 8100 actuator: .125 wide x .350 long vertical slot on .625 centers. 4. A = SPST N.O.; B = SPST N.C.; C = SPDT

Oiltight Control Units



Oiltight Control Units

UL Listed and CSA Approved

The majority of IDEC assembled control units are UL Listed and CSA Certified. Contact IDEC for details.



FILE NO.
E70646



FILE NO.
LR48366

Degrees of Protection

Units	NEMA	IEC Pub 529
Pushbuttons	Type	IP65
Pilot Lights	Type	IP65
Illuminated Pushbuttons	Type	IP65
Selector Switches	1, 2, 3, 3R, 4, 4 x, 5, 12, 13	IP65

LED Lamp Ratings

Rated Voltage	24 VDC	120 VAC
Rated Current	13mA	8 mA
Lamp Base	T3-1/4 Miniature Bayonet Base	
Color Code	(*) Red, Green, Amber	

Contact Ratings

Rated Operational Current	AC (Inductive Load) 120 V/6 A, 240 V/3 A, 480 V/1.5 A, 600 V/1.2 A	DC (Resistive Load) 120 V/2 A, 240 V/1 A, 480 V/0.4 A
Rated Thermal Current	10A	
Rated Insulation Voltage	600 VAC/DC	

Note: UL rating-Heavy pilot duty 600 V maximum.

Transformer Ratings

Primary/Secondary	Application Rating Incandescent Lamp
120 V/6 V	6 to 7 V/1 W

Note: UL rating: primary voltage 120 V to 480 VAC. Secondary Voltage Rating: 6.3 V/1 W.

General Specifications

Dielectric Strength:	2,500 V AC, 1 minute, Between live and dead parts (Full voltage units: 1,000 V AC, 1 minute)
Mechanical Life (Minimum Operations):	Pushbuttons and Illuminated Pushbuttons: Momentary: 5,000,000 oper. Others: 500,000 Selector Switches Non-Illuminated and Illuminated: 500,000
Electrical Life (Minimum Operations):	500,000 (Except pilot lights) Operating Frequency: 30 oper./min. Duty Rate 40%

Pushbuttons, Switches, and Pilot Lights

Flush Mount Momentary Action Pushbuttons (Fig.'s A and B)

Fig. A 1 13/64" (30mm) Full Size

Stock No.	Mfr.'s Type	Color	Contacts	EACH		
				1-24	25-49	50-99
814-0001	ABD110N-R	Red	1NO	20.00	15.27	12.93
814-0004	ABD101N-R	Red	1NC	20.00	15.27	12.93
814-0007	ABD111N-R	Red	1NO-1NC	27.14	20.74	17.54



A

Fig. B 7/8" (22mm) Miniature Size

Stock No.	Mfr.'s Type	Color	Contacts	EACH		
				1-24	25-49	50-99
814-0010	ABW110-R	Red	1NO	13.69	10.45	8.84
814-0013	ABW101-R	Red	1NC	13.69	10.45	8.84
814-0016	ABW111-R	Red	1NO-1NC	20.12	15.38	13.00



B

Mushroom Type-Emergency Stop-Momentary Pushbuttons (Fig.'s C and D)

Fig. C 1 13/64" (30mm) Full Size

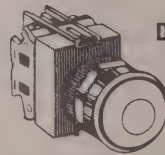
Stock No.	Mfr.'s Type	Color	Contacts	EACH		
				1-24	25-49	50-99
814-0019	ABD310N-R	Red	1NO	34.29	26.19	22.15
814-0020	ABD301N-R	Red	1NC	34.29	26.19	22.15
814-0021	ABD311N-R	Red	1NO-1NC	41.43	31.64	26.77



C

Fig. D 7/8" (22mm) Miniature Size

Stock No.	Mfr.'s Type	Color	Contacts	EACH		
				1-24	25-49	50-99
814-0022	ABW410-R	Red	1NO	20.12	15.38	13.00
814-0023	ABW401-R	Red	1NC	20.12	15.38	13.00
814-0024	ABW411-R	Red	1NO-1NC	26.55	19.50	16.50



D

Maintained Selector Switches-Black with White Insert (Fig.'s E and F)

Fig. E 1 13/64" (30mm) Full Size

Stock No.	Mfr.'s Type	Number of Positions	Contacts	EACH		
				1-24	25-49	50-99
814-0025	ASD210N	2	1NO	24.76	18.92	16.01
814-0026	ASD201N-116	2	1NC	24.76	18.92	16.01
814-0027	ASD211N	2	1NO-1NC	31.90	24.38	20.62
814-0028	ASD320N	3	2NO	31.90	24.38	20.62
814-0029	ASD302N	3	2NC	31.90	24.38	20.62



E

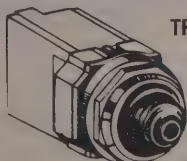
Fig. F 7/8" (22mm) Miniature Size

Stock No.	Mfr.'s Type	Number of Positions	Contacts	EACH		
				1-24	25-49	50-99
814-0030	ASW210	2	1NO	17.97	13.73	11.61
814-0031	ASW201-116	2	1NC	17.97	13.73	11.61
814-0032	ASW211	2	1NO-1NC	24.41	18.64	15.77
814-0033	ASW320	3	2NO	24.41	18.64	15.77
814-0034	ASW302	3	2NC	24.41	18.64	15.77



F

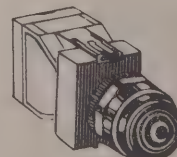
Round Domed Lens Pilot Lights (Fig.'s G, H, J, and K)



TRANSFORMER TYPE
G



DIRECT TYPE
H



TRANSFORMER TYPE
J



DIRECT TYPE
K

Fig.'s G and H 1 13/64" (30mm) Full Size

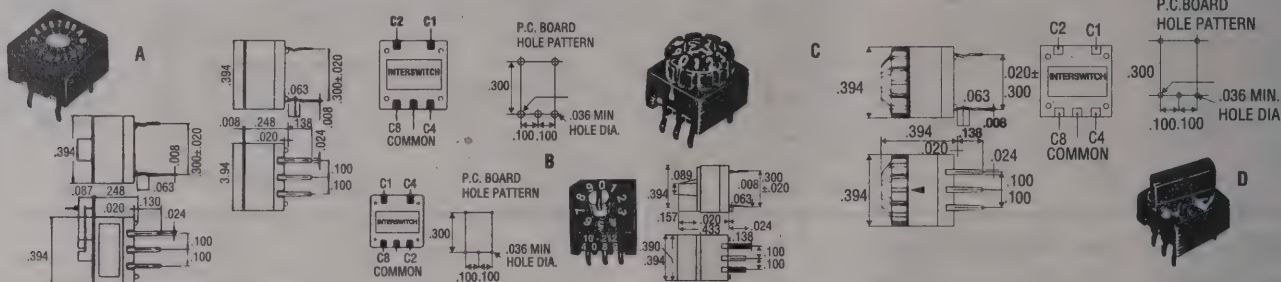
Stock No.	Mfr.'s Type	VAC	Style	Color	EACH		
					1-9	10-99	100-249
814-0035	APD1126N-R	120	Trans.	Red	50.95	38.92	32.94
814-0036	APD1126N-G	120	Trans.	Green	50.95	38.92	32.94
814-0037	APD1126N-A	120	Trans.	Amber	50.95	38.92	32.94
814-0038	APD199DN-R-120	120	Direct	Red	41.43	31.64	26.77
814-0039	APD199DN-G-120	120	Direct	Green	41.43	31.64	26.77
814-0040	APD199DN-A-120	120	Direct	Amber	41.43	31.64	26.77
814-0041	APD199DN-R-24	24	Direct	Red	41.43	31.64	26.77
814-0042	APD199DN-G-24	24	Direct	Green	41.43	31.64	26.77
814-0043	APD199DN-A-24	24	Direct	Amber	41.43	31.64	26.77

Fig.s J and K 7/8" (22mm) Miniature Size

Stock No.	Mfr.'s Type	VAC	Style	Color	EACH		
					1-9	10-99	100-249
814-0044	APW2126-R	120	Trans.	Red	44.53	34.00	28.78
814-0045	APW2126-G	120	Trans.	Green	44.53	34.00	28.78
814-0046	APW2126-A	120	Trans.	Amber	44.53	34.00	28.78
814-0047	APW299D-R-120	120	Direct	Red	24.29	18.54	15.69
814-0048	APW299D-G-120	120	Direct	Green	24.29	18.54	15.69
814-0049	APW299D-A-120	120	Direct	Amber	24.29	18.54	15.69
814-0050	APW299-R-24	24	Direct	Red	23.10	17.64	14.93
814-0051	APW299-G-24	24	Direct	Green	23.10	17.64	14.93
814-0052	APW299-A-24	24	Direct	Amber	23.10	17.64	14.93

Rotary DIP Code Switches

- Kinked terminals to hold switches in PC board to prevent lift off in wave soldering. Switches are still socket pluggable.
- Knob and wheel type switches may be hand adjusted.
- The wheel type RDS switch is designed so that it may be mounted on the end or side of a PCB and adjusted from the side without pulling the board out of the cage.
- Detent action is positive and firm assuring reliable settings.
- These switches may be interchanged with EECO and others.
- Optional red or green, screen indicator or knob color available.
- New right angle socket for mounting standard rotary switches provides possible 4-point contact.



Stock No.	Mfr.'s Type	No. of Pos.	Fig.	Description	EACH		
					1-99	100-249	250-499
657-1000	RDS10-112	10	A	BCD Real Code	3.53	2.46	2.23
657-1005	RDS10-122	10	A	BCD Complement	3.81	2.65	2.40
657-1010	RDS10-312	10	C	BCD Real Code	5.19	3.61	3.27
657-1015	RDS10-322	10	C	BCD Complement	5.23	3.63	3.30
657-1020	RDS16-112	16	A	Hexadecimal Real	3.67	2.55	2.31
657-1025	RDS16-122	16	A	Hexadecimal Complement	3.67	2.55	2.31

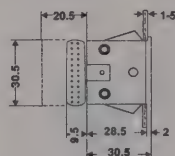
The new RDS rotary DIP switches embody many new improved features and at a reduced cost! This new model features molded-in contacts, ultrasonic welded body to base and an "O" ring around the rotor shaft. These features insure an absolute seal to fluxes, flux gasses and cleaners. (Acceptable solvents are isopropyl alcohol, ethyl alcohol, toluene, benzene, trichloroethylene, freon; acetone and methanol solvents are not acceptable.)

Current rating and voltage: Non switching 125 mA at 30 VDC; Switching 125 mA at 30 VDC. **Contact resistance:** 100 milliohms maximum. **Insulation resistance:** 1000 megohms at 250 VDC for 1 minute minimum. **Durability:** 20,000 actuations. **Positions:** 10 and 16. **Temperature rating:** -25°C (-13°F) to 85°C (185°F). **Body:** Glass-filled polyamide. (UL94V-0). **Contacts:** Copper alloy, selective gold plating over nickel. **Rotor contact:** Polycrystal. **Rotor switch element:** Glass epoxy, gold over nickel plated circuits.

Thumbwheel Switches

Type "H"

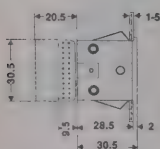
These switches are relatively small in size and are used extensively in instrumentation and test equipment. They are mounted through the panel from the front and snapped into place and held firm by a pair of springs attached to each end plate. **Contact rating:** 100 milliamperes. **Max. Current:** 1 amp. **Working voltage:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resist. at 20°C:** 10⁹ megohms. **Temperature range:** -55°C to +85°C. **Character height:** 4mm.



Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-9	10-99	100-Up
657-2000	HBW	—	End Plates (Pair)	4.22	3.31	2.90
657-2005	HBV	—	Spacer	2.42	1.89	1.66
657-2010	HB010/LS	10	Single Pole Decimal	30.53	20.73	17.53
657-2015	HB010/S	10	Single Pole Decimal	26.53	18.73	16.33
657-2020	HB731/LS	10	BCD Positive	30.53	20.73	17.53
657-2025	HB731/S	10	BCD Positive	26.53	18.73	16.33

Type "M"

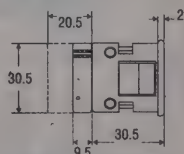
The type "M" thumbwheel switch is of relatively small size and is designed for use in computers, machine tool controls, data handling equipment and test equipment. This series is designed for front panel insertions into a panel cutout and requires no separate mounting hardware. **Contact rating:** 100 milliamperes. **Max. Current:** 1 amp. **Working voltage:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resistance at 20°C:** 10⁹ megohms. **Temperature range:** -25°C to +70°C. **Height:** 4mm.



Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-9	10-99	100-Up
657-2060	MBW	—	End Plates (Pair)	4.22	3.31	2.90
657-2065	MBY	—	Spacer	2.42	1.89	1.66
657-2070	MB010/LS	10	Single Pole Decimal	26.90	18.17	15.29
657-2075	MB010/S	10	Single Pole Decimal	22.90	16.17	14.09
657-2080	MB731/LS	10	BCD Positive	26.90	18.17	15.29
657-2085	MB731/S	10	BCD Positive	22.90	16.17	14.09
657-2090	M2	—	Nut	.15	.07	.06
657-2095	M2X150T	—	Rod; Requires 2 Nuts	1.51	1.18	1.04

Type "U"

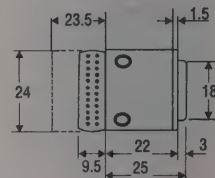
This series is front panel mounted for insertion into a rectangular panel cutout. They are designed for use in computers, machine tool controls, data handling equipment and test equipment. **Contact rating:** 100 milliamperes. **Max. Current:** 1 amp. **Working voltage:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resistance at 20°C:** 10⁹ megohms. **Temperature range:** -25°C to +70°C. **Character Height:** 5mm.



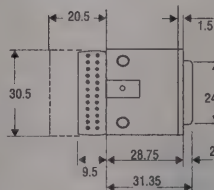
Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-9	10-99	100-Up
657-2130	UBW	—	End Plates (Pair)	3.64	2.57	2.07
657-2135	UBV	—	Spacer	3.02	2.37	2.07
657-2140	UB010/LS	10	Single Pole Decimal	17.60	11.61	9.57
657-2145	UB010/S	10	Single Pole Decimal	13.60	9.61	8.37
657-2150	UB731/LS	10	BCD Positive	17.60	11.61	9.57
657-2155	UB731/S	10	BCD Positive	13.60	9.61	8.37

Type "L"

This series is designed for rear panel insertion into a rectangular panel cutout. They are designed for use in computers, machine tool controls, data handling equipment and test equipment. Their small size gives you the most switch with the least panel space. **Working voltage:** 50V AC or DC. **Contact rating:** 75 milliamperes. **Max. current:** 1 amp. **Insulation resistance at 20°C:** 10⁹ megohms. **Operating temperature:** -25°C to +70°C. **Character height:** 4mm.



Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-9	10-99	100-Up
657-2030	LBW	—	End Plates (Pair)	3.62	2.89	2.49
657-2035	LBV	—	Spacer	2.83	2.00	1.74
657-2040	LB010/LS	10	Single Pole Decimal	22.99	15.41	12.89
657-2045	LB010/S	10	Single Pole Decimal	18.99	13.41	11.69
657-2050	LB731/LS	10	BCD Positive	22.99	15.41	12.89
657-2055	LB731/S	10	BCD Positive	18.99	13.41	11.69



Type "P"

This series of switch is designed for rear panel insertion into a rectangular panel cutout. The type "P" thumbwheel switch is used in computers, machine tool controls, data handling equipment and test equipment. **Contact rating:** 100 milliamperes. **Max. Current:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resistance at 20°C:** 10⁹ megohms. **Temperature range:** -55°C to +85°C. **Height:** 4mm.

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-9	10-99	100-Up
657-2100	PBW	—	End Plates (Pair)	3.62	2.84	2.49
657-2105	PBY/2.7	—	Spacer	3.62	2.84	2.49
657-2110	PB010/LS	10	Single Pole Decimal	43.33	29.77	25.41
657-2115	PB010/S	10	Single Pole Decimal	39.33	27.77	24.21
657-2120	PB731/LS	10	BCD Positive	33.21	21.21	16.95
657-2125	PB731/S	10	BCD Positive	27.21	19.21	16.75

Connectors for Types H, L, M, P & U

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-99	100-Up
657-2200	CU300-644*	Solder Lugs w/out Mounting Ears	6.04	4.95	4.47
657-2205	CU300-645*	Wire Wrap w/out Mounting Ears	6.04	4.95	4.47
657-2210	CU400-217	Solder Lugs w/out Mounting Ears	6.50	5.36	4.84
657-2215	CU400-218	Wire Wrap w/out Mounting Ears	6.50	5.36	4.84
657-2220	CU400-354	PC Pins w/out Mounting Ears	6.50	5.36	4.84

*For Type "L" only.

Foot Switches

LINEMASTER

632 Clipper Series

The rugged, long life "Clipper" models have a patented molded nylon actuating cam that ensures long trouble-free performance. All models rated 20 Amps 1 Hp at 125-250VAC. **Models 632-D and 632-S** consists of a cast-iron housing with skid-proof base pads, black finish and strain relief connector. **Model 632-S Twin** consists of two SPDT switches, on a heavy steel base. **Dimensions:** 632-D and 632-S, $4\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{2}$ ". 632-S Twin, $8\frac{3}{8} \times 4\frac{1}{2} \times 1\frac{1}{2}$ ". **Weight:** 632-D and 632-S - $2\frac{1}{4}$ lbs.; 632-S Twin - 5 lbs.



Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6691	632-D	SPDT Maintained	57.08	52.69
842-6690	632-S	SPDT Momentary	37.68	34.78
842-6692	632-S Twin	SPDT Momentary	90.18	83.24



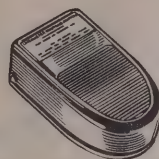
Junior Foot Switches

The low, smooth style plus its ease of operation make these models an ideal switch for both office or shop use. **Model 121-S** rated 20 Amps, 1 Hp at 125-250VAC. **Model 124-S** rated 15 Amp $\frac{1}{2}$ Hp at 125-250VAC. Both feature aluminum cast housings with a black finish and a skidproof base. Supplied with strain relief clamps and bushings for a wide variety of cord sizes. **Dimensions:** $5\frac{1}{2} \times 3\frac{1}{4} \times 1\frac{1}{4}$ ". **Weight:** 1 lb.

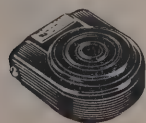
Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6605	121-S	SPDT Momentary	43.98	40.60
842-6610	124-S	SPDT Momentary	52.83	48.76

Nautilus Foot Switches

Rugged aluminum casting for a long life. Piston type actuator sealed with "O" rings. Electrical Contacts sealed in a "Well." Dust tight, water-tight, oiltight, and rust resistant. Grey enamel finish. **Model WP-541-D** rated 12 Amp at 125VAC, 6 Amp at 250VAC. **Model WP-541-S** rated 20 Amp at 125-250VAC. **Dimensions:** $8 \times 4 \times 2\frac{1}{2}$ ". **Weight:** $2\frac{1}{2}$ lbs.



Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6615	WP-541-D	SPDT Maintained	239.48	221.06
842-6620	WP-541-S	SPDT Momentary	239.48	221.06



491 Series Compact Foot Switches

Strong steel housing with black finish and a skidproof base. Small compact and lightweight. This model was built for a long life. All type rated 10 Amps at 125VAC. **Dimensions:** $2\frac{7}{8} \times 2\frac{1}{2} \times 1\frac{1}{8}$ ". **Weight:** 7 oz.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6680	491-S	SPDT Momentary	17.63	16.27
842-6682*	491-SC3	SPDT Momentary	36.75	33.92
842-6684**	491-SC36	SPST Momentary	31.93	29.47

*Wired N.O. and supplied with an 8' 16/3 cord with a 3 prong series plug. Green lead grounded.

**Wired N.O. and supplied with a 6' 16/3 cord without plug. Green lead grounded.

Lektro-Lok Foot Switches

The Lektro-Lok operates on the teeter-totter principle. Pressure on one side opens or closes circuits, release and switch returns to normal off position. Mechanical interlock prevents operation of both circuits at the same time. Second position operates independent of first. Both sides can be wired N.O. or N.C. All connections made internally with only one cord coming out. Rugged stamped metal housing has a black finish and a skidproof base. Both type rated 10 Amps at 125VAC. **Dimensions:** $5 \times 2\frac{1}{2} \times 1\frac{1}{4}$ ". **Weight:** 10 oz.

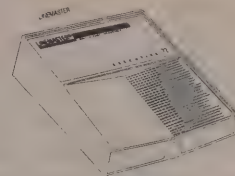


Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6634	L-2-S	SPDT Momentary*	36.26	33.47
842-6635	L-4-S	DPDT Momentary*	66.21	61.12

*Both sides.

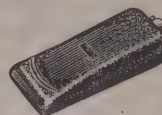
Executive Foot Switches

Uses same operating principle as "Lektro-Lok" series with internal wiring and one cord coming out. Also incorporates mechanical interlock to prevent accidental operation of both circuits at the same time. Both types rated 10 Amps at 125-250VAC. Modern style die cast cover is medium grey with skidproof back. **Dimensions:** $4\frac{5}{8} \times 4 \times 1\frac{1}{8}$ ". **Weight:** $1\frac{1}{4}$ lbs.



Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6640	72	SPDT Momentary*	41.08	37.92
842-6645	74	DPDT Momentary*	58.93	54.40

*Both sides.



Duplex Foot Switches

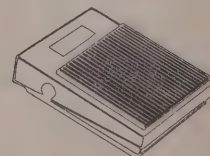
This neat cast aluminum housing is pivoted in the center for easy heel-toe operation. Uses same mechanical interlock system as the Executive and Lektro-Lok switches. Comes with an adjustable strain relief connector for most cord sizes. Smooth black finish with a skidproof base. Rated 15 Amps $\frac{1}{2}$ Hp at 125-250VAC. **Dimensions:** $8\frac{1}{2} \times 3\frac{1}{2} \times 2$ ". **Weight:** $1\frac{3}{4}$ lbs.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6670	476-S	SPDT Momentary*	66.86	61.72

*Both sides.

Treadlite II Foot Switches

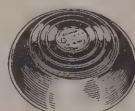
Operating efficiency and handsome appearance go hand-in-hand with this compact, versatile foot-switch. Each model has a nonskid pad on the actuating treadle and a skidproof base. Formed steel casings with a black finish. 10 and 15 amps. $\frac{1}{2}$ HP at 125 VAC. **Dimensions:** $3\frac{1}{2} \times 2\frac{5}{8} \times 1$ ". **Weight:** 7 oz.



Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6091	T-91-S	SPDT Momentary*	12.31	11.36
842-6661*	T-91-SC3	SPST Momentary*	21.95	20.26
842-9998**	T-91-SC36	SPST Momentary*	19.26	17.78

*Supplied with 6' 18.3 SJT cable with 3 prong series plug, green lead grounded.

**Supplied with 6' 18.3 SJT cable without plug.



Gem Foot Switches

These switches feature a round, black actuating cap in a chrome plated heavy die-cast housing with a full non-skid base pad. Moderate pressure from any direction operates the switch. Internal over travel stop ring prevents damage to switch when excessive force is applied. The **GEM-3** is supplied with a 6' 18/3 cord and 3 prong plug, green lead grounded. The **GEM-36** is supplied with a 6' 18/3 cord without plug. Both type rated 7 amps, $\frac{1}{6}$ Hp at 125VAC. **Dimensions:** $3\frac{1}{8} \times 1\frac{1}{8} \times 1\frac{1}{8}$ ". **Weight:** 1 lb., without cord set.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6003*	GEM-3	SPST Momentary*	45.25	41.76
842-6036*	GEM-36	SPST Momentary*	35.98	33.21

*Wired N.O.

Full-Foot Switch Guards

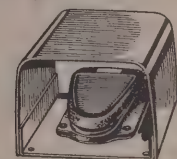
- Pre-Drilled
- Alert Orange Color
- Complete With Hardware and Instructions

Type 522-B14. Full single guard. Accepts most "executive" and "compact" foot switch models. **Dimensions:** $6 \times 6 \times 4\frac{1}{2}$ ". **Weight:** 4 lbs.

842-6652. 1-9EACH 29.25
10-UpEACH 27.00

Type 522-B12. Full Twin Guard. Accepts twin clipper style only. **Dimensions:** $11 \times 6 \times 4\frac{1}{2}$ ". **Weight:** 7 lbs.

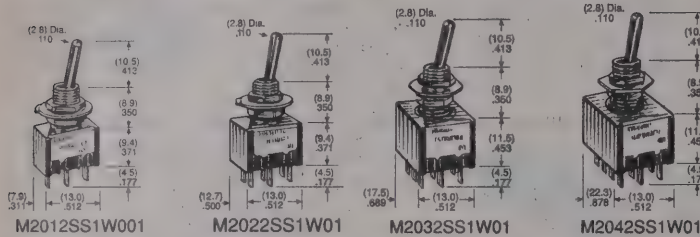
842-6653. 1-9EACH 49.21
10-UpEACH 45.43



M Series

356,000 different configurations; most popular shown here. **Standard Features:** epoxy sealed terminals, high torque bushings, antijamming levers, stainless steel housing, plus numerous interior construction features that assure highly reliable mechanical and electrical performance. Bright chrome plated brass levers, 1/4"-40 threaded, .350" long bushing with keyway; variations from these standards noted with detail drawings. Solder lug terminals with holes .043" x .079". Silver or gold contacts. **Electrical Capacity:** 6A @ 125V AC or 30V DC (silver). **Contact Resistance:** 10 milliohms max. **Insulation Resistance:** 1,000 megohms min. @ 500V DC. **Dielectric Strength:** 1,500V AC min. **Electrical Life:** 25,000 operations min. **Ambient Temperature:** -15°C through +85°C. **Standard hardware:** 2 hex nuts, 1 locking ring, 1 lockwasher. **Panel thickness:** .102".

Bat Lever w/Threaded Bushing and Solder Lugs



Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-9118	M2011SS1W01	SPST	on-none-off	4.55	4.09	3.68
870-8600	M2012SS1W01	SPDT	on-none-on	3.95	3.64	3.38
870-8601	M2013SS1W01	SPDT	on-off-on	4.36	4.03	3.74
870-8602	M2015SS1W01	SPDT	on-none-(on)	5.65	5.21	4.84
870-8603	M2018SS1W01	SPDT	(on)-off-(on)	7.43	6.86	6.86
870-8604	M2019SS1W01	SPDT	on-off-(on)	5.95	5.49	5.10
870-8610	M2024SS1W01	SP3T	on-on-on	8.70	8.03	7.45
870-8611	M2026SS1W01	SP3T	(on)-(on)-(on)	11.75	10.84	10.07
870-8612	M2027SS1W01	SP3T	on-on-(on)	11.75	10.84	10.07
870-8605	M2022SS1W01	DPDT	on-none-on	5.66	5.23	4.85
870-8606	M2023SS1W01	DPDT	on-off-on	7.80	7.30	6.68
870-8607	M2025SS1W01	DPDT	on-none-(on)	10.11	9.33	8.67
870-8608	M2028SS1W01	DPDT	(on)-off-(on)	10.61	9.80	9.10
870-8609	M2029SS1W01	DPDT	on-off-(on)	10.61	9.80	9.10
870-8617	M2044SS1W01	DP3T	on-on-on	25.25	23.30	21.64
870-8618	M2046SS1W01	DP3T	(on)-(on)-(on)	25.86	23.87	22.17
870-8619	M2047SS1W01	DP3T	on-on-(on)	25.86	23.87	22.17
870-8613	M2032SS1W01	3PDT	on-none-on	9.83	9.07	8.42
870-8614	M2033SS1W01	3PDT	on-off-on	12.00	11.07	10.28
870-8615	M2042SS1W01	4PDT	on-none-on	15.80	14.58	13.54
870-8616	M2043SS1W01	4PDT	on-off-on	21.25	19.61	18.21

Bat Lever w/Threaded Bushing and Straight PC Terminals

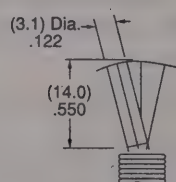
Silver plated PC terminals are spaced .185" center-to-center and .189" from pole to pole. Recommended PC board hole diameter is .073".



Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-9105	M2012SS1W03	SPDT	on-none-on	6.20	5.72	5.31
870-9106	M2013SS1W03	SPDT	on-off-on	6.83	6.30	5.85
870-9107	M2015SS1W03	SPDT	on-none-(on)	7.33	6.76	6.28
870-9108	M2018SS1W03	SPDT	(on)-off-(on)	7.70	7.10	6.60
870-9109	M2019SS1W03	SPDT	on-off-(on)	7.70	7.10	6.60
870-9110	M2024SS1W03	SP3T	on-on-on	11.41	10.53	9.78
870-9111	M2022SS1W03	DPDT	on-none-on	9.05	8.35	7.75
870-9112	M2023SS1W03	DPDT	on-off-on	10.30	9.50	8.82
870-9113	M2025SS1W03	DPDT	on-none-(on)	10.66	9.84	9.14
870-9114	M2028SS1W03	DPDT	(on)-off-(on)	11.16	10.30	9.57
870-9115	M2029SS1W03	DPDT	on-off-(on)	11.16	10.30	9.57
870-9116	M2032SS1W03	3PDT	on-none-on	15.56	14.36	13.34
870-9117	M2042SS1W03	4PDT	on-none-on	20.85	19.24	17.87

Cone Lever, Threaded Bushing and Solder Lug Terminals

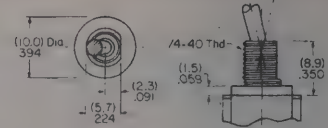
Bright chrome finish on a cone shaped lever for attractive appearance and for a style that is longer than the standard bat version.



Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-9910	M20120S1W01	SPDT	on-none-on	6.18	5.70	5.30
870-9911	M20130S1W01	SPDT	on-off-on	6.80	6.27	2.85
870-9912	M20220S1W01	DPDT	on-none-on	8.75	8.07	7.50
870-9913	M20230S1W01	DPDT	on-off-on	10.00	9.23	8.57
870-9914	M20320S1W01	3PDT	on-none-on	15.00	13.84	12.85
870-9915	M20420S1W01	4PDT	on-none-on	20.00	18.46	17.14

Bat Lever, Threaded Splashproof Bushing and Solder Lugs

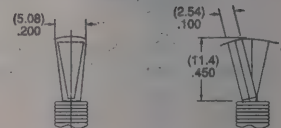
Sealed, D-flattened bushing along with a panel sealing o-ring which protects against entry of liquids. Supplied with 1 hex nut and 1 rubber o-ring. **Maximum panel thickness:** .193".



Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-8630	M2012SD3W01	SPDT	on-none-on	7.18	6.63	6.15
870-8631	M2013SD3W01	SPDT	on-off-on	7.80	7.20	6.68
870-8632	M2015SD3W01	SPDT	on-none-(on)	8.30	7.66	7.11
870-8634	M2019SD3W01	SPDT	on-off-(on)	8.68	8.01	7.44
870-8635	M2024SD3W01	SP3T	on-on-on	12.11	11.18	10.38
870-8636	M2026SD3W01	DPDT	on-none-on	9.75	9.00	8.35
870-8637	M2023SD3W01	DPDT	on-off-on	11.00	10.15	9.42
870-8638	M2025SD3W01	DPDT	on-none-(on)	11.36	10.49	9.74
870-9104	M2029SD3W01	DPDT	on-off-(on)	11.86	10.95	10.17
870-8642	M2044SD3W01	DP3T	on-on-on	26.50	24.46	22.71
870-8640	M2032SD3W01	3PDT	on-none-on	16.00	14.76	13.71
870-8643	M2042SD3W01	4PDT	on-none-on	21.00	19.38	18.00

Flatted Lever, Threaded Bushing and Solder Lug Terminals

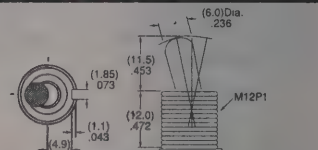
Lever of brass with bright chrome finish. Antirotation feature assures correctly aligned lever at all times. Standard bushing and terminal characteristics as noted in introduction.



Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-8646	M2012ES1W01	SPDT	on-none-on	6.95	6.25	5.62
870-8647	M2013ES1W01	SPDT	on-off-on	7.80	7.20	6.68
870-8648	M2015ES1W01	SPDT	on-none-(on)	8.30	7.66	7.11
870-8649	M2018ES1W01	SPDT	(on)-off-(on)	8.68	8.01	7.44
870-8650	M2019ES1W01	SPDT	on-off-(on)	8.68	8.01	7.44
870-8651	M2024ES1W01	SP3T	on-on-on	12.11	11.18	10.38
870-8652	M2022ES1W01	DPDT	on-none-on	9.75	9.00	8.35
870-8653	M2023ES1W01	DPDT	on-off-on	11.00	10.15	9.42
870-8654	M2025ES1W01	DPDT	on-none-(on)	11.36	10.49	9.74
870-8655	M2028ES1W01	DPDT	(on)-off-(on)	11.86	10.95	10.17

Large Lever and Bushing with Solder Lug Terminals

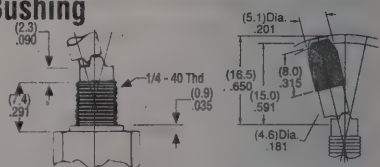
12mm diameter threaded bushing with keyway. Bat shaped lever of brass with bright chrome finish. **Maximum panel thickness:** .216".



Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-8656	M2012BB1W01	SPDT	on-none-on	6.95	6.25	5.62
870-8657	M2013BB1W01	SPDT	on-off-on	9.30	8.58	7.97
870-8658	M2015BB1W01	SPDT	on-none-(on)	9.80	9.04	8.40
870-8659	M2018BB1W01	SPDT	(on)-off-(on)	6.78	6.26	5.81
870-8666	M2024BB1W01	SP3T	on-on-on	13.61	12.56	11.67
870-8667	M2026BB1W01	SP3T	(on)-(on)-(on)	14.50	13.38	12.42
870-8661	M2022BB1W01	DPDT	on-none-on	11.25	10.38	9.64
870-8662	M2023BB1W01	DPDT	on-off-on	12.50	11.53	10.71
870-8663	M2025BB1W01	DPDT	on-none-(on)	12.86	11.87	11.02
870-8664	M2028BB1W01	DPDT	(on)-off-(on)	13.36	12.33	11.45
870-8665	M2029BB1W01	DPDT	on-off-(on)	13.36	12.33	11.45
870-8669	M2032BB1W01	3PDT	on-none-on	17.50	16.15	15.00
870-8670	M2033BB1W01	3PDT	on-off-on	18.68	17.24	16.01
870-8671	M2035BB1W01	3PDT	on-none-(on)	22.55	20.81	19.32
870-8672	M2038BB1W01	3PDT	(on)-off-(on)	12.50	11.53	10.71
870-8673	M2042BB1W01	4PDT	on-none-on	22.50	20.76	19.28
870-8674	M2043BB1W01	4PDT	on-off-on	24.00	22.15	20.57
870-8675	M2045BB1W01	4PDT	on-none-(on)	26.50	24.46	22.71

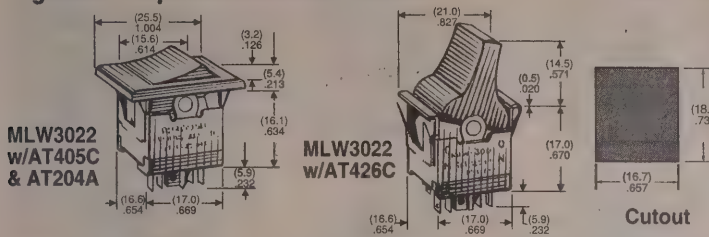
Locking Lever, Threaded Bushing and Solder Lug Terminals

The lever locks in all maintained positions to prevent accidental actuation. Lever material is chrome plated brass with nickel plated cap. Antirotation feature prevents lever mis-alignment.



Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-8676	M2012LL1W01	SPDT	on-none-on	9.15	8.44	7.84
870-8677	M2013LL1W01	SPDT	on-off-on	9.78	9.03	8.38
870-8678	M2015LL1W01	SPDT	on-none-(on)	11.21	10.35	9.61
870-8679	M2018LL1W01	SPDT	(on)-off-(on)	10.65	9.83	9.12
870-8680	M2019LL1W01	SPDT	on-off-(on)	10.65	9.83	9.12
870-8681	M2022LL1W01	DPDT	on-none-on	9.36	8.64	8.02
870-8682	M2023LL1W01	DPDT	on-off-on	12.96	11.96	11.11
870-8684	M2032LL1W01	3PDT	on-none-on	17.96	16.58	15.40
870-8686	M2042LL1W01	4PDT	on-none-on	22.96	21.20	19.68

Lighted Snap-in Rocker Switches



MLW Series Features: lighted snap-in mount, .902" behind panel, front panel relampable, isolated lamp circuit, UL recognition, CSA certification, and epoxy sealed terminals. **Electrical Capacity:** 5A resistive load @ 125V AC. **Dielectric Strength:** 1,500V AC minimum. **Electrical Life:** 10,000 operations minimum. **Operating Force:** 1014 grams for rockers and 460 grams for paddles. **Angle of Throw:** 26°. **Ambient Temperature:** -10°C through +50°C.

Basic Switch with Solder Lug Terminals

Dimensioned photos above. Silver contacts rated 5A. Order caps and bezel separately. Matching indicator available. **Terminal holes:** .043" x .079". **Panel thickness:** .039" through .157" without bezel and .039" through .118" with bezel.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH		
				1-24	25-99	100-499
870-0801	MLW3012	SPDT	on-none-on	8.40	7.75	7.20
870-0802	MLW3013	SPDT	on-off-on	9.10	8.40	7.80
870-0803	MLW3015	SPDT	on-none-(on)	9.10	8.40	7.80
870-0804	MLW3018	SPDT	(on)-off-(on)	9.80	9.04	8.40
870-0805	MLW3019	SPDT	on-off-(on)	10.20	9.41	8.74
870-0806	MLW3022	DPDT	on-none-on	10.20	9.41	8.74
870-0807	MLW3023	DPDT	on-off-on	11.20	10.33	9.60
870-0808	MLW3025	DPDT	on-none-(on)	11.20	10.33	9.60
870-0809	MLW3028	DPDT	(on)-off-(on)	11.66	10.76	10.00
870-0810	MLW3029	DPDT	on-off-(on)	11.66	10.76	10.00

Caps, Bezel, and Lamps

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-0811	AT405B	White rocker cap	1.16	1.07	1.00
870-0812	AT405C	Red rocker cap	1.16	1.07	1.00
870-0816	AT405E	Yellow rocker cap	1.16	1.07	1.00
870-0813	AT405F	Green rocker cap	1.16	1.07	1.00
870-0815	AT405G	Blue rocker cap	1.16	1.07	1.00
870-0817	AT426B	White paddle cap	1.16	1.07	1.00
870-0818	AT426C	Red paddle cap	1.16	1.07	1.00
870-0822	AT426E	Yellow paddle cap	1.16	1.07	1.00
870-0819	AT426F	Green paddle cap	1.16	1.07	1.00
870-8724	AT204A	Black bezel	1.16	1.07	1.00
870-0839	AT204B	White bezel	.73	.67	.62
870-0842	AT204H	Gray bezel	.81	.75	.70
870-0843	AT602-6V	6V Incandescent lamp	1.98	1.83	1.70
870-0844	AT602-12V	12V Incandescent lamp	1.98	1.83	1.70
870-0847	AT602-28V	28V Incandescent lamp	1.98	1.83	1.70
870-8725	AT602N	110V neon lamp	1.98	1.83	1.70

Lamp Specifications

Specifications are determined at basic temperature of 25°C.

Voltage	6V	12V	28V	110V Neon	Recommended Resistor
Current	80mA	50mA	22mA	1.5mA	for Neon: 33KΩ for 110V & 100KΩ for 220V AC
Endurance	2000 hrs	2000 hours	2000 hrs	2000 hrs	

Snap-in Paddle and Rocker Switches

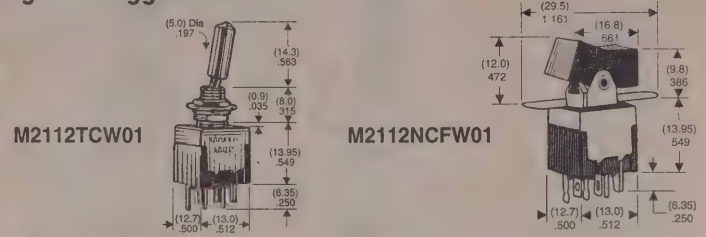
PW Series Features: snap-in mount, .846" behind panel, UL recognition, CSA certification, and staked-in terminals. **Electrical Capacity:** 5A resistive load @ 125V AC. **Dielectric Strength:** 1,000V AC minimum. **Electrical Life:** 10,000 operations minimum. **Angle of Throw:** 26°. **Ambient Temperature:** -10°C through +70°C. **Terminal Holes:** .043" x .079". **Panel Thickness:** .039" through .126" without bezel and .039" through .098" with bezel.

Basic Switch with Solder Lug Terminals

Order caps and bezel separately.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH		
				1-24	25-99	100-499
870-8700	PW2012	SPDT	on-none-on	7.00	3.92	3.64
870-8701	PW2013	SPDT	on-off-on	7.61	4.62	4.29
870-8702	PW2015	SPDT	on-none-(on)	8.25	4.62	4.29
870-8703	PW2018	SPDT	(on)-off-(on)	6.90	4.62	4.29
870-8704	PW2019	SPDT	on-off-(on)	6.90	4.62	4.29
870-8705	PW2022	DPDT	on-none-on	7.40	5.31	4.93
870-8706	PW2023	DPDT	on-off-on	10.61	9.80	9.10
870-8707	PW2025	DPDT	on-none-(on)	11.00	10.15	9.42
870-8708	PW2028	DPDT	(on)-off-(on)	9.10	8.19	7.37
870-8709	PW2029	DPDT	on-off-(on)	11.36	10.49	9.74

Lighted Toggle and Rocker Switches



M2100 Series Features: LED-tipped, antijamming, and epoxy sealed terminals. High torque bushing on toggle models. Patented silver alloy contacts. Synchronous and isolated LED circuits. **Electrical Capacity:** 6A resistive load @ 125V AC (silver); 0.4VA maximum @ 28 V maximum AC/DC (gold). **Dielectric Strength:** 1,500V AC minimum. **Electrical Life:** 25,000 operations minimum. **Angle of Throw:** 20°. **Ambient Temperature:** -10°C through +55°C.

Toggle Actuator with Synchronous LED and Solder Lug Terminals

Silver contacts rated 6A. 1/4"-40 dia. bushing. **Terminal Holes:** .043" x .079". **Hardware:** 2 hex nuts, 1 locking ring, 1 lockwasher ring, 1 lockwasher. **Panel Thickness:** .102". **LED Coding:** C = red single color, F = green single color, CF = red/green bicolor.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH		
				1-24	25-99	100-499
870-8726	M2112TCW01	SPDT	on-none-on	11.36	10.49	9.74
870-8727	M2112TFW01	SPDT	on-none-on	11.36	10.49	9.74
870-8728	M2112TCFW01	SPDT	on-none-on	12.60	11.63	10.80
870-8731	M2113TCFW01	SPDT	on-off-on	14.11	13.03	12.10

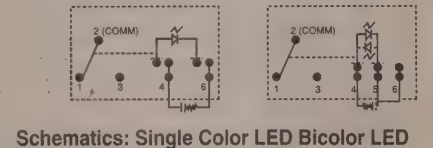
Rocker Actuator with Synchronous LED and Solder Lug Terminals

Dimensioned photo above. Silver contacts rated 6A. **Panel thickness:** .126". **Terminal holes:** .043" x .079". **LED Coding:** C = red single color, F = green single color, CF = red/green bicolor.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH		
				1-24	25-99	100-499
870-9100	M2112NCW01	SPDT	on-none-on	11.36	10.49	9.74
870-9101	M2112NFW01	SPDT	on-none-on	11.36	10.49	9.74
870-9102	M2112NCFW01	SPDT	on-none-on	12.88	11.89	11.01
870-9103	M2113NCFW01	SPDT	on-off-on	14.40	13.29	12.34

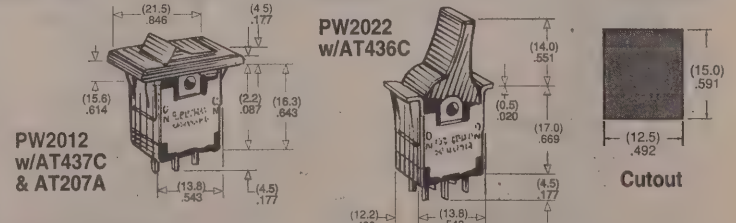
LED Specifications

Specifications determined at basic temperature of 25°C. Power terminals for single color models: 1, 2, and 3; lamp terminals 4 and 6. Power terminals for bicolor models: 1, 2, and 3; lamp terminals 4, 5, and 6.



Schematics: Single Color LED Bicolor LED

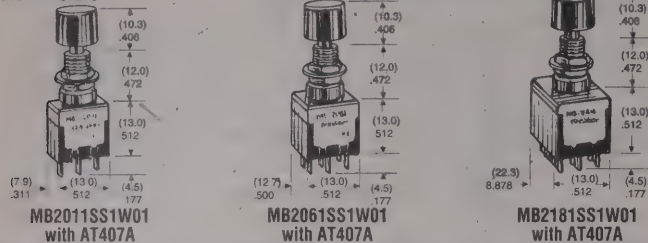
	Red	Green	Bicolor
Forward Peak Current	25mA	30mA	25mA
Continuous Forward Current	20mA	20mA	20mA
Forward Voltage	2.1V	2.1V	2.1V
Reverse Peak Voltage	4V	4V	4V
Current Reduction Rate above 25°C	0.33mA/°C	0.40mA/°C	0.33mA/°C



Caps and Bezel

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-8710	AT436A	Black paddle cap	.60	.54	.48
870-8711	AT436B	White paddle cap	.60	.55	.51
870-8712	AT436C	Red paddle cap	.60	.55	.51
870-8713	AT436H	Gray paddle cap	.60	.55	.51
870-8714	AT437A	Black rocker cap	.60	.55	.51
870-8715	AT437B	White rocker cap	.60	.55	.51
870-8716	AT437C	Red rocker cap	.60	.55	.51
870-8721	AT207A	Black bezel	.70	.63	.56
870-8722	AT207B	White bezel	.70	.64	.60
870-8723	AT207C	Red bezel	.70	.64	.60

MB2000



Features: High torque bushings, epoxy sealed terminals, UL recognized and CSA certified. **Electrical Capacity:** 6A resistive load @ 125V AC or 30V DC (silver); 0.4VA maximum @ 28V maximum AC/DC (gold). **Dielectric Strength:** 1,500V AC minimum. **Electrical Life:** in operations minimum 25,000 (silver) and 50,000 (gold). **Travel:** .071" on-(on) and .153" on-on. **Ambient Temperature:** -15°C through +85°C. **Hardware:** 2 nuts and 1 lockwasher.

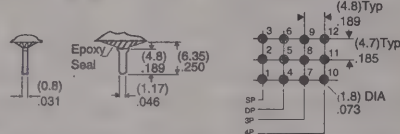
Threaded Bushing and Solder Lug Terminals

Dimensioned photo above. Silver contacts rated 6A. 1/4-40 dia. bushing. Order cap separately.

Stock No.	Mfr.'s Type	Pole Throw	Circuit (= mom.)	EACH		
				1-24	25-99	100-499
870-8750	MB2011SS1W01	SPDT	on-(on)	6.05	5.44	4.89
870-8751	MB2065SS1W01	SPDT	on-on	6.25	5.76	5.35
870-8752	MB2061SS1W01	DPDT	on-(on)	9.80	8.82	7.93
870-8753	MB2085SS1W01	DPDT	on-on	10.30	9.50	8.82
870-8754	MB2181SS1W01	4PDT	on-(on)	16.30	15.04	13.97
870-8755	MB2185SS1W01	4PDT	on-on	16.90	15.60	14.48

Threaded Bushing and Straight PC Terminals

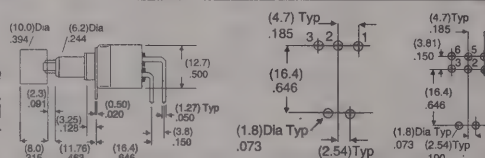
Silver contacts rated 6A. 1/4-40 diameter bushing. .031" terminal thickness. Order optional screw-on cap separately.



870-8738	MB2011SS1W03	SPDT	on-(on)	6.26	5.78	5.37
870-8739	MB2065SS1W03	SPDT	on-on	6.46	5.96	5.54
870-8740	MB2061SS1W03	DPDT	on-(on)	12.80	11.81	10.97
870-8741	MB2085SS1W03	DPDT	on-on	13.41	12.38	11.50
870-8742	MB2181SS1W03	4PDT	on-(on)	21.46	19.81	18.40
870-8743	MB2185SS1W03	4PDT	on-on	22.21	20.50	19.04

Smooth Bushing and Right Angle PC

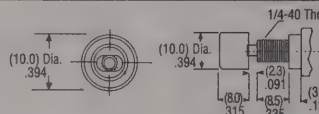
Gold contacts rated 0.4VA @ 28V max AC/DC. .244" dia. smooth bushing. Terminal spacing: .185" center to center. Order cap separately.



870-8758	MB2011SS2G30	SPDT	on-(on)	8.86	8.18	7.60
870-8759	MB2065SS2G30	SPDT	on-on	9.11	8.41	7.81
870-8760	MB2061SS2G30	DPDT	on-(on)	14.86	13.72	12.74
870-8761	MB2085SS2G30	DPDT	on-on	15.50	14.30	13.28

Splashproof Bushing and Solder Lug Terminals

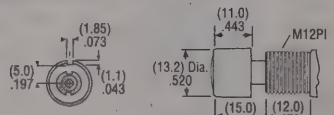
Silver contacts rated 6A @ 125V AC. Exterior and interior o-rings for panel sealed 1/4-40 diameter threaded bushing. Order optional screw-on cap separately.



870-8744	MB2011SD3W01	SPDT	on-(on)	7.45	6.87	6.38
870-8745	MB2065SD3W01	SPDT	on-on	9.55	8.81	8.18
870-8746	MB2061SD3W01	DPDT	on-(on)	14.00	12.92	12.00
870-8747	MB2085SD3W01	DPDT	on-on	14.61	13.49	12.52
870-8748	MB2181SD3W01	4PDT	on-(on)	22.11	20.41	18.95
870-8749	MB2185SD3W01	4PDT	on-on	22.86	21.10	19.60

Large Bushing and Solder Lug Terminals

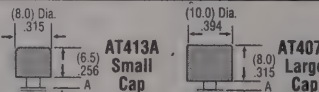
12mm diameter threaded bushing. Supplied with a .520" screw-on black cap. Silver contacts rated 6A @ 125V AC.



870-8762	MB2011SB1W01	SPDT	on-(on)	10.30	9.50	8.82
870-8763	MB2065SB1W01	SPDT	on-on	10.55	9.73	9.04
870-8764	MB2061SB1W01	DPDT	on-(on)	12.00	11.07	10.28
870-8765	MB2085SB1W01	DPDT	on-on	15.61	14.41	13.38
870-8766	MB2181SB1W01	4PDT	on-(on)	20.41	18.84	17.50
870-8766	MB2185SB1W01	4PDT	on-on	23.86	22.03	20.45

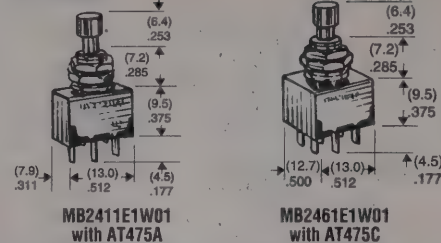
Optional Screw-on Caps

"X" for Color Codes: black = 1 = A, white = 2 = B, red = 0 = C. Note: "A" = .091" for momentary and .157" for alternate action.



Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-300X	AT413A, B or C	.315" Dia.	.45	.41	.38
870-400X	AT407A, B, or C	.394" Dia.	.51	.47	.44

MB2400



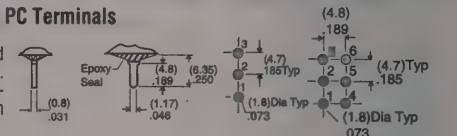
Threaded Bushing and Solder Lug Terminals

Dimensioned photo above. W = Silver contacts rated 3A; G = gold contacts rated 0.4 VA. 1/4-40 dia. bushing. Order optional snap-on cap separately.

Stock No.	Mfr.'s Type	Pole Throw	Circuit (= mom.)	EACH		
				1-24	25-99	100-499
870-8768	MB2411E1W01	SPDT	on-(on)	6.93	6.23	5.60
870-8769	MB2461E1W01	DPDT	on-(on)	9.85	9.09	8.44
870-8770	MB2411E1G01	SPDT	on-(on)	9.18	8.47	7.87
870-8771	MB2461E1G01	DPDT	on-(on)	13.36	12.33	11.45

Threaded Bushing and Straight PC Terminals

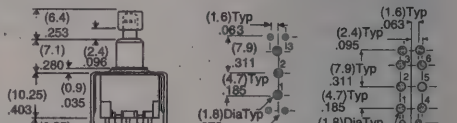
W = silver contacts rated 3A; G = gold contacts rated 0.4VA. 1/4-40 dia. threaded bushing. Terminal thickness: .031". Order optional snap-on cap separately.



870-8772	MB2411E1W03	SPDT	on-(on)	9.03	8.33	7.74
870-8773	MB2461E1W03	DPDT	on-(on)	13.06	12.06	11.20
870-8774	MB2411E1G03	SPDT	on-(on)	9.55	8.81	8.18
870-8775	MB2461E1G03	DPDT	on-(on)	14.11	13.03	12.10

Smooth Bushing and Straight PC Terminals w/Bracket

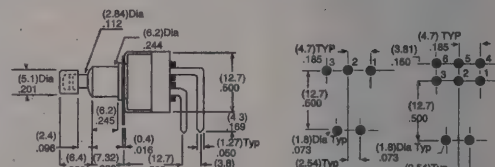
.244" dia. smooth bushing. Gold contacts rated 0.4VA. Order optional snap-on cap separately.



870-9922	MB2411A2G13	SPDT	on-(on)	9.93	9.16	8.51
870-9923	MB2461A2G13	DPDT	on-(on)	14.86	13.72	12.74

Smooth Bushing and Right Angle PC

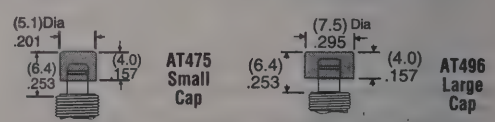
W = silver contacts rated 3A; G = gold contacts rated 0.4VA. .244" dia. smooth bushing. Order optional snap-on cap separately.



870-8776	MB2411A2W30	SPDT	on-(on)	9.65	8.90	8.27
870-8777	MB2461A2W30	DPDT	on-(on)	14.31	13.21	12.27
870-8778	MB2411A2G30	SPDT	on-(on)	10.18	9.40	8.72
870-8900	MB2461A2G30	DPDT	on-(on)	12.30	11.35	10.54

Optional Snap-on Caps

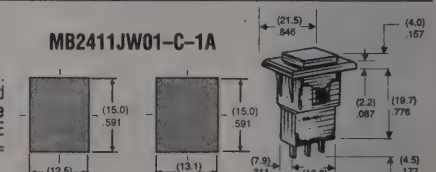
Color Codes: A = black, B = white, C = red.



Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-1201	AT475A	.201" Dia.	.25	.23	.21
870-1202	AT475B	.201" Dia.	.25	.23	.21
870-1200	AT475C	.201" Dia.	.25	.23	.21
870-0901	AT496A	.295" Dia.	.30	.27	.25
870-0902	AT496B	.295" Dia.	.35	.32	.30
870-0900	AT496C	.295" Dia.	.35	.32	.30

Snap-in Mount and Solder Lug Terminals

Silver contacts are rated 3A @ 125V AC. Listed below with red cap (coded C) and black bezel (coded A). Other colors are available: A = black, B = white, C = red, E = yellow, F = green, G = blue, and H = gray. Panel thickness: .039-.126".



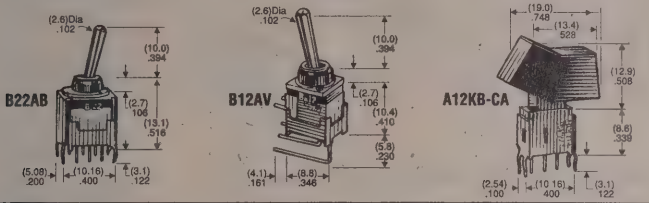
Stock No.	Mfr.'s Type	Pole Throw	Circuit (= mom.)	EACH		
				1-24	25-99	100-499
870-9924	MB2411JW01-C-1A	SPDT	on-(on)	11.25	10.38	9.64
870-9925	MB2461JW01-C-1A	DPDT	on-(on)	14.91	13.76	12.78

Super-Subminiature Switches

NKK®
switches

Toggles, Rockers, Pushbuttons and Slides

Standard Features: PC mountable with straight, right angle, and vertical terminals which are molded in and epoxy sealed. .100" X .100" PCB grid spacing. Single or double pole. Washable toggles, rockers, and pushbuttons. Patented Sliding Twin Crossbar (STC) contacts. **Electrical Capacity:** 0.4VA maximum @ 28V AC/DC maximum. **Contact Resistance:** 50 milliohms maximum. **Insulation Resistance:** 500 megohms minimum @ 500V DC. **Dielectric Strength:** 500V AC minimum. **Electrical Life:** 50,000 operations minimum. **Ambient Temperature:** -25°C through +70°C for toggles and -10°C through +85°C for rockers, pushbuttons, and slides.



Toggle Switch

Antistatic bushing. Toggle has bright nickel finish.

Straight PC Terminals with Bracket

Stock No.	Mfr.'s Type	Pole Throw	Circuit (=momentary)	EACH			
				1-24	25-99	100-499	500-999
870-8400	B12AB	SPDT	on-none-on	4.80	4.43	4.11	3.84
870-8401	B13AB	SPDT	on-off-on	5.30	4.89	4.54	4.24
870-8406	B23AB	DPDT	on-off-on	7.30	6.73	6.25	5.84
870-8407	B25AB	DPDT	on-none-(on)	7.50	6.92	6.42	6.00
870-8408	B28AB	DPDT	(on)-off-(on)	8.28	7.56	7.02	6.56
870-8409	B29AB	DPDT	on-off-(on)	8.20	7.56	7.02	6.56

Right Angle PC Terminals

870-8410	B12AH	SPDT	on-none-on	5.00	4.61	4.28	4.00
870-8411	B13AH	SPDT	on-off-on	5.50	5.07	4.71	4.40
870-8412	B15AH	SPDT	on-none-(on)	5.50	5.07	4.71	4.40
870-8413	B18AH	SPDT	(on)-off-(on)	6.30	5.81	5.40	5.04
870-8414	B19AH	SPDT	on-off-(on)	6.30	5.81	5.40	5.04
870-8415	B22AH	DPDT	on-none-on	6.90	6.36	5.91	5.52
870-8416	B23AH	DPDT	on-off-on	7.50	6.92	6.42	6.00
870-8417	B25AH	DPDT	on-none-(on)	7.70	7.10	6.60	6.16
870-8418	B28AH	DPDT	on-off-(on)	8.40	7.75	7.20	6.72
870-8419	B29AH	DPDT	on-off-(on)	8.40	7.75	7.20	6.72

Vertical PC Terminals

870-8420	B12AV	SPDT	on-none-on	5.00	4.61	4.28	4.00
870-8421	B13AV	SPDT	on-off-on	5.50	5.07	4.71	4.40
870-8425	B22AV	DPDT	on-none-on	6.90	6.36	5.91	5.52
870-8426	B23AV	DPDT	on-off-on	7.50	6.92	6.42	6.00

Rocker Switch

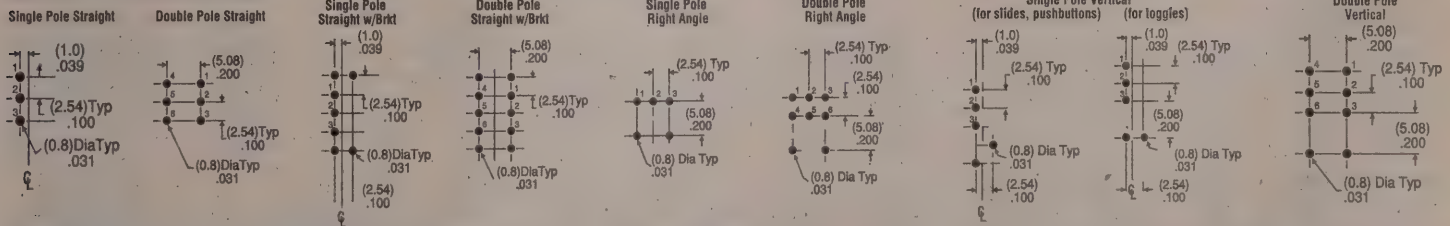
.260" wide black rocker. Antirotation feature.

Straight PC Terminals with Bracket

Stock No.	Mfr.'s Type	Pole Throw	Circuit (=momentary)	EACH			
				1-24	25-99	100-499	500-999
870-9850	A12KB-CA	SPDT	on-none-on	6.30	5.81	5.40	5.04
870-9855	A13KB-CA	SPDT	on-off-on	6.50	6.00	5.57	5.20
870-9860	A15KB-CA	SPDT	on-none-(on)	6.50	6.00	5.57	5.20
870-9865	A22KB-CA	DPDT	on-none-on	7.90	7.29	6.77	6.32
870-9870	A23KB-CA	DPDT	on-off-on	8.50	7.84	7.28	6.80

Footprints for Toggles, Rockers, Pushbuttons and Slides

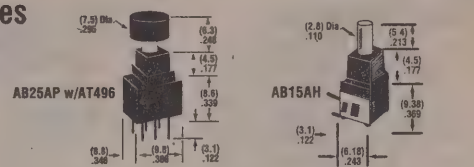
Note: AB11 & AS11 do not have terminal 2.



Miniature Keylock Switches

Features: 12mm dia. bushing, silver contacts, UL recognition, CSA certification, short behind panel dimension, and epoxy sealed solder lug terminals. Terminals have .043" x .079" holes. Face and bezel have brushed chrome finish. 2 keys of chromate over zinc alloy provided with each switch. **Electrical Capacity:** 3A @ 125V AC. **Contact Resistance:** 10 milliohms maximum. **Insulation Resistance:** 1,000 megohms minimum @ 500V DC. **Dielectric Strength:** 1,000V AC minimum between contacts and 1,500V AC min. between contacts and case. **Mechanical Life:** 30,000 cycles minimum. **Electrical Life:** 10,000 cycles minimum. **Operating Torque:** 270 grams. **Ambient Temperature:** -10°C through +70°C. **Angle of Throw:** 90° for on-none-on models and 45° for on-off-on models. **Panel Thickness:** .315". **Standard Hardware:** 1 hex nut and 1 locking ring.

Stock No.	Mfr.'s Type	Pole Throw	Circuit			Key Removable Position	EACH			
			Pos. 1	Pos. 2	Pos. 3		1-24	25-49	50-99	100-499
870-9122	SK12AAW01	SPDT	on	none	on	1 & 3	17.03	15.72	14.60	13.62
870-9123	SK12BAW01	SPDT	on	none	on	1	14.60	13.14	11.82	10.63
870-9124	SK13DAW01	SPDT	on	off	on	1, 2, 3	19.13	17.66	16.40	15.30
870-9125	SK13EAW01	SPDT	on	off	on	2	15.03	13.87	12.88	12.02



Pushbutton Switches

Total Travel: .043". Operating Force: 260 grams.

Straight PC Terminals

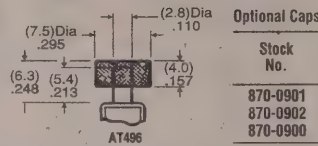
Stock No.	Mfr.'s Type	Pole Throw	Circuit (=momentary)	EACH			
				1-24	25-99	100-499	500-999
870-9926	AB11AP	SPST	off-(on)	4.40	4.06	3.77	3.52
870-9927	AB15AP	SPDT	on-(on)	5.75	5.30	4.92	4.60
870-9119	AB25AP	SPDT	on-(on)	8.36	7.72	7.17	6.69

Right Angle PC Terminals

870-8434	AB15AH	SPDT	on-(on)	6.61	6.10	5.67	5.29
870-9120	AB25AH	SPDT	on-(on)	9.61	8.87	8.24	7.69

Vertical PC Terminals

870-8432	AB15AV	SPDT	on-(on)	6.61	6.10	5.67	5.29
870-9121	AB25AV	SPDT	on-(on)	9.61	8.87	8.24	7.69



Optional Caps

Stock No.	Mfr.'s Type	EACH			
		1-24	25-99	100-499	500-999
870-0901	AT496A (black)	.30	.27	.25	.24
870-0902	AT496B (white)	.35	.32	.30	.28
870-0900	AT496C (red)	.35	.32	.30	.28

Slide Switches

Total Travel: .098". Operating Force: 260 grams.

Straight PC Terminals with Bracket

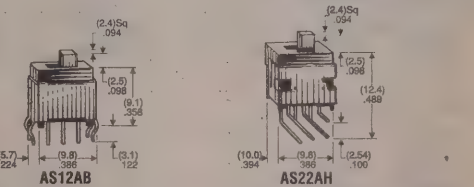
Stock No.	Mfr.'s Type	Pole Throw	Circuit (=momentary)	EACH			
				1-24	25-99	100-499	500-999
870-9302	AS12AB	SPDT	on-none-on	5.25	4.84	4.50	4.20
870-9306	AS24AB	SP3T	on-on-on	9.75	9.00	8.35	7.80
870-9304	AS22AB	DPDT	on-none-on	7.61	7.03	6.52	6.09
870-9305	AS23AB	DPDT	on-off-on	8.36	7.72	7.17	6.69

Right Angle PC Terminals

870-9308	AS12AH	SPDT	on-none-on	5.50	5.07	4.71	4.40
870-9309	AS13AH	SPDT	on-off-on	6.11	5.64	5.24	4.89
870-9310	AS22AH	DPDT	on-none-on	7.86	7.26	6.74	6.29
870-9311	AS23AH	DPDT	on-off-on	8.61	7.95	7.38	6.89

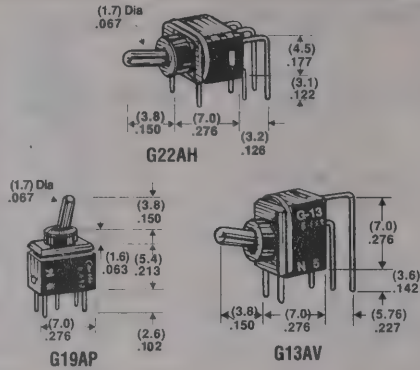
Vertical PC Terminals

870-9314	AS12AV	SPDT	on-none-on	5.50	5.07	4.71	4.40
870-9315	AS13AV	SPDT	on-off-on	6.11	5.64	5.24	4.89
870-9316	AS22AV	DPDT	on-none-on	7.86	7.26	6.74	6.29
870-9317	AS23AV	DPDT	on-off-on	8.61	7.95	7.38	6.89



G Series Toggles

Micro-subminiature, PCB mountable, antistatic, washable, patented Sliding Twin Crossbar (STC) contact mechanism, plus molded-in, epoxy sealed terminals with .100" x .100" spacing. **Electrical Capacity:** 0.4VA maximum @ 28V AC/DC maximum. **Contact Resistance:** 80 milliohms maximum. **Dielectric Strength:** 500V AC min. **Electrical Life:** 100,000 operations minimum for on-none-on and on-off-on and 50,000 operations minimum for other circuits. **Ambient Temperature:** -25°C through +70°C. **Angle of Throw:** 28°. **Operating Force:** 95 grams for momentary and 122 grams for maintained.



Straight PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-6028	G12AP	SPDT	on-none-on	4.70	4.33	4.02
870-6029	G13AP	SPDT	on-off-on	5.50	5.07	4.71
870-6030	G15AP	SPDT	on-none-(on)	5.65	5.21	4.84
870-6031	G18AP	SPDT	(on)-off-(on)	6.30	5.81	5.40
870-6032	G19AP	SPDT	on-off-(on)	6.30	5.81	5.40
870-6043	G22AP	DPDT	on-none-on	7.00	6.46	6.00
870-6044	G23AP	DPDT	on-off-on	7.40	6.83	6.34
870-6045	G25AP	DPDT	on-none-(on)	7.90	7.29	6.77
870-6046	G28AP	DPDT	(on)-off-(on)	8.80	8.12	7.54
870-6047	G29AP	DPDT	on-off-(on)	8.80	8.12	7.54

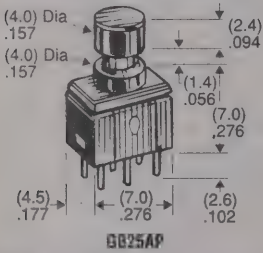
Right Angle PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-6033	G12AH	SPDT	on-none-on	5.40	4.98	4.62
870-6034	G13AH	SPDT	on-off-on	6.20	5.72	5.31
870-6035	G22AH	DPDT	on-none-on	8.10	7.47	6.94
870-6049	G23AH	DPDT	on-off-on	8.50	7.84	7.28

Vertical PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-6038	G12AV	SPDT	on-none-on	5.40	4.98	4.62
870-6039	G13AV	SPDT	on-off-on	6.20	5.72	5.31
870-6053	G22AV	DPDT	on-none-on	8.10	7.47	6.94
870-6054	G23AV	DPDT	on-off-on	8.50	7.84	7.28

G Series Pushbuttons



Micro-subminiature, PCB mountable, antistatic, washable, patented Sliding Twin Crossbar (STC) contact mechanism, plus molded-in, epoxy sealed terminals with .100" x .100" spacing. **Electrical Capacity:** 0.4VA maximum @ 28V AC/DC maximum. **Contact Resistance:** 80 milliohms maximum. **Dielectric Strength:** 500V AC minimum. **Electrical Life:** 50,000 operations minimum. **Ambient Temperature:** -25°C through +70°C. **Pretravel:** .035". **Overtravel:** .008". **Total Travel:** .043". **Operating Force:** 200 grams. **Note:** Plunger height is .130".

Straight PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-9319	GB15AP	SPDT	on-(on)	5.70	5.26	4.88
870-9320	GB25AP	DPDT	on-(on)	9.75	9.00	8.35

Right Angle PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-9321	GB15AH	SPDT	on-(on)	8.00	7.38	6.85
870-9322	GB25AH	DPDT	on-(on)	11.11	10.26	9.52

Vertical PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-9323	GB15AV	SPDT	on-(on)	8.00	7.38	6.85
870-9324	GB25AV	DPDT	on-(on)	11.11	10.26	9.52

Optional Slip-on Cap

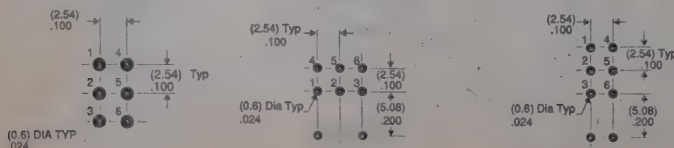
Stock No.	Mfr.'s Type	Colors	EACH		
			1-24	25-99	100-499
870-9325	AT4063A	Black	1.10	1.01	.94
870-9326	AT4063B	White	1.10	1.01	.94
870-9327	AT4063C	Red	1.10	1.01	.94

Footprints for G Series Toggles and Pushbuttons

Straight
Single pole models have terminals 1, 2, & 3 with support pins at positions 4 & 6.

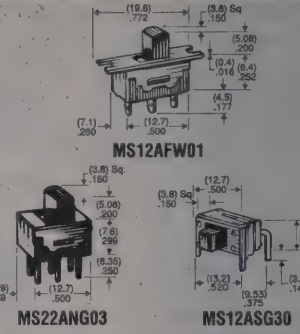
Right Angle
Single pole models have terminals 1, 2, & 3 with 2 support pins.

Vertical
Single pole models have terminals 1, 2, & 3 with 2 support pins.



MS Series Slides

Compact subminiature, epoxy sealed solder lug or PC terminals. **Electrical Capacity:** 6A @ 125V AC or 3A @ 250V AC for silver and 0.4VA maximum @ 28V AC/DC maximum for gold. **Contact Resistance:** 10 milliohms maximum (silver) and 20 milliohms maximum (gold). **Dielectric Strength:** 1,500V AC minimum. **Electrical Life:** 25,000 operations minimum (silver) and 50,000 operations minimum (gold). **Total Travel:** .087" for on-none-on models and .138" for on-off-on models. **Ambient Temperature:** -10°C through +70°C. CSA certified.



Flange Mount with Solder Lug Terminals/Silver

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-9930	MS12AFW01	SPDT	on-none-on	5.55	5.12	4.75
870-9931	MS13AFW01	SPDT	on-off-on	6.30	5.81	5.40
870-9932	MS22AFW01	DPDT	on-none-on	9.36	8.64	8.02
870-9933	MS23AFW01	DPDT	on-off-on	10.25	9.46	8.78

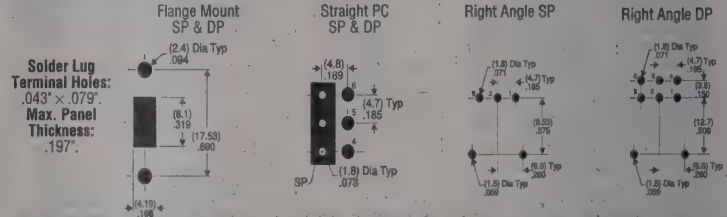
Straight PC Terminals/Gold

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-9934	MS12ANG03	SPDT	on-none-on	6.15	5.67	5.27
870-9935	MS13ANG03	SPDT	on-off-on	6.90	6.36	5.91
870-9936	MS22ANG03	DPDT	on-none-on	10.55	9.73	9.04
870-9937	MS23ANG03	DPDT	on-off-on	11.41	10.53	9.78

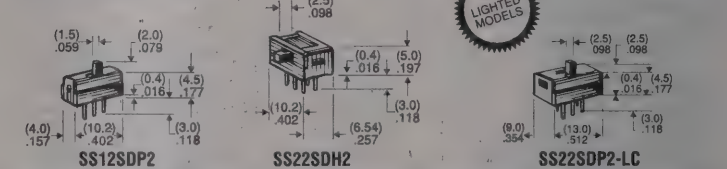
Right Angle PC Terminals/Gold

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-9938	MS12ASG30	SPDT	on-none-on	7.45	6.87	6.38
870-9939	MS13ASG30	SPDT	on-off-on	8.20	7.56	7.02
870-9940	MS22ASG30	DPDT	on-none-on	12.81	11.83	10.98
870-9941	MS23ASG30	DPDT	on-off-on	13.70	12.64	11.74

Mounting for MS Series: Panel and PCB



SS Series Slides



Micro-subminiature, logic level, PCB mounting, double molded thermostat base and thermoplastic housing, shorting contacts, insert molded terminals. **Electrical Capacity:** 0.1A @ 30V DC. **Contact Resistance:** 20 milliohms maximum. **Dielectric Strength:** 500V AC minimum. **Electrical Life:** 10,000 operations minimum. **Total Travel:** .079". **Ambient Temperature:** -10°C through +60°C.

Top Actuated

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	EACH		
				1-24	25-99	100-499
870-6003	SS12SDP2	SPDT	on-none-on	1.75	1.61	1.50
870-9928	SS14SDP2	SP3T	on-on-on	3.11	2.87	2.67
870-6007	SS22SDP2	DPDT	on-none-on	1.75	1.61	1.50

Side Actuated

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-6002	SS12SDH2	SPDT	on-none-on	1.75	1.61	1.50
870-9929	SS14SDH2	SP3T	on-on-on	3.11	2.87	2.67
870-6006	SS22SDH2	DPDT	on-none-on	2.10	1.93	1.80

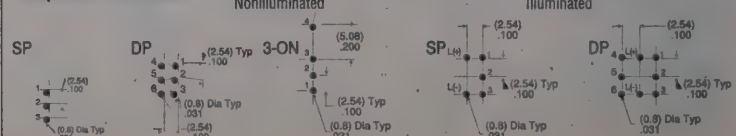
Illuminated Top Actuated: (C = red LED, F = green LED)

Stock No.	Mfr.'s Type	Pole Throw	Circuit	1-24	25-99	100-499
870-9125	SS12SDP2-LC	SPDT	on-none-on	8.93	8.24	7.65
870-9127	SS12SDP2-LF	SPDT	on-none-on	8.93	8.24	7.65
870-9128	SS22SDP2-LC	DPDT	on-none-on	9.36	8.64	8.02
870-9129	SS22SDP2-LF	DPDT	on-none-on	9.36	8.64	8.02

LED Specifications: Red/Green

Forward Peak Current: 20mA. **Continuous Forward Current:** 16mA. **Fwd Voltage:** 2.07V/2.16V. **Reverse Peak Voltage:** 3V/4V. **Current Reduction Rate above 25°C:** 0.27mA/°C.

Footprints for SS Series



Keypad and DIP Rotary Switches

NKK®
switches

JB Series

JB Series. Sealed dome contact mechanism and low profile. SPST contacts with strapped terminals allow X-Y coding on 1-sided PCB. Off-momentary On circuit. **Resistive Load:** 50mA @ 24 V DC. **Contact Resistance:** 50 milliohms max. **Dielectric Strength:** 250V AC min. **Electrical Life:** 5,000,000 operations minimum. **Total Travel:** .010". **Operating Force:** 180 grams. **Contact Bounce:** 0.1 millisecond max. **Ambient Temp.:** -25°C - +70°C.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-6058	JB15FP	Flat Blue Button, Nonilluminated	1.20	1.10	1.02
870-6061	JB15KP-1A	Black Sculptured, Nonilluminated	1.91	1.76	1.64
870-6062	JB15KP-1B	White Sculptured, Nonilluminated	2.30	2.12	1.97
870-6063	JB15KP-1C	Red Sculptured, Nonilluminated	2.30	2.12	1.97
870-6067	JB15KP-1H	Gray Sculptured, Nonilluminated	2.30	2.12	1.97
870-6071	JB15KP-2A	Black Square, Nonilluminated	2.60	2.40	2.22
870-6072	JB15KP-2B	White Square, Nonilluminated	3.25	3.00	2.78
870-6073	JB15KP-2C	Red Square, Nonilluminated	3.25	3.00	2.78
870-6077	JB15KP-2H	Gray Square, Nonilluminated	3.25	3.00	2.78
870-6080	JB15LP-3CC	Red Square, Illuminated	4.80	4.43	4.11
870-6081	JB15LP-3EE	Yellow Square, Illuminated	6.13	5.66	5.25
870-6082	JB15LP-3FF	Green Square, Illuminated	4.80	4.43	4.11

LED Specifications	Red	Yellow	Green
Forward Peak Current	30mA	20mA	20mA
Continuous Forward Current	20mA	15mA	15mA
Forward Voltage	2.0V	1.9V	1.95V
Reverse Peak Voltage	5V	5V	5V
Current Reduction Rate Above 25°C	0.40mA/°C	0.27mA/°C	0.27mA/°C

JF Series

JF Series. Keypad switch with extremely low profile and completely sealed dome contact. SPST contacts with strapped terminals allow X-Y coding on 1-sided PCB. Off-momentary On circuit. Nonilluminated and illuminated models. **Resistive Load:** 50mA @ 24V DC. **Contact Resistance:** 50 milliohms maximum. **Dielectric Strength:** 250V AC min. **Electrical Life:** 500,000 operations min. **Total Travel:** .031" with sculptured actuator, 0.16" with flush actuator. **Operating Force:** 200 grams with sculptured actuator; 350 grams w/flush actuator. **Contact Bounce:** 0.1 millisecond max. **Ambient Temp.:** -25°C - +70°C (illum.) and -25°C - +85°C (nonillum.)

Nonilluminated Models with Square Black Housing

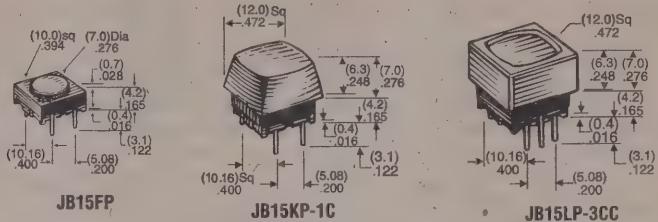
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-9331	JF15SP1C	Square Red Actuator	3.40	3.06	2.75
870-9332	JF15SP1D	Square Orange Actuator	4.25	3.92	3.64
870-9333	JF15SP1F	Square Green Actuator	3.40	3.13	2.91
870-9334	JF15SP1G	Square Blue Actuator	4.25	3.92	3.64
870-9335	JF15SP1H	Square Gray Actuator	3.40	3.13	2.91

Nonilluminated models with Round Black Housing

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-9351	JF15CP2C	Round Red Actuator	3.40	3.13	2.91
870-9352	JF15CP2D	Round Orange Actuator	4.25	3.92	3.64
870-9353	JF15CP2F	Round Green Actuator	4.25	3.92	3.64
870-9354	JF15CP2G	Round Blue Actuator	4.25	3.92	3.64
870-9355	JF15CP2H	Round Gray Actuator	4.25	3.92	3.64

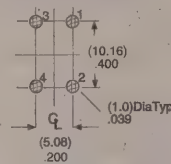
Spot Illuminated Models with Rectangular Black Housing

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-499
870-9401	JF15RP1C-C	Square Red Actuator & Red LED	6.61	6.10	5.67
870-9405	JF15RP1D-E	Square Orange Act'r & Yellow LED	6.61	6.10	5.67
870-9409	JF15RP1F-F	Square Green Actuator & Green LED	6.61	6.10	5.67
870-9425	JF15RP2G-C	Round Blue Actuator & Red LED	6.61	6.10	5.67
870-9429	JF15RP2H-E	Round Gray Actuator & Yellow LED	6.61	6.10	5.67
870-9418	JF15RP2C-F	Round Red Actuator & Green LED	6.61	6.10	5.67
870-9434	JF15RP3D-C	Sculptured Orange Act'r & Red LED	7.00	6.46	6.00
870-9438	JF15RP3F-E	Sculptured Green Act'r & Yellow LED	7.00	6.46	6.00
870-9442	JF15RP3G-F	Sculptured Blue Act'r & Green LED	6.40	5.90	5.48

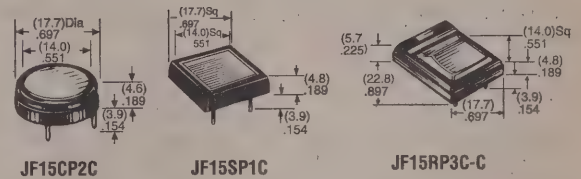
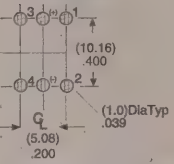


Note: Square caps (coded 2&3) are the same shape and dimensions; they are illustrated by the drawing of JB15LP-3CC

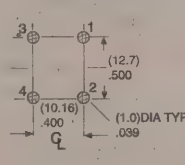
PCB Footprint for Nonilluminated



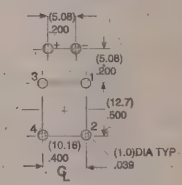
PCB Footprint for Illuminated



PCB Footprint for Nonilluminated

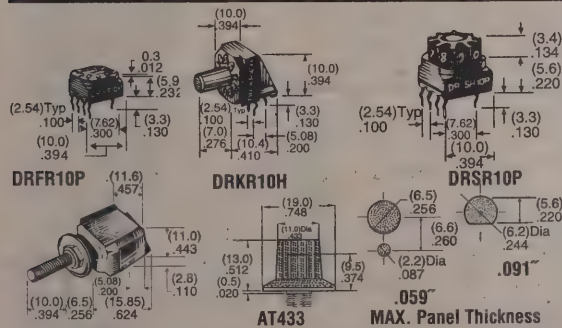


PCB Footprint for Illuminated



Note: All actuators (1, 2 and 3) are available in all five colors (C, D, F, G, and H)

LED Specifications	Red	Yellow	Green
Forward Peak Current	40mA	40mA	40mA
Continuous Fwd Current	30mA	30mA	30mA
Forward Voltage	1.7V	2.2V	2.2V
Reverse Peak Voltage	4V	4V	4V
Current Reduction Rate Above 25°C	0.67mA/°C	0.67mA/°C	0.67mA/°C



DR Series

DR Series. Binary-coded DIP rotaries with sealed body, various circuits, and various actuator types with straight or right angle PC terminations. DRA knob actuated model is panel mount with 6mm flatted bushing and hardware provided. **Switching Rating:** 100mA @ 5V DC. **Nonswitching Rating:** 100mA @ 50V DC. **Contact Resistance:** 80 milliohms maximum (all contacts); 30 milliohms maximum (1 contact). **Dielectric Strength:** 250V AC minimum. **Electrical Life:** 20,000 detent operations minimum. **Operating Torque:** 120g - 260g. **Ambient Temperature:** -40°C through +75°C.

Stock No.	Mfr.'s Type	Actuator	Coding & Terminals (added info on table at left)	EACH		
				1-24	25-99	100-499
870-9130	DRAC16P	Knob	Complement/Hexa/Straight PC	8.36	7.72	7.17
870-9131	DRAC16H	Knob	Complement/Hexa/Right Angle	9.00	8.30	7.71
870-9132	DRAR16P	Knob	Real/Hexa/Straight PC	8.36	7.72	7.17
870-9133	DRAR16H	Knob	Real/Hexa/Right Angle	9.00	8.30	7.71
870-9140	AT433	Knob (cap)	For DRA Models only	.93	.86	.80
870-6008	DRFR10P	Screwdriver	Real/Decimal/Straight PC	4.80	4.43	4.11
870-6009	DRFR16P	Screwdriver	Real/Hexadecimal/Straight PC	4.80	4.43	4.11
870-6010	DRFR10H	Screwdriver	Real/Decimal/Right Angle	5.30	4.89	4.54
870-6011	DRFR16H	Screwdriver	Real/Hexadecimal/Right Angle	5.30	4.89	4.54
870-6012	DRKR10P	Shaft	Real/Decimal/Straight PC	5.20	4.80	4.45
870-6013	DRKR16P	Shaft	Real/Hexadecimal/Straight PC	5.20	4.80	4.45
870-6014	DRKR10H	Shaft	Real/Decimal/Right Angle	5.70	5.26	4.88
870-6015	DRKR16H	Shaft	Real/Hexadecimal/Right Angle	5.70	5.26	4.88
870-6016	DRSR10P	Dial	Real/Decimal/Straight PC	5.50	5.07	4.71
870-6017	DRSR16P	Dial	Real/Hexadecimal/Straight PC	5.50	5.07	4.71
870-6018	DRFC10P	Screwdriver	Complement/Deci/Straight PC	4.80	4.43	4.11
870-6019	DRFC16P	Screwdriver	Complement/Hexa/Straight PC	4.80	4.43	4.11
870-6020	DRFC10H	Screwdriver	Complement/Deci/Right Angle	5.30	4.89	4.54
870-6021	DRFC16H	Screwdriver	Complement/Hexa/Right Angle	5.30	4.89	4.54
870-6025	DRKC16H	Shaft	Complement/Hexa/Right Angle	5.70	5.26	4.88
870-6027	DRSC16P	Dial	Complement/Hexa/Straight PC	5.50	5.07	4.71

TRUTH TABLES

Actuator Positions		Hexadecimal Positions															
		Decimal Positions										Hexadecimal Positions					
Terminal Number (Output)	Real Coded Mode Numbers	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
		DRFR	DRKR	DRSR	DRAR	DRFR	DRKR	DRSR	DRAR	DRFR	DRKR	DRSR	DRAR	DRFR	DRKR	DRSR	DRAR
R	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
C	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

HB Series

Super-subminiature with LED full or spot illumination. Front panel relamp. Front panel threaded mount. Dual, sliding silver contacts. Momentary and alternate action circuits with latchdown. Molded-in terminals. **Resistive Load:** 0.1A max. @ 30V AC/DC. **Contact Resistance:** 50 milliohms max. **Dielectric Strength:** 500V AC min. **Electrical Life:** 50,000 operations minimum. **Travel:** .118". **Operating Force:** 350g. **Ambient Temperature:** -20°C through +50°C.

Switches and Snap-on Caps (Match switch and cap shapes; order lamps separately.)

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = mom.	Description	EACH		
					1-24	25-49	50-99
870-0866	HB15SKW01	SPDT	on-(on)	Square Shroud	7.03	6.49	6.02
870-0867	HB16SKW01	SPDT	on-on	Square Shroud	7.90	7.29	6.77
870-0872	AT4031C	Cap	Square	Red	0.96	0.89	0.82
870-0873	AT4031E	Cap	Square	Yellow	0.96	0.89	0.82
870-0874	AT4031F	Cap	Square	Green	0.96	0.89	0.82
870-2005	AT4052A	Cap	Square	Black, Spot Illum'd	1.40	1.29	1.20
870-0868	HB15CKW01	SPDT	on-(on)	Round Shroud	7.03	6.49	6.02
870-0869	HB16CKW01	SPDT	on-on	Round Shroud	7.90	7.29	6.77
870-0875	AT4032C	Cap	Round	Red	0.96	0.89	0.82
870-0876	AT4032E	Cap	Round	Yellow	0.96	0.89	0.82
870-0877	AT4032F	Cap	Round	Green	0.96	0.89	0.82

LED Specifications and Ordering Information

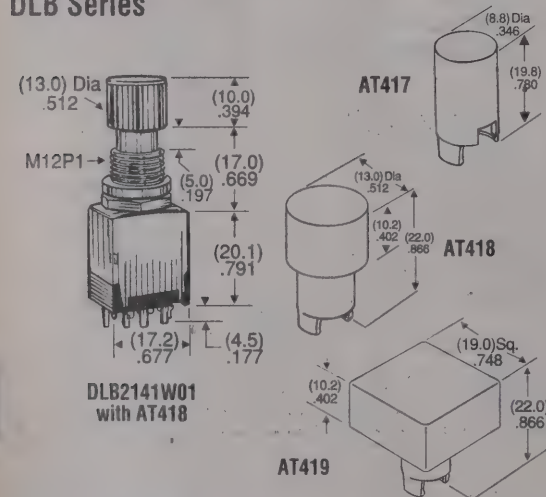
Stock No.	Mfr.'s Type	LED Color	Electrical Specifications			EACH		
			Fwd Peak Current	Cont's Fwd Current	Fwd Voltage	1-24	25-49	50-99
870-8894	AT616C	Red	30mA	24mA	2.04V	1.51	1.40	1.30
870-8895	AT616E	Yellow	20mA	16mA	1.88V	1.51	1.40	1.30
870-8896	AT616F	Green	30mA	24mA	2.02V	1.51	1.40	1.30

Reverse Peak Voltage: 5V for Red, Yellow and Green. **Current Reduction Rate above 25°C:** 0.40mA/°C for Red and Green, 26mA/°C for Yellow.

Lamping Tool

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
870-8789	AT111	Lamping Tool of stainless steel, .197" long	0.53	0.49	0.45

DLB Series



Standard size with full face illumination. Rear panel threaded mounting. DPDT with momentary and alternate action. Staked-in terminals. **Resistive Load:** 5A max. @ 125V AC w/silver contacts (gold available). **Contact Resistance:** 10 milliohms max. **Dielectric Strength:** 1,500 V AC min. **Electrical Life:** 10,000 operations min. **Total Travel:** .196". **Operating Force:** 1,300g (momentary) and 1,200g (alternate action). **Ambient Temperature:** -10°C through +50°C.

Switches and Snap-on Caps (Order lamps separately.)

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = mom.	Description	EACH		
					1-24	25-49	50-99
870-8200	DLB2141W01	DPDT	on-(on)	Switch Only	9.86	9.10	8.45
870-8201	DLB2145W01	DPDT	on-on	Switch Only	9.86	9.10	8.45
870-0851	AT417B	Cap	.346" Dia.	White	1.28	1.18	1.10
870-0852	AT417C	Cap	.346" Dia.	Red	1.28	1.18	1.10
870-0854	AT417D	Cap	.346" Dia.	Amber	1.28	1.18	1.10
870-8785	AT418E	Cap	.512" Dia.	Yellow	1.35	1.24	1.15
870-8237	AT418F	Cap	.512" Dia.	Green	1.51	1.40	1.30
870-4501	AT418G	Cap	.512" Dia.	Blue	1.51	1.40	1.30
870-8229	AT419B	Cap	.748" Sq.	White	1.35	1.24	1.15
870-8226	AT419C	Cap	.748" Sq.	Red	1.35	1.24	1.15
870-8228	AT419D	Cap	.748" Sq.	Amber	1.51	1.40	1.30

Incandescent Lamp Specifications and Ordering Information

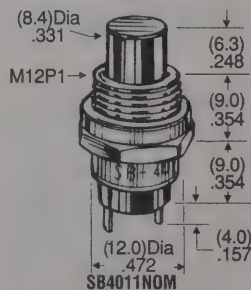
Stock No.	Mfr.'s Type	Voltage	Current	Endurance	EACH		
					1-24	25-49	50-99
870-0855	AT604-6V	6 volt	200mA	1,000 hours	1.86	1.72	1.60
870-8300	AT604-14V	14 volt	80mA	750 hours	1.66	1.53	1.42
870-8305	AT604-28V	28 volt	40mA	1,000 hours	1.86	1.53	1.42

SB Series and FB Series

SB Series. Rugged, low cost subminiature pushbutton switch. Rear panel threaded mounting. NO = Normally Open and NC = Normally Closed. Black Plunger. **Resistive Load:** 3A @ 125V AC with silver contacts (gold available). **Contact Resistance:** 10 milliohms max. **Dielectric Strength:** 1,000V AC min. **Electrical Life:** 10,000 operations minimum. **Travel:** .088". **Operating Force:** 500g. **Ambient Temperature:** -10°C through +70°C.

SB Series Switches and Optional Slip-on Cap

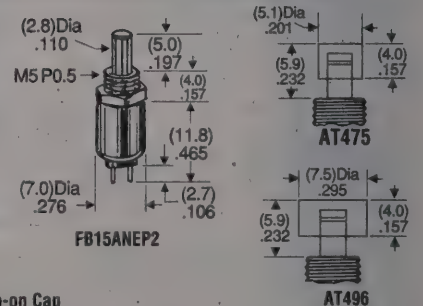
Stock No.	Mfr.'s Type	Pole Throw	Circuit () = mom.	Description	EACH		
					1-24	25-49	50-99
870-0790	SB4011NOM	SPST	off-(on)	Blk plunger	4.30	3.87	3.48
870-0791	SB4011NCM	SPST	on-(off)	Blk Plunger	4.30	3.87	3.48
870-8780	AT422A	Cap	.394" Dia.	Black	0.40	0.36	0.34
870-8781	AT422B	Cap	.394" Dia.	White	0.40	0.36	0.34
870-8782	AT422C	Cap	.394" Dia.	Red	0.40	0.36	0.34



FB Series. Super-subminiature, momentary, rear panel mounting pushbutton switch. Epoxy sealed solder lug/PC terminals. White plunger. **Resistive Load:** 500mA @ 125V AC with silver contacts (gold available). **Contact Resistance:** 30 milliohms max. **Dielectric Strength:** 1,000V AC min. **Electrical Life:** 50,000 operations min. **Total Travel:** .065". **Operating Force:** 220 grams average. **Ambient Temperature:** -10°C through +70°C.

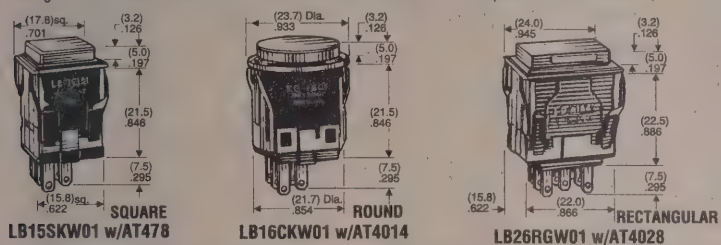
FB Series Switches and Optional Slip-on Cap

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = mom.	Description	EACH		
					1-24	25-49	50-99
870-0905	FB15ANEP2	SPST	off-(on)	Whit plunger	2.83	2.61	2.42
870-1201	AT475A	Cap	.201" Dia.	Black	0.25	0.23	0.21
870-1202	AT475B	Cap	.201" Dia.	White	0.25	0.23	0.21
870-1200	AT475C	Cap	.201" Dia.	Red	0.25	0.23	0.21
870-0901	AT496A	Cap	.295" Dia.	Black	0.30	0.27	0.25
870-0902	AT496B	Cap	.295" Dia.	White	0.35	0.32	0.30
870-0900	AT496C	Cap	.295" Dia.	Red	0.35	0.32	0.30



Basic Switches and Indicators

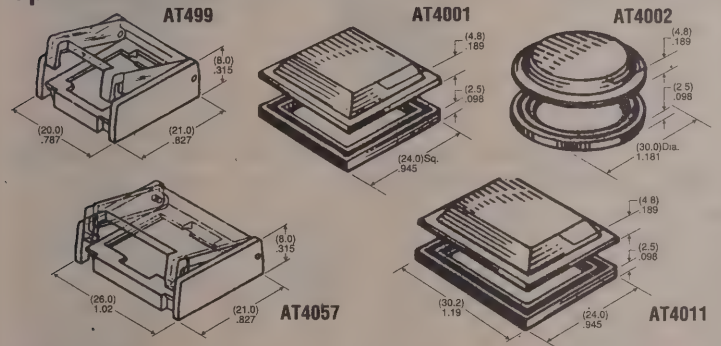
LB Series. Standard size, snap-in mounting. Bright, full surface illumination. Front panel relamping and cap changing. Stainless steel clips for secure mounting and wide range of panel thicknesses: .039" - .157". Latchdown for indication of circuit status. Snap-action contact mechanism. Combination solder lug and .110" quick connect, epoxy sealed terminals. **Resistive Load:** 3A max. @ 125/250V AC for silver contacts (gold contacts available rated 0.4VA max. @ 28V AC/DC max.). **Contact Resistance:** 50 milliohms maximum. **Dielectric Strength:** 1,500 V AC minimum. **Electrical Life:** 100,000 operations minimum. **Total Travel:** .118" for momentary and .094" for alternate action. **Operating Force:** 450 grams. **Ambient Temperature:** -15°C through +50°C. Panel sealed model available and meets IP 65 of IEC 529 specifications.



Basic Switches and Indicators (Order caps and lamps separately.)

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = mom.	Bezel & Body Shape	EACH			
					1-24	25-49	50-99	100-249
870-8790	LB15SKW01	SPDT	on-(on)	Square	8.80	8.12	7.54	7.04
870-8791	LB16SKW01	SPDT	on-on	Square	11.26	10.40	9.65	9.01
870-8792	LB25SKW01	DPDT	on-(on)	Square	12.23	11.29	10.48	9.78
870-8793	LB26SKW01	DPDT	on-on	Square	13.96	12.89	11.97	11.17
870-8794	LB15CKW01	SPDT	on-(on)	Round	9.53	8.80	8.17	7.62
870-8795	LB16CKW01	SPDT	on-on	Round	11.26	10.40	9.65	9.01
870-8796	LB25CKW01	DPDT	on-(on)	Round	12.23	11.29	10.48	9.78
870-8797	LB26CKW01	DPDT	on-on	Round	13.96	12.89	11.97	11.17
870-8798	LB15RKW01	SPDT	on-(on)	Rectangle	9.53	8.80	8.17	7.62
870-8799	LB16RKW01	SPDT	on-on	Rectangle	12.13	11.20	10.40	9.70
870-8800	LB25RKW01	DPDT	on-(on)	Rectangle	12.23	11.29	10.48	9.78
870-8801	LB26RKW01	DPDT	on-on	Rectangle	13.96	12.89	11.97	11.17
870-8802	LB01KW01	Indicator	—	Square	6.06	5.60	5.20	4.85
870-8803	LB02KW01	Indicator	—	Round	6.53	6.03	5.20	5.22
870-8804	LB03KW01	Indicator	—	Rectangle	1.73	1.60	1.48	1.38

Optional Accessories

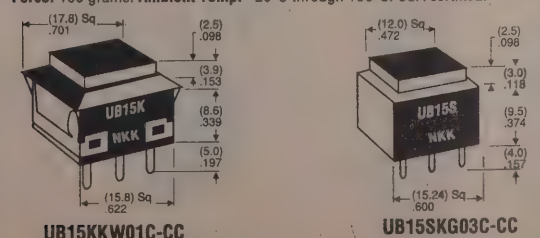


Optional Accessories

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
870-8811	AT499	Square Protective Guard	2.10	1.93	1.80	1.68
870-8812	AT4057	Rectangular Protective Guard	1.95	1.80	1.67	1.56
870-8813	AT4001	Square Splash Cover	1.86	1.72	1.30	1.21
870-8814	AT4002	Round Splash Cover	1.73	1.60	1.48	1.38
870-8815	AT4011	Rectangular Splash Cover	1.86	1.72	1.30	1.21

Low Profile Models

UB Series. Alternate and momentary action circuits. Snap-action contact mechanism with latchdown. **Snap-in Mount (W01)** with solder lug terminals and silver contacts. **PCB Mount (G03)** with straight PC terminals and gold contacts. **Resistive Load:** 5A max. @ 125/250V AC for silver contacts; 0.4VA max. @ 28V AC/DC max. (gold). **Contact Resistance:** 50 milliohms max. (silver) and 100 milliohms max. (gold). **Dielectric Strength:** 1,000 V AC min. between contacts and 1,500 V AC min. between contacts and case. **Electrical Life:** 10,000 operations min. (silver) and 200,000 min. (gold). **Total Travel:** .091". **Operating Force:** 160 grams. **Ambient Temp:** -20°C through +50°C. CSA certified.



Complete Assembled Switch

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = mom.	Mounting Type	Contact Type	LED/Cap Color	EACH			
							1-24	25-49	50-99	100-249
870-9141	UB15KKW01C-CC	SPDT	on-(on)	Snap-in	Silver	Red	11.20	10.33	9.60	8.96
870-9142	UB15KKW01E-EE	SPDT	on-(on)	Snap-in	Silver	Yellow	11.20	10.33	9.60	8.96
870-9143	UB15KKW01F-FF	SPDT	on-(on)	Snap-in	Silver	Green	11.20	10.33	9.60	8.96
870-9144	UB15SKG03C-CC	SPDT	on-(on)	PCB	Gold	Red	10.96	10.12	9.40	8.77
870-9145	UB15SKG03E-EE	SPDT	on-(on)	PCB	Gold	Yellow	10.96	10.12	9.40	8.77
870-9146	UB15SKG03F-FF	SPDT	on-(on)	PCB	Gold	Green	10.96	10.12	9.40	8.77
870-9147	UB16KKW01C-CC	SPDT	on-on	Snap-in	Silver	Red	12.48	11.52	10.70	9.98
870-9148	UB16KKW01E-EE	SPDT	on-on	Snap-in	Silver	Yellow	12.48	11.52	10.70	9.98
870-9149	UB16KKW01F-FF	SPDT	on-on	Snap-in	Silver	Green	12.48	11.52	10.70	9.98
870-9150	UB16SKG03C-CC	SPDT	on-on	PCB	Gold	Red	12.25	11.30	10.50	9.80
870-9151	UB16SKG03E-EE	SPDT	on-on	PCB	Gold	Yellow	12.25	11.30	10.50	9.80
870-9152	UB16SKG03F-FF	SPDT	on-on	PCB	Gold	Green	12.25	11.30	10.50	9.80

LED Electrical Specifications:

LED Color	Forward Peak Current	Continuous Fwd Current	Forward Voltage	Reverse Peak Voltage	Current Reduction Rate above 25°C
Red	50mA	40mA	1.75V	4V	0.67mA/°C
Yellow	50mA	40mA	2.35V	4V	0.67mA/°C
Green	50mA	40mA	2.35V	4V	0.67mA/°C

Incandescent Lamps and Matching Caps



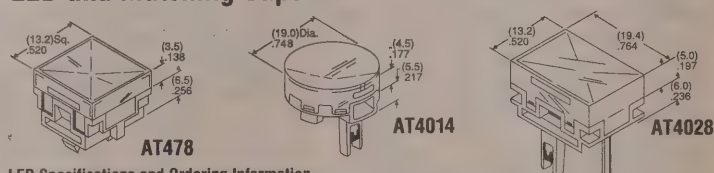
Incandescent Lamp Specifications and Ordering Information

Stock No.	Mfr.'s Type	Electrical Specifications			EACH			
		Voltage	Current	Endurance	1-24	25-49	50-99	100-249
870-8805	AT607-5V	5-volt	115mA	7,000 hrs	1.73	1.60	1.48	1.38
870-8806	AT607-12V	12-volt	60mA	7,000 hrs	1.60	1.47	1.37	1.28
870-8807	AT607-28V	28-volt	24mA	7,000 hrs	2.00	1.84	1.71	1.60

Caps for Incandescent Lamps

Stock No.	Mfr.'s Type	Actuator Shape	Cap Color	EACH			
				1-24	25-49	50-99	100-249
870-8816	AT476B	Square	White	1.51	1.40	1.30	1.21
870-8817	AT476C	Square	Red	1.51	1.40	1.30	1.21
870-8818	AT476E	Square	Yellow	1.63	1.50	1.40	1.30
870-8819	AT476F	Square	Green	1.63	1.50	1.40	1.30
870-8820	AT476G	Square	Blue	1.63	1.50	1.40	1.30
870-8821	AT4012B	Round	White	1.63	1.50	1.40	1.30
870-8822	AT4012C	Round	Red	1.63	1.50	1.40	1.30
870-8823	AT4012E	Round	Yellow	1.63	1.50	1.40	1.30
870-8824	AT4012F	Round	Green	1.51	1.40	1.30	1.21
870-8825	AT4012G	Round	Blue	1.63	1.50	1.40	1.30
870-8826	AT4026B	Rectangular	White	1.63	1.50	1.40	1.30
870-8827	AT4026C	Rectangular	Red	1.51	1.40	1.30	1.21
870-8828	AT4026E	Rectangular	Yellow	1.63	1.50	1.40	1.30
870-8829	AT4026F	Rectangular	Green	1.51	1.40	1.30	1.21
870-8830	AT4026G	Rectangular	Blue	1.63	1.50	1.40	1.30

LED and Matching Caps



LED Specifications and Ordering Information

Reverse Peak Voltage: 4V for Red, Yellow, Green. **Current Reduction Rate above 25°C:** 0.67mA/°C for Red, Yellow, Green.

Stock No.	Mfr.'s Type	LED Color	Electrical Specifications			EACH			
			Fwd Peak Current	Cont's Fwd Current	Fwd Voltage	1-24	25-49	50-99	100-249
870-8808	AT614C	Red	50mA	40mA	1.75V	1.80	1.66	1.54	1.44
870-8809	AT614E	Yellow	50mA	40mA	2.35V	1.95	1.80	1.67	1.56
870-8810	AT614F	Green	50mA	40mA	2.35V	1.95	1.80	1.67	1.56

Caps for LED

Stock No.	Mfr.'s Type	Actuator Shape	Cap Color	EACH			
				1-24	25-49	50-99	100-249
870-8837	AT478C	Square	Red	1.51	1.40	1.30	1.21
870-8838	AT478E	Square	Yellow	1.51	1.40	1.30	1.21
870-8839	AT478F	Square	Green	1.51	1.40	1.30	1.21
870-8840	AT4014C	Round	Red	1.51	1.40	1.30	1.21
870-8841	AT4014E	Round	Yellow	1.51	1.40	1.30	1.21
870-8842	AT4014F	Round	Green	1.51	1.40	1.30	1.21
870-8843	AT4028C	Rectangular	Red	1.51	1.40	1.30	1.21
870-8844	AT4028E	Rectangular	Yellow	1.51	1.40	1.30	1.21
870-8845	AT4028F	Rectangular	Green	1.51	1.40	1.30	1.21

Standard Size Toggle Switches

Solder Lug Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit () = momentary	Resistive Load		Inductive	EACH		
				125VAC	250VAC	125VAC	1-24	25-99	100-249
870-9203	S1A	SPST	on-none-off	15A	6A	8A	5.20	4.68	4.21
870-9206	S2A	SPDT	on-none-on	15A	6A	8A	5.90	5.31	4.77
870-9209	S3A	SPDT	on-off-on	15A	6A	8A	5.76	5.32	4.94
870-9950	S305	SPDT	on-none-(on)	15A	6A	8A	9.68	8.93	8.30
870-9228	S308	SPDT	(on)-off-(on)	15A	6A	8A	10.96	10.12	9.40
870-9229	S331	DPST	on-none-off	25A	25A	10A	9.90	8.91	8.01
870-9153	S114	DPST	on-none-off	5A	—	3A	5.21	4.81	4.47
870-9154	S116	DPDT	on-none-on	5A	2A	3A	5.58	5.15	4.78
870-9155	S21A	DPST	on-none-off	15A	15A	8A	6.60	6.09	5.65
870-9231	S332	DPDT	on-none-on	25A	15A	10A	11.20	10.08	9.07
870-9233	S333	DPDT	on-off-on	25A	15A	10A	13.65	12.60	11.70
870-9951	S335	DPDT	on-none-(on)	15A	6A	8A	13.30	11.97	10.77
870-9952	S338	DPDT	(on)-off-(on)	15A	6A	8A	14.30	12.87	11.58
870-9218	S32	3PDT	on-none-on	25A	9A	10A	13.56	12.52	11.62
870-9219	S33	3PDT	on-off-on	25A	9A	10A	17.61	16.26	15.10
870-9156	S35	3PDT	on-none-(on)	15A	6A	8A	17.41	16.07	14.92
870-9220	S42	4PDT	on-none-on	25A	9A	10A	19.71	18.20	16.90
870-9221	S43	4PDT	on-off-on	25A	9A	10A	16.13	14.89	13.82

Screw Terminals

870-9223	S301T	SPST	on-none-off	15A	6A	10A	6.78	6.26	5.81
870-9225	S302T	SPDT	on-none-on	15A	6A	10A	9.10	8.40	7.80
870-9227	S303T	SPDT	on-off-on	15A	6A	10A	9.45	8.72	8.10
870-9230	S331T	DPST	on-none-off	15A	15A	10A	13.41	12.38	11.50
870-9232	S332T	DPDT	on-none-on	15A	15A	10A	14.58	13.46	12.50
870-9234	S333T	DPDT	on-off-on	15A	15A	10A	15.75	14.53	13.50

Quick Connect Terminals

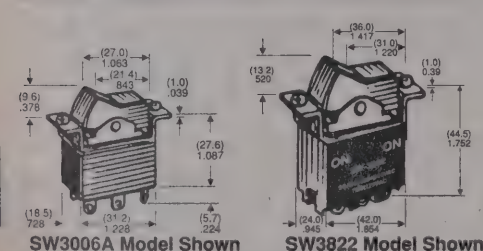
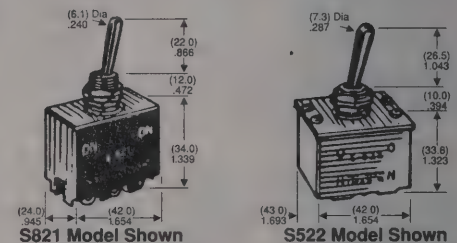
870-9205	S1F	SPST	on-none-off	15A	6A	8A	5.40	4.86	4.37
870-9208	S2F	SPDT	on-none-on	15A	6A	8A	5.86	5.41	5.02
870-9211	S3F	SPDT	on-off-on	15A	6A	8A	6.05	5.58	5.18
870-9215	S6F	DPDT	on-none-on	20A	10A	8A	8.80	8.12	7.54
870-9157	S7F	DPDT	on-off-on	20A	10A	8A	9.16	8.46	7.85

S Series. Variations: 1-4 pole; 5A-25A range of electrical capacities; solder lug, screw and .250" quick connect terminals; 12mm bushings. Many devices UL recognized and CSA certified. Terminal hardware provided with screw terminals. Bright chrome bat lever finish. Bushing hardware provided. **S114 and S116 bodies:** .693" W x 1.094" L x .685" H.

High Capacity Toggle Switches

Variations: 2-3 pole; 30-50A range of electrical capacities; 12mm bushings. Screw terminals. Terminal hardware provided. Bright chrome bat lever. **S821 UL recognized; S532, S533, S821 CSA certified. S732 body:** 1.496" W x 2.362" L x 1.535" H.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	Resistive Load		Inductive	EACH		
				125VAC	250VAC	125VAC	1-24	25-99	100-249
870-9240	S821	DPST	on-none-off	30A	30A	—	22.50	20.25	18.22
870-9237	S532	DPDT	on-none-on	30A	15A	15A	27.30	25.20	23.40
870-9239	S732	DPDT	on-none-on	50A	30A	25A	64.05	59.12	54.90
870-9238	S533	DPDT	on-off-on	30A	15A	15A	28.23	26.06	24.20
870-9235	S522	3PDT	on-none-on	30A	15A	15A	48.06	44.36	41.20
870-9236	S523	3PDT	on-off-on	30A	15A	15A	49.81	45.98	42.70



Standard Size and High Capacity Rocker Switches

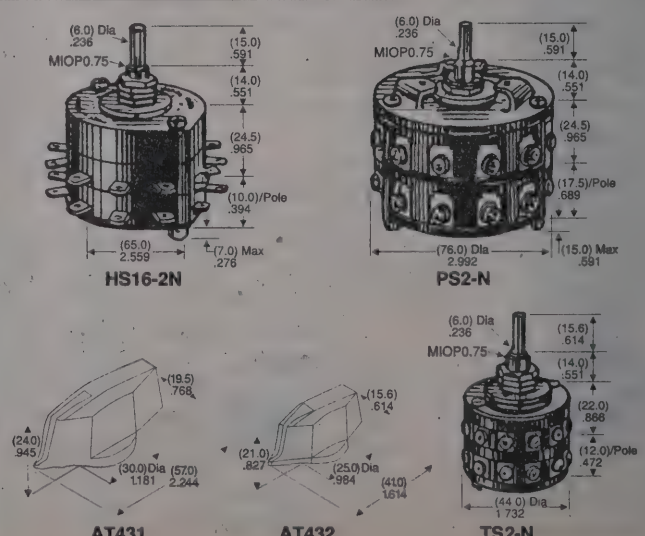
Variations: 1-2 pole; 15A-30A range of electrical capacities; flush panel and subpanel mount. Solder lug terminals on SW3000s and screw terminals of SW3800s. All devices UL recognized and CSA certified. Terminal hardware provided.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	Resistive Load		Inductive	EACH		
				125VAC	250VAC	125VAC	1-24	25-99	100-249
870-9243	SW3001A	SPST	on-none-off	15A	6A	10A	6.18	5.70	5.30
870-9245	SW3002A	SPDT	on-none-on	15A	6A	10A	6.88	6.35	5.90
870-9247	SW3006A	DPDT	on-none-on	20A	10A	10A	10.50	9.69	9.00
870-9158	SW3821	DPST	on-none-off	30A	30A	—	25.78	23.80	22.10
870-9249	SW3822	DPDT	on-none-on	30A	30A	—	26.71	24.66	22.90
870-9250	SW3833	DPDT	on-off-on	30A	30A	—	29.75	27.46	25.50

Standard Size and High Capacity Rotaries

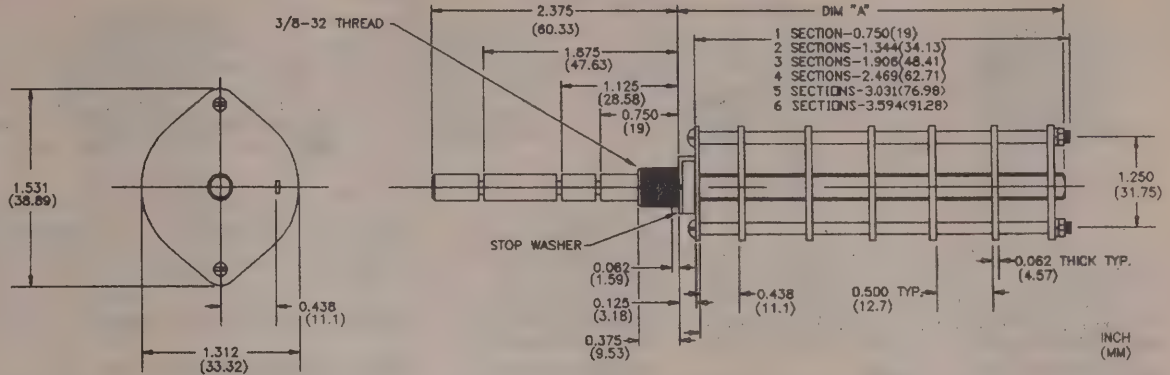
Available in a variety of families from 6 Amp devices to large 30 Amp rotaries. Available in 1-12 positions and 1-6 pole with nonshorting circuits. (Shorting circuits are also available.) Adjustable settings: 2, 3, 4, etc. through 11. .250" quick connect/solder lug terminals on HS. Hardware provided with screw terminals on TS and PS models.

Stock No.	Mfr.'s Type	Terminals	Resistive Load		EACH		
			125VAC	250VAC	1-24	25-99	100-249
870-9251	HS16-1N	1 COMM 11 LOAD	12A	6A	20.40	19.45	18.47
870-9253	HS16-2N	2 COMM 22 LOAD	12A	6A	32.31	29.83	27.70
870-9255	HS16-3N	3 COMM 33 LOAD	12A	6A	44.10	40.70	37.80
870-9257	HS16-4N	4 COMM 44 LOAD	12A	6A	76.65	70.75	65.70
870-9259	HS16-5N	5 COMM 55 LOAD	12A	6A	94.03	86.80	80.60
870-9261	HS16-6N	6 COMM 66 LOAD	12A	6A	136.96	126.43	117.40
870-9265	PS1-N	1 COMM 11 LOAD	30A	30A	44.80	41.35	38.40
870-9266	PS2-N	2 COMM 22 LOAD	30A	30A	67.78	62.56	58.10
870-9267	PS3-N	3 COMM 33 LOAD	30A	30A	89.60	82.70	76.80
870-9268	PS4-N	4 COMM 44 LOAD	30A	30A	119.00	109.84	102.00
870-9269	TS1-N	1 COMM 11 LOAD	6A	6A	32.31	29.83	27.70
870-9270	TS2-N	2 COMM 22 LOAD	6A	6A	52.38	48.35	44.90
870-9271	TS3-N	3 COMM 33 LOAD	6A	6A	67.78	62.56	58.10
870-9272	TS4-N	4 COMM 44 LOAD	6A	6A	104.76	96.70	89.80
870-9159	AT431	Large Rotary Knob	Gloss Black	—	3.56	3.29	3.05
870-9160	AT432	Small Rotary Knob	Gloss Black	—	3.56	3.29	3.05



K Series Phenolic Insulated and JC Series Ceramic Insulated Rotary Switches

1 1/2" diameter rotary switches, double-wiping, self-cleaning silver-plated brass contacts with either phenolic or ceramic insulation. Unique protective coating guards against tarnish and corrosion, extends shelf-life. Provides up to six sections and 12 poles.



Rotary Switching Wafers — K Series

Shorting		Non-Shorting		Index Angle	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type				1-9	10-49
809-1075	399242-K	809-1080	399243-K	30	1	2-11	3.97	3.47
809-1085	399244-K	809-1090	399245-K	30	2	2-5	3.97	3.47
—	—	809-1095	399247-K	30	3	2-3	4.73	4.13

Rotary Switching Wafers — JC Series

809-0005	399150-JC	809-0010	399151-JC	30	1	2-12	8.10	7.44
809-0065	399152-JC	809-0015	399153-JC	30	2	2-6	8.53	7.46
—	—	809-2010	399155-JC	30	6	2	9.43	8.24
—	—	809-2005	399447-JC	30	5	2-3	9.62	8.41

Shaft and Index Assemblies — K Series

Stock No.	Mfr.'s Type	For Switches	Rear Shaft Length	EACH	
				1-9	10-49
809-4000	399043-K	1-4 Sections	2 15/32"	11.87	10.38
809-4005	399024-K	4-6 Sections	6 1/8"	13.75	12.02

Shaft and Index Assemblies — JC Series

809-4070	399043-JC	1-4 Sections	2 15/32"	11.00	9.62
809-4075	399024-JC	4-6 Sections	6 1/8"	11.38	9.96

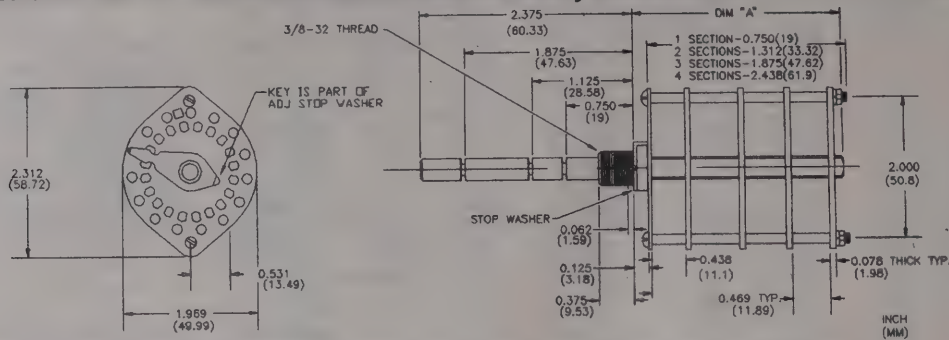
Assembled Rotary Switches — K Series

Shorting		Non-Shorting		Index Angle	No. of Sections	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type					1-9	10-49
809-4010	399418-K	809-0035	399419-K	30	1	1	2-12	13.99	12.23
809-1055	399420-K	809-0040	399421-K	30	2	1	2-12	18.29	15.98
809-1060	399422-K	809-4015	399423-K	30	3	1	2-12	26.33	23.01
809-4020	399424-K	809-4025	399425-K	30	4	4	2-12	30.16	26.36
809-4030	399426-K	809-4035	399427-K	30	1	2	2-6	14.37	12.56
809-4040	399428-K	809-4045	399429-K	30	2	4	2-6	18.99	16.60
—	—	809-0055	399431-K	30	3	6	2-6	28.56	21.02
—	—	809-4050	399433-K	30	1	4	2	15.32	13.40
809-1015	399490-K	809-0045	399491-K	30	1	3	2-5	14.56	12.73
—	—	809-4055	399733-K	30	5	5	2-6	28.82	25.22
—	—	809-2020	399735-K	30	2	6	2-3	30.16	26.36
—	—	809-4060	399737-K	30	6	6	2-11	56.79	49.64
809-2025	399739-K	—	—	30	4	8	2-5	36.43	31.85
—	—	809-2030	399745-K	30	6	12	2-5	67.16	58.71
809-1010	399747-K	—	—	30	1	1	2-6	14.86	12.99
809-2035	399749-K	—	—	30	2	2	2-6	20.19	17.65

Assembled Rotary Switches — JC Series

809-0050	399468-JC	809-0060	399469-JC	30	1	1	2-12	19.54	14.39
809-0070	399470-JC	809-0075	399471-JC	30	2	1	2-12	28.15	20.72
—	—	809-0080	399473-JC	30	3	2	2-12	39.21	28.86
809-1030	399474-JC	809-4080	399475-JC	30	4	4	2-12	51.08	44.65
809-1020	399476-JC	809-0065	399477-JC	30	1	2	2-6	19.94	17.43
809-1025	399478-JC	809-4085	399479-JC	30	2	2	2-6	29.86	26.10
809-2015	399480-JC	809-0090	399481-JC	30	2	3	2-6	42.90	37.50
—	—	809-1005	399697-JC	30	2	3	2-5	32.20	28.14
—	—	809-4090	399705-JC	30	1	3	2-5	20.87	18.24
—	—	809-4095	399711-JC	30	2	5	2-3	33.39	29.19
—	—	809-1035	399729-JC	30	1	1	2-6	20.46	17.88

L Series Phenolic Insulated and MF Series Phenolic Insulated Rotary Switches



25/64" diameter rotary switches, double-wiping, self-cleaning silver-plated brass contacts with ceramic insulation. Unique protective coating guards against tarnish and corrosion, extends shelf-life. **L Series:** Provides up to four sections and 18 poles. **MF Series:** Provides up to four sections and 24 poles.

Assembled Rotary Switches — L Series

Shorting		Non-Shorting		Index Angle	No. of Sections	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type					1-9	10-49
809-4180	399621-L	809-4185	399622-L	30	1	1	2-18	23.67	20.69
809-4190	399623-L	809-0105	399624-L	30	2	1	2-18	30.78	26.91
		809-4195	399648-L	30	3	1	2-18	39.45	34.49
809-1000	399649-L	809-0110	399616-L	30	4	1	2-18	47.06	41.14

Assembled Rotary Switches — MF Series

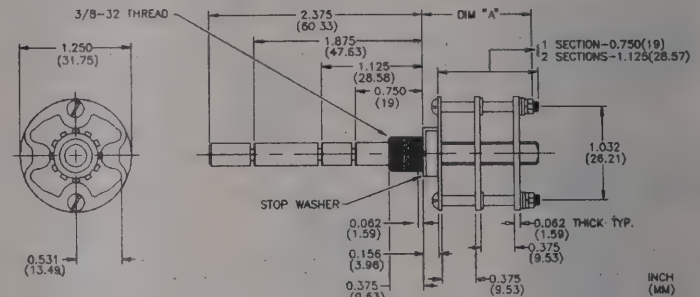
Shorting		Non-Shorting		Index Angle	No. of Sections	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type					1-9	10-49
809-4200	399684-MF	809-0115	399685-MF	30	1	1	2-24	20.43	17.86
809-4205	399686-MF	809-0120	399687-MF	30	2	1	2-24	28.64	25.03
		809-4210	399689-MF	30	3	1	2-24	37.28	32.59
809-4215	399690-MF	809-4220	399691-MF	30	4	1	2-24	44.80	39.16

F/FC Series Phenolic/Ceramic Insulated Rotary Switches

15/16" diameter rotary switches, double-wiping, self-cleaning silver-plated brass contacts with phenolic (F) and ceramic (FC) insulation. Unique protective coating guards against tarnish and corrosion, extends shelf-life. Provides up to two sections and 11 poles.

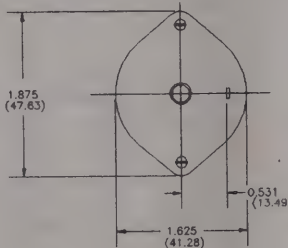
Assembled Rotary Switches

Shorting		Non-Shorting		Index Angle	No. of Sections	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type					1-9	10-49
809-4100	399322-F	809-4105	399323-F	30	1	1	2-11	14.13	12.35
809-4110	399326-F	809-4115	399327-F	30	1	2	2-5	14.89	13.02
809-4120	399328-F	809-4125	399329-F	30	2	2	2-5	20.76	18.15
809-1040	399366-FC	809-0125	399367-FC	30	1	1	2-11	30.78	26.91
809-4130	399370-FC	809-1045	399371-FC	30	1	2	2-5	32.21	28.24



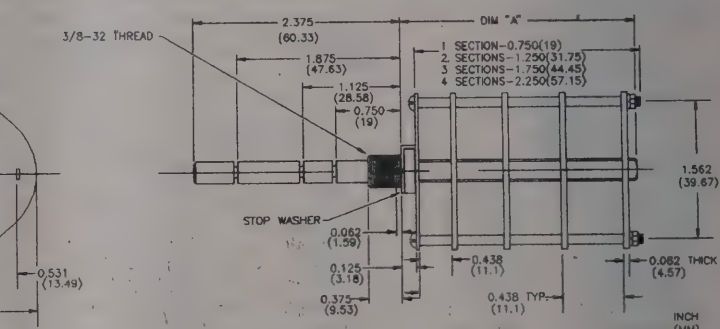
H/HC Series Phenolic/Ceramic Insulated Rotary Switches

17/8" diameter rotary switches, double-wiping, self-cleaning silver-plated brass contacts with phenolic (H) and ceramic (HC) insulation. Unique protective coating guards against tarnish and corrosion, extends shelf-life. Provides up to four sections and 11 poles.



Assembled Rotary Switches

Shorting		Non-Shorting		Index Angle	No. of Sections	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type					1-9	10-49
809-4135	399512-H	809-4140	399513-H	30	1	1	2-11	14.37	12.56
809-4145	399514-H	809-4150	399515-H	30	2	1	2-11	21.25	18.57
809-4155	399562-HC	809-4160	399563-HC	30	1	1	2-11	21.76	19.02

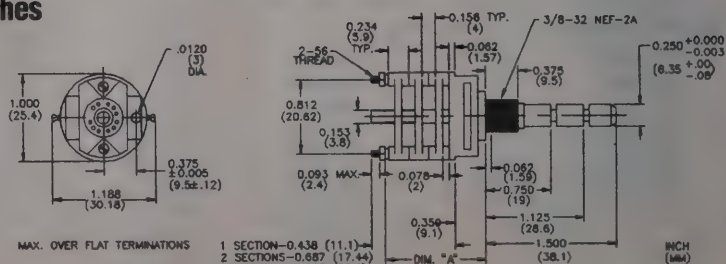


Shorting		Non-Shorting		Index Angle	No. of Sections	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type					1-9	10-49
809-4165	399564-HC	809-4170	399565-HC	30	2	1	2-11	32.55	28.45
809-4175	399568-HC	809-1050	399569-HC	30	1	2	2-5	22.17	19.38

AM Series "Acorn" Diallyl Phthalate Insulated Rotary Switches

Assembled Rotary Switches

Shorting		Non-Shorting		Index Angle	No. of Sections	No. of Poles	No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type					1-9	10-49
809-4235	399279-AM	809-4240	399280-AM	30	1	1	2-12	18.29	15.98
809-4245	399281-AM	809-4250	399282-AM	30	1	2	2-6	19.13	16.72
809-4255	399283-AM	809-4260	399284-AM	30	2	1	2-12	24.32	21.26
809-4265	399260-AM	809-0020	399261-AM	30	1	3	2-5	21.82	19.07
809-4270	399285-AM	809-4275	399286-AM	30	3	1	2-12	33.42	29.21
809-4225	399287-AM	809-0025	399288-AM	30	2	2	2-6	25.84	22.59
		809-4230	399292-AM	30	3	2	2-6	35.29	30.85
		809-1065	399263-AM	30	1	5	2-3	19.96	17.47
		809-0030	399265-AM	30	2	3	2-5	17.25	15.58



Switches

- Slow-Break, Quick-Make
- Non-Shorting Type
- Single and Tandem Models



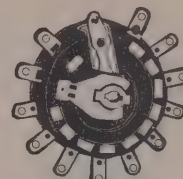
212, 312, 412, 608



Model 711



Typical Tandem Model



T505, T507

Ohmite power tap switches (high power rotary switches) are constructed to provide dependable, convenient operation. All switches have ceramic arc-proof bodies (except 711), metal alloy contacts, and are of an all-soldered and all-riveted construction which assures mechanical and operational integrity. The 711 Tap Switch has a reinforced non-metal body and solid metal alloy contacts; a very small unit with high current handling capability. These Tap Switches have a wide range of applications such as arcwelders, battery chargers, motor controls, X-ray equipment, etc. Additional number of taps, configurations, assemblies, and arrangements are available as special order items. Call for pricing and delivery info.

Ceramic High-Current Rotary Switches

Models 111, 212, 312, 412, 608.

Non-shorting, single pole, rotary, multi-position unit with single, dual and triple tandem units. Bodies are high grade, arc proof ceramic bodies. Large, solid, silver alloy contacts. Positive cam and roller mechanism provides slow-break, quick-make action. Shaft is insulated by strong ceramic hubs. Enclosed mechanism. Contacts and mechanism are entirely enclosed and protected.

Mfr.'s Type	AC Rating	Dia. (In)	Shaft Dia.	Depth Behind Panel (Tandem)			Single Unit Wt. (Lbs.)
				Single	Double	Triple	
111	15 A 125 V	1 1/4	1/4	1 1/8	2 3/4	—	.16
212	20 A 150 V	2 1/4	1/4	1 3/4	—	—	.40
312	30 A 300 V*	3 15/16	1/4	2 1/4	—	—	.75
412	50 A 300 V*	4 7/16	1/4	2 7/16	—	7 5/8	1.40
608	100 A 300 V	6	3/8	3 7/16	6 13/16	10 9/16	5.00

* 150 V between taps

Model 111

Stock No.	Mfr.'s Type	Number of Taps	Tandem Sections	Rotation Degrees	EACH
291-0820	111-3	3	1	60	14.38
291-0825	111-4	4	1	90	15.06
291-0830	111-5	5	1	120	15.74
291-0835	111-6	6	1	150	16.43
291-0840	111-7	7	1	180	17.22
291-0845	111-8	8	1	210	17.83
291-0850	111-10	10	1	270	19.29
291-0855	111-11	11	1	300	20.09
291-0860	111-3-T2	3	2	60	37.35
291-0865	111-4-T2	4	2	90	39.14

Model 212

291-0870	212-6	6	1	150	34.29
291-0875	212-12	12	1	330	39.54

Model 312

291-0880	312-3	3	1	60	40.80
291-0885	312-6	6	1	150	44.57
291-0890	312-7	7	1	180	45.97
291-0895	312-8	8	1	210	47.37
291-0900	312-9	9	1	240	48.48
291-0905	312-10	10	1	270	49.74
291-0910	312-11	11	1	300	51.00
291-0915	312-12	12	1	330	52.32

Model 711 Miniature Switch

Single pole, non-shorting selector switch with stationary and movable solid silver alloy contacts. Common contact is rounded for assured seating. Self-cleaning with built in wiping action. Slow-break, quick-make action achieved with cam and cam follower. Breaks 7 amps at 125 VAC (for 20 VDC); carries 15 amps at 125 VAC/DC. Molded melamine phenolic body 1 1/8" dia. x 1 3/16" depth behind panel; 1/4" flatted shaft. Mounts by 3/8-32 bushings and hex nut. Model number suffix indicates taps (711-3 = 3 taps). Use 5103 knob.

Light Current Rotary Switches

Models T505 and T507.

Rated at 7 amps max, but only 3 amps at 120 VAC should be interrupted. Current ratings are less for inductive circuits, high voltages and all direct current circuits above 20 volts. Porcelain base and porcelain ring carrying the fixed contacts are vitreous coated. Metal tap contacts. Brush is silver graphite for very low resistance. Body dia. is 2 5/16". Behind panel depth is 1 3/8". Weight: .28 lb. Knob 5150 is recommended.

Model 412

Stock No.	Mfr.'s Type	Number of Taps	Tandem Sections	Rotation Degrees	EACH
291-0920	412-3	3	1	60	41.78
291-0925	412-5	5	1	120	46.80
291-0930	412-6	6	1	150	49.88
291-0935	412-7	7	1	180	51.77
291-0940	412-8	8	1	210	54.91
291-0945	412-9	9	1	240	56.82
291-0950	412-10	10	1	270	59.88
291-0955	412-12	12	1	330	64.75
291-0960	412-6-T3	6	3	150	169.63
291-0965	412-7-T3	7	3	180	176.00

Model 608

291-0970	608-6	6	1	150	136.40
291-0975	608-8	8	1	210	151.08
291-0977	608-8-T2	8	2	210	347.48
291-0980	608-6-T3	6	3	150	463.78
291-0983	608-8-T3	8	3	210	513.68

Model 711

291-0985	711-3	3	1	60	18.75
291-0990	711-4	4	1	90	20.08
291-0995	711-5	5	1	120	21.40
291-1000	711-6	6	1	150	22.71
291-1005	711-8	8	1	210	25.43

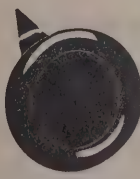
Open Type

291-4545	T505	5	1	120	32.08
291-4550	T507	7	1	180	32.03

Knobs



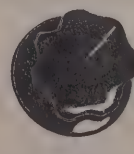
Finger-Grip With Pointer



Handwheel With Pointer



Handwheel Without Pointer



Finger-Grip

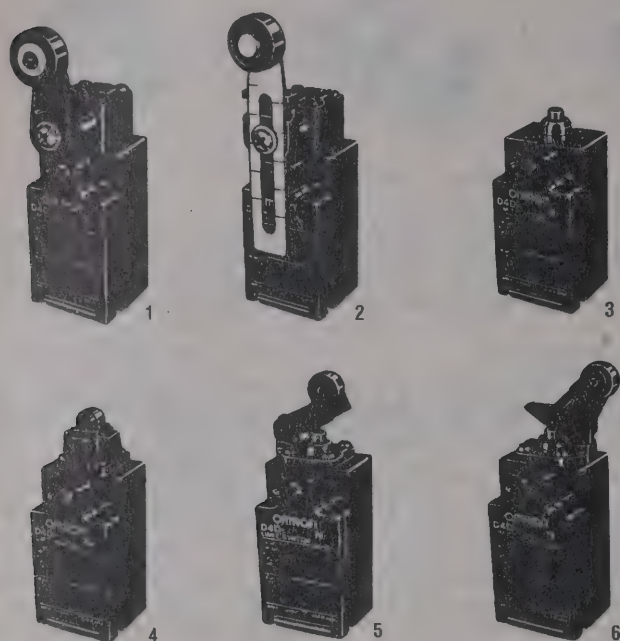


Bar Knob, 1 1/2" Long

Stock No.	Mfr.'s Type	Description	Knob Dia.	Hole Dia.	Set Screw	EACH	
						1-9	10-24
296-1215	5103	Bar knob 1 1/4" long	—	1/4"	Slot	3.35	2.35
296-1217	5104	Handwheel with pointer	3 1/4"	3/8"	Slot	13.37	9.36
296-1218	5104A	Handwheel with pointer	3 1/4"	3/8"	Hex	13.86	9.70
296-1220	5105	Handwheel without pointer	3 1/4"	3/8"	Slot	11.53	8.07
296-1225	5109	Finger-grip with pointer	1 5/8"	1/4"	Slot	12.78	8.95

Stock No.	Mfr.'s type	Description	Knob Dia.	Hole Dia.	Set Screw	EACH	
						1-9	10-24
296-1227	5111	Finger-grip with pointer	2 5/8"	1/4"	Slot	14.96	10.47
296-1230	5111A	Finger-grip with pointer	2 5/8"	1/4"	Hex	13.02	9.11
296-1232	5116	Bar knob 1 1/2" long	—	1/4"	Slot	5.44	3.81
296-1235	5150	Finger-grip	1 1/2"	1/4"	Slot	4.86	3.40
296-1240	5151	Finger-grip	3/4"	1/8"	Slot	3.54	2.48

D4D-N Series



Compact general purpose limit switches employ a fail-safe mechanism that forcibly opens contacts, and assures accurate switching. Two sets of contacts: one (NC) for safety circuit and the other (NO) for control circuit. **Ratings:** IP67, IEC529, and NEMA 3, 4, 4x, 6p and 13. Meets European Standards approval.

Conduit Size: PG 13.5

Stock No.	Mfr.'s Type	Figure	Actuator	Contact Config.*	EACH
834-6501	D4D-1120N	1	Side Rotary — Roller Lever	A	17.23
834-6502	D4D-1520N	1	Side Rotary — Roller Lever	B	21.54
834-6503	D4D-1A20N	1	Side Rotary — Roller Lever	C	21.54
834-6504	D4D-1121N	2	Side Rotary — Adj. Roller Lever	A	19.92
834-6505	D4D-1521N	2	Side Rotary — Adj. Roller Lever	B	23.15
834-6506	D4D-1A21N	2	Side Rotary — Adj. Roller Lever	C	23.15
834-6507	D4D-1131N	3	Top Plunger	A	13.46
834-6508	D4D-1531N	3	Top Plunger	B	15.62
834-6509	D4D-1A31N	3	Top Plunger	C	15.62
834-6510	D4D-1132N	4	Top Plunger — Roller	A	13.46
834-6511	D4D-1532N	4	Top Plunger — Roller	B	16.15
834-6512	D4D-1A32N	4	Top Plunger — Roller	C	16.15
834-6513	D4D-1162N	5	Roller Arm Lever — Horiz.	A	14.00
834-6514	D4D-1562N	5	Roller Arm Lever — Horiz.	B	16.69
834-6515	D4D-1A62N	5	Roller Arm Lever — Horiz.	C	16.69
834-6516	D4D-1172N	6	Roller Arm Lever — Vertical	A	14.00
834-6517	D4D-1572N	6	Roller Arm Lever — Vertical	B	16.69
834-6518	D4D-1A72N	6	Roller Arm Lever — Vertical	C	16.69

Conduit Size: G 1/2

Stock No.	Mfr.'s Type	Figure	Actuator	Contact Config.*	EACH
834-6519	D4D-2120N	1	Side Rotary — Roller Lever	A	17.23
834-6520	D4D-2520N	1	Side Rotary — Roller Lever	B	21.54
834-6521	D4D-2A20N	1	Side Rotary — Roller Lever	C	21.54
834-6522	D4D-2121N	2	Side Rotary — Adj. Roller Lever	A	19.92
834-6523	D4D-2521N	2	Side Rotary — Adj. Roller Lever	B	23.15
834-6524	D4D-2A21N	2	Side Rotary — Adj. Roller Lever	C	23.15
834-6525	D4D-2131N	3	Top Plunger	A	13.46
834-6526	D4D-2531N	3	Top Plunger	B	15.62
834-6527	D4D-2A31N	3	Top Plunger	C	15.62
834-6528	D4D-2132N	4	Top Plunger — Roller	A	13.46
834-6529	D4D-2532N	4	Top Plunger — Roller	B	15.62
834-6530	D4D-2A32N	4	Top Plunger — Roller	C	16.15
834-6531	D4D-2162N	5	Roller Arm Lever — Horiz.	A	14.54
834-6532	D4D-2562N	5	Roller Arm Lever — Horiz.	B	16.15
834-6533	D4D-2A62N	5	Roller Arm Lever — Horiz.	C	16.69
834-6534	D4D-2172N	6	Roller Arm Lever — Vertical	A	14.54
834-6535	D4D-2572N	6	Roller Arm Lever — Vertical	B	16.69
834-6536	D4D-2A72N	6	Roller Arm Lever — Vertical	C	16.69

*A: SPDB-1NC/1NO; B: DPDB-1NC/1NO; C: DPST-2NC.

D4BL Series

The D4BL Safety-door Lock Switch keeps protective doors locked until machine completely stops operation. Lock mechanism only releases when voltage is imposed on the lock mechanism solenoid. **Enclosure Rating:** IP67, IEC529 and EN60529. **Approved Standards:** UL, CSA, BIA, SUVA, TUV. **Conduit Size:** 1/2-14PT. Some models include easy-to-see indicators for monitoring.

Models with Indicator

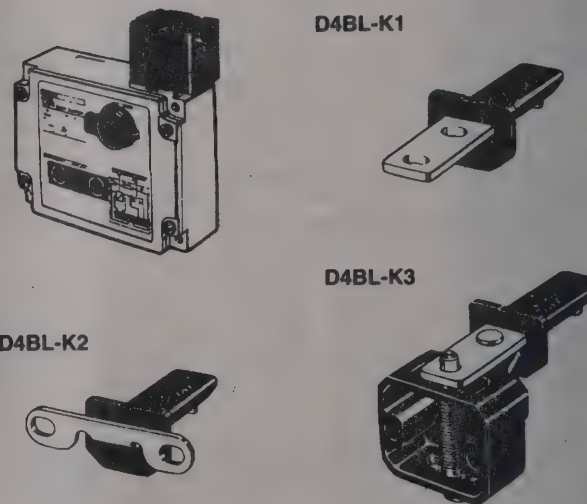
Stock No.	Mfr.'s Type	Solenoid Voltage	Description	EACH
834-6537	D4BL-3CRA-A	24 VDC	DPDB-1NC/NO + DPDB-1NC	300.00
834-6538	D4BL-3CRB-A	110 VAC	DPDB-1NC/NO + DPDB-1NC	300.00
834-6540	D4BL-3DRA-A	24 VDC	DPDB-2NC + DPDB-1NC	300.00
834-6541	D4BL-3DRB-A	110 VAC	DPDB-2NC + DPDB-1NC	300.00

Models without Indicator

Stock No.	Mfr.'s Type	Solenoid Voltage	Description	EACH
834-6543	D4BL-3CRA	24 VDC	DPDB-1NC/NO + DPDB-1NC	280.00
834-6544	D4BL-3CRB	110 VAC	DPDB-1NC/NO + DPDB-1NC	280.00
834-6546	D4BL-3DRA	24 VDC	DPDB-2NC + DPDB-1NC	280.00
834-6547	D4BL-3DRB	110 VAC	DPDB-2NC + DPDB-1NC	280.00

Operation Keys

Stock No.	Mfr.'s Type	Horizontal mounting	Vertical Mounting	Adjustable Mounting	EACH
834-6549	D4BL-K1	—	—	—	7.00
834-6550	D4BL-K2	—	—	—	8.62
834-6551	D4BL-K3	—	—	—	23.00

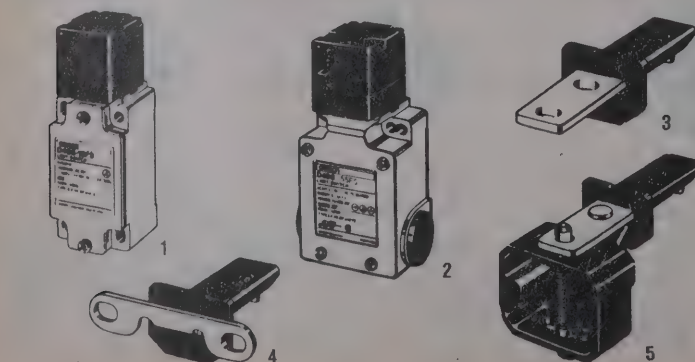


D4BS Series

The D4BS Safety-door Switch uses a special operation key to assure a positive break in contacts, increasing safety and reducing liability. Mounting pitch and shape of the switch box conforms to CENELEC EN50041. **Enclosure Rating:** IP67(IEC529). **Approved Standards:** UL, CSA, BIA, SUVA and TUV.

Stock No.	Mfr.'s Type	Figure	Description	Conduit Size*	EACH
834-6552	D4BS-35FS	1	DPDB-1NC/NO	A	45.23
834-6553	D4BS-3AFS	1	DPDB-2NC	B	45.23
834-6554	D4BS-75FS	2	DPDB-1NC/NO	A	61.38
834-6555	D4BS-7AFS	2	DPDB-2NC	B	61.38
834-6556	D4BS-K1	3	Oper. Key — Horiz.	—	6.15
834-6557	D4BS-K2	4	Oper. Key — Vert.	—	6.77
834-6558	D4BS-K3	5	Oper. Key — Adj.	—	23.00

*A: Standard 1/2-14PT; B: 3 Conduit Switch 1/2-14NPT.



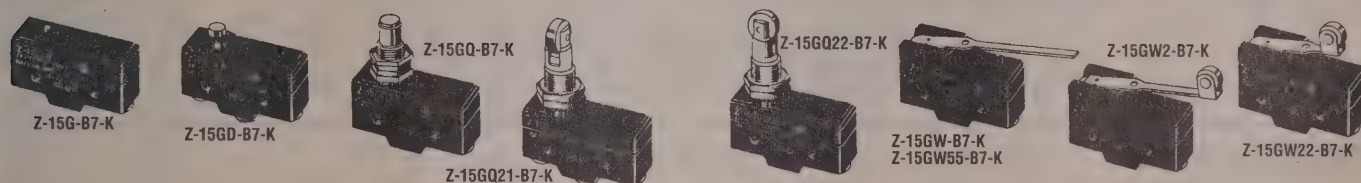
A-Series High-Capacity Snap Action Switches



Large capacity 20-amp; excellent vibration resistance; quick-break contacts. Steady Break Current (non-inductive, resistive): 20 A @ 125/250 VAC, 10 A @ 500 VAC, 5 A @ 600 VAC, 0.4 A @ 125 VDC, 0.2 @ 250 VDC. Screw terminals. Body Size: 49.2 x 17.5 x 24.2 mm (1.94 x 0.69 x 0.95 inch).

Stock No.	Mfr.'s Type	Actuator Type _s	Operating Force (max.)	Release Force (min.)	Pretravel (max.)	Overtravel (min.)	Movement Differential	Operating Position	Actuator Length	EACH		
										1-24	25-99	100-499
829-3018	A-20GD-B7-K	Short spring plunger	22.0 oz.	10.1 oz.	0.051 in.	0.118 in.	0.008 in.	1.032 in.	—	9.56	9.08	7.07
829-1704	A-20GQ-B7-K	Panel mount roller plunger	22.0 oz.	10.1 oz.	0.051 in.	0.221 in.	0.008 in.	0.858 in.	—	10.67	10.14	9.29
829-3022	A-20GQ22-B7-K	Panel mount roller plunger	22.2 oz.	9.9 oz.	0.051 in.	0.141 in.	0.014 in.	1.315 in.	—	13.41	12.74	11.67
829-1702	A-20GL-B7-K	Reverse hinge lever	9.0 oz.	1.0 oz.	0.343 in.	0.063 in.	0.689 in.	1.79 in.	1.79 in.	6.34	6.02	5.51
829-1706	A-20GV-B7-K	Hinge lever	2.5 oz.	0.5 oz.	0.525 in.	0.157 in.	0.095 in.	0.748 in.	2.50 in.	6.36	6.04	5.54
829-1708	A-20GV2-B7-K	Roller hinge lever	3.5 oz.	0.5 oz.	0.472 in.	0.095 in.	0.087 in.	1.189 in.	1.91 in.	6.36	6.04	5.54
829-3024	A-20GV22-B7-K	Short roller hinge lever	6.3 oz.	1.7 oz.	0.256 in.	0.047 in.	0.047 in.	1.173 in.	1.03 in.	7.98	7.58	6.94

Z-Series General-Purpose Snap-Action Switches



High precision, 15 amp breaking capacity. Steady state break current (non-inductive, resistive) 15 amp @ 125/250 VAC, 10 A @ 500 VAC, 0.5 A @ 125 VDC, 0.25 A @ 250 VDC. Body Size: 49.2 x 17.5 x 24.2 mm (1.94 x 0.69 x 0.95 inch). Screw terminals.

Stock No.	Mfr.'s Type	Actuator Type	Operating Force (max.)	Release Force (min.)	Pretravel (max.)	Overtravel (min.)	Movement Differential	Operating Position	Actuator Length	EACH		
										1-24	25-99	100-499
829-3000	Z-15G-B7-K	Pin plunger	12.3 oz.	4.0 oz.	0.016 in.	0.005 in.	0.002 in.	0.626 in.	—	4.74	4.50	4.12
829-3002	Z-15GD-B7-K	Short spring plunger	12.3 oz.	4.0 oz.	0.016 in.	0.063 in.	0.002 in.	0.846 in.	—	6.26	5.95	5.44
829-3004	Z-15GQ-B7-K	Panel mount plunger	12.3 oz.	4.0 oz.	0.016 in.	0.217 in.	0.002 in.	0.858 in.	—	7.21	6.85	6.28
829-3008	Z-15GQ21-B7-K	Panel mount cross roller plunger	12.3 oz.	4.0 oz.	0.016 in.	0.141 in.	0.002 in.	1.315 in.	—	12.51	11.89	10.89
829-3010	Z-15GQ22-B7-K	Panel mount roller plunger	12.3 oz.	4.0 oz.	0.016 in.	0.141 in.	0.002 in.	1.315 in.	—	13.88	13.19	12.08
829-1810	Z-15GW-B7-K	Hinge lever	2.5 oz.	0.5 oz.	0.394 in.	0.221 in.	0.050 in.	0.748 in.	2.50 in.	6.14	5.83	5.34
829-1820	Z-15GW2-B7-K	Roller hinge lever	3.5 oz.	0.8 oz.	0.280 in.	0.157 in.	0.040 in.	1.189 in.	1.91 in.	7.76	7.37	6.75
829-1815	Z-15GW22-B7-K	Short roller hinge lever	5.6 oz.	1.5 oz.	0.106 in.	0.095 in.	0.020 in.	1.189 in.	1.05 in.	7.76	7.37	6.75
829-3012	Z-15GW55-B7-K	Hinge lever	3.5 oz.	0.5 oz.	0.394 in.	0.398 in.	0.050 in.	0.079 in.	2.50 in.	8.50	8.08	7.40

Miniature V-Series Snap Action Switches



Long service life, high vibration and shock resistance, and easy installation. Solder/quick-connect (#187) terminals. Thermostet resin body allows wide operating temperature range of -25°C to 80°C (-13° to 176°F). Body Size: 19.7 x 9.4 x 6.4 mm (0.77 x 0.37 x 0.25). Heavy duty load: SPDT contacts (non-inductive, resistive) 15 A @ 250 VAC, 15 A

@ 8 VDC, 10 A @ 30 VDC, 0.6 A @ 125 VDC; 36 A max. inrush current NC/NO. Standard load: SPDT contacts (non-inductive, resistive); 10 A @ 250 VAC, 10 A @ 8 VDC, 6 A @ 30 VDC, 0.6 @ 125 VDC; 24 A max. inrush current NC/NO.

Stock No.	Mfr.'s Type	Actuator Type	Operating Force (max.)	Release Force (min.)	Pretravel (max.)	Overtravel (min.)	Movement Differential	Operating Position	Actuator Length	EACH		
										1-24	25-99	100-499
829-3056	V-10G-1C24-K	Pin plunger, standard load	3.5 oz.	0.7 oz.	0.047 in.	0.051 in.	0.012 in.	0.579 in.	—	2.10	1.85	1.69
829-3058	V-10G1-1C24-K	Short hinge lever, standard load	3.5 oz.	0.5 oz.	0.059 in.	0.039 in.	0.020 in.	0.598 in.	0.87 in.	2.31	2.08	1.90
829-3060	V-10G2-1C24-K	Hinge lever, standard load	2.1 oz.	0.2 oz.	0.130 in.	0.091 in.	0.032 in.	0.598 in.	1.40 in.	2.31	2.08	1.90
829-3062	V-10G3-1C24-K	Long hinge lever, standard load	1.2 oz.	—	0.299 in.	0.126 in.	0.079 in.	0.598 in.	2.34 in.	2.38	2.14	1.96
829-3064	V-10G4-1C24-K	Standard hinge lever, standard load	2.1 oz.	0.2 oz.	0.130 in.	0.091 in.	0.079 in.	0.736 in.	1.28 in.	2.31	2.08	1.90
829-3066	V-10G5-1C24-K	Hinge roller lever, standard load	4.7 oz.	0.5 oz.	0.059 in.	0.039 in.	0.020 in.	0.815 in.	0.79 in.	2.59	2.33	2.12
829-3070	V-15G-1C25-K	Pin plunger, standard load	7.1 oz.	2.0 oz.	0.047 in.	0.051 in.	0.012 in.	0.579 in.	—	2.12	1.91	1.74
829-3072	V-15G1-1C25-K	Short hinge lever, standard load	7.1 oz.	2.0 oz.	0.059 in.	0.039 in.	0.020 in.	0.598 in.	0.87 in.	2.31	2.08	1.90
829-3074	V-15G2-1C25-K	Hinge lever, standard load	4.4 oz.	0.6 oz.	0.091 in.	0.091 in.	0.032 in.	0.598 in.	1.40 in.	2.31	2.08	1.90
829-3076	V-15G3-1C25-K	Long hinge lever, standard load	2.5 oz.	0.2 oz.	0.354 in.	0.118 in.	0.079 in.	0.598 in.	2.34 in.	2.38	2.14	1.96
829-3078	V-15G4-1C25-K	Simulated hinge lever, standard load	4.4 oz.	0.6 oz.	0.130 in.	0.091 in.	0.032 in.	0.736 in.	1.28 in.	2.31	2.08	1.90
829-3080	V-15G5-1C25-K	Hinge roller lever, standard load	8.5 oz.	2.0 oz.	0.059 in.	0.039 in.	0.020 in.	0.815 in.	0.79 in.	2.59	2.33	2.12
829-3082	V-15G6-1C25-K	Long hinge roller lever, standard load	4.4 oz.	0.6 oz.	0.130 in.	0.091 in.	0.032 in.	0.815 in.	1.34 in.	2.59	2.33	2.12

SS Economical Subminiature Snap Action Switches

Three load switching capacities to choose from in a compact snap action switch. Long service life, high vibration and shock resistance, and easy installation. Solder terminals. **Body Size:** 19.7 × 9.4 × 6.4 mm (0.77 × 0.37 × 0.25). (9.5 mm). **Heavy Duty Load:** rivet contacts (non-inductive, resistive) 10.1 A @ 125 VAC/250 VAC, 10.1 A @ 8 VDC/14 VDC, 4 A @ 30 VDC; 20 A max. inrush current NC, 15 A max. inrush current NO. **Standard Load:** rivet contacts (non-inductive, resistive); 5 A @ 125 VAC/250 VAC, 5 A @ 8 VDC/14 VDC, 4 A @ 30 VDC; 20 A max. inrush current NC, 10 A max. inrush current NO. **Microvoltage/Current Load:** bifurcated crossbar contacts (non-inductive, resistive); 0.1 A @ 125 VAC/30 VDC; 1 A max. inrush current.

Stock No.	Mfr.'s Type	Actuator Type	Operating Force (Max.)	Release Force (Min.)	Pretravel (Max.) (In.)	Overtravel (Min.) (In.)	Movement Differential (In.)	Operating Position (In.)	Actuator Length (In.)	EACH		
										1-24	25-99	100-499
829-3042	SS-01	Pin plunger, micro load	5.3 oz.	0.9 oz.	0.020	0.020	0.004	0.331	—	2.47	2.18	1.69
829-3044	SS-01GL	Hinge lever, micro load	1.8 oz.	0.2 oz.	0.047	0.032	0.535	0.346	0.197	2.61	2.35	1.83
829-3046	SS-01GL13	Simulated hinge lever, micro load	1.8 oz.	0.2 oz.	0.047	0.047	0.610	0.421	0.248	2.61	2.35	1.83
829-3048	SS-01GL2	Hinge roller lever, micro load	1.8 oz.	0.2 oz.	0.047	0.047	0.760	0.571	0.197	2.84	2.56	1.99
829-2000	SS-5	Pin plunger, standard load	5.3 oz.	0.9 oz.	0.020	0.020	0.004	0.331	—	1.33	1.20	.93
829-2002	SS-5GL	Hinge lever, standard load	1.8 oz.	0.2 oz.	0.022	0.022	0.032	0.346	0.197	1.45	1.31	1.02
829-3050	SS-5GL13	Simulated hinge lever, standard load	1.8 oz.	0.2 oz.	0.022	0.022	0.032	0.421	0.248	1.53	1.37	1.06
829-2004	SS-5GL2	Hinge roller lever, standard load	1.8 oz.	0.2 oz.	0.022	0.022	0.032	0.571	0.197	1.82	1.64	1.27
829-3052	SS-10	Pin plunger, heavy duty load	5.3 oz.	0.9 oz.	0.024	0.024	0.005	0.217	—	2.51	2.20	2.05
829-3054	SS-10GL	Hinge lever, heavy duty load	1.8 oz.	0.2 oz.	0.039	0.039	0.020	0.268	0.197	2.10	1.80	1.33

SS-01, SS-5, SS-10



SS-01GL, SS-5GL, SS-10GL



SS-01GL13, SS-5GL13



SS-01GL2, SS-5GL2



D2F Subminiature Snap Action Switch

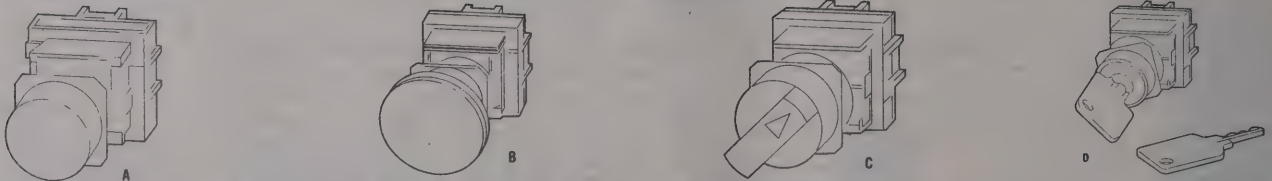
Permits direct soldering to PC board. Quick reverse-action mechanism with 2 leaf springs assures long life. Construction resistant to flux wicking. PCB termination. **Standard:** (non-inductive, resistive); 3 A @ 125 VAC, 2 A @ 30 VDC with 5.3 oz. operating force model; 1 A @ 125 VAC, 0.5 A @ 30 VDC with 3 oz. operating force. **Micro Load:** (non-inductive, resistive); 0.1 A @ 30 VDC. **Body Size:** 6 × 12.8 × 5.8 mm (0.24 × 0.50 × 0.23 inch).



Stock No.	Mfr.'s Type	Actuator Type	Operating Force (Max.)	Release Force (Min.)	Pretravel (Max.) (In.)	Overtravel (Min.) (In.)	Movement Differential (In.)	Operating Position (In.)	Actuator Length (In.)	EACH		
										1-24	25-99	100-499
829-3032	D2-F-F	Pin plunger, PCB terminal, standard load	3.0 oz.	0.2 oz.	0.020	0.010	0.005	0.217	—	1.29	1.13	.88
829-3034	D2F-FL	Hinge lever, PCB terminal, standard load	0.9 oz.	0.1 oz.	0.185	0.022	0.020	0.268	0.173	1.43	1.26	.98
829-4002	D2F-L	Hinge lever, PCB terminal, standard load	3.1 oz.	0.2 oz.	—	0.022	0.020	0.268	0.173	1.48	1.29	1.07
829-3036	D2F-F	Pin plunger, PCB terminal, micro load	5.3 oz.	0.7 oz.	0.020	0.010	0.005	0.217	—	1.29	1.13	.88
829-3038	D2F-01F	Pin plunger, PCB terminal, micro load	3.0 oz.	0.2 oz.	0.020	0.010	0.005	0.217	—	1.29	1.13	.88
829-3040	D2F-01L	Hinge lever, PCB terminal, micro load	3.1 oz.	0.2 oz.	—	0.022	0.020	0.268	0.173	1.43	1.26	.98

Knob and Keyswitches

— NEW —



All versions are fully assembled. Contact blocks have screw terminals. Compact style requires only 16 mm dia. mounting holes. Comply with IP65 seal requirements (oil resistant). Snap flange design on contact block for ease of wiring and assembly. Accommodates panel thicknesses of 0.5 to 5 mm. **Contact Rating:** 5 A @ 120 VAC 3 A @ 250 VAC resistive 3 A @ 30 VDC resistive.

Illuminated Types

Stock No.	Mfr.'s Type	Fig.	CAP	Function	Color	Circuit	EACH		
							1-24	25-99	100-499
829-8500	A3GT-99C1-H1ND	A	Pushbutton	Momentary	Red	DP-DT	22.00	20.24	18.63
829-8502	A3GT-99C1-H1NG	A	Pushbutton	Momentary	Green	DP-DT	22.00	20.24	18.63
829-8504	A3GT-99C1-H1NW	A	Pushbutton	Momentary	White	DP-DT	22.00	20.24	18.63
829-8506	A3GT-99D1-H1ND	A	Pushbutton	Maintained	Red	DP-DT	22.00	20.24	18.63
829-8508	A3GT-99D1-H1NG	A	Pushbutton	Maintained	Green	DP-DT	22.00	20.24	18.63
829-8510	A3GT-99D1-H1NW	A	Pushbutton	Maintained	White	DP-DT	22.00	20.24	18.63
829-8512	M2GT-99A1-H1ND	A	—	Indicating light	Red	—	15.00	13.86	12.70
829-8514	M2GT-99A1-H1NG	A	—	Indicating light	Green	—	15.00	13.86	12.70
829-8516	M2GT-99A1-H1NW	A	—	Indicating light	White	—	15.00	13.86	12.70

Non-Illuminated Types

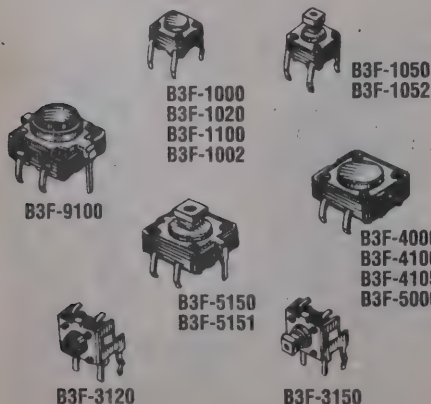
Stock No.	Mfr.'s Type	Fig.	CAP	Function	Color	Circuit	EACH		
							1-24	25-99	100-499
829-8518	A3GT-99C0-R	A	Pushbutton	Momentary	Red	DP-DT	19.00	17.48	16.09
829-8520	A3GT-99C0-Y	A	Pushbutton	Momentary	Yellow	DP-DT	19.00	17.48	16.09
829-8522	A3GT-99C0-G	A	Pushbutton	Momentary	Green	DP-DT	19.00	17.48	16.09
829-8524	A3GT-99C0-B	A	Pushbutton	Momentary	Black	DP-DT	19.00	17.48	16.09
829-8526	A3GT-99D0-R	A	Pushbutton	Maintained	Red	DP-DT	19.51	17.95	16.52
829-8528	A3GT-99D0-Y	A	Pushbutton	Maintained	Yellow	DP-DT	19.51	17.95	16.52
829-8530	A3GT-99D0-G	A	Pushbutton	Maintained	Green	DP-DT	19.51	17.95	16.52
829-8532	A3GT-99D0-B	A	Pushbutton	Maintained	Black	DP-DT	19.51	17.95	16.52
829-8534	A3GT-99C2-R	B	Mushroom cap	Momentary	Red	DP-DT	16.50	15.18	13.97
829-8536	A3GT-99D2-R	B	Mushroom cap	Maintained	Red	DP-DT	17.25	15.87	14.61
829-8538	A3GT-S9C11	C	2 pos. selector	Momentary	Black	DP-DT	26.00	23.92	22.02
829-8540	A3GT-S9C21	C	2 pos. selector	Maintained	Black	DP-DT	27.00	24.84	22.87
829-8542	A3GT-K9C11-C	D	Key	Momentary	Black	DP-DT	42.00	38.64	35.57
829-8544	A3GT-K9C21-C	D	Key	Maintained	Black	DP-DT	42.00	38.64	35.57

829-8546. A3B-3004. Locking Ring Wrench. 1-24.....EACH 4.46
25-99.....EACH 4.10 100-499.....EACH 3.77

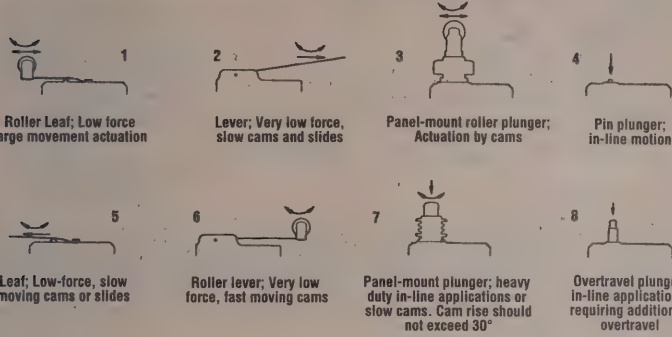
Type B3F Mechanical Keyswitches

Flux tight mechanical keyswitch with snap action short keystroke with positive feedback. 50 mA @ 24 VDC resistive load switching capacity. 100 mOhm max. initial contact resistance. **Insulation Resistance:** 100 mOhm @ 250 VDC. Ideal for applications such as audio, office and communications equipment, measuring instruments, TV, VTRs and etc.

Stock No.	Mfr.'s Type	Switch Height × Pitch	Ground Terminal	Plunger	Operating Force	Size	EACH		
							1-24	25-99	100-499
829-5000	B3F-1000	.17" × 26"	No	Flat	3.5 oz.	.24" × .24"	.35	.33	.28
829-5005	B3F-1020	.20" × 26"	No	Flat	3.5 oz.	.24" × .24"	.36	.34	.29
829-5010	B3F-1050	.29" × 26"	No	Projected	3.5 oz.	.24" × .24"	.36	.34	.29
829-5015	B3F-1100	.17" × 26"	Yes	Flat	3.5 oz.	.24" × .24"	.36	.34	.29
829-5020	B3F-1002	.17" × 26"	No	Flat	5.3 oz.	.24" × .24"	.36	.34	.29
829-5025	B3F-1052	.29" × 26"	No	Projected	5.3 oz.	.24" × .24"	.36	.34	.29
829-5030	B3F-4000	.17" × 49"	No	Flat	4.6 oz.	.47" × .47"	.49	.46	.41
829-5035	B3F-4100	.17" × 49"	Yes	Flat	4.6 oz.	.47" × .47"	.69	.63	.56
829-5040	B3F-4005	.17" × 49"	No	Flat	9.2 oz.	.47" × .47"	.45	.42	.38
829-5045	B3F-4105	.17" × 49"	Yes	Flat	9.2 oz.	.47" × .47"	.57	.53	.47
829-5050	B3F-5000	.17" × 49"	No	Flat	4.6 oz.	.47" × .47"	.57	.53	.47
829-5055	B3F-5150	.29" × 47"	Yes	Projected	4.6 oz.	.47" × .47"	.58	.54	.48
829-5060	B3F-5151	.29" × 47"	Yes	Projected	4.6 oz.	.47" × .47"	2.11	1.90	1.80
829-5065	B3F-9100	.29" × 47"	No	Red LED	4.6 oz.	.47" × .47"	2.43	2.13	1.98
829-5070	B3F-3120	.15"	Yes	Flat	3.5 oz.	.24" × .24"	.45	.42	.38
829-5075	B3F-3150	.24"	Yes	Projected	3.5 oz.	.24" × .24"	.45	.42	.38



BZ and BA Series Standard Basic Switches

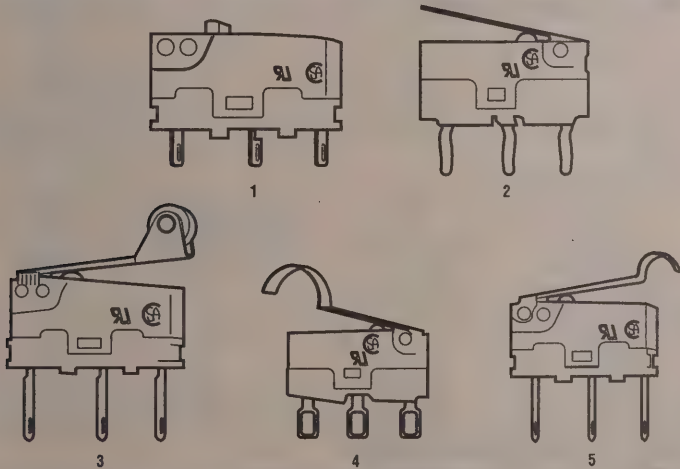


These standard basic switches are precision snap-action mechanisms enclosed in accurately molded plastic cases. Switches are UL recognized and CSA certified.

Stock No.	Mfr.'s Type	Fig.	Rating (Amps)	O.F.	EACH
					1-24
727-0010	BZ-2RL2-A2	1	20	9	12.57
727-0018	BZ-2RW-A2	2	15	1-2.5	10.74
727-0020	BZ-2RW80-A2	2	15	.2.5	10.74
727-0028	BZ-2RW863-A2	2	15	.1	11.73
727-0038	BA-2RV-A2	2	20	2.5	10.88
727-0014	BZ-2RQ18-A2	3	15	9-13	31.57
727-0005	BZ-2R-A2	4	15	9-13	8.69
727-0030	BA-2R-A2	4	20	14-22	9.00
727-0032	BA-2R708-P7	4	20	14-22	25.78
727-0008	BZ-2RL-A2	5	15	5	10.45
727-0036	BA-2RL2-A2	5	15	5	12.18
727-0022	BZ-2RW82-A2	6	15	3.5	13.60
727-0024	BZ-2RW822-A2	6	15	6	13.60
727-0026	BZ-2RW826-A2	6	15	6	16.15
727-0040	BA-2RV22-A2	6	20	6	13.83
727-0012	BZ-2RQ1-A2	7	15	9-13	18.43
727-0006	BZ-2RD-A2	8	15	9-13	11.20
727-0034	BA-2RB-A2	8	20	14-22	10.58

UM/UX Series Subminiature Basic Switches

— NEW —

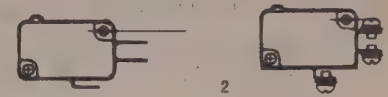


UM Series Snap Action Switches can fit a broad range of applications, and can handle loads from milliamperes up to 5 A. UX Series Snap Action Switches are ideal for compact application. With dimensions of .197" H x .236" W x .504" L these switches can be used where space is a factor. 125-250 VAC, 30 VDC.

Stock No.	Mfr.'s Type	Fig.	Actuator Style	Poles/Throws	Ratings (Amps)	Contacts	Termination	EACH
								1-24
727-2000	UX10E30C01	2	Flat lever	SPDT	0.1	Gold	P.C.	2.14
727-2005	UX40E30C01	2	Flat lever	SPDT	3.0	Silver	P.C.	1.96
727-2010	UX40E10C01	2	Flat lever	SPDT	3.0	Silver	Solder	1.96
727-2015	UM10A10A01	1	Pin plunger	SPDT	0.1	Gold	Solder	3.35
727-2020	UX30C30A01	1*	Pin plunger	SPDT	1.0	Silver	P.C.	1.72
727-2025	UM40B10A01	1	Pin plunger	SPDT	3.0	Silver	Solder	2.22
727-2030	UX40E30A01	1*	Pin plunger	SPDT	3.0	Silver	P.C.	1.72
727-2035	UX40E10A01	1*	Pin plunger	SPDT	3.0	Silver	Solder	2.22
727-2040	UM50E10A01	1	Pin plunger	SPDT	5.0	Silver	Solder	2.22
727-2045	UM50E70A01	1	Pin plunger	SPDT	5.0	Silver	.110 Q.C.	2.22
727-2050	UM50E70F01	3	Roller lever	SPDT	5.0	Silver	.110 Q.C.	2.95
727-2055	UX40E30E01	4	Simulated roller lever	SPDT	3.0	Silver	P.C.	1.96
727-2060	UX40E10E01	4	Simulated roller lever	SPDT	3.0	Silver	Solder	1.96
727-2065	UM50E10E01	5	Simulated roller lever	SPDT	5.0	Silver	Solder	2.54
727-2070	UM50E70E01	5	Simulated roller lever	SPDT	5.0	Silver	.110 Q.C.	2.54
727-2075	UM10D10C01	2	Standard flat lever	SPDT	0.1	Gold	Solder	3.68
727-2080	UM50E10C01	2	Standard flat lever	SPDT	5.0	Silver	Solder	2.54
727-2085	UM50E70C01	2	Standard flat lever	SPDT	5.0	Silver	.110 Q.C.	2.54

*Dimensions: .26" H x .24" W x .50" L.

V3 Series Miniature Precision Switches



V3 Series miniature basic switches feature high electrical capacity and long life. Their size and shape meet design requirements in all types of applications. All are single-pole double throw. Switches are UL recognized and CSA certified. D8 suffix offers quick connect terminals .188 x .020 thick. D9 suffix has quick connect terminals .250 x .032. All others have screw terminals.

Stock No.	Mfr.'s Type	Fig.	Rating (Amps)	Lever Type	EACH
					1-24
727-0046	V3-1-D8	1	15.1	Pin Plunger	2.65
727-0050	V3-101-D8	1	11.0	Pin Plunger	2.49
727-0052	V3-101-D9	1	11.0	Pin Plunger	2.88
727-0044	V3-1	2	10.0	Pin Plunger	4.50
727-0048	V3-101	2	11.0	Pin Plunger	3.68
727-0056	V3-2900-D8	1	25.0	Pin Plunger	3.52
727-0072	V3L-3	2	15.1	Roller	5.95
727-0074	V3L-3-D8	1	15.1	Roller	3.62
727-0062	V3L-111-D8	2	11.0	Roller	3.15
727-0066	V3L-139-D8	1	11.0	Roller	3.15
727-0058	V3L-101-D8	2	11.0	Sim Roller	2.63
727-0076	V3L-3014	2	15.1	Sim Roller	2.93
727-0060	V3L-104-D8	1	11.0	Straight	2.63
727-0064	V3L-131-D8	1	11.0	Straight	2.63
727-0070	V3L-2106-D8	1	10.0	Straight	3.20
727-0078	V3L-6-D8	1	15.0	Straight	3.15
727-0054	V3L-1101-D8	1	10.0	Pin Plunger	2.42

E6-V6 Compact Enclosed Switches

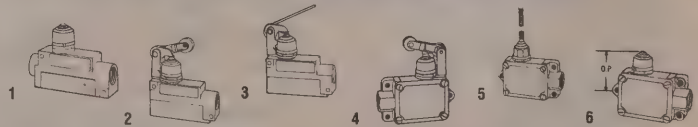


These enclosed switches contain a precision snap-action basic switch inside a rugged cast zinc housing. Lead washers are used to seal the mounting holes on side mount switches. Removal of the bottom enclosure exposes the terminals for easy wiring.

Stock No.	Mfr.'s Type*	Fig.	Rating†	Mtg.	Actuator Type	EACH
						1-24
727-0088	BZE6-2RN	1	A	Side	Straight plunger	42.75
727-0090	BZE6-2RN18	2	A	Side	Coil spring	66.10
727-0092	BZE6-2RN2	3	A	Side	Roller lever	61.50
727-0094	BZE6-2RN28	4	A	Side	One-way roller	73.70
727-0096	BZE6-2RN7	1	A	Side	Straight plunger	45.50
727-0098	BZE6-2RN80	5	A	Side	Roller plunger	61.50
727-0100	BZE6-2RQ	1	A	Side	Straight plunger	35.40
727-0102	BZE6-2RQ2	3	A	Side	Roller lever	53.10
727-0104	BZE6-2RQ8	5	A	Side	Roller plunger	53.10
727-0106	BZE6-2RQ9	5	A	Side	Roller plunger	53.10
727-0110	BZV6-2RN	1	A	Flange	Straight plunger	42.75
727-0112	BZV6-2RN2	3	A	Flange	Roller lever	61.50
727-0114	BZV6-2RQ	1	A	Flange	Straight plunger	35.40
727-0116	BZV6-2RQ2	3	A	Flange	Roller lever	42.50
727-0118	DTE6-2RN	1	B	Side	Straight plunger	100.15

*RN Series — Without seal boot; RQ Series — With seal boot. †Ratings @ 125 Volts: A — 15 A, SPST; B — 10 A, DPDT.

BZG1 and BAF1 Series Sealed Enclosed Switches



Switches have a neoprene seal gasket between the housing halves, elastomer boot actuators, sealed conduits connectors and die cast aluminum housing. Mounting holes are for #10 screws and are located outside the switch cavity. Each has a single conduit opening. Rating is a 15 amps for sealed enclosed switches and 20 amps for high capacity switches.

Sealed Enclosed

Stock No.	Mfr.'s Type	Fig.	EACH
			1-24
727-0118	BZG1-2RN	1	56.90
727-0120	BZG1-2RN2	2	77.75
727-0122	BZG1-2RN62	3	82.10

High Capacity

Stock No.	Mfr.'s Type	Fig.	EACH
			1-24
727-0124	BAF1-2RN-LN	6	84.65
727-0126	BAF1-2RN-RH	6	81.40
727-0132	BAF1-2RN2-LH	4	102.65
727-0134	BAF1-2RN2-RH	4	102.65
727-0130	BAF1-2RN18-RH	5	77.75
727-0128	BAF1-2RN18-LH	5	115.35

Additional products from this manufacturer.
Please contact Allied for price and delivery information.

LS/200LS Limit Switches



Fig. 1



Fig. 2



Fig. 3

These compact limit switches fit in many places too small for other fully adjustable limit switches. Rotary motion roller lever and rod actuators are adjustable through 360 degrees. Switches meet NEMA 1, 2, 3, 6 and 13. All are two circuit double-break.

Stock No.	Mfr.'s Type	Fig.	Description	EACH
727-0138	1LS1	1	Side Rotary Lever	113.50
727-0140	1LS1-L	1	As Above, 20 Pretravel	113.50
727-0144	201LS1	1	Side Rotary Lever*	122.50
727-0142	1LS3	2	ADJ Radius Lever	125.00
727-0152	8LS1	3	Wobble Actuator, Cable	114.00
727-0154	8LS1-L	3	As Above, UL Listed	110.13
727-0146	208LS1	3	Wobble Actuator*	107.00
727-0156	8LS125	3	Wobble Act-Steel Wire	127.50

*Requires terminal block 86-18PA1 for 86-200 series switches which must be ordered separately below.

Replacement Parts for Above

Stock No.	Mfr.'s Type	Description	EACH
			1-24
727-0136	18PA1	Terminal Block	29.50
727-0148	2MN1	Contact Block for 1LS1/201LS1	50.00
727-0162	9PA58	Operating Head for 8LS1-L	78.00
727-0160	9PA54	Operating Head for 8LS125	75.15
727-0161	9PA15	Operating Head for 1LS1-L	61.50
727-0150	6PA121	Actuator only for 1LS1-L	9.50

HDLS Heavy Duty Limit Switches



Fig. 1



Fig. 2



Fig. 3

Limit Switch with Standard Side Rotary Actuator

Many different actuator heads available. All are UL listed and CSA certified. Field adjustable operating modes for reduced inventory. Rated at 120 VDC, 0.25 inductive, 0.8 resistive; 240 VDC, 0.015 inductive, 0.4 resistive. Actuators must be ordered separately.

Stock No.	Mfr.'s Type	Fig.	Description	EACH
				1-24
727-0164	LSA1A	1	STD Side Actuator, Plug-In, 1/2 Conduit	104.00
727-0166	LSA2B	1	As Above, 3/4 Conduit	126.00
727-0168	LSD1A	2	Roller Top Plunger, Plug-In, 3/4 Conduit	126.00
727-0172	LSH1A	1	Low Diff/Low Torque Side Rotary, Plug-In, 1/2 Conduit	110.50
727-0170	LSD3K	2	Roller Top Plunger, Non-Plug In, 1/2 Conduit	113.50
727-0174	LSK1A-8C	3	Wobble Actuator, Plug-In, 1/2 Conduit	116.50
727-0176	LSV3K	2	Top Adjustable, Non-Plug-In, 1/2 Conduit	138.33

Lever Actuators for HDLS Switches



Fig. A



Fig. B



Fig. C

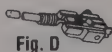


Fig. D

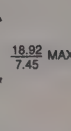
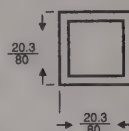
Stock No.	Mfr.'s Type	Fig.	Description	EACH
				1-24
727-0184	LSZ51A	A	Nylon Roller	9.50
727-0186	LSZ51B	A	Steel Roller	9.50
727-0188	LSZ52B	B	ADJ Radius Lever, Front, Steel	21.33
727-0190	LSZ52C	B	ADJ Radius Lever, Back, Nylon	16.00
727-0192	LSZ52D	B	ADJ Radius Lever, Front, Nylon	16.00
727-0194	LSZ54	—	ADJ Radius Lever, HUB only	10.00
727-0196	LSZ54N	C	Rod Lever, Stainless	16.00
727-0198	LSZ58	D	Delrin Rod with Spring	22.00

Miniature Pre-Wired Enclosed Switches

Factory pre-wired with SJTO industrial cable. Cable electrical connection and basic switch terminals are encapsulated in epoxy compound. Elastomer seal between plunger and switch housing. Plus mounting screw holes with continuous walls keep liquids from entering switch cavity. SPDT, UL rating: 5 amps, 1/10 HP, 125 or 250VAC. Zinc die-cast housing. Last digit in type number indicates cable length in inches. Minimum overtravel is: 0.118". Differential travel: 0.004. UL listed, CSA certified.

Stock No.	Mfr.'s Type	Fig.	Actuator Type	NEMA	O.F. Max. (lbs)	EACH
						1-24
727-0200	914CE 1-3	1	Plunger	1, 3	2.75	57.85
727-0202	914CE 1-6	1	Plunger	1, 3	2.75	62.70
727-0204	914CE 1-9	1	Plunger	1, 3	2.75	67.25
727-0206	914CE 18-3	2	Booted Plunger	1, 3, 4, 12, 13	5.00	69.10
727-0212	914CE 20-3	2	Spring Wire Wobbler	1, 3, 4, 12, 13	2 oz.	85.15

AML21 Series Incandescent and Non-Lighted Electronic Control Pushbutton Switches



AML21 switches with black bezels are designed to meet CEE requirements. Type numbers 13th digit 'A' have silver contacts rated 2A, 250VAC and 24VDC resistive; 3A, 125 VAC. 13th digit 'B' have gold contacts rated 100mA, 125VAC/DC resistive. Terminals are solder or quick-connect. Panel cutout: 0.75" square. Lighted units use incandescent T-1 1/4 wedge base industry lamp nos. 73, 85, 86, which are ordered separately. Order AML51 switch buttons separately on this page.

Square Display Non-Lighted

Stock No.	Mfr.'s Type	Circuit	Action	EACH
		Poles		1-24
727-0214	AML21BBA2AA	SPDT	Mom.	7.82
727-0218	AML21BBA2AC	DPDT	Mom.	8.80
727-0216	AML21BBA2AB	SPDT	Mom.	8.07

Square Display Lighted, Single Lamp Circuit

727-0220	AML21CBA2AA	SPDT	Mom.	8.54
727-0222	AML21CBA2AB	SPDT	Alt.	14.93
727-0224	AML21CBA2AC	DPDT	Mom.	16.10
727-0226	AML21CBA2AD	DPDT	Alt.	12.68

Rectangular Display Lighted, Single Lamp Circuit

727-0232	AML21FBA2AA	SPDT	Mom.	13.52
727-0236	AML21FBA2BA	SPDT	Mom.	12.18
727-0234	AML21FBA2AC	SPDT	Alt.	9.59

Rectangular Display Non-Lighted

727-0228	AML21EBA2AA	SPDT	Mom.	11.25
727-0230	AML21EBA2AB	SPDT	Alt.	7.69

Rectangular Lighted, 2 Lamp Circuit

727-0240	AML21GBA2AC	SPDT	Alt.	18.34
727-0242	AML21GBA2AD	DPDT	Alt.	20.13
727-0238	AML21GBA2AA	SPDT	Mom.	16.67

AML51 Switch Buttons



AML51-C



AML51-F

For AML11 and AML21 series incandescent and non-lighted pushbuttons. Color displayed whether lamp ON or OFF.

Square Pushbutton Style

Stock No.	Mfr.'s Type	Color	EACH
			1-24
727-0250	AML51-C10W	White	.87
727-0252	AML51-C10Y	Yellow	.80
727-0248	AML51-C10R	Red	.85
727-0244	AML51-C10G	Green	1.20

Rectangular Pushbutton Style

727-0260	AML51-F10W	White	1.19
727-0262	AML51-F10Y	Yellow	1.24
727-0258	AML51-F10R	Red	1.21
727-0254	AML51-F10G	Green	1.71

AML91 Incandescent Lamps

For AML21 series incandescent pushbutton switches listed above.

Stock No.	Mfr.'s Type	Lamp Voltage	EACH
			1-24
727-0268	AML91LA86	6.3	1.68
727-0264	AML91LA73	14.0	1.68
727-0266	AML91LA85	28.0	1.63



Fig. 1

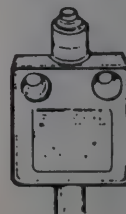
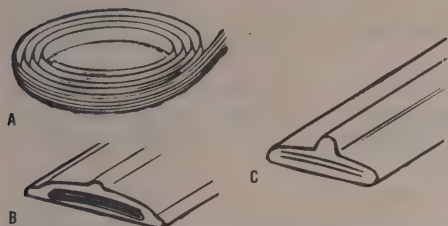


Fig. 2

Controflex Ribbon Switches



Type 131-A. $\frac{3}{4}$ " wide, $\frac{3}{16}$ " thick. Light grey, 40 oz., nominal finger pressure. Lead wires 18" long. 18/2 wire. Fasten with vinyl adhesive #105 or mount with Contamold Channel #106. Heat-sealed sleeve terminals. (Fig. B)

Type 121-BP. $\frac{9}{16}$ " wide, $\frac{5}{32}$ " thick. Light green, 8 oz., nominal finger pressure. Jacket-seal terminations. Lead wires 18" long. 22/2 wire. For indoor and outdoor use. Fasten with vinyl adhesive #105 or use Contamold Channel #104. (Fig. C)

Type 141-BPH. $\frac{9}{16}$ " wide, $\frac{5}{32}$ " thick. White, 8 oz., nominal finger pressure. Same as Type 121-BP except with $\frac{1}{8}$ " high bead for actuation. Fasten with #105 vinyl adhesive/sealant or mount with Contamold Channel #104. (Fig. C)

Do-It-Yourself Switch Material. Supplied in 50' lengths. Can be cut to any length desired. Terminated with the use of #103 terminals and sealed with vinyl adhesive #105 or use #104/106 mounting channels.

Type 102-A. Grey, 40 oz. $\frac{3}{4}$ " wide, $\frac{3}{16}$ " thick. Uses #106 mounting channel. (Fig.'s A, B)

Type 102-B. Yellow or black, 12 oz. $\frac{3}{4}$ " wide, $\frac{3}{16}$ " thick. Uses #106 mounting channel. (Fig.'s A, B)

Type 102-BP. Light green, 8 oz. $\frac{9}{16}$ " wide, $\frac{5}{32}$ " thick. Uses #104 mounting channel. (Fig.'s A, C)

Type 102-BHP. White, 8 oz. $\frac{9}{16}$ " wide, $\frac{5}{32}$ " thick. Uses #104 mounting channel. (Fig.'s A, C)

Stock No.	Mfr.'s Type	Length	Weight	EACH	
				1-24	25-99
966-1080	131-A	1'	3 oz.	12.60	11.60
966-1081	131-A	2'	6 oz.	18.20	16.75
966-1082	131-A	5'	15 oz.	30.60	28.20
966-1070	121-BP	1'	2 oz.	12.75	11.75
966-1071	121-BP	2'	4 oz.	17.40	16.00
966-1072	121-BP	5'	10 oz.	31.50	28.90
966-1075	141-BPH	1'	4 oz.	12.85	11.80
966-1076	141-BPH	2'	8 oz.	17.65	16.25
966-1077	141-BPH	5'	20 oz.	32.00	29.50
966-1086	102-A	50'	3.75 lbs.	293.00	283.00
966-1087	102-B	50'	3.75 lbs.	328.00	317.00
966-1088	102-BP	50'	3 lbs.	361.00	349.00
966-1089	102-BHP	50'	3 lbs.	384.00	372.00

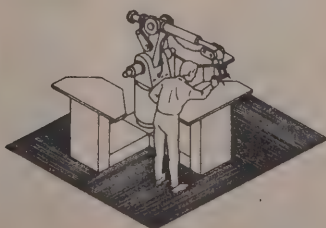
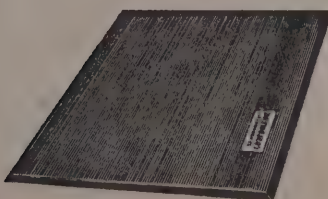
Controflex Switching Mats



$\frac{23"}{584.2}$ L x $\frac{17"}{431.8}$ W x $\frac{3/32"}{2.38}$

Olive colored, pure vinyl heat-sealed mats with 22/2 lead wires, 6' long (48" for CVP-623). Activate with 5 lbs. nominal foot pressure. For use in entrance ways, stair treads and other areas for monitoring. Use exposed or concealed under carpeting, $\frac{3}{32}$ " thick.

Stock No.	Mfr.'s Type	Dimensions	Weight	EACH		
				1-9	10-49	50-Up
966-1005	CVP-623	6 x 23"	1 lb	23.75	21.92	20.35
966-1010	CVP-1723	17 x 23"	1 $\frac{3}{4}$ lbs.	48.33	44.61	41.42
966-1015	CVP-2335	23 x 25"	2 $\frac{1}{4}$ lbs.	94.16	86.92	80.71



Contamold Mounting Channels

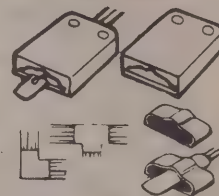
Fits Controflex ribbon switches. Switch slides in from one end. 104 Series is .688" wide, .270" high. 106 Series is .875" wide, .250" high. 106-S 6" pan head self-tapping screws for the Contamold channels are $\frac{9}{16}$ " long.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-24	25-Up
966-0104	104	3'	7.66	7.07	6.57
966-1104	104	6'	12.30		
966-0106	106	3'	8.00	7.38	6.85
966-1106	106	6'	12.90		

Molded Terminal Sets

Neat appearance. Quick connecting sealable terminations. Set includes one dead end with tongue connectors and 18" lead wires. Seal with #105 adhesive/sealant. The "T" and "L" fittings connect types "A" and "B" switch material by means of self-contained tongue connectors.

Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-24	25-Up
966-2000	103-A	Grey	10.16	9.38	8.71
966-2005	103-B	Yellow	7.55		
966-2010	103-BP	Green	9.50	8.76	8.14
966-2015	103-BPH	White	9.50	8.76	8.14
966-2020	103-TA	Grey	5.75	5.30	4.92
966-2025	103-TB	Yellow	5.75	5.30	4.92
966-2030	103-LA	Grey	5.75	5.30	4.92
966-2035	103-LB	Yellow	5.75	5.30	4.92



Flexswitch



180 Flex Switch

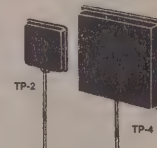
Sealed ribbon switch makes contact when flexed or squeezed. Quick and easy to install. Trouble-free sensing for virtually millions of cycles. Sensitivity is 7 oz. per foot at 2" 15° max. bending moment or 8 oz. finger squeeze. $\frac{9}{16}$ " wide, 8" long. Rated at 1 A res. 115 VAC, 2 A at 28 VDC.

966-1083. Model 180-S. 1-24	EACH 13.95
25-99	EACH 12.85
100-Up	EACH 12.25

Touch Pads

Industrial sensing mats for hazardous area monitoring. Sealed, moisture resistant. Black.

Stock No.	Mfr.'s Type	EACH
966-6812	TP-2 (2' x 2')	25.10
966-6814	TP-4 (4' x 4')	29.30



151-BBW Window Sill Alarm Switch

$\frac{9}{16}$ " wide, $\frac{3}{32}$ " thick. White, 8 oz. nominal finger pressure. Jacket seal terminations. 12" long lead wires at both ends, 22/2 wire. Fasten with vinyl adhesive #105. Weight: 2 oz. per 24".

Stock No.	Mfr.'s Type	Length	EACH	
			1-9	25-99
250-2055	151-BBW	36"	29.50	28.58
250-2060	151-BBW	48"	35.30	34.20

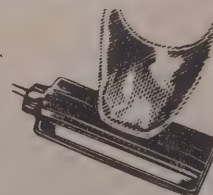
Other lengths available upon request.

111 Controflex Foot Switch

Rugged 100 W ribbon foot switch water resistant (momentary, normally open) sealed in weatherproof molded flat pad. 2 x 5", .375" thick. Tape or cement to floor. Includes 6' U.L. approved cord. Weight: 4 oz.

966-1060. Model 111. 1-24	EACH 21.50
25-99	EACH 19.75
100-Up	EACH 18.95

Foot Switch 111



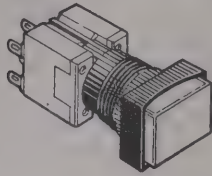
Controlmat Industrial Switching Mat

— NEW —

Designed for heavy moving loads, indoor or outdoor use. Top and bottom surfaces fully ribbed to prevent trapping moisture — no partial ribbing. Industrial grade surface is superior to soft cast or molded vinyl products. DRI-RUN cable is standard. Flexible mat is easy to install — ideal for door opening/closing, robotic installations, passenger sensing, machine tool protection. Nominal foot pressure anywhere on active area will be sensed. Write for installation notes. Color: Charcoal (or chrome yellow, special order only) available 16" long by 4' wide. Leads 6' long. No special handling. Lie flat on floor, and can be lifted for cleaning. Weight: 3.5 lbs. per ft.² (17 Kg/m²).

Stock No.	Mfr.'s Type	Dimensions	EACH	
			1-24	25-99
966-6800	CKP5510	24 x 36	202.10	181.90
966-6802	CKP5511	24 x 60	337.00	304.00
966-6804	CKP5512	24 x 72	405.00	364.00
966-6806	CKP5530	30 x 48	337.00	304.00
966-6808	CKP5540	36 x 48	405.00	364.00
966-6810	CKP5550	36 x 72	607.00	546.00

TH25 Series IP67 Pushbutton Switch — Oil-tight, Dustproof, and Submersible



The IP67 version of the TH25 series offers protection against all dust contamination, water being projected by a nozzle from any angle, and the IP67 rated switch is submersible in up to 1.2 meters of water. This series fits a 16.2 mm panel cutout and can be used with a load ranging from milliamps up to 16 amps. This switch is available in a number of bezel sizes and styles. The style shown is a 18 × 24 straight black bezel.

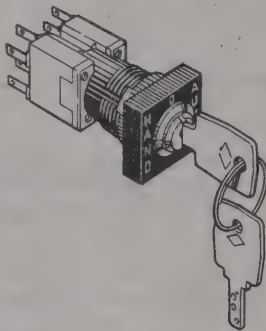
Contacts

Faston		Solder		Description	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-24	25-49	50-99
804-4500	501015	804-4502	501115	Momentary Maintained Signal Lamp	5.27	4.68	4.51
804-4504	511015	804-4506	511115		5.90	5.45	5.06
804-4508	551015	804-4510	551115		3.97	3.66	3.40

Flat Lens

Opaque		Transparent		Color	EACH		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-24	25-49	50-99
804-4512	560011	804-4514	561011	White	1.15	1.06	.99
804-4516	560111	804-4518	561111	Yellow	1.15	1.06	.99
804-4520	560211	804-4522	561211	Green	1.15	1.06	.99
804-4524	560311	804-4526	561311	Blue	1.15	1.06	.99
804-4528	560411	804-4530	561411	Red	1.13	1.06	.99
804-4532	560511	—	—	Black	1.13	1.06	.99
804-4534	560611	804-4536	561611	Orange	1.13	1.06	.99

TH25 Series 3 Position Key-Switches



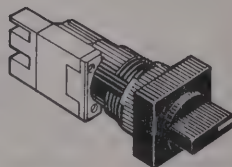
Tschudin & Heid key-switches offer you the greatest amount of flexibility in selecting a key-switch. You can select the key removable position and the bezel style. These key-switches are rated 5 amps and up to 250 VAC with a lifetime of 50,000 operations and fit a 16.2 mm panel cutout. The key-switch is available in a two position version and an IP65 rated version. **Switches Positions:** position 1 on the left, position 0 center, and position 2 on the right.

Stock No.	Mfr.'s Type	Cylinder Element	Key Removable Position	EACH		
				1-24	25-49	50-99
804-4538	548050	Maintain-Maintain-Maintain	All Positions	27.70	26.55	24.66
804-4540	548051	Maintain-Maintain-Maintain	Positions 0 and 2	28.77	26.55	24.66
804-4542	548052	Maintain-Maintain-Maintain	Position 2	26.13	24.12	22.40
804-4544	548053	Maintain-Maintain-Maintain	Position 0	26.13	24.12	22.40
804-4546	548054	Impulse in Position 1 and 2	Position 0	26.13	24.12	22.40
804-4548	548055	Impulse-Maintain-Maintain	Positions 0 and 2	28.77	26.55	24.66
804-4550	548056	Impulse-Maintain-Maintain	Position 2	26.13	24.12	22.40
804-4552	548057	Impulse-Maintain-Maintain	Position 0	26.13	24.12	22.40
804-4554	548059	Maintain-Maintain-Impulse	Position 1 and 0	28.77	26.55	24.66
804-4556	548060	Maintain-Maintain-Maintain	Position 1 and 2	28.77	26.55	24.66
804-4558	548061	Maintain-Maintain-Maintain	Position 1 and 0	28.77	26.55	24.66
804-4560	548062	Maintain-Maintain-Impulse	Position 1	28.77	26.55	24.66

Bezels

Stock No.	Mfr.'s Type	Size	EACH			Stock No.	Mfr.'s Type	Size	EACH		
			1-24	25-49	50-99				1-24	25-49	50-99
804-4562	493060	18 × 24	.75	.69	.64	804-4566	493062	18 × 18	.75	.69	.64
804-4564	493066	24 × 24	.75	.69	.64	804-4568	493064	18 round	.75	.69	.64

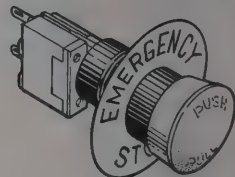
TH25 Series 3 Position Rotary Switches



Similar to the TH25 Series Key-Switches, the 3 position rotary offers you the widest selection of rotary elements and bezel styles. The 3 Position Rotary Switch uses the same bezels as the 3 Position Key-Switch.

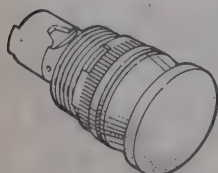
Stock No.	Mfr.'s Type	Rotary Element	EACH		
			1-24	25-49	50-99
804-4570	508040	Maintain-Maintain-Maintain	11.92	11.54	10.71
804-4572	508041	Impulse-Maintain-Impulse	12.50	11.54	10.71
804-4574	508042	Impulse-Maintain-Maintain	12.50	11.54	10.71
804-4576	508043	Maintain-Maintain-Impulse	12.50	11.54	10.71

TH25 Series Emergency Stop Switch



TH25 Series Emergency Stop Switch offers the PUSH-PULL version with a forced unlatching contact block. Meets SUVA regulations.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
804-4578	518039	Switch	19.65	18.14	17.00
804-4580	593590	Faston Contact Block	9.27	8.55	7.94
804-4582	593561	Solder Contact Block	6.35	5.86	5.44
804-4584	593068	Yellow 43 mm Disc	1.60	1.48	1.37



TH4 Series 30 mm IP65 Splashproof and Oil-Tight Mushroom Switches

This TH4 series fits a 22.5 mm panel cutout. Rated 5 amps and 250 VAC, the TH4 mushroom switch comes with the mushroom cap assembled at the factory. Please order the cap at the same time that the switch is ordered.

Momentary Switch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-49	50-99
804-4586	404119	SP/ST	16.43	15.17	14.09
804-4588	404219	DP/DT	22.42	20.69	19.21
804-4590	404319	TP/TT	28.33	26.15	24.29

Maintained Switch

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-49	50-99
804-4592	414119	SP/ST	18.12	16.72	15.53
804-4594	414219	DP/DT	23.90	22.06	20.49
804-4596	414319	TP/TT	29.87	27.57	25.60

Mushroom Caps

Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-49	50-99
804-4598	464007	White	2.08	1.80	1.74
804-4600	464107	Yellow	2.08	1.80	1.74
804-4602	464207	Green	2.08	1.80	1.74
804-4604	464307	Blue	2.08	1.80	1.74
804-4606	464407	Red	2.08	1.80	1.74
804-4608	464507	Black	2.08	1.80	1.74

Lighted Pushbutton Switches

TH5 Series Lighted Pushbutton Switches

The TH5 series is rated up to 5A, 250 VAC. Compact size is perfect for applications where depth is a problem. As with all T&H switches, the TH5 offers front panel access for bulb replacement. Available in Square, Round, and Rectangle bezel styles. Lens shape and color must be ordered separately.

Tapered Bezel Pushbutton Switches

TH5 Series with gently tapered bezels for European front panel styling. Features T&H unique bi-functional mechanism which allows the maintained version to be converted to a momentary function and back again. Customer selection of the lens color and the lamp voltage are ordered separately and are custom assembled.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-99
804-1000	502100	Square MOM impulse switch	10.90	10.06	9.34
804-1005	512100	Square Maintained Switch	12.36	11.41	10.60
804-1010	512200	Square Maintained Switch	18.50	17.07	15.85
804-1015	500100	Rect. MOM impulse Switch	10.90	10.06	9.34
804-1099	510100	Rect. Maintained Switch	12.36	11.41	10.60
804-1200	504108	Round Momentary, 1 pole	10.90	10.06	9.34
804-1205	514108	Round Maintained, 1 pole	12.36	11.41	10.60

Covered Bezel Pushbutton Switches

TH5 covered bezel style provides the largest lens cap area available. The version is excellent for multiple switch panel designs. The extra large lens is the best style available for engraving or legending. Features T&H unique bi-functional mechanism which allows the maintained version to be converted to a momentary function and back again. Customer selection of the lens color and the lamp voltage are ordered separately and are custom assembled.

804-1040	500102	Rect. 1 pole MOM	10.90	10.06	9.34
804-1049	510102	Rect. 1 pole maint'd	12.36	11.41	10.60
804-1050	502102	Square 1 pole MOM	10.90	10.06	9.34
804-1055	512102	Square 1 pole maint'd	12.36	11.41	10.60

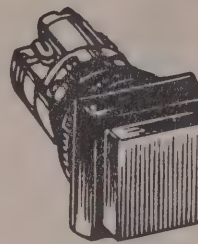
TH5 Series covered bezel models feature an extra large lens that completely conceals the switch bezel. Excellent for legending large engraved messages. Available in rectangular and square models with the same ratings.

Lenses

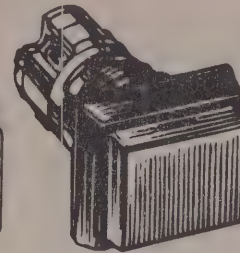
Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-24	25-49	50-99
804-1041	462013	White square lens	B	1.10	.95	.85
804-1042	462413	Red square lens	B	1.10	.95	.85
804-1043	462213	Green square lens	B	1.10	.95	.85
804-1032	460412	Red rect. lens	A	1.10	.95	.85
804-1031	460012	White rect. lens	A	1.10	.95	.85
804-1033	460212	Green rect. lens	A	1.10	.95	.85
804-1210	464021	White Round Lens	C	1.10	.95	.85
804-1215	464221	Green Round Lens	C	1.10	.95	.85
804-1220	464421	Red Round Lens	C	1.10	.95	.85
804-200X	460X17	Rect translucent lens cap	A	1.10	.95	.85
804-300X	461X17	Rect transparent lens cap	A	1.10	.95	.85
804-400X	462X18	Square translucent lens cap	B	1.10	.95	.85
804-500X	463X18	Square transparent lens cap	B	1.10	.95	.85

Note: Other colors are available. Specify color. Replace "X" in part number with color desired. (0-white, 1-yellow, 2-green, 3-blue, 4-red, 5-black)

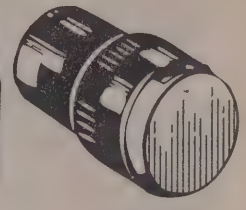
Tapered Bezel Pushbutton Switches



502/512 Series

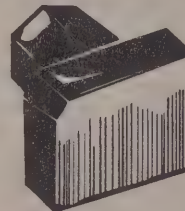


500/510 Series

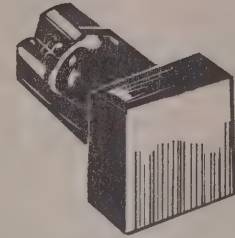


504/514 Series

Covered Bezel Pushbutton Switches

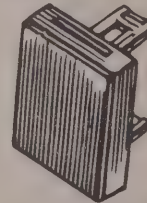


500/510 Series

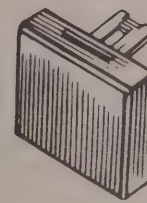


502/512 Series

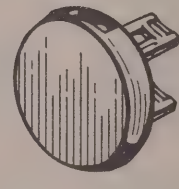
Lenses



Rectangular A



Square B

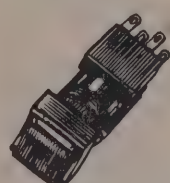


Round C

TH25 Series Pre-Wireable Lighted Pushbutton Switch



Round



Square



Rectangular

TH25 series is rated 5A, 250VAC. The TH25 series patented contact block mounting system allows the switch to be mounted to the panel and the wire harnessing to be completed with the contact block and then mounted to the switch. Available in Square, Round, and Rectangle styles with contact block terminals in solder, .110x.020 quick connect, and shielded quick connect versions. A completely modular switch, it is custom assembled with each component; switch, lens, contact block, and lamp individually selected.

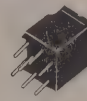
Stock No.	Mfr.'s Type	Bezel Type	EACH		
			1-24	25-49	50-99
804-1070	503008	Square straight (MOM)	4.18	3.86	3.58
804-1075	513008	Square straight (maint'd)	4.85	4.47	4.15
804-1080	501008	Rectangular straight (MOM)	4.18	3.86	3.58
804-1085	511008	Rectangular straight (maint'd)	4.85	4.47	4.15
804-1091	505018/464001	Round actuator with white lens (MOM)	13.44	12.40	11.51
804-1094	505018/464101	Round actuator with yellow lens (MOM)	13.44	12.40	11.51
804-1093	505018/464201	Round actuator with green lens (MOM)	13.44	12.40	11.51
804-1095	505018/464301	Round actuator with blue lens (MOM)	13.44	12.40	11.51
804-1092	505018/464401	Round actuator with red lens (MOM)	13.44	12.40	11.51
804-1098	505018/464501	Round actuator with black lens (MOM)	13.44	12.40	11.51
804-1097	505018/465001	Round actuator with clear lens (MOM)	13.44	12.40	11.51
804-0084	515018/464001	Round actuator with white lens (maint'd)	14.14	13.04	12.11
804-0087	515018/464101	Round actuator with yellow lens (maint'd)	14.14	13.04	12.11
804-0086	515018/464201	Round actuator with green lens (maint'd)	14.14	13.04	12.11
804-0088	515018/464301	Round actuator with blue lens (maint'd)	14.14	13.04	12.11
804-0085	515018/464401	Round actuator with red lens (maint'd)	14.14	13.04	12.11
804-0089	515018/464601	Round actuator with black lens (maint'd)	14.14	13.04	12.11
804-0090	515018/465001	Round actuator with clear lens (maint'd)	14.14	13.04	12.11

Contact Blocks

Solder Terminals



A



B

Faston Terminals



C



D

Faston Terminals w/Ins.



E



F

Slide-on contact blocks. Each actuator capable of switching two contact blocks (up to 4 poles).

Stock No.	Mfr.'s Type	Description	No. of Poles	Fig.	EACH		
					1-24	25-49	50-99
804-1300	593561 000	1N.O./N.C. Solder	1	A	6.29	5.80	5.38
804-1225	593564 000	2N.O./N.C. Solder	2	B	12.62	11.64	10.81
804-1100	593566 000	1N.O./N.C. QC	1	C	6.39	5.80	5.38
804-1230	593567 000	2N.O./N.C. QC	2	D	12.62	11.64	10.81
804-9997	593560 000	1N.O./N.C. Inc. QC	1	E	6.29	5.80	5.38
804-1235	593563 000	2N.O./N.C. Inc. QC	2	F	12.62	11.64	10.81

Lamp



T 1 1/4 Midget Grooved Incandescent Lamps. Other voltages. Neon or LEDs available upon request.

Stock No.	Mfr.'s Type	Description	EACH	
			1-24	25-49
804-1152	590000	6.3V lamp	1.67	1.47
804-1154	590001	14V lamp	1.67	1.47
804-1156	590002	28V lamp	1.67	1.47

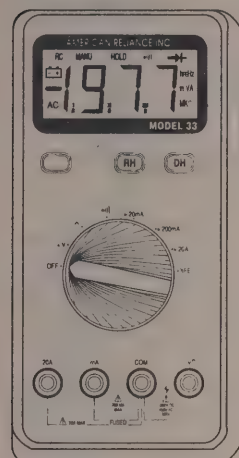
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Model 33 3-1/2 Digit Auto-Ranging DMM



Features

- ▶ Basic Accuracy 0.5%
- ▶ 20A Fused
- ▶ Data Hold
- ▶ Auto Ranging
- ▶ High LCD Display

The model 33 has 3 1/2 digit, 0.5% accuracy. The LCD display is 0.75" high and has data-hold function. The ranges are 200mV to 1000V DC, 2V to 750V AC, 20mA to 20A AC/DC, 200 to 20M ohms resistance. It also has a diode and audible continuity check.

952-0033. Model 33 3 1/2EACH 59.95

Model 140/140K

Covers all standard DMM functions. 3 1/2 digit with 1% basic accuracy. Gold plated circuit board. Comprehensive assembly instructions provided for the kit version.

Specifications. DCV Range: 200mV, 2V, 20V, 200V, 1000V. ACV Range: 200V, 750V. Input Impedance: 10 MΩ. DCA Range: 200μA, 2 mA, 20 mA, 200 mA, 2A, 10A (10A not fused). Resistance Range: 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. Diode Check: Display reads approximate forward voltage of diode. Display: 3 1/2 digit LCD 0.4" high with "LOBAT". Power: Single 9V battery (1000 hours typical). 1 pair test probes, 1 spare fuse, manual. Dimensions: 5.9" L x 3.2" W x 1.2" H. Weight: 7.1 oz.

952-0140. Model 140EACH 39.95

952-0141. Model 140K. (Kit Form)EACH 49.95

Model 3000/3010/3100/3200

Model 3000. The 3000 series are highly-advanced, state-of-the-art autoringing digital multimeters, which additionally include a 40-segment analog bargraph and automatic data hold capabilities. All three meters offer Auto power off, continuity beeper, diode test ranges, range hold to disable autoringing when desired, relative measurement mode, Min/Max memories, dBm measurement mode, logic monitor mode with variable thresholds, and 20 amps continuous current measurement capability. Also included is Fast display mode which allows the display to update every 50ms instead of the normal 300ms.

Specifications. DCV Range: 400mV, 4V, 40V, 400V, 1000V. ACV Range: 4V, 40V, 400V, 750V. ACA and DCA Range: 40mA, 400mA, 20A. Resistance Range: 400Ω, 4KΩ, 40KΩ, 400KΩ, 4MΩ, (20MΩ), 20MΩ. Diode Test: Display reads approximate forward voltage of diode. Audible Continuity: Buzzer sounds if conductance is less than 10 ohms. DBM Measurement: -20 dBm to +60 dBm (600 ohm ref.). Display: 4000 count, 65°, 3 1/4 digit LCD with "LOBAT". Power: 9V battery (NEDA 1604); 360 hours typical. Dimensions: 6.4" H x 3.25" W x 4" D. Weight: 12.5 oz.

952-3000. Model 3000. .5% AccuracyEACH 129.95

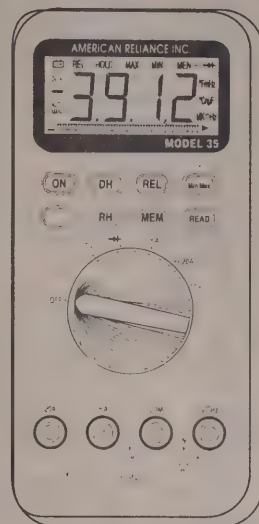
Models 3010/3100. Same as above with Range Alert for use searching circuitry for a specific, settable level or range of levels, and activates an audible alarm when the set level is located.

952-3010. Model 3010. .25% AccuracyEACH 149.95

Model 3200. Same as 3100 in drop proof and contamination proof case.

952-3200. Model 3200. .25% AccuracyEACH 229.95

Model 35/37 4000 Count, Auto-Ranging DMM



Features

- ▶ Basic Accuracy 0.3%
- ▶ 20A Fused
- ▶ Auto Data Hold
- ▶ Auto Ranging
- ▶ High LCD Display
- ▶ Min/Max Memories
- ▶ Relative Mode
- ▶ Frequency Counter
- ▶ Capacitance Measurement
- ▶ Memory and Read Function
- ▶ 2-Year Warranty
- ▶ True RMS Measurement*

*(37 only)

The models 35 and 37 are 3 3/4 digit meters with 0.3% basic accuracy. They have a 0.67" high display with bargraph. The ranges are 4nF to 40μF capacitance measurement, 100Hz to 600KHz frequency measurement, 400mV to 1000V DC, 400mV to 750V AC, 40mA to 20A AC/DC and 400 to 40M ohms resistance. They also have relative mode, data-hold, min/max memory and read function and true RMS (model 37).

952-0035. Model 35EACH 89.95

952-0037. Model 37EACH 103.38

Model 470D



The 470D is housed in a rugged, drop-proof, heavy-duty case. This hand-held LCR meter is ideal for either shop or field. It is an excellent tool for testing the quality of transformers or capacitors by dissipation factor. It permits finding opens and shorts on transmission lines. And it has the ability to measure SMD or chip type components for resistance or capacitance. Low resistance ranges provide for precision resistance measurements (down to 1 milliohm). Optional SMD probes enable measurement of capacitance from the 200pF to 20mF ranges and resistance from the 2 to 20 MΩ ranges. **Typical Applications:** Quality control of transformers (opens, shorts); finding opens or shorts of transmission lines; capacitance and resistance measurements of SMD or chip type components; phase detection, mutual inductance and ratio of turns for transformers; quality control of PC boards (components, PC stripes, connectors, busbars, relay contacts, etc.).

Specifications. Capacitance: Range—200 pF, 2 nF, 20 nF, 200 nF, 2 μF, 20 μF, 200 μF, 2 mF, 20 mF; Dissipation Factor Range—0.001 = 1.999. Inductance: Range—200 μH, 2 mH, 20 mH, 200 mH, 2 H, 20 H, 200 H; Dissipation Factor Range—0.001 = 1.999. Resistance: Range—2 Ω, 20 Ω, 200 Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. Power: Single 9V battery or line operations by 9V AC/DC adapter. Display: 0.5" digital height, 3 1/2-digit LCD with "LOBAT" and decimal annunciators. Size: 6.9" x 3.5" x 1.6". Weight: 0.88 lb. **Supplied Accessories:** 1 pair test clips, 1 spare fuse (0.125A), operations manual. **Optional Accessories:** TL-06 clip for SMD type component.

952-0470. Model 470DEACH 249.95

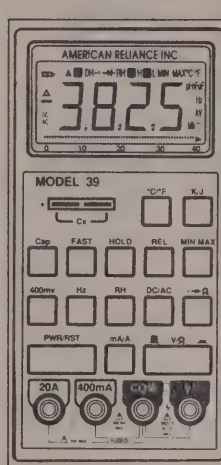
Model 120

This handy DMM offers maximum convenience of multiple functions in one package. 3 1/2 digit with 0.5% basic accuracy. Used in radio and TV repair, quality control, HVAC repair and maintenance, electronic design, schools, and field service.

Specifications. DCV Range: 200 mV, 2V, 20V, 200V, 1000V. ACV Range: 200 mV, 2V, 20V, 200V, 750V. Input Impedance: 10 MΩ. Resistance Range: 200Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. ACA and DCA Range: 200μA, 2 mA, 20 mA, 200 mA, 2A, 10A (10A not fused). Audible Continuity Check: Buzzes if conductance is less than 30Ω. Diode Check: Displays approximate forward voltage of diode. Temperature: Uses 120°F (optional—not supplied) or any converter giving 1 mV per °C output. Display: 3 1/2 digit LCD 0.4" high with "LOBAT". Power: Single 9V battery (800 hours typical). 1 pair test probes, 1 spare fuse, manual. Dimensions: 5.9" L x 3.2" W x 1.2" H. Weight: 7.1 oz.

952-0120. Model 120. .5% AccuracyEACH 59.95

Model 39 4000 Count, Drop-Proof, Auto-Ranging DMM



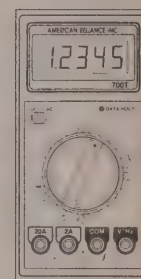
Features

- ▶ Basic Accuracy
- ▶ 20A Fused
- ▶ Auto Data Hold
- ▶ Auto Ranging
- ▶ High LCD Display
- ▶ Min/Max Memories
- ▶ Relative Mode
- ▶ Frequency Counter
- ▶ Capacitance Measurement
- ▶ Temperature Measurement
- ▶ Fast Display Mode
- ▶ Drop-Proof to 10'
- ▶ 2-Year Warranty
- ▶ True RMS Measurement

The model 39 is a 3 3/4 digit meter with 0.25% accuracy. It is a highly advanced, state-of-the-art DMM which includes the following advanced features: true RMS, min/max, data hold, relative measurement, frequency counter, capacitance measurement, temperature measurement, and fast display mode (updates the display every 50ms instead of the normal 300ms period). Also, it offers auto power-off feature, DCV/ACV, DCA/ACA, continuity beeper, diode test, range hold to disable auto-range when desired, and 20 amps continuous current measurement. In addition, a yellow ABS plastic rugged case is utilized to offer the drop-proof feature of this meter.

952-0039. Model 39EACH 199.95

Model 700T 4-1/2 Digit True RMS Digital Multimeter with Frequency Measurement



AC Voltage (True RMS Responding AC Coupled)

Crest Factor 1:1 to 3:1. Input Impedance: -10M ohm. Capacitance: <100pF. 4 1/2 digit 0.05% basic accuracy. True RMS AC measurement and frequency measurement up to 200KHz. ACA/DCA up to 20A. Drop-proof to 4 feet.

Range	Accuracy				Resolution	Over-load Protection
	50Hz-1KHz	1KHz-10KHz	10KHz-30KHz	30KHz-50KHz		
200mV	0.2% + 20	0.5% + 20	0.5% + 20	0.5% + 20	10μV	250VDC /rms
2V					100μV	
20V	0.5% + 20	1% + 2	2% + 20	3% + 100	1mV	DC 1000V
200V					10mV	AC 750V
750V	1.0% + 20	NOT SPECIFIED			100mV	

952-0700. Model 700TEACH 199.95

Model 150W

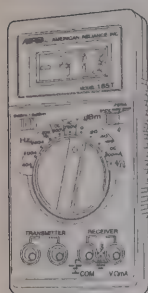
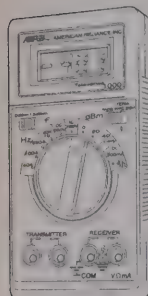
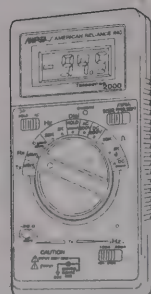
The 150W DMM offers true AC power measurements in a drop proof case. The highly accurate (with 0.5% accuracy) DMM measures AC/DC Volts, AC/DC Amps, resistance, true AC power, and provides audible continuity and diode test functions.

Specifications. DCV Range: 0.1mV-1000V. ACV Range: 0.1mV-750V. DCA Range: 0.1mA-20A. ACA Range: 0.1mA-20A. Resistance: 0.1 ohm to 20M ohms. Watts (True Power): 1W-5500W (47-65 Hz). Display: 3 1/2 digit LCD. Power: One 006P battery. One year warranty.

952-0150. Model 150WEACH 199.95

Telesense Series Heavy-Duty Hand-Held Transmission Test Sets
— NEW —

AMREL has produced three versatile transmission test sets that will aid you in finding all transmission breakdowns. You select the test set that is appropriate for your application. All units incorporate the same superior quality, simplicity and exceptional features. AMREL develops instrumentation for every budget and need.


185T

Telesense 1000

Telesense 2000

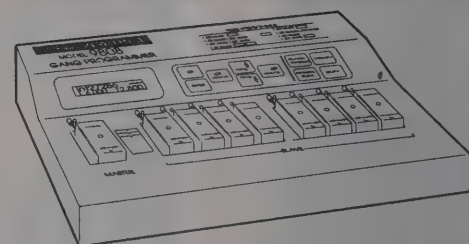
Features	AMREL Telesense 2000	AMREL Telesense 1000	AMREL 185T
Level Measurement	-60 to +10 dBm	-50 to +8 dBm	-50 to +13 dBm
Noise Measurement	-80 to 0 dBm	-80 to -10 dBm	-80 to -32 dBm
RX Impedance	600 Ω /900 Ω	600 Ω /900 Ω	600 Ω /900 Ω
Bridge Impedance	$\approx$ 100 K Ω	$\approx$ 1 M Ω	$\approx$ 1 M Ω
C-MSG Filter	Yes	Yes	Yes
Tone Generator	404/1004/2713/2804 Hz	404/1004/2804 Hz	404/1004/2713/2804 Hz
Generator Level	Variable 0 to -26 dBm	Fixed 0 and -13 dBm	Fixed 0 and -13 dBm
TX Impedance	600 Ω /900 Ω	600 Ω	600 Ω
Dialing Capability	with TELDIALER	No	No
Line Hold Circuit	Yes	No	No
Loop Back Capability	Yes	Yes	Yes
Frequency Counter	Yes	Yes	No
DMM Functions	Yes	Yes	Yes
Audible Continuity	Yes	Yes	Yes
Oversized LCD	Yes	Yes	Yes
I/O Connectors	Bantam/RJ11	Banana	Banana
Drop-Proof (10")	Yes	Yes	Yes
Power Source	9 VDC Ni-Cd or Alkaline Battery	9 VDC Alkaline Battery	9 VDC Alkaline Battery
Low Battery Indicator	Yes	Yes	Yes

952-1010. Model 2000	EACH 595.00
952-1020. Model 1000	EACH 495.00
952-0185. Model 185T	EACH 345.00

Model 9808/High-Speed Gang Programmer with User Replaceable ZIP Sockets

The 9808 is a stand-alone, high speed EPROM gang programmer designed for mass programming applications. The programmer is equipped with nine 32-pin ZIP (zero insertion force) sockets with the master device occupying the first socket. The 9808 programs up to eight 8M-bit EPROMs or 2M-bit flash EEPROMs from one master device with a single keystroke. In order to provide years of reliable service, all ZIP sockets of the 9808 programmer are removable. Worn-out or damaged ZIP sockets can be easily and economically replaced by the user which eliminates programmer down-time and improves productivity. **Specifications. Power Supply:** 90 to 260 VAC; 47 to 63 Hz auto-switching. **Power Consumption:** 60 W maximum. **Dimensions:** 31.6 cm $\times$ 26.6 cm $\times$ 7.1 cm (12.4" $\times$ 10.5" $\times$ 2.8"). **Net Weight:** 3.2 kgs (7 lbs.). **Operating Temperature:** 5° to 45°C. **Humidity:** 90% non-condensing.

952-9808.....EACH 1495.00


Model 9850UV Personal E/EEPROM Programmer

- Simple Function Key Operations
- Programs 2716 to 27513 EPROMs and 2804 to 28256 EPROMs
- Built-in UV Eraser
- Stand-Alone or PC Remote Operation with Auto Detection
- Programming Algorithms: STANDARD, INTELLIGENT, INTERACTIVE AND QUICK PULSE

Specifications. EPROMs: 2716, 2716B, 2732, 2732A, 2732B, 2764, 2764A, 27128, 27128A, 27256, 27256D, 27512, 27513. **EEPROMs:** 2804A, 2816A, 2817A, 2864, 28256. **Programming Functions:** Read, Program, Auto, Verify, Blank Check. **Data Formats:** Intel Hex, Binary, Motorola S, Tektronix Hex. **Device Check:** Blank, Verify, Over Current, Checksum. **Programming Algorithms:** Standard, Intelligent, Interactive, Quick Pulse. **Serial Interface:** RS-232, DB-25F. **Data Rates:** 150-19200 baud. **Data Socket:** (1) 28 pin ZIF. UV Erase (9850UV); 6 devices. **Display:** 16 $\times$ 1 Dot Matrix LCD. **Protection:** Reverse Insertion. **Data RAM:** 64KB. **Power:** 110/220 VAC, 50/60 Hz.

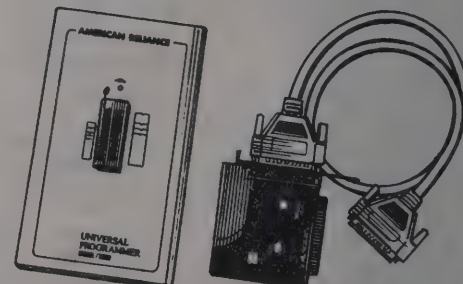
952-9851. 9850UV.....EACH 397.67

9860 Universal Programmer

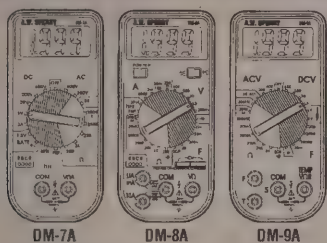
- Programs PROMs, E/EEPROMs, PALs, PEELs, FPLAs, GALs, E/EEPROMs and MPUs
- User Definable Programming Parameters
- Provides Test Vectors for PLD Functional Test
- Menu-Driven Operation on any IBM PC/XT/AT or 80386
- Software Diagnosis/Hardware Calibration
- Four Software Updates Annually
- PLCC Adapters Available (option)

An additional CPU independent clock is used to generate precision programming pulses to increase accuracy when programming devices. This unit utilizes a 1 MB dynamic memory buffer which has no limit in regards to device size. Even memory devices as large as 64 MB can be programmed with only 384 KB of a computer's RAM. When programming, each pin is independently driven which means a vast amount of devices may be supported by the unit. The PC-based programmer is menu driven, provides on-line help, and has one touch function key operation. These features ensure an easy-to-learn and simple-to-use programmer. Additional devices may be added by either varying the device options function to program similar devices or by special request for a new device (allow 6 weeks and provide data sheets and 2-3 samples of the device). **Specifications. Programming Functions:** Read, Program, Verify, Blank Check. **General Functions:** Select Device, Modify Vector, Functional Test, Input/Output to disk, Device Options, Hardware Test, Quit to DOS. **Edit Commands:** Go-To, Search, Fill, Complement, Copy and Checksum. **Programming Algorithms:** Standard, Traditional, Intel, Quick Pulse, Interactive and User Defined. **Data File Formats:** JEDEC, Intel Hex, Motorola S, Tektronix Hex, binary and HP64000ABS. **Power:** +5V @ 1A, +12V @ 0.2A (stand-by), 1A (active), -12V @ 0.1A. **I/O Connector:** 37 pin D-sub. **Host Computer Requirements:** IBM PC/XT/AT or compatibles and 386 based machines to 25 MHz. 384K RAM minimum. **Display:** Hercules, CGA, VGA, EGA, MCGA or monochrome. **Supplied Accessories:** Module, PCL-506A PC interface card, cable, software and operator's manual. **Size:** 10"L $\times$ 5.9"W $\times$ 1.7"H. **Weight:** 1 lb. 4 oz.

952-9860. 9860.....EACH 995.00



Models DM-7A, DM-8A, DM-9A Ruggedized Manual Range DMMs



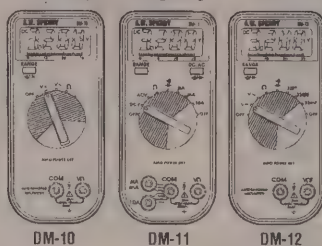
Ergonomically designed 3.5 digit DMMs. All feature safety style test leads and recessed inputs. 600 volt burn out protection on ohms/audible continuity and diode test ranges, overload protection on all ranges. 5.8" x 2.8" x 1.75", 12.9 oz. All include B-4 (9V) battery, C-71 Case (C-72 holster optional). DM-7A has F-24 fuse and spare, TL-58 test leads, #236 instructions. DM-8A includes F-25 fuse (1), F-22 fuse plus spare, #236 instructions. DM-9A includes TL-62 leads, F-2 plus spare, TP-900 temp probe, #237 instructions. Limited 5 year warranty.

DM-7A Digital Multimeter. Ranges. DC Voltage: 0-2/20/200/600 Vdc. **AC Voltage:** 0-200/600 Vac. **DC Current:** 0-2 A. **Resistance:** 0-200/2 K/20 K/200 K/2000 K ohm. **HFE Test:** NPN/PNP. **Battery Test:** 1.5/9 Vdc. **Diode Test:** 0-2 K ohm. 947-0050. Model DM-7A EACH 42.95

DM-8A Digital Multimeter. Ranges. DC Voltage: 0-200 mV/2/20/200/600 Vdc. **AC Voltage:** 0-200 mV/2/20/200/600 Vac. **DC Current:** 0-200 μ A/2 m/20 m/200 mA/10 A. **AC Current:** 0-200 μ A/2 m/20 m/200 mA/10 A. **Resistance:** 0-200/2 K/20 K/200 K/2000 K/20 M/200 M/2000 M ohm. **HFE Test:** NPN/PNP. **Capacitance:** 0-2 n/20 n/200 nF/20 μ F. **Continuity Test:** Diode Test. 947-0055. Model DM-8A EACH 64.95

DM-9A Digital Multimeter. Ranges. DC Voltage: 0-2/20/200/600 Vdc. **AC Voltage:** 0-200/600 Vac. **Resistance:** 0-200/2 K/20 K/200 K/2000 K/20 M/200 M/2000 M ohm. **30 Indicator:** RST. **Frequency:** 0-100 KHz. **Temperature:** -20°C to 400°C, -4°F to 752°F. **Capacitance:** 0-20 μ 200 μ 2000 μ F/20 mF. **Continuity Test:** Diode Test. 947-0060. Model DM-9A EACH 84.95

Models DM-10, DM-11, DM-12 Ruggedized Auto Ranging DMMs with Bar Graph Display



Ergonomically designed 3200 count autoranging DMMs all feature auto-off, analog bar graph display, 600 volt burn out protection on ohms, audible continuity and diode test ranges. 5.8" x 2.8" x 1.75", 12.9 oz. All come complete with B-4 (9 V) battery, TL-58 test leads, C-72 rubberized protective holster. In addition, DM-10 has #238 instructions. DM-11 has 1-F25 fuse, 1-F-22 fuse plus spare and #239 instructions. DM-12 has 1-F-2 fuse and #240 instructions. Limited 5 year warranty.

DM-10 Digital Multimeter with Analog Bar Display. Ranges. DC Voltage: 0-320 mV/3.2/32/320/600 Vdc. **AC Voltage:** 0-3.2/32/320/600 Vac. **Resistance:** 0-320/3.2 K/32 K/320 K/3.2 M/32 M ohm. **Continuity Test:** Diode Test. 947-0065. Model DM-10 EACH 74.95

DM-11 Digital Multimeter with Analog Bar Display. Ranges. DC Voltage: 0-320mV/3.2/32/320/600 Vdc. **AC Voltage:** 0-3.2/32/320/600 Vac. **DC Current:** 0-320 μ 3200 μ A/32 mA/10 A. **AC Current:** 0-320 μ 3200 μ A/32 mA/10 A. **Resistance:** 0-320/3.2 K/32 K/320 K/3.2 M/32 M ohm. **Continuity Test:** Diode Test. 947-0070. Model DM-11 EACH 84.95

DM-12 Digital Multimeter with Analog Bar Display. Ranges. DC Voltage: 0-320 mV/3.2/32/320/600 Vdc. **AC Voltage:** 0-3.2/32/320/600 Vac. **Resistance:** 0-320/3.2 K/32 K/320 K/3.2 M/32 M ohm. **Capacitance:** 0-32 μ 320 μ F/32 mF. **Continuity Test:** Diode Test. 947-0075. Model DM-12 EACH 84.95

6000 Series Ruggedized Digital Multimeters



These exceptional 3 1/2 Digit Heavy Duty Drop Proof Digital Multimeters have the capacity of reading up to 10 functions on 33 ranges. This new series of ruggedized digital multimeters have features such as drop proof to five feet, 6KV transient voltage protection, audible continuity, diode test, overload protection on all ranges, meets IEC-348 Class II and UL-1244 standards, employs a combination tilt stand/hanger and have a one year limited warranty. Many other features in this new family are: large LCD displays, data hold, low ohm range, capacitance, transistor HFE, and direct temperature measurement.

DM-6100 3 1/2 Digit Heavy Duty Drop-Proof Digital Multimeter. Ranges: 200 mV/2/20/200/1000 Vdc, 200 mV/2/20/200/750 Vac, 20 μ 200 μ A/2 m/20 m/200 mA/20 ADC, 20 μ 200 μ A/2 m/20 m/200 mA/20 AAC, 20/200/2 K/20 K/200 K/2 M/20 M ohm, Continuity and Diode Test. 947-6100. Model DM-6100 EACH 94.95

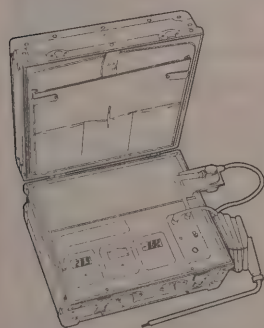
DM-6200 3 1/2 Digit Heavy Duty Drop-Proof Digital Multimeter with Temperature Ranges. Ranges: 200 mV/2/20/200/1000 Vdc, 200 mV/2/20/200/750 Vac, 200 μ A/2 m/20 m/200 mA/20 ADC, 200 μ A/2 m/20 m/200 mA/20 AAC, 200/2 K/20 K/200 K/2 M/20 M ohm. -50° to 200°F/1400°F, -50° to 200°F/750°C. Continuity and Diode Test. 947-6200. Model DM-6200 EACH 104.95

DM-6300 3 1/2 Digit Heavy Duty Drop-Proof Digital Multimeter with Capacitance Ranges. Ranges: 200 mV/2/20/200/1000 Vdc, 200 mV/2/20/200/750 Vac, 200 μ A/2 m/20 m/200 mA/20 ADC, 200 μ A/2 m/20 m/200 mA/20 AAC, 200/2 K/20 K/200 K/2 M/20 M ohm, 20 μ 200 μ F. Continuity, Transistor HFE, Diode and Microwave Diode Test. 947-6300. Model DM-6300 EACH 104.95

Model FG-2000 Combustion Flue Gas Analyzer with Printer

The FG-2000 plus is a battery operated instrument utilizing the latest in electronic technology to give accurate digital readings of oxygen, carbon dioxide, carbon monoxide, and temperature. Simultaneously, the on-board computer quickly and easily calculates the combustion efficiency of commercial and domestic boilers using any of five different fuels including natural gas and propane. The FG-2000 uses the unique five year oxygen cell drastically reducing operating and maintenance costs. The unit continuously samples so peak efficiency is also easily obtained. Readings may be recorded on the optional built-in printer.

947-2010. Model FG-2000 **NEW** EACH 2750.00



Model FG-1000 Flue Gas Analyzer

The FG-1000 is a portable, battery operated unit designed to quickly and easily determine the combustion of a boiler using almost any fuel. Fitted with the latest in sensor technology, it has a guaranteed sensor life of five years and reduces annual maintenance costs dramatically. Because the FG-1000 continuously samples, peak efficiency is almost determined. The FG-1000 gives digital readings of both oxygen and temperature with carbon monoxide levels being indicated on an easy to read analog scale. FG-1000 comes complete with combustion efficiency charts, battery charger, lengthy probe extensions for temperature and gases and a rugged permanent-style storage/carrying case.

947-1000. Model FG-1000 **NEW** EACH 1100.00

Model CG-600 TRAC- A-LEAK Combustible Gas Leak Detector

The slim-line TRAC-A-LEAK will detect minute amounts of all combustible gases including natural gas, butane, methane and propane. The TRAC-A-LEAK gives both an audible and visual warning, making it ideal for checking around gas taps, gas lines, meters, appliances, and all other type installations of combustible gas. The combination of a remote sensor connected by a long, flexible lead, and adjustable sensitivity allows the user to easily trace any leak right to the source even in the most awkward, restricted spaces. Rugged, simple to use, and powered by rechargeable batteries, the TRAC-A-LEAK is housed in a rugged shatterproof housing and comes complete with battery charge and a durable padded carrying case for extra protection in transit and storage.

947-0690. Model CG-600 **NEW** EACH 200.00



Model DM-2A Pocket Pro DMM

UL listed 3.5 digit pocket size DMM has auto/manual range selection, built in test leads, electronic burn out protection to 400 volts on ohm/audible continuity and diode test ranges. Ranges are 0-20/20/200/400 VAC/DC, 0-200/2 K/20 K/200 K/2 M ohms resistance. Audible continuity. 4.2" x 2.0" x .4", 3.5 oz. Comes with (2) B-6 1.5 V batteries, C-79 case, operating instructions #219.

947-6205. Model DM-2A EACH 32.95

Model DM-6953A "Pen-Style" DMM



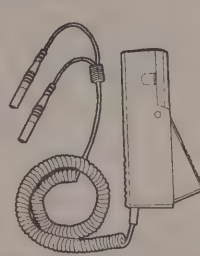
5 Functions, 15 ranges, 3.5 digit autoranging DMM has interchangeable probe tip, data hold, audible continuity, overload protection on all ranges. Ohms and Diode ranges are protected to 250 volts electronically. Ranges: 0-200 mV (DC only) 2/20/200/500 Volts AC/DC, 0-200/2 K/20 K/200 K/2 M/20 M ohm resistance. 6.3" x 1.2" x .8", 2.3 oz. Comes with (2) B-6 "button" batteries, TL-49 test leads, AG-940 alligator clip-on alligator clip, 1 long, 1 short probe tip C-49 Case, instructions #167-2.

947-6593. Model DM-2A EACH 62.95

Model CO-500 CO-TRAC Digital Carbon Monoxide Detector

This compact hand-held instrument easily and accurately detects and measures carbon monoxide over the range of 0-2000 PPM (parts per million) with resolution to 1 PPM. Simple to use and easy to read with its large LCD display, the CO-TRAC is designed for rugged and dependable field service. Powered by a rechargeable battery (with "low battery" warning) and using a durable remote sensor it allows easy access into even the most hard to reach places around furnaces, heaters, and other appliances. An adapter is also available for use in testing for CO levels in flues and chimneys.

947-0500. Model CO-500 **NEW** EACH 500.00



Model CA-200 AC AMP Adapter for DMMs

CA-200 works with all DMMs with 10 Mohms input impedance and 200 mV or greater DCV range. Rugged ABS plastic, 40" leads with shielded banana plug. Fits up to 3/8" conductor, rated for continuous use up to 200 amps at 50-60 Hz. Gives True RMS readings when used with True RMS DMM. 5.75" x 2.75" x 1.5", 8 oz.

947-6680. Model CA-200 EACH 42.95

Model CA-250 AC/DC AMP Adapter for DMMs

CA-250 works with all DMMs with 10 Mohm input impedance and 0-200 mV/2 or greater ranges AC/DC. Rugged ABS plastic, 40" leads with shielded banana plug. "Low Battery" indicator and zero adjust for DC ranges. Fits up to 2.31" conductors. Rated for continuous duty at 50-60 Hz on 2 ranges. 0-200/2000 Amps AC/DC on circuits to 750 volts AC. Gives true RMS readings when used with True RMS DMM. 7.75" x 2.5" x 1.5", 18 oz.

947-0685. Model CA-250 EACH 104.95

DSA-4- Series Digisnap Volt-OHM-Ammeters

**DSA-400
DSA-400A**

DSA-440T

**DSA-440
DSA-450***

Rugged high accuracy digital snap arounds feature: instant continuity buzzer, data hold (all), peak hold (except DSA-400, DSA-400A), and electronic burn out protection to 500 volts on ohms, audible continuity, and diode test ranges. All use UL type 1244. Safety Test leads of reading @ 50-60 Hz. All meet I.E.C. 348 Class II. **Storage Environment:** -20° to +60°C, (0°-140°F.) @ 0-80% humidity. **Dimensions:** 7.5" x 3.2" x 1.3". **Weight:** 9.4 oz. including battery. All come with instructions #225, TL-52 test leads, B-4 (9 volt) battery, Cc-62 case (except DSA-400A). DSA-440T includes TP-800K (K type) temperature probe. Optional Accessories include test leads #s TL-5, TL-5A1, TL-6, TL-6A1, TL-48, E-1 Energizer, and TA-1A temperature adapter. Limited Lifetime Warranty! * DSA-450 TRMS is true RMS reading.

	DSA 400/400A	DSA-440T	DSA-440/450TRMS
AC Amps	20/200/300	40/400	40/400
AC Volts	200/750	400/750	400/750
DC Volts	2/200/1000	4/40/400	4/40/400/1000
Resistance	200/200K	400	400
Frequency	—	—	4K/40K/400/1MHz
Temperature	—	-50/750°C -58/1400°F	—
Diode Test	Yes	Yes	Yes
Audible Continuity	Yes	Yes	Yes

947-0400. Model DSA-400	EACH 79.95
947-0405. Model DSA-400A (without case)	EACH 74.95
947-0440. Model DSA-440	EACH 99.95
947-0445. Model DSA-440T	EACH 129.95
947-0450. Model DSA-400TRMS	EACH 134.95

**Model DSA-2002/DSA-2002P
AC Digital Snap-Around Volt-
Ohm-Ammeter**

Accurate, capable and durable. Current reading capability of up to 2000A. Features one-hand operation power/function rotary switch, tear-drop shaped jaws, and data hold switch. Overload protection on all ranges (electronic overload protection to 500VAC on resistance range). Shielded banana plugs and recessed input terminals. Peak hold for measuring peak voltage or current. **Specifications. AC Current. Ranges:** 200A, 2000A. **Resolution:** 0.1A, 1A. **Accuracy 50/60Hz:** ± (1.0%rdg + 2d) (0-1500A), ± (2.5%rdg) (1500-1999A). **Overload Protection:** 3000A. **AC Voltage. Ranges:** 200V, 750V. **Resolutions:** 0.1V, 1V. **Accuracy 50/60Hz:** ± (1.0%rdg + 2d). **Overload Protection:** 1000V. **Resistance. Ranges:** 200Ω. **Resolution:** 0.1Ω. **Accuracy:** ± (1.5%rdg + 2d). **Overload Protection:** 500VAC/DC for 1 min. **Display:** 3.5 digit LCD, max. reading 1999 with function and decimal annunciators. **Sampling Rate:** Approx. 3 x/sec. **Operating Environment:** -10° to 50°C (14° to 122°F) at <85% relative humidity. **Accuracy Temp. Coef.:** <0.05 x applicable accuracy spec per °C for temp. -10° to 13°C and 33° to 50°C. **Max. Conductor Size:** 2.16" (55mm) dia. **Power Supply:** 1 AWS B-4, 9V transistor type battery. **Battery Life:** 400 hours typical with carbon zinc cell. **Dielectric Strength:** 2500VAC for 1 min. **Size:** 9.7 x 2.8 x 1.4" (245 x 70 x 36mm). **Weight:** 14.1oz (400g). DSA-2002 package comes complete with TL-48 test leads, B-4 battery, carrying case, operating instructions, and lifetime warranty.



947-2001. Model 2002P	EACH 241.95
947-2002. Model DSA-2002 (As above without peak hold)	EACH 199.95

Model DSA-7610A Digital Snap-Around Volt-Ammeter

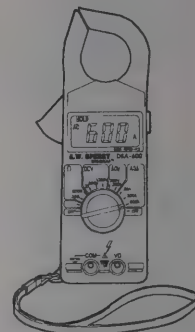

Features include autoranging, auto off, ohm range, instant continuity buzzer, overload protection, and data hold switch. **Specifications.** (at 50/60Hz, 23° ± 5°C). **Display:** 3.5 digit LCD, max. reading 1999 with auto sign and function annunciators. **Sampling Rate:** 2 x /second. **Continuity:** Visual and audible sound at <600Ω (ohm range 0-2K). **Overload Protection:**

500VAC for 1 min. **AC Current (AC Voltage) Ranges:** 200A, 300A (200V, 500V). **Accuracy:** ± 1.5 (1.2%)rdg + 4 dgt. **Overload Protection:** 500AAC (750VAC) for 1 min. **Environmental. Operating Environment:** 0°-40°C (32°-104°F) at <80% relative humidity. **Power Supply:** 2 AWS B-6 1.5V button type batteries. **Power Consumption:** 3mW typical. **Battery Life:** Approx. 100 hrs. **Dielectric Strength:** 2000VAC for 1 min. **Jaw I.D.:** 0.90" (23mm). **Size:** 6.87 x 1.61 x 1.1" (174.5 x 41 x 28mm). **Weight:** 0.44 lb. (200g). DSA 7610A package includes TL-52 test leads, 2B-6 batteries, carrying case, operating instructions, and lifetime warranty.

947-7610. Model DSA-7610A	EACH 119.95
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DSA 600 Series Digital Snap Arounds
DSA-600 and DSA-600A

DSA-600 and DSA-600A are 12 range 6 function 3 1/2 digit Volt-Ohm-Ammeters. Features include: DC volt ranges, electronic burn out protection to 500 volts on ohms, continuity, and diode test ranges, with overload protection on all ranges. Both meet I.E.C. 348 class II standards and utilize UL type 1244 safety test leads and recessed inputs. 600 amp jaw readily accommodates up to 750 MCM conductors. 7.5" x 3.2" x 1.39", 9.4 oz weight. Both include TL-52 test leads, B-4 (9v) battery, Instructions #243. DSA-600 includes C-62 case.


DSA-600P

A 12 range, 6 function 3 1/2 digit snap around volt ohm ammeter with peak hold and data hold. Features include: DC volt ranges, electronic burn out protection to 500 volts on ohms, continuity and diode test ranges, with overload protection on all ranges. Both meet I.E.C. 348 class II standards and utilize UL Type 1244 test leads and safety recessed inputs. 600 amp jaw capacity readily accommodates conductors up to 750 MCM. Basic accuracy is 1.5 % of reading @ 50-60Hz, 2% of reading @ 40-1Khz. 7.5" x 3.2" x 1.3", 9.4 ounces weight. Includes TL-52 test leads, B-4 (9V) battery, instructions #243.

	DSA-600	DSA-600A	DS-600P
DC Volts	0-2/200/1000	0-4/400/1000	0-4/400/1000
AC Volts	0-400/750	0-400/750	0-400/750
AC Amps	0-20/200/600	0-40/400/600	0-40/400/600
Resistance	0-200/200/600	0-400/400K	0-400/400K&
Diode Test	—	—	—
Audible Continuity	—	—	—

947-0600. Model DSA-600	EACH 99.95
947-0605. Model DSA-600A (without case)	EACH 94.95
947-0610. Model DSA-600P. With Peak Hold	EACH 115.95

**DSA-2009 True RMS/DSA-2003
Avg. AC/DC Digital Snap Around**

Reads true RMS AC Amps, volts AC on DC signals, and DC amps, volts. Electronic burn out protection to 500 volts. Accurate Amp/Volt measurements on non-sine wave power circuits such as SCR drivers. Triac circuits, variable speed/frequency drives, HID lighting, UPS systems, and other non-linear loads, as well as DC drives, cranes, DE powered vehicles, and battery power systems. Tear drop jaws allow easy access to tight places. Output jack for recording or oscilloscope viewing. **Specifications. Ranges. AC Current True RMS:** 200A, 2000A. **DC Current:** 200A, 2000A. **AC Volts True RMS:** 200V, 750V. **DC Volts:** 20V, 200V, 1000V. **Resistance:** 200 OHM, 1500 OHM. **Output Terminal True RMS:** 200 AAC, 200 ADC, 2000 AAC, 2000ADC. **Overload Protection:** Up to 500V AC/DC on resistance range. **Diode test range. Data Hold Switch:** Freezes readings. **Display:** 3.5 digit LCD, Max reading 1999. **Max. Conductor Size:** 2.16 Dia. **Power:** One 9V battery (NEDA Type 1604). 16 hours typical with carbon zinc cell. **Dimensions:** 9.7"H x 2.8"W x 1.4"D. **Weight:** 17.7 oz. **Supplied Accessories:** TL-48 test leads, B-4 battery, C-50 carrying case, form #171-1 operating instructions, millivolt output jack, and warranty card.



947-2009. Model DSA-2009 (True RMS)	EACH 514.95
947-2003. Model DSA-2003 (Avg. sensing)	EACH 409.95

**Snap 8 Series Rotary Scale Volt-Ohm-Ammeter
SPR-300 PLUS/SPR-311 PLUS**


Specifications. Range. AC Voltage: 150/300/600 Vac. **AC Current:** (SPR-300 PLUS) 0-6/20/60/200/600 AAC. (SPR-311 PLUS) 0-1.5/5/15/50/150 AAC. **Resistance. Frequency:** (SPR-300 PLUS) 50-400 Hz. (SPR-311 PLUS) 60 Hz. **Jaws:** Takes up to 1.2" (30mm) Conductors. **Weight:** 13.8 ounces (with batteries). **Dimensions:** 8.7L x 3.3W x 1.6H inches. **Fuse**

Protection: One fast acting, high interrupting capacity 1/4 A 250 V 1/4 x 1 1/2" Fuse, AWS Part #F-1. **Note:** The instrument is designed for ampere readings on circuits with maximum of 600 Volts A.C. **Packaging:** The SPR-300 PLUS and SPR-311 PLUS come with TL-52 Leads, 1 F-1 Fuse installed/1-spare, B-1 Battery AA Type 1.5 V, C-53 Carry Case, Operating Instructions and Warranty Card, all ready for use. Lifetime warranty.

947-2000. SPR-300 PLUS	EACH 83.95
947-0311. SPR-311 PLUS	EACH 109.50

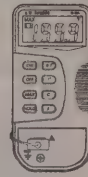
DT-35A Dual Input Temp Differential Thermometer



Rugged Ergonomically designed dual input thermometer features instantaneous two zone capability using dual K type thermo couple probes. Reads in 1/2F or 1/2C, with temp differential (T-1/T-2). Offset adjust accommodates different style/length probes, data hold, max record, 200 hr. battery life. 5.8" x 2.8" x 1.75", 13 oz. Comes with (2) TP-800K K type probes, b-4 (9 V) battery, instructions. Ranges: -58 1/2-2000 1/2C, Resolution 1 1/2. Optional: Rubberized "Holster" C-72, TP-750K 8" rigid probe, TP-850K surface probe.

947-0035. Model DT-35A.....EACH 94.95
947-0045. Model C-72.....EACH 17.45

DT-30A Digital Thermometer



Rugged high accuracy, selectable resolution single input thermometer is easy to use, ergonomically designed, provides fast readings with most K type thermo couple probes. Reads 1/2F or 1/2C with resolution to .1 1/2 or 1 1/2. Features include offset adjust, data hold, max "record", 5.8 x 2.8 x 1.75", 10 oz comes with (1) TP-800K K type probe, B-4 (9V) battery and instructions. Options include C-72 rubberized holster TP 750K, 8" rigid probe, TP-850K surface probe.

947-0030. Model DT-30A.....EACH 84.95
947-0045. Model C-72.....EACH 17.95

Model VH-601A Volt Sensor Non-Contact Voltage Detector



Easy to use detector indicates presence of AC voltages from 100-600 VAC, and identifies "HOT" with respect to ground by easy to identify audible and visual signals. Power/variable sensitivity switch sets detection levels, LED indicates "Power on". Light weight, shirt pocket size with built in pocket clip. Reads AC Volts 100-600 VAC @ 50-60Hz. 4.9" x 1.4" x .9", 1.5 oz, dielectric strength 2000 volts, 1 minute at 100 IA or less. Requires 2 AA batteries, not supplied, comes with instructions form #194.

Specifications: Working Voltage Range: 100-600 Vac max to ground. Frequency: 50-60Hz. Dielectric Strength: 2000V, 1 minute, 100uA or less or less during dielectric strength test. Temperature Range: 32-104°F (0-40°C). Battery: Two "AA" 1.5V batteries. AWS Part #B-1. Dimension: 4.9 (L) x 1.4 (W) x 0.9 (H) in. Weight: 1.4 lb. (40g). Model VH-601A comes packed complete with Form #194 Operating Instruction. Requires two "AA" type batteries (not included).

947-0601. Model VH-601A.....EACH 18.95

SP-6A 16 Range Multimeter/Battery Tester



6 functions, 14 range pocket Multimeter features fused ohm range, diode protected meter movement. Pocket sized, easy to use. Ranges: ACV: 0-50/250/500VAC. DCV: 0-10/50/250/500VDC. DC Current: 0-50/250/mADC. Resistance 0-1M ohm (sk midscale). Decibels: -20 to +56 dB. Battery Tests: 1.5V button, 1.5V AA, 9V DC, 5.13" x 3.13" x 2.13", 4.3 oz. Comes with TL-34 Test Leads, F-16 Fuse, B-1 (AA) Battery, instructions #233.

947-0040. Model SP-6A.....EACH 11.85

TP-750K Temperature Probe

K-Type General Purpose Rounded Probe with 40" wire - 50°C to 800°C. Use with models DM-6200, DM-8300, DM-8600, DT-10A, DT-15A, DT-20A, DT-30A, DT-35A and TA-1A.



947-0750. Model TP-750K.....EACH 45.95

TP-850K Temperature Probe

K-Type Surface Probe with 36" wire - 50°C to 800°C. Use with Models DM-6200, DM-8300, DM-8600, DT-10A, DT-15A, DT-20A, DT-30A, DT-35A and TA-1A.



947-0850. Model TP-850K.....EACH 79.95

BT-25A 13 Range Battery Tester

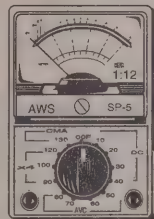
Rugged pocket sized tester determines condition of most popular size batteries including silver oxide, lithium, lantern, button, photo, hearing aid C and D cells. Ranges: 1.35-1.4 V hearing aid, 1.4-4.5 V photo cells, 1.5V button cell, 3V lithium, 6V lantern - 12V cells, AAA, AA, C, D, 9V. 5.13" x 3.13" x 2.13", 4.3 oz. includes instruction, TL-34 test lead.



947-0025. Model BT-25A.....EACH 12.95

Pocket-Size Multimeter

Features 4 functions, 12 ranges, mirrored scale plate, diode protected meter movement and more. **Specifications:** DC/AC Voltage. Ranges: 0-10/50/250/500 VDC and VAC. DC Current: 0-0.5/50/250 mADC. Resistance: 0-1MΩ (mid-scale). Decibels: -20 to +56 db on VAC ranges. Sensitivity: 2KΩ/V AC/DC. Accuracy: ±4% FS (DCV, DCA); ±4% AC length (Ω); ±5% FS (ACV). Power Source: One 1.5V AA size battery AWS B-1. Size: 3.5 x 2.4 x 1.3"; 3.7 oz. SP-5A package includes TL-41 test leads, 1 B-1 battery, operating instructions, and 1-year warranty.



947-0005. Model SP-5A.....EACH 10.95

Phase Sequence and Open Phase Indicator Model PSI-8031

Indicates phase sequence and open phase on 3 phase power circuits up to 600 volts. Easy to use, no exposed metal parts, rugged ABS Housing, color coded 60" Test lead. Rated for: continuous duty to 500 Volts, 5 minutes max 500-600 VAC, 45-65 Hz. 4.2" 3" x 1.6", 12.5 oz., comes with C-31 Case, SPB-126 instruction book.

947-8031. PSI-8031.....EACH 75.00



DSA-2413 Digital Snap Around Surface Leakage/High Current

The DSA-2413 digital clamp meter for leakage and high current measurements has shielded transformer jaws to minimize the effect of external stray magnetic fields, locates ground faults without costly shut-downs, can measure from 0.1mA to 1000A AC and has a single power/range selector switch for easy one handed operation. The data hold function allows easy reading in hard-to-reach locations. The display can be observed away from the conductor. Peak hold facility offers selectable response time of 10ms or 100ms. An AC output terminal is provided for connection to an oscilloscope for waveform viewing or for connection to a true RMS digital multimeter for reading true RMS. A DC output terminal is provided for recording the current input, or waveform viewing on an oscilloscope. 40Hz to 1KHz frequency response on all ranges (20 KHz on 200mA range).

Specifications: Range: 0.1-200mA, 2, 20, 200, 1000AAC. Selection: Manual rotary switch. Sensing: Average sensing, calibrated in RMS of sine wave. Display: Field Effect 3 1/2 digit LCD. Frequency Response: 50/60 Hz and 40 Hz to 1 KHz (20 KHz on 200mA range). Conductor Size: 2.7" max. Power: Single 9V battery plus two AA. Low Battery Indication: "B" symbol displayed. Battery Life: 80 hours typical (9V alkaline); 100 hours typical (AA alkaline). Size (H x W x D): 9.8" x 5.1" x 2". Weight: 20 oz. including battery. Limited lifetime warranty.

947-2413. Model DSA-2413.....EACH 514.95



AC/DC Voltage Tester

Voltage tester features AC/DC indication, firm grip prod handles, prod storage in housing, and a convenient pocket size. **Specifications:** Solenoid type construction. Frequency Response: 50-60Hz. Indication: Approximate AC volts 120/240/480/600; Approximate DC volts 120/240/600. Polarity Indication: AC both Neons glow; DC negative Neon glows. Intermitent Duty Cycle: 30 sec. maximum. Size: 7 x 2 1/4 x 1 1/4"; 11 oz. Packaged in see-through blister pack; operating instructions and applications and application notes (including diagrams) printed on rear panel of package.



947-5000. Model V-11A.....EACH 18.25

SLM-110 Digital Light Meter

The SLM-110 is a digital light meter which combines a 5% basic accuracy with the capability of reading up to 10,000 footcandles. This unit is compact, light weight and easy to operate. It has a separate light sensor to allow optimum measurements on its large LCD display. It also has a data hold switch to freeze readings. Range: 0-200/2,000/10,000 fc. Power: Single 9V battery. Battery Life: 150 hours typical. Supplied Accessories: C-57 Carry case, one 9V transistor battery, and one year warranty.



947-0110. SLM-110.....EACH 89.95

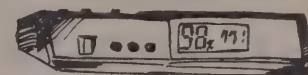
TACH-1

The TACH-1 is a digital photo/contact tachometer. This multi-function instrument combines 0.05% basic accuracy with the capability of RPM and surface speed measurements. **Specifications:** Has both photo tachometer (RPM) and contact tachometer (RPM, M/Min, Ft/Min). Measuring Range: 0.5 to 100,000 RPM, 0.05 to 2,000 M/Min, 0.2 to 6560 Ft/Min. Memory Recall: automatically displays last value, max. value and min. value. Display: 5-digit LCD with insignificant zero suppression. Housing: ABS Plastic. Range Selection: autoranging. Power: four "AA" batteries (Part # B-1). Dim.: 8.5" x 2.6" x 1.5". Wt.: 66 lb. including batteries. Supplied Accessories: C-55 carrying case, four "AA" batteries, T-1 reflective tape, 2 W-1 RPM adapter (cone), W-2 adapter (funnel), W-3 surface speed test wheel and form # 189 operating instructions.



947-0010. Model TACH-1.....EACH 239.95

DTH-1A Digital Thermo-Hygrometer



Pocket-Sized Digital Thermo-Hygrometer with min/max memory measurements for both humidity and temperature in degrees Centigrade and Fahrenheit. Ranges: 0°C to 50°, 32°F to 122°F, 2% to 98%RH.

947-0455. DTH-1A.....EACH 54.95

"Over 30 Years of Servicing the Electronic Industry Together."

Test Bench Multimeters



Model 388A



Model 389



Model 390



Model 391

► 3 Year Warranty

► High Quality, Ruggedized, Multifunction

B+K's Test Bench models are packed with useful functions. They can measure capacitance, frequency, logic level, or duty cycle. Select from models with high speed bargraphs, true RMS, 4 1/2 digit or 3 3/4 digit displays, and DCV accuracies from 0.05% to 0.5%. Test Bench DMMs are built to last. Ruggedized protective boot.

731-1388. Model 388A.....	EACH 119.00
731-1389. Model 389.....	EACH 139.00
731-1390. Model 390.....	EACH 159.00
731-1391. Model 391.....	EACH 179.00

Tool Kit Multimeters



Model 2703A



Model 2704A



Model 2706



Model 2707

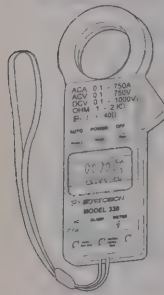
► Practical, Compact and Inexpensive

B+K Tool Kit multimeters are practical, compact and inexpensive. They will fit in your tool kit, tool box, or coat pocket, and comfortably within your budget. There's a Tool Kit DMM for almost any application. Just pick the model with the features you need. All Tool Kit DMMs have 0.5% accuracy (DCV), large easy to read 3 1/2 digit LCD displays, fuses for safety, and drop resistant cases. They are backed by our year warranty, and are supplied with batteries, instructions, and test leads.

731-2703. Model 2703A.....	EACH 40.95
731-2704. Model 2704A.....	EACH 59.00
731-2706. Model 2706.....	EACH 79.00
731-2707. Model 2707.....	EACH 89.00

Model 330 750 Amp AC Clamp Meter

— NEW —



- LEDs Show Which Test Jacks to Use
- Measures AC Current to 750 A at 1% Accuracy
- Measures AC Voltage to 750 V at 1.5% Accuracy
- Measures DC Voltage to 1000 V at 1% Accuracy
- Measures Resistance to 2 K Ω at 1% Accuracy
- Bright 3 1/2 Digit LCD Display

731-0410. Model 330..EACH 85.00

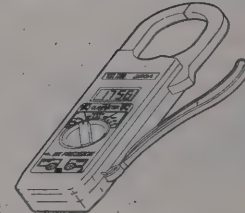
Model 340A 3 1/2 Digit Multifunction Clamp Meter/AC Clamp Meter



- Measures ACV, ACA, Ohms
- Data Hold
- Bright Yellow Case
- Includes Battery, Test Leads, Carrying Case
- 1 1/8" Clamp Opening

731-0340. Model 340A.....EACH 109.00

Model 350A 3 1/2 Digit Multifunction Clamp Meter/AC Clamp Meter



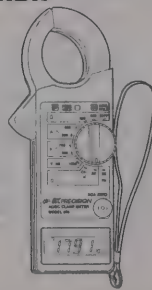
- Measures DCV, ACV, ACA, Ohms
- Audible Continuity Check
- Data Hold
- Peak Hold
- Diode Check
- Bright Yellow Case
- Includes Battery, Test Leads, Carrying Case
- 2" Clamp Opening

731-0350. Model 350A.....EACH 139.00

Model 366 DC/AC Multifunction Clamp Meter

— NEW —

- Measures DC and AC Current to 600 A
- Measures DC Voltage to 1000 V
- Measures AC Voltage to 750 V
- Measures Resistance to 2 K Ω
- Measures Frequency to 2 KHz
- Peak Hold and Data Hold

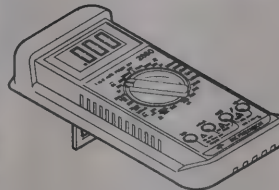


731-0405. Model 366.....EACH 179.00

Model 2806A — 3 1/2 Digit Ruggedized DMM

► 5 Year Warranty

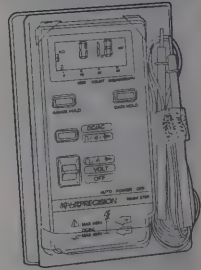
- Ruggedized Construction
- Now Includes Rubber Boot
- 1500 V Overload
- Auto Power Off Saves Batteries
- 20 A Range
- Audible Continuity
- Large 0.8" LCD Display



731-2860. Model 2806A.....EACH 99.00

Model 2700 3 1/2 Digit Pocket DMM with Bargraph

- Analog Bargraph
- 3200 Count Display
- Auto Power Off
- Low Battery Indicator
- Range Hold
- Data Hold



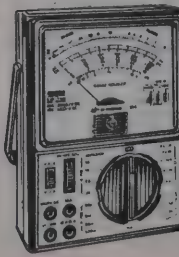
731-2700. Model 2700.....EACH 33.00



Model 114A 20,000 Ohms/Volt Multimeter

- 20,000 Ohms/Volt DC
- 28 Ranges
- 3 1/2" Mirrored Scale
- Tests Batteries Under Load
- Tests Transistors
- Includes Batteries and Test Leads

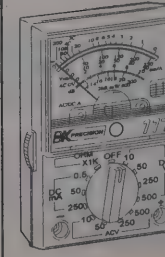
731-0115. Model 114A.....EACH 42.38



Model 214A 30,000 Ohms/Volt Multimeter

- 30,000 Ohms/Volt DC
- 24 Ranges
- 3 1/2" Mirrored Scale
- Measures AC Current
- Taut Band Movement
- Includes Batteries and Test Leads

731-0214. Model 214A.....EACH 57.75



Model 117 Pocket Sized Multimeter

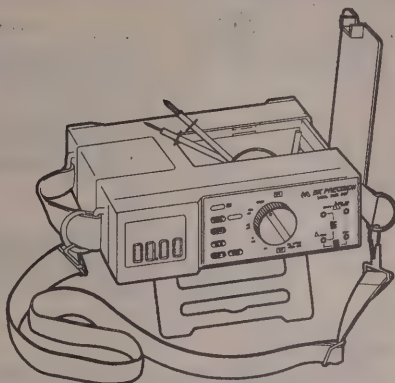
- Measures AC or DC Voltage: 0-10, 50, 250 and 500 V Scales
- 2000 Ω/V Sensitivity
- Measures DC Current: 0-0.5, 50 and 250 mA Scales
- Measures Resistance: R $\times$ 1 K Ω
- Measures Decibels: -20 dB to +56 dB on AC Voltage Ranges
- Uses One 1.5 V, AA Size Battery
- Includes Test Leads and Manual

731-0117. Model 117.....EACH 13.65

"Over 30 Years of Servicing the Electronic Industry Together."

Model 2835 3 3/4 Digit Bargraph DMM

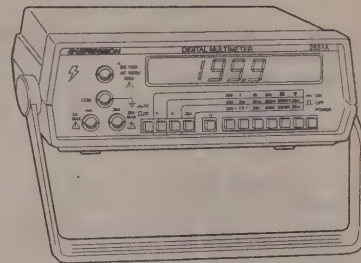
- For Use On The Bench, Or On The Go
- Auto and Manual Ranging
- Battery Or AC Operation
- Built-In Accessory Compartment
- Built-In Tilt Stand
- Hand And Neck Straps Included
- 1800 Hour Battery Life
- Backlit LCD With Bargraph
- Min/Max Measurements
- Relative Mode
- Diode and Continuity Tests
- Capacitance Tests
- Frequency Counter
- Full High Energy Fusing On All Current Ranges



731-2831. Model 2831A.....EACH 299.00

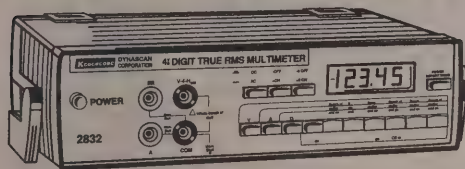
Model 2831A 3 1/2 Digit Bench DMM

- Bright, 0.5" LED Display
- 0.1% Accuracy (DCV)
- Measures Current to 20 A
- Measures Voltage to 1200 VDC or 1000 VAC
- Audible Continuity Check
- Diode Test
- Overload Protection
- Measures AC Voltage to 40 KHz



731-2831. Model 2831A.....EACH 299.00

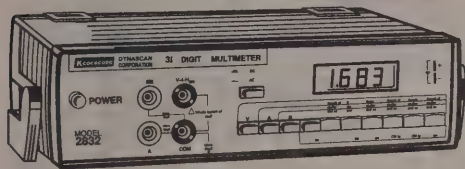
Model 2833 4 1/2 Digit Multimeter



- Basic Accuracy: 0.5% VDC
- True RMS Reading
- Data Hold Feature
- Measures dBm from -48 dB to 62.21 dB
- Measures Volts to 1000 VDC and 1000 VAC
- Measures Frequency to 200 KHz
- Audible Continuity Check, Diode Test

731-2833. Model 2833.....EACH 400.00

Model 2832 3 1/2 Digit Multimeter

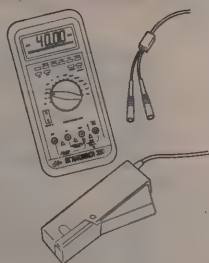


- AC or Battery Operation
- Measures Voltage, Resistance, Current and Capacitance
- 0.5% Basic DC Accuracy
- Includes Audible Continuity Check and Diode Test

731-2832. Model 2832.....EACH 209.00

Model 3000 Automotive Digital Multimeter

— NEW —



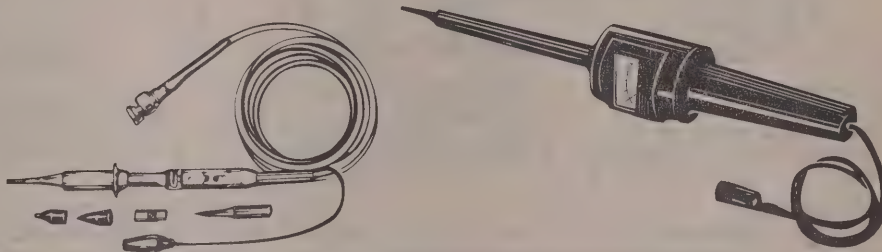
- 3 3/4 Digit, 4000 Count Display
- Diode and Continuity Test
- Reads RPM
- Frequency and Capacitance
- Automatic Power Down
- Shielded for EMI
- Reads Pulse Duty Cycle and Dwell
- Full Autoranging on DC/AC Volts, Capacitance and Frequency
- Comprehensive, Easy to Understand Users Manual
- Optional LC 300 Carrying Case

731-3000. Model 3000.....EACH 270.00

731-0002. LC-29A. Carry/Storage Case.....EACH 10.00

731-0009. CP-3. DC/AC Current Clamp, 400 A..EACH 86.00

Test Equipment Accessories and Probes



Stock No.	Mfr.'s Type	Description	For Use With B and K Model	EACH
731-0022	DP-21	20 MHz Logic Probe	All Models	35.70
731-0035	DP-31A	Pulser Probe	All Models	39.00
731-0071	DP-52	50 MHz Digital Logic Probe	—	45.00
731-0075	DP-101	Digital Pulsing Probe	—	111.00
731-0044	HV-44	Direct-Reading 40 K VDC Probe	—	99.00
731-0027	PR-28	Hi Voltage Probe	—	51.45
731-0028	PR-32	Demod Probe	HV Multimeter Probe for all A.D. Meters with Standard Dual Banana	59.00
731-0037	PR-37AG	Grey Probe	All B and K Scopes with BNC	57.23
731-0039	PR-37AK	Red Probe	All B and K Scopes with BNC	54.50
731-0081	TP-29	Thermocouple Probe	390, 3706, TP-30	15.75
731-0046	PR-46	10:1/Deluxe Probe	All Scopes with BNC	75.50
731-0100	PR-100A	X100	All Scopes with BNC	66.00
731-0001	TL-1	Replacement DMM Test Leads	All "Test Bench" and "Tool Kit" Series	8.00
731-0005	TL-2	Deluxe DMM Test Leads	All "Test Bench" and "Tool Kit" Series	20.00
731-0006	TL-3	Accessory Tip Kit	TL-2	12.00
731-0007	PR-33A	X1-X10 Scope Probe	All Scopes through 60 MHz	43.00
731-0008	TP-30	Temperature Adapter	All DMMs	125.00
731-0009	CP-3	DC/AC Current Clamp Adapter	All DMMs	86.00
731-0010	TP-1	Immersion/General Purpose Temperature Probe	390, 2706, TP-30	33.00
731-0012	TP-2	Air/Gas Temperature Probe	390, 2706, TP-30	37.00
731-0013	TP-3	High Temperature Probe (900°F)	390, 2706, TP-30	12.00
731-0014	TP-4	Surface Temperature Probe	390, 2706, TP-30	45.00

Charges and Battery Paks for Test Instruments

731-0020	BC-28	115 V Adapter/Charger	820, 830	24.15
731-2800	BP-28	Battery Pak	820, 830	51.98
731-0095	BP-14	Battery Pak	1422	74.50

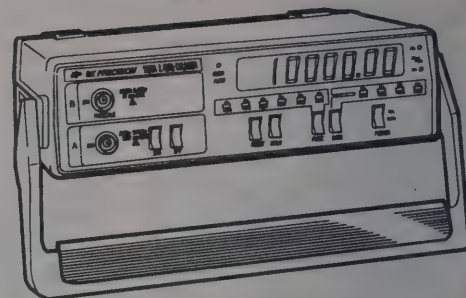
Carrying Case and Covers For Test Equipment

731-0031	LC-22	Carrying Case	1422	64.05
731-0021	LC-28	Carrying Case	820, 830	23.10
731-0002	LC-29A	Carrying Case	All DMMs and Models 810A, 815, 875, 878	10.00
731-0030	LC-32	Carrying Case	PR-28, H-44	22.05
731-0210	LC-210	Scope Carrying Case	All Scopes except 1422	92.00

"Over 30 Years of Servicing the Electronic Industry Together."

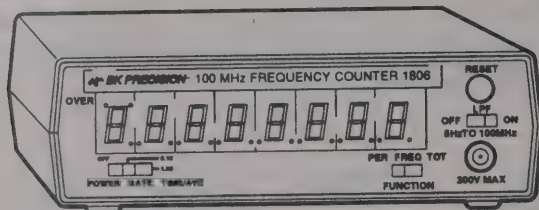
Model 1856A
2.4 GHz Multifunction Counter

- ▶ Frequency, Period, Period Average and Totalize Functions
- ▶ Selection Resolution
- ▶ Display Hold
- ▶ 0.5 PPM TCXO Time Base (23 +5°C)
- ▶ 8 Digit LED Display
- ▶ Low Pass Filter
- ▶ Remote Start-Stop
- ▶ Accepts Standard 10 MHz External Time



731-1856. Model 1856A.....EACH 499.00
731-0018. Model AN18. Antenna.....EACH 30.00

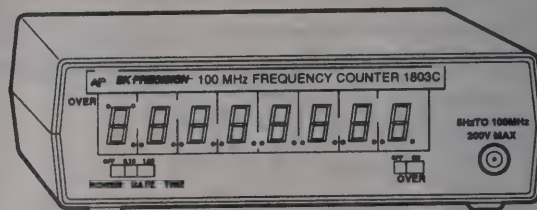
Model 1806
100 MHz Battery/AC Powered Counter



- ▶ Frequency, Period, and Totalize Functions
- ▶ 2 PPM Timebase, 20° to 30°C
- ▶ Selectable 1.0 Sec./0.1 Sec. Gate Times
- ▶ 5 Hz to 100 MHz Range
- ▶ Low Pass Filter
- ▶ 8 Digit LED Display
- ▶ Charger/AC Adapter Included

731-1806. Model 1806A.....EACH 249.00
731-9998. Model PR37A. Probe.....EACH 57.23

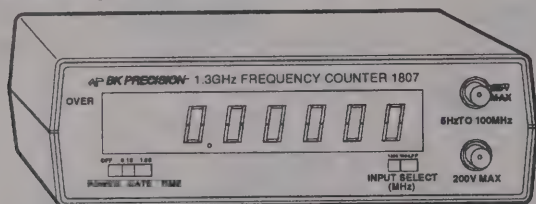
Model 1803C
100 Battery/AC Powered Multi-Function Counter



- ▶ 5 Hz to 100 MHz Range
- ▶ 2 PPM Timebase, 20° to 30°C
- ▶ Selectable 1.0 Sec./0.1 Sec. Gate Times
- ▶ Low Pass Filter
- ▶ 8 Digit LED Display
- ▶ Charger/AC Adapter Included

731-1810. Model 1803C.....EACH 210.00
731-9998. Model PR37A. Probe.....EACH 57.23

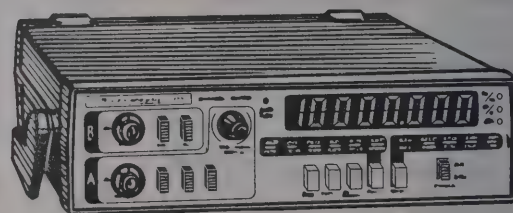
Model 1807
1.3 GHz Battery/AC Powered Counter



- ▶ 5 Hz to 1.3 GHz Range
- ▶ 0.5 PPM TCXO Time Base, 20° to 30°C
- ▶ Low Pass Filter
- ▶ 1 Sec. and 0.1 Sec. Gates
- ▶ 8 Digit LED Display

731-1807. Model 1807.....EACH 299.00
731-9998. Model PR37A. Probe.....EACH 57.23
731-0018. Model AN18. Antenna.....EACH 30.00

Model 1823
175 MHz Universal Counter

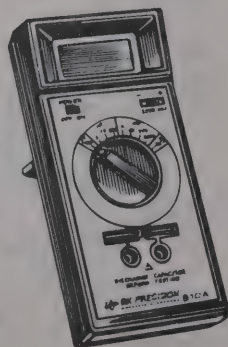


- ▶ 5 Hz to 175 MHz Range
- ▶ 8 Digit LED Display
- ▶ Display Hold and Reset Feature
- ▶ 10 PPM Time Base

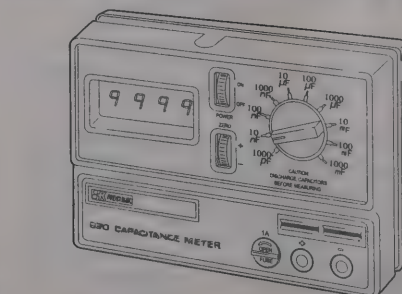
731-1823. Model 1823.....EACH 399.00

Model 810 A
Capacitance Meter

- ▶ 3 1/2 Digit LCD Display
- ▶ Measures Capacitance to 20 mF
- ▶ Nine Ranges from 200 pF to 20 mF
- ▶ 0.1 pF Resolution
- ▶ Low Battery and Overload Indicator



Model 820
Manual Ranging Capacitance Meter



- ▶ 4 Digit LED Display
- ▶ Measures Capacitance to 999.9 mF
- ▶ 10 Ranges from 999.9 pF to 999.9 mF

731-0820. Model 820.....EACH 279.00

Model 830
Auto Ranging Capacitance Meter

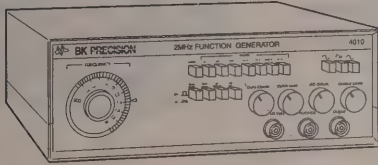


- ▶ 3 1/2 Digit LED Display
- ▶ Measures Capacitance to 199.9 mF
- ▶ 10 Ranges from 199.9 pF to 199.9 mF

731-0830. Model 830.....EACH 325.00

"Over 30 Years of Servicing the Electronic Industry Together."

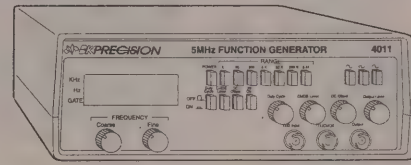
Model 4010 2 MHz Bandwidth Function Generator



- ▶ 2 MHz Bandwidth
- ▶ Sine, Square, Triangle Wave Outputs
- ▶ TTL and CMOS Outputs
- ▶ Variable Symmetry
- ▶ Variable DC Offset

731-4010. Model 4010.....EACH 229.00

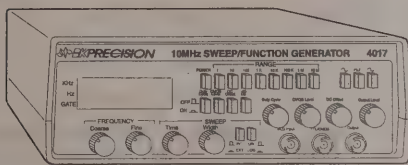
Model 4011 — 5 MHz Function Generator with Digital Display



- ▶ 5 MHz Bandwidth
- ▶ 4-Digit Counter
- ▶ Sine, Square, Triangle Wave Outputs
- ▶ TTL and CMOS Outputs
- ▶ Variable Symmetry
- ▶ Variable DC Offset

731-4011. Model 4011.....EACH 289.00

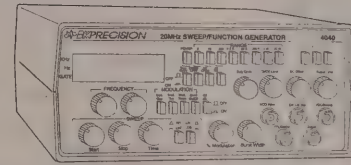
Model 4017 10 MHz Sweep/Function Generator



- ▶ 10 MHz Bandwidth
- ▶ 5-Digit LED Display
- ▶ Linear and Log Sweep
- ▶ Sine, Square, Triangle Wave Outputs
- ▶ TTL and CMOS Outputs
- ▶ Variable Symmetry
- ▶ Variable DC Offset

731-4017. Model 4017.....EACH 369.00

Model 4040 — 20 MHz Sweep/Function Generator with Frequency Counter



- ▶ 20 MHz Bandwidth
- ▶ Amplitude or Frequency Modulation
- ▶ Burst Operation
- ▶ External Frequency Counter to 30 MHz
- ▶ 5-Digit LED Display
- ▶ Linear and Log Sweep
- ▶ Sine, Square, Triangle Wave Outputs
- ▶ TTL and CMOS Outputs
- ▶ Variable Symmetry
- ▶ Variable DC Offset

731-4017. Model 4017.....EACH 369.00

Model 3001 Sine/Square Wave Audio Generator

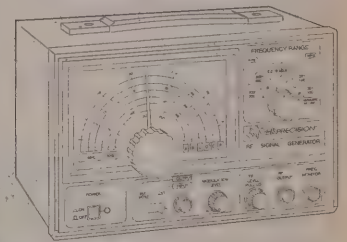
- ▶ Sine and Square Wave Generator
- ▶ 20 Hz to 150 KHz in 46 Steps
- ▶ Low Distortion R-C Oscillator
- ▶ Variable Output Control
- ▶ Compact, Fully Portable, Light Weight
- ▶ Low Battery Indicator



731-3001. Model 3001.....EACH 79.00

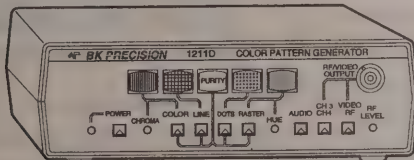
Model 2005A 150 MHz RF Signal Generator

- ▶ 100 KHz to 150 MHz on Six Bands
- ▶ Output to 450 MHz on Harmonics
- ▶ AM Modulation, Internal or External, 0% to 100%
- ▶ Frequency Monitor Output for External Frequency Counter
- ▶ Step and Variable Attenuation to -40 dB



731-2005. Model 2005A.....EACH 275.00

Model 1211D Hand Held Color Pattern Generator



- ▶ Compact, Battery Operated
- ▶ 5 Patterns Including Full Field Raster
- ▶ Composite Video Output to 1 V p-p
- ▶ Progressive Scan
- ▶ CH 3 and CH 4 Crystal Controlled RF Outputs
- ▶ Chroma Can Be Switched Off

731-1213. Model 1211D.....EACH 235.00

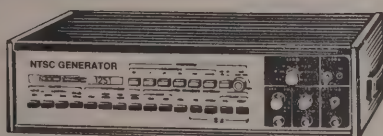
Model 1249A NTSC Generator with RGB



- ▶ NTSC Color Bar Pattern, $\pm 5^\circ$ and ± 5 IEEE Units
- ▶ CH 3, CH 4 and IF Outputs Crystal Controlled
- ▶ Calibrated 1 Vp-p or Variable Composite Video Output
- ▶ RGB Outputs on BNC or 9-Pin D Connector
- ▶ Composite sync, Vertical Sync, and Horizontal Sync Outputs
- ▶ Chroma Can Be Switched Off

731-1249. Model 1249A.....EACH 569.00

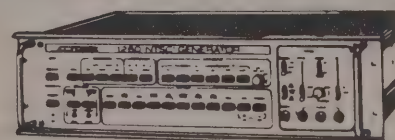
Model 1251 NTSC Signal Generator



- ▶ NTSC Color Bars, With or Without -IQW
- ▶ Linear Staircase with High or Low Chroma
- ▶ Multiburst
- ▶ Sound Modulation, 1 KHz or 3 KHz
- ▶ External Video, External Audio
- ▶ Raster on 8 EIA Colors
- ▶ Interlaced Scan

731Q1251. Model 1251.....EACH 1195.00

Model 1260 NTSC Deluxe Video Signal Generator



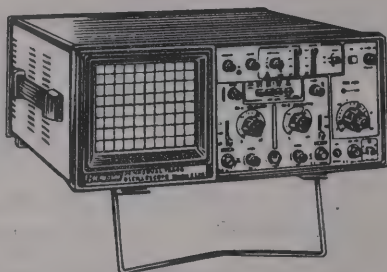
- ▶ High Accuracy NTSC Color Bars, $\pm 2.5^\circ$
- ▶ TCXO Master Oscillator
- ▶ RGB Outputs
- ▶ Gen Lock; Circle Pattern; Black Burst
- ▶ Multiburst to 8 MHz, Selectable 100% or 50% Level
- ▶ Interlaced or Progressive Scan

731Q1260. Model 1260.....EACH 1995.00

"Over 30 Years of Servicing the Electronic Industry Together."

Model 2120 — 20 MHz Dual Trace Oscilloscope

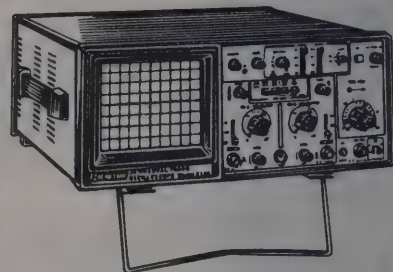
- ▶ Dual or Single Trace Operation
- ▶ 1 mV/div Sensitivity
- ▶ AUTO/NORM Triggered Sweep Operation with AC, TVH, TVV and Line Coupling
- ▶ Calibrated 18 Step Timebase with X10 Magnifier
- ▶ Compact Low-Profile Design



731-2110. Model 2120.....EACH 549.00

Model 2125 — 20 MHz Dual Trace Oscilloscope with Delayed Sweep

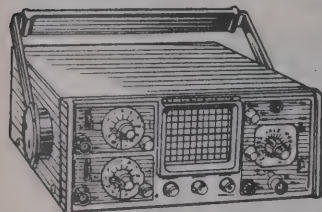
- ▶ Dual or Single Trace Operation
- ▶ 1 mV/div Sensitivity
- ▶ AUTO/NORM Triggered Sweep Operation with AC, TVH, TVV and Line Coupling
- ▶ Calibrated 20 Step Timebase with X10 Magnifier
- ▶ Compact Low-Profile Design
- ▶ Delayed Sweep in 18 Ranges
- ▶ Built-In Component Tester for Capacitors, Inductors, Diodes, Transistors, Zener Diodes



731-2125. Model 2125.....EACH 646.00

Model 1422 20 MHz Dual Trace Oscilloscope

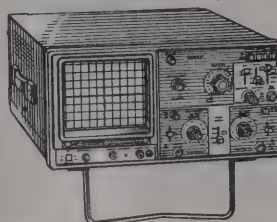
- ▶ 20 MHz Dual Trace, AC/DC Battery, Portable
- ▶ 18 Calibrated Sweep Positions
- ▶ Operates on AC, External DC or Optional Internal Battery
- ▶ Fits Into Attache Case



731Q1422. Model 1422.....EACH 1395.00

Model 1541C 40 MHz Dual-Channel Oscilloscope

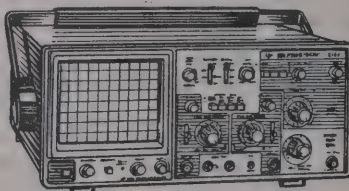
- ▶ 1 mV/div Sensitivity
- ▶ 19 Calibrated Sweeps
- ▶ Video Sync Separators
- ▶ X10 Sweep Mag. Single Sweep
- ▶ V Mode—Displays Two Signals Unrelated in Frequency



731-1445. Model 1541C.....EACH 799.00

Model 2160 60 MHz Dual Trace Dual Time Base Oscilloscope

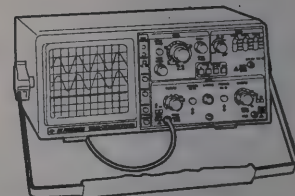
- ▶ 1 mV/div Sensitivity
- ▶ Sweep to 5 ns/div
- ▶ Signal Delay Time
- ▶ Component Tester
- ▶ Z Axis Input
- ▶ Single Sweep
- ▶ 22 Calibrated Ranges — Main Time Base
- ▶ 19 Calibrated Ranges — Delayed Time Base
- ▶ V Mode — Displays Two Signals Unrelated in Frequency



731Q2160. Model 2160.....EACH 1099.00

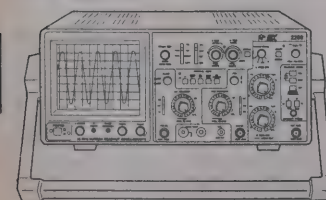
Model 2190A 100 MHz Three Trace Dual Time Base Oscilloscope

- ▶ 1 mV/div Sensitivity
- ▶ Sweep to 5 ns/div
- ▶ Signal Delay Time
- ▶ Channel 1 Output
- ▶ 22 Calibrated Ranges — Main Time Base
- ▶ 19 Calibrated Ranges — Delayed Time Base
- ▶ Calibrated Delay Time Multiplier
- ▶ 15 kV Accelerating Voltage



731Q2195. Model 2190A.....EACH 1599.00

Model 2260 — 60 MHz Cursors and Readouts, Dual Time Base Oscilloscope

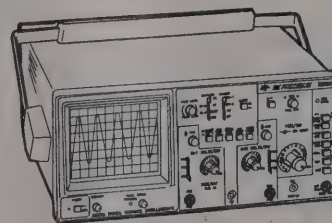


- ▶ Cursors and Readouts
- ▶ 1 mV/div Sensitivity
- ▶ Signal Delay Time
- ▶ Component Tester
- ▶ Z Axis Input
- ▶ Single Sweep
- ▶ 23 Calibrated Ranges — Main Time Base
- ▶ 19 Calibrated Ranges — Delayed Time Base
- ▶ V Mode — Displays Two Signals Unrelated in Frequency

731Q2260. Model 2260.....EACH 1399.00

Model 2522A 20 MHz Digital Storage/ Analog Oscilloscope

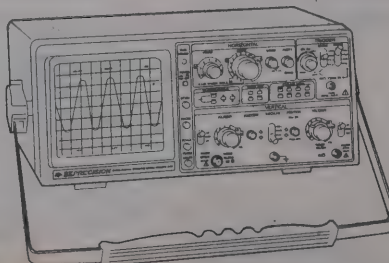
- ▶ 20 MHz Analog Bandwidth
- ▶ 20 MS/s Sampling Rate Each Channel
- ▶ 2 K Memory Per Channel
- ▶ 20 MHz Equivalent Time Sampling
- ▶ Pre-Trigger Capture



731Q2522. Model 2522A.....EACH 1099.00

Model 2560 60 MHz Digital Storage Oscilloscope

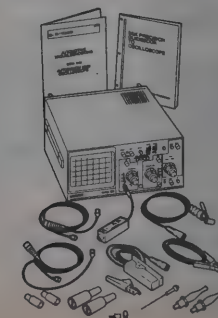
- ▶ Cursors and Readouts
- ▶ RS-232 Port
- ▶ 20 MS/s Real Time Sampling
- ▶ 1 GHz Equivalent Time Sampling (at 0.1 μ s/div.)
- ▶ Prints Via RS-232 Port to Any HP-GL Plotter



731Q2560. Model 2560.....EACH 2395.00

Model 2000 Automotive Oscilloscope

- ▶ 20 MHz, Dual Trace Scope
- ▶ Automotive Probe and Lead Set
- ▶ Comprehensive, Easy to Understand Training Manual with Typical Waveforms and Test Data



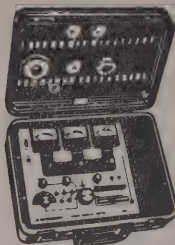
731-2000. Model 2000.....EACH 795.00

"Over 30 Years of Servicing the Electronic Industry Together."

Model 480 and 490 CRT Testers/Rejuvenators

- ▶ Test and Restore Color or Monochrome CRTs
- ▶ Test and Restore Most Computer Monitor CRTs
- ▶ Test and Restore Most Projection TV CRTs
- ▶ Test Emission, Tracking, Leakage, Shorts, Life
- ▶ Remove Shorts, Clean and Balance Guns, Rejuvenate Cathodes
- ▶ Continual Set-Up chart Updates and New Adapter Development
- ▶ Extra Rugged Polyethylene Case

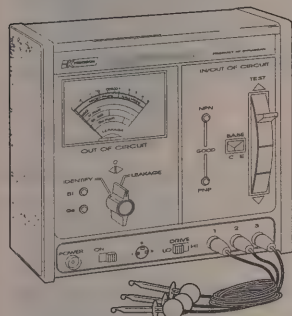
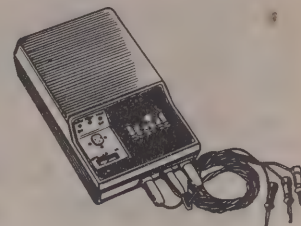
731-0480. Model 480.....EACH 739.00
731-0490. Model 490.....EACH 1049.00



Model 510 Portable Transistor Tester

- ▶ Good/Bad Test for Transistors, FETs and SCRs
- ▶ Identifies Transistors as NPN or PNP, FET and N-Channel or P-Channel
- ▶ Identifies FET-Gate Lead, All Leads of Transistors in LO Drive; Base Lead in HI Drive, All Leads of SCR
- ▶ Includes Three Test Leads with Mini-Lock Clips, Carrying Case, and Instruction Manual

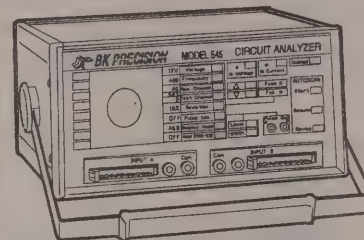
731-0510. Model 510.....EACH 239.00



Model 520B Industrial Tester

- ▶ HI/LO Drive
- ▶ Works In-Circuit
- ▶ Identifies All Three Transistor Leads
- ▶ Random Lead Connection
- ▶ Automatic NPN/PPN Determination
- ▶ Audibly and Visually Indicates Good Transistor
- ▶ Positive Si/Ge Identification
- ▶ Tests Diodes, SCRs, FETs and Darlingtons

731-0520. Model 520B.....EACH 399.00



Model 545 PC Board Circuit Analyzer

- ▶ Simple to Use
- ▶ Tests All Active and Passive Components
- ▶ Tests Digital and Analog ICs Up to 40 Pins
- ▶ Autoscan Mode Gives a Positive Pass/Fail Indication
- ▶ Built-In Switcher Automatically Tests IC Pins Sequentially

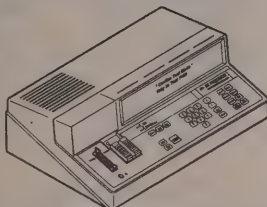
- ▶ Built-In Pulse Generator Tests SCRs
- ▶ Signature Storage on Computer Using Optional Software

731-0545. Model 545.....EACH 2950.00

Model 560A Programmable PC Board Tester

- ▶ Tests Digital ICs Both In- and Out-of-Circuit
- ▶ Simple To Use — Testing Experience Is Not Required
- ▶ Tests Over 90% of Existing TTL/CMOS ICs
- ▶ Instant Pass/Fail Indications
- ▶ Library Updates Are Available
- ▶ Enhanced RS-232 Serial Port
- ▶ Loop Test Locates Intermittent Failures
- ▶ Accurately Tests Devices in Non-Standard Circuit Configurations
- ▶ Board Learn Stores Test Information for All ICs on a PC Board (Up to 100) in Removable EEPROMS
- ▶ 40 Character Vacuum Fluorescent Display

731-0560. Model 560A.....EACH 3500.00



Model 815 Hand-Held Parts Tester

- ▶ Large 0.8" Digit, High Contrast LCD Readout
- ▶ Tilt Stand for Benchtop Use
- ▶ 25 User Ranges for Versatile Test Selection
- ▶ Tests Resistance from 0.1 Ohm through 20 M Ohm
- ▶ Tests Transistors, SCRs, Diodes and LEDs
- ▶ Tests Batteries Under Actual Loaded Conditions
- ▶ 5 Foot Drop-Proof, Heavy Duty Case

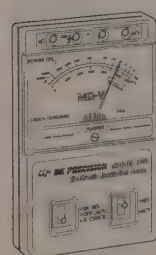
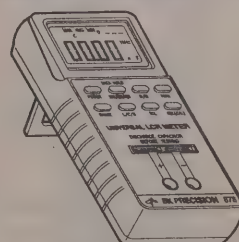
731-0815. Model 815.....EACH 99.00



Model 878 Dual-Display Hand-Held LCR Bridge with Statistical Functions

- ▶ Measures Capacitance, Resistance and Inductance
- ▶ Accuracy Compares to More Costly Bench Bridges
- ▶ Measures Dissipation Factor of Capacitors and Q of Inductors
- ▶ Excellent for Sorting Parts in Engineering, QC, or Production
- ▶ Simultaneously Displays Measured Value and Q or Dissipation Factor
- ▶ Remembers Minimum and Maximum Values
- ▶ Keeps a Running Average of Tested Component Values
- ▶ Relative Mode Displays the Difference Between the Measured and Reference Component Values
- ▶ Tolerance Mode "Beeps" to Indicate Measured Components Outside a 1%, 5%, or 10% Tolerance Around a Reference Value
- ▶ Two Selectable Test Frequencies (120 Hz, 1 kHz)
- ▶ Auto or Manual Ranging

731-0878. Model 878.....EACH 275.00



Model 300 Insulation Tester

- ▶ Convenient and Economical
- ▶ Tests Insulation Resistance to 2000 MΩ
- ▶ Applies 1000 VDC
- ▶ Measures Up to 600 VAC
- ▶ Battery Powered
- ▶ Carrying Case Included

731-0400. Model 300...EACH 129.00

Model 875A LCR Meter

- ▶ Measures Capacitance, Resistance and Inductance
- ▶ Measures Dissipation Factor of Capacitors and 1/Q of Inductors
- ▶ 3 1/2 Digit LCD Display

731-0875. Model 875A.....EACH 199.00



Model 1045A Telephone Product Tester

- ▶ Provides Basic Operation Tests for Corded and Cordless Telephones, Answering Machines, FAX Machines and Automatic Dialers
- ▶ Checks Line and Handset Cord for Continuity, Shorts and Intermittents
- ▶ Verifies Number Dialed or Redialed (Pulse or Touch Tone®)
- ▶ Verifies that Voice and DTMF Level Share Above Minimum Required Level
- ▶ Provides Low and Normal Ring Tests
- ▶ Tests Two-Line Phones

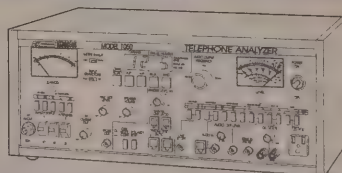
731-1045. Model 1045A.....EACH 599.00



Model 1050 Telephone Product Analyzer

- ▶ For Diagnostic Testing, Servicing and Calibration of Corded and Cordless Telephones, Answering Machines and Automatic Dialers
- ▶ Measures RF Frequency Error and Modulation Deviation in Cordless Phone Systems
- ▶ Verifies Pulse and Touch Tone® Numbers — Even for High-Speed Auto-Dialers
- ▶ Measures Relative RF Power Levels and Receiver Sensitivities in Cordless Phone Systems with the Use of an External Antenna
- ▶ Provides Continuity Check of Telephone and Handset Cords
- ▶ Includes Audio Generator Outputs for Guardtone and Voice Simulation
- ▶ Provides Adjustable Ring Voltage Generator

731-1050. Model 1050.....EACH 2260.00





BL-10 K Multitester

- ▶ 18 Ranges
- ▶ 6 Function
- ▶ Battery Test
- ▶ Fully Protected

Specifications. 3-color mirrored scale 180 μ A movement. Ranges: DC Voltage — 0 to 2.5, 10, 50, 500, 1000 V; AC Voltage — 0 to 10, 50, 250, 1000 V; DC Current: 0, 10 mA, 250 mA; Resistance: 0-5 k, 5000 Ω , (R $\times$ 10R $\times$ 1 K). Battery Test: 1.5 V (125 mA); 9 V (10 mA); 10,000 ohms/volt. Uses "AA" battery (UM-3). Supplied with test leads, manual, and battery.



776-1000. Model BL-10K.....EACH 16.86

Model DMR-35A 3 1/2 Digit Economy LCD Digital Multitester



- ▶ 3 1/2 Digit 0.5" Height LCD Reading to 1999
- ▶ Auto-Polarity-Display for Negative Input
- ▶ 27 Ranges
- ▶ High Overload Protection for all Ranges
- ▶ Power Consumption for 20 mW Approx.
- ▶ 6 Functions

10 megohm input on DC volt. Power Consumption: 20 mW. Includes diode check. Supplied with batteries, test leads, and case. **Specifications.** DC Volts: 5 ranges, 200 mV to 1000 V, 0.8% +1 digit. AC Volts: 2 ranges, 200 V to 750 V, 1.2 +3 digits. DC Current: 5 ranges, 200 microamps to 10 amps, 0.8% +2 digits. Resistance: 6 ranges, 200 ohms to 20 Megohms, 1% +2 digits.

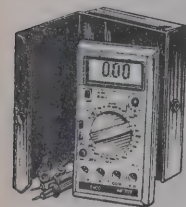
776-0351. Model DMR-35.....EACH 50.51

Model DMR-2012A

- ▶ 9 Functions, 35 Ranges
- ▶ Capacitor, Transistor, Diode Test
- ▶ Audible Continuity
- ▶ .5% Accuracy
- ▶ 20 Amp AC/DC Ranges
- ▶ Drop Proof Case

9 function, 35 range LCD multimeter with 20 amp AC/DC ranges. Housed in drop proof case. **Specifications.** Ranges: Volts — 200 mV, 2 V, 20 V, 200 V, 1000 V (750 V AC); Current (AC/DC) — 200 μ A, 2 mA, 20 mA, 200 mA, 20 A; Resistance — 200, 2 K, 20 K, 200 K, 2 M, 20 M; Capacitance — 2000 pF, 20 nF, 200 nF, 2 μ F, 20 μ F. Transistor Check: NPN, PNP, hFE. Protection: Fuse and diode overload protected. Size: 6 1/4" H $\times$ 2 1/8" W $\times$ 1 1/4" D. Supplied With: Battery, test leads and case.

776-2012. Model DMR-2012A.....EACH 63.51



Model DMR-2322A

- ▶ 10 M Ohm/Volt Large Oversize Display
- ▶ 3 1/2 Digit LCD Multimeter
- ▶ Fuse and Diode Overload Protected
- ▶ High Visibility Yellow Housing
- ▶ 11 Functions
- ▶ 45 Ranges
- ▶ Audible Continuity
- ▶ Test Capacitors, Transistors, Diodes
- ▶ 20 Amp AC/DC Ranges
- ▶ Shockproof Case
- ▶ 7 1/2" H $\times$ 3 1/2" W $\times$ 1 1/2" D

- ▶ Auto Power Off
- ▶ Probes Slot Onto Case
- ▶ Display Boxed
- ▶ Complete with Battery, Test Leads and Case
- ▶ Logic Test, Transistor Test, Capacitor Test, Frequency Measurement

Specifications. DC Volt Range: 200 mV, 2 V, 20 V, 200 V, 1000 V; AC Volt Range: 200 mV, 2 V, 20 V, 200 V, 750 V; DC Amps: 200 mA, 2 mA, 20 mA, 200 mA, 20 A; AC Amps: 200 mA, 2 mA, 20 mA, 200 mA, 20 A; Resistance: 200, 2 K, 20 K, 200 K, 2 M, 20 M; Capacitance: 2000 pF, 20 nF, 200 nF, 2 μ F, 20 μ F; Freq.: 20 KHz, 200 KHz. Supplied with ruggedized case and test leads.

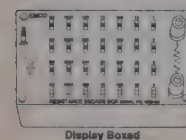
776-2322. Model DMR-2322A.....EACH 86.56

DMR-2500 Multitester

- ▶ DC Volts: 200 mV, 2 V, 20 V, 200 V, 1000 V
- ▶ AC Volts: 200 V, 750 V
- ▶ DC Current: 200 μ A, 2 mA, 20 mA, 200 mA, 2000 mA, 10 A
- ▶ Resistance: 200, 2 K, 20 K, 200 K, 2000 K

Specifications. 6 Functions. 19 Ranges. 10 Amp DC range. Diode test. Shockproof case. Low battery indication. Fuse and diode overload protected. High surge voltage protection. 5 1/2" H $\times$ 2 3/4" W $\times$ 1" D. Complete with battery, instruction manual and probes. Display boxed.

776-2500. Model DMR-2500.....EACH 41.00



RES-5A Resistance Decade Box

- ▶ Universal Binding Posts
- ▶ Easy to Read Slide Switch Operation

Range: From 1 Ohm to 11,111,110 Ohms in 1 Ohm increments. Accuracy: $\pm$ 1% Tolerance Minimum. Power Capacity: 1/2 Watt.

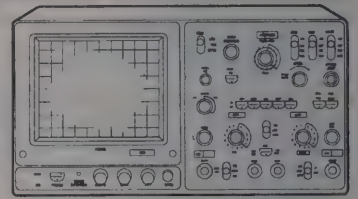
776-1175. RES-5A.....EACH 33.86

25 MHz Dual Trace Oscilloscope with Component Tester

Model OSC-25DT. Dual trace 25 MHz bandwidth with high brightness 5" CRT. Ch1 Signal output for use with a frequency counter. Component Testing Special Circuit. Ch2 polarity inversion switch. Vertical Deflection magnification X5 giving 1mV/DIV. Selectable alt/hopping function. Scale illuminating system. Alternate triggering allows observation of waveforms with different frequencies. Single sweep mode for one time/sudden events. Simultaneous observation of X1 and X10 trace. Delay line for viewing high frequency pulse edges. Front panel adjustable DC balance for Ch1 and Ch2. **Specifications.** Vertical Deflection. Sensitivity: 5 mV/DIV to 5 V/DIV 1 mV/DIV to 1 V/DIV (X5 mag). Bandwidth: DC — DC to 25 MHz $\pm$ 3 dB (X5 Mag: DC to 10 MHz $\pm$ 3 dB); AC — 5 Hz to 25 MHz $\pm$ 3 dB (X5 Mag: 5 Hz to 10 MHz $\pm$ 3 dB). Rise Time: Less than 17.5 ns. Max. Input Voltage: 300 V (DC + AC peak). Input Impedance: 1 M Ω $\pm$ 3%, 1/25 pF. Polarity Inversion: CH2 only. Chop Frequency: Approx. 250 KHz. Operating Modes: CH1, CH2, ALT, CHOP or DUAL. Overshoot: Less than $\pm$ 6% (5 mV/div to 0.5 V/div, X1). Horizontal Deflection. Operating Modes: X-Y operation CH1-X axis, CH2-Y axis. Input Impedance: 1 M ohm, 25 pF. Bandwidth: DC — DC to 500 KHz ($\pm$ 3 dB); AC — 5 Hz to 500 KHz ($\pm$ 3 dB). X-Y Phase Shift: 3° or less DC to 50 KHz. Time Base. Sweep Mode: Auto, Norm, TV-V, TV-H or Single. Sweep Time: 0.2 μ s-0.2 s/DIV $\pm$ 3% in 1-2-5 steps (X1 only). Magnified Sweep: 10 times $\pm$ 5% (additional), max. 20 ns. Delayed Sweep. Delay Time: 1 μ s-100 ms in 5 ranges. Jitter: 5,000:1. Triggering. Trigger Source: INT (Ch1, Ch2, or ALT), LINE, EXT or EXT-10. Coupling: AC, HF, REJ, TV, DC. Trigger Sensitivity: INT — DC-2 MHz - 0.5 div, DC-25 MHz - 1.5 div; EXT — DC-2 MHz - 200 mVpp, DC-25 MHz - 800 mVp-p. CH1 Amplifier Output. Output Voltage: Approx. 20 mV/DIV. Output Impedance: 50 ohm. Bandwidth: 50 Hz-5 MHz ($\pm$ 3 dB). Intensity Modulation Z-Axis. Bandwidth: DC — 2 MHz. Max. Input Voltage: 30 V (DC + AC peak). Sensitivity: 5 Vp-p. Probe Calibration Output. Squarewave: Approx. 1 KHz ($\pm$ 20%), 0.5 Vp-p ($\pm$ 3%). CRT Display: 6" (150 mm) rectangular type with an illuminated, parallaxfree, internal graticule, 2 kV accelerating voltage and 8 $\times$ 10 divisions (1 division = 10 mm). Power Requirements. Voltage: AC 100 V/117 V/220 V/240 V $\pm$ 10%, 50/60 Hz. Power Consumption: 45 W. Dimensions: 11" W $\times$ 6" H $\times$ 17" D. Net Weight: 16.5 lbs. Accessories: X1/Ref/X10 probe 2 pcs, operation manual, power cord and fuse.

776Q2005. Model OSC-25DT.....EACH 539.74

776-1019. Model LCP-1. Low Capacity Probe.....EACH 30.50



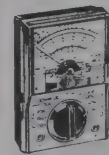
F-72 Multitester

- ▶ Better Overload Protection
- ▶ Battery Tester
- ▶ With Carrying Case and Buzzer
- ▶ Includes Test Leads and Batteries
- ▶ Adjustable Handle
- ▶ Mirror-Back Scale
- ▶ 23 Ranges



Specifications. 20 k ohms/Vdc. DC V: 0, 2.5, 10, 50, 250, 1000 V. AC V: 0, 10, 50, 250, 1000 V. DC Current: 0, 5, 50, 500 mA, 10 A on separate jack. Resistance: R $\times$ 1, R $\times$ 10, R $\times$ 1K (Center 50 ohm). Decibel: -8 dB to +62 dB on all AC V range. Battery Test: 1.5 V size AA; internal loading resistance and current 75 ohm/20 mA; 9 V Std.; internal loading resistance and current 450 ohm/20 mA. Audio Power Level: -8 dB to +22 dB on a 600 Ω arc of scale length. Batteries: 1.5 V AA $\times$ 2 pcs. Protection: 1 A/250 V fuse and silicon double diode. MT-20-BC made of high impact plastic and phenolic PCB. 5 1/4" H $\times$ 3 1/2" W $\times$ 1 1/2" D. Weight: 1.2 lbs.

776-0020. Model F-72.....EACH 29.50



MT-2 12-Range VOM

- ▶ 16 Ranges — 5 Function
- ▶ Mirror-Back Scale
- ▶ Meter Overload Protection
- ▶ Includes Test Leads and Battery
- ▶ Excellent for Security or Home Use
- ▶ Used in Engineering and Field Service

Specifications. DC Volts: 0-10, 50, 250, 500 V. AC Volts: 0-10, 50, 250, 500 V. DC Current: 250 mA. Resistance: 10 k Ohm, 1 Meg Ohm. Decibels: -20 to +56 dB. Accuracy: DC $\pm$ 3% (of full scale). Sensitivity: 2000 Ohm/Volt DC and AC. Battery: 1.5 V (UM-3/AA size). Size (H $\times$ W $\times$ D): 3 3/8" $\times$ 2 3/8" $\times$ 1 1/8". Weight: 1.5.

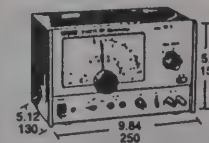
776-0200. Model MT-2.....EACH 12.65

GEN-SS-1 Solid State Sine/Square Wave Generator



Provides sine and square wave outputs simultaneously while covering 20 Hz to 2 MHz in 5 bands. **Specifications.** Square Wave: 20 Hz-200 KHz. Sine Wave: 20 Hz to 2 MHz. Output Voltage: sine wave 0-7.5 volts rms into high impedance output, 0-6.5 volts into 600 ohms. Square Wave: 0-10 volts p-p into high impedance, positive direction with ground zero. Calibration Accuracy: 3% except for 5%, 20 Hz to 100 Hz and 1 MHz to 2 MHz. Maximum Distortion Across Audio Range: 0.25% rise time at 20 KHz, less than 0.1 microseconds. Power Requirements: 105-132 volts, 50/60 Hz, 10 VA.

776-0379. Model GEN-SS-1.....EACH 200.00



RF-1 Generator

RF Signal Generator is invaluable for aligning TV sets, AM-FM radios and other communication equipment. The vernier control allows you to set RF frequencies accurately, ranging from 100 KHz to 150 MHz in 6 bands. **Specifications.** Frequency Range: A — 100 KHz to 300 KHz; B — 300 KHz to 1000 KHz; C — 1 MHz to 3.2 MHz; D — 3 MHz to 10 MHz; E — 10 MHz to 35 MHz; F — 32 MHz to 150 MHz; (Up to 450 MHz on third harmonic). Frequency Accuracy: $\pm$ 3%. RF Output: 100 mV. Modulation: Internal — 1 KHz; External — 50 Hz to 20 KHz, at less than 1 volt RMS. Audio Output: 1 KHz, Max. 1 V RMS. Power Requirement: 100 V or 220 AC; 50/60 Hz. Weight: 2.5kg. Dim.: 150H $\times$ 250W $\times$ 130mm.

776-0330. Model RF-1.....EACH 190.74

PSR-4 12 Volt DC Regulated Power Supply

- ▶ Input: 117 V AC 60 Hz
- ▶ Output: 13.8 V DC 4 Amp
- ▶ Constant, 6 Amp Surge
- ▶ Regulated and Filtered
- ▶ Fuse and Auto Reset Circuit Breaker Overload Protected



- ▶ Heavy Duty Grounded 3 Prong AC Power Cord
- ▶ Universal Binding Posts
- ▶ 2 3/4" H $\times$ 4 1/4" W $\times$ 7 1/2" D
- ▶ 4 Lbs.

776-0004. PSR-4.....EACH 33.83



PS-4CL 12 Volt DC Power Supply

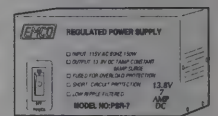
- ▶ Fuse and Auto Reset Circuit Breaker Overload Protected
- ▶ Universal Binding Posts

- ▶ Input: 117 V AC 60 Hz
- ▶ Output: 13.8 V DC 3 Amp
- ▶ Constant, 5 Amp Surge
- ▶ Filtered Output
- ▶ Cigarette Lighter Adapter Included
- ▶ 2 3/4" H $\times$ 4" W $\times$ 7 1/2" D
- ▶ 3 1/2 Lbs.

776-0003. PS-4CL.....EACH 25.21

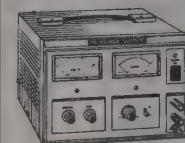
PSR-7 3 Amp and PSR-10 10 Amp Regulated DC Power Supplies

- ▶ Input: 117 V AC, 60 Hz
- ▶ Output: PSR-7 — 13.8 V DC 7 Amp
- ▶ Constant, 9 Amp Surge; PSR-10 — 13.8 VDC 10 Amp Constant, 12 Amp Surge
- ▶ Dim.: PSR-7 — 3 1/4" H $\times$ 6 1/4" W $\times$ 7 1/2" D; PSR-10 — 4 1/4" H $\times$ 6 1/4" W $\times$ 7 1/2" D
- ▶ Regulated and Filtered
- ▶ Universal Binding Posts
- ▶ Fuse and Auto Reset Circuit Breaker Overload Protected
- ▶ Heavy Duty Grounded 3 Prong AC Power Cord
- ▶ Weight: PSR-7 — 6 1/2 Lbs.; PSR-10 — 9 1/4 Lbs.
- ▶ Display Boxed



776-0015. PSR-7.....EACH 64.57

776-0030. PSR-10.....EACH 84.96



PSV-5 General Purpose Variable DC Power Supply

- ▶ Input: 117V/220V AC, 60 Hz
- ▶ Output: 0-30V DC, 0-5 Amp Regulated
- ▶ Dual Panel Meters, Volts and Amps
- ▶ Coarse and Fine Voltage Adjustment
- ▶ Hi-Lo Current Switch with Min.-Max. Control
- ▶ Dual Scale Amp Meter
- ▶ Single Output Heavy Duty Binding Posts for (+) (-) and Ground
- ▶ Overload and Short Circuit Protection
- ▶ Current Limiting 0-5 Amps
- ▶ Heavy Duty 3 Prong Power Cord
- ▶ 6 1/4" H $\times$ 8 1/2" W $\times$ 10" D; 10 Lbs.

776-0050. PSV-5.....EACH 258.40

ACM-3A Clammeter

- ▶ Safety Fuse Protected
- ▶ Data Lock Function
- ▶ Professional Carrying Case

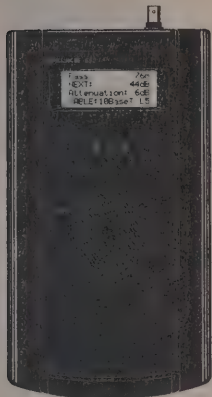
Specifications. 0-600 AC Voltage, 0-300 Amps current, 5000 ohms resistance (mid-scale 200 ohm). AC Current: 6 A, 60 A, 300 A, AC Voltage: 150, 300, 600 V. DC Voltage: 60 V. Resistance: 1 K, 10 K. Temperature: 20°C to 200°C, 0°F to 400°F.

776-0005. Model ACM-3A.....EACH 62.13



652 LAN CableMeter

— NEW —



The 652 is the most comprehensive LAN cable testing, verification and certification tool on the market today. Now, with a single instrument, installers can test Ethernet, Token Ring, and ARCnet cabling in every nook and cranny of a network. Nothing stops the 652 because it uses traditional AA batteries. So you never have to wait for recharging.

The 652 is the only CableMeter designed to meet all the challenges of an installer's full day of work.

It provides a complete suite of tests; from wire mapping to noise and traffic measurements; from Near-End Crosstalk (NEXT) to identifying split pairs. It also offers full cable verification, certification, and documentation features. Results are compared to IEEE-802 and EIA/TIA 568 Commercial Building Telecommunications Wiring Standards and may be printed out for future reference. There's even an O'SCOPE mode that lets you view TDR pulses and reflections on an oscilloscope such as a Fluke ScopeMeter, for detailed analysis of cables having multiple faults.

Specifications. Cable Types. Unshielded Twisted Pair (UTP) — 10BaseT Level 3, 4, 5; and IBM Type 3 Level 3, 4, 5; IBM Type 1; Coaxial — 10Base2, RG58, RG58 Foam, RG59, RG59 Foam, RG62, 10Base5. Also allows two custom cable types with selection of characteristic impedance, nominal velocity of propagation (NVP), and BNC or RJ-45 (Ethernet or Token-Ring wired) connectors. **Display.** 64 character, four line LCD with backlight. **Measurements.** Length, wire map, attenuation, near-end crosstalk (NEXT), characteristic and termination impedance, noise and Ethernet traffic. **Autotest.** Automatically sequences through a series of cable measurements, compares results to both the IEEE-802 specifications and EIA/TIA 568 specifications, displays a Pass/Fail message along with audible tone and summarizes key cable parameters. Up to 400 autotest measurements can be saved in non-volatile memory and printed via the serial printer port. **Wire Map.** Detects correct and faulty pair wiring in cables with RJ-45 connectors. Indicates the following faults: opens, shorts, reversed pairs, and crossed pairs. **Length.** A built-in TDR is used to make the measurement. **Range:** 6 m to 600 m (20 ft. to 2000 ft.) for UTP Cable; 6 m to 1200 m (20 ft. to 4000 ft.) for Coaxial Cable. **Accuracy:** $\pm 1\% + 0.6$ m (2 ft.). **Resolution:** 1 m or 1 ft. **Display Units:** Meters or feet.

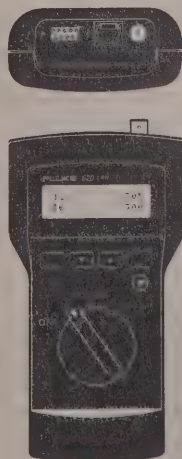
730-0652. Model 652.....EACH 2395.00

Fluke 620 CableMeter

- ▶ One Person Verifies Each Connection As He Goes
- ▶ Versatility to Test All LAN Cable Types
 - UTP, STP, FTP¹, Coax
 - Test Two, Three, or Four Wire Pairs in Twisted Pair Cables
- ▶ Detect Wiring Problems: Open, Short, Crossed-, Reversed-, Split Pair
- ▶ Locate Wiring/Connection Errors (Distance to the Open or Short)
- ▶ Measure Cable Length
- ▶ Ease-of-Use: Single Rotary Knob to Select the Test
- ▶ Portable, Long Battery Life (50 Hours)
- ▶ Best Price-Performance Ratio

Included with the 620 CableMeter

- ▶ A Carrying Case
- ▶ One UTP Category 5 Patch Cable, RJ45-RJ45 Straight Through, 4 Ft. in Length (EIA/TIA 4 Pair Cat 5)
- ▶ One RJ45F-RJ45F In-Line Coupler (Barrel Connector)
- ▶ One Cable Identifier for the Verification of the Wire Map and the Cable Routing (Cable Identifier #1)
- ▶ A Quick Reference Card (Explains Display Symbols and Menu Selections)
- ▶ An Operator Manual
- ▶ A Warranty Card (Registration Card)



Physical Characteristics. Dimensions: 7.25" x 3.875" x 1.8" (18.4 cm x 9.8 cm x 4.6 cm). **Weight:** 12.5 oz. (354 g). **Batteries:** 1.5 V Alkaline Size AA.

730-0620. Model 620.....EACH 795.00
730-0625. N6201.....EACH 90.00
730-0630. N6202.....EACH 120.00

650 LAN CableMeter

— NEW —



Have you been looking for a better way to troubleshoot LAN cable? The grab Fluke's compact, new 650 CableMeter. This easy-to-use handheld tool takes you directly to the source of network cabling problems so you can pinpoint and repair problems fast. In seconds, you can perform a simple pass/fail test to verify cable performance, or identify a particular cable as the culprit. The high-performance 650 is indispensable for anyone responsible for cable installation or on-going maintenance of a network. It tests standard or custom unshielded twisted pair (UTP) and coaxial wiring in both Ethernet and 4 Mbps Token-Ring LANs. Fluke's 650 CableMeter is as easy to learn as it is to use. All functions are selected with a rotary knob on the clean, simple face. With a twist of the knob you can test for faults, with another twist you can do wire mapping. You can also monitor Ethernet traffic and noise over time to locate intermittent problems. Don't let the 650's size and uncomplicated design fool you. This is one powerful instrument. It provides very specific diagnostic information, together with detailed cable performance analysis and certification of standard or custom cable types. It also features a replaceable battery so recharging doesn't keep you waiting. Feature for feature, you won't find a better way to locate network cabling problems than with Fluke's new 650 CableMeter.

Specifications. Measurements. Length, wire map, attenuation, near-end crosstalk (NEXT), characteristic and termination impedance, noise and Ethernet traffic. **Autotest.** Automatically sequences through a series of cable measurements, compares results to industry cable standards, displays a Pass/Fail message along with audible tone and summarizes key cable parameters. Up to 50 autotest measurements can be saved in non-volatile memory and printed via the serial printer port. **UTP Measurements:** Wire map, length, background noise, near-end crosstalk, attenuation, characteristic impedance and impedance anomalies. **Coaxial Measurements:** Length, background noise, characteristic impedance, termination resistance and impedance anomalies. **Length.** A built-in TDR is used to make this measurement. **Range:** 20 ft. to 2000 ft. or 6 m to 600 m for UTP Cable; 20 ft. to 4000 ft. or 6 m to 1200 m for Coaxial Cable. **Accuracy:** $\pm 1\% + 0.6$ m (2 ft.). **Resolution:** 1 m or 1 ft. **Display Units:** Meters or feet. **Wire Map.** Detects correct and faulty pair wiring in Ethernet or Token-Ring cables with RJ-45 connectors. Indicates the following faults: opens, shorts, reversed pairs, and crossed pairs. **Near-End Crosstalk (NEXT).** Measures crosstalk between cable pairs in unshielded twisted pair cables. Near-end crosstalk of less than 20 dB is used to warn user of a possible split pair. **Range:** 0 dB to 40 dB, 5 MHz to 10 MHz in 100 kHz steps. **Accuracy:** ± 2 dB. **Attenuation.** Measures attenuation of unshielded twisted pair cables. **Range:** 0 dB to 40 dB, 5 MHz to 10 MHz in 100 kHz steps. **Accuracy:** ± 2 dB.

730-0650. Model 650.....EACH 1795.00

610 LAN CableMapper

- ▶ The One-Button Answer to Wire Mapping
- ▶ 610 CableMapper Determines UTP Termination Faults Per LAN Cabling Standard EIA/TIA 568 for Ethernet and Token Ring LANs
- ▶ Measures Near-End Crosstalk (NEXT) for Split Pair Identification
- ▶ Lightweight, Handheld Design for Portability
- ▶ Fault Codes and Cable Identifier Number Indicated Directly on Front Panel
- ▶ Bright LEDs Signify Pass (Green) or Fail (Red) for Each Pair
- ▶ Handy Carrying Case Organizes 610, Cable Identifiers and Manual
- ▶ Protective Holster



The Fluke 610 LAN CableMapper is a low cost solution to LAN cable testing. It will find the most common problems such as opens, shorts, reverses, crossed pairs, and split pairs. The Cable Identifiers have a unique ID number which is displayed on the 610. This enables the 610 to distinguish one cable run from another. The 610 comes with Cable Identifier number 1. Optional Cable Identifiers are numbered 2-8 allowing the user to easily test and identify multiple cables.

Specifications. Cable Length: 0 to 122m (0 to 400 ft.). Identifies opens, shorts, reversed pairs or crossed pairs, and other miswires. Split pair detection. Pairs are checked at 10 MHz and reported if Crosstalk exceeds 21 db ± 3 dB. **Input Connector:** RJ-45. **Input Protection:** Inputs withstand telco ringing and loop voltages. Display alarms on overvoltage faults.

730-0610. Model 610.....EACH 395.00
730-6101. N6101 (Numbered 2-4).....EACH 125.00
730-6102. N6102 (Numbered 5-8).....EACH 165.00

Accessories Compatibility Guide

Temperature Accessories

Stock No.	Mfr.'s Type	Description	Handheld Digital Multimeters													Bench/Portable/System Digital Multimeters and Graphical™ Multimeters (GMMs 863, 865 and 867)			
			10/11/12	21	23	25/27	29/79	70	73	75	76	77	83/85	87	8060A/8062A	45	863	865	867
730-0089	80T-IR	Infrared Temperature Probe	1	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-8079	80TK	Thermocouple Module	1	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-8015	80T-150U	Universal Temperature Probe	1	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼

Test Leads

730-0200	TL20	Test Lead Set	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-3022	TL22	Flexible Test Leads	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-9024	TL24	Flexible Test Leads — Straight	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-3026	TL26	5-Way Multipoint Test Lead Set	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-9028	TL28	2-Way Clip Test Lead Set	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-0030	TL70A	Right-Angle Test Lead Set	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●
730-0701	TL75	Hard Point Test Lead Set™	●	●	●	●	●	●	●	●	●	●	●	●	—	—	—	—	—
730-8131	Y8132	Test Lead Set	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-8134	Y8134	Test Lead Kit	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-8140	Y8140A	Test Lead Set	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼

Current/Power Accessories

730-8100	Y8100	AC/DC Current Probe	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-8101	Y8101A	AC Current Probe	—	▼	▼	▼	3	—	—	▼	3	▼	▼	▼	▼	▼	▼	▼	▼
730-8400	80i-400	AC Current Probe	—	▼	▼	▼	3	—	—	▼	3	▼	▼	▼	▼	▼	▼	▼	▼
730-8410	80i-410	AC/DC Current Probe	2	2	2	▼	▼	2	2	2	2	2	▼	2	4	5	5	5	5
730-8600	80i-600A	AC Current Probe	—	▼	▼	▼	3	—	—	▼	3	▼	▼	▼	▼	▼	▼	▼	▼
730-1010	80i-1010	AC/DC Current Probe	2	2	2	▼	▼	2	2	2	2	2	▼	2	4	5	5	5	5
730-8000	80i-kW	Current/Power Probe	2	2	2	▼	▼	2	2	2	2	2	▼	2	4	5	5	5	5
730-0810	80J-10	Current Shunt	▼	—	—	—	—	▼	—	—	—	—	—	—	▼	—	—	—	—

Specialty Accessories

730-8115	A81	Battery Eliminator	—	—	—	—	—	—	—	—	—	—	—	—	▼	—	—	—	—
730-8016	80K-6	High Voltage Probe	6	7	7	▼	▼	7	7	7	▼	7	▼	▼	▼	8	8	8	8
730-8040	80K-40	High Voltage Probe	6	7	7	▼	▼	7	7	7	▼	7	▼	▼	▼	8	8	8	8
730-0083	83RF	High Frequency Probe	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-0085	85RF	High Frequency Probe	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
730-0350	PV350	Pressure Vacuum Module	9	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼

Cases and Holsters

739-0103	C10	Holster	▼	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
739-0104	C12A	Soft Case	▼	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
730-0040	C17Y	DuraCase™	10	▼	▼	—	▼	▼	▼	▼	▼	▼	—	—	—	—	—	—	—
730-0020	C20	Hard Case	—	—	—	▼	—	—	—	—	—	—	▼	▼	—	—	—	—	—
730-2500	C25	Soft Case	—	11	11	▼	11	11	11	11	11	11	▼	▼	11	—	—	—	—
730-0041	C28Y	DuraCase™	—	—	—	▼	—	—	—	—	—	—	▼	▼	—	—	—	—	—
730-0042	C40	Soft Case	—	—	—	—	—	—	—	—	—	—	—	—	—	▼	—	—	—
730-0050	C50	Compact Soft Case	—	▼	▼	—	▼	▼	▼	▼	▼	▼	—	—	—	—	—	—	—
730-2000	C70G	Holster Grey	—	▼	▼	—	▼	▼	▼	▼	▼	▼	—	—	—	—	—	—	—
730-7000	C70Y	Holster Yellow	—	▼	●	—	●	▼	▼	▼	●	●	—	—	—	—	—	—	—
730-0081	C81G	Holster Grey	—	—	—	—	—	—	—	—	—	—	▼	▼	—	—	—	—	—
730-0082	C81Y	Holster Yellow	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—
730-0090	C90	Soft Case	—	▼	▼	—	▼	▼	▼	▼	—	▼	—	—	▼	—	—	—	—
730-1000	C100	Ruggedized Hard Case	—	▼	▼	▼	▼	▼	▼	▼	—	▼	▼	▼	▼	—	—	—	—
730-0080	C800	Hard Storage Case	—	11	11	—	11	11	11	11	—	11	▼	▼	11	—	—	—	—
730-0789	C789	Soft Case	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▼	▼	▼

▼=Compatible and recommended.

●=Compatible and recommended — included with DMM.

1=10 Series DMMs will show one degree resolution, Degree C or Degree F.
2=1 A resolution AC or DC with Series 10; 1 A resolution AC with 21, 23, 70, 73, 75, 77; 20 A minimum AC specified accuracy with 76 and 87.

3=1 A resolution above 40 A.

4=10 A minimum AC specified accuracy.

5=15 A minimum specified accuracy with 45; minimum specified accuracy is 30 A for the true-rms AC current measurements with 863, 865 and 867.
6=80K-6, 80K-40 notes — 1 V resolution DC only with Series 10.

7=1 V AC resolution with 21, 23, 70, 73, 75, and 77.

8=DC only.

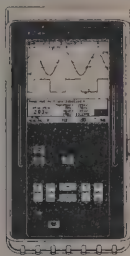
9=PV350 notes — 1 psig/ in Hg resolution.

10=The C17Y DuraCase™ will hold a Series 10 meter in a C10 Holster.

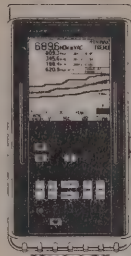
11=Fit will be loose.

ScopeMeter® Series II

— NEW —



Model 99



Model 96



Model 92



Model 91

When the Fluke ScopeMeter® test tool was first introduced in 1991, it revolutionized field troubleshooting. For the first time it gave technicians a powerful oscilloscope, a full-featured digital multimeter, and a frequency counter all in one portable, handheld digital instrument. Now the Fluke ScopeMeter Series® II takes that breakthrough to the next level. Along with a 50 MHz scope bandwidth and 3 1/2 digit true RMS meter, Series II gives you direct access to 30 measurement functions you perform every day. To start the measurement you simply select a single menu item. ScopeMeter® Series II automatically configures itself for the best operating mode and continues to adjust itself as the input changes. It makes routine setups a snap and complex tasks just as easy. You can also adjust the controls manually. Whether you're troubleshooting electronics, machine control, electrical, telecommunications, or computer circuits, ScopeMeter® Series II makes it easy to get the right answers. **Size:** 60 x 130 x 260 mm (2.4 x 5.1 x 10.2"); with holster — 65 x 140 x 275 mm (2.5 x 5.5 x 10.8"). **Weight:** 1.5 kg (3.3 lbs.); with holster — 1.8 kg (4.0 lbs.). **Safety:** Designed to CAT III per IEC 1010 and UL 1244 approved for 600 V measurements on industrial power systems. **Standard Equipment:** ScopeMeter Series II is supplied with NiCad battery pack, AC mains adapter/battery charger, safety designed probe set, multimeter test leads and accessories, and yellow protective holster. Three-year warranty.

	Fluke 99	Fluke 96	Fluke 92	Fluke 91
Bandwidth	50 MHz Dual Input			50 MHz Single Input
Sample Rate	25 Megasamples/sec.			
Measure Menu	Direct access to 33 measurements. The best operating mode is automatically selected.		Direct access to 18 measurements. The best operating mode is automatically selected.	
Continuous Autoset	Hands-free signal probing. Tracks input signal changes and quickly selects the proper ranges and trigger.			
On Line Information	Instant on line information about functions and operation.			
Meter Min. Max. TrendPlot	Monitor any meter reading automatically with simultaneous graphs of the MIN., MAX., and AVG. values from 15 sec./div. (120 sec.) to 8 days/div. (40 days). Automatic vertical scaling and time compression.			
Scope Min. Max. Envelope Mode	Monitor waveforms from both inputs and record the MIN. and MAX. excursions with a grayscale envelope.			
Multimeter Display	3½ digits (>3000 Counts). With a full screen width automatic scope waveform.			
True RMS Volts	AC or AC+DC up to 600 V (1700 V Pk-Pk)			
Diode Test	Up to 2.8 V			
Continuity Beeper	Yes			
Time/Division	10 ns/div. to 60 sec./div.			
Volts/Division	* 1 mV/div. to 100 V/div.			
Digital Trigger Delay	By number of cycles, event, time or zoom mode			
Special Multimeter Modes	Relative (zero), % Scale, Smoothing*, Change Alert*, dBm, dBV, dBQ, Audio or RF Watts, Hz, Pulse Width, Duty Cycle, RPM; Measure amps, C or F with optional probes			
Scope Input Scaling	Measure amps with optional current probes			
Glitch Capture	≥40 ns			
Scope Waveform Processing	Analog-like grey-scale display and waveform averaging			
Display	240 × 240 pixels, electroluminescent backlit LCD			
RS232 Interface via Optional Adapter/Cable, 600 V Isolation	Transfer Setups, Waveforms, and Screens* or Directly Print	Directly Print or Capture Screens*	Capture Screen*	
Screen Memories	10	5		
Waveform Memories	20	10		
Set-Up Memories	40	20		
Oscilloscope Cursor Readings	15 Measurements, Display 5 Simultaneously			
Waveform Mathematics	Add, Subtract, Multiply, Invert, Filter or Integrate			
Signal Generator Output	Sinewave or Squarewave			
Component Tester Output	Voltage or Current Ramp			

*With optional FlukeView PC software and Adapter/Cable.

730-6000, Model 91.....EACH 1095.00 730-6010, Model 96.....EACH 1895.00
730-6005, Model 92.....EACH 1295.00 730-6015, Model 99.....EACH 2195.00

100 MHz ScopeMeter® 105

— NEW —

- ▶ Integrated 100 MHz Full Function Digital Storage Oscilloscope and 3 1/2 Digit True RMS Multimeter
- ▶ Rugged, Portable, Battery Powered Instrument
- ▶ Measure Menu For Quick Setup
- ▶ Continuous Autoset™ For Hands Free Signal Probing
- ▶ Large Memory For 40 Front Panel Setups, 20 Waveforms and 10 Screens
- ▶ Min./Max. TrendPlot™ With Time Stamp For Long Term Recording
- ▶ Optical-To-RS232 Interface Port, 600 V Isolation
- ▶ Safety Designed For Use On 600 V Three Phase Power Distribution Circuits; Rated To IEC 1010 CAT III And UL 1244 Listed
- ▶ Includes PM9080 Optically Isolated 125-232

The Fluke ScopeMeter® Series II, with 100 MHz bandwidth, is a fully integrated digital storage oscilloscope and digital multimeter in a rugged, battery powered splash proof case. This new test tool is easy to use with quick setups and hands free operation.

730-0105, Model 105.....EACH 2595.00



80i-110s AC/DC Current Probe



The 80i-110s accurately reproduces current waveforms as they occur. Connect the clamp to a Fluke ScopeMeter® Test Tool or other waveform recording device like a Fluke CombiScope® or Power Harmonics Analyzer, to clearly see distorted waveforms that result from non-linear loads such as computers, adjustable speed motor drive, and electronic ballasts for fluorescent lighting.

Electrical Specifications. Current Ranges: 0 to 10 A DC or AC Peak; 0 to 100 A DC or AC Peak. **Output Signals:** 10 A Range — 100 mV/A; 100 A Range — 10mV/A. **Working Voltage (Clamp Jaws To Ground):** 600 V AC RMS On Installation Category II per IEC 1010-1 Circuits; 300 V AC RMS On Installation Category III per IEC 1010-1 Circuits. **Floating Voltage (Output Cable and Connector To Ground):** 600 V AC RMS On Installation Category II per IEC 1010 1 Circuits; 300 V AC RMS On Installation Category III per IEC 1010-1 Circuits.

Basic Accuracy (DC to 1 kHz)

Input Current DC Or AC Peak	Error (After Zero Check)	
	100 mV/A	10 mV/A
50 mA to 10 A	<3% of reading +50 mA	—
50 mA to 40 A		<4% of reading +50 mA
40 to 80 A		<12% of reading +50 mA
80 to 100 A		<15% of reading

730-0110, Model 80i-110s.....EACH 395.00

80i-500s and 80i-1000s — NEW — Clamp-On AC Current Probes



Precision Designed to Increase AC Current Accuracy in Oscilloscopes and Power Meters

- ▶ AC Current Ranges: 80i-500s — 1 to 500 A AC RMS; 80i-1000s — 100 mA to 1000 A RMS Continuous
- ▶ Best Accuracy 2% Of Reading
- ▶ Usable Frequency Range (With Current Derating): 80i-500s — 5 Hz to 10 kHz; 80i-1000s — 5 Hz to 100 kHz
- ▶ Built-In Low Pass Filter (Eliminates High Frequency Noise)
- ▶ Minimal Amplitude And Phase Distortion
- ▶ Built-In Safety Features: 600 V RMS Rating At Input Jaws Output Cable and BNC Connector

Specifications

Function	80i-500s	80i-1000s
AC Current Ranges	1 A to 500 A AC RMS (to 700 A RMS for max. of 10 minutes)	0.1 A to 1000 A, continuous (2000 A instantaneous peak)
Accuracy	100 A to 500 A, ±2% of reading; 20 A to 100 A, ±5% of reading; 1 A to 20 A, ±5% of reading +0.3 A	0.5 A to 1000 A, 2% of reading; 0.1 A to 10 A, 3% of reading ±100 mA
Usable Frequency Range (With Current Derating)	5 Hz to 10 kHz	5 Hz to 100 kHz
Working Voltage	600 V AC RMS clamp jaws to ground	600 V AC RMS clamp jaws to ground
Common Mode Voltage	600 V AC RMS at output cable and connector to ground	600 V DC or AC RMS at output cable and connector to ground
Maximum Conductor Diameter	1.18" (30 mm) (2 x 500 MCM THHN)	2.13" (54 mm) (2 x 500 MCM THHN)
Output Cable	63" (1.6 m) BNC termination; Cable and BNC rated to 600 V AC RMS for enhanced safety	63" (1.6 m) BNC termination; Cable and BNC rated to 600 V AC RMS for enhanced safety

Accurate current measurements are critical to resolving power quality problems in commercial and industrial power distribution systems. Fluke now offers two clamp-on AC current probes that boost the performance of any oscilloscope or voltage input device capable of millivolt measurements. When connected to an oscilloscope or other waveform recording tool, the 80i-1000s and new 80i-500s eliminate distortion and accurately reproduce current waveforms as they occur. Clearly see distorted waveforms that result from non-linear loads. Other current clamps, not designed for oscilloscopes, may add their own distortion over and above the actual distortion present in your power distribution system.

730-0500, Model 80i-500s.....EACH 170.00
730-0078, Model 80i-1000s.....EACH 395.00

80 Series Analog/Digital Multimeters



Model 83

Model 85

Model 87

High Performance Meters with 11 Functions and 40 Ranges for a Wide Variety of Electronic and Industrial Applications

- ▶ MIN MAX AVERAGE Recording Mode with Min Max Alert™
- ▶ Frequency, Duty Cycle and Capacitance Measurements
- ▶ 1000 V Input Protection; Input Alert™ Detects Wrong Input Jack Connections
- ▶ 3 1/2 Digit, 4000 Count Display Updates 4 Times Per Second, Analog Display Updates 40 Times Per Second
- ▶ 4 1/2 Digit Mode, 1 ms Peak Hold, Back Lit Display and True RMS Measurements (87 Only)
- ▶ Touch Hold™ and Relative Modes
- ▶ Splash Proof and Dust Proof Case; EMI Shielded
- ▶ Protective Holster with Flex-Stand™
- ▶ Safety-Designed Test Lead Set

The Fluke 80 Series (83, 85, and 87) is a family of versatile analog/digital multimeters with an impressive range of capabilities, including frequency, duty cycle and capacitance measurement. Designed for electronic as well as industrial applications, the 80 Series features durable construction and several unique safety features.

MIN MAX AVERAGE Recording Mode With Min Max Alert™

Stores the highest, lowest, and average of all readings, allowing you to monitor a signal for seconds or days. Selectable response times allow you to specify the time interval to sense changes. Min Max Alert gives an audible tone for readings above or below previous minimums or maximums.

Touch Hold™ and Relative Modes

Touch Hold captures the measurement, beeps and locks it on the digital display until you're ready to view it. It automatically updates with each new measurement. The Relative Mode remembers a reading and shows the change (difference) between it and any readings that follow.

Frequency, Duty Cycle and Capacitance Measurements

Fluke 80 Series meters have a counter for frequency measurements from 0.5 Hz to 200 kHz, and duty cycle measurements from 0.1% to 99.9% of cycle. All three meters measure capacitance from 10 pF to 5 µF. Larger value capacitors may be measured using the analog display in the resistance mode.

Input Alert and Overload Protection

Input Alert™ provides an audible warning if the input jack connections are not correct for the measurement selected. This reduces the risk of damage to the equipment being tested and to the meter. Fluke 80 Series meters also provide 1,000 volt input protection in both ohms and diode test.

Fast 3 1/4-digit, 4000 Count Digital Display, High Resolution Analog Display

Digital display updates 4 times/second. For changing or unstable signals, the 87 features a high-resolution analog pointer; the 83 and 85 use an analog bargraph. The 83 and 85 also feature Zoom Mode for higher resolution analog readings. Analog displays update 40 times per second.

4 1/2 Digit Mode, 1 ms Peak Hold, True RMS, Back-Lit Display (87 Only)

The Fluke 87 is a true-rms meter, and offers a 4 1/2 digit, 19,999 count high resolution mode, plus 1 ms Peak Min Max hold. The back lit display assures readability in poorly lit settings. Light shuts off automatically after 68 seconds, prolonging battery life.

Specifications. Rugged, Sealed Construction. Splash proof and dust proof case and a specially designed protective holster protect the meter even under harsh operating conditions. All units are sealed and EMI shielded. **Standard Equipment.** Every meter comes packaged with a yellow protective holster complete with Flex-Stand™ safety-designed test leads, 9 V battery (installed), manual and operator guide. **Options/Accessories.** A dark grey holster with Flex-Stand™ is available. The full line of Fluke measurement accessories is compatible with the 80 Series. **Battery Life:** 500 hours typical (alkaline). **Three Year Warranty:** One year calibration interval. **Size:** 1.25"H x 3.41"W x 7.35"L (32 mmH x 87 mmW x 187 mmL). **Weight:** 12.5 oz. (0.36 kg).

Basic Accuracy (% of reading + number of digits)

	83	85	87
DV Voltage	0.3% + 1	0.1% + 1	0.1% + 1
AC Voltage	1.0% + 3	0.5% + 2	0.7% + 2
True RMS	No	Yes	Yes
Specified to	5 kHz	20 kHz	20 kHz
Ohms	0.4% + 1	0.2% + 1	0.2% + 1
DC Current	0.4% + 2	0.2% + 2	0.2% + 2
AC Current	1.2% + 2	0.6% + 2	1.0% + 2
Frequency	0.005% + 1	0.005% + 1	0.005% + 1
Capacitance	1.0% + 2	1.0% + 2	1.0% + 2

730-0830. Model 83. Multimeter with holster EACH 265.00
 730-0850. Model 85. Multimeter with holster EACH 305.00
 730-0870. Model 87. Multimeter with holster EACH 335.00

730-0081. C81G. Optional grey holster EACH 16.80
 730-0082. C81Y. Replacement yellow holster EACH 16.80

4 1/2 Digit Handheld DMMS

- ▶ True-RMS AC Voltage and Current Measurement
- ▶ Audible/Visual Continuity Tests
- ▶ Relative Reference (Offset)
- ▶ Low-Power Ohms on all Resistance Ranges

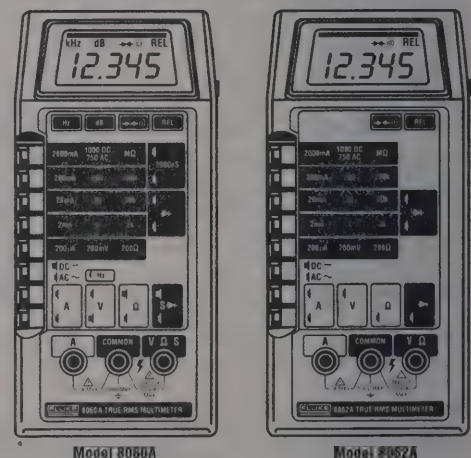
- ▶ Constant-Current Diode Test Mode
- ▶ Measures Resistance to 300 M
- ▶ Model 8060A — Frequency and dB Measurements*
- ▶ UL 1244 Listed

Model 8060A. The 8060A 4 1/2 digit handheld DMM offers more measurement capabilities than most bench or portable models. This microcomputer-based unit provides unique features never before available in a small low-cost DMM, features like: dB and Frequency. Accuracy measurement of the dB gain or loss of amplifiers, filters, or attenuators in a direct dB readout. Rel dB measurement when used with the relative function. Precision frequency measurement. **Relative Reference.** The microcomputer allows user to automatically subtract lead resistance when measuring ohms, and this displays only the difference between a stored reference value and a measured value — even if rate was changed between reading. Works in all functions and ranges. Ideal for use in dB and frequency measurements. **Automatic MΩ Range Selection.** Front panel offers one manually-selectable position above 200 KΩ. In that position, the appropriate range — 2 MΩ, 20 MΩ, or 300 MΩ — is automatically selected. **True-RMS AC.** Provides accurate true-RMS AC measurements on non-sinusoidal waveforms and sine waves. **Special Annunciators.** Annunciator symbols appear in the display to remind user which measurement function has been selected. These symbols indicate relative, continuity/diode, dB, and frequency functions as well as low battery and overload conditions. In addition to these features, the 8060A is designed with overload protection and a rugged case with safety-engineered components for excellent precision performance. **Basic DC Accuracy:** 0.04% rdg + 2 digit. **Dimensions:** 1.8 x 3.4 x 7.1" (45 x 86 x 180 mm). **Weight:** 0.90 lbs. (0.41 kg). Comes with Y8132 test leads, 9V battery, spare fuse, and operator's manual. One year warranty with guaranteed calibration.

730-8060. Model 8060A EACH 459.00

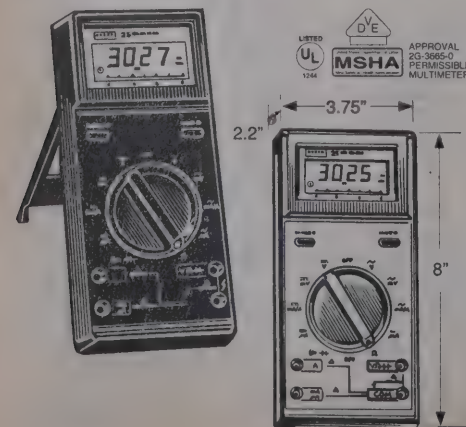
Model 8062A. The 8062A 4 1/2 digit handheld DMM offers more measurement capabilities than most bench or portable models. This microcomputer-based unit provides unique features never before available in a small low-cost DMM, features like: Relative Reference. The microcomputer allows user to automatically subtract lead resistance when measuring ohms and then displays only the difference between a stored reference value and a measured value — even if rate was changed between reading. Works in all functions and ranges. Ideal for use in dB and frequency measurements. **Automatic MΩ Range Selection.** Front panel offers one manually-selectable position above 200 K. In that position, the appropriate range — 2 MΩ, 20 MΩ, or 300 MΩ — is automatically selected. **True-RMS AC.** Provides accurate true-RMS AC measurements on non-sinusoidal waveforms and sine waves. **Special Annunciators.** Annunciator symbols appear in the display to remind user which measurement function has been selected. These symbols indicate relative and continuity/diode functions, as well as low battery and overload conditions. In addition to these features, the 8062A is designed with overload protection and a rugged case with safety-engineered components for excellent precision performance. **Basic DC Accuracy:** 0.05% rdg + 2 digits. **Dimensions:** 1.8 x 3.4 x 7.1" (45 x 86 x 180 mm). **Weight:** 0.90 lbs. (0.41 kg). Comes with Y8132 test leads, 9V battery, spare fuse and operator's manual. 1-yr. warranty and guaranteed calibration.

730-8062. Model 8062A EACH 389.00



Model 8060A

Model 8062A



25/27 Analog/Digital Multimeters

- ▶ Survives 6 kV Transients on 660V Major AC Feeders
- ▶ High Performance
- ▶ Superior Shielding Against EMI

- ▶ Operates from -15° to +55°C, 95% Relative Humidity
- ▶ UL 1244 Listed

The Fluke 25 and 27 3 1/2 digit handheld multimeters combine precision digital and analog measurement capabilities with ruggedness and durability. O-ring sealed case withstands water, contaminants, and chemicals under the harshest conditions. A separate sealed battery/fuse door allows access without interrupting the primary case seal. **Other Features Include:** 3200-Count Digital Display; Better accuracy and resolution than a conventional 3 1/2 digit DMM. The high contrast LCD with wide viewing angle updates twice every second. **31-Segment Analog Bar Graph:** Makes measurements such as peaking, nulling, zero adjustments, and capacitor checking. Updates ten times faster than digital readout. **Touch Hold™.** Allows automatic measurements while watching probes and circuit. Meter captures the measurement, beeps, and locks it in display until user is ready to view it. Will automatically update each new measurement. **Min-Max and Resistive Modes (Model 27 only):** Min-Max stores the highest and lowest digital readings to allow user to monitor a signal for a few seconds or days. Relative remembers a reading and displays the difference between it and any following readings. **Autorange™:** Instantly selects the proper range. Optional manual ranging included. **Audible Continuity/Diode Test:** Quickly check wiring, diode, and transistor without looking at display. Low frequency (1500Hz) beeper. **Safety-Designed:** Overload protection, high-energy fuses, fused 10 A range, non-metallic case and bail. All voltage inputs meet the power line surge tests for major feeders as defined in IEEE-587-1980, Category B. Offered in a choice of dark charcoal grey or safety yellow. Operates on a standard 9 V battery which yields a life of over 1000 hours. Meets military stock, vibration, and water-resistance requirements. Each meter includes a pair of safety-designed TL70 right-angle test leads, 2 insulated alligator clips, spare fuse, 9 V battery, and operator's manual. **Optional Accessories.** Type C20 heavy-duty hard plastic case features a carrying handle, operating guide decal, and test lead storage. Type C25 padded soft case has 2 storage pockets and a water-resistant zipper. **Specifications. Basic Accuracy (% of reading + number of digits):** DCV — 0.1% + 1; ACV — 0.5% + 3; OHMS — 0.2% + 1; DC Current — 0.75% + 2%; AC Current — 1.5% + 2. **AC/DC Volt:** 100 µV to 1000 V. **AC Response:** 30 kHz. **AC/DC Current:** 0.1 µA. **Resistance:** 0.1 to 32 M, up to 10,000 M with conductance. **Dimensions:** 2 x 3.75 x 8" (56 x 95 x 203 mm). **Weight:** 1.6 lbs. (0.75 kg). Two-year warranty; one-year calibration.

730-0025. Fluke 25. Multimeter (Charcoal Grey) EACH 235.00
 730-0024. Fluke 25. Multimeter (Safety Yellow) EACH 235.00
 730-0027. Fluke 27. Multimeter (Charcoal Grey) EACH 299.00

730-0026. Fluke 27. Multimeter (Safety Yellow) EACH 299.00
 730-0020. C20. Hard Case EACH 30.00
 730-2500. C25. Ruggedized Soft Case EACH 21.00



Model 30



Model 32

Models 30 and 32 Clamp Meters

- True-RMS Measurement for Accurate Readings of Non-Linear Loads (Model 32)
- Average AC Responding Measurements (Model 30)
- Measures up to 400 A AC, 600 V AC, 200 Ω
- Meets UL, CSA and TÜV Certification Standards (Pending for Model 32) and Conforms to the IEC 1010 Safety Standard
- Rugged Enough to Take a Drop from a Six-Foot Ladder
- Display Hold Captures Readings in Difficult to Reach Areas for Later Viewing
- Easy-to-Read 3 1/2 Digit 2000 Count Digital Display
- Manual Ranging for Repetitive Measurements
- Continuity Beeper
- Protective Soft Carrying Case and Fluke Hard Point™ TL 75 Test Leads Included

The Fluke Models 30 and 32 Clamp Meters are rugged, self contained, general purpose clamp meters that measure up to your tough standards at a basic price. Use the Models 30 and 32 to measure AC current, AC volts, ohms, and continuity for troubleshooting commercial and residential electrical and HVAC systems. You can view the results instantly on the easy-to-read digital display.

730-0030. Model 30	EACH 109.00
730-0032. Model 32	EACH 159.00

30 Series-Current Master™

Rugged, Easy-to-Use, True-RMS Current Master — "For the True Measure of Your Current Problems"

Models 31 and 33

- True-RMS Current Measurement for Testing Non-Linear and Traditional Loads
- Frequency Measurement (Hz)
- Hand Guard — For Prevention of Accidental Contact with Conductors
- Display Hold
- Combination Digital/Analog Display
- Power-Up Self Test — Verifies Proper Functioning and Estimates Battery Life
- Beeper Provides Audible Feedback
- Clip On Holster
- Auto and Manual Ranging



33



31



C30 Holster Included

33 Only

- Crest — Instantaneous Peak Current Readings
- Smooth™: 3 Second Running Average of RMS Current or Frequency
- Min/Max — Records Maximum, Minimum, and Average Frequency or RMS Current

Both the Fluke 31 and 33 offer a comprehensive set of features for troubleshooting current problems including manual and autorange, display hold, sleep mode (for battery conservation) and a power-up self test. A combination analog/digital display includes real-time current, even while reading frequency or in the hold mode. All of these functions are self-contained in these easy-to-use, handheld Current Masters. A protective holster then can be quickly attached to a work belt included with each unit.

730-0031. Model 31	EACH 229.00
730-0033. Model 33	EACH 269.00

80T-IR Infrared Temperature Probe

- Fast Non-Contact Temperature Measurements
- Ideal When Object to Measure is Moving, Hard to Reach, Hazardous to Touch, Or Easily Contaminated
- 0 to 500°F (–18 to 260°C) Measurement Range
- Internal Selection Switch for °F or °C
- 1 mV dc per °F or °C Output, Compatible With the Most Popular DMMs

Specifications. Temperature Range: 0 to 500°F (–18 to 260°C). Accuracy: $\pm 3\%$ of reading or $\pm 5^\circ\text{F}$ ($\pm 3^\circ\text{C}$), whichever is greater, at 64° to 82°F (18° to 28°C) ambient operating temperature. Temperature Coefficient: 0.2% of 82°F (28°C) or below 64°F (18°C). Response Time: 1 second. Repeatability: 1% of reading. Emissivity: Fixed at 95%. Analog Output: 1 mV per degree F or C (switchable). Operating Temperature: 32°F to 150°F (0°C to 260°C). Optical Resolution: 4:1 distance to target ratio. Size: 1.5" (38mm) W x 7" (178 mm) L. Weight: 10 oz. (286 g). DMM Compatibility: Any DMM with 10 M Ω input impedance, accepting .160" (4 mm) diameter safety-shrouded test leads.



730-0089. 80T-IR	EACH 219.00
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Series 10 Digital Multimeters

The Fluke 12
Packed With Features. Priced to Go, Fast.

- V Chek™
- Min Max Recording With Relative Time Stamp
- Continuity Capture™
- Capacitance: .001 to 9999 μF
- 4000 Count Digital Display
- 0.9% Basic DC Volts Accuracy
- 1.9% Basic AC Volts Accuracy
- 0.9% Basic Ohms Accuracy
- Fast Continuity Beeper
- Diode Test
- Sleep Mode
- Two-year Warranty



Model 12. The more skilled service technician who is called upon to service the difficult or intermittent problem will be drawn to the Model 12.

739-0012. Model 12	EACH 95.00
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The Fluke 11
V Chek™ Saves You Time — Every Time You Use It.

- V Chek™
- Capacitance: .001 to 9999 μF
- 4000 Count Digital Display
- 0.9% Basic DC Volts Accuracy
- 1.9% Basic AC Volts Accuracy
- 0.9% Basic Ohms Accuracy
- Fast Continuity Beeper
- Diode Test
- Sleep Mode
- Two-year Warranty

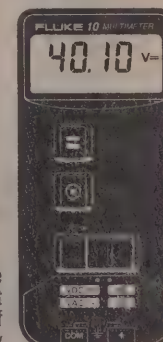


Model 11. The Model 11 adds capacitance measuring capability with guaranteed specifications from .001 to 400 μF , and up to 9999 μF with a typical spec. Since capacitors are a notorious source of system failure, this middle unit will appeal to those who service down to the component level in the bench or in the field.

739-0011. Model 11	EACH 79.95
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The Fluke 10
Fast On The Front Line. Easy On the Bottom Line.

- 4000 Count Digital Display
- 1.5% Basic DC Volts Accuracy
- 2.9% Basic AC Volts Accuracy
- 1.5% Basic Ohms Accuracy
- Fast Continuity Beeper
- Diode Test
- Sleep Mode
- Two-year warranty



Model 10. The Model 10 is the simplest and lowest cost model. It has the core set of features to locate the vast majority of hard faults and do first-round checks. The Model 10 will appeal to the first time user, corporate equipment specifier and the price-sensitive buyer.

739-0010. Model 10	EACH 69.95
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Accessories. Accessories planned for the Series 10 product consist of a holster with tilt-stand and padded soft case. A wide range of Fluke test leads and temperature measurement devices are compatible with the new family.

50 Series Thermometers

FLUKE 51 Single Point Thermometer

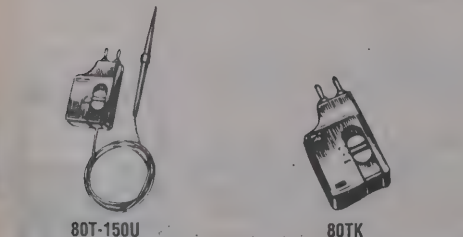
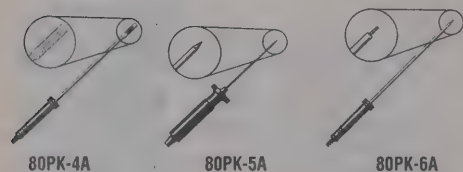
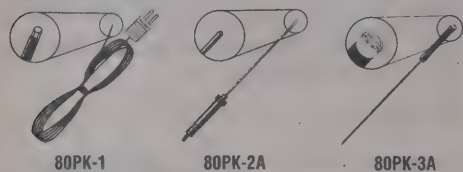
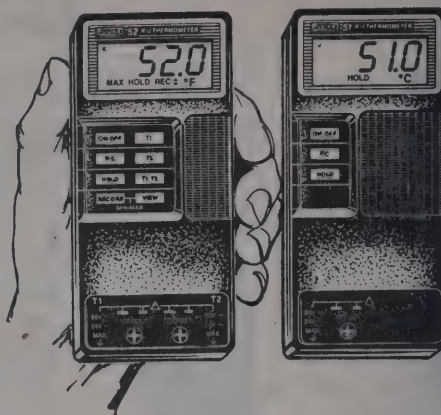
Offers high accuracy. 0.1°C resolution, high repeatability, and low thermal "lurch." Features include digital noise filter, automatic 2-second diagnostic self-test, Fahrenheit/Celsius conversion, and display freeze function. All functions are pushbutton activated. Operates on a standard 9 V battery (included) — 1200 hours of life. Accepts any K-Type or J-Type thermocouple with a standard mini-connector plug. **Accuracy:** K-Type — $\pm(0.1\% \text{ rdg.} + 0.7^\circ\text{C or } 1.3^\circ\text{F})$; J-Type — $\pm(0.1\% \text{ rdg.} + 0.8^\circ\text{C or } 1.4^\circ\text{F})$. **Reading Rate:** 1 second. Comes with a Type 80PK-1 bead probe.

730-0051. Model 51.....EACH 149.00

FLUKE 52 Dual Point Thermometer

Offers the same great performance and features as the Model 51 plus dual-point or differential measurements, scanning and Min./Max. storage capabilities, and selectable high or low resolution readouts. **Accuracy:** K-Type — $\pm(0.1\% \text{ T1-T2 rdg.} + 1.0^\circ\text{C or } 1.8^\circ\text{F})$; J-Type — $\pm(0.1\% \text{ T1-T2 rdg.} + 1.2^\circ\text{C or } 2.2^\circ\text{F})$. **Max. DCMV:** 1 V. **Reading Rate:** 2 thermocouples — 1.7 seconds. Comes with 2 Type 80PK-1 bead probes.

730-0052. Model 52.....EACH 199.00



Temperature Probes

80PK-1 Bead Probe. For general purpose applications, Teflon tape insulation. Not to be used for liquid immersion. **Measurement Range:** $-40^\circ\text{ to } +260^\circ\text{C}$ ($-40^\circ\text{ to } +500^\circ\text{F}$).

730-8001. Type 80PK-1.....EACH 12.00

80PK-2A Immersion Probe. For use with liquids and gels. Inconel sheath protection from tip to handle. Can be used in most general temperature measurement applications. **Measurement Range:** $0^\circ\text{ to } 927^\circ\text{C}$ ($32^\circ\text{ to } 1700^\circ\text{F}$).

730-8002. Type 80PK-2A.....EACH 46.00

80PK-3A Surface Probe. For flat or slightly convex surfaces. Ideal for use with hot rollers and plates. **Measurement Range:** $20^\circ\text{ to } 260^\circ\text{C}$ ($68^\circ\text{ to } 500^\circ\text{F}$).

730-8003. Type 80PK-3A.....EACH 85.00

80PK-4A Air Probe. For air and gases. Measuring bead is protected by perforated stainless steel baffle. Not for immersion in liquid. **Restrictions:** The 304 stainless steel baffle cannot be exposed to halides or sulfides. **Measurement Range:** $-196^\circ\text{C to } 816^\circ\text{C}$ ($-320^\circ\text{F to } 1500^\circ\text{F}$). **Maximum Temperature:** Cable — 105°C (220°F); Handle — 125°C (257°F).

730-8004. Type 80PK-4A.....EACH 64.00

80PK-5A Stainless Steel Piercing Probe. FDA Approved. Similar to 80PK-2A.

730-8005. Type 80PK-5A.....EACH 58.00

80PK-6A Exposed Probe. Exposed bead attached to 6-inch sheath, designed for general purpose, air, and gas measurements. **Restrictions:** The 304 stainless steel shaft cannot be exposed to halides or sulfides, or reducing to atmospheres or a vacuum. **Measurement Range:** $-196^\circ\text{C to } 816^\circ\text{C}$ ($-320^\circ\text{F to } 1500^\circ\text{F}$). **Maximum Temperature:** Cable — 105°C (220°F); Handle — 125°C (257°F).

730-8006. Type 80PK-6A.....EACH 65.00

80PK-7 Industrial Surface Probe. Performs surface measurements in rugged environments over a wide temperature range. **Measurement Range:** $-196^\circ\text{C to } 600^\circ\text{C}$ ($-320^\circ\text{F to } 1112^\circ\text{F}$). Made of 303 stainless steel, with a state-of-the-art ribbon sensor for extra durability. **Maximum Temperature:** Cable — 105°C (220°F); Handle — 125°C (275°F).

730-8017. Type 80PK-7.....EACH 189.00

80PK-8 Pipe Clamp Temperature Probe. Produces fast and accurate temperature and super heat measurements of pipe surfaces from $1/4"$ (6.4mm) to $1 1/8"$ (34.9mm) diameter. **Measurement Range:** $-29^\circ\text{C to } 149^\circ\text{C}$ ($-20^\circ\text{F to } 300^\circ\text{F}$). **Basic Accuracy:** $\pm 1.9^\circ\text{C}$ ($\pm 3.4^\circ\text{F}$). **Maximum Temperature:** Cable — 105°C (220°F); Handle — 149°C (300°F).

730-8018. Type 80PK-8.....EACH 99.00

80T-150U Universal Temperature Probe. Highly accurate P-N junction probe converts any DMM into a thermometer. For air, surface, and non-corrosive liquid measurement applications. **Isolation:** 350 VDC or peak AC. **Basic Accuracy:** $\pm 1^\circ\text{C}$ (1.8°F), $0^\circ\text{ to } 100^\circ\text{C}$. **Range:** $-50^\circ\text{ to } +150^\circ\text{C}$ ($-58^\circ\text{ to } +320^\circ\text{F}$).

730-8015. Type 80T-150U.....EACH 120.00

80TK Thermocouple Module. Use with a standard banana plug to convert any 10 M DMM into a thermometer. Uses K-type thermocouple with miniconnectors. Switch-selectable $^\circ\text{C}$, $^\circ\text{F}$, use with interchangeable probes described below (Type 80PK-1 Bead Probe included with this module). **Basic Accuracy:** $\pm 0.5\% + 2^\circ\text{C}$ (3.6°F)

730-8079. Type 80TK.....EACH 69.00

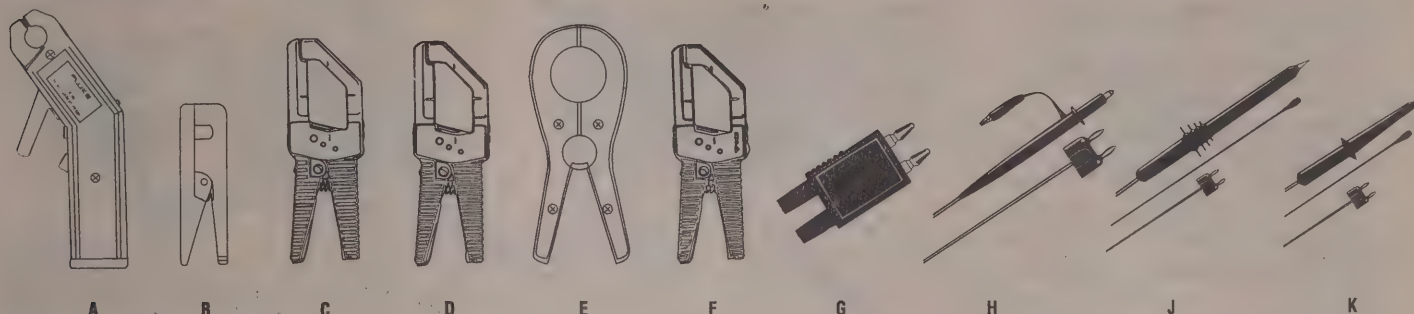
Non-Contact Infrared Temperature Probe

Instantly measures temperature from $-18^\circ\text{C to } 260^\circ\text{C}$ ($0^\circ\text{ to } 500^\circ\text{F}$) without contact. Ideal for maintenance applications where object to be measured is hazardous to touch, is moving, easily contaminated, or difficult to reach. Highly repeatable readings. Senses and converts infrared energy emitted from an object into a signal readable on a DMM or Digital Thermometer display. Results displayed in $^\circ\text{C}$ or $^\circ\text{F}$, 1 mV dc per $^\circ\text{C}$ or $^\circ\text{F}$ output. Automatic shut-off after 10 minutes of operation saves battery life. **Specifications.** **Temperature Range:** $-18^\circ\text{C to } 260^\circ\text{C}$ ($0^\circ\text{F to } 500^\circ\text{F}$). **Accuracy:** $\pm 3\%$ of reading or $\pm 3^\circ\text{C}$ ($\pm 5^\circ\text{F}$), whichever is greater, $18^\circ\text{C to } 28^\circ\text{C}$ ($64^\circ\text{F to } 82^\circ\text{F}$) ambient operating temperature. **Temperature Coefficient:** 0.2% of reading or $\pm 0.2^\circ\text{C}$ ($\pm 0.3^\circ\text{F}$), whichever is greater, change in accuracy per degree change in ambient temperature above 28°C (82°F) or below 18°C (64°F). **Response Time:** 1 second. **Emissivity:** fixed at .95. **Output:** Type-K thermocouple mini-connector. **Operating Temperature:** $0^\circ\text{C to } 65^\circ\text{C}$ ($32^\circ\text{F to } 150^\circ\text{F}$). **Resolution:** 1°C or $^\circ\text{F}$. **Optical Resolution:** 4:1 distance to target ratio. **Power:** 9 V battery. **Size (L x W x H):** 180 mm x 30 mm x 50 mm (7.1" x 1.2" x 2"). **Weight:** 180 g (6.4 oz.). **Warranty:** 1 year. **Compatibility:** Any Type-K thermometer or other temperature measuring device that accepts Type K mini-connector inputs.

730-8019. Type 80PK-IR.....EACH 219.00



Current, Voltage Accessories



► One Year Warranty On All Accessories

A Y8100 Clamp-On AC/DC Current Probe

Battery-powered Hall-effect clamp-on probe with switch selectable 200 A or 20 A current range. Produces 2 V full range output. For conductors to 1.9 cm (0.75"). **Accuracy:** $\pm 2\%$ of range from DC to 200 Hz.

730-8100. Y8100.....EACH 319.00

B Y8101 AC Clamp-On Current Probe

Measures AC current from 1 A to 150 A. Division ratio is 1000 to 1. Clamps over conductors 1.1 cm (.43") in diameter. **Accuracy:** $\pm (2.5\% + 0.15 \text{ A})$ 48 Hz to 440 Hz, $\pm (3\% + 0.15 \text{ A})$ 440 Hz to 1200 Hz.

730-8101. Y8101.....EACH 79.00

C 80i-400 Clamp-On AC Current Probe

Measures AC current from 1 A to 400 A. 1000 to 1 division ratio. **Maximum Conductor Size:** One 30 mm (1.18") or two 25 mm (0.98"). **Accuracy:** $\pm (3\% + 0.4 \text{ A})$ from 48 Hz to 440 Hz, $\pm (4\% + 0.4 \text{ A})$ 440 Hz to 1000 Hz.

730-8400. 80i-400.....EACH 83.00

D 80i-410 AC/DC Clamp-On Current Probe

Battery-powered Hall-effect clamp-on probe measures AC or DC current from 5 A to 400 A. **Maximum Conductor Size:** One 30 mm (1.18") or two 25 mm (0.98"). Output is 1 mV per amp DC or AC. **Accuracy:** $\pm (5\% + 2.5 \text{ A})$, 5 A to 400 A, DC to 62 Hz. Useable to 400 Hz.

730-8410. 80i-410.....EACH 179.00

E 80i-600 Clamp-On AC Current Probe

Measures AC current from 1 A to 600 A. Division ratio is 1000 to 1. Clamps on conductors to 5 cm (2") in diameter. **Accuracy:** $\pm 2\%$, 50 Hz to 1 kHz, $\pm 3\%$ (typical) 30 Hz to 10 kHz.

730-8600. 80i-600.....EACH 119.00

F 80i-1010 AC/DC Clamp-On Current Probe

Battery-powered Hall-effect clamp-on probe measures AC current to 700 A, DC current to 1000 A. Thumbwheel ZERO control compensates for residual core magnetism, improving the accuracy of DC measurements down to 1 A. Output is 1 mV per amp DC or AC. **Accuracy:** $\pm (2\% + 1 \text{ A})$, 1 A to 100 A, DC to 62 Hz. Useable to 440 Hz.

730-1010. 80i-1010.....EACH 297.00

G 80J-10 Current Shunt

Allows measurement of AC or DC current with precision DMM (such as an 8050A or 8060A). Will pass 10 A continuously, 20 A for one minute. **Accuracy:** $\pm 0.25\%$ from DC to 10 kHz.

730-0810. 80J-10.....EACH 65.00

H 85RF High Frequency Probe

Converts 10 M Ω DMM into high frequency AC voltmeter. AC to DC conversion ratio is 1:1 over a range of 0.25 to 30 V rms. The probes DC output is calibrated to the rms value of a sinewave input. **Frequency Range:** 100 kHz to 500 MHz. **Accuracy:** $\pm 0.5 \text{ dB}$ above 0.5 V.

730-0085. 85RF.....EACH 99.00

H 83RF High Frequency Probe

Similar to 85RF, with frequency range from 100 kHz to 100 MHz. **Accuracy:** $\pm 1 \text{ dB}$ above 1 V.

730-0083. 83RF.....EACH 89.00

J 80K-40 High Voltage Probe

Measures up to 40 kV DC or 28 kV rms AC. Division ratio is 1000 to 1. Has 1000 M Ω input resistance. **DC Accuracy:** $\pm 1\%$ from 20 kV to 30 kV, changes linearly from 1% at 30 kV to 2% at 40 kV, and from 1% at 20 kV to 2% at 1 kV. **AC Accuracy:** $\pm 2.5\%$ at 60 Hz. **WARNING:** To avoid damage or electric shock, use under dry conditions within the following ratings: low energy applications such as CRT supplies, 40 kV DC or AC peak; other applications 40 kV DC or AC peak in circuits where transient overvoltages (micro second transients) are limited to 80 kV peak.

730-8040. 80K-40.....EACH 119.00

K 80K-6 High Voltage Probe

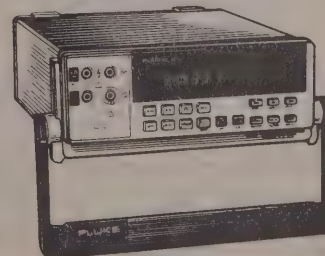
Division ratio is 1000 to 1. Extends measurement capabilities to 6000 V DC or peak AC. **Accuracy:** $\pm 1.0\%$ DC; $\pm 1\%$ to 500 Hz AC, $\pm 2\%$ 500 Hz to 1 kHz AC. **WARNING:** To avoid damage or electric shock, use under dry conditions within the following ratings: low energy applications such as CRT supplies, 6 kV DC or AC peak; other applications 6 kV DC or AC peak in circuits where transient overvoltages (micro second transients) are limited to 16 kV peak.

730-8016. 80K-6.....EACH 65.00

Model 45

- True-RMS for Voltage and Current
- Touch Hold®, Relative, Min/Max
- Compare Function (Hi/Low/Pass)
- dB Function (21 Ref. Impedances)
- Diode Test
- Multi-Function Dual Display
- RS-232 Interface for PC Instrument Applications (Uses DB-9)
- 1 μ V and 0.1 μ A Resolution

- Bright Vacuum Fluorescent Primary and Secondary Displays
- IEEE-488.2 Option Available for Remote Use and Control of Unit
- Autoranging
- Frequency Counter to 1 MHz
- Audio Power
- Continuity
- Data Recorded in Lotus 123 Format



Feature Rich 5-Digit 100,000 count DMM with unique multi-function dual display, allowing measurement of two signal parameters from a single test connection. The standard RS-232 interface allows measurement data to be filed, manipulated, printed or transmitted by modem. The print mode automatically formats measurement data for printing on an RS-232 printer. IEEE-488.2 option available factory installed or as kit for field installation. Does not require removal of RS-232. Calibration performed via either RS-232 or IEEE-488.2 without opening case. Provides digital read-out of decibels using front panel selection of any of twenty-one references from 2 ohms to 8000 ohms. For 2, 4, 8, and 16 ohms, the meter displays audio power in watts. Using front panel entry of upper and lower limits, unit shows both a Hi/Low/Pass evaluation and measured value. Touch Hold® captures the measurement, beeps, and locks it on the display until you are ready to use it. It automatically updates with each new stable measurement. Relative mode remembers a reading and shows the change (difference) between it and any readings that follow. Min/Max records the highest and lowest values measured. Either can be displayed at any time. Extended three year warranty option available. **Specifications. Display Counts At Full Range:** 2.5 readings/second (slow) 99,999; 5 readings/second (medium) 30,000; 20 readings/second (fast) 3,000. **Resolution:** DC volts — 1 μ V; AC volts — 1 μ V; Ohms — 1 mOhms; DC Amps — 100 nA; Frequency — 10 MHz.

Basic Accuracy (Given as $\pm\%$ of Reading + Number of Least Significant Digits): DC volts — .02% + 2; AC volts — .2% + 2; Ohms — .05% + 2; DC Amps — .05% + 10; Frequency — .05% + 1. One Year Warranty. **RS-232 Baud Rate:** 300, 600, 1200, 2400, 4800 and 9600; Odd, even or no parity; one stop bit, 8 data bits. **Size:** 3.67 in. $\times$ 8.50 $\times$ 11.27 in. **Weight:** 5.2 lb; with battery 7.0 lb. Includes operators manual, quick reference guide, line cord, test leads.

739-0045. 45. Mainframe Unit.....	EACH 679.00
739-0046. 45-01. With Battery (8 hours typical; 16 hours recharge).....	EACH 809.00
739-0047. 45-05. With IEEE-488.2.....	EACH 839.00
739-0048. 45-15. With IEEE-488.2 and Battery (8 hrs. typical; 16 hrs. recharge).....	EACH 969.00
739-0049. 45-01K. Battery Kit (8 hours typical; 16 hours recharge).....	EACH 170.00
739-0050. 45-05K. IEEE-488.2 Kit.....	EACH 200.00
739-0042. C40. Soft Case for Model 45.....	EACH 52.50
739-0044. S45. QuickStart 45 Software.....	EACH 95.00
739-0040. RS-40. 6' RS-232 Termination Cable (DB-9 to DB-25 Female).....	EACH 31.50
739-0041. RS-41. 6' RS-232 Modem Cable (DB-9 to DB-25 Male).....	EACH 31.50
739-0043. M00-200-634. Rack Mount Kit.....	EACH 122.00

► Full one year warranty on all accessories.

Interchangeable Test Lead Accessories

The best meter in the world is no good if you can't make a proper test connection.

This group of interchangeable test lead accessories allows you to match a wide variety of clips and probes to make the most dependable test connections possible for your application.

TL24 and TL22 Interchangeable Test Leads

- 385 internal strands and superior strain relief provide flexibility to prevent kinks and bends in test leads.
- Silicone-insulated; won't crack from cold or melt from accidental contact with soldering iron.
- Safety-designed with double insulation for added protection.
- All metal on banana plugs is capped and shrouded to prevent accidental contact.
- Compatible with all meters accepting safety-shrouded, standard-sized banana plugs.

Test Probes and Clips

- Made from a combination of high quality steel and Polyamid plastic bodies for exceptional durability.
- Safety grip clips keep your hand a safe distance from test connection and are easy to use even when wearing gloves.

Compatibility Chart for Test Leads and Attachments

Accessory Type	TL20 Set	TL22 Leads	TL24 Leads	TL26 Set	TL28 Set	TL70A/TL75 Set	Y8131 Set	Y8132 Set	Y8133 Kit	Y8134 Kit	Y8140 Set
TP20	*	•	•	•	•	•	•	•	•	•	•
TP80	•	•	•	•	•	•	•	•	•	•	•
AC20	*	•	•	•	•	•	•	•	•	•	•
AC70A	•	•	•	•	•	•	•	•	•	•	•
AC75	•	•	•	•	•	•	•	•	•	•	•
AC80	•	•	•	•	•	•	•	•	•	•	•
AC83	•	•	•	•	•	•	•	•	•	•	•
AC85A	•	•	•	•	•	•	•	•	•	•	•
AC89	•	•	•	•	•	•	•	•	•	•	•

- Compatible and recommended
- Not compatible, not recommended or not applicable
- * Included with test lead set or kit

Test Lead Kit



Y8134 Shrouded Test Lead Kit
Interchangeable tips: 2 alligator clips, 2 spade lugs, 1 retractable hook tip, and 2 standard pointed tips. Shrouded banana plugs, C75 carrying case. Y8132 Test Leads included.
730-8134EACH 36.00

Test Leads

TL22 Flexible Test Leads

Silicone-insulated test leads have superior flexibility and cold/heat resistance from -80°C to +150°C (-112°F to +302°F). Shrouded right-angle connectors on both ends. 63" (1.6m). 1000V, 10A maximum. One red, one black. Listed to UL Safety Standards UL 1244.
730-9022EACH 17.00



TL24 Flexible Test Leads — Straight
Same as TL22 except that one end has a shrouded, straight connector. One red and one black. Listed to UL Safety Standards UL 1244.
730-9024EACH 17.00



Clips

AC20 Industrial Test Clips

Safety-grip, spring-loaded alligator clips with a wide .750" (19 mm) jaw opening. 1000V, 10A maximum. One red, one black. Recommended for use with TL22 Test Leads. Listed to UL Safety Standards UL 1244.
730-9020EACH 22.00



AC80 Hook-Style Test Clips

Safety-grip, spring-loaded clips with hook grip. Hook size is .400" x .080" (10 mm x 2 mm). 1000V, 3A maximum. One red, one black. Recommended for use with TL22 Test Leads. Listed to UL Safety Standards UL 1244.
730-9080EACH 17.00

AC83 Pin-Grabber Test Clips

Safety-grip, spring-loaded pin-grabber hooks for use with test points in close contact areas. Flexible shaft is 4" (100 mm), grabber extends 375" (9.5 mm). 1000V, 1A maximum. One red, one black. Recommended for use with TL22 Test Leads. Listed to UL Safety Standards UL 1244.
730-9083EACH 22.00



AC89 New Insulation Piercing Clip

Clamp-type test probe has spring-loaded stainless steel tip for piercing insulated wires. Pierces insulated wires from 30 AWG (.25 mm) to 14 AWG (1.5 mm). 250V, 5A. A single probe per package. Recommended for use with TL24 Test Leads. For use only with shrouded test leads having standard diameter banana plugs.
730-9089EACH 22.00

AC85A Large Jaw Alligator Clips

Fully insulated banana-jack alligator clips. All new construction with stronger teeth. Large .750" (19 mm) opening. 600V, 10A maximum. One red, one black. Recommended for use with TL24 Test Leads. Listed to UL Safety Standards UL 1244.
730-9085EACH 11.00



AC70A Alligator Clips

Gold-plated beryllium copper spring contacts accept probe tips from .076" to .084" (1.93 mm to 2.13 mm). Standard jaw opening of .313" (8 mm). 1000V, 10A maximum. One red, one black.
730-0069EACH 7.35

AC75 Banana Jack-Alligator Clips

Insulated alligator clips with banana jacks. Standard .313" (8 mm) jaw opening. Compatible with test leads Y8131 through Y8134 and TL24. 1000V, 10A maximum. Two red, two black.
730-0750EACH 7.00



Test Probes

TP 20 Industrial Test Probes

Very sharp, extra-long .750" (19mm) stainless steel tip. For reaching deep test points or recessed components; will pierce insulation. 1000V, 10A maximum. One red, one black. Recommended for use with TL24 Test Leads. Listed to UL Safety Standards UL 1244.
730-9021EACH 8.00



TP80 Electronic Test Probe

Designed for electronic probing of high density components or boards. IC insulator cap prevents shorting of adjacent IC legs. Probe has tapered .160" (4mm) steel tip. 1000V, 10A maximum. One red, one black. Recommended for use with TL24 Test Leads.
730-9081EACH 13.00

Test Lead Sets

TL26 5-Way Multipoint Test Lead Set

Industry-standard for telecom and automotive applications. 5 ways to connect: 1) U-shaped nose for blade-shaped terminals; 2) Notched jaw for gripping screw heads, bare wire or terminals; 3) Serrated teeth for gripping threaded or wire-wrapped terminals; 4) Cluster of sharp needles for piercing small gauge (#22-#28 AWG) wires; 5) Large needle for penetrating larger gauge wires. 60" (1.5m), silicone-insulated, useable from -80°C to +150°C (-112°F to +302°F). 250V, 10A maximum. One red, one black.
730-9026EACH 35.00



TL28 2-Way Clip Test Lead Set

Solid, spring-loaded copper clips with a wide .50" (12.7mm) jaw opening and serrated teeth. Large piercing needle for penetrating larger gauge wires. 60" (1.5m), silicone-insulated, useable from -80°C to +150°C (-112°F to +302°F). 250V, 10A maximum. One red, one black.
730-9028EACH 25.00



TL20 Industrial Test Lead Set

Suggested for Electrical/HVAC applications. Set consists of silicone-insulated TL22 Test Leads (one red and one black), stainless-steel TP20 Industrial Test Probes (one red, one black), and AC20 Industrial Alligator Clips (one red, one black). 1000V, 10A maximum. Shrouded right-angle connectors. Listed to UL Safety Standards UL 1244.
730-0200EACH 42.00



TL75 Hard Point™ Test Lead Set
Comfort-grip probe with PVC-insulated leads. Super strong tips and new integral strain relief provide extended service life. Safety-shrouded, right-angled inputs. Not recommended for µV measurements. 48" (1.2 m). 1500 V, 10A. Replacement test leads for all Fluke DMMs except 8060A and 8062. Replaces TL70. Listed to UL Safety Standards UL 1244.
730-0701EACH 9.00

Safety Standards UL 1244.

Y8132 Detachable Probe Test Lead Set

Test leads have straight, shrouded banana plugs on both ends. Detachable probes with standard point tips. PVC-insulated, 48" (1.2m), 2000V, 10A maximum. One red, one black. Listed to UL Safety Standards UL 1244.
730-8132EACH 15.00



Y8140A Slim-Flex Test Lead Set
Slim, retractable, insulated needle-point test leads adjust to desired length by extending probe up to 2.5" (63.5mm). Needle points will pierce varnish and thin insulation. 48" (1.2m). Shrouded plugs, 1000V, 2A maximum. One red, one black. Factory Mutual Approved.
730-8140EACH 26.00



*Factory Mutual Approved †Heavy Industrial Rating, Overvoltage Category III (CAT III) per IEC 1010-1

Carrying Cases

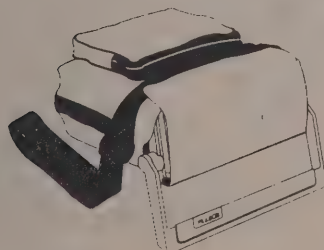


C12 Soft Case
Soft Sided, zippered, vinyl carrying case for all Series 10 meters. Inside pockets are designed to carry a meter, manual, and test leads. Clear pocket fits international business cards. Convenient hanging loop.
739-0104EACH 12.00

C25 Ruggedized Soft Case
For Fluke 25 or 27 or other Fluke handheld meters including Fluke 21, 23, 29, 50 or 70 Series meters in C70 Holster, or 80 Series meters in C81 Holster. Also for use with PV350 and PV500. Water resistant zipper, two inside pockets for test leads or small accessories.
730-2500EACH 21.00



C90 Soft Case (not shown)
Similar to C25, but smaller and without accessory storage space or water resistant zipper. One internal pocket; will hold Fluke 21, 23, 29, 50 or 70 Series meters in a C70 holster. Not for Fluke 25, 27 or 80 Series.
730-0090EACH 16.00



C40 Soft Case
For Fluke 45. Test lead storage in removable upper pouch, shoulder strap.
739-0042EACH 52.50



C50 Compact Soft Case
Vinyl case with belt loop. For Fluke 21, 23, 29, 50 and 70 Series without holster. Holds meter, manual, and leads ready for testing. Use C25 when using meter with holster.
730-0050EACH 16.00



C75 Test Lead Case
Vinyl carrying case with two inside pockets. Designed to carry test leads, test probes or clips. Will not accommodate large probes or AC83 Test Clips. Size: 7.25" x 4.25" x 1.25" (190.5 mm x 108 mm x 31.8 mm).
730-0017EACH 6.00

C10 Holster
Yellow, snap-on holster for all Series 10 meters absorbs shocks and protects the meter from rough handling. Built-in stand and hanger-loop allows for positioning meter. Molded hanger-loop can also be used as a stationary probe holder, allowing one hand to hold, operate, and contact test points simultaneously.
739-0103EACH 12.00

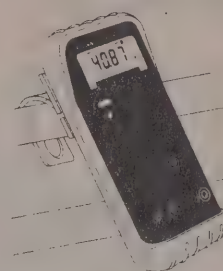


C30 Replacement Holster
For Fluke 31 and 33 clamp-meters. Protects meter display, and has a convenient belt clip for hands free carrying. Rugged velcro closure makes it easy to access meter even when wearing gloves.

739-0110EACH 15.75

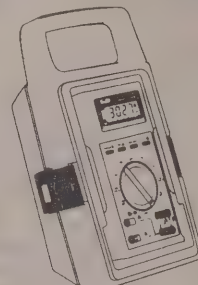


C70Y/G Series II Holster
For all 70 and 50 Series and 21, 23 and 29 meters. Choice of high-visibility yellow (C70Y) or grey (C70G). Easy-to-clean, vinyl, snap-on holster absorbs shocks and protects meter from rough handling. Unique Flex-Stand™ allows meter to hang, lean or stand for best viewing position. Belt hook and lead/probe storage on back. Replaces C70.
730-7000EACH 16.00

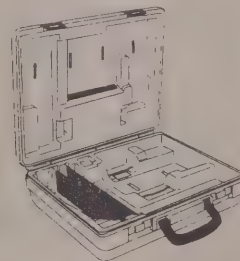


C81Y/C81G Holster
For 80 Series DMMs. Yellow version (C81Y) is included with multimeter. Grey version (C81G) is optional. Easy-to-clean, vinyl, snap-on holster absorbs shocks and protects meter from rough handling. Lead and probe storage on back; includes unique Flex-Stand™ so meter can hang, lean or stand in best viewing position.

730-0081.C81GEACH 16.00
730-0082.C81YEACH 16.00



C20 Hard Case
Heavy duty case for Fluke 25 and 27. Top cover snaps on back to serve as tilt stand. Carrying handle and storage compartment for test leads and small accessories are part of case.
730-0020EACH 30.00



C100 Universal Carrying Case
For any Fluke handheld DMM or Fluke 50 Series thermometers and most Fluke DMM accessories. Tough polypropylene case provides protection against rough handling and bad weather.
730-1000EACH 31.50

C800 Hard Storage Case (not shown)
Smaller than C100. Will hold 21, 23, 29, 70 Series and 80 Series in holsters. Double seal latches resist popping open if case is dropped. Includes compartments for holding accessories and manuals. Lid is detachable for easy storage.
730-0080EACH 28.00

Fluke 23 and Fluke 87 Service Kits
Both of these fully-equipped service kits include all the tools you need to take on just about any job. And they'll save you 10% off the total cost of the separate tools.
Each Kit Includes: Either the Fluke 23-2 or Fluke 87 digital multimeter. 80i-400 Clamp-on AC Current Probe, to measure current to 400 A. TL22 Flexible Test Leads (resistant to heat and cold). AC20 Industrial Test Clips (spring-loaded with extra wide jaw opening.) TP20 Industrial Test Probes (safety-designed, extra long to reach deep test points). Hard Shell DuraCase™ that holds meters in transit with right-angle test leads connected. Training and application booklets (87 Service Kit only) "Understanding Harmonics" video.
730-0060. Kit 23EACH 309.00
730-0087. Kit 87EACH 469.00
► Full one year warranty on all accessories.

860 Series Graphical Multimeters



Model 867

Model 865

Model 863

Introducing the 860 Series of Graphical™ Multimeters, a whole new category of innovative handheld instruments. The GMM™ test tool family gives you state-of-the-art multimeter capabilities coupled with the graphical power of wave form display, trend plotting, in-circuit component testing and logic activity. You choose the best format for your application. Four meter display modes show you the measured information in different forms — to help you pinpoint more problems faster with a single handheld tool. You won't have to learn how to use your new GMM instrument — you'll already know. It has the familiar, intuitive feel of a Fluke DMM. Just glance at the simple rotary knob, and you instantly see which function is selected. If you want to see the latest major advance in handheld instruments, you need to look at Fluke's new Graphical Multimeter.

730-0863. Model 863E.....	EACH	695.00
730-0865. Model 865E.....	EACH	895.00
730-0867. Model 867E.....	EACH	1095.00
730-0860. SW860. DOS Software.....	EACH	195.00
730-0861. BE860. 120 Battery Eliminator.....	EACH	65.00

Selection Guide	867	865	863
Basic DC Accuracy	.025%	.04%	.04%
30 mA Direct Current Accuracy	.05% ±15 counts	.05% ±15 counts	.1% ±15 counts
Current Range	6	6	4
Frequency Counter Range	>10 MHz	>10 MHz	2 MHz
Meter AC Bandwidth	300 kHz	300 kHz	300 kHz
Waveform Display Bandwidth	1 MHz	1 MHz	1 MHz
Logic Activity	•	•	•
Component Test	•	•	•
LCD Backlight	•	•	•
Internal Battery Charging	•	•	•
Waveform Memory	•	•	•
TL70A Test Leads	•	•	•
TL20 Test Leads	•	•	•
Alkaline Batteries	•	•	•
Battery Eliminator	•	•	•
NiCd Batteries	•	•	•
Optically Isolated	•	•	•
RS 232 Cable and Adapters	•	•	•
FlukeView 860 Software	•	•	•

Basic Accuracy

Range	Measurement	867	865	863
V dc	0 V to 1000 V	0.025%	0.04%	0.04%
V ac (20 Hz to 300 kHz)	0 V to 1000 V	0.5%	0.5%	0.5%
Ohms	0 Ω to 30 MΩ	0.07%	0.07%	0.07%
A dc	300 μA to 10 A	0.05% to 0.2%	0.05% to 0.2%	0.1% to 0.2%
A ac	300 μA to 10 A	0.75%	0.75%	0.75%
Hz	2 Hz to 2 MHz	0.05%	0.05%	0.05%
Capacitance	10 nF to 10,000 μF	1.90%	1.90%	1.90%
db/dBm	2, 4, 8, 16, 50, 75, 93, 110, 125, 135, 150, 300, 600, 900, 1000, 1200, ohm references			

Fluke 40 and 41 Power Meters

Models 40 and 41

- ▶ Measure Power and True-RMS Voltage and Current
- ▶ Waveform, Bar Graph and Numeric Views of all Measurements
- ▶ Rated to 600V; Meets IEC 1010-1 Safety Standards
- ▶ One-Button Measurements; No Menus
- ▶ Display Individual Harmonics up to the 31st
- ▶ Minimum, Maximum, and Average Recording
- ▶ Battery Operated
- ▶ Bright, Backlit Display

Models 41

- ▶ Storage of up to Eight Complete Measurement Sets of Single-Phase Voltage and Current
- ▶ Isolated Serial Interface for Communications with DOS- or Windows-Compatible Computers

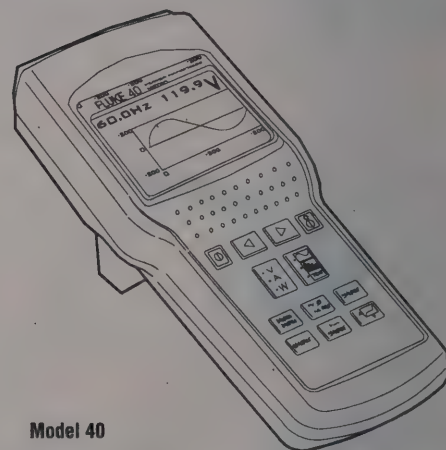
The Model 40 Power Harmonics Meter and Model 41 Power Harmonics Analyzer combine the ease of use of a digital multimeter, the visual feedback of an oscilloscope, and the power of an harmonics analyzer in a single instrument that provides a comprehensive view of critical power system values: not only voltage, current, frequency and power, but also harmonics (to the 31st) and power-correction factors.

The Model 41 is ideal for further analyzing data and optimizing power system performance. Use the Model 41's FlukeView™ software to download acquired data to a printer or an MS-DOS® or Windows™ compatible computer for further processing.

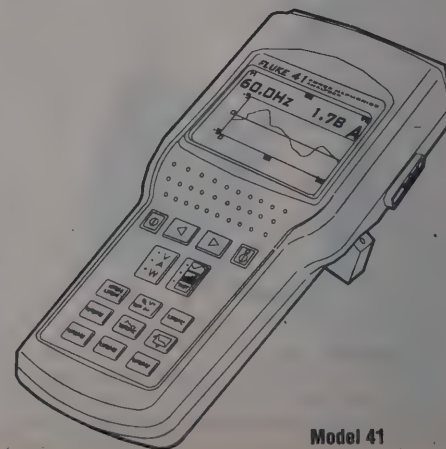
Standard Equipment. Each instrument comes with an 80i-500s AC current probe, test leads, test probes, and test clips. The Model 41 also includes an isolated RS-232 cable and FlukeView™ software.

Specifications. Voltage (True-rms). Input Range: 0.0 to 600.V rms (ac + dc); 0.0V to ± 933V peak. **Basic Accuracy (Fundamental, 5 to 65 Hz):** rms: ± (0.3% + 2 digits); peak, dc: ± (2% + 3 digits). **Current, With 1mV/A Input (True-rms). Input Range:** 1.00 to 1000A rms (ac + dc); 1.0 to ± 2000A peak. **Basic Accuracy (Fundamental, 5 to 65 Hz):** rms: ± (0.3% + 3 digit)s + probe specs. **80i-500s Current Probe:** 1 to 20 A ac: ± (5% + 0.3)A; 20 to 100 A ac: ± 5%; 100 to 500 A ac: ± 2%. **Power (Watt and Volt-Amps) With 1mV/A Input. Range:** 0 to 600 kW (kVA) average. **Basic Accuracy (Fundamental, 5 to 65 Hz):** Average W (kVA) ± (1% + 4 digits) + probe specs. **Harmonics Accuracy (Cursor Data). Fundamental to 15th Harmonic:** ± (2% + 3 digits) ± probe specs for amps and watts; 16th to 31st Harmonic: ± (3% + 4 digits) ± probe specs for amps and watts. **General Specifications. Battery Type:** 4 alkaline "C" cells (supplied); **Battery Operating Time:** 24 hours minimum (continuous, without backlight). **Safety:** Designed for 600V measurements on industrial power distribution circuits. **Protection Levels:** IEC 1010-1, Pollution Degree 2, Installation; Category III, Material Group II, 600 V. **Protection Class:** Protection Class II as described in IEC 1010-1, Annex H. **Waveform Memory (Model 41 Only):** Eight nonvolatile memories each store waveform data for both voltage and current inputs for later recall or sending to a computer. **EIA-232-E (RS-232) Interface (Model 41 Only):** Optically isolated, 1.2, 9.6, or 19.2k baud rate. Printer output in either Epson® FX-80® or HP® Thinkjet® format. FlukeView Windows and DOS software provided.

730-4000. Model 40.....	EACH	900.00
730-4005. Model 41.....	EACH	1400.00



Model 40

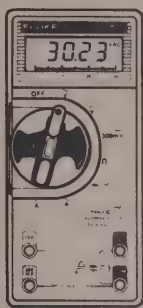


Model 41

Series II Analog/Digital Handheld Multimeters



Model 21



Model 23



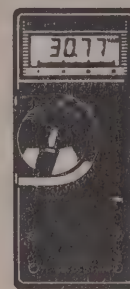
Model 70



Model 73



Model 75



Model 77

All Models

- Automatic Touch Hold®
- Diode Test
- Audible Continuity Beeper
- Autoranging with Manual Ranging
- TL75 Test Leads with Hard Points™

Sleep Mode

- 3 Year Warranty
- 79/77/75/73/70 for Measurements to 4800 V-A
- 29/23/21 for Higher Energy Measurements

The Fluke 70 Series multimeters were first introduced in 1983 with three models, 73, 75 and 77. The Series was later expanded with the addition of the Industrial Models, 21 and 23. This Series has become a Classic. We have improved on the existing models and added three models, the 70, 79/77. **Autoranging.** With autoranging, you choose the function you want and the meter automatically selects the range with the greatest accuracy and resolution. Symbols on the liquid crystal display remind you what is being measured and the range of measurement.

Model 75 and Model 21

- 3200 Count Digital Display
- 31 Segment Analog Bar Graph
- 0.4% Basic DC Volts Accuracy
- 2.0% Basic AC Volts Accuracy
- 1.5% Basic DC Current Accuracy (32 mA to 10A)
- 0.5% Basic Resistance Accuracy
- 2000 Hour Battery Life (Alkaline)

Model 73

- 3200 Count Digital Display
- 31 Segment Analog Bar Graph
- 0.4% Basic DC Volts Accuracy
- 2.0% Basic AC Volts Accuracy
- 1.5% Basic DC Current Accuracy (10A Input Only)
- 0.5% Basic Resistance Accuracy
- 2000 Hour Battery Life (Alkaline)

Model 70

- 3200 Count Digital Display
- 31 Segment Analog Bar Graph
- 0.5% Basic DC Volts Accuracy
- 2.0% Basic AC Volts Accuracy
- 0.5% Basic Resistance Accuracy
- 2000 Hour Battery Life (Alkaline)

Model 77 and Model 23

- 3200 Count Digital Display
- 31 Segment Analog Bar Graph
- 0.3% Basic DC Volts Accuracy
- 2.0% Basic AC Volts Accuracy
- 1.5% Basic DC Current Accuracy (32 mA to 10A)
- 0.5% Basic Resistance Accuracy
- 2000 Hour Battery Life (Alkaline)
- Holster/Flex-Strand™

Specifications. Specifications apply to all models unless otherwise stated. Accuracy is specified as $\pm$ (% of reading + [number of least significant digits]) at 18°C to 28°C (64°F to 82°F) with relative humidity to 90%, for a period of one year after calibration. **Display:** 3200 counts, updates 2.5/sec. **Analog:** 31 segments, update rate 25/sec. **Voltage. DC V - Range. 320 mV:** Model 70 — $\pm$ (0.5% + 1); Model 73/75/21 — $\pm$ (0.4% + 1); Model 77/23 — $\pm$ (0.3% + 1). **3.200V, 32.00V, 320.0V:** Model 70 — $\pm$ (0.5% + 1); Model 73/75/21 — $\pm$ (0.4% + 1); Model 77/23 — $\pm$ (0.3% + 1). **1000V:** Model 70 — $\pm$ (0.6% + 1); Model 73/75/21 — $\pm$ (0.4% + 1); Model 77/23 — $\pm$ (0.4% + 1). **AC V - Range. 45-500 Hz, 3.2V:** All Models — $\pm$ (2% + 2). **45-1 kHz, 32.00V, 320.0V, 750V:** All Models — $\pm$ (2% + 2). **AC Conversion:** AC-coupled, average responding, and calibrated to the rms value of a sine wave input. **Best Resolution:** 0.1 mV in 320 mV range. **Input Impedance:** 10 M Ω nominal,

<50 pF. **DC V Normal Mode Rejection:** >60 dB @ 50 Hz or 60 Hz. **DC V Common Mode Rejection Ratio:** >120 dB @ dcm 50 Hz or 60 Hz. **AC V Common Mode Rejection Ratio:** >60 dB, dc to 60 Hz. **Overload Protection:** 1000V dc (500V dc, 500V ac (sine) on mV range), 750V ac rms (sine). **Current*. DC - Range. 32.00 mA, 320.0 mA:** Model 75/77/21/23 — $\pm$ (1.5% + 2). **10.00A**:** Model 73 — $\pm$ (1.5% + 2); Model 75/77/21/23 — $\pm$ (1.5% + 2). **AC - Range. 45 Hz to 1 kHz, 32.00 mA, 320.0 mA:** Model 75/77/21/23 — $\pm$ (2.5% + 2). **45Hz to 1 kHz, 10.00A**:** Model 73 — $\pm$ (2.5% + 2); Model 75/77/21/23 — $\pm$ (2.5% + 2).

*Current function not available on Fluke 70. **10A continuous, 20A for 30 seconds maximum.

730-0072. Model 70 Series II.....	EACH 79.00
730-0073. Model 73 Series II.....	EACH 109.00
730-0075. Model 75 Series II.....	EACH 149.00

730-0021. Model 21 Series II (Yellow).....	EACH 149.00
730-0077. Model 77 Series II with holster.....	EACH 179.00
730-0023. Model 23 Series II with holster (Yellow).....	EACH 179.00

Series II Handheld Multimeters

- Frequency Counter
- Capacitance
- Low-ohms Range with Zero Calibration
- Smoothing™
- 4000 Count Digital Display (9999 Count for Frequency, Capacitance)
- 63 Segment Analog Bar Graph

- 0.3% Basic DC Volts Accuracy
- 1.0% Basic AC Volts Accuracy
- 1.5% Basic DC Current Accuracy (4mA to 10A)
- 0.4% Basic Resistance Accuracy
- Holster/Flex-Strand™
- 700 hour Battery Life (Alkaline)
- Fluke 76 is a True RMS Meter

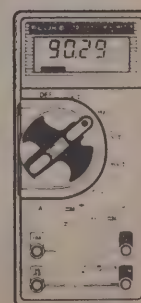
Specifications. Accuracy is specified as $\pm$ (% of reading) + [number of least significant digits] at 18°C to 28°C (64°F to 82°F) with relative humidity to 90%, for a period of one year after calibration. **Display:** 400 counts, updates 4/sec (9999 counts for frequency, capacitance and Lo-ohms) **Analog:** 63 segments, update rate 40/sec. **DC V - Range. 40.00 mV:** $\pm$ (0.3% + 5). **400.0 mV, 4.000V, 40.00V, 400.0V:** $\pm$ (0.3% + 5). **1000V:** $\pm$ (0.3% + 1). **AC V - Range. 45 Hz to 1 kHz, 400.0 mV:** $\pm$ (1.9% + 4). **45 Hz to 1 kHz, 4.000V:** $\pm$ (1.9% + 2). **45 Hz to 1 kHz, 40.00V, 400.0V, 750.0V:** $\pm$ (1.0% + 2). **To 20 kHz, All ranges:** $\pm$ 1.5 dB typical. **AC Conversion:** AC-coupled, average responding, and calibrated to the rms value of a sine wave input. **Best Resolution:** 0.01mV DC in 40mV range. **Input Impedance:** 10M Ω nominal, <100 pF. **DC V Normal Mode Rejection:** >60 dB @ 50 Hz or 60 Hz. **DC V Common Mode Rejection Ratio:** >120 dB @ DC, 50 Hz or 60 Hz. **AC V Common Mode Rejection Ratio:** >60 dB, DC to 60 Hz. **Overload Protection:** 1000V DC, 750V AC rms (sine). **Current. DC - Range. 4.0000 mA, 4.000A:** $\pm$ (0.5% + 5). **40.00 mA, 10.00A*:** $\pm$ (0.5% + 2) **AC - Range. 45 Hz to 1 kHz, 4.000 mA, 4.000A:** $\pm$ (1.5% + 4). **45 Hz to 1 kHz, 40.00 mA, 10.00A*:** $\pm$ (1.5% + 2). **AC Conversion:** Same as voltage. **Best Resolution:** 0.001 mA in 4 mA range. **Burden Voltage:** 11 mV/mA for mA input, 30 mV/A for A input. **Input Protection:** mA — 1A, 600V FAST fuse; A — 15A, 600V FAST fuse. **Ohms and Diode Test. Range. 400.0 Ω :** $\pm$ (0.4% + 2). **4.000 k Ω , 40.00 k Ω , 400.0 k Ω , 4.000 M Ω :** $\pm$ (0.4% + 1). **40.00 M Ω :** $\pm$ (1% + 3). *10A continuous, 20A for 30 seconds maximum.



Model 79



Model 76



Model 29

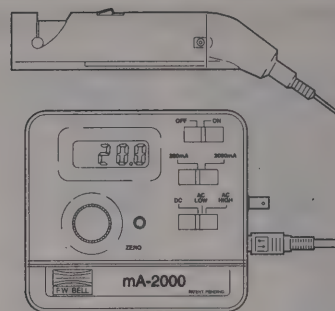
730-0079. Model 79 Series II with Holster.....	EACH 199.00
730-0076. Model 76 Series II with Holster.....	EACH 199.00
730-0029. Model 29 Series II with Holster (Yellow).....	EACH 199.00

Model mA-2000 Clamp-On mA Current Meter

- Measures DC and AC Currents with 0.1 mA Resolution
- Simple Clamp-On Operation
- Frequency Range DC to 100 KHz
- Built in 3 1/2 Digit Display
- True RMS Measurement
- BNC Analog Output for Connection to Oscilloscope or Recorder
- Supplied with Optional AC Battery Eliminator and Hard Carrying Case

Measures AC and DC currents on two ranges; 0-200 mA and 0-2000 mA. **Resolution:** 0.1 mA on low range and 1 mA on high range. **Basic Accuracy:** 1%. **Aperture:** 0.21 inches.

595-0001. Model mA-2000.....EACH 448.00



Models CG-100D/CG-100A/CG-120A Clamp-On Current Meter and Probes

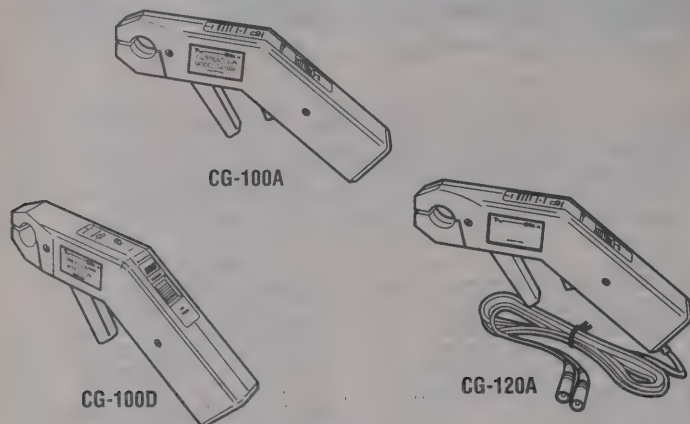
- Measures AC and C Currents
- Frequency Range DC to 1 KHz
- Simple Clamp On Operation
- Analog Output for Connection to Digital Multimeter or Oscilloscope
- CG-100D Features Built In Display

CG-100D. Features 200 A range with 0.1 A resolution, built in display and analog output. **Basic Accuracy:** 3% of reading. **Aperture:** 0.75 inches.

CG-100A. Features 10 A and 100 A ranges with 1 V Full Scale analog output. **Basic Accuracy:** 2% Full Scale. **Overrange Capability:** 100%. **Aperture:** 0.75 inches.

CG-120A. Features 50 A and 500 A ranges with 0.5 V Full Scale output. **Basic Accuracy:** 5% of reading. **Overrange Capability:** 300% on 50 A range. **Aperture:** 0.75 inches.

595-0002. Model CG-100D.....EACH 335.00
595-0003. Model CG-100A.....EACH 255.00
595-0004. Model CG-120A.....EACH 125.00



Model C-600 Multimeter

- Measures DC and AC Currents Up to 600 A
- Measures Voltage Up to 1000 VDC and 750 VAC
- Measures Resistance Up to 2000 Ω
- Basic Accuracy: 1%
- Large Built In Display
- IEC 348 Safety Rating
- Audio Continuity Indicator

Versatile and easy to use. Simple clamp-on current measurements. Comes with voltage leads and carrying case. **Aperture:** 1.22 inches.

595-0005. Model C-600.....EACH 259.00

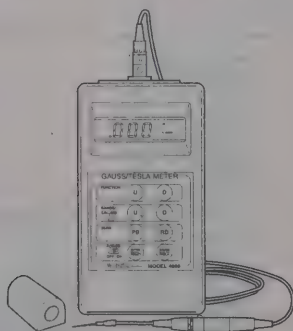


Model 4048 Gaussmeter

- 200 G, 2 kG, 20 kG (20 mT, 200 mT, 2 T) Full Scale Ranges
- Custom Formatted Display
- User-Friendly Display Prompts
- Instant One-Button Zeroing
- DC or AC Field Response
- Gauss or Tesla Readout

Use for sorting and testing magnets, NDT Compliance Testing (ASTM Section E 709), and instructional use. Comes complete with transverse probe, extension cable, chamber for zeroing, batteries, carrying pouch and instructions. Axial probe optional.

595-0006. Model 4048.....EACH 650.00
595-0007. Model A4048-002.....EACH 105.00

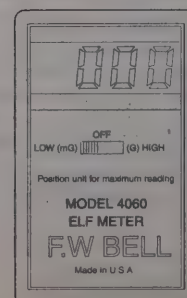


Model 4060 ELF Meter

- Compact
- Lightweight
- Large Built In Display
- Simple to Use

Measures Extreme Low Frequency magnetic fields that are produced by electrical equipment and power transmission lines. Measures 1 mG to 5 G on two ranges. **Basic Accuracy:** 1% of reading. **Frequency Range:** 60 Hz $\pm$ 1 Hz. 9 V battery included.

595-0008. Model 4060.....EACH 179.00

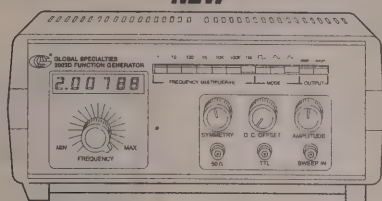


All Global Specialties Products Are Proudly Made In The USA

2002D Function Generator

2 MHz Sweepable Generator with Internal 6 Digit Frequency Counter

- Multi-Purpose Sweep Function Generator
- Wide Frequency Range 0.2 Hz to 2 MHz
- Provides Sine, Triangle, Square Wave, and Ramp Outputs
- Continuously Variable 50 Ohm Output
- Symmetry Control Provides Duty-Cycle Adjustment
- Variable DC Offset
- Separate TTL Output
- Sweep Input Allows VCO Control of Frequency
- Model 2002 Available without Digital Display



761-2010. Model 2002DEACH 269.00

3001 Digital Capacitance Meter

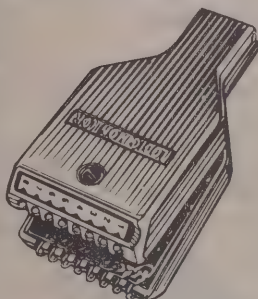
Direct, highly accurate 3 1/2-digit readout of capacitance from 1 pF to 199,900 pF. Unique dual threshold technique delivers 0.1% accuracy on seven of its nine ranges and eliminates errors due to dielectric absorption. Uses DC charging characteristics to

determine true capacitance, even in wires, switches and other components. Zero Calibrate knob allows nulling of spurious capacitance up to 100 pF. **Timebase:** 2 MHz crystal oscillator. **Accuracy:** $\pm 0.1\%$ of reading on seven lower ranges (up to 1999 pF), $\pm 0.5\%$ on upper ranges; $\pm 2\text{pF}$, ± 1 count, at 23°C ($\pm 5^\circ$). **Power Required:** 105-135 VAC, 57-63 Hz, 6 VA, max. **Size:** $3 \times 10 \times 7$ " ($7.6 \times 25.4 \times 17.8$ cm). **Weight:** 3.0 lbs (1.4 kg).

761-3001. Model 3001EACH 299.95

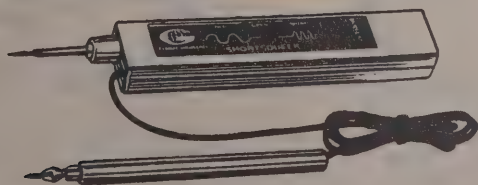
Logic Monitor

Self-contained, pocket-size unit simultaneously reads the logic state of every mode of any DTL, TTL, HTL, or CMOS DIP IC with up to 16 pins. Completely automatic — needs no set-up, calibration or adjustment. Automatically seeks IC's supply pins, drawing its power from them with power seeking gate network. Each clip contact connects to a single logic comparator with LED readout, activated when applied voltage exceeds a fixed threshold. Fast, accurate, reliable. Permits step-by-step or dynamic signal tracing — even through mixed logic systems. **Input Voltage:** 4-15 VDC. **Max. Input Frequency:** 10 kHz. **Dimensions:** $4.0 \times 2.0 \times 1.5$ " ($10.2 \times 5.1 \times 3.8$ cm). **Weight:** 3 oz. (85 gm).



761-1400. Model LM-1EACH 59.95

Shortsqueek SQ-1



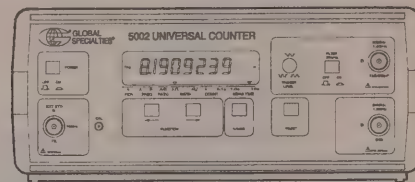
Shortsqueek is a unique type of "audible" tone ohmmeter that simplifies finding shorts on PC boards, backplanes, or complex hard wire assemblies. It does this by responding, via a shift in tone frequency, to very small changes in resistance that conventional ohmmeters can't cope with. Most important, Shortsqueek significantly reduces the time it takes to locate those hard to find shorts.

761-0003. SQ-1EACH 49.95

5002 Universal Counter-Timer

High Resolution Reciprocal Measuring Technique with Revolutionary Portable 1.3 GHz Counter-Timer

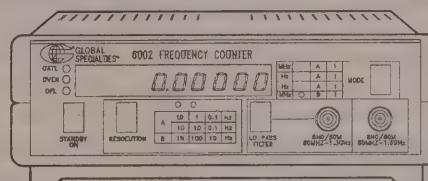
- AC or Battery Operation
- Portable with Detachable AC Line Cord
- Frequency, Period, Ratio, Pulse Width and Count Modes
- High Resolution Reciprocal Measurement
- 1.3 GHz Maximum Frequency



- Selectable Gate Times 0.1, 1, 10 Seconds
- Trigger Level Control and Low Pass Filter
- External Standard with Auto-Change Over
- Provides 7 Digits of Significant Accuracy in One Second

761-5002. Model 5002EACH 499.95

6002 1.3 GHz Frequency Counter



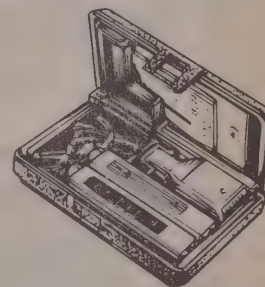
- External Timebase Input
- Extended Range to 1.3 GHz
- Switchable Low Pass KHz Filter
- Frequency Multiplication

- Easy-Touch, Push-Button Control
- Measures Periods 1 μs to 200 ms
- Easy-To-Read 8 1/2 Digit LED Display
- Three Selectable Resolutions in Each Mode

761-6002. Model 105-6002EACH 499.95

Logic Test Kit

Model LTC-2. A complete, high-speed logic analysis kit contained in a handsome lightweight, custom-molded carrying case. Captures pulses less than 10 nsec., repetitive rates to 50 MHz. Ideal kit for service, design, testing, production and troubleshooting applications. **Kit Includes:** Model LP-3 Logic Probe, Model DP-1 Digital Pulser, and Model LM-1 Logic Monitor (all described in detail on this page). Kit also contains two 1 1/2" (38 mm) probe tips, two 2 1/2" (64 mm) probe tips, 3" (76 mm) "easy clip" adapter, two 3" (76 mm) ground leads, test probe tip adapter, banana plug adapter, two 36" (91.4 cm) power/ground leads, plus complete manuals/application guides. **Dimensions:** $9.1 \times 7.5 \times 2.25$ " ($23.1 \times 19.1 \times 5.7$ cm). **Weight:** 23 oz. (652 gm).



761-1300. Model LTC-2EACH 199.95

Model LTC-5. Contents: Same as LTC-2 except LP-5 replaces LP-3.

761-1299. Model LTC-5EACH 254.95

Logic Probes



- LP-1 Digital Probe**
 - Circuit Powered
 - Compatible with TTL/CMOS Logic Families
 - Captures 50 nsec Pulses

- LP-3 Digital Logic Probe**
 - For High Speed Logic Systems
 - High Constant Input Impedance
 - Captures 15 nsec Pulses

- LP-4 ECL Logic Probe**
 - High Speed; 3 ns, Over 100 MHz
 - Simple Readout
 - HI/LO/PULSE Indicators
 - 2-Position Slide Switch For Pulse Or Memory Latch

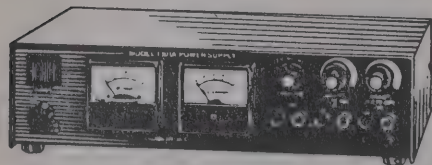
- LP-5 Logic Probe**
 - Captures 5 nsec Pulses
 - Multi-Family Logic Probe
 - Detects Out-Of-Tolerance Logic Signals, Open Circuit Nodes, Transient Events

- DP-1 Digital Pulser**
 - Hand-Held Digital Signal Injector
 - Compatible With Most Logic Families
 - Powered By Circuit Under Test
 - Short Circuit Protected

Stock No.	Mfr.'s Type	Frequency	Min. Pulse	Logic Family	EACH
761-1000	LP-1	10 MHz	50 ns	TTL/CMOS	19.95
761-1100	LP-3	50 MHz	10 ns	TTL/CMOS	44.95
761-1150	LP-4	100 MHz	3 ns	ECL	104.95
761-0005	LP-5	100 MHz	5 ns	TTL/CMOS	99.95
761-0015	DP-1	100 MHz	500 ns	TTL/CMOS	44.95

All Global Specialties Product Are Proudly Made In The USA

1301A Power Supply

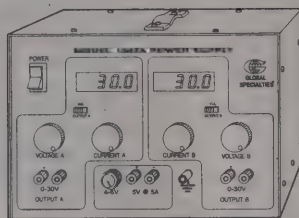


Model 1301A. Fixed output is 5 V (± 0.2 V) at 1.0 A max., with line regulation of 0.2%, load regulation of 1.0% and max. ripple of 5 mV p-p. The two continuously variable outputs are 1.3 to 18 VDC at 0.5 A max., with line regulation of 0.5%, load regulation of 1% and max. ripple of 10 mV p-p. **Size:** 4 x 14 x 7". **Weight:** 3 lbs. (2.27 g) max.

761-0131. Model 1301A.....EACH 249.95

1302A Power Supply

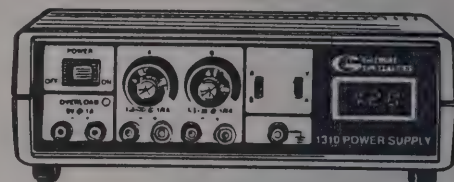
Laboratory Grade Triple Output Supply — High Quality, Economically Priced



- ▶ Triple Outputs, +5 VDC and Two 0-30 VDC Variable
- ▶ +5 VDC at 5 A, 0-30 VDC at 1 A
- ▶ +5 VDC Supply Variable from 4 to 6 VDC
- ▶ Two Digital Readouts — Monitors Current or Voltage
- ▶ Constant Current or Constant Voltage Mode
- ▶ Heavy Duty Transformer Isolated Design
- ▶ Series and Parallel Operation

761-0132. Model 1302A.....EACH 525.00

1310 Power Supply

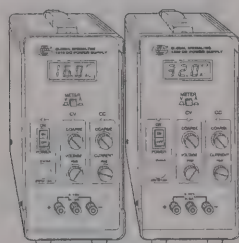


Model 1310. Fixed output is 5 VDC (± 0.25 V) at 1.0 A max. with line regulation of 0.2%, load regulation of 1.0% and max. ripple of 10 mV p-p. Variable outputs are 1.2 to 20 VDC at 0.25 A max. with line regulation of 0.25%, load regulation of 0.1% and max. ripple of 10 mV p-p. 3 digit display for current and voltage metering. **Size:** 3 x 10 x 7" (76 x 254 x 178 mm). **Weight:** 4.5 lbs. (2.04 kg).

761-1310. Model 1310.....EACH 169.95

1316/1332 Power Supplies

Laboratory Grade Single Output Supply — Has All the Features of the Competition Except Their High Price



— NEW —

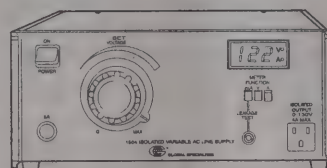
- ▶ Available in 16 VDC at 10 A or 32 VDC at 5 A
- ▶ Short Circuit Protected
- ▶ Digital Readout Monitors Current and Voltage
- ▶ Coarse and Fine Adjustments
- ▶ Heavy Duty Transformer Isolated Design
- ▶ Constant Current/Voltage Mode LED Indicators

761-1316. Model 1316. 0-116 VDC at 0-10 A.....EACH 410.00

761-1332. Model 1332. 0-32 VDC at 0-5 A.....EACH 360.00

1504 AC Power Supply

Triple Isolated Adjustable AC Supply — With Current Indication and Line Leakage Tester



— NEW —

- ▶ Triple Isolated Continuously Variable AC Output
- ▶ Variable from 0-150 VAC at 0-4 A
- ▶ Power Line Leakage Current Measurement Facility
- ▶ 3 Digit DPM for High Accuracy
- ▶ Capacitive Coupling Less than 0.0005 pF
- ▶ Galvanic Leakage Less than 10 μ A
- ▶ 120 dB Attenuation for Common Mode Noise

761-1504. Model 1504.....EACH 420.00

2001 and 2002 Function Generators

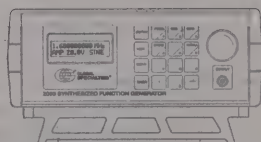


Freq. Range: 1 Hz to 100 KHz. **Dial Acc:** $\pm 5\%$ of dial setting typ. **Sine Wave Distor.:** Less than 2% THD typ. **Triangle Wave Linearity:** Better than 2%. **Sq. Wave Rise and Fall Times:** Less than 100 nsec into 600 Ohms, 20 pF. **Sq. Wave Time Symmetry:** 2% typ. **Sweep Range:** 100:1 max.; linear range, 10:1 max. **Sweep Input:** 0-10 V. **Outputs:** High, Low, TTL. **High Output Level:** 10 V p-p. **Low Output Level:** -40 dB of high output. **TTL Output:** TTL buffered to drive 10 TTL loads; rise and fall times, less than 25 nsec; sync. with Hi and Lo outputs. **High Output DC Offset:** Vari. from -5 to +5 VDC. **Low Output DC Offset:** ± 50 mV max. **Oper. Temp.:** 0-50°C; cal. at 25°C $\pm 5\%$. **Power Req.:** 105-135 VAC, 47-63 Hz, 6 VA max.; 215-250 VAC, 50-60 Hz optional. **Size:** 3" H x 10" W x 7" D. **Weight:** 2.2 lbs.

761-2001. Model 2001. 1 Hz to 100KHz.....EACH 178.50

761-2002. Model 2002. 2 Hz to 2MHz.....EACH 219.95

2003 Synthesized Function Generator



The 2003 has a frequency range of DC to 1.6MHz, with sine, square, triangle and ramp outputs. Up to 16 preset frequencies can be programmed into memory and automatically sequenced in the "frequency hop" mode. This makes the unit ideal for repetitive test applications such as amplifier performance checks, or production environments. Tone bursts can be generated using the external trigger/gate feature, while internal linear/log sweep is available across the entire frequency range. The 2003 offers the user the ability to enter data via the keypad directly or tuning style with the rotary encoder. This dual method of tone setup allows the engineer or technician the method most convenient to him/her. The 2003 is fully synthesized for accurate, stable signal generation. The 32 character 2 line display allows the user to input up to 10 digits and allows for 0.001Hz of resolution. Frequency stability is guaranteed at ± 10 ppm. The 2003 provides 5 selectable output waveforms and 6 operational modes for maximum versatility. The 2003's exceptional features and specifications represent a tremendous value when compared to other available synthesized function generators. The 2003 is the ideal addition to any design laboratory, test bench, classroom or production test environment. Applications for the 2003 include testing audio amplifier rolloff, filter response curves, transmission characteristics, telephony, speech processing, D/A and A/D systems, analog and digital control circuit design, servicing video recorders, video games and troubleshooting communication circuits.

761-2003. Model 2003.....EACH 499.95

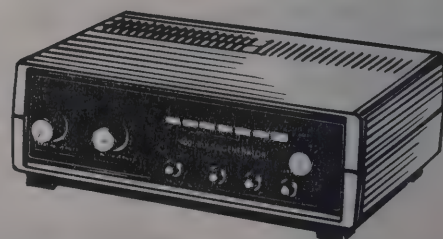
3000 Digital Capacitance Meter



Specifications. **Inputs:** Black (-) and red (+) recessed banana jacks; and two low insertion force terminals. **Overrange Indication:** "1" on left digit. **Range:** 9 ranges with full scale values from 2000 pF with a resolution of 0.1 pF, 2nF with a resolution of 1 pF, 20 nF with a resolution of 10 pF, 200 nF with 100 pF, 2 μ F with a 1 nF and 20 μ F with a 100 nF. All the ranges listed above have an accuracy of $\pm (0.5\% + 1 \text{ dgt} + 0.5 \text{ pF})$. Other ranges including 200 μ F with a resolution of 100 nF are accurate by $\pm (1.0\% + 1 \text{ dgt})$, 2000 μ F with a resolution of 1 nF, 20 mF with resolution of 10 μ F, accuracy of $\pm (2.0\% + 1 \text{ dgt})$. **Zero Adjustment:** ± 20 pF min. **Protection:** Input protected by 1/4 A 250 V fuse. **Low Battery Indication:** The (Lo Bat) is displayed when the battery voltage drops below the operating voltage. **Display:** 0.5" (13 mm) liquid crystal display (LCD) with a maximum reading of 1999. **Measurement Rate:** 2.5 measurements per second, nominal. **Operating Temperature:** 0°C to +35°C, 0-80% R.H. +35°C to +50°C, 0-70% R.H. **Power:** Single standard 9 V battery; NEDA 1604, JIS0006P, IEC6F22, or equivalent. **Dimensions:** 6.85 x 3.54 x 1.42" H x W x D (174 x 90 x 36 mm). **Weight:** 340 g including battery 0.75 lbs. (12 oz.).

761-3000. Model 3000.....EACH 99.00

4001 Digital Pulse Generator



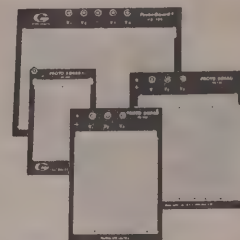
Frequency Range: 0.5 Hz to 5 MHz. **Pulse Width and Spacing:** Independently variable from 100 nsec to 1 sec with 10:1 verniers over 7 decade ranges. **Accuracy:** $\pm 5\%$; cal. at minimum and maximum settings. **Operating Modes:** Run Mode, Trigger Mode, Gate Mode, One-Shot Mode. **Outputs:** Square Wave, converts output to symmetrical square wave in any mode. **Complements:** Inverts out signal. **Trigger/Gate Input Signal:** 1.7 V rms sine wave, 2.4 V pk. **Pulses:** TTL compat. **VAR OUT:** Amp., 0.5-10 V, open circuit; 0.25 V into 50 Ohms; variable with Amp. control; rise/fall time, less than 30 nsec. **TTL Drive:** Standard TTL levels, buffered to drive up to 40 TTL Loads. **Sync Out:** 2.4 V, TTL compat. pulse, buffered to drive 10 TTL loads. **Sync Timing:** 20 nsec pulse width, leads main outputs by more than 20 nsec. **Operating Temperature:** 0-40°C; cal. at 25°C $\pm 5\%$. **Power Requirements:** 105-135 VAC, 57-63 Hz, 6 VA max.; 215-250 VAC, 50-60 Hz optional. **Size:** 3" H x 10" W x 7" D. **Weight:** 2.2 lbs.

761-4001. Model 4001.....EACH 199.95

ProtoBoard All Breadboard products are proudly made in the U.S.A. and have an unconditional life-time guarantee!

Stock No.	Mfr.'s Type	Sockets	Bus Strips	IC Capacity*	Terminals	Tie Points	Binding Posts	Length In. (mm)	Width In. (mm)	Height In. (mm)	Weight Ozs.	EACH
761-0010†	PB-10	UBS-100	—	8	180	900	3	7.0 (178)	4.0 (102)	1.4 (36)	6.5	17.44
761-0102‡	PB-102	2/QT47S	1/QT35B-3/QT47B	12	248	1240	1	7.4 (187)	4.5 (114)	1.4 (36)	10.0	30.00
761-0103‡	PB-103	3/QT59S	1/QT47B-4/QT59B	24	450	2250	4	9.0 (229)	6.0 (152)	1.4 (36)	21.0	42.96
761-0104‡	PB-104	4/QT59S	7QT59B	32	612	3060	4	9.8 (249)	8.0 (203)	1.4 (36)	29.0	65.00
761-0105‡	PB-105	6/QT59S	4QT47B-7QT59B	48	912	4560	5	9.2 (234)	11.4 (290)	1.4 (36)	29.0	97.90

*No Power; Shipped Assembled. †Plastic Backplate. ‡Aluminum Backplate.



Quick Test Sockets and Bus Strips

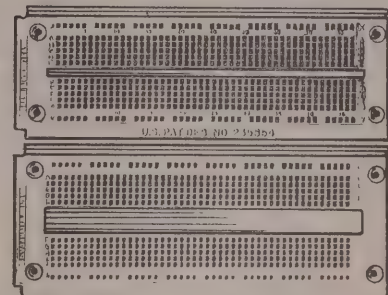
Universal solderless breadboarding system includes Quick-Test sockets and bus strips. Socket terminals are arranged with two rows of five pre-constructed tie points running crosswise. Bus strip terminals are arranged in two rows of five pre-connected tie points running lengthwise. Base is molded of high-temperature plastic. Contacts are pre-stressed, spring loaded, nickel silver alloy. **Wire sizes:** .015" to .032". Units feature snap-lock mechanism for mating two or more units together.

Stock No.	Mfr.'s Type	Strip Length (Ins.)	Strip Width (Ins.)	Mount Dimen. (Ins.)	Tie Points	Term. Points	IC Qty. (14-pin)	EACH
761-0059	QT-59S	6.5	1.32	6.2	590	118	8	7.26
761-0060	QT-59B	6.5	.36	6.2	100	20	—	2.94
761-0047	QT-47S	5.3	1.32	1.0	470	94	6	6.00
761-0048	QT-47B	5.3	.36	5.0	80	16	—	2.73

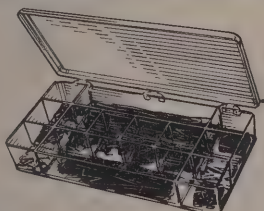
Experimenter Breadboarding Sockets

Solderless breadboarding sockets accept DIPs, transistors, LEDs, resistors, capacitors, and most of all types of discrete components, as well as AWG22-30 solid hookup wire. An interlocking system permits boards to be snapped together. Sockets are molded of durable, abrasion resistant material and feature pre-stressed, nickel-silver contacts. A vinyl plastic backing prevents shorts when sockets are mounted on metallic surfaces. Tie-points are alphanumerically identified for faster wiring and circuit tracing. Sockets can be used loose or fastened to a mounting surface.

Stock No.	Mfr.'s Type	Center Channel (Ins.)	Strip Length (Ins.)	Strip Width (Ins.)	Tie Points	Term. Clips	IC Cpty	EACH
761-0600	EXP-600	0.6	6.0	2.4	550	110	3 (28 Pins)	7.52
761-0300	EXP-300	0.3	6.0	2.1	550	110	6 (14 Pins)	7.00
761-0004	EXP-4B	—	6.0	1.0	160	32	—	3.32
761-0650	EXP-650	0.6	3.6	2.4	270	54	1 (40 Pins)	3.60
761-0350	EXP-350	0.3	3.6	2.1	270	54	3 (14 Pins)	4.82
761-0325	EXP-325	0.3	1.9	2.1	130	26	1 (22 Pins)	2.65



WK-1 Wire Jumper Assortment

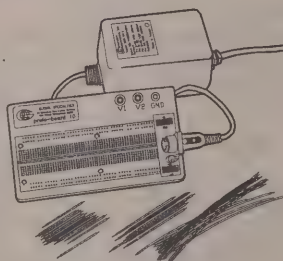


WK-1 jumper kit contains 350 pre-cut, pre-stripped and pre-formed #22 gauge solid hook-up wire jumpers in color coded lengths. Thirteen different lengths are supplied to insure the right jumper for every design. Use WK-1 with all of Global's solderless breadboarding products for added simplicity and reduced design time.

761-0002. Model WK-1.....EACH 14.95

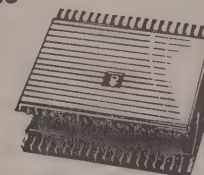
PRO-S Lab Station

The PRO-S Lab Station contains a PB-10 Solderless Bread and a PRO Power Supply and Connector. **Output Voltage:** +5 VDC at 1 Amp, +12 VDC at 250 mA, -12 VDC at 250 mA. **Input Voltage:** 110 VAC.



761-0210. Type 104-7000.....EACH 49.95

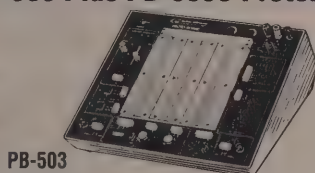
Protoclips



Dual spring clip design provides you with superior contact time after time. The PC-14, PC-16, PC-24, and PC-40 dual spring construction insures you a positive connection to all pin ICs. Its non-corroding nickel-silver contacts and clip notch test pins give you trouble free testing. Quality materials and a short-proof design for "No smoke" testing.

761-0014. Model PC-14.....EACH 5.60
761-0016. Model PC-16.....EACH 6.00
761-0024. Model PC-24.....EACH 9.25

PB-503 Plus PB-503C ProtoBoard Trainers



Global's professional Proto-Board® design station puts a workbench full of circuit design tools on your desktop. The PB-503 offers you .1 to 100KHz function generator with sine, TTL square and triangle outputs. Triple voltage +5V, and variable ±5-15 VDC power supplies. Large solderless breadboard areas. Ideal for all types of circuits both analog and digital. 6"H x 13"W x 11.5"D. **Weight:** 7 lbs.

The PB-503-C is a complete design work station, including instrumentation, breadboarding, and a rugged DC regulated triple power supply. The instrumentation features a 100KHz function generator with sine, square, and triangle waveforms, plus a TTL output for generating clock pulses. Add to this two digital pulsers operated by debounced push-button switches, and eight logic state indicators which operate as individual logic probes.

The Breadboarding area has a total of 2520 uncommitted tie points, enough space for circuits containing 24 ICs of 14 pins or equivalent. The Breadboarding sockets have an unlimited lifetime guarantee. The power supply offers three DC regulated supplies, one fixed at +5VDC and two variable from 5 to 15VDC. All three supplies are short-circuit protected, automatically current limiting the output to a safe level.

761-0503. PB-503.....EACH 299.95
761-0504. PB-503-C.....EACH 349.95

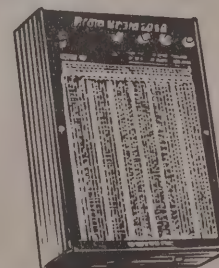
The PB-203A/PB-203AK/PB-204 Powered ProtoBoard® Systems

The PB-203A/PB-203AK/PB-204 Powered ProtoBoard® Systems combine utility of a ProtoBoard with highly capable regulated DC power supplies. Three versions—one kit, two assembled. Up to 24 14-pin DIP capacity.

Specifications

+5VDC (PB-203A, PB-203AK, PB-204). Voltage: 5.0 ±.25 VDC. **Current:** 1.0 Amp max. current limited. **Ripple:** <10mV p-p at max. current. **+15 VDC (PB-203A/PB-203AK only). Voltage:** Adj. internally +5.5-18 VDC. **Current:** 0.5 Amp max. @ +15 VDC, current limited. **Ripple:** 10mV p-p at max. current. **+12 VDC (PB-204 only). Voltage:** Fixed. **Current:** 250mA max. current limited. **Ripple:** 20mV p-p at max. current. **-15 VDC (PB-203A/PB-203AK only). Voltage:** adj. internally -5.5-18 VDC. **Current:** 0.5 Amp max. @ -15 VDC, current limited. **Ripple:** 10mV p-p at max. current. **-12 VDC (PB-204 only). Voltage:** Fixed. **Current:** 250mA max. current limited. **Ripple:** 20mV p-p at max. current. **Power:** 108-130 VAC, 60Hz; better than 0.15% line regulation at 1 Amp output (215-250 VAC 50-60Hz version available). **Dimensions:** 9.8" x 6.6" x 3.3" L x W x H (248 x 168 x 83mm). **Weight:** 5.5 lbs. (2.5kg.). Includes instruction manual; Breadboarding area equivalent to PB-10.

761-0203. Model PB-203A.....EACH 183.00
761-0202. Model PB-203AK.....EACH 144.03
761-0204. Model PB-204.....EACH 139.95



Oscilloscope Probes

— NEW —

Micro-LC™ Oscilloscope Probes

- Fast Rise Time and Low Overshoot
- Low Capacitance
- High Accuracy With Laser Trimmed Components
- Ergonomic Design, Made Possible With DMS Usage
- Wide Compensation Range
- 1.2 Meter Cable
- Replaceable Gold Plated Test Tip
- Accessories Included

Top performance — high bandwidth and low capacitance — in a small, narrow-line body. Meets IEC 1010 safety standards.

Stock No.	Mfr.'s Type	Attn.	Bandwidth (MHz)	Input Impedance		Approx. Rise Time (ns)	Max. Voltage (V)†	Compensation Range (pF)	EACH
				Resistance (MΩ)*	Capacitance (pF)				
885-6150	6046	X1	30	1	45	11.0	600	—	33.00
885-6151	6049	X10	150	10	12	2.3	600	10-30	36.00
885-6152	6052	X1/X10	25/150	1/10	45/12	14/2.3	600	10-30	43.00

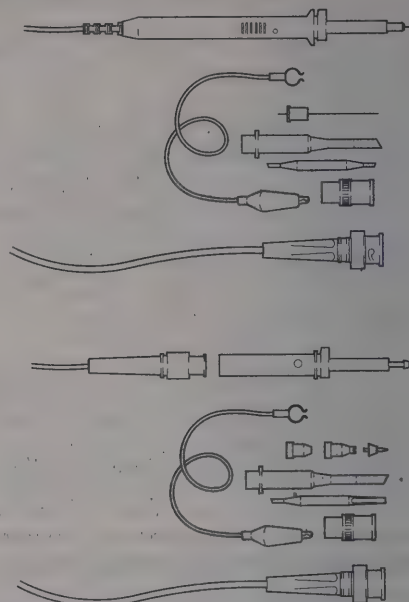
Semi Modular Oscilloscope Probes

- Modular Parts For Replacement
- 1.2 Meter Cable
- Accessories Included

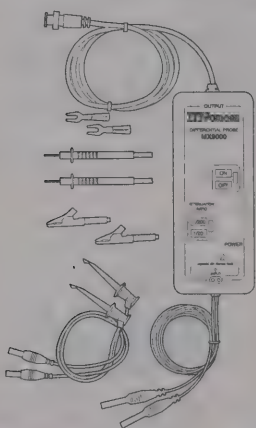
Design allows for component replacement.

885-5792	5792	X1	20	1	45	17.5	600	—	31.00
885-5795	5795	X10	100	10	15	3.5	600	10-60	35.00
885-4550	4550A	X1/X10	15/100	1/10	55/16	23.3/3/5	600	10-60	43.00

*When connected to an oscilloscope with 1 MΩ input resistance. †Derated with frequency.



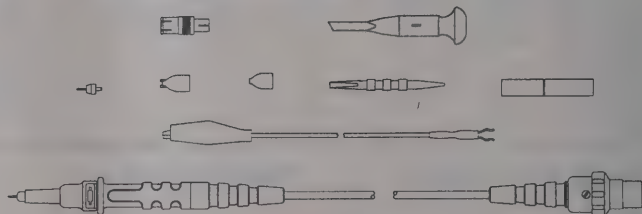
Active Differential Probe — NEW —



- Switchable Attenuation
- High Impedance To Ground For Both Positive and Negative Sides Of The Balanced Input
- Differential Input Up To 700 V
- Sensitivity Extended Down To 100 mV
- Accessories Included

MX900 Series probes analyze floating signals using a built-in differential amplifier to scale and convert differential voltage inputs to a low voltage BNC Output. **Specifications.** Bandwidth: DC to 15 MHz. Accuracy: 2%. Attenuation Ratio: Model 5942 — 1:20 and 1:200; Model 6044 — 1:10 and 1:100. **Input (Each Side To Ground):** Model 5942 — Balanced Differential, 2 M Ohm and 2.5 pF, <70 VDC (1:20 Atten.); Model 6044 — Balanced Differential, 2 M Ohm and 2.5 pF, <40 VDC (1:10 Atten.). **Input Range:** Model 5942 — <700 VDC (1:200 Atten.); Model 6044 — <400 VDC (1:100 Atten.). **Sensitivity:** Model 5942 — 100 Millivolt (1:20 Atten.); Model 6044 — 100 Millivolt (1:10 Atten.). **Absolute Maximum:** Probe damage above. **Input:** ±1000 VDC or 500 V rms. **Max. Comm. Mode Rej. Ratio:** Model 5942 — 70 dB @ 1 kHz; Model 6044 — 80 dB @ 1 kHz. **Scope Connection:** Standard BNC. **Maximum Output:** Model 5942 — ±3.5 V (No distortion); Model 6044 — ±4 V (No distortion). **Output Offset:** ±5 Millivolt to +40°C. **Operating Temperature:** -10°C to +40°C.

885-6185. Model 5942 EACH 340.00
885-6186. Model 6044 EACH 340.00

Oscilloscope Probes,
Fully Insulated For Portable Oscilloscopes

- Fits Fluke 90 Series Scopemeter®
- Low Profile
- Extra Durable

- Available In Switchable X1/X10 Model
- Fast Rise Time
- Easy Calibration

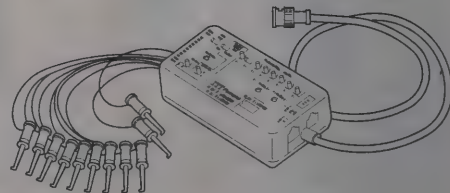
Stock No.	Mfr.'s Type	Bandwidth (MHz)	Attn.	Input Capacitance (pF)	Cable Length (m)	Max. Voltage (V)	Input Impedance	Color	EACH
885-6033	6033	250	X10	15	1.5	600	20	1 Red, 1 Gray	125.00
885-6035	6035-2	250	X1/X10	15	1.5	600	20	Red	95.00
885-6036	6035-8	250	X1/X10	15	1.5	600	20	Gray	95.00

®Scopemeter is a registered trademark of Fluke Mfg.

Logic Scope Probe

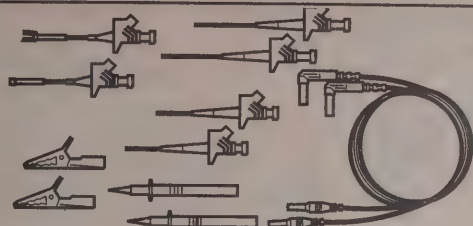
— NEW —

- 3 Mode Operation: Logic Analyzer, Trigger Probe, Multiplexer
- 20 MHz Bandwidth Covers Most Microcontroller Frequencies
- 8 nS Minimum Data Set-Up and Data Hold-Time
- 100 KΩ/5 pF Input Impedance
- 800 KHz Internal Clock Frequency
- Minimum/Maximum Input Levels 0.8-2.4 V (Low/High), -0.5-5.5 V (Low/High)
- 4.75-7 V With 190 mA Maximum Supply Current
- Includes 11 Test Leads With Micrograbber® Test Clip (Eight Gray Signal Leads, One Yellow Clock Lead, One Red Power Lead and A Black Ground Lead)

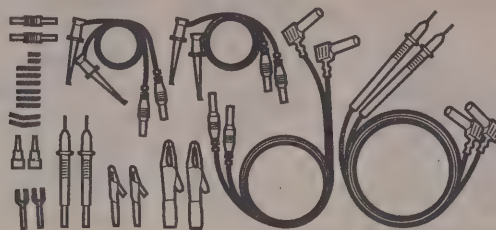


Turns your analog oscilloscope into a logic analyzer. Ideal as a cost effective solution to examine and analyze single-shot and repetitive digital phenomena. 8 channel reading capability lets you use one unit independently or daisy chain up to three units for 16 or 24 channels.

885-6004. Model 6004 EACH 330.00



Model 5904



Model 5677

DMM Kits

Deluxe Electrical Kit. Contains 2 each: Probe Handles (5906), Right Angle to Straight Plug Leads (5907), Flexible Maxigrabber Clips (5910), Rigid Maxigrabber Clips (5911), Maxigrabber Grip Clips (5912) and Extra Large Jaw Alligators (5914), one black and one red. Supplied with nylon pouch.

885-5904. Model 5904.....EACH 80.00

General Use Test Lead Kit. Contains 2 each: Probe Handles (5906), Right Angle to Straight Plug Leads (5907), Flexible Maxigrabber Clips (5910), and Medium Alligators (5916), one black and one red. Supplied with nylon pouch.

885-5899. 5899.....EACH 36.00

Automotive DMM Kit. Contains 2 each: Probe Handles (5906), Right Angle to Straight Plug Leads (5907), Flexible Maxigrabber Clips (5910), Insulation Piercing Maxigrabber Clips (5913) and Extra Large Jaw Alligators (5914), one black and one red. Supplied with a nylon pouch.

885-5893. Model 5893.....EACH 337.00

Maxigrabber® Sets

Each clip has sheathed 4 mm (.16") receptacle to accept Pomona Flexible Leads or Fluke Multimeter Leads. One black and one red clip.

Rigid Maxigrabber® Set. Maxigrabber has hook tip.

885-5911. Model 5911.....EACH 13.00

Maxigrabber® Grip Clip Set. Grabber has grip teeth.

885-5912. Model 5912.....EACH 18.00

Insulation Piercing Maxigrabber® Set. Pierces cable insulation up to 3.5mm (.14") without damaging wire.

885-5913. Model 5913.....EACH 25.00

Flexible Maxigrabber® Set. Maxigrabber has pincer type contact.

885-5910. Model 5910.....EACH 17.00

Flexible Test Lead Sets

Sets contain one black and one red lead. Plugs fit Wavetek and Fluke Multimeters.

Right Angle to Straight Plug Set. Right Angle Sheathed Banana Plug to Straight Sheathed Banana Plug on 62" long, silicone wire.

885-5907. Model 5907.....EACH 12.00

Straight Sheathed Set. Straight Sheathed Banana Plug on each end of 62" long, silicone wire.

885-5908. Model 5908.....EACH 12.00

Right Angle Sheathed Banana Plug Set. Right Angle Sheathed Banana Plug on each end of 62" long silicone wire.

885-5909. Model 5909.....EACH 12.00

High Voltage Probes

Model HV6

6 K VDC or VAC and a 10 KHz bandwidth. Slide switch on handle to select between 1 M Ω and 10 M Ω input impedances. 1.2 meter cable has two 4 mm retractable sleeve DMM plugs. **Accuracy:** DC — $\pm 1\%$; AC — $\pm 1\%$ to 3 KHz, $\pm 5\%$ to 5 KHz; Output derated with frequency typically —30% at 10 KHz. **Temperature Coefficient:** <200 ppm/ $^{\circ}$ C. **Operating Temperature:** 0 $^{\circ}$ to 50 $^{\circ}$ C. **Bandwidth:** DC to 10 KHz. **Max. Input V (DC + Peak AC):** 6000 V. **Input Resistance:** 50 M Ω . **Voltage Division Ratio:** 1000:1. **Altitude:** Derate voltage by 1%/100 m ASL. **Accessories:** Domed tip, hook tip. Noted specifications are only achievable when connected to instruments having 1 M Ω or 10 M Ω input impedances, having accuracy of $>0.25\%$.

885-3793. Model HV6.....EACH 95.00

Model HV40B

Designed for high voltage applications with instruments having an input resistance between 1 M Ω and 22 M Ω . Rated at 40 KV DC + peak AC to 300 Hz, (-3 dB). 2.0 meter cable has two 4 mm retractable sleeve DMM plugs. **Temperature Coefficient:** ≤ 200 ppm/ $^{\circ}$ C. **Operating Temperature:** 0 $^{\circ}$ to 50 $^{\circ}$ C. **Bandwidth:** DC to 300 Hz. **Max. Input V (DC + Peak AC):** 40,000 V. **Input Resistance:** 1000 M Ω . **Voltage Division Ratio:** 1000:1 $\pm 2\%$ when terminated by 10 M Ω ; 1000:1 $\pm 5\%$ when terminated by 22 M Ω ; 2000:1 $\pm 5\%$ when terminated by 1 M Ω . **Altitude:** Derate voltage by 1%/100 m ASL. **Accessories:** Domed tip, hook tip.

885-3794. Model HV40B.....EACH 95.00

Pop Jack DMM Kits

Silicone insulation is a special quality feature on 6 kits. Won't be burned by the bump of a soldering iron. Remains flexible in cold weather. Reliably attach different probes or clips to the same lead because "pop jack" holds tight.

Standard Replacement Test Lead Kit. Contains 2 Test Probe PVC Leads, one black and one red. 885-5519. Model 5519.....EACH 9.00

Extendable Tip Test Lead Kit. Contains Extendable Test Probe on 48" Silicone Lead, Medium Alligator and Pop Jack Silicone Lead in a clam shell case.

885-5671. Model 5671A.....EACH 21.40

Low Cost Test Lead Kit for Electronics. Contains 2 each: Test Probe leads on PVC insulated 18 AWG wire, one black, one red; slide-on extended tips and alligator clips, one black and one red. Banana plugs on meter end have no sleeve. Comes in a reusable plastic case.

885-5672. Model 5672.....EACH 21.19

Heavy Duty Kit for Electrical Work. This versatile kit provides the right test accessories for demanding electrical tests. Contains 2 each: Probe Handles, Extended Slide-on Tips, Medium Alligators, Heavy Duty Alligators, Minigrabber Leads, Minipincer Leads, Slide-on IC Tips, Pop Jack Leads and Couplers, one black and one red.

885-5673. Model 5673A.....EACH 37.90

Maxi Kit. Kit features the very best in quality and performance. All silicone insulated leads. Contains 2 each: Extendable Probe Tip Leads, Replaceable Tip Probe Handles, Extended Slide-on Tips, Medium Alligators, Heavy Duty Alligators, Minigrabber Leads, Minipincer Leads, Slide-on IC Tips, Pop Jack Leads and Couplers, one black and one red. Also includes 2 each: Spade Lugs, Dog Leg Micro-Tips, Needle Tips, Shouldered Micro Tips and 4 each: Standard Brass Tips. Supplied with a nylon pouch.

885-5677. Model 5677A.....EACH 79.90

Alligator Sets

Each clip has sheathed 4 mm (.16") receptacle to accept Pomona Flexible Leads or Fluke Multimeter Leads. One black and one red clip.

Extra Large Jaw Alligator Clip Set. Fully insulated clip with 25.4 mm (1.0") jaw opening.

885-5914. Model 5914.....EACH 7.50

Heavy Duty Large Alligator Clip Set. Fully insulated clip with 9.65 mm (.38") jaw opening.

885-5915. Model 5915.....EACH 7.75

Medium Alligator Clip Set. Fully insulated clip with 7.11 mm (.28") jaw opening.

885-5916. Model 5916.....EACH 6.50

Probe Lead Sets

Test Probe with Stainless Steel Tip. Probe to Right Angle Plug on 48" long silicone wire, one black and one red.

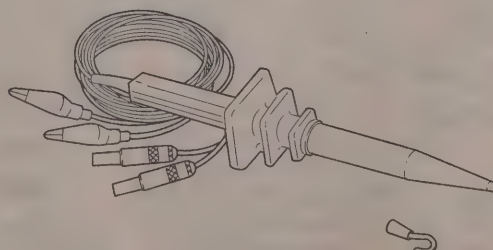
885-5898. Model 5895.....EACH 8.00

Test Probe with Caged Banana Plug Tip. Probe to Right Angle Plug on 48" long silicone wire, one black and one red.

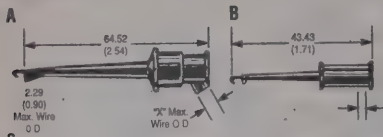
885-5897. Model 5897.....EACH 9.00

Test Probe Handle Set. Test Probe with caged banana plug tip and sheathed Banana Jack in handle, one black and one red.

885-5906. Model 5906.....EACH 12.00



Test Clips



Material: Contact: Gold plated beryllium copper. **Finish:** Glass plated. **Insulation:** Glass filled nylon. **Rating:** +102°C (+216°F) max.

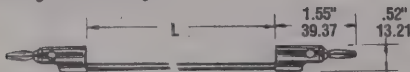
Do-It-Yourself Minigrabber® Test Clip — Fig. A

Rating: 3000 WVDC, 12 amps.

885-0952, 3925-0. Black, Dim. "X" = 2.30 (.090).....	PK./10 12.80
885-0951, 3925-2. Red, Dim. "X" = 2.30 (.090).....	PK./10 12.80
885-5416, 3925-4. Yellow, Dim. "X" = 2.30 (.090).....	PK./10 12.80
885-5417, 3925-5. Green, Dim. "X" = 2.30 (.090).....	PK./10 12.80
885-0958, 4555-0. Black, Dim. "X" = 3.66 (.144).....	PK./10 12.80
885-0957, 4555-2. Red, Dim. "X" = 3.66 (.144).....	PK./10 12.80
885-5420, 4555-4. Yellow, Dim. "X" = 3.66 (.144).....	PK./10 12.80
885-5421, 4555-5. Green, Dim. "X" = 3.66 (.144).....	PK./10 12.80

Patch Cords

Stacking Banana Plug



Brass body; beryllium copper spring. **Insulation:** Polypropylene. **Wire:** 18 AWG, 65 x 36 t.c., PVC insulated, 3.66 mm (.144) O.D. **Rating:** 5000 WVDC; 15 Amps; +55°C (+131°F) max.

885-0025, B-4, Black, 4".....	EACH 3.51
885-0026, B-4, Red, 4".....	EACH 3.51
885-0027, B-8, Black, 8".....	EACH 3.51
885-0028, B-8, Red, 8".....	EACH 3.51
885-0014, B-12, Black, 12".....	EACH 3.51
885-0019, B-12, Red, 12".....	EACH 3.51
885-0015, B-18, Black, 18".....	EACH 3.51
885-0020, B-18, Red, 18".....	EACH 3.51
885-0016, B-24, Black, 24".....	EACH 3.51
885-0022, B-24, Red, 24".....	EACH 3.51
885-0017, B-36, Black, 36".....	EACH 3.51
885-0029, B-36, Red, 36".....	EACH 3.51
885-0018, B-48, Black, 48".....	EACH 3.73
885-0030, B-48, Red, 48".....	EACH 3.73

Minigrabber® Test Clip to Stacking Banana Plug



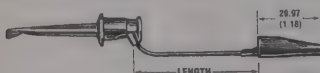
1st End: Minigrabber®. **Contact:** Beryllium copper, gold plated. **Insulation:** Glass filled nylon. **Wire:** 20 AWG, 41 x 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **2nd End:** Stacking Banana Plug. **Brass body,** beryllium copper spring, nickel plated. **Insulation:** Polypropylene. **Rating:** 3000 WVDC, 5 Amps; +55°C (+131°F) max.

885-0920, 3782-12-0. Black, 12".....	EACH 3.25
885-0921, 3782-12-2. Red, 12".....	EACH 3.25
885-0922, 3782-24-0. Black, 24".....	EACH 3.25
885-0923, 3782-24-2. Red, 24".....	EACH 3.25
885-5446, 3782-36-0. Black, 36".....	EACH 3.25
885-5447, 3782-36-2. Red, 36".....	EACH 3.25
885-0924, 3782-48-0. Black, 48".....	EACH 3.46
885-0925, 3782-48-2. Red, 48".....	EACH 3.46
885-0926, 3782-60-0. Black, 60".....	EACH 3.67
885-0927, 3782-60-2. Red, 60".....	EACH 3.67

Minigrabber® Test Clips to Stacking Banana Plug on Coiled Cord
20 AWG wire. PVC insulated, 48" ±1" extended length. **Rating:** 3000 WVDC int., 90 VAC continuous duty, 5 Amps. ±55°C.

885-4536, 4538-0. Black.....	EACH 9.59
885-4539, 4538-2. Red.....	EACH 9.59

Minigrabber® Test Clip to Minigator



1st End: Minigrabber®. **Contact:** Beryllium copper, gold plated. **Insulation:** Glass filled nylon. **Wire:** 20 AWG, 41 x 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **2nd End:** Minigator. **Steel,** nickel plated. **Insulation:** Vinyl. **Rating:** 3000 WVDC; 5 Amps. +50°C (+122°F) max.

885-0953, 4652-12-0. Black, 12".....	EACH 5.22
885-0954, 4652-12-2. Red, 12".....	EACH 5.22
885-0955, 4652-24-0. Black, 24".....	EACH 5.22
885-0956, 4652-24-2. Red, 24".....	EACH 5.22

Minigrabber® Test Clip with 6-32 Thread — Fig. A

Test clip can be used with oscilloscope leads with a 6-32 screw. Threaded insert, brass. **Rating:** 3000 WVDC, 12 Amps.

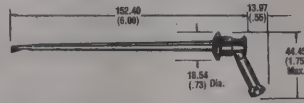
885-5450, 4011-0. Black.....	EACH 3.04
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Do-It-Yourself Micrograbber® Test Clip — Fig. B

Accepts 2.3 (.090) O.D. wire. **Rating:** 1000 WVDC, 3 Amps.

885-5410, 4233-0. Black.....	PK./10 13.30
885-5411, 4233-2. Red.....	PK./10 13.30
885-5412, 4233-4. Yellow.....	PK./10 13.30
885-5413, 4233-6. Blue.....	PK./10 13.30

Maxigrabber® Test Clip with Banana Jack



Clip has a standard banana jack built into the plunger. Banana jack, brass, nickel plated. **Rating:** 3000 WVDC; 12 Amps.

885-4724, 4724-0. Black.....	EACH 5.80
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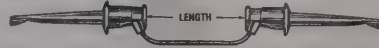
Minigrabber® Test Clip One End Only



Wire: 20 AWG, 41 x 36 t.c. PVC insulated, 2.21 mm (.087) O.D. **Rating:** 3000 WVDC, 12 Amps.

885-0906, 3780-60-0. Black, 60".....	EACH 2.56
885-0907, 3780-60-2. Red, 60".....	EACH 2.56

Minigrabber® Test Clip Each End



Wire: 20 AWG, 41 x t.c. PVC insulated, 2.21 mm (.087) O.D. **Rating:** 3000 WVDC, 12 Amps.

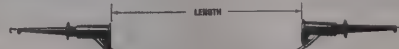
885-5432, 3781-8-0. Black, 8".....	EACH 3.25
885-5433, 3781-8-2. Red, 8".....	EACH 3.25
885-0910, 3781-12-0. Black, 12".....	EACH 3.25
885-0911, 3781-12-2. Red, 12".....	EACH 3.25
885-0916, 3781-18-0. Black, 18".....	EACH 3.25
885-0917, 3781-18-2. Red, 18".....	EACH 3.25
885-0912, 3781-24-0. Black, 24".....	EACH 3.25
885-0913, 3781-24-2. Red, 24".....	EACH 3.25
885-5438, 3781-36-0. Black, 36".....	EACH 3.25
885-5439, 3781-36-2. Red, 36".....	EACH 3.25
885-0914, 3781-48-0. Black, 48".....	EACH 3.46
885-0915, 3781-48-2. Red, 48".....	EACH 3.46
885-0918, 3781-60-0. Black, 60".....	EACH 3.67
885-0919, 3781-60-2. Red, 60".....	EACH 3.67

Micrograbber® Test Clip to Stacking Banana Plug

20 AWG PVC insulated wire. **Rating:** 1000 WVDC, 3 Amps, +55°C.

885-5053, 5053-12-0. Black, 12".....	EACH 5.17
885-5054, 5053-12-2. Red, 12".....	EACH 5.17
885-5055, 5053-24-0. Black, 24".....	EACH 5.17
885-5057, 5053-24-2. Red, 24".....	EACH 5.17
885-5058, 5053-36-0. Black, 36".....	EACH 5.17
885-5059, 5053-36-2. Red, 36".....	EACH 5.17
885-5060, 5053-48-0. Black, 48".....	EACH 5.38
885-5061, 5053-48-2. Red, 48".....	EACH 5.38

Micrograbber® Each End



1st End: Micrograbber®. **Contact:** Beryllium copper, gold plated. **Insulation:** Glass filled nylon. **Wire:** 20 AWG, 41 x 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **2nd End:** Same as first end. **Rating:** 1000 WVDC, 3 Amps; +102°C (+216°F) max.

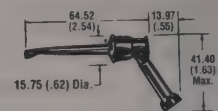
885-4613, 4613-12-0. Black, 12".....	EACH 5.27
885-4614, 4613-12-2. Red, 12".....	EACH 5.27
885-4615, 4613-24-0. Black, 24".....	EACH 5.27
885-4616, 4613-24-2. Red, 24".....	EACH 5.27
885-4617, 4613-36-0. Black, 36".....	EACH 5.27
885-4618, 4613-36-2. Red, 36".....	EACH 5.27
885-4619, 4613-48-0. Black, 48".....	EACH 5.48
885-4620, 4613-48-2. Red, 48".....	EACH 5.48

Insulated Alligator Clip Each End



18 AWG. Rated: 5000 WVDC, 5 Amps, +50°C.	
885-0060, AL-B-12-0. Black, 12".....	EACH 3.99
885-0061, AL-B-12-2. Red, 12".....	EACH 3.99
885-0062, AL-B-24-0. Black, 24".....	EACH 3.99
885-0063, AL-B-24-2. Red, 24".....	EACH 3.99
885-0064, AL-B-36-0. Black, 36".....	EACH 3.99
885-0065, AL-B-36-2. Red, 36".....	EACH 3.99

Minigrabber® Test Clip with Banana Jack



Clip has a standard banana jack built into the plunger. Banana jack, brass, nickel plated. **Rating:** 3000 WVDC; 12 Amps.

885-4722, 4723-0. Black.....	EACH 3.99
885-4723, 4723-2. Red.....	EACH 3.99

Micrograbber® Test Clip with 0.64 mm (.025) Square Pin



Square pin, phosphor bronze. **Rating:** 1000 WVDC; 5 Amps.

885-5451, 4521-0. Black.....	EACH 2.45
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Patch Cords with Test Clips to BNC Male Connector



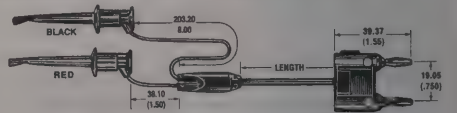
Type 5187 BNC Male with Boot Patch Cords to Minigrabber® Test Clips

885-5180, 5187-C-24, 24", 58C.....	EACH 13.31
885-5181, 5187-K-24, 24", 174.....	EACH 18.64
885-5182, 5187-C-36, 36", 58C.....	EACH 13.31
885-5183, 5187-K-36, 36", 174.....	EACH 18.64
885-5184, 5187-C-48, 48", 58C.....	EACH 13.95
885-5185, 5187-K-48, 48", 174.....	EACH 19.28

Type 5304 BNC Male with Boot Patch Cords to SMD Grabber® Test Clips

885-5290, 5304-K-24, 24", 174.....	EACH 19.54
885-5295, 5304-K-36, 36", 174.....	EACH 19.54

Minigrabber® Test Clips to Double Banana Plug



1st End: Minigrabber®. **Contact:** Beryllium copper, gold plated. **Insulation:** Glass filled nylon. One black and one red. **Cable:** Shielded coax., RG 58 C/U, 4.95 mm (.195) O.D. **Y-Mold Insulation:** PVC, black. **2nd End:** Banana Plug. **Brass body,** beryllium copper spring, nickel plated. **Insulation:** Polyethylene, black. **Rating:** 1400 VRMS; +50°C (+122°F) max.

885-0936, 3786-C-18, Black/Red, 18".....	EACH 12.94
885-0937, 3786-C-24, Black/Red, 24".....	EACH 12.94
885-0960, 3786-C-36, Black/Red, 36".....	EACH 12.94
885-0961, 3786-C-48, Black/Red, 48".....	EACH 13.58
885-0962, 3786-C-60, Black/Red, 60".....	EACH 14.22

Double Banana Plug Each End



885-0205, 28C-24 (RG58C/U).....	EACH 11.77
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Stacking Pin Tip Plug

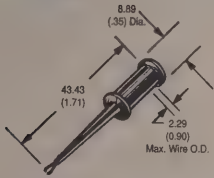


Brass body, beryllium copper spring, gold plated. **Insulation:** polypropylene. **Wire:** 20 AWG, 41 x 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **Rating:** 3000 WVDC; 5 Amps; +55°C (+131°F) max.

885-0050, P-4-0. Black, 4".....	EACH 4.21
885-0051, P-4-2. Red, 4".....	EACH 4.21
885-0052, P-8-0. Black, 8".....	EACH 4.21
885-0053, P-8-2. Red, 8".....	EACH 4.21
885-0011, P-12-0. Black, 12".....	EACH 4.21
885-0012, P-12-2. Red, 12".....	EACH 4.21
885-0013, P-18-0. Black, 18".....	EACH 4.21
885-0014, P-18-2. Red, 18".....	EACH 4.21
885-0055, P-24-0. Black, 24".....	EACH 4.21
885-0056, P-24-2. Red, 24".....	EACH 4.21
885-0057, P-36-0. Black, 36".....	EACH 4.21
885-0058, P-36-2. Red, 36".....	EACH 4.21

Test Clips

SMD Grabber® Test Clips



Do-It-Yourself SMD Grabber Test Clip. Do-it-yourself test clip especially suited for testing surface mounted packages on centers as small as .030". Pincer-like contact grasps individual legs of SMDs, such as the SOIC, SOJ, PCC, etc. **Material:** Selectively gold plated stainless steel contact. **Insulation:** Glass filled nylon. **Rating:** 1000 WVDC, 0.5 Amps, +102°C max. Access in cap for .090" maximum wire diameter.

885-5200. 5243-0. Black.....EACH 1.76
885-5205. 5243-2. Red.....EACH 1.76

Minipincer Test Clips

Do-It-Yourself Minipincer Test Clip. Utilizes a snap-on cap and a solder contact to provide a reliable connection. Lower contact has pincer-type action. **Material:** Contact, selectively gold plated beryllium copper. **Insulation:** Nylon. **Rating:** 1000 WVDC, 5 Amps, +102°C max.

885-5418. 5418-0. Black.....EACH 1.60
885-5419. 5418-2. Red.....EACH 1.60



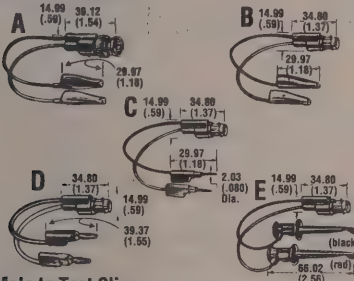
Rotating Micrograbber® Test Clip

Rotating Micrograbber Test Clip. Ideal for testing surface mounted devices (SMDs), high density leads with 1.2 mm (.05") spacing, and fine gauge wires (0.1 mm/0.004"). Two access entries with 0.6 mm (.025") square pins. Rotating pincers grasp leads firmly. Extended guide tube reaches into tight areas and can be bent to a 35° angle. **Rating:** 42 V, 2 A max.

885-5780. 5790-0. Black.....EACH 4.90
885-5781. 5790-2. Red.....EACH 4.90



BNC Breakouts



BNC Male to Test Clips

885-0654. 2886. BNC Male to Minigator Clips.....EACH 10.97

BNC Female to Test Clips

885-0625. 2631. BNC Female to Minigator Clips.....EACH 8.09

BNC Female to Pin Tip Plugs

885-3221. 3221.....EACH 8.68

BNC Female to Stacking Banana Plugs

885-3073. 3073.....EACH 7.46

BNC Female to MINIGRABBER® Test Clips

885-0899. 3788.....EACH 7.77

Cable Assemblies

Low Noise BNC Male Each End With Boot



885-4964. 4964-SS-24. 24".....EACH 14.00
885-4965. 4964-SS-36. 36".....EACH 15.60
885-4966. 4964-SS-48. 48".....EACH 17.20
885-4967. 4964-SS-60. 60".....EACH 18.80

Stress-Relieved/Weatherproof Cable Assemblies

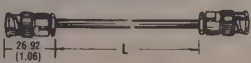
RG58C/U — 50 Ohm. BNC Male Each End.

885-0500. 2249-C-12. 12".....EACH 10.54
885-0501. 2249-C-24. 24".....EACH 11.18
885-0502. 2249-C-36. 36".....EACH 11.72
885-2252. 2249-C-48. 48".....EACH 12.57
885-2253. 2249-C-60. 60".....EACH 13.31
885-0503. 2249-C-72. 72".....EACH 13.95
885-0504. 2249-C-120. 120".....EACH 16.72
885-0505. 2249-C-180. 180".....EACH 20.24

RG59B/U—75 Ohm. BNC Male Each End.

885-2256. 2249-E-12. 12".....EACH 11.18
885-2254. 2249-E-36. 36".....EACH 12.46
885-2257. 2249-E-48. 48".....EACH 13.10
885-2255. 2249-E-60. 60".....EACH 13.74

BNC Male Each End/RG58C/U—50 Ohms



885-0035. BNC-C-18. 18".....EACH 12.25
885-0036. BNC-C-24. 24".....EACH 12.57
885-0008. BNC-C-36. 36".....EACH 13.31
885-0037. BNC-C-48. 48".....EACH 13.95
885-0009. BNC-C-60. 60".....EACH 14.70

Type "F" Male Push-On Each End



Cable assembly uses RG59 type CATV .242" O.D. cable.

885-4920. 4920-PP-48. 48".....EACH 12.19

SMD Products

SMD GRABBER™, Each End



1st End: SMD GRABBER™. Contact: Selectively gold plated stainless steel. **Insulation:** Glass filled nylon. **Wire:** 22 AWG, 26 x 36 t.c., PVC insulated, 1.63 mm (.064) O.D. **2nd End:** Same as first end. **Rating:** 1000 WVDC; 0.5 Amps; +102°C. (+216°F.) max.

885-5230. 5301-12-0. Black, 12".....EACH 5.64
885-5235. 5301-12-2. Red, 12".....EACH 5.64
885-5240. 5301-24-0. Black, 24".....EACH 5.64
885-5245. 5301-24-2. Red, 24".....EACH 5.64
885-5250. 5301-36-0. Black, 36".....EACH 5.64
885-5255. 5301-36-2. Red, 36".....EACH 5.64

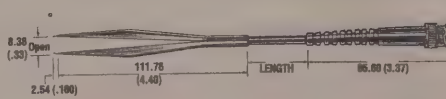
SMD GRABBER™ To Stacking Banana Plug



1st End: SMD GRABBER™. Contact: Selectively gold plated stainless steel. **Insulation:** Glass filled nylon. **Wire:** 22 AWG, 26 x 36 t.c., PVC insulated, 1.63 mm (.064) O.D. **2nd End:** Stacking Banana Plug. Brass body, beryllium copper spring, nickel plated. Polypropylene insulation. **Rating:** 1000 WVDC; 0.5 Amps; +55°C. (+131°F.) max.

Stock No.	Mfr.'s Type	Length (In.)	Color	EACH		
				1-24	25-99	100-499
885-5260	5302-12-0	12"	Black	5.27	5.01	4.74
885-5265	5302-12-2	12"	Red	5.27	5.01	4.74
885-5270	5302-24-0	24"	Black	5.27	5.01	4.74
885-5275	5302-24-2	24"	Red	5.27	5.01	4.74
885-5280	5302-36-0	36"	Black	5.27	5.01	4.74
885-5285	5302-36-2	36"	Red	5.27	5.01	4.74

SMD Test Tweezer™ To BNC Male

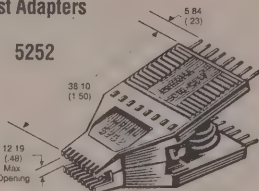


1st End: SMD Test Tweezer™. Tips: Beryllium copper, gold plated. **Insulation:** Glass filled nylon, black and red. **Cable:** Shielded coaxial, RG174/U, 2.54 mm (.100) O.D. **2nd End:** BNC Male. Brass body, tarnish resistant plated. **Center Contact:** Brass, gold plated. **Boot:** PVC, black. **Rating:** 400 VRMS; 3 Amps; +50°C. (+122°F.) max.

885-5315. 5142-K-48.....EACH 18.74

Test Adapters

SOIC Clip® Test Adapters



Test clips have a spring design similar to Pomona's Dip Clip Test Adapter. The clip design allows testing of wide or narrow body chips and smaller size PLCC. **Upper:** .025" square pins, gold plated phosphor bronze. **Lower:** Contacts, gold plated beryllium copper. **Insulation:** Glass filled nylon, blue. **Rating:** 500 VRms, 1 Amp, +102°C max.

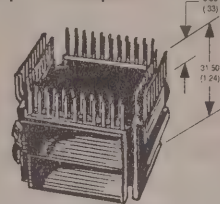
885-5301. 5250. 8 Pin.....EACH 8.00
885-5300. 5251. 14 Pin.....EACH 8.75
885-5305. 5252. 16 Pin.....EACH 9.50
885-5302. 5253. 20 Pin.....EACH 10.95
885-5303. 5254. 24 Pin.....EACH 15.95
885-5304. 5437. 28 Pin.....EACH 19.50

SOIC Clip® Test Adapter Kit

Kit contains 6 sizes of SOIC Clips: 8, 14, 16, 20, 24 and 28 Pin, housed in a protective case.

885-5514. 5514.....EACH 65.50

PLCC Quad Clip® Test Adapter



Test adapters designed for plastic leaded chip carriers (PCC or PLCC) with "J" leads. Snap-ring design allows Quad Clip® Test Adapter to fit directly into IC, providing hands-free testing. **Upper:** .025" square pins, gold plated, phosphor bronze. **Lower:** Contacts, gold plated beryllium copper. **Insulation:** Glass filled nylon, gray. **Rating:** 500 VRms, 1 Amp, +102°C max.

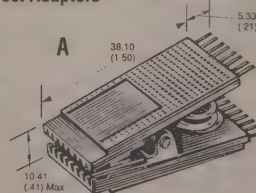
885-5279. 5279. 20 Pin.....EACH 19.50
885-5281. 5280. 28 Pin.....EACH 31.90
885-5733. 5733. 32 Pin.....EACH 33.50
885-5261. 5281. 44 Pin.....EACH 37.50
885-5312. 5312. 52 Pin.....EACH 43.50
885-5310. 5401. 68 Pin.....EACH 49.50
885-5311. 5402. 84 Pin.....EACH 59.50

Quad Clip® Test Adapter Kit

Kit contains 6 sizes of Quad Clips: 20, 28, 32, 44, 52, 68 and 84 pin, housed in a protective case.

885-5515. 5515A.....EACH 245.00

DIP Clip® Test Adapters



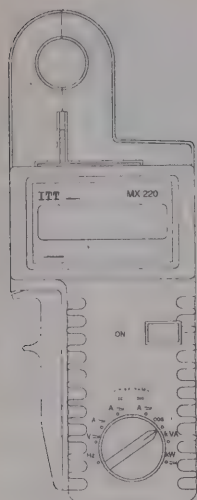
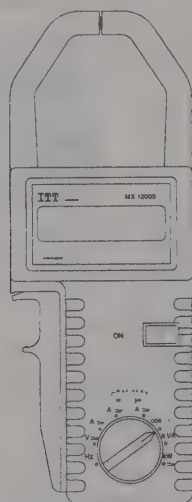
DIP Clip test adapters are designed especially for testing dual-in-line IC packages on high-density P.C. boards. The DIP Clip test adapter has many built-in features that assure a positive electrical connection and at the same time provide hands-free testing. The high density DIP Clip TEST adapters are used for ultra-dense packaged chips located adjacent to each other on 2.54 mm (.100) spacing. **Material:** Contact, tarnish resistant nickel, silver or gold plated beryllium copper. Stainless steel hinge pin and spring. **Insulation:** Glass filled nylon, blue. **Rating:** 500 VRMS; 1 Amp; +102°C (+216°F.) max.

Standard Test Clips

885-5014. 5014. 14 Pin DIP.....EACH 7.61
885-3916. 3916A. 16 Pin DIP.....EACH 6.82
885-5120. 5120. 20 Pin DIP, Gold.....EACH 11.56
885-4124. 4124A. 24 Pin DIP.....EACH 15.02
885-4140. 4140A. 40 Pin DIP.....EACH 21.94

High Density Test Clips

885-5114. 5114. 14 Pin DIP.....EACH 7.61
885-4236. 4236A. 16 Pin DIP.....EACH 6.82
885-5001. 5220. 20 Pin DIP.....EACH 11.56
885-4324. 4324A. 24 Pin DIP.....EACH 15.02
885-4340. 4340A. 40 Pin DIP.....EACH 21.94

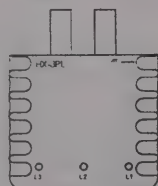
Clamp-On Multimeters

MX220

MX1200S

These meters help cut electric power costs significantly. Custom microprocessor supports current, voltage and frequency measurements with greater accuracy. Models MX200 and MX1200S feature True RMS current readings. Monitor inverter and frequency converter operations with MX210 and MX215. Meters feature large, easy-to-read LCD readouts, a full menu of eight functions, all autoranging and auto switch-off. Meet VDE 0411 safety standards.

885-2200. MX200. True RMS to 200 A.....**EACH 695.00**
 885-2205. MX220. True RMS/Inverter/1 KHz.**EACH 995.00**
 885-2210. MX215. True RMS/Inverter/5 KHz.**EACH 995.00**
 885-1200. MX1200S. True RMS to 1000 A.....**EACH 695.00**
 885-1205. MX220. RMS to 200 A.....**EACH 495.00**
 885-1210. MX1220. RMS to 1000 A.....**EACH 495.00**

Adapter Module

Model HX-3PL fastens directly in the line-probe connections on the base of the clamp-on multimeters. This adds the ability to provide 3-phase electrical system measurements. Adapter measures voltage, power cos ϕ and phase indication in circuits without and available neutral.



885-1250.....**EACH 139.00**

Model MX200

	Current RMS	Voltage RMS	Apparent Power	Active Power	cos Ind. or Cap.	Frequency U	Resistance
Meas. Range	20/200 A	200/750 V	2/20 kVA	2/20 kW	1...0.3	200 Hz/1 kHz	
Resolution	10/100 mA	0.1/1 V	1/10 VA	1/10 W	0.01	0.1/3 kHz	
Frequency	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-66 Hz	15 Hz-66 Hz	5 Hz-1 kHz	
Sensitivity							
Current/Voltage	1%	0.5%	1.5% typ.	0.8% typ.	2.5°	4 A/10 V	5 V
Accuracy		50/5 mV/A				0.5%	
Analog Output							

Model MX1200S

Meas. Range	200/1000 A	200/750 V	20/200 kVA	20/200 kW	1...0.3	200 Hz/1 kHz	
Resolution	0.1/1 A	0.1/1 V	10/100 VA	10/100 W	0.01	0.1/3 kHz	
Frequency	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-66 Hz	15 Hz-66 Hz	5 Hz-1 kHz	
Sensitivity							
Current/Voltage	1%	0.5%	2% typ.	2% typ.	1.5°	20 A/20 V	20 V
Accuracy		5/1 mV/A				0.5%	
Analog Output							

Model MX220

Meas. Range	20/200 A	200/750 V	2/20 kVA	2/20 kW	1...0.3	200 Hz/1 kHz	
Resolution	10/100 mA	0.1/1 V	1/10 VA	1/10 W	0.01	0.1/3 kHz	
Frequency	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-66 Hz	15 Hz-66 Hz	5 Hz-1 kHz	
Sensitivity							
Current/Voltage	1.5%	0.5%	1.5% typ.	1.5% typ.	2.5°	4 A/100 V	100 V
Accuracy	>800 A					0.5%	
Analog Output							

Model MX1220

Meas. Range	20/1000 A	200/750 V	20/200 kVA	20/200 kW	1...0.3	200 Hz/1 kHz	
Resolution	0.1/1 A	0.1/1 V	10/100 VA	10/100 W	0.01	0.1/3 kHz	
Frequency	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-1 kHz	DC 15 Hz-66 Hz	15 Hz-66 Hz	5 Hz-1 kHz	
Sensitivity							
Current/Voltage	1.5%	0.5%	1.5% typ.	1.5% typ.	2.5°	20 A/100 V	100 V
Accuracy	>800 A					0.5%	
Analog Output							

Model MX210 — Min. Inverter Switching Req.: 1 kHz

Meas. Range	20/200 A	200/750 V	2/20 kVA	2/20 kW	200 Hz/1 kHz		
Resolution	10/100 mA	0.1/1 V	1/10 VA	1/10 W	0.1/3 Hz		
Frequency	DC 15 Hz-1 kHz	DC 15 Hz-10 kHz	DC 15 Hz-1 kHz	DC 15 Hz-100 Hz	5 Hz-500 Hz		
Total Fundamental		DC 15 Hz-100 Hz	DC 15 Hz-100 Hz	DC 15 Hz-100 Hz			
Sensitivity							
Current/Voltage						4 A/30 V	
Accuracy	1%	0.5%	1.5% typ.	2% typ.	1.5%		
Total Fundamental	2.5%	2%					
Analog Output		50/5 mV/A					

Model MX215 — Min. Inverter Switching Freq.: 1 kHz

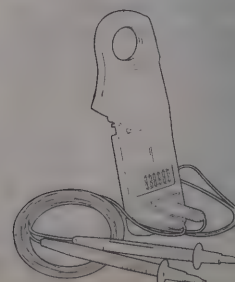
Meas. Range	20/200 A	200/750 V	2/20 kVA	2/20 kW	200 Hz/1 kHz		
Resolution	10/100 mA	0.1/1 V	1/10 VA	1/10 W	0.1/3 Hz		
Frequency	DC 15 Hz-1 kHz	DC 15 Hz-10 kHz	DC 15 Hz-1 kHz	DC 15 Hz-100 Hz	5 Hz-100 Hz		
Total Fundamental		DC 15 Hz-500 Hz	DC 15 Hz-500 Hz	DC 15 Hz-100 Hz			
Sensitivity							
Current/Voltage						4 A/30 V	
Accuracy	1%	0.5%	1.5% typ.	2% typ.	1.5%		
Total Fundamental	2.5%	2%					
Analog Output		50/5 mV/A					

Model MX340

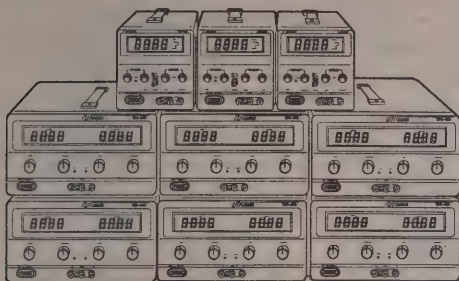
Meas. Range	350 A	400/600 V				4 k Ω /40 K Ω	
Resolution	100 mA	0.1/1 V				1 Ω /10 Ω	
Accuracy	2.0%	1.2%				2.0%	

Pocket Size Meter
— NEW —

Handles up to 350 A with 25 mm jaw-holding capacity. Large LCD readout, autoranging, HOLD, continuity (R<100 Ω) and range adjustments.



885-2215. MX340.....**EACH 109.00**



Model 700 Series Power Supplies

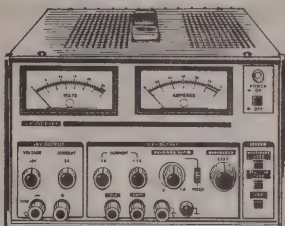
All Model 700 Series Single Output Power Supplies feature constant voltage and current modes of operation. Coarse and fine adjust controls for both voltage and current enhance setability and accuracy of the digital meters. The 3 1/2 digit red LED displays are a half inch high and easy to see. All nine models have excellent specifications of ripple and noise including line and load regulation to maintain clean, stable output even under adverse conditions. Standard reverse polarity protection and fast overload recovery protect both the supply and the unit under test. **Specifications:** Output Voltage: 718-3D, 718-5D, 718-10D, 718-20D — 0-18V; 730-3D — 0-30V; 730-5D — 0-60V; 730-10D — 0-120V; 730-20D — 0-240V. **Constant Voltage:** Ripple Voltage rms: 718-3D, 730-3D — <0.5 mV rms; 718-5D, 718-10D, 718-20D, 730-5D, 730-10D, 730-20D — <1 mV rms. **Regulation Line:** <0.01% +3 mV. **Regulation Load:** 718-3D, 730-3D, 760-3D, 7110-3D — <0.01% +3 mV; 718-5D, 718-10D, 718-20D, 735-10D, 775-5D, 7110-3D — <0.02% +3 mV. **Recovery Time:** <100 μ s. **Constant Current:** Ripple Current: 718-3D, 730-3D, 760-3D, 7110-3D — <0.5 mA rms; 718-5D, 718-10D, 718-20D, 735-10D, 775-5D, 7110-3D — <1 mA rms. **Regulation Line/Load:** <0.2% +3 mV. **Metering:** Voltmeter/Ammeter: 3 1/2 digit 0.5 LED $\pm$ (0.5% of rdg +2 dgt). **Insulation:** Chassis and Terminal: 718-3D, 718-5D, 718-10D, 730-3D, 760-3D, 7110-3D, 730-5D, 730-10D, 775-5D, 7110-3D — >100 M Ω , 1 kVdc. **Size (H x W x D):** 718-3D, 718-5D, 718-10D, 730-3D, 760-3D, 7110-3D — 10 x 5.7 x 11.2; 718-20D, 735-10D, 775-5D, 7110-3D — 11 x 5.7 x 11.2. **Weight:** 718-3D, 718-5D, 718-10D, 730-3D, 760-3D, 7110-3D — 11 lbs.; 718-20D, 735-10D, 775-5D — 25.3 lbs.; 718-20D, 735-10D, 775-5D — 40.7 lbs.; 7110-3D — 29.7 lbs. **Power Requirements:** 100V, 220V, 240V ac $\pm$ 10%, 50/60 Hz User Switchable.

843-0700. Model 718-3D, 18V, 3A	EACH 354.00	843-0750. Model 718-5D, 18V, 5A	EACH 369.00
843-0705. Model 718-10D, 18V, 10A	EACH 647.00	843-0715. Model 718-20D, 18V, 20A	EACH 1109.00
843-0720. Model 730-3D, 30V, 3A	EACH 379.00	843-0725. Model 735-10D, 35V, 10A	EACH 1049.00
843-0730. Model 760-3D, 60V, 3A	EACH 645.00	843-0735. Model 775-5D, 75V, 5A	EACH 1099.00
843-0745. Model 7110-3D, 110V, 3A	EACH 1150.00		

Triple Output DC Power Supplies

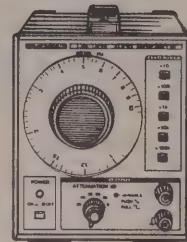
These are triple output DC power supplies that can be either half rack mounted or used on the test bench. The LPS-152 current ranges are 0 to 6 A and 0 to 1.2 A; the LPS-151 current ranges are 0 to 3.5 A and 0 to 0.6 A. The metered output voltages are adjustable. 0 to 6 volts (5-amp max.), 0 to +25 volts and 0 to -25 volts (1-amp max.), making this model ideal for computer subassembly, circuit board, semiconductor and system built-in test applications. All three outputs have independent adjustable current limiting with an auto recovery feature which allows the output voltage to return to normal when the short or overload condition is removed. Also featured is a tracking output mode which allows an adjustable ratio of positive vs. negative voltage between the 25 volts outputs. The adjustable range is from 100%-100% to 50%-100%. Ripple is less than 3 mVp-p and output stability is rated at less than 3 mV for $\pm$ 10% input line voltage variation and 0 to 100% load variation. Power supply carries manufacturer's 2-year warranty. 8.5 x 5.2 x 14.2". **Power:** 100, 120, 200, 220, 240 VAC; 50/60 Hz. **Weight:** LPS-152 — 18.5 lbs; LPS-151 — 15 lbs.

843-0151. Model LPS-151	EACH 555.00
843-0152. Model LPS-152	EACH 645.00



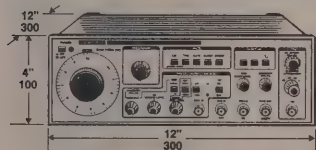
Precision Audio Generator

The LAG-120B is a precision audio generator. It is used for designing, testing, and servicing audio equipment. Also suitable for providing general purpose signals in a laboratory setting, this generator is a reliable source of low distortion sine waves or fast rise time square waves. **Specifications:** Frequency Range: 10 Hz to 1 MHz in 5 decade ranges. **Sine Wave Level:** 3 VRMS, 600 Ω . **Square Wave Output:** Level: 3 V P-P, 600 Ω . **Rise Time:** 200 nS. **SAG:** 5% or less on all ranges. **Overhoot:** 2% or less at maximum output. **External Synchronization:** $\pm$ 1% of dial frequency per volt RMS of input signal. **Max. Input:** 10 VRMS. **Output Impedance:** 600 Ω $\pm$ 1% unbalanced. **Amplitude Control:** Output attenuator provides up to 50 dB of attenuation in 10 dB steps. A continuously variable control is also provided. **Power:** 100/120/220/240 VAC, 50/60 Hz, 6.5 VA. **Size:** 5 1/4" x 6 1/4" x 9 1/4" (Inches). **Weight:** 6.5 lbs. **Supplied Accessories:** Instruction manual, 600 Ω terminator.



843-0120. LAG-120B	EACH 445.00
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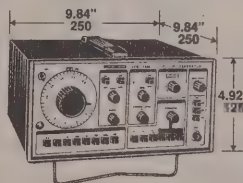
10 MHz Sweep/Function Generator



- Sine, Square, Triangle, Ramp and Pulse Output
- Adjustable Symmetry for All Waveforms
- CW, Triggered, Gate, Burst Plus Linear and Log Sweep Modes

The LFG-1310 is a feature-packed sweep/function generator with outputs that include every required waveform: sine, square, triangle, ramp and pulse. Five different operating modes enable the LFG-1310 to be used as a source for general and specialized measurement techniques. Output controls enable all types of signal conditions to be established, including different bias levels for amplifier work. The output may also be frequency or amplitude modulated by an external signal. The LFG-1310 is housed in a compact metal enclosure. **Power Requirements:** 100, 120, 200, 220, 240 VAC $\pm$ 10%, 50/60 Hz. **Size:** 12 x 4 x 12" (300 x 100 x 300 mm).

843Q1310. LFG-1310	EACH 1245.00
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2-MHz Sweep/Function Generator

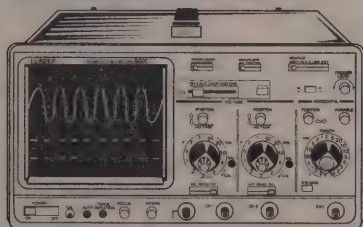
LFG-1300S is a general-purpose signal source with a broad range of research, design and service applications. Outputs include sine, square, triangle, ramp and pulse signals. Pulse symmetry is variable over 9:1 range. Changing the symmetry does not appreciably affect the output frequency. Linear and logarithmic sweep frequency outputs available with sweep widths up to 1000:1. Output level is controlled by a calibrated 70 dB attenuator (10 dB/step) with continuous adjustment between steps. The output may be frequency or amplitude modulated by an external signal. A level control also provides suppressed carrier outputs. Sturdy metal housing with front panel for convenient operation. **Size:** 250W x 125H x 250 mmD. **Weight:** 9 lbs. **Power Req.:** 100, 117, 200 or 234 VAC, 50-60 Hz.

843-1300. LFG-1300S	EACH 575.00
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Model 8063 60 MHz 3-Channel Oscilloscope

- 1 mV Sensitivity
- Calibrated Delayed Sweep
- 6 Trace Capability
- 5 ns Sweep Speed
- Channel 1 Output

843Q8063. Model 8063	EACH 1395.00
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dc — dc to 500 kHz, ac — 10 Hz to 500 kHz. **Phase Shift:** <3° at 50 kHz. All other external horizontal deflection specifications are identical to vertical deflection specifications. **Internal Horizontal Deflection Sweep Mode:** Time Base: 0.5 μ s/div to 0.5 s/div in 19 calibrated ranges, 1-2-5 sequence, continuously variable between steps, 1 mV/div by X5 magnifier to 5 MHz. **Accuracy (0-40°C):** $\pm$ 3%, $\pm$ 5% with X5 MAG. **Input Impedance:** 1 M Ω $\pm$ 2%, 28 pF approx. **Maximum Input:** 250 V (dc plus ac peak). **Display Modes:** CH-1, CH-2, Alternate, Chop (250 kHz approx.), Add, Subtract (CH-2 invert). **Crosstalk:** -40 dB or less (1 kHz sine wave). **Output:** CH-1 output on rear panel of 50 mV/div of deflection on CRT (into 50 Ω). **External Horizontal Deflection, X-Y Mode:** Input: Via CH-2 vertical amplifier. **Bandwidth (-3 dB, 6 div):** dc — dc to 500 kHz, ac — 10 Hz to 500 kHz. **Phase Shift:** <3° at 50 kHz. All other external horizontal deflection specifications are identical to vertical deflection specifications. **Internal Horizontal Deflection Sweep Mode:** Time Base: 0.5 μ s/div to 0.5 s/div in 19 calibrated ranges, 1-2-5 sequence, continuously variable between steps. **Magnifier:** X10 magnifier extends maximum horizontal sweep rate to 50 ns/div. **Accuracy:** $\pm$ 3% ($\pm$ 5% with X10 MAG). **Triggering Sources:** Vert. CH-1, CH-2, line, External. **Modes:** Auto, Triggered, Coupling: AC, TV-V, TV-H. **Slope:** + or -. **Sensitivity Normal:** Frequency Range — 10 Hz-10 MHz, Internal — 1 div, External — 0.2 Vp-p; Frequency Range — 10 Hz-20 MHz, Internal — 1.5 div, External — 0.3 Vp-p; Frequency Range — 30 Hz-20 MHz, Internal — 1.5 div, External — 0.3 Vp-p; Frequency Range — 30 Hz-20 MHz, Internal — 1.5 div, External — 0.3 Vp-p. **TV:** Frequency Range — TV-V, TV-H, Internal — 1 div, External — 0.2 Vp-p. **Power Requirements:** 100, 120, 220, 240 V ac $\pm$ 10% 50/60 Hz, 29 W. **Physical Size (W x H x D):** 11 1/2" x 5 1/2" x 15 in. (290 x 150 x 380 mm). **Weight:** 15.4 lbs., 7 kg. **Operating Temperature:** 0-40°C, 85% RH or less.

843-8020. Model 8020	EACH 525.00
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Model 8020 20 MHz 2-Channel Oscilloscope

An ideal, and very economical, choice for applications where very wide bandwidth is not a factor, Model 8020 fits into a wide range of general purpose, education and service uses. Solid performance is ensured with 1 mV sensitivity, time bases as fast as 50 ns/div, and TV sync separators. CH1 output makes the scope a pre-amp to drive frequency counters and for other uses.

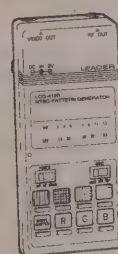
Specifications: Vertical Deflection. **Bandwidth (-3 dB, 6 div):** dc — dc to 20 MHz, ac — 10 Hz to 20 MHz. **Rise Time:** 17.5 ns (70 ns 1 mV/div and 2 mV/div). **Deflection Coefficients:** 5 mV/div to 5 V/div in 12 calibrated steps, 1-2-5 sequence, continuously variable between steps, 1 mV/div by X5 magnifier to 5 MHz. **Accuracy (0-40°C):** $\pm$ 3%, $\pm$ 5% with X5 MAG. **Input Impedance:** 1 M Ω $\pm$ 2%, 28 pF approx. **Maximum Input:** 250 V (dc plus ac peak). **Display Modes:** CH-1, CH-2, Alternate, Chop (250 kHz approx.), Add, Subtract (CH-2 invert). **Crosstalk:** -40 dB or less (1 kHz sine wave). **Output:** CH-1 output on rear panel of 50 mV/div of deflection on CRT (into 50 Ω). **External Horizontal Deflection, X-Y Mode:** Input: Via CH-2 vertical amplifier. **Bandwidth (-3 dB, 6 div):** dc — dc to 500 kHz, ac — 10 Hz to 500 kHz. **Phase Shift:** <3° at 50 kHz. All other external horizontal deflection specifications are identical to vertical deflection specifications. **Internal Horizontal Deflection Sweep Mode:** Time Base: 0.5 μ s/div to 0.5 s/div in 19 calibrated ranges, 1-2-5 sequence, continuously variable between steps. **Magnifier:** X10 magnifier extends maximum horizontal sweep rate to 50 ns/div. **Accuracy:** $\pm$ 3% ($\pm$ 5% with X10 MAG). **Triggering Sources:** Vert. CH-1, CH-2, line, External. **Modes:** Auto, Triggered, Coupling: AC, TV-V, TV-H. **Slope:** + or -. **Sensitivity Normal:** Frequency Range — 10 Hz-10 MHz, Internal — 1 div, External — 0.2 Vp-p; Frequency Range — 10 Hz-20 MHz, Internal — 1.5 div, External — 0.3 Vp-p; Frequency Range — 30 Hz-20 MHz, Internal — 1.5 div, External — 0.3 Vp-p. **TV:** Frequency Range — TV-V, TV-H, Internal — 1 div, External — 0.2 Vp-p. **Power Requirements:** 100, 120, 220, 240 V ac $\pm$ 10% 50/60 Hz, 29 W. **Physical Size (W x H x D):** 11 1/2" x 5 1/2" x 15 in. (290 x 150 x 380 mm). **Weight:** 15.4 lbs., 7 kg. **Operating Temperature:** 0-40°C, 85% RH or less.

843-8020. Model 8020	EACH 525.00
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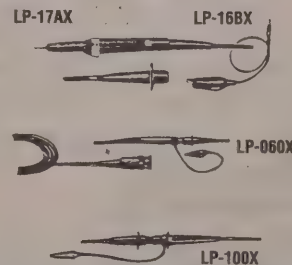
Model LCG-412B — Battery Powered NTSC Pattern Generator

- Weighs Less Than 1 lb.
- Baseband Output Drives 75 Ohm
- Fuel VHF and UHF Coverage

843-0412. Model LCG-412B	EACH 465.00
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Oscilloscope Probes

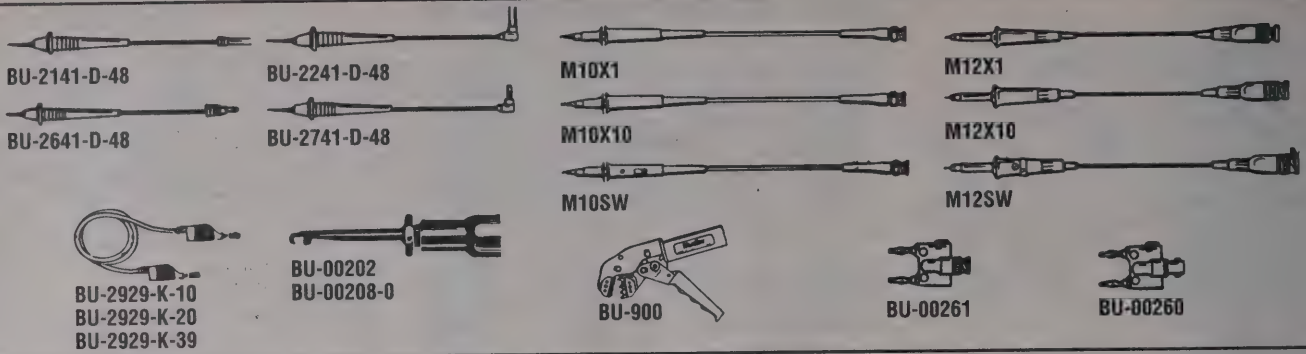


LP-16BX (At X1 Position). Specifications. **Bandwidth:** DC-5 MHz. **Input Resistance:** 1 M Ω . **Input Capacitance:** <25 pF. **Maximum Input:** 600 V (DC + AC peak). **Cable Length:** 50" (125 cm). **LP-16BX (At X10 Position).** Specification. **Bandwidth:** DC-40 MHz. **Input Resistance:** 10 M Ω . **Input Capacitance:** 22 pF $\pm$ 10%. **Max. Input:** 600 V (DC+AC peak). **843-9016. LP-16BX**EACH 48.00

LP-17AX (At X10 Position). Specifications. **Attenuation:** 1/10 $\pm$ 2%. **Frequency Range:** DC-40 MHz. **Input Resistance:** 10 M Ω . **Input Capacitance:** less than 25 pF. **Compensation Range:** 20-40 pF. **Max. Input:** 600 VDC. **Connector:** BNC. **LP-17AX (X100 Position).** Specifications. **Attenuation:** 1/100 $\pm$ 3%. **Frequency Range:** DC-20 MHz. **Input Resistance:** less than 8 pF. **Compensation Range:** 20-40 pF. **Max. Input:** 1500 VDC. **Cable Length:** 50" (125 cm). **843-9017. LP-17AX**EACH 85.00

LP-100X (X1 Position). Specifications. **Bandwidth:** DC-100 MHz. **Input Resistance:** 10 M Ω . **Input Capacitance:** 22 pF $\pm$ 10%. **LP-100X (X10 Position).** Specifications. **Bandwidth:** DC-8 MHz. **Input Resistance:** 1 M Ω . **Input Capacitance:** <150 pF. **General.** **Max. Input:** 600 V (DC + AC Peak). **Cable Length:** 59" (150 cm). **843-9011. LP-100X**EACH 87.00

LP-060X (X10 Position). Specifications. **Bandwidth:** DC to 50 MHz. **Attenuation:** 1/10 $\pm$ 2% (into 1 M Ω). **Input Resistance:** 10 M Ω (when connected to 1 M Ω input). **Input Capacitance:** 22 pF $\pm$ 10%. **Compensation Range:** 20 to 40 pF. **Maximum Input:** 600 V (DC + AC peak). **LP-060X (X1 Position).** Specifications. **Bandwidth:** DC to 3 MHz. **Input Resistance:** 1 M Ω (when connected to 1 M Ω input). **Input Capacitance:** <250 pF. **Maximum Input:** 600 V (DC + AC peak). **Cable Length:** 50" (125 cm). **843-9060. LP-060X**EACH 69.00



Test Leads and Kits

Multiple Feature Test Prods offer adaptability for test lead requirements. Prod handle (4") features molded flame-retardant ABS plastic (V-0 rated) with anti-slip ribs for a sure grip. Nickel-plated 8-32 threaded brass insert (alloy 360) with stainless steel (type 410) needle accepts accessory options. Banana Plugs feature nickel-silver spring to mate with .165" diameter jack for positive contact with minimum resistance. **Hook-Up Wire:** 65/36 #18 AWG tinned copper with 90°C. EPR rubber insulation, 1 red, 1 black per set. **Each Complete Kit Contains:** Two 48" Test Leads — 1 red, 1 black and the following accessories — two No. 207 Clippers (plunger-type clips), 1 red, 1 black; two No. 225 Spade Lugs, 1 red, 1 black; two No. 230 Insulator Extensions to cover tip of Test Prod, 1 red, 1 black; two No. 60-TBO Clips; two No. 62 Insulators, 1 red, 1 black.

Leads and Kits 3-6 Key

Stock No.	Mfr.'s Type*	Description	EACH	
			1-9	10-99
860-7630	BU-2141-D-48-0	Shielded Banana Plug	12.98	11.16
860-7631	BU-2141-D-48-2	Shielded Banana Plug	12.98	11.16
860-7632	39218	Complete Kit	18.00	15.48
860-7634	BU-2241-D-48-0	Right Angle Shielded Banana Plug	12.98	11.16
860-7635	BU-2241-D-48-2	Right Angle Shielded Banana Plug	12.98	11.16
860-7636	39216	Complete Kit	22.50	18.48
860-7637	BU-2641-D-48-0	Unshielded Banana Plug	12.98	11.16
860-7638	BU-2641-D-48-2	Unshielded Banana Plug	12.98	11.16
860-7639	39217	Complete Kit	22.50	18.48
860-7640	BU-2741-D-48-0	Right Angle Unshielded Banana Plug	12.98	11.16
860-7641	BU-2741-D-48-2	Right Angle Unshielded Banana Plug	12.98	11.16
860-7642	39215	Complete Kit	22.50	18.48

*0 — Black; 2 — Red.

"Clipper" Plunger-Type Test Clip

"Clipper" test clips make difficult IC test connections fast and easy. Spring-loaded hook attaches to delicate component leads and terminals to free hands while troubleshooting and circuit testing. Beryllium copper for maximum heat dissipation. Designed for connection over component leads up to .060 inches in diameter (1.52 mm). Stainless steel compression coil.

Stock No.	Mfr.'s Type*	Length mm (in.)	EACH	
			1-9	10-99
860-7655	BU-00202-0	2 1/2" (63.50 mm)	1.77	1.52
860-7656	BU-00202-2	2 1/2" (63.50 mm)	1.77	1.52
860-7657	BU-00203-0	3 1/2" (88.90 mm)	2.07	1.77
860-7658	BU-00203-2	3 1/2" (88.90 mm)	2.07	1.77

*0 — Black; 2 — Red.

"Mini-Micro-Clipper" Plunger-Type Test Clip

Similar to "Clipper" but tiny and extremely lightweight. Has a plastic barrier on tip to prevent shorting between DIP legs. **Plunger Head and Body:** Nylon. **One-Piece Conductor:** Gold-plated beryllium copper, MIL Spec, G45204. For connection to component leads up to .025" dia. **Spring:** Stainless Steel compression coil.

860-7675. BU-00208-0. Black. 1-9	EACH 1.68
10-99	EACH 1.44
860-7676. BU-00208-2. Red. 1-9	EACH 1.68
10-99	EACH 1.44

Mini-Micro Clippers to Shielded Banana Plugs



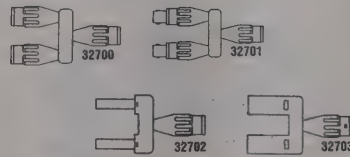
- Features 20 AWG Tinned Copper Wire
- Shielded RG58C/U Coaxial Cable
- Safety Shielded Four-Leaf Conventional Banana Plug
- Features Fully Insulated, Nylon BNC Male Connectors

860-7665. BU-1421-A-12-0. Black. 12"	EACH 5.22
860-7666. BU-1421-A-12-2. Red. 12"	EACH 5.22
860-7667. BU-1421-A-24-0. Black. 24"	EACH 5.22
860-7668. BU-1421-A-24-2. Red. 24"	EACH 5.22
860-7669. BU-1421-A-36-0. Black. 36"	EACH 5.22
860-7670. BU-1421-A-36-2. Red. 36"	EACH 5.22

"Ultra Flex" Test Leads

Laboratory-grade test leads provide superior performance and longer test lead life. **Plug Handle:** Thermoplastic PVC insulated. **Plug Body:** Brass, nickel-plated. **Plug Spring:** 9-leaf beryllium copper, nickel plated. **Plug Jack:** 4 mm (.163") diameter brass, nickel plated stackable jack. **Wire insulation:** 1 mm (.040") thick, scratch resistant pure silicone rubber, 3.3 mm (.130") overall diameter. **Wire Lead:** Ultra flexible 0.75 mm (.029") cross-section consisting of 512 twisted copper strands each 0.05 mm (.002") in diameter. 1984 circular mills. **Rating:** 30 amp maximum load.

Mueller Safety BNC/BNC and BNC Banana Adapters



- Features Fully Insulated BNC Male/Female Connectors
- Useful for Floating Measurements and Instruments with Safety Connections
- Fits 0.16" (4mm) shielded banana plugs and jacks
- User is insulated from both the center conductor and the shield connections
- Made of Nylon Material
- Adapter Colors: Black Only

860-7677. BU-32700-0. 2.38"	EACH 32.25
860-7678. BU-32701-0. 2.69"	EACH 32.25
860-7679. BU-32702-0. 2.38"	EACH 26.25
860-7680. BU-32703-0. 2.69"	EACH 26.25

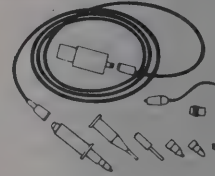
BNC Male/Female to Double Banana Plug Adapters

Allows BNC male connector to be used with equipment having banana jacks. Ideal for adapting laboratory VTVM oscilloscopes and signal generator inputs to coaxial cables. .162" (4.11 mm) diameter holes in body give side stackable connections. **BNC Male and Female:** Tarnish resistant plated brass body, gold-plated brass center contact. **Double Banana Plug:** Brass body, beryllium copper nine leaf springs, nickel plated. **Insulation:** ABS, black.

860-7690. BU-00260. BNC female. 1-9	EACH 5.20
10-99	EACH 4.46
860-7695. BU-00261. BNC male. 1-9	EACH 8.66
10-99	EACH 7.43

Monolithic Oscilloscope Probes

- Low Cost Monolithic Design
- For Use with All Scopes DC to 100 MHz
- X1, X10, X100 and Switchable (X1, X10) Attenuation
- Maximum Input Voltage: 600 V
- Compensation Range: 15-50 pF
- Custom Configurations Available
- Complete with Instructions and Accessory Kit



Each monolithic oscilloscope probe model comes complete with #3911 accessory kit and includes the following: BNC adapter, insulating tip, 6" ground lead, spring hook. I.C. tip, and trimmer tool.

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-Up
860-3911	3911	Accessory kit only	14.00	12.04
860-7003	M10X1	X1 Probe with kit 3911	40.80	35.09
860-7004	M10X10	X10 Probe with kit 3911	44.88	38.60
860-7005	M10SW	Switchable X1/X10 Probe with kit 3911	46.92	40.35
860-7000	M12X1	Modular X1 Probe with kit 3911	65.28	56.14
860-7001	M12X10	Modular X10 Probe with kit 3911	74.46	64.04
860-7002	M12SW	Modular Switch Select X1/X10 Probe with kit 3911	81.60	70.18
860-7006	M08SW	Switchable X1/X10 Probe	42.84	36.84
860-7007	M10X100	Modular X100 Probe with kit 3911	61.20	52.63
860-7008	M12X100	Modular X100 Probe with kit 3911	91.80	78.95
860-7009	M14X10	Modular X10 Probe with kit 3911	104.00	89.44

Stock No.	Mfr.'s Type*	Length mm (in.)	EACH	
			1-9	10-99
860-7645	BU-2929-K-10-0	250 mm (9.843")	5.29	4.23
860-7646	BU-2929-K-10-2	250 mm (9.843")	5.29	4.23
860-7647	BU-2929-K-20-0	500 mm (19.685")	6.02	5.16
860-7648	BU-2929-K-20-2	500 mm (19.685")	6.02	5.16
860-7649	BU-2929-K-39-0	1000 mm (39.370")	7.19	6.17
860-7650	BU-2929-K-39-2	1000 mm (39.370")	7.19	6.17

*0 — Black; 2 — Red.

Mueller Optional Accessories

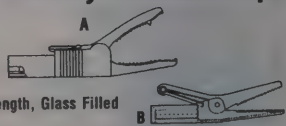


- Useful Accessory To Permit Access To Hard To Reach Spots
- Presses Directly On Banana Plugs, Allows Screw-On Accessories To Be Attached

860-7686. BU-00273-0. Tip extension, 5.00", Black. Fig. A	EACH 3.13
860-7687. BU-00273-2. Tip extension, 5.00", Red. Fig. A	EACH 3.13
860-7688. BU-00271-0. Adapter 1.31", Black. Fig. B	EACH 1.31
860-7689. BU-00271-2. Adapter 1.31", Red. Fig. B	EACH 1.31

Mueller Plug-On Safety Crocodile Clips

- Jaws Are Plated Brass
- No. 65 Rated To 1000 V
- Fully Insulated
- Features a Sharp Tooth in the Lower Jaw
- Molded From High-Strength, Glass Filled Nylon



860-7660. BU-65-0. 3.75", Black. Fig. A	EACH 9.00
860-7661. BU-65-2. 3.75", Black. Fig. A	EACH 9.00
860-7662. BU-66-0. 1.50", Red. Fig. B	EACH 3.20
860-7663. BU-66-2. 1.50", Red. Fig. B	EACH 3.20

Hand-Held Crimp Tool

Features include a positive ratcheting assembly with emergency release that provides maximum crimping force with reasonable handle pressure, and eliminates "flex" during high crimping loads. Jaw opening orientation, molded finger and palm grips, and an easy-reach frame minimize user fatigue. Accommodates the following Mueller clips: 30, 30-C, 30-BL, 34, 34-C, 45, 45-C, 48-B, 48-C, 55, 50-C, 51-C, 60 Series, 85 and 85-C.

860-7685. BU-900	EACH 124.00
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HHM1 Audible Multimeter/Thermometer

- ▶ Reports Measurements Audibly
- ▶ Measures AC/DC Volts, Amps, Ohms
- ▶ Selectable °F Or °C Temperature Display
- ▶ U.S. and International Patents
- ▶ Speech Chips Available In: English, Spanish, German, French, Japanese; Consult Allied For Details

Model HHM1

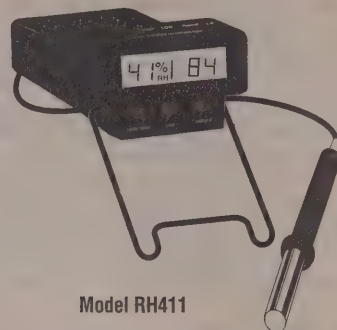


Measure volts, amps and ohms without ever looking at the display. HHM1 multimeter/ thermometer annunciates measurements on command or continuously. Measures AC and DC volts up to 1000 V. AC/DC current up to 4 A. Resistance measurements to 40 mΩ. **Temperature Input Range:** -200 to +1372°C with °F or °C display. For higher accuracy the HHM1A is ±1°C. Both units include carrying case, fuses, 2 beaded wire thermocouples, custom test leads, English voice chip, earphone, 9 V battery, 110 VAC adapter and operator's manual.

Stock No.	Mfr.'s Type	Description	EACH
544-0103	HHM1	DMM/thermometer	349.00
544-0104	HHM1A	DMM/thermometer with ±1°C accuracy	379.00
544-0105	HHM1-SDX	Thermocouple handle and 6" probe	35.00
544-0106	HHM1-SP	Plug-in Spanish speech chip	75.00

RH411 Digital Temperature/Humidity Multimeter

- ▶ Simultaneous Temperature/Humidity Readings
- ▶ Digital Calibration Display Hold
- ▶ Minimum/Maximum Storage
- ▶ Complete With Temperature/Humidity Probe and 5' Cable, 110 VAC Adapter, 9 V Battery and Operator's Manual
- ▶ RH/Temperature Probe Included



Model RH411

Handheld digital temperature/humidity multimeter with custom LCD display that allows simultaneous reading of temperature and humidity. Features digital calibration, display hold, minimum and maximum storage, individual analog outputs for temperature and humidity and sleep mode to conserve batteries. Comes complete with temperature/humidity probe and 5' cable, 110 VAC adapter, 9 V battery and operator's manual.

Stock No.	Mfr.'s Type	Description	EACH
544-0116	RH411	RH/Temperature Meter	349.00

Thermocouple Probes, Connectors and Wire

Unique Surface Probes



88003



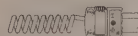
88202



88007



88306



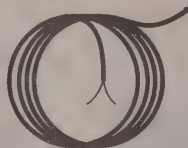
88010

All probes feature 1' retractable cable standard — stretches to 5', and subminiature male connector.

For precision surface measurement. Available in K calibration (E calibration upon request). For temperatures up to 760°C (1400°F). Additional styles available upon request.

Stock No.	Mfr.'s Type	Input Types	EACH
544-0107	88007K/N	Teflon surface probe 480°F max.	110.00
544-0108	88010K/N	12" surface probe 1400°F max.	175.00
544-0109	88003K/N	Heavy duty probe 900°F max.	120.00
544-0110	88306K/N	Penetration probe 930°F max.	80.00
544-0111	88202K/N	Roller surface probe 400°F max.	160.00

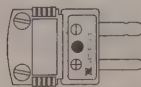
Thermocouple Wire



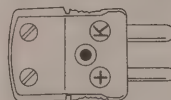
Insulated wire in 50' lengths. Available in chromel-alumel (K). Thermocouple types J, T and E are available upon request. Maximum physical operating temperature is 500°F for Teflon, 900°F for Glass insulation.

Stock No.	Mfr.'s Type	AWG	T/C	Insulation	EACH
544-0112	TT-K-20-50/N	20	K	Teflon	49.00
544-0113	TT-K-24-50/N	24	K	Teflon	37.00
544-0114	GG-K-20-50/N	20	K	Glass	41.00
544-0115	GG-K-24-50/N	24	K	Glass	29.00

Thermocouple Connectors



SMP



OST

Glass-filled nylon and alloy construction for accurate connections. Physical operating temperature is 425°F max. Available in type K (chromel-alumel), J, T, E, R, S, G, C, D, and N are available upon request. SMP connector is miniature flat pronged. OST connector is standard size round prong.

Stock No.	Mfr.'s Type	T/C Type	Connector	EACH
544-0121	SMP-K-M/N	K	Male	1.76
544-0122	SMP-K-F/N	K	Female	2.26
544-0123	OST-K-M/N	K	Male	2.26
544-0124	OST-K-F/N	K	Female	3.40

Ready Made Insulated Thermocouple

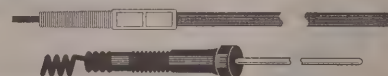


Package of 5. Insulated thermocouples. Supplied standard in 36" and 72" lengths with a choice of either Teflon or Glass insulation manufactured with 24 AWG. Maximum physical operating temperature is 500°F for Teflon, 900°F for Glass insulation. Available in chromel-alumel (K). Thermocouple types J, T and E are available upon request.

Stock No.	Mfr.'s Type	Length (In.)	T/C	Insulation	EACH
544-0117	5TC-GG-K-24-36/N	36	K	Glass	33.00
544-0118	5TC-GG-K-24-72/N	72	K	Glass	43.00
544-0119	5TC-TT-K-24-36/N	36	K	Teflon	39.00
544-0120	5TC-TT-K-24-72/N	72	K	Teflon	49.00

Allied carries a complete line of NEWPORT™ thermocouples, RTDs and thermistors. Consult Sales for additional information.

Clad Thermocouple Probes



12" long 304 SS sheathed probes with sheath diameters of 1/16", 1/8", 3/16" and 1/4" standard. Available in quick disconnect, transition joint or utility handle styles. Type K calibration, grounded junction. Quick disconnect probe includes mating connector. Transition joint probes include 36" Teflon coated lead wire. Handle probe includes 1' retractable cable (expands to 5') with subminiature connector. Types J, T, and E, ungrounded/exposed junction, Inconel or 321 SS sheath and various lengths available on request.

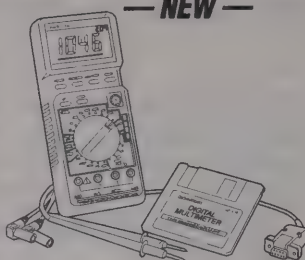
Stock No.	Mfr.'s Type	Style/Sheath Diameter	EACH
544-0125	KQSS-116G-12/N	Quick disconnect, 1/16"	22.00
544-0126	KQSS-18G-12/N	Quick disconnect, 1/8"	23.00
544-0127	KQSS-316G-12/N	Quick disconnect, 3/16"	25.00
544-0128	KQSS-14G-12/N	Quick disconnect, 1/4"	27.00
544-0129	KTSS-116G-12/N	Transition joint, 1/16"	19.00
544-0130	KTSS-18G-12/N	Transition joint, 1/8"	19.00
544-0131	KTSS-316G-12/N	Transition joint, 3/16"	19.00
544-0132	KTSS-14G-12/N	Transition joint, 1/4"	19.00
544-0133	KHSS-116G-RSC-12/N	Utility handle, 1/16"	33.00
544-0134	KHSS-18G-RSC-12/N	Utility handle, 1/8"	34.00
544-0135	KHSS-316G-RSC-12/N	Utility handle, 3/16"	36.00
544-0136	KHSS-14G-RSC-12/N	Utility handle, 1/4"	38.00

Auto-Ranging Analog Tester

Combines easy reading, trend-spotting capability of an analog display with the convenience of auto-ranging. For common measurements, select the function and the tester sets the range automatically. LEDs light to indicate the range in use. Up and down pushbuttons select range automatically. Autopolarity protects the tester and gives valid readings if leads are connected to circuit in reverse. Continuity buzzer quick-tests fuses, wiring, switches and more. Millivolt and microamp ranges give accurate readings from low powered circuits. Measures decibels in six ranges. Check tester's batteries with no removal. Large $4\frac{1}{8}$ " scale is mirrored and color-coded for easy reading. Replaceable fuse. $6\frac{1}{16} \times 4\frac{11}{16} \times 1\frac{1}{16}$ ". Requires 4 "AA" batteries.

910-2216. Type 22-216.....EACH 59.99

— NEW —

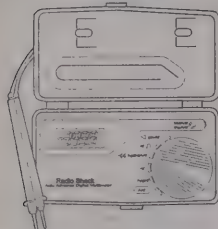


— NEW —

Auto-Ranging

Simplified controls make this tester the choice for automotive or household use. Select function — volts, current or resistance — and range is set. Has continuity buzzer, manual override, data hold to freeze display, overload alert, handy fold-out stand. $6\frac{1}{16} \times 2\frac{11}{16} \times 1\frac{1}{16}$ ". Requires 2 "A" batteries.

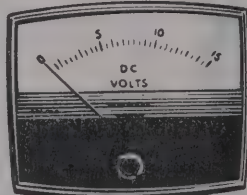
910-2221. Type 22-163.....EACH 49.99



0-15 VDC Panel Mounting Voltmeter

Model 270-1754. Perfect for vehicle electrical system monitoring or for monitoring the voltage of a power supply. Jeweled movement. **Specifications.** Accuracy: $\pm 5\%$ full scale. Measures 0 to 15 volts DC. Dimensions: $2\frac{3}{4} \times 2\frac{1}{4} \times 1\frac{1}{4}$ ". Requires a $1\frac{1}{8}$ " round mounting hole.

910-4754. Type 270-1754.....EACH 12.99



Versatile 5-Range Clamp-On AC Ammeter

- ▶ Measures AC Current Without Direct Connection to Circuit
- ▶ Measures Up to 600 Volts AC With Included Test Leads
- ▶ Includes Inductive Pickup/Multiplier

This versatile instrument lets you safely measure energy consumption of appliances and circuits. It's also helpful in balancing loads when you install AC wiring and breakers. Clamp jaws permit easy insertion in tight spaces. Lock switch freezes pointer position so you can remove the meter for easy reading. Plug-in inductive pickup/multiplier test devices with an AC cord and also provides $\times 10$ readings for low-current measurements. Measures up to 300 amperes AC in 5 ranges, and up to 600 volts AC in 2 ranges. Dimensions: $4 \times 2 \times \frac{3}{8}$ ".

910-2136. Model 22-161.....EACH 49.99



Pocket-Sized Tester with Switch-Selected Ranges

- ▶ Color-Coded and Mirrored Scale

Easy to use! It's the perfect beginner's VOM and also a great second meter for the car or toolbox. Measures to 1000 volts AC/DC, 6 ranges. DC current to 150 mA. Resistance to 100,000 ohms. 2" meter. "Off" position protects meter movement during transit. Dimensions: $3\frac{1}{2} \times 2\frac{1}{4} \times 1\frac{1}{16}$ ". Requires "AA" battery.

910-4527. Model 22-212.....EACH 14.99

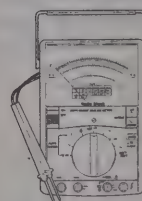
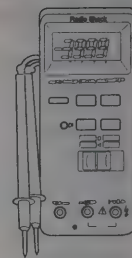


PC Interface, 20-MHz Frequency Counter

This multimeter works alone, or can be connected to a PC-compatible computer for advanced uses such as unattended measurement recording with time logging. Memory can store 10 measurements for display or downloading later. Includes interface cable and Windows®/MS-DOS®-compatible software on $3\frac{1}{2}$ " floppy. Features include 20-MHz frequency counter, capacitance, transistor-gain measurement, and logic-probe function. Dual display allows simultaneous reading of AC voltage and frequency or DC voltage/logic-level and ripple. Handy continuity buzzer, diode-check, data-hold and min./max. functions. Bargraph. Autopower-off saves batteries. $7\frac{7}{8} \times 3\frac{7}{16} \times 1\frac{1}{16}$ ". With case. Requires 9 V battery.

910-2168. Type 22-168.....EACH 129.99

— NEW —



Fold-Up Digital

This basic auto-ranging meter folds to easily fit in a shirt pocket or purse. Perfect for home. Ranges for resistance, AC or DC volts are set automatically. Continuity buzzer checks wiring, fuses, cords. Diode-check. Low-battery indicator. Folds to just $4\frac{1}{4} \times 1\frac{3}{16} \times 2\frac{1}{4}$ ". Includes batteries.

910-2217. Type 22-179.....EACH 24.99

— NEW —

Model 22-221 Multitester

Features 3" meter with mirrored scale. Measures to 1000 volts DC (in five ranges), 1000 volts AC (in four ranges), 250 mA DC (in two ranges), two megohms (in three ranges). 20,000 ohms-per-volt DC sensitivity.

910-4547. 22-221.....EACH 24.99



Digital Logic Probe with Tone



The fast way to "peek inside" TTL, LS and CMOS digital circuits. Color-coded LEDs indicate high, low or pulsed logic states (up to 10 MHz). Simultaneous tone output (high, low or both) really speeds up the testing. **Minimum Detectable Pulse Width:** 50 nS. 36" leads with clips obtain power from tested circuit. Low current drain. Overload and polarity protected. With instructions and user's tips.

910-2133. Model 22-303.....EACH 17.99

Test Leads, Kits and Clips

36" Leads With Pin Tips. $4\frac{1}{4}$ " long probes. Comes in a set of 2.

910-0131. 278-705.....PER PAIR 3.19

Right Angle Banana Test Leads

36" leads. Set of 2: One red and one black. 910-2140. 278-713.....PER PAIR 3.29

6-Foot Coiled Test Leads. Banana plugs and probes designed to fit most testers. Comes in set of 2.

910-0132. 278-750.....PER PAIR 5.99



Sound Meters

Analog-Display Sound Meter

Reads to 126 db SPL with slow or fast response for checking peak and average noise levels. Seven ranges. Electric mike. Requires 9 V battery. 910-2050. 33-2050.....EACH 31.99

Digital-Display Sound Meter

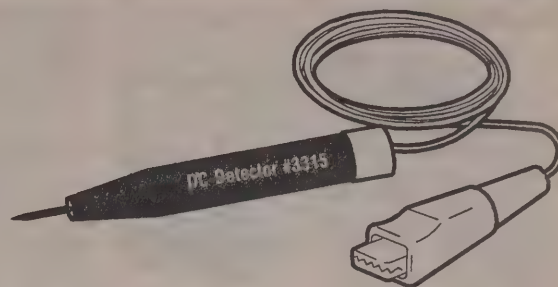
Provides precise readings when setting up stereo or PA system. Reads 60 to 120 db SPL, and has "A" or "C" weightings. Carry case. 910-2055. 33-2055.....EACH 59.99



SANTRONICS DC Detector

Applications

- ▶ Automotive
- ▶ Trucks/RVs
- ▶ Marine
- ▶ Heavy Equipment
- ▶ Telecommunications
- ▶ Industrial Controls
- ▶ Aviation
- ▶ Farm Equipment
- ▶ Office Equipment
- ▶ Any Other 6-50 DC Volt System



Advantages

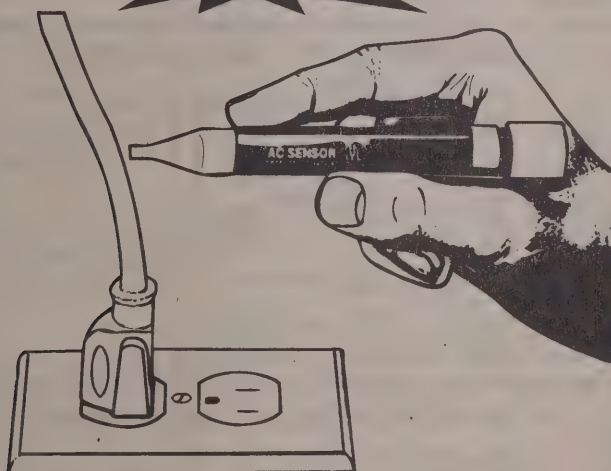
- ▶ Buzzer — Provides Audio Indication Of DC Voltage
- ▶ LED Light — Will Never Burn Out
- ▶ Large Clip — Fits Ground Connection Points Small To Large
- ▶ Sharp Tip — Penetrates Fine And Heavy Wire
- ▶ Construction — Using The Finest Materials Available
- ▶ Stainless Steel Tip — Rust Proof
- ▶ Solid State Circuitry — Total Reliability
- ▶ Test Lead Wire — 20 Gauge Heavy Duty Heat Resistant
- ▶ Pen Sized — To Fit Comfortably In User's Hand
- ▶ 100% Manufactured In The U.S.A.
- ▶ Safe for Use on Computerized Vehicles

973-0006. Model 3315

EACH 19.95

SANTRONICS AC Sensor

THE CHOICE
OF OSHA



Features of the Santronics AC Sensor

- ▶ UL Listed — Tested for Public Safety
- ▶ Outstanding Safety Instrument — Locates Defective Ground, Energized Circuits, Induced Voltage
- ▶ No Contact with Conductor Wire Required
- ▶ Senses Voltage Through Insulation
- ▶ All Outer Surfaces Are Non-Conductive For Safety
- ▶ Fits in Shirt Pocket For Convenience
- ▶ Excellent Circuit Tracer
- ▶ Electrician, Maintenance, Service, and Safety Personnel Need This Tool Daily
- ▶ Probe Glows Cherry Red in Presence of AC Voltage — No Skill Required For Operation
- ▶ Detects 110-600 Volts AC
- ▶ Guarantee Certificate with each unit
- ▶ ENERGIZER® Alkaline Batteries included
- ▶ Product Manufactured, Printed, and Packaged in the U.S.A.
- ▶ Meets OSHA Requirements for Personal Verification in Lockout/Tagout Procedures

973-0002. Model 3115

EACH 19.95

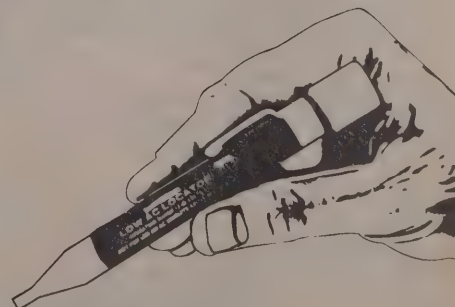
SANTRONICS Low AC Locator



- ▶ Quickly Locate Breaks in AC Circuits from 24-90 Volts
- ▶ HVAC Thermostat Wiring
- ▶ Irrigation Systems
- ▶ Control Panels
- ▶ Security Systems

Features of the Santronics Low AC Locator

- ▶ UL Listed — Tested for Public Safety
- ▶ No Contact with Conductor Wire Required
- ▶ Senses Voltage Through Insulation
- ▶ All Outer Surfaces Are Non-Conductive For Safety
- ▶ Fits in Shirt Pocket For Convenience
- ▶ Excellent Circuit Tracer For Troubleshooting
- ▶ Probe Glows Cherry Red in Presence of AC Voltage
- ▶ No Skill Required for Operation
- ▶ ENERGIZER® Alkaline Batteries Included
- ▶ Product Manufactured, Printed, and Packaged in the U.S.A.
- ▶ Electrician, Maintenance, Service Technicians Need This Tool Daily

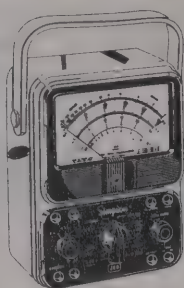


973-0004. Model 3215

EACH 21.95

260 Series 8 VOMs

- Accuracy for the Lab, Rugged Construction for the Field
- Excellent for Adjustments Such as Nulling and Peaking
- Large Color Coded Scales
- AC Frequency Response to 100 KHz
- Zero RFI
- Standard and High Energy Overload Fusing
- Varistor Protected Meter Movement
- UL 1244 Listed
- Mirrored Scale
- Broad Range of Accessories and Probes
- Wide Range Capabilities
- Includes Test Leads and Batteries
- Overload Protection Circuits — Models 260-8P, 260-8PRT, 260-8XPI
- Audible Continuity Checking — Models 260-8P and 260-8PRT



Traditional design, rugged reliability and excellent performance keep the 260s on the bench of generations of engineers. The 260-8 series reflects commitment to provide the best combination of quality, technology and affordability. Needs no external power, avoids common mode problems, no interference or triggering of external sensitive circuits, no RF radiation. Offers reliable and rapid checks for semiconductor junctions and forward/reverse resistance tests. The 260-8 series is UL listed and continues the tradition of practicality and reliability which made the 260 the best known VOM of all time. All versions have mirror scale for parallax elimination, allowing you to make more accurate measurements.

Specifications. DC Volts. Range: 250 mV, 1 V, 2.5 V, 10 V, 25 V, 50 V, 250 V, 1000 V. Sensitivity: 20 K Ohms/Volt. AC Volts. Range: 2.5 V, 10 V, 25 V, 50 V, 250 V, 500 V, 1000 V. Sensitivity: 5 K Ohms/Volt. Resistance Range: x1, x100, x10K. DC Current Range: 50 μ A, 1 mA, 10 mA, 100 mA, 500 mA, 10A. AC Current Range: up to 250 A AC with amp-clamp accessory probe (not supplied). Decibels Range: -20 dB to +50 dB (5 ranges). Continuity Test (260-8P and 260-8PRT Only): Audible sound when a resistance of less than 150 ohms is measured between the probes. Meter Movement: taut band, self-shielding, annular, 100° arc, 4.2" length, color coded, mirror backed for parallax elimination. Direct reading amp-clamp scales. Overload Protection: Models 260-8 and 260-8PRT — one 1 A/250 V fuse and one 2 A/600 V fuse; Models 260-8P and 260-8PRT — resettable circuit breaker. Dimensions: 7"H x 5.5"W x 3.1"D. Weight: 3 lbs.

919-0268. Type 12388. Model 260-8. Standard Model.....	EACH 177.70
919-0267. Type 12391. Model 260-8P. Circuit Breaker Protected.....	EACH 237.31
919-0269. Type 12839. Model 260-8PRT. Roll-Top Case.....	EACH 203.30
919-0266. Type 12392. Model 260-8PRT. Breaker Protected with Roll-Top Case.....	EACH 273.09
919-0260. Type 12395. Model 260-8X. Yellow Case.....	EACH 184.07
919-0261. Type 12396. Model 260-8XPI. Yellow Case with Resettable Overload Protection.....	EACH 241.94

Accessories for 260 and 360 Series VOMs

Carrying Cases — Fig. A. (360 Series Meters Not Shown)

For Models 250, 270-5 and 260-8/260-6XL Series. Weight: 2 lbs.

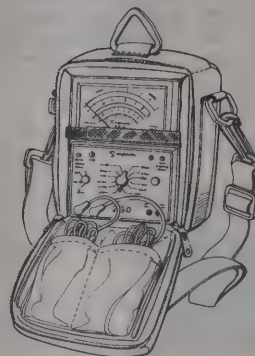
919-0805. Type 00805. Leatherette.....	EACH 60.86
919-1818. Type 01818. Vinyl.....	EACH 48.51
919-0549. Type 00549. Vinyl with Extra Space.....	EACH 60.86
919-0815. Type 45028. For Model 360-3.....	EACH 48.90
919-0832. Type 00832. Yellow Padded Carrying Case.....	EACH 48.64
919-0834. Type 00834. Black Padded Carrying Case.....	EACH 48.64

Test Leads; Screw-On Clips (00125 Are Banana Style Jacks)

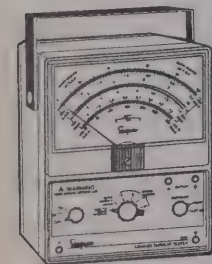
919-0043. Type 00043. 260-B, 270-5, 360-3, 461-2-3.....	EACH 14.72
919-0115. Type 00125. 260-6XL, 250, 360-2, 228.....	EACH 14.72
919-7500. Type 07500. 260-6XL (Standard Alligator Tips).....	EACH 11.91

Test Lead Systems

919-5577. Type 05577. Standard — 14 Parts.....	EACH 65.47
919-0818. Type 00818. Deluxe — 23 Parts.....	EACH 110.22



		THREADED	ALLIGATOR
REVERSE INSULATED	260-7, 8 360-3 270-5 460-5, 6 461, 462, 463, 464-4 16979, 14510	00043 (Includes alligator clips)	*
STANDARD BANANA	260-8XL, 260-6XLIM (260-3, 4, 5, 5, 270-1, 2, 3, 4) 223-2, 250, 255, 256 362-2, 370 TO 377 605-2, TS111-3	00125 (Includes alligator clips)	07500



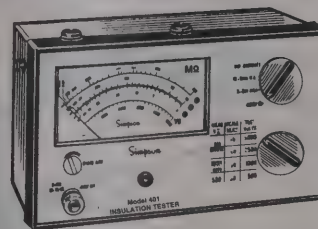
228 Leakage Current Tester

► Meets New ANSI Specifications C101-1992

Model 228 is a special purpose AC/DC milliammeter designed to measure hazardous currents (leakage currents, or touch currents) which may appear when a person touches the surfaces of electrical or electronic equipment. The 228 meets the guidelines set forth in: IEC-930, ANSI C101-1992, UL 1459, and IEC 1010-1. This unit has special networks for burn hazard, react response, and let go response. Measures leakage current and matches the human body's decreasing sensitivity to the sensation of electrical shock as the frequency increases. It has an integral RMS reading/measuring device and output for measuring peaks on non-sinusoidal waveforms.

919-0288. Type 40027. 228 Leakage Current Tester.....	EACH 515.60
919-0115. Type 00125. Replacement Test Leads.....	EACH 14.72
919-0834. Type 00834. Carrying Case — Black.....	EACH 48.64

Insulation Testers — Battery Operated



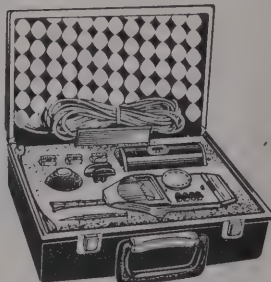
- Three Types Available: 0-500 V, 0-1000 V, 0-5000 V
- Push-to-Read/Lock-On Feature Saves Batteries
- No Hand-Cranking Required
- Neon Scale Selection Indicators

Ideal for high voltage, non-destructive insulation tests on electrical installations, machines, equipment and transformers. Neon indication for range selection. Specifications. Accuracy: Megohm ranges — $\pm 1.5\%$ fs length. Comes complete with batteries, two plug-in insulated test leads, probes, carrying strap, and operators manual.

919-0402. Type 12509. Model 400-2, 0-500 V.....	EACH 871.78
919-0401. Type 12502. Model 401, 0-1000 V.....	EACH 1202.04
919-0405. Type 12504. Model 405-2, 0-5000 V.....	EACH 1886.25

Environmental Testers — Sound Level Meters

Meets ANSI S1.4-1983 (R1976) and IEC 651 specifications. Meters are type S2a. Solid state construction housed in rugged, high-impact plastic case. Model 884-2 offers 40-140 dB range, in 10 dB increments, and offers 'A' weighting. Model 886-2 offers 40-140 dB range, and has 'A-B-C' weightings, selectable by push-button. Model 899 is an impulse Sound Level meter, for more accurate monitoring of short duration sounds. All models have omnidirectional condenser, type L size microphones. All sound level meters shipped with carrying case, wind screen, batteries, calibration screwdriver, and operators manuals.



919-4003. Type 40003. Model 884-2.....	EACH 378.62
919-4004. Type 40004. Model 886-2, A/B/C Weight.....	EACH 536.86
919-4005. Type 40005. Model 889 Impulse Meter.....	EACH 672.48
919-4006. Type 40006. Models 884-2 and 890-2.....	EACH 615.97
919-4007. Type 40007. Models 886-2 and 890-2.....	EACH 774.20
919-4008. Type 40008. Models 889 and 890-2.....	EACH 898.53
919-4009. Type 40013. Models 884-2, 896 and 999.....	EACH 1039.15
919-4010. Type 40014. Models 886-2, 896 and 898.....	EACH 1198.09
919-4011. Type 40015. Models 889, 896 and 898.....	EACH 1323.02
919-4012. Type 00198. 25" Microphone Cable.....	EACH 60.86
919-4013. Type 12890. Model 890-2 Calibrator.....	EACH 252.47
919-4014. Type 12709. Model 896 Calibrator.....	EACH 310.70
919-4015. Type 00184. Microphone Holder (886-2).....	EACH 21.48
919-4016. Type 02231. Model 898 Octave Filter.....	EACH 450.92
919-4017. Type 40022. Model 606 Chart Recorder.....	EACH 1827.00
919-4018. Type 45009. Red Ink Pens (5).....	PER PK./5 31.95
919-4019. Type 45010. Inkless Sapphire Pen (1).....	EACH 22.46
919-4020. Type 45011. Carrying Case, Attache.....	EACH 89.18

Environmental Testers — Sound Dosimeters

Simpson Model 897 Dosimeter Sound Measuring System computes dosage and records up to 31 hours of data at one minute intervals. Use the 897 for taking measurements, or viewing printed reports using your PC computer/printer. Used as a sound level meter, the 897 provides a quick survey of targeted areas and identifies suspect locations. The SMS-2 kit includes dosimeter, calibrator, batteries, parallel and serial cables, AC adapter, wrench, and case.

919-2645. Type 12645. Model 897 Dosimeter.....	EACH 809.13
919-2646. Type 12646. SMS-2 Kit.....	EACH 1135.07
919-2647. Type 12648. 887-2 Calibrator.....	EACH 292.34
919-2648. Type 02233. RS-232 Cable.....	EACH 45.92
919-2649. Type 02234. Parallel Cable — For Printers.....	EACH 57.60

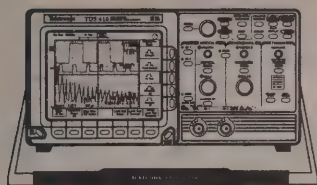


Environmental Testers — Microwave Leakage Tester 380-2

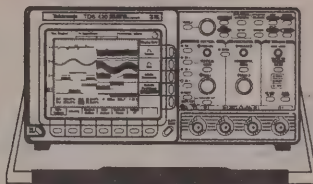
This battery-operated direct reading portable instrument meets the measurement requirements of the Federal Performance Standard for leakage from microwave ovens. Used for pre-testing by manufacturers and for in-the-field checking of commercial, industrial and institutional installations by professionals, this unit is completely self-contained with readings in mW/cm². It measures the amount of microwave frequency leakage at 2450 MHz. Specifications. Power Density Reading Ranges: 0-2.5-10-25-100 mW/cm². Fast — 1.2 sec. max.; Slow — 3.0 sec. max. Weight: 0.8 lbs. Power: One 9-Volt batteries. Supplied With: Probe, foam spacer, battery, owners manual, carrying case.

919-0012. Type 40012. Model 380-2 Tester.....	EACH 702.75
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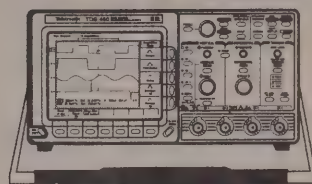
High-Performance Programmable Digital Oscilloscope



TDS 410A



TDS 420A



TDS 460A

TDS 410A

- ▶ 200 MHz Bandwidth
- ▶ Two Channels Each With MS/s Sampling Rate

Common Features

- ▶ 30 K Point Records Standard; 120 K Optional
- ▶ 1 mV To 10 V/div Sensitivity
- ▶ Hi-Res Mode For Up To 12 Bits Of Single Shot Vertical Resolution
- ▶ 8-Bit Vertical Resolution
- ▶ 10 ns Peak Detect Mode For Glitch Capture
- ▶ Pass/Fail Waveform Testing
- ▶ Roll and Triggered Roll Mode
- ▶ 25 Automatic Measurements

TDS 400A Series

The TDS 400A Series high-performance four-channel oscilloscopes (TDS 410A, two channels) are well suited to electromechanical and medical research, circuit design, electronic service, and manufacturing quality control. They offer wide dynamic range, fast overdrive recovery, flat response, 1 mV/div. sensitivity, and calibrated DC offset. Bandwidths of 200 MHz (TDS 410A and TDS 420A) and 400 MHz (TDS 460A) with 100 MS/s sampling rate — coupled with record lengths to 120,000 points — provide acquisition power and flexibility.

Workhorse Power

Many powerful features have been integrated into the intuitive TDS 400A Series user interface. At slow sweep speeds, Hi-Res mode provides up to 12 bits of vertical resolution on single-shot events. A zoom feature magnifies waveforms for analysis of small details. Template testing, roll mode, and 25 automated measurements make these products work for you.

The TDS 400A Series scopes have sensitive, wide bandwidth triggers with AC, DC, LF Reject, HF Reject, and Noise Reject coupling modes. The optional video trigger has positive and negative sync, line rates to 64 kHz, selectable fields, interlaced or non-interlaced video, and individual line selection.

Advanced Performance

At timebase settings of 50 ms/division or slower, newly-acquired points roll onto the screen from the right, making slowly varying signals easier to view. A unique Triggered Roll Mode allows the user to view pretrigger information, then capture a waveform record when a trigger event occurs.

Twenty-five automatic measurements eliminate the counting of divisions and manual cursor measurements. The user can set reference levels. In addition, measurement gating allows selection of a specific part of a waveform for measurement. The Snapshot feature simultaneously makes all 25 measurements on any single waveform. At slow sweep speeds, digitizing scopes reach a point where the available record length limits the number of samples than can be retained per second. Most scopes react by saving a point every few points and discarding the rest — missing high-speed waveform details. Peak Detect Mode employs proprietary hardware to retain data about those "extra" points and shows detail up to the maximum sample rate.

Variable Persistence allows waveform points to decay gradually through a 16-level gray scale, providing "z-axis" information about rapidly changing signals. Limit Testing compares waveforms against a template on-the-fly, automatically stopping acquisitions or saving the waveform whenever the template is violated. Templates can be created and adjusted from the front panel or imported over the GPIB interface and saved in non-volatile memory.

700-0410, Model TDS 410AEACH 4950.00

700-0420, Model TDS 420AEACH 6295.00

700-0460, TDS 460AEACH 7685.00

TDS 420A

- ▶ 200 MHz Bandwidth
- ▶ Four Channels Each With MS/s Sampling Rate

- ▶ 1.5% Vertical Accuracy
- ▶ GPIB Programmable
- ▶ Infinite and Variable Persistence
- ▶ High-Performance Video Trigger (Optional)
- ▶ FFT, Integration and Differentiation Package (Optional)
- ▶ Printer Pack (Optional)
- ▶ Option 3.5" Floppy Disk

TDS 460A

- ▶ 400 MHz Bandwidth
- ▶ Four Channels Each With 100 MS/s Sampling Rate

Applications

- ▶ Biophysical Research
- ▶ Biomedical Research
- ▶ Electromechanical System Design
- ▶ Audio System Measurement and Analysis
- ▶ Manufacturing Test and Quality Control
- ▶ Power Supply and Power-Related Design
- ▶ Product Service and Maintenance

Specifications	TDS 410A	TDS 420A	TDS 460A
Bandwidth	200 MHz	200 MHz	400 MHz
Digitizers/Channels	2	4	4
Time Base	Dual		
Maximum Sample Rate (Each Channel)	100 MS/s		
Vertical Resolution	8 bits (up to 12 bits with Hi-Res)		
Vertical Sensitivity	1 mV/div. to 10 V/div.		
Acquisition Modes	Peak Detect, Sample, Envelope, Average, Hi-Res		
Peak Detect/Glitch Capture	10 ns		
Record Length/Channel	500 to 30 K points; 120 K points with Opt. 1M		
Signal Processing	Linear or Sin(x)/x Interpolation, Average, Envelope, Add, Subtract, Invert, Multiply; FFT, Integration, Differentiation with Opt. 2F		
Automatic Measurements	25, plus Snapshot		
Trigger	Main, Delayed, Basic Video, SGL SEQ, AC, DC, LF Reject, HF Reject, Noise Reject, Video with Video Clamp Pod (Opt. 05)		
Video Trigger Types	NTSC, PAL, SECAM, Custom; TV field, field 2, or both, any line within a field		
Display	Dot, Vector, Gray Scale, VGA Out		
Printer Ports (Opt. 13)	RS-232-C and Centronics-type		
I/O Interface	GPIB		
Waveform/Setup Storage	Option If 3.5" Floppy Disk Drive		
Warranty	Three years		
Safety Certification	UL, CSA		

Included Accessories

Description	TDS 410A	TDS 420A	TDS 460A
Two 10X Probes*	P6138	P6138	P6138
Reference Guide	070-8035-02	070-8035-01	070-8035-01
User Manual	070-8034-02	070-8034-01	070-8034-01
Programmer's Manual	070-8709-03	070-8318-05	070-8318-05
US Power Cord	161-0230-01	161-0230-01	161-0230-01
Performance Verification Document	070-8721-01	070-8722-00	070-8722-00

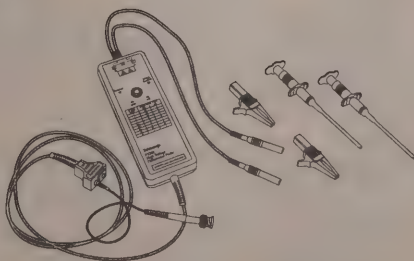
*These are 4 channel scopes. Two probes are supplied standard; for two more probes (to total a set of four), please order Option 22.

P5200 Differential Probe

- ▶ 1300 V Differential
- ▶ ± 1 kV to Ground (Each Channel)
- ▶ 50X/500X Attenuation
- ▶ 25 MHz
- ▶ Excellent Signal Fidelity
- ▶ Easy Connection to ICs and Bus Bars
- ▶ Safe for User and DUT
- ▶ UL Certified 1244
- ▶ IEC 1010 Certified

The P5200 enables users to safely make measurements up to 1300 V differential of floating circuits with their oscilloscopes grounded. The P5200 Active Differential Probe converts floating signals to low voltage ground referenced signals that can be displayed safely and easily on any ground referenced oscilloscope.

700-5200, Model P5200EACH 399.00



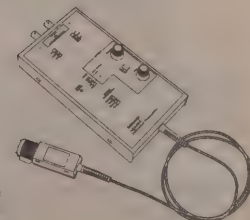
ADA400A

Differential Preamplifier

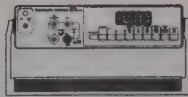
- ▶ Active Differential Preamplifier
- ▶ 10 pV/div. Sensitivity
- ▶ Typically 100 dB CMRR DC 10 KHz
- ▶ Integral Probe Power in TEKPROBE™ BNC

The ADA400A Differential Preamplifier allows direct oscilloscope measurements of very low amplitude voltages and signals which are not ground referenced. The high impedance of both inputs eliminates the need to add additional ground points in the DUT, thereby avoiding circulating currents which disturb the measurement or the circuit.

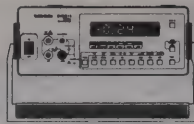
700-5205, Model ADA400AEACH 895.00



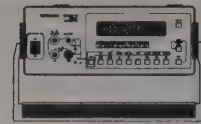
Digital Multimeters



CDM250



DM2510



DM2510G

CDM250

The CDM250 Digital Multimeter measures and displays voltage, current, and resistance using a 3 1/2 digit LED display. Sine wave alternating voltages and currents are displayed in RMS values. The CDM250 is safe and easy to use in the classroom and on the job. This meter has overload protection and is UL listed and CSA certified. Test leads are included.

DM2510 Programmable Digital Multimeter

The DM2510 is a programmable, six-function, autoranging digital multimeter. You can use it to measure DC and AC voltage and current, plus resistance and temperature. It has a NULL function to make measurements with an offset value, plus a HOLD mode and a TRIGGER function. COMPARE mode compares a measurement with user-selected high and low limits; a beeper can be set to sound when the measurement is beyond the specified limits.

DM2510G Programmable Digital Multimeter with GPIB Interface

The DM2510G is a programmable, six-function, autoranging digital multimeter with a GPIB interface for computerized programming or remote operation and data capture.

The DM2510 and DM2510G Programmable Digital Multimeters offer exceptional accuracy and speed, especially in repetitive testing situations. Other features of the DM2510G are the same as the DM2510.

700-0275. CDM250.....	EACH 399.00
700-2510. DM2510.....	EACH 625.00
700-2511. DM2510G.....	EACH 755.00

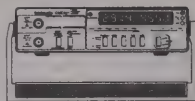
Selection Guide

Key Specifications	CDM250	DM2510	DM2510G
AC Voltage	500 V500 V	500 V	500 V
DC Voltage	500 V1000 V	1000 V	1000 V
Crest Factor (True RMS AC Volts)	—	3:1 for 0.1%	3:1 for 0.1%
AC Current	Additional Error	Additional Error	Additional Error
DC Current	10 A 10 A	10 A	10 A
Resistance	10 A 10 A	10 A	10 A
Temperature	20 MΩ20 MΩ	20 MΩ	20 MΩ
	—	-62° to +240°C	-62° to +240°C

Customer Requested Features

Autoranging	No	Yes	Yes
Measurement Results to Computer	No	No	Yes, GPIB interface
Compare Mode	No	Yes	Yes
Continuity Check/Beeper	No	Yes	Yes
Data Hold	No	Yes	Yes
Display	3 1/2 digit LED	4 1/2 digit LED	4 1/2 digit LED
Diode Test	Yes	Yes	Yes
Memory Offset	No	Yes	Yes
Overrange Indicator	Yes	Beeper	Beeper
Programmable	No	Yes	Yes, GPIB interface
Safety Certification	UL, CSA	ETL, CSA	ETL, CSA

Counters



CMC251



CDC250



CMC250



CFC250

CMC251

The CMC251 1.3 GHz Multifunction Counter measures the frequency of sine, square, and triangle waves from 1 Hz to 1.3 GHz. The CMC251 also provides period, totalize, and pulse width measurements. The counter has two input channels. Channel A is a standard 1 MΩ input for frequency measurements up to 100 MHz. Channel B is a 50 Ω terminated input for use in high-frequency systems. This counter is of interest to radio amateurs because of its ability to measure high-frequency systems. The temperature-compensated, crystal-controlled time base is stable to ±1 part per million per year.

CDC250

The CDC250 175 MHz Universal Counter measures frequency of sine, square, and triangle waves from 1 Hz to 175 MHz at input levels from 20 mV to 42 V peak. The CDC250 also provides period measurements, frequency ratio, time interval, and totalize measurement functions. The CDC250 has a ±1 ppm/year, temperature-compensated time base to ensure consistent accuracy. Service technicians will find the CDC250 useful as a standard for calibrating other equipment.

CMC250

The CMC250 1.3 GHz Multifunction Counter measures the frequency of sine, square, and triangle waves from 5 Hz to 1.3 GHz. The CMC250 also provides period measurements and totalize functions. Channel A is a standard 1 MΩ input for frequency measurements up to 100 MHz. Channel B is a special 50 Ω terminated input, prescaled to 1.3 GHz for easy RF measurements. The time base stability is ±10 ppm/yr.

CFC250

The CFC250 100 MHz Frequency Counter measures the frequency of sine, square, and triangle waves from 5 Hz to 100 MHz at input levels from 30 mV to 42 V peak. Students will enjoy the simplicity of using the CFC250. Applications include adjustment, testing, and repair of electronic items such as audio equipment, radios, televisions, computer clocks, and musical instruments.

700-0255. CMC251.....	EACH 620.00
700-0260. CDC250.....	EACH 545.00
700-0290. CMC250.....	EACH 555.17
700-0265. CFC250.....	EACH 399.00

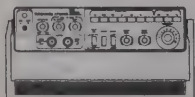
Selection Guide

Key Specifications	CMC251	CDC250	CMC250	CFC250
Channel A Frequency Range	1 Hz to 100 MHz	1 Hz to 175 MHz	5 Hz to 100 MHz	5 Hz to 100 MHz
Channel B Frequency Range	80 MHz to 1.3 GHz	1 Hz to 2 MHz	80 MHz to 1.3 GHz	—
Period Range	0.04 μs to 1.0 s	0.5 μs to 0.2 s	0.4 μs to 0.2 s	—
Totalize Range	0 to 99,999,999	0 to 99,999,999	0 to 99,999,999	—
Pulse Width Range	0.25 μs to 0.5 s	—	—	—
Minimum Pulse Width	20 ns	250 ns	250 ns	—
Time Interval	No	Yes	No	—
Channel A to Channel B	—	—	—	—
Ratio of Channel A to Channel B	No	Yes	No	—
Time Base Stability	±1 ppm	±1 ppm	±10 ppm±10 ppm	—

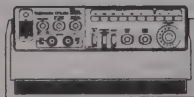
Customer Requested Features

Digital Display	8-digit LED	8-digit LED	8-digit LED	8-digit LED
Display Hold	Yes	Yes	Yes	No
Switchable Low-pass Filter	100 kHz	10 kHz100 kHz	100 kHz	—
Overrange Indication	Yes	Yes	Yes	Yes
Remote Start/Stop	Yes	Yes	Yes	No
Selectable Resolution	Yes	Yes	Yes	No
Self-check	Yes	Yes	Yes	No
Selectable Slope	No	Yes	No	No
External Time Base	No	Yes	No	No
Adjustable Trigger Level	No	Yes	No	No
Safety Certification	ETL, CSA	UL, CSA	UL, CSA	UL, CSA

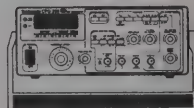
Function Generators



CFG250



CFG253



CFG280

CFG250 and CFG253

Function Generators produce sine, square, and triangle waves, and TTL signals for testing amplifiers, filters, and digital circuits. Sweep function can be controlled internally or with an external signal. Duty cycle, DC offset, sweep rate, sweep width, and amplitude are all operator controlled. The CFG253, at 0.03 Hz to 3 MHz, has a wider output bandwidth than the CFG250, at 0.2 Hz to 2 MHz.

CFG280 11 MHz Function Generator with Counter

The CFG280 combines an 11 MHz Function Generator with a 1 Hz to 100 MHz Frequency Counter. The on board counter allows the operator to set the frequency output of the function generator precisely. This versatile instrument conserves both bench space and budget.

700-0270. CFG250.....	EACH 415.00
700-0253. CFG253.....	EACH 475.00
700-0280. CFG280.....	EACH 1030.00

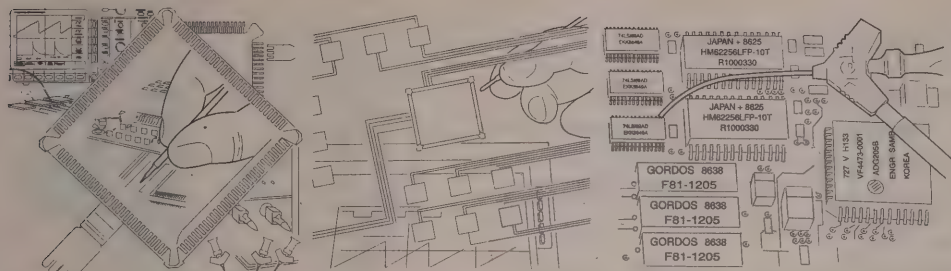
Selection Guide

Key Specifications	CFG250	CFG253	CFG280
Waveform Outputs (for all outputs) and sweep functions	Square, sine, triangle waves, TTL pulse, and sweep functions	Square, sine, triangle waves, TTL pulse, and sweep functions	Square, sine, triangle waves, TTL pulse,
Frequency Range	0.2 Hz to 2 MHz	0.03 Hz to 3 MHz	0.1 Hz to 11 MHz
Frequency Multiplier	0.2 to 2.0	0.3 to 3.0	0.1 to 11
Symmetry/Duty Cycle	80/20 minimum	80/20 minimum	95/5 fixed
Amplitude	5 mV to 20 V p-p	5 mV to 20 V p-p	10 mV to 20 V p-p
Dial Accuracy	±5% of full scale	±5% of full scale	±5% of full scale
Sine Wave Distortion	<1%	<1%	<1%
Square Wave Response	≤100 ns rise/fall	≤100 ns rise/fall	≤25 ns rise/fall
Triangle Wave Linearity	≥99% (20 Hz to 200 KHz)	≥99% (20 Hz to 200 KHz)	≥99% (0.1 Hz to 110 KHz)
SYNC Output	<25 ns rise/fall	<25 ns rise/fall	<25 ns rise/fall

Customer Requested Features

AM Input	No	No	0 to 100% DBSC
Attenuator	20 dB	20 dB	20 dB
Integral Counter	No	No	Yes, 100 MHz
Variable Duty Cycle	Yes	Yes	No
External Gate Input	No	No	Yes
Internal or External Sweep Control	Yes	Yes	Yes
Variable Sweep Rate	Yes	Yes	Yes
Variable Sweep Width	Yes	Yes	Yes
Variable Symmetry	20 to 80%	20 to 80%	No
VCF (FM) Input	No	No	Yes
Safety Certification	UL, CSA	UL, CSA	ETL, CSA

Surface Mount Device Interconnects



Applications

- Research and Design
- Manufacturing Test Of SMD Circuitry
- Servicing Of SMD Circuitry
- Prototype Debug and Design

SMG50/SMT KlipChip™ Kits

- Access To 0.050" Centers PLCC, SOIC, and Other Packages
- PQFP100/132 PQFP Adapter Clips
- 386SX Attachment With PQFP100
- 68020/68030 Attachment With PQFP132
- 350 MHz Bandwidth
- Small Low-Profile Design Fits In Tight Spaces

Surface Mount Device Probing and Interconnects

The increasing use of surface mount technology (SMT) brings many benefits to electronic circuit board (ECB) design and manufacture. Among these are increased circuit density, increased product reliability, and lower assembly costs.

Troubleshooting and device interconnection, however, have become more difficult due to decreased device size, tighter lead spacing and increased ECB densities. Tektronix' offering of the following SMT probing and inter-connect devices meets these demanding requirements.

SureFoot™ Probing 25 mil JEDEC, 0.65 and 0.5 mm EIAJ Packages

SureFoot® (patent pending) is an integral probe tip and miniature guide that enables fault-free "hands-on" probing of fine-pitch SMD packages. Guided by the IC's leads, SureFoot's miniature plastic tines align the probe before electrical contact is made. The tines also form a shield between IC leads, preventing the probe tip from shorting adjacent pins.

SureFoot® conforms to EIAJ (Electronic Industry Association of Japan) or JEDEC (Joint Electron Device Engineering Council) packaging standards, assuring quick and reliable probe contact with fine-pitch IC leads. Several color-coded versions of SureFoot® are available, addressing the most common SMD packages with leads spaced on 0.65 mm (EIAJ) and 25 mil (JEDEC) centers. A crystal orange version fits the tighter 0.5 mm lead spacing of several EIAJ packages.

Style for Tektronix SMD Probes

Tektronix probes have replaceable probe tips. The basic contact of the new SMD probe family is a 25 mil socket that accepts square or round pins. SureFoot® probe tips are available in styles to match each of these high-performance probe families.

Stock No.	Mfr.'s Type	Package Lead Spacing	Package Standard	Color Code	PER PKG./12
700-0501	SF501	50 mil	JEDEC	Yellow	40.00
700-0502	SF502	25 mil	JEDEC	Blue	40.00

SureFoot™

- Hand Probe Fine Pitch SMD Packages: 25 mil JEDEC; 0.65 mm EIAJ; 0.5 mm EIAJ
- For P656XA/AS

SMCK1/SMQK1 SOIC/PLCC Adapter Kits

- Assortment Of SOIC Or PLCC Clips
- Leads and SMT KlipChip® Included
- Signal Insertion and Temporary Lead Jumpers Without Soldering

Stock No.	Mfr.'s Type	Package Lead Spacing	Package Standard	Color Code	PER PKG./12
700-0503	SF502	0.65 mm	EIAJ	Blue	40.00
700-0504	SF503	0.5 mm	EIAJ	Red	40.00

Small Geometry Probes For Surface Mount Devices

SMD Package Support

- 50 mil SO/SOIC
- 50 mil QUAD
- 25 mil JEDEC
- 0.65 mm EIAJ
- 0.5 mm EIAJ

Circuit Compatibility

- CMOS
- BiCMOS
- FastCMOS
- TTL
- ECL

Scope Compatibility

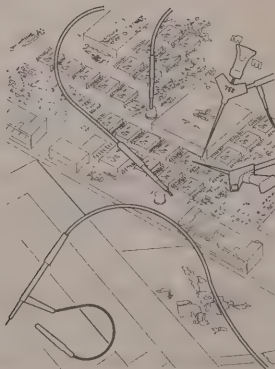
- TDS Series
- TAS Series
- 2400 Series
- 11000 Series

P6561AS

- 10X — 200 MHz
- <11 pF Loading
- Readout

P6562AS

- 10X — 350 MHz
- <11 pF Loading
- Readout



The P6561AS and P6562AS are scaled for surface mount IC packages. Their low-mass probe bodies are only 1.5" long and 100 mils wide. Bundled in sets to match the oscilloscope's performance and channel count, these probes provide solutions for the most popular EIAJ and JEDEC surface mount packages.

Surface Mount Device Probing

While instrumentation improvements have provided a steady stream of digital troubleshooting tools, the physical challenges associated with probing small geometry ICs have gone unaddressed until now. SMD probes from Tektronix provide circuit designers the first complete, off-the-shelf solution for probing small geometry IC packages.

The basic contact of the SMD probe family is a 25 mil socket that accepts square or round pins. A variety of tip adapters permits convenient, non-destructive, temporary connection to the most popular EIAJ and JEDEC surface mount packages. Each SMD probe is designed to minimize capacitive loading on TTL, ECL, CMOS, FastCMOS, and BiCMOS circuits. The probe and oscilloscope form a measurement system optimized for circuit designers by providing fast transient response, high system bandwidth, and low capacitive circuit loading.

SMD Probe Characteristics. Probes Per Set: P6561AS — 2; P6562AS — 4. **Oscilloscope Series:** P6561AS — TDS300, TDS400; P6562AS — TAS400, 2400 and 11000. **Bandwidth** (—3 dB): P6561AS — 200 MHz; P6562AS — 350 MHz. **Rise Time (Typical):** P6561AS — <1.85 ns; P6562AS — <1.1 ns. **Uniform Signal Delay:** P6561AS — ±150 ps; P6562AS — ±125 ps. **Attenuation:** 10X. **Device Loading Capacitance (Typical):** <11 pF. **Device Loading Resistance:** 10 MΩ. **Maximum Non-Destructive:** 42 V. **Input Voltage:** (DC + peak AC). **Compensation Range:** P6561AS — 15 pF to 35 pF; P6562AS — 12 pF to 35 pF. **Replacement Probe:** P6561AS — P6561A; P6562AS — P6562A.

700-5561. P6561AS.....EACH 385.00 700-5562. P6562AS.....EACH 795.00

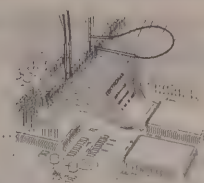
FlexLead™ Adapters

Fine Pitch Surface Mounted Devices

FlexLead™ Family

25 mil JEDEC 0.65 mm EIAJ
0.5 mm EIAJ

- Convenient Probing Of 25 mil Pitch and Smaller Packages
- Minimum Circuit Loading
- Adapts To Many Of The Most Common JEDEC and EIAJ Packages
- Compatible With Any Oscilloscope Or Logic Analyzer Probe Or Podlet
- 100 mil Interface For Easy Probe Connection



Surface and Device Probing

As the pitch and lead spacing on surface mount packages gets smaller, connecting a probe to these packages becomes increasingly difficult. At a pitch of 25 mils or smaller the leads will no longer mechanically support a probe without potentially damaging the package. At this fine pitch it also becomes difficult to hand hold a probe without shorting to adjacent leads or causing mechanical damage to the package. The Tektronix FlexLead™ Adapters make it possible to conveniently connect to fine pitch Gull-wing Leaded QFP (Quad Flat Pack) packages while reducing the risk of both mechanical and electrical damage to the part.

FlexLead™ Adapters

The FlexLead™ Adapters have a standard 100 mil. interface on one end, to which any oscilloscope probe or logic analyzer podlet will directly connect, both signal and ground leads. The opposite end of the adapter has a row of solder pads, matching the leads of the package, that are soldered to the package leads. After the necessary probing is complete the adapters are intended to be unsoldered and discarded. They are intended to be used only once and are priced low enough to make this practical.

Characteristics. Series Resistance: Less than 100 MΩ (typical). **Inductance:** Less than 100 nH (typical). **Capacitance:** Less than 2 pF (typical). **Maximum Voltage:** 42 V. **Maximum Current:** 750 mA.

Soldering Instructions Videotapes

These no-charge VHS videotapes describe the recommended procedure for soldering the FlexLeads.

068-0320-04 — NTSC Version

068-0320-06 — PAL Version

068-0320-07 — SECAM Version

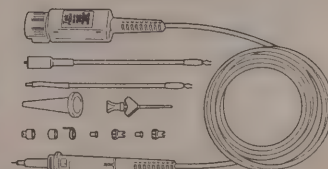
The FlexLead™ Adapters are packaged eight per package

Stock No.	Mfr.'s Type	Package Type	EACH
700-0700	PJ25X16	JEDEC, 25 mil, 64 leads (16 × 16)	145.00
700-0701	PJ25X17	JEDEC, 25 mil, 68 leads (17 × 17)	140.00
700-0702	PJ25X20	JEDEC, 25 mil, 80 leads (20 × 20)	150.00
700-0703	PJ25X21	JEDEC, 25 mil, 84 leads (21 × 21)	165.00
700-0704	PJ25X24	JEDEC, 25 mil, 96 leads (24 × 24)	165.00
700-0705	PJ21624	JEDEC, 25 mil, 80 leads (16 × 24)	160.00
700-0706	PJ25X25	JEDEC, 25 mil, 100 leads (25 × 25)	170.00
700-0707	PJ25X30	JEDEC, 25 mil, 120 leads (30 × 30)	175.00
700-0708	PJ22030	JEDEC, 25 mil, 100 leads (20 × 30)	165.00
700-0709	PJ25X33	JEDEC, 25 mil, 132 leads (33 × 33)	185.00
700-0733	PJ25X41	JEDEC, 25 mil, 164 leads (41 × 41)	200.00
700-0711	PJ25X49	JEDEC, 25 mil, 196 leads (49 × 49)	220.00
700-0712	PJ25X52	JEDEC, 25 mil, 208 leads (52 × 52)	230.00
700-0713	PJ25X60	JEDEC, 25 mil, 240 leads (60 × 60)	250.00
700-0714	PE50X20	EIAJ, 0.5 mm, 80 leads (20 × 20)	170.00
700-0715	PE50X25	EIAJ, 0.5 mm, 100 leads (25 × 25)	185.00
700-0716	PE50X26	EIAJ, 0.5 mm, 104 leads (26 × 26)	190.00
700-0717	PE50X36	EIAJ, 0.5 mm, 144 leads (36 × 36)	200.00
700-0718	PE50X38	EIAJ, 0.5 mm, 152 leads (38 × 38)	210.00
700-0719	PE52638	EIAJ, 0.5 mm, 128 leads (26 × 38)	200.00
700-0734	PE50X40	EIAJ, 0.5 mm, 160 leads (40 × 40)	220.00
700-0721	PE50X52	EIAJ, 0.5 mm, 208 leads (52 × 52)	265.00
700-0722	PE50X60	EIAJ, 0.5 mm, 240 leads (60 × 60)	270.00
700-0723	PE50X64	EIAJ, 0.5 mm, 256 leads (64 × 64)	285.00
700-0724	PE50X75	EIAJ, 0.5 mm, 300 leads (75 × 75)	330.00
700-0736	PE50X76	EIAJ, 0.5 mm, 304 leads (76 × 76)	340.00
700-0726	PE5X20	EIAJ, 0.65 mm, 80 leads (20 × 20)	145.00
700-0727	PE5X28	EIAJ, 0.65 mm, 112 leads (28 × 28)	175.00
700-0728	PE5X36	EIAJ, 0.65 mm, 144 leads (36 × 36)	190.00
700-0729	PE5X40	EIAJ, 0.65 mm, 160 leads (40 × 40)	215.00
700-0737	PE5X46	EIAJ, 0.65 mm, 184 leads (46 × 46)	205.00
700-0731	PE5X52	EIAJ, 0.65 mm, 208 leads (52 × 52)	210.00

Active FET Probes For TekProbe™ BNC Interfaces

P6204

- DC To 1 GHz
- 1.9 pF Input C
- 10 MΩ Input R
- DC Offset
- Identify Button



The P6204, P6205 and P6217 are designed with FET devices for their inputs, which allows very high input resistance values and low input capacitances.

700-0732. P6204.....EACH 1675.00

TekScope™ THS 700 Series Handheld Digitizing Oscilloscopes

— NEW —

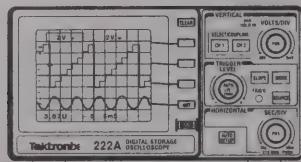
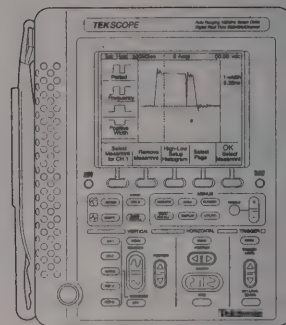
The First Handheld Oscilloscope/Digital Multimeter With Full 100 MHz Digital Real Time Performance

- Unmatched Troubleshooting Productivity and Confidence
- Usability Enhancements, Including An Intuitive Front Panel, Icon-Based Menu System and Back-Lit LCD
- The Ability To Trigger On and Capture A Wide Choice Of Events
- Superior Safety Features, Such As Tektronix' Isolated Channel™ Architecture That Enables Safe Probing On Two Channels, Floating Independently Of Each Other
- Versatility To Measure Various Signals With A Fully Integrated Digital Multimeters and 100 MHz Digital Scope In One Package

Tektronix designed the autoranging TekScope for use in field service and maintenance applications where portability is required. To that end, the TekScope oscilloscope/digital multimeter was designed from the ground up to withstand harsh environments, without additional bulk and weight. At a size of 8.5" x 7" x 2" and a weight of only three pounds, it is smaller than most PC notebooks, but it's rugged enough to handle the strain of portability in the field and on the factory floor. An internal shock cushion provides protection against falls; gaskets protect against dust and water.

Includes: Two P6113B probes, user manual, standard meter lead set, NiCd rechargeable battery pack, AC power adapter, soft carrying case, cable and adapter for RS-232 interface, and NIST-traceable certificate of calibration. **Features. Repetitive Or Single-Shot Bandwidth:** THS710 — 60 MHz; THS720 — 100 MHz. **Max. Sample Rate (Ea. Channel):** THS710 — 250 MS/s; THS720 — 500 MS/s. **Channels:** 2. **Digitizers:** 2. **Max. Record Length:** 2500 points. **Time/Div. Ranges:** THS710 — 10 ns/div. to 50 s/div.; THS720 — 5 ns/div. to 50 s/div. **Glitch Capture:** ≥ 8 ns. **Vertical Sensitivity:** 5 mV to 50 V per div. **Advanced Triggering:** Video and Pulse-width. **Ease-Of-Use:** Autorange +21 Measurements. **Memories:** 10 Setups +10 Waveforms. **DMM:** True RMS with datalogger. **Safety:** Isolated Channels™. **Certifications:** UL, IEC, CSA. **Warranty:** 3 yrs. **TekFax No.:** 40169.

700-0710. THS710.....EACH 1795.00 700-0720. THS720.....EACH 2195.00



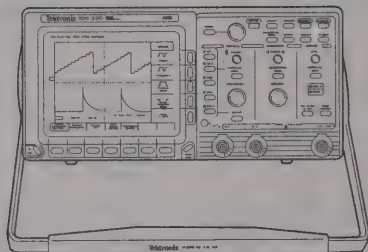
Hand Held Digital Scopes

- 10 MHz Bandwidth
- 10 Mega Sample/sec Sampling Rate
- Programmable Front Panel
- Self-Calibration
- Floatable To +400v/Channel, 800v p-p
- Dual Channels
- 100 ns Glitch Capture
- Auto Setup, Front Panel Setup and Recall
- RS-232-C Standard

The Model 224, 60 mhz scope, is similar to the 222A but with additional features not usually found in a compact portable scope. It is perfect for troubleshooting complex digital and high-speed analog circuits. It offers a video trigger, letting you troubleshoot video displays and imaging systems easily.

700-0120. Model 224EACH 2995.00

Digital Real Time Oscilloscopes



- Two Input Channels
- 2 mV/div. to 10 V/div.
- GPIB/RS-232 Programmability, Parallel Printer Interface and VGA Output With Opt. 14
- 8-Bit Vertical Resolution
- 1 K Record Length
- Roll Mode
- Printer Pack Option
- Vector Accumulate and Dot Accumulate Display Modes
- 2% Vertical Accuracy
- 21 Automatic Measurements
- 10 ns Peak Detect Mode For High-Speed Glitch Capture
- Autosetup

TDS 310

- 50 MHz Bandwidth
- 200 MS/s Sampling Rate
- 10 ns To 5 s/div. Main Sweep
- 10 ns To 5 s/div. Delayed Sweep

TDS 320

- 100 MHz Bandwidth
- 500 MS/s Sampling Rate
- 5 ns To 5 s/div. Main Sweep
- 5 ns To 5 s/div. Delayed Sweep

TDS 350

- 200 MHz Bandwidth
- 1 GS/s Sampling Rate
- 2.5 ns To 5 s/div. Main Sweep
- 2.5 ns To 5 s/div. Delayed Sweep

Common Specifications. Digitizers/Channels: 2. Vertical Resolution: 8-Bit. Vertical Sensitivity: 2 mV to 10 V/div. Acquisition Modes: Sample, Envelope, Average, Peak Detect. Peak Detect/Glitch Capture: 10 ns. Record Length/Channel: 1 K. Signal Processing: Add, Subtract, Autosetup: Yes. Waveform Storage/References: Two 1 K records. Store/Recall: 10 front-panel setups. Automatic Measurements: 21. Trigger: Edge, Video. Display: Dot, Dot Accumulate, Vector, Vector Accumulate. Centronics-Type Printer Port: Yes, Opt. 14. GPIB/RS-232 I/O Interface: Yes, Opt. 14. VGA Monitor Output: Yes, Opt. 14. Warranty: 3 years. Safety Certification: UL, CSA.

Analog Simplicity, Digital Productivity

By balancing the use of on-screen menus with dedicated buttons and knobs, the user-friendly interface retains traditional analog simplicity yet gives quick access to the wide range of digital functions. Frequently used functions, like position and trigger level, are controlled directly with knobs; secondary functions are menu driven, eliminating the profusion of buttons found on most low-cost scopes.

This modern interface dramatically flattens the learning curve, appealing to users regardless of their digital experience. The TDS 300 Series interface simplifies scope operation without limiting the instrument's capabilities.

Communication Option

The I/O Interface (Option 14) includes GPIB, RS-232 I/O interface, and a Centronics-type parallel printer port. With this option you can use a remote computer to control the scope for automated testing, or to exchange waveform or measurement data for documentation and analysis. In addition, a VGA monitor output is provided for classroom viewing or other applications requiring a monitor. Interleaf (.img), TIFF, PCX, BMP, and EPS file formats allow screen captures to be placed directly into desktop publishing documents. Or, at the push of a button, a screen shot can be output directly to a variety of compatible printers. The Printer Pack, Option 3P, provides a single-handle solution to the portable printer problem. A quiet thermal printer, mounted in a pouch attached to the scope, makes clear four-inch hard copies while you continue working. Option 14 is included in Option 3P.

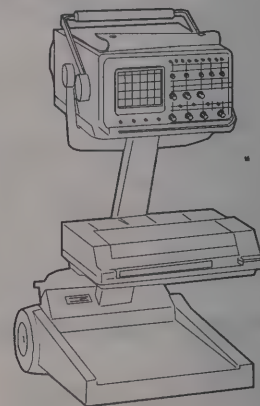
For service, education, and design work, the TDS 300 Series is without peer among low-cost DSOs.

Acquisition Power

With edge triggering and basic video triggering as standard features, the TDS 300 Series can capture the waveforms that designers and service technicians need to see. In addition to 21 automatic waveform measurements, the TDS 300 Series offers four acquisition modes: Sample, Peak Detect, Envelope, and Average. Sample mode provides real-time sampling and has the highest throughput rate. Peak Detect locates glitches as small as 10 ns and reveals aliasing. Envelope mode, by including the highest and lowest points over many acquisitions, shows variations in the signal over time. Average mode uses several acquisitions to calculate an average value for each waveform point, reducing random noise in repetitive signals.

700-0310. TDS310.....EACH 2295.00
700-0320. TDS320.....EACH 3049.00
700-0350. TDS350.....EACH 4295.00

Printer, Cart



K212

- For All Portable Instruments
- Sturdy and Mobile Platform
- Enhances Sharing and Work Space
- Tiltable Front Tray
- Locking Front Casters
- Four Outlet U.S. Power Strip Option

Low Cost Portability

The K212 column and trays are made from high-strength aluminum; the base is thermoset polyester.

Physical Characteristics. Dimensions. Width: Overall Cart — 435 mm/17.0"; Shelf — 407 mm/16.0". Height: Overall Cart — 840 mm/33.0". Depth: Overall Cart — 550 mm/21.6"; Shelf — 352 mm/14.0". Weight: 9 kg; 20 lb.

700-0212. K212.....EACH 425.00

HC220

- Direct Plots in About 90 Seconds
- Compact Size
- Laser Quality Printouts

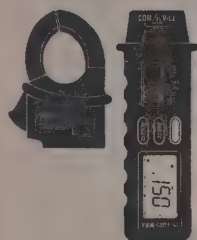
Laser Quality Printer

The HC220 bubble jet printer offers high quality printing in a small package at an economical price.

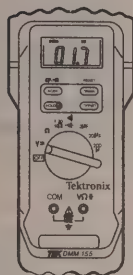
Because it's an ink-jet printer, the HC220 has darker, denser, more consistent printing than most other printers. At 360 dots per inch (DPI), it is considered a laser quality printer. In addition, the printer uses plain paper.

700-0245. HC220.....EACH 485.00

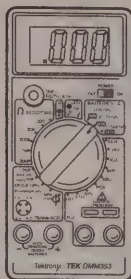
DMM



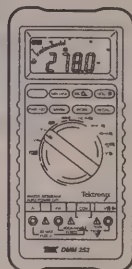
DMM150/CMM150



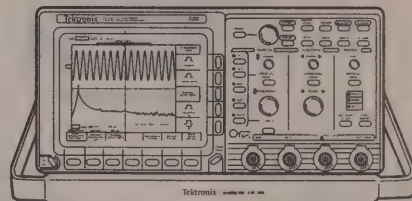
Dmm 155/157



DMM353



DMM252/254



THM 420

DMM150 — Pen Meter; CMM150 — Current Meter

The DMM 150 is one of the smallest and most versatile DMMs on the market. Easy to use, easy to carry, it's great for indoor/outdoor use, one handed operation and making measurements in tight places. It measures AD/DC voltage, resistance, continuity (with beeper) and diodes. For ease of operation it has both auto and manual range capabilities and both a 3.5 digit digital display and 65 segment analog bargraph. It also includes data hold, auto power off, and a low battery indicator.

The CMM 150 turns the DMM 150 into a 300 A digital current meter. The CMM 150 has a non-intrusive range of .1 A to 300 A and a 30 mm jaw opening with a 29 mm conductor diameter.

Instead of carrying and purchasing a separate DMM and current meter use the CMM/DMM 150 combo. The DMM 150 provides all of the features of a rugged DMM, while the CMM 150 turns the DMM 150 into a 300 A non-intrusive current meter.

DMM155/157 — Pocket DMMs

The 155/157 are full featured high value auto ranging DMMs. They both measure AC/DC voltage, AC/DC current, resistance, continuity (with beeper) and diodes.

DMM247/249 — Personal DMMs

The 249 Series are rugged state of the art meters enclosed in dust and water resistant cases. They both measure AC/DC voltage, AD/DC current, resistance, continuity (with beeper) and diodes. The 249 also has True RMS measurement for accurate measurement in the presence of harmonics

DMM252/254 — Professional DMMs

The 250 Series are state of the art meters designed for the professional. Water, dust and impact resistant all measurements are made with a high degree of accuracy and resolution. The meters have many uses and functions including digital meter, analog meter, frequency counter, recorder and capacitance tester.

DMM353 — Component Checker

- 0.5% Basic Accuracy
- Resistance Measurement
- Capacitance Measurement
- SCR Go/No-Go Test

The DMM353 Component Checker is an indispensable tool for the electronic service technician. With several ranges for versatility, it tests transistors, diodes, LEDs, capacitors and batteries.

THM420 — DMM With Waveform Display

For those technicians and engineers who need to monitor signal characteristics such as noise, glitches or distortions in conjunction with a meter measurement, Tektronix offers the autoranging TekWaveMeter, a graphical multimeter with the ability to display a waveform in a low-cost, lightweight unit. The TekWaveMaster THM 420 model is a multipurpose tool designed for troubleshooting, maintenance, installation, calibration and repair of electric and electronic equipment. Because distorted waveforms may display correct voltage measurements in a DMM, equipment that also displays graphical waveforms is advantageous for troubleshooting power quality problems, manufacturing equipment failures and electronic component debugging.

All Tek Digital Multimeters are UL Listed and come with 3 year warranty.

Key Specifications	CMM150	DMM150	DMM155	DMM157	DMM247/249	DMM252/254	THM 420
Display	3200	3200	2000	2000	3200	4000	4000
Basic DC Volts Accuracy	0.7%	0.7%	0.7%	0.5%	0.3%	0.1%	0.3%
AC Voltage Ranges	3 V-600 V	3 V-600 V	2 V-600 V	2 V-600 V	3 V-750 V	400 mV-750 V	400 mV-600 V
AC Voltage Accuracy	1.7%	1.7%	1.7%	1.5%	1.3%	0.5%	0.5%
DC Voltage Ranges	300 mV-600 V	300 mV-600 V	200 mV-600 V	200 mV-600 V	300 mV-1000 V	400 mV-1000 V	400 mV-850 V
DC Voltage Accuracy	0.7%	0.7%	0.7%	0.5%	0.5%	0.1%	0.3%
AC Current Ranges	300 A 300 A with CMM 150	2 mA-10 A with CMM 150	2 mA-10 A	300 µA-20 A	4 mA-10 A	4 mA-10 A	4 mA-10 A
AC Current Accuracy	1.9%	.9%	1.7%	1.5%	1.5%	0.6%	0.9%
DC Current Ranges	—	—	2 mA-10 A	2 mA-10 A	300 µA-20 A	4 mA-10 A	4 mA-10 A
DC Current Accuracy	—	—	1.2%	1.0%	1.0%	0.4%	0.4%
Resistance Ranges	300 Ω-30 MΩ	300 Ω-30 MΩ	200 Ω-20 MΩ	200 Ω-20 MΩ	300 Ω-30 MΩ	400 Ω-40 MΩ	400 Ω-40 MΩ
Resistance Accuracy	1.00%	1.00%	1.00%	0.80%	0.75%	0.40%	0.40%
Capacitance Ranges	—	—	—	2 µF-200 µF	—	4 nF-40 µF	—
Capacitance Accuracy	—	—	—	1.9%	—	1.0%	—
Frequency Ranges	—	—	—	—	—	100 Hz-1 MHz	100 Hz-1 MHz
Frequency Accuracy	—	—	—	—	—	0.1%	0.1%
Autorangeing	—	—	—	—	—	—	—
Digital Oscilloscope	—	—	—	—	—	—	One Channel
Digitizers	—	—	—	—	—	—	6 bit, 16 MS/s

Customer Requested Features

Analog Display	65 segment	65 segment	—	—	65 segment	42 segment	Yes
Auto Power Off	Yes	Yes	—	—	Yes	Yes	Yes
Autorangeing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
with range hold	—	—	—	—	—	—	—
Backlight	—	—	—	—	—	—	Yes
Beep Guard	—	—	—	—	—	—	—
Continuity Check/Beeper	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data Hold	Yes	Yes	—	—	Yes	Yes	—
Delay Hold	—	—	—	—	—	—	—
Diode Test	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Holder and Stand	Carrying Case	Yes	Yes	Yes	Yes	Yes	Opt.
Low Battery Indicator	Yes	Yes	Yes	Yes	Yes	—	—
Memory Store/Recall	—	—	—	—	—	—	—
Min./Max. Store	—	—	—	—	—	—	—
Offset (Zero Reference)	—	—	Yes	Yes	—	—	—
Overrange Indicator	Yes	Yes	Yes	Yes	Yes	Yes	—
Relative Reference	—	—	—	—	—	—	—
Safety	IEC1010, UL1244, CSA	IEC1010, UL1244, CSA	IEC1010, UL1244, CSA	IEC1010, UL1244, CSA	IEC1010, UL1244, CSA	IEC1010, UL1244, CSA	IEC1010, UL1244, CSA
Shockproof	Yes	Yes	4 ft.	4 ft.	5 ft.	6 ft.	—
True RMS	—	—	—	249 only	254 only	Yes	—
Warranty	1 year	1 year	3 years	3 years	3 years	3 years	1 year
Water/Dust Resistant Case	—	—	—	—	Yes	Yes	—

700-0150. DMM150	EACH 59.00	700-0249. DMM249	EACH 185.00
700-0151. CMM150	EACH 59.00	700-0252. DMM252	EACH 225.00
700-0155. DMM155	EACH 75.00	700-0254. DMM254	EACH 250.00
700-0157. DMM157	EACH 95.00	700-9995. DMM353	EACH 110.00
700-0247. DMM247	EACH 145.00	700-0485. THM420	EACH 595.00

TekLuma™ Color Photometers

J17

- Autoranging, Auto Zero
- RS-232 Interface (Output Only)

- Wide Dynamic Features

J18

- Real-Time Color Measurements
- Ten Memories For Storing Reference Colors (With J1810)
- RGB Bar Graph
- D6500 Kelvin Calibration

- Color Temperature Measurement
- Analog Output
- Full Control Of Measurements Plus Output Of Results (RS-232)

Common Features

- Interchangeable Pre-Calibrated Heads
- Accurate Spectral and Cosine Corrections
- Metric/English Conversions
- Large LCD With Backlight

- Rugged
- Handheld
- Adaptable To Many Light Measurement Needs

J17/J18 Photometers

The Tektronix J17 and J18 are handheld digital Photometers/Radiometers/Colorimeters for the laboratory, field, or production area. A J17/J18 System consists of a J17/J18 handheld meter and one of eight interchangeable heads. At the heart of the J17/J18 is a microprocessor capable of performing several functions: Metric-to-US conversion, auto-range, auto-zero, hold, and conversion between color coordinate systems. The J17/J18 can be used with a PC for automated testing and data recording. The J17/J18 are powered by a 9-volt battery. **Specifications. Interchangeable Pre-Calibrated Heads:** Yes. **Accurate Spectral and Cosine Corrections:** Yes. **Metric/English Conversions:** Yes. **Backlit LCD:** Yes. **Analog Output:** Yes. **RS-232 Digital Output:** J17 — No; J18 — Yes. **Programmable:** J17 — No; J18 — Yes. **RS-232 RGB Bar Graph:** J17 — No; J18 — Yes. **Reference Memories:** 10 with J1810 (J18 only). **Color TekMeter™ Measurements:** J17 — No; J18 — Yes. **D6500 Calibration (True White):** J17 — No; J18 — Yes.

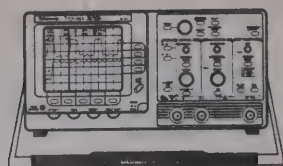
700-0017. Model J17	EACH 1095.00
700-0018. Model J18	EACH 1995.00

Probe Heads

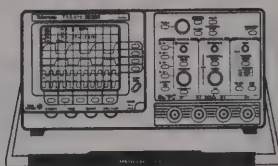
700-1803. J1803	EACH 595.00
700-1810. J1810	EACH 1495.00
700-1820. J1820	EACH 1495.00
700-1811. J1811	EACH 695.00
700-1812. J1812	EACH 795.00
700-1805. J1805	EACH 595.00
700-1806. J1806	EACH 595.00



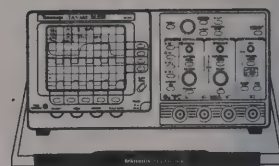
High Performance Analog Oscilloscopes



TAS 465



TAS 475



TAS 485

TAS 200 Series

- ▶ 20 MHz TAS 220
- ▶ 50 MHz TAS 250
- ▶ Single Time Base
- ▶ Two Channels
- ▶ Measurement Cursors

- ▶ CRT Readout
- ▶ Channel 1 Output
- ▶ Video Trigger
- ▶ Direct Access Controls

Easy To Use Interface. The TAS series user interface simplifies scope operation. Both the TAS 400 and TAS 200 Series front panels are similar in operation and the important, frequently used functions are controlled directly with Knobs or Buttons. On the TAS 400 series a menu is used to access secondary functions. **Productivity Features.** The TAS 400 series offers Auto Setup to instantly deliver a triggered display. Pressing the AUTOSET button automatically adjusts the horizontal, vertical, and trigger controls so that a stable signal is displayed. In

TAS 400 Series

- ▶ 100 MHz at Two Channel TAS 465
- ▶ 100 MHz at Four Channel TAS 475
- ▶ 200 MHz at Four Channel TAS 485
- ▶ Dual (Delayed) Time Base
- ▶ Measurement Cursors

- ▶ CRT Readout
- ▶ Auto Setup; Store/Recall Setups
- ▶ Video Trigger
- ▶ Trigger/Ground Reference Indicator
- ▶ Combination Menu/Direct Access Controls

addition, the TAS 400 series front panel settings can be stored in up to four memory locations for easy recall. Both the TAS 200 and TAS 400 series provide measurement cursors and readouts to improve user productivity. Refer to the key specification selection chart and choose the analog scopes best suited for your performance needs. And buy with confidence that these scopes are backed by the leader in oscilloscope technology, Tektronix.

Specifications	TAS 220	TAS 250	TAS 465	TAS 475	TAS 485
Bandwidth	20 MHz	50 MHz	100 MHz	100 MHz	200 MHz
Input Channels	2	2	2	4	4
Rise Time	<17.5 ns	<7 ns	≤3.5 ns	≤3.5 ns	≤1.8 ns
Time Base	Single	Single	Dual	Dual	Dual
Main Sweep Range	0.5 s/div. to 0.1 μs/div.	0.5 s/div. to 0.1 μs/div.	0.5 s/div. to 20 ns/div.	0.5 s/div. to 20 ns/div.	0.5 s/div. to 20 ns/div.
Delayed Sweep Range	—	—	5 ms/div. to 20 ns/div.	5 ms/div. to 20 ns/div.	5 ms/div. to 20 ns/div.
Vertical Sensitivity	5 mV to 5 V/div.	5 mV to 5 V/div.	2 mV/div. to 5 V/div.	2 mV/div. to 5 V/div.	2 mV/div. to 5 V/div.
Vertical Accuracy	±3%	±3%	±2.5%	±2.5%	±2.5%
Horizontal Accuracy	±3%	±3%	±2%	±2%	±2%
X10 Horizontal Accuracy	±5%	±5%	±3%	±3%	±3%
Sweep Speed (X10 mag.), Main	10 ns	10 ns	2 ns/div.	2 ns/div.	1 ns/div.
Sweep Speed (X10 mag.), Delayed	10 ns	10 ns	2 ns/div.	2 ns/div.	1 ns/div.
Trigger Modes	AUTO, NORMAL, TV SGL Sweep	AUTO, NORMAL, TV SGL Sweep	AUTO LEVEL, AUTO, (odd, even, or both), SGL SEQ	AUTO LEVEL, AUTO NORMAL, TV LINE, TV FIELD, (odd, even, or both), SGL SEQ	AUTO LEVEL, AUTO NORMAL, TV LINE, TV FIELD, (odd, even, or both), SGL SEQ
Trigger Delay	—	—	RUNS AFTER DELAY, TRIGGERS AFTER DELAY, TV LINE (from MAIN source)	RUNS AFTER DELAY, TRIGGERS AFTER DELAY, TV LINE (from MAIN source)	RUNS AFTER DELAY, TRIGGERS AFTER DELAY, TV LINE (from MAIN source)
Trigger Coupling (both Main and Delayed)	AC, DC	AC, DC	AC, DC, Noise Reject, HF Reject, LF Reject	AC, DC, Noise Reject, HF Reject, LF Reject	AC, DC, Noise Reject, HF Reject, LF Reject
Auto Setup	No	No	Yes	Yes	Yes
Store/Recall	No	No	4 Front Panel Setups	4 Front Panel Setups	4 Front Panel Setups
Cursors and Readouts	Yes	Yes	Yes	Yes	Yes
CRT	2 kV	12 kV	14 kV	14 kV	14 kV
Warranty	One Year	One Year	Three Years	Three Years	Three Years
Safety Certification	ETL, CSA	ETL, CSA	UL, CSA, IEC348	UL, CSA, IEC348	UL, CSA, IEC348

700-0220. Model TAS 220.....EACH 795.00
700-0300. Model TAS 250.....EACH 1195.00

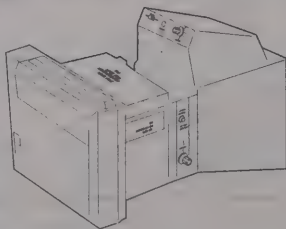
700-0465. Model TAS 465.....EACH 2195.00
700-0475. Model TAS 475.....EACH 2549.00

700-0485. Model TAS 485.....EACH 3650.00

C-9 Oscilloscope Camera

The C-9 CRT Camera uses Polaroid film packs to document most CRT displays. A 3.25" x 4.25" pack film back is standard.

An optional motorized film back is available to reduce handling. It automatically ejects a clean, dry, self-developed print. An optional flash unit is also available for scopes without graticule lighting.



Characteristics. Lens and Aperture: Fixed focus at f/11. **Magnification:** 0.55 or 0.73. **Geometric Distortion:** Less than 0.5%. **Shutter:** Electronic; timed mode from 0.1 to 5 seconds and manual exposure. **Power:** Eight AA alkaline batteries (not included). **Resolving Power:** At least 6 lines/mm at center, 3 lines/mm at the corners. **Safety:** UL Listed 1244.

C-9 - Oscilloscope Camera

Includes: Camera Body without Hood (a hood is required), Instruction Manual. Order 070-8105-01
Opt. 1A — AutoFilm™ Motorized Film Back
Opt. 1F — Graticule Flash Unit for Use with Opt. 07 and/or Opt. 20
Opt. 04 — TDS 400 Series Scope Hood
Opt. 05 — TDS 500/600/800 Series Scope Hood
Opt. 06 — TAS 400 Series Hood
Opt. 07 — 7K Series Scope Hood
Opt. 11 — 11K, CSA, DSA Series Scope Hood
Opt. 20 — Portables (2000) Series Scope Hood

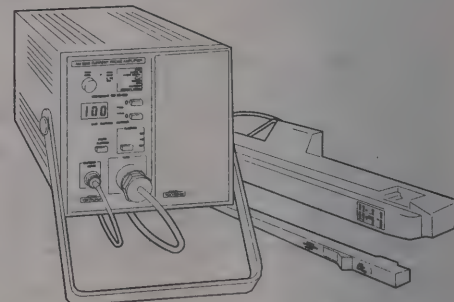
700-0009. C-9.....EACH 630.00

AM503S Current Measurement System

- ▶ AC/DC Measurements
- ▶ With A6302 Probe: DC To 50 MHz; 20 A Continuous/50 A Peak; Split Core; Clips On To Conductors Up To 0.15" Diameter
- ▶ With A6303 Probe: DC To 15 MHz; 100 A Continuous/500 A Peak; Split Core; Clips On To Conductors Up To 0.83" Diameter

Applications

- ▶ Switching Power Supplies
- ▶ Disk Drives
- ▶ Electronic Ballast
- ▶ Motor Drives
- ▶ Inverters
- ▶ All Mixed AC/DC Current Signals



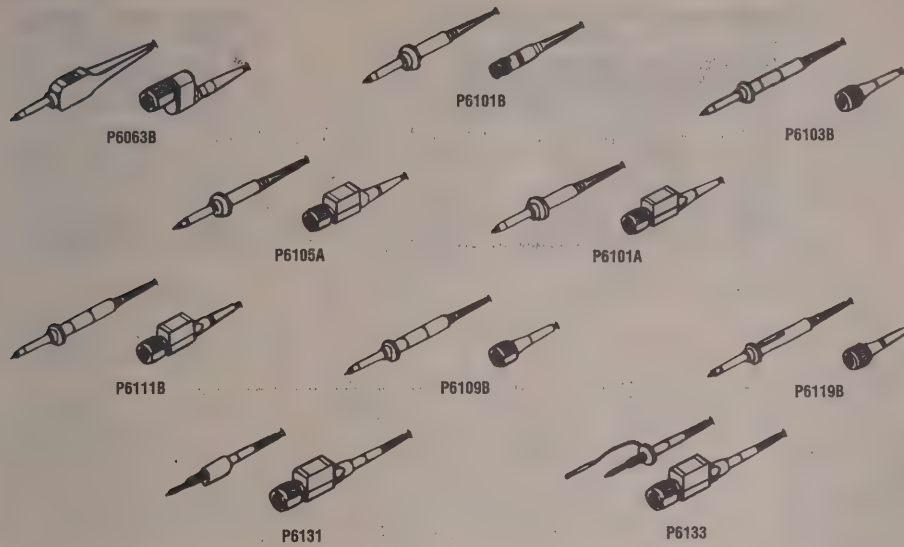
The AM503S Current Probe System is the most versatile current measurement system available. Since the probes incorporate both a transformer and a Hall Effect device, broadband AC/DC current can be measured simultaneously. Depending on the probe used, current from DC to 50 MHz and up to 700 A can be measured by clipping the split-core probes around the conductor. The AM 503S is truly a system, consisting of an AM 503B Current Probe Amplifier, a TM 502A two-wide Power Module, an A6302 Current Probe and a handy plug-in tool box. Options enable you to add or substitute an A6303 Current Probe.

700-0503. Model AM503S.....EACH 2895.00

Stock No.	Mfr.'s Type	Bandwidth Hz to MHz	Peak Pulse (A)	Max. AC P-P (A)	Derate Above (kHz)	Max. DC (A)	Amp's Product	Rise	Current/Div. Display Range	Insertion Imped. @ 1 MHz (Ω)	Max. Barewire Voltage (V)	Max. Cond. Dia. (In.)	Cable Length (m)	EACH
700-0302	A6302	DC to 50	50	40	20	20	100 × 10-6	1 mA to 5 A*1	≤7.0 ns	0.10	500	0.15	2	820.00
700-6303	A6303	DC to 15	500	200	20	100	10,000 × 10-6	5 mA to 50 A*1	≤23 ns	0.02	700	0.83	2	1540.00

*1 Scope set to 10 mV/Div..

Voltage Probes



Tek brings you the world's widest choice of probes to enhance your scope's performance and assure maximum signal fidelity. Plus, you'll find special features like modularity and miniaturization to save you time and money.

Stock No.	Mfr.'s Type	Attenuation	Nominal Length	Loading	BW MHz at -3 dB	DC + pk AC Maximum	Scope C In pF	Readout/GRD Ref.	EACH
700-6063	P6063B	10X	6.0 ft.	10 M Ω /14.0 pF	200	500 V	15 to 24	Yes/Yes	360.00
		1X		1 M Ω /105.0 pF	6				
700-6101	P6101B	1X	2.0 m	10 M Ω /100.0 pF	15	420 V	Any	— (1X)/No	65.00
700-6103	P6103B	10X	2.0 m	10 M Ω /13.0 pF	50	420 V	15 to 35	No/No	70.00
700-6105	P6105A	10X	2.0 m	10 M Ω /11.0 pF	100	500 V	15 to 35	Yes/Yes	185.00
700-6106	P6106A	10X	2.0 m	10 M Ω /11.0 pF	250	500 V	15 to 35	Yes/Yes	215.00
700-6111	P6111B	10X	2.0 m	10 M Ω /14.0 pF	200	420 V	15 to 35	Yes/No	140.00
700-6109	P6109B	10X	1.5 m	10 M Ω /13.0 pF	150	500 V	15 to 35	Yes/Yes	85.00
700-6119	P6119B	10X	2.0 m	10 M Ω /15.3 pF	100	500 V	15 to 35	No/Yes	95.00
		1X		1 M Ω /120.0 pF	8	350 V			
700-6131	P6131	10X	1.3 m	10 M Ω /10.8 pF	300	500 V	12 to 18	Yes/No	200.00
700-6133	P6133	10X	1.3 m	10 M Ω /11.4 pF	150	500 V	15 to 30	Yes/No	180.00
700-6134	YT5060	10X	1.3 m	10 M Ω /11.4 pF	60	500 V	15 to 30	No/No	39.95
		1X		1 M Ω /120.0 pF	8	350 V			
700-6135	YT5100	10X	1.5 m	10 M Ω /16.5 pF	100	500 V	20 to 45	No/No	39.95
		1X			100				40.00
700-6137	P6137	10X	1.3 m	10 M Ω /10.8 pF	400	400 V	12 to 18	Yes/Yes	225.00

High Voltage Probes

— NEW —

P5100

- ▶ DC to 250 MHz
- ▶ 2,500 V DC+ Peak AC
- ▶ 100 X With Readout
- ▶ UL Listed 1244
- ▶ IEC 1010 Certified
- ▶ 7 To 30 pF Compensation Range

P6015A

- ▶ High voltage — 20 kV DC/40 kV Peak (100 ms Pulse Width)
- ▶ High bandwidth — 75 MHz
- ▶ Silicone Dielectric
- ▶ Optional 1000 X Coding
- ▶ Wide Compensation Range (7 To 49 pF)
- ▶ Heavy Duty Versatile Ground Lead and Clip

P6007

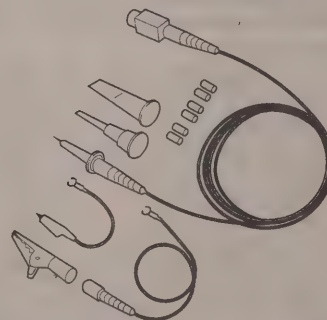
- ▶ DC To 25 MHz
- ▶ 100 X
- ▶ 1,500 VDC + Peak AC
- ▶ Low Capacitance — 2.0 pF

P6009

- ▶ DC To 120 MHz
- ▶ 100 X With Readout
- ▶ 1,500 VDC +

Peak AC

- ▶ Low Capacitance — 2.5 pF



Use Tek's 100X and 1000X high voltage probes to measure elevated voltages without damaging your probe, scope... or yourself. These high-performance probes provide low capacitance, high input impedance, and frequency response starting at DC. All Tektronix probes come with instruction manuals and the appropriate probe tips, ground leads, attachments and other accessories.

High Voltage Probe Feature Summary

Tek high voltage probes are compatible with a wide range of scopes. They can be used with any scope with nominal input capacitances of 12 pF to 47 pF and input resistance of 1 M Ω .

Stock No.	Mfr.'s Type	Nominal Length	Attenuation	Bandwidth	Rise Time	Loading	Max. Input V	In pF DC or RMS	Readout	EACH
700-6015	P6015A	10.0 ft.	1000X	75 MHz	4.00 ns	100 M Ω /3 pF	20.0 kV	7 to 49	No	995.00
700-6115	P6015A/Opt. 1R	10.0 ft.	1000X	75 MHz	4.00 ns	100 M Ω /3 pF	20.0 kV	7 to 49	Yes	1055.00
700-6215	P6015A/Opt. 2S	25.0 ft.	1000X	25 MHz	14.00 ns	100 M Ω /4 pF	20.0 kV	7 to 49	No	1125.00
700-6615	P6015A/Opt. 2R	25.0 ft.	1000X	25 MHz	14.00 ns	100 M Ω /4 pF	20.0 kV	7 to 49	Yes	1170.00
700-5100	P5100	10.0 ft.	100X	250 MHz	1.75 ns	10 M Ω /2.75 pF	2.5 kV	7 to 30	Yes	199.00
700-6007	P6007/Opt. 01	3.5 ft.	100X	25 MHz	14.00 ns	10 M Ω /2 pF	1.5 kV	8 to 55	No	245.00
700-6067	P6007	6.0 ft.	100X	25 MHz	14.00 ns	10 M Ω /2.2 pF	1.5 kV	8 to 55	No	210.00
700-6037	P6007/Opt. 03	9.0 ft.	100X	25 MHz	14.00 ns	10 M Ω /2.4 pF	1.5 kV	8 to 55	No	250.00
700-6047	P6007/Opt. 04	12.0 ft.	100X	25 MHz	14.00 ns	10 M Ω /2.6 pF	1.5 kV	8 to 55	No	255.00
700-6009	P6009	9.0 ft.	100X	120 MHz	2.90 ns	10 M Ω /2.5 pF	1.5 kV	8 to 47	Yes	315.00

Specialty Probes

Differential Probes, Logic Probe

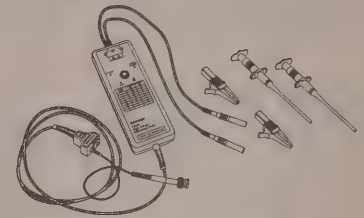
P6408

- ▶ For TTL and TTL-Compatible Logic
- ▶ 17-Bits (16 Data Bits Plus Qualifier)
- ▶ Synchronous and Asynchronous Operation
- ▶ Easy to Use
- ▶ Simplifies Digital Troubleshooting and Debug

The P6408 is a 16-Bit word recognizer trigger probe for use with analog and digital storage oscilloscopes. It allows the oscilloscope to trigger on user-defined logic states (rather than on analog levels), thus extending the utility of the oscilloscope into digital troubleshooting and debug applications.

700-6408. P6408 EACH 570.00

P5200 Active Differential Probe



- ▶ 1300 V Differential
- ▶ ± 1 kV to Ground (Each Channel)
- ▶ 50X/500X Attenuation
- ▶ 25 MHz
- ▶ Excellent Signal Fidelity
- ▶ Easy Connection to ICs and Bus Bars
- ▶ Safe for User and DUT
- ▶ UL Certified 1244
- ▶ IEC 1010 Certified

The P5200 enables users to safely make measurements up to 1,300 V differential of floating circuits with their oscilloscopes grounded. The P5200 Active Differential Probe converts floating signals to low-voltage ground referenced signals that can be displayed safely and easily on any ground referenced oscilloscope.

700-5200. P5200 EACH 399.00

ADA400A Differential Preamplifier

- ▶ Active Differential Preamplifier
- ▶ 10 pV/div Sensitivity
- ▶ Typically 100 dB CMRR, DC to 10 kHz
- ▶ Integral Probe Power in TekProbe™ BNC

The ADA400A Differential Preamplifier allows direct oscilloscope measurements of very low amplitude voltages and signals which are not ground referenced. The high impedance of both inputs eliminates the need to add additional ground points in the DUT, thereby avoiding circulating currents which disturb the measurement or the circuit.

700-5205. ADA400A EACH 895.00

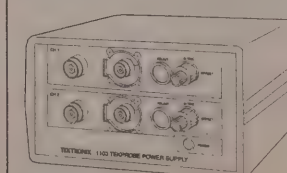
Active Probes

P6205

- ▶ DC to 750 MHz
- ▶ 2 pF Input C
- ▶ 1 M Ω Input R
- ▶ Low Price

The P6205 Low Circuit Loading Active Signal Acquisition probe with Active FET devices in its input provides very high input impedances. The P6205 provides a wide linear dynamic input range for accessing most digital device families using today's logic voltage levels.

700-6205. P6205 EACH 630.00

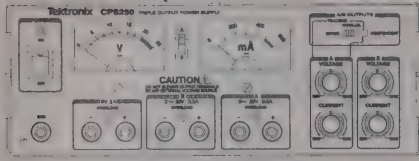


1103

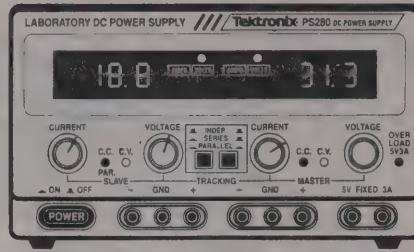
The 1103 TEKPROBE™ Power Supply provides power for up to two P6205 Probes or other compatible probes. Also powers ADA400A Active Differential Probe.

700-1103. 1103 EACH 675.00

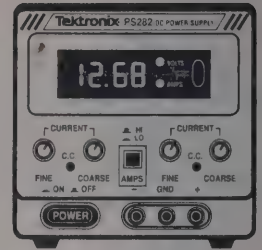
Power Supplies



CPS250



PS280/PS283



PS281/PS282

CPS250

The CPS250 Triple Output Power Supply is a versatile instrument with two variable outputs and one fixed output. Its attractive, compact design with tilt-handle takes up less bench space than most other power supplies. It meets most basic test and lab bench requirements.

PS281/PS282 DC Power Supplies

The Tektronix PS281/PS282 DC Power Supplies meet the requirements of laboratory, classroom and production environments. Output is continuously variable up to the rated voltage/current by means of coarse and fine potentiometers. The PS281 is rated at 30 V/3 A; the PS282 at 18 V/5 A max.

The PS281 and PS282 are designed to be connected in series to increase voltage output or in parallel for a higher current output. Serial and parallel tracking can be achieved by connecting a rear panel jumper between two or more units.

The compact case and multiple operating modes of the PS281 and PS282 offer convenience and flexibility for a space-limited engineering bench.

PS280/PS283 Power Supplies

The Tektronix PS280 and PS283 Laboratory DC Power Supplies are multifunction benchtop or portable instruments. These regulated power supplies provide fixed 5 V output for powering logic circuits and two variable outputs for a wide variety of test and experimental uses.

The PS280 and PS283 contain two identical, independently adjustable DC power supplies that can vary from 0 to 30 V, and 0 to 2 A in the PS280 or 0 to 1 A in the PS283. Front-panel switches select one of three modes of operation: independent, series, or parallel.

700-0900. CPS250.....	EACH 495.00
700-0285. PS280.....	EACH 725.00
700-0283. PS283.....	EACH 699.00
700-0281. PS281.....	EACH 405.00
700-0282. PS282.....	EACH 405.00

Selection Guide

Key Specifications	CPS250	PS280	PS283	PS281	PS282
Fixed Voltage Supply	One, 5 V	One, 5 V	One, 5 V	—	—
Fixed Current Supply	2.0 A	3.0 A	3.0 A	—	—
Variable Output Voltage (in independent mode)	Two, 0 to 20 V	Two, 0 to 30 V	Two, 0 to 30 V	One, 0 to 30 V	One, 0 to 18 V
Variable Output Current (in independent mode)	0.5 A max.	2.0 A max.	1.0 A max.	One, 0 to 3.0 A	One, 0 to 5.0 A
Variable Output Voltage (in parallel mode)	0 to 20 V	0 to 30 V	0 to 30 V	—	—
Variable Output Current (in parallel mode)	1.0 A max.	4.0 A max.	2.0 A max.	—	—
Variable Output Voltage (in series mode)	One ± 20 V or One 0 to 40 V	One ± 30 V or One 0 to 60 V	One ± 30 V or One 0 to 60 V	—	—
Variable Output Current (in series mode)	0.5 A max.	2.0 A max.	1.0 A max.	—	—
Tracking Error	$\pm 0.2\% + 20$ mV	$\leq 0.5\% + 10$ mV	$\leq 0.5\% + 10$ mV	$< \pm 500$ mV	$< \pm 500$ mV

Customer Requested Features

Analog Display	Two meters	No	No	No	No
Auto-Series/Parallel Operation	Yes	Yes	Yes	Yes*	Yes*
Auto-Master/Slave Tracking	Yes	Yes	Yes	Yes*	Yes*
Constant Current Mode	Yes	Yes	Yes	Yes	Yes
Constant Voltage Mode	Yes	Yes	Yes	Yes	Yes
Variable Current Limiting	Yes	Yes	Yes	Yes	Yes
Digital Display	No	Two 2,000 Count LEDs	Two 2,000 Count LED	One 2,000 Count LED	One 2,000
Overload Indicator	Yes	Yes	Yes	Yes	Yes
Ripple and Noise	2 mV RMS	≤ 2 mV RMS	≤ 2 mV RMS	< 0.5 mV RMS	< 0.5 mV RMS (≤ 3 A) < 1.0 mV RMS (> 3 A)
Dual Tracking	0 to 20 V at 0.5 A	0 to 30 V at 2.0 A	0 to 30 V at 1.0 A	0 to 30 V at 3.0 A	0 to 18 V at 5.0 A
Selectable Independent	Yes	Yes	Yes	Yes	Yes
Tracking Mode	—	—	—	—	—
Safety Certification	UL, CSA	ETL, CSA	ETL, CSA	ETL, CSA	ETL, CSA

* With additional PS281 or PS282 units wired between rear connectors.

Programmable Benchtop Power Supplies

PS2510/PS2510G/PS2511/PS2511G

The single output PS2510/PS2510G and PS2511/PS2511G Power Supplies are especially suited to low-cost computer controlled systems. The PS2510/PS2510G provide a maximum of 36 V and 3.5 A. The PS2511/PS2511G are rated up to 20 V and 7 A.

The PS2510G and PS2511G are GPIB programmable. The GPIB command sets are SCPI compatible.

Each power supply features 100 memories to store voltage and current limits for instant recall via the front panel or GPIB.

PS2520/PS2520G/PS2521/PS2521G

The triple output PS2520/PS2520G and PS2521/PS2521G Power Supplies are versatile supplies suitable for many applications. The PS2520/PS2520G has a single supply providing a maximum of 6 V and 3 A and two supplies providing a maximum of 36 V and 1.5 A. The PS2521/PS2521G has a single supply providing a maximum of 6 V and 5 A and two supplies providing a maximum of 20 V and 2.5 A.

The supplies can be operated in one of three modes: independent, series, or parallel. In the independent mode, the output voltage and current of each supply are controlled independently. In the two tracking modes, the variable outputs are connected either in series or in parallel; the controls of the master power supply adjust the voltage or current of both power supplies.

The PS2520G and PS2521G are GPIB programmable. The GPIB command sets are SCPI compatible.

Each power supply features 100 memories to store voltage and current limits for instant recall via the front panel or GPIB.

Selection Guide

Key Specifications	PS2510/PS2510G	PS2511/PS2511G	PS2520/PS2520G	PS2521/PS2521G
Number of Outputs	1	1	3	3
Output Voltage	0 to 36 V	0 to 20 V	0 to 6 V, 0 to 36 V (two)	0 to 6 V, 0 to 20 V (two)
Output Current	0 to 3.5 A	0 to 7 A	0 to 3 A (6 V), 0 to 1.5 A (36 V)	0 to 5 A (6 V), 0 to 2.5 A (20 V)
Voltage Accuracy	0.025% + 25 mV	0.025% + 25 mV	0.05% 5 mV + 25 mV	0.05% 5 mV + 25 mV
Current Accuracy	0.2% + 10 mA	0.2% + 10 mA	0.2% + 10 mA	0.2% + 10 mA
Programmable Voltage Resolution	10 mV	10 mV	10 mV	10 mV
Programmable Current Resolution	1 mA	1 mA (2 mA > 3.5 A)	1 mA	1 mA

Customer Requested Features

Display	Digital, LED	Digital, LED	Digital, LED	Digital, LED
Auto-series/Parallel Operation	—	—	Yes	Yes
Auto-master/Slave Tracking	—	—	Yes	Yes
Constant Voltage Mode	Yes	Yes	Yes	Yes
Constant Current Mode	Yes	Yes	Yes	Yes
Variable Current Limit	Yes	Yes	Yes	Yes
Over-voltage Protection	Yes	Yes	Yes	Yes
Over-current Protection	Yes	Yes	Yes	Yes
Dual 4-Digit Panel Meter	Yes	Yes	Yes	Yes
Internal Memory	Yes, 100	Yes, 100	Yes, 100	Yes, 100
GPIB	Yes, PS2510G	Yes, PS2511G	Yes, PS2520G	Yes, PS2521G
Safety Certifications	ETL, CSA	ETL, CSA	ETL, CSA	ETL, CSA

700-2610. PS2510.....	EACH 925.00
700-2615. PS2510G.....	EACH 1130.00
700-2620. PS2511.....	EACH 925.00

700-2625. PS2511G.....	EACH 1130.00
700-2630. PS2520.....	EACH 1195.00
700-2635. PS2520G.....	EACH 1395.00

700-2640. PS2521.....	EACH 1195.00
700-2645. PS2521G.....	EACH 1395.00

TekMeter™ THM420, THM560 and THM565

THM Series TekMeter™

The TekMeter Series combines the power of a true RMS digital multimeter and a 25 MS/s autoranging digital storage oscilloscope in one compact, simple-to-use, rugged, battery-powered unit. Designed for a wide variety of industrial applications, the TekMeter measures and displays signals from a few millivolts to several hundreds of volts. Its unique, autoranging scope tracks the signal and adjusts the instrument automatically. There's no need to be an expert scope user to get immediate results.

The simple interface allows access to numerous powerful and time-saving features such as automatic measurements, capturing and time stamping AC-line faults, calculation of transformer harmonic derating factor (THDF), stable triggering on complex AC-motor drive signals, measuring true power, plus several other DMM252 and scope functions.

A Unique Multi-Function Display

Unlike a traditional DMM, the TekMeter's large display tells you everything you need to know about what you're measuring. In addition to the numerical and analog bar readout you're used to seeing on a DMM, the display shows Max., Min., Max-Min., Hold, and Δ Hold all at once. You get more information about the signal, all on a single display.

Switch to the scope mode and TekMeter provides a waveform display similar to a traditional oscilloscope. The scope-mode display is autoranging, so it automatically scales and tracks as the signal changes, giving you hands-free operation. You can concentrate on the measurement, not the instrument, making measurements easier and faster.

Lots of Power in a Small Package

Even though the TekMeter easily fits in your hand, it packs more power and features than instruments many times its size. Its simple interface allows quick access to a host of features such as cursors, automatic measurements, true power measurements, Transformer Harmonic Derating Factor (THDF), and spike detect — all of which will help you get to the source of your problem more quickly. TekMeter can do anything you're doing now, and more. You get measurable results that get the job done.

700-0485. THM420.....	EACH	595.00
700-0560. THM560. True RMS Multimeter with Dual (2) Channel Oscilloscope.....	EACH	895.00
700-0565. THM565. Deluxe True RMS Multimeter with Dual (2) Channel Oscilloscope.....	EACH	1295.00

TekTools Accessories

WP200 Parallel Printer Interface

The Parallel Printer Interface allows the 200 Series Handheld Digitizing Oscilloscope to connect directly to an Epson-compatible printer. Just push a button and this battery-powered (9 V) unit instantly acquires and prints the displayed waveform. The interface automatically disconnects when not in use.

700-0200. Model WP200.....EACH 310.00

BAT200 Portable Battery Kit

The BAT200 Battery Kit provides extended measurement time for remote or on-site measurements with a 200 Series Handheld Digitizing Oscilloscope. Includes an extra battery, charger, cigarette lighter adapter, clamp-on hood, and two accessory pouches.

700-0205. Model BAT200.....EACH 295.00

CAT200 Remote Control Software

The CAT200 Virtual Instrument Software recreates the front panel of a 200 Series Handheld Digitizing Oscilloscope on an IBM PC- or PS/2-compatible computer monitor. You can remotely control the front panel of the 200 Series using either the keyboard or a mouse. Connect the scope via a 2400-baud modem and you can control scope operation and collect waveform data from across the room or across the country.

700-0210. Model CAT200.....EACH 430.00

P400 1X High-Voltage Probe

The P400 1X High-Voltage Probe plugs directly into the 200 Series Handheld Digitizing Oscilloscopes. The P400 is UL listed and was specifically designed for making safe power measurements using the completely isolated floating input channels of the 200 Series.

700-0215. Model P400.....EACH 110.00

P850 10X High-Voltage Probe

The P850 10X High-Voltage Probe plugs directly into the 200 Series Handheld Digitizing Oscilloscopes. The P850 is UL listed and was specifically designed for making safe power measurements using the completely isolated floating input channels of the 200 Series.

700-0225. Model P850.....EACH 120.00

A603 150 Amp AC Current Probe

This "clothes-pin" style clamp-on probe is a current transformer for digital multimeters having an mA input. The A603 can measure RMS AC currents ≥ 2 amps and peak currents up to 150 amps over a frequency range of 45 Hz to 1 kHz. It provides a 1 mA output for each amp measured.

700-0625. Model A603.....EACH 70.00

A605 500 Amp AC Current Probe

This "busbar" style clamp-on probe is a current/voltage transformer for digital multimeters and TekMeter. The A605 can measure RMS AC currents ≥ 4 amps and peak currents up to 500 amps over a frequency range of 48 Hz to 1 kHz. It provides a 1 mV output for each amp measured.

700-0630. Model A605.....EACH 80.00

A610 500 Amp AC/DC Current Probe

This "busbar" style clamp-on probe uses a Hall Effect current sensor to provide a voltage output to digital multimeters. The A610 can measure RMS AC currents ≥ 2 amps and peak currents up to 500 amps over a frequency range of DC to 440 Hz. It provides a 1 mV output for each amp measured.

700-0635. Model A610.....EACH 180.00

A620 2000 Amp AC Current Probe

This industrial style clamp-on probe is a current transformer for the 200 Series Handheld Digitizing Oscilloscopes. The A620 can measure RMS AC currents from 100 milliamperes to 1000 amps peak over a frequency range of 1 Hz to 50 kHz. It provides a 1 mV, 10 mV, or 100 mV output for each amp measured. The A620 provides safe, easy, floating current measurements with no danger to you or your equipment.

700-0645. Model A620.....EACH 370.00

A621 1000 Amp AC Current Probe/BNC

This industrial style clamp-on probe has a BNC connector and a shrouded banana plug adapter so it can be used on digital multimeters, TekMeter™, and scopes. The A621 can measure AC currents from 100 milliamperes to 2000 amps peak over a frequency range of 5 Hz to 50 kHz. It provides a 1 mV, 10 mV, or 100 mV output for each amp measured.

700-0640. Model A621.....EACH 365.00

A622 100 Amp AC Current Probe/BNC

This "long nose" style clamp-on probe uses a Hall Effect current sensor to provide a voltage output to oscilloscopes. It has a BNC connector and a shrouded banana plug adapter so it can also be used on digital multimeters and TekMeter. The A622 can measure AC/DC currents from 50 mA to 100 amps peak over a frequency range of DC to 100 kHz. It provides 10 mV or 100 mV output for each amp measured.

700-0622. Model A622.....EACH 390.00

THM5BAT Rechargeable NiCad Battery Pack

The Rechargeable NiCad Battery Pack is specially designed for the TekMeter. With 750 milliamp hours of capacity, the TekMeter Battery Pack has 50% more energy than regular NiCad batteries. Matched cells ensure that the battery pack delivers full power. Buy two battery packs and keep one ready to go with the THM5CHG charger.

700-0615. Model THM5BAT.....EACH 39.00

Digital Multimeter Mode

Features	THM 420	THM 560	THM 565
True RMS V AC	✓	✓	✓
V DC	✓	✓	✓
Ω -Ohms	✓	✓	✓
Audible Continuity Tester	✓	✓	✓
Hold, Δ Hold	✓	✓	✓
Min., Max., Max. to Min.		✓	✓

Oscilloscope Mode

Autoranging	✓	✓	✓
Single Channel	✓		
Dual Channel		✓	✓
Spike Detect		✓	✓
Save Waveforms		✓	✓
Save Screens		✓	✓
Δ V, Δ T Cursors		✓	✓
Frequency		✓	✓
Line Test, Duty Cycle, Period, Voltage Disturbance	✓	✓	✓
Current, Power and Power Factor*		✓	✓
Transformer Harmonic Derating Factor*		✓	✓
3-Phase Test		✓	✓
Event Clock			✓
Extended Save Memory			✓
Backlit Display	✓		✓
Motor Test			✓

*Requires optional current probe.

THM5CHG Quick Charge Battery Charger

Never be without power! Charge your TekMeter THM5BAT NiCad Battery Pack in one hour or less. The smart charger senses when the battery pack is fully charged and shifts into trickle charge mode to keep it fully charged, maximizing the life of your battery pack. A wall-mount transformer and a cigarette lighter adapter are included.

700-0545. Model THM5CHG.....EACH 129.00

THM5AC AC Power Adapter

The AC Power Adapter allows continuous operation of the TekMeter from an AC power source. The specially designed wall-mount transformer supplies power directly to the TekMeter battery compartment while maintaining the 600 V/floatability specification.

700-0650. Model THM5AC.....EACH 45.00

THM5HCA Protective Transport Case

The Hard-Sided Transport Case provides heavy duty protection for transport of your TekMeter and all its accessories.

700-0610. Model THM5HCA.....EACH 67.00

THM5SCA Soft Case

The Soft Case has an adjustable neck strap which frees you to make measurements that require both hands. A thumbscrew holds your TekMeter securely in the padded case, so even if tipped upside down it won't fall out. The Soft Case is also a carrying case with handle. There's space inside for probes, probe attachments, and a pocket for notes or reference guides.

700-0605. Model THM5SCA.....EACH 67.00

THMCOM1 Communications Pack

The Communications Pack provides an AC/DC cigarette lighter adapter, RS-232 cable, PC-link software, and a flip-out stand.

700-0620. Model THMCOM1.....EACH 295.00

TXMDXPB Deluxe Probe Set

The Deluxe Probe Set consists of four high-temperature, silicone-insulated probe leads with matching attachments. Each set includes a very sharp test point useful for piercing conformal coatings or corrosion that might interfere with accurate readings. The set also includes two mini-plunger clamps for hands-free operation, one rad hook-style test clip, and one black wide-jaw alligator test clip for secure attachment to ground.

700-0600. Model TXMDXPB.....EACH 99.00

**Instrumentation
Adapter Kit**

**TPI 3000A Coax
Connector Kit**

The TPI 3000 Kit includes male and female connectors of all eight types. Any adapter can be created on the spot, in just seconds. Simply screw any combination of 24 connectors to one of the 6 Universal Interfaces. No soldering or crimping is needed so connectors can be used over and over again in different combinations. All contacts are gold plated. Connector bodies are silver plated, machined brass with teflon insulation. The zippered, soft leather case protects and organizes the collection. The TPI 3000A Kit contains: 2 male and 2 female types BNC, N and UHF; 1 male and 1 female types SMA, Mini, UHF, F and RCA; and 6 Universal Interface Connectors. Spare pieces can be ordered individually.


**TPI-4026 CELLUDAPT
Cellular Technicians
Adapter Kit — NEW —**

The most exciting new coaxial product introduced in the last five years. All of the Features that made UNIDAPT famous combined with all new CELLUDAPT adapters to fit the antenna outputs of practically every cellular radio/telephone made. Also included in this 22 piece kit is an inductive coupler for fixed antennas, which consists of three feet of cable terminated with the UNIDAPT universal connector. New adapters will be introduced to fit new cellular radios/telephones as they become available. Expansion slots are provided in the foam line case for those new additions. All CELLUDAPT sections are made of silver plated machined brass with a gold plated phosphor bronze center contact anchored in a Teflon dielectric.

Individual pieces are the same as the TPI 3000A described to the 6 ft. Kit includes 2 male and 2 female of each connector plus 4 Universal Interfaces—20 pieces in all.

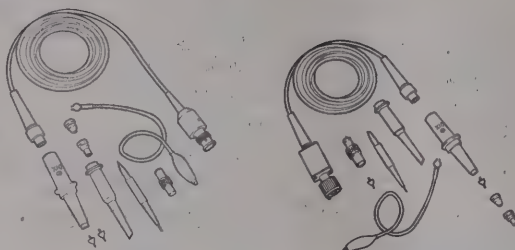
955-4000. Model TPI 4000EACH 98.00

955-3000. TPI-3000A Entire KitEACH 150.00

955-4026. Model TPI-4026EACH 165.00

**Repairable Oscilloscope Probes —
250MHz, 300 MHz**

These probes fit all oscilloscopes with BNC connectors. They are intended for use by professional engineers and technicians who need accuracy and durability at an economical price. Cables are thin and flexible so they bend for easy handling, but they don't break. Modular probes screw together without soldering for instant, on-site repair. Performance criteria such as 1.2 nanosecond risetime and less than 3 percent overshoot assure precise measurements. Model numbers ending with AP have the activator pin for readout or automatic scale factoring.

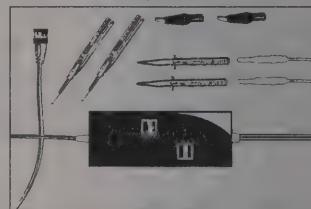


Stock No.	Mfr.'s Type	Atten.	Cable Length	Input R	Imped C	Band Width	Max Input V DC+AC Peak	Read-out	EACH
955-0415	M15X10HFB	X10	1.2m	10 MΩ	15.0pF	300 MHz	600 V	No	79.00
955-0420	M20X10HFB	X10	2.0m	10 MΩ	16.0pF	250 MHz	600 V	No	84.00
955-0515	M15X10HFAPB	X10	1.2m	10 MΩ	15.0pF	300 MHz	600 V	Yes	96.00
955-0520	M20X10HFAPB	X10	2.0m	10 MΩ	25.0pF	300 MHz	600 V	Yes	96.00
955-0615	M15X100B	X100	1.5m	100 MΩ	6.5pF	250 MHz	1200 V	No	85.00
955-0620	M20X100B	X100	2.0m	100 MΩ	7.5pF	250 MHz	1200 V	No	91.00
955-0630	M30X100B	X100	3.0m	100 MΩ	7.5pF	250 MHz	1200 V	No	92.00
955-6012	M12X10B	X10	1.2m	10 MΩ	15.0pF	250 MHz	600 V	No	64.00
955-6020	M20X10B	X10	2.0m	10 MΩ	16.0pF	200 MHz	600 V	No	68.00
955-6022	M30X10B	X10	3.0m	10 MΩ	18.0pF	150 MHz	600 V	No	75.00
955-7012	M12X10APB	X10	1.2m	10 MΩ	15.0pF	250 MHz	600 V	Yes	68.00
955-7020	M20X10APB	X10	2.0m	10 MΩ	16.0pF	200 MHz	600 V	Yes	74.00
955-7030	M30X10APB	X10	3.0m	10 MΩ	18.0pF	150 MHz	600 V	Yes	79.00
955-6025	M12X1B	X1	1.2m	1 MΩ	47.0pF	30 MHz	600 V	No	39.00
955-6028	M20X1B	X1	2.0m	1 MΩ	70.0pF	25 MHz	600 V	No	45.00
955-6030	M30X1B	X1	3.0m	1 MΩ	100.0pF	15 MHz	600 V	No	49.00
955-5012	M12SWB*	X1-X10	1.2m	10 MΩ	55-15	20-250	600 V	No	74.00
955-5020	M20SWB*	X1-X10	2.0m	10 MΩ	70-16	15-100	600 V	No	78.00
955-5030	M30SWB*	X1-X10	3.0m	10 MΩ	100-18	10-100	600 V	No	85.00

*Switchable Probe.

Differential Oscilloscope Probe

The TPI model ADF15 is an active probe for making differential measurements with any oscilloscope.


Features

- ▶ Bandwidth: DC to 15MHz
- ▶ Safe - make floating measurements with oscilloscope grounded
- ▶ Input Voltage: 700 V dc + peak ac max.
- ▶ Easy to use - small, light, with internal battery
- ▶ Economical - half the cost of wide brand probes
- ▶ Simple - needs no isolation amplifier
- ▶ X20-X200 switchable attenuation
- ▶ For power supply, large motor drives and similar applications

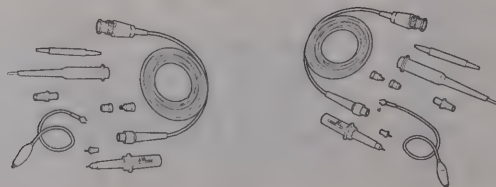
955-1115. Model ADF15.....EACH 375.00

**High Voltage
Probe**
**Model
HV40B 150Hz**

Low frequency probe for use with any instrument having input resistance of 10 Mohms.

Specifications. Bandwidth: 150Hz. Max. Input V. (DC + peak AC): 40,000V. Input Resistance: 1000 Mohms. Voltage Division Ratio: 1000:1. Cable Length: 1.5 meters.

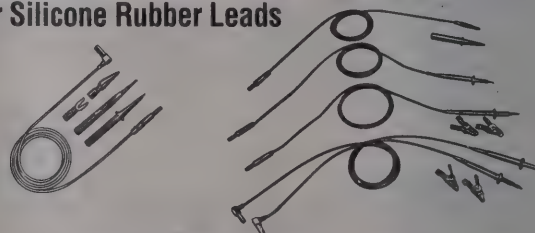
955-0045. Model HV40C.....EACH 85.00


Repairable Oscilloscope Probes — 100 MHz, 200 MHz


Design improvements provide superior performance in an economical probe. New circuitry gives faster risetime and sharp pulse response. A rubber seal around the compensations screw and silicone insulation on the circuitry seal out moisture. Soft, slotted strain reliefs and better crimping prolonging cable life. The SP150 switch has self-cleaning contacts for greater reliability.

Stock No.	Mfr.'s Type	Atten.	Cable Length	Input R	Imped C	Band Width	Max Input V DC+AC Peak	EACH
955-0205	P200B	X1	01.4m	10 MΩ	12pF	200 MHz	600 V	44.10
955-0115	1P20B	X1	1.2m	1 MΩ	47pF	20 MHz	600 V	30.00
955-0100	SP100B	X1-X10	1.4m	1-10	100-14pF	6-100MHz	600 V	45.00
955-0300	SP200B	X1-X10	1.4m	1-10	100-14pK	7-200MHz	600 V	49.00

*Same as scope.

Multimeter Silicone Rubber Leads


All cables are silicone-rubber insulated. Soft, flexible when cold and burn-resistant. Durable. Wrap right angle versions around meter for storage. **Max. Voltage:** 1000 VRMS. **Max. Current:** 10 A. STLS is the same as TLS series with spring-loaded safety sleeves shield without accessories. Plug-on accessories for TLS series include 2 standard probes, 2 hook probes, 2 alligator clips and spade lugs. TL1000 has banana plug on measuring tip to accept push-on accessories and is supplied with 2 deluxe insulated alligator clips. TL1500 has spring-loaded safety sleeves. Each probe tip has a radial notch for wire bus layover. LTL1000S has rubber sheathed plugs. **Suffix letter "R" indicates right angle plug.**

Stock No.	Mfr.'s Type	Length (meters)	PER SET
955-2010	STLS2000B	1.2	19.00
955-2000	TLS2000B	1.5	32.50
955-2020	TLS2000RB	1.5	32.50
955-1500	TL1500B	1.2	14.00
955-0010	TL1000B	1.2	16.50
955-0011	TL1000RB	1.2	16.50

3000 A/D, 6000 A/D Series Power Supplies

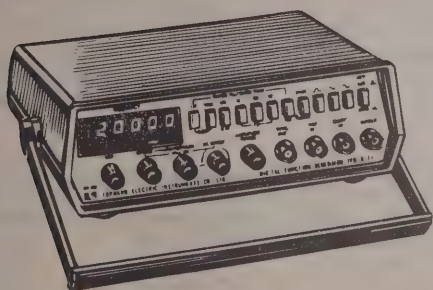
General Specifications

Output Voltage: Zero to rated voltage continuously variable with front panel voltage knob.
Output Current: Zero to rated current continuously variable with front panel current knob.
Line Regulation: CV — $\pm 0.01\%$ +2 mV; CC — $\pm 0.01\%$ +2 mA. **Load Regulation:** CV — $\pm 0.01\%$ +2 mV; CC — < 10 mA at 100 W; < 15 mA at above 100 W. **Ripple and Noise:** CV — < 0.5 mVrms at 100 W; < 1 mVrms at above 100 W; CC — < 1 mArms at 100 W; < 3 mArms at above 100 W. **Transient Response:** < 100 μ S to within 0.1% of set voltage (50% to 100% load change). **Output Impedance:** < 2 m Ω +2 mH. **Operating Range:** 0 to 40°C ambient temperature. **Display Accuracy:** Analog Meter — 3% of full scale; Digital Meter — $\pm 0.1\%$ +2 digits. **Overload Protection:** Automatic crossover from CV to CC mode. **Series Connection:** Different models can be chained to increase output up to 240 VDC. **Parallel Connection:** Another same model can be paralleled to increase output to 24 amps. **Power Requirement:** 100/120/220/240 $\pm 10\%$ VAC, 50/60 Hz single phase. **Supplied Accessories:** Power cord, hook-up leads, instruction manual.

Model 6000 A/D Series Specifications

5 V/5 A Fixed Supply. **Regulation:** ≤ 10 mV. **Ripple and Noise:** ≤ 2 mVrms. **Output:** 5 V ± 0.25 V. **Tracking Accuracy:** $\pm 0.2\%$ +10 mV. **Operation Mode Switch:** Independent. Two fully independent variable supplies at rated voltage and current and a fixed 5 V/5 A supply. **Series:** One variable supply with 2X rated voltage output at rated current. Or, one dual polarity tracking supply with rated output and current. Plus a fixed 5 V/5 A supply. **Parallel:** One variable supply with rated voltage at 2X rated current and a fixed 5 V/5 A supply.

668-3300. Model 3302A. 0-30 V/0-2 A, Single, Analog.....	EACH	249.00
668-3301. Model 3302D. 0-30 V/0-2 A, Single, Digital.....	EACH	350.00
668-3302. Model 3303A. 0-30 V/0-3 A, Single, Analog.....	EACH	298.00
668-3303. Model 3303D. 0-30 V/0-3 A, Single, Digital.....	EACH	373.00
668-3304. Model 3306D. 0-30 V/0-6 A, Single, Digital.....	EACH	563.00
668-3305. Model 33010D. 0-30 V/0-10 A, Single, Digital.....	EACH	803.00
668-3600. Model 3601A. 0-60 V/0-1 A, Single, Analog.....	EACH	269.00
668-3601. Model 3601D. 0-60 V/0-1 A, Single, Digital.....	EACH	350.00
668-3602. Model 3603D. 0-60 V/0-3 A, Single, Digital.....	EACH	550.00
668-6300. Model 6302A. 0-30 V/0-2 A X2, 5 V/5 A, Triple, Analog.....	EACH	525.00
668-6301. Model 6302D. 0-30 V/0-2 A X2, 5 V/5 A, Triple, Digital.....	EACH	630.00
668-6302. Model 6303A. 0-30 V/0-3 A X2, 5 V/5 A, Triple, Analog.....	EACH	560.00
668-6303. Model 6303D. 0-30 V/0-3 A X2, 5 V/5 A, Triple, Digital.....	EACH	665.00
668-6304. Model 6306A. 0-30 V/0-6 A X2, 5 V/5 A, Triple, Analog.....	EACH	893.00
668-6305. Model 6306D. 0-30 V/0-6 A X2, 5 V/5 A, Triple, Digital.....	EACH	1005.00
668-6306. Model 6603A. 0-60 V/0-3 A X2, 5 V/5 A, Triple, Analog.....	EACH	873.00
668-6307. Model 6603D. 0-60 V/0-3 A X2, 5 V/5 A, Triple, Digital.....	EACH	985.00

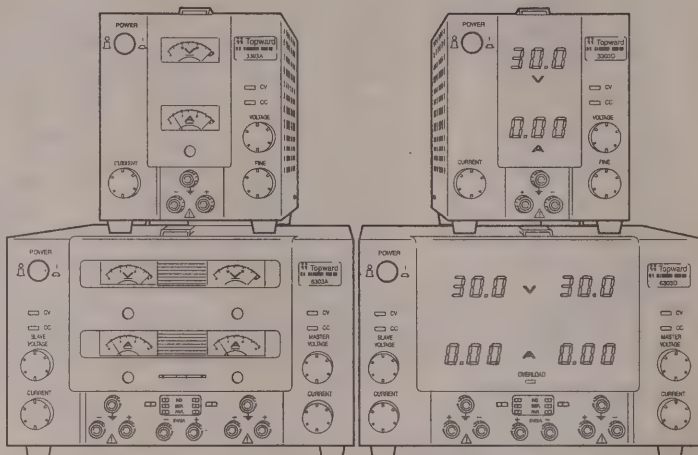


Series TFG-8100 Function Generators

Model TFG-8102 Function Generator, and Model TFG-8105 AM/FM Function Generator. Designed for accuracy and dependability. **Specifications (For both models).** **Waveform:** Sine, square, triangle, pulse, ramp (AM and FM Model TFG-8105 only). **Frequency:** 0.1 Hz to 2 MHz, 7 ranges. **Frequency Error:** $\pm 5\%$ of Full Scale. **Impedance:** 50 Ω . **Output:** 5 mV p-p (min.) to 20 V p-p (max.) continuously variable. **Attenuator:** 0 dB, -30 dB. **DC Level:** +10 V to -10 V (open), continuously variable with zero offset SW. **Duty Cycle:** 20-80% continuously variable with 50-50 calibrated SW. **Distortion:** $< 1\%$. **Rise Time:** < 100 nS. **Pulse:** > 3 V p-p (open), TR < 25 nS for 20 TTL load. **VCF:** 0-5 V control frequency to 1000:1. **Power Requirements:** 115/230 V $\pm 10\%$, 50/60 Hz, 9.6 VA approximately. **Accessory:** ACS-003 $\times 1$ BNC clip cable. **Dimensions:** 9.17 $\times$ 3.15 $\times$ 11.81" (233 $\times$ 80 $\times$ 300 mm). **Weight:** 3.53 lbs. (1.6 kg). **Additional Specifications for Model TFG-8105 Only.** **Amplitude Modulation.** Depth: 0-100%. **Modulation Frequency:** 400 Hz (internal), DC-1 MHz (external). **Carrier Bandwidth:** 100 Hz to 1 MHz (-3 dB). **External Sensitivity:** < 5 V p-p for 100% modulation. **Frequency Modulation.** Deviation: 0 $\pm 10\%$. **Modulation Frequency:** 400 Hz (internal), DC-20 KHz (external). **External Sensitivity:** < 5 V p-p for 100% modulation.

668-8101. Model TFG-8102.....	EACH	220.00
668-8104. Model TFG-8105.....	EACH	280.00

— NEW —



Digital Function Generator/Frequency Counter

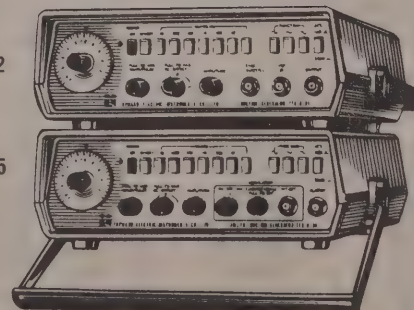
- Combination Function Generator/Frequency Counter
- Counter 10Hz-100 MHz, 6 Digit Display
- Generator 0.1 Hz-2 MHz Sine, Square, Triangle, Pulse, Ramp

Common Specifications. **Generator.** **Frequency Error:** Counter accuracy. **Impedance:** 50 Ω $\pm 10\%$. **Output:** 5 mV p-p to 20 V p-p (open). **Attenuator:** 0 dB, -30 dB. **DC Offset:** +10 V to -10 V, with Cal. SW. **Duty Cycle:** 20% to 80%, with Cal. Counter. **Range:** 10 Hz to 100 MHz. **Gate Time:** 0.01 S, 0.1 S, 1 S, 10 S. **Accuracy:** $\pm$ (1 count + time base accuracy). **Sensitivity:** 25 mV rms (10 MHz), 50 mV rms (100 MHz). **Attenuator:** 0 dB, -30 dB. **Maximum Voltage:** 150 V rms (DC + peak AC). **Impedance:** 1 M Ω /100 pF. **Time Base:** 10 MHz, ± 10 ppm (0° to 40°C). **Dimensions:** 8.78 $\times$ 3.15 $\times$ 12.99" (223 $\times$ 80 $\times$ 330 mm). **Accessory:** ACS-003 $\times 1$, BNC clip. **TFG-8112 Specifications.** **Generator.** **Waveforms:** Sine, square, triangle, pulse, ramp. **Frequency:** 0.1 Hz to 2 MHz, 7 manual ranges. **Display:** 6-digits with Hz, kHz, Gate, OVFL. **Distortion:** $< 1\%$, 1 Hz to 100 kHz. **Rise/Fall Time:** < 100 nS. **Sync. Out:** 3 V p-p (open), Tr < 25 nS, 20 TTL load. **VCF:** 0 to 5 V control frequency to 1000:1 (linear). **Power Requirements:** 115 V/230 V $\pm 10\%$, 50/60 Hz, 12 VA. **Weight:** 3.53 lbs. (1.6 kg).

668-8111. Model TFG-8112.....	EACH	350.00
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TFG-8102
2 MHz

TFG-8105
AM/FM

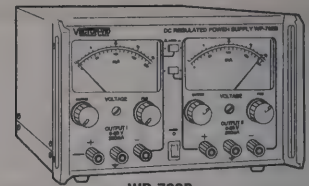


Power Supplies

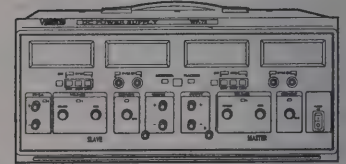
The new generation of DC power supplies are now in constant current, constant voltage modes. These wide range of supplies are for use in laboratories, industries, schools and hospitals. Output voltage and current values are displayed on a three digit DPM with $\pm 0.1\%$ resolution. These highly reliable models are fully protected against continuous output short circuit and overload.

Stock No.	Mfr.'s Type	Outputs	Voltage (V)	Current (A)	Load Regulation	Ripple	Operating Temperature	EACH
								1-4
901-5702	WP-702B	2	0-20 V	0-2.0 A	.050%	2 mV (P-P)	.01%/°C	325.00
901-5703	WP-703A*	1	0-20 V	0-5.0 A	.050%	2 mV (P-P)	.01%/°C	270.00
901-5704	WP-704A*	1	0-40 V	0-2.5 A	.050%	2 mV (P-P)	.01%/°C	270.00
901-5705	WP-705B	1	0-64 V	0-2.5 A	.100%	1 mV RMS	0-40°C	575.00
901-5706	WP-706B	1	0-32 V	0-5.0 A	.100%	1 mV RMS	0-40°C	630.00
901-5707	WP-707B	2	0-32 V	0-5.0 A	.100%	1 mV RMS	0-40°C	950.00
901-0711	WP-711B	1	0-64 V	0-1.0 A	.100%	1 mV RMS	0-40°C	450.00
901-0712	WP-712B	1	0-32 V	0-2.0 A	.100%	1 mV RMS	0-40°C	420.00
901-0713	WP-713B	2	0-32 V	0-1.0 A	.100%	1 mV RMS	0-40°C	500.00
901Q0718	WP-718	1	0-36 V	0-2.0 A	.100%	1 mV RMS	0-40°C	1490.00
901-0720	WP-75	1	0-50 V	0-2.0 A	.050%	1 mV	0-40°C	509.00
901-0725	WP-76	2	0-50 V	0-2.0 A	.050%	1 mV	0-40°C	1170.00
901-0028	WP-78A	3	0-30 V 0-30 V 5 V	0-5.0 A 0-5.0 A 3.0 A	.020%	.5 mV RMS	0-40°C	650.00

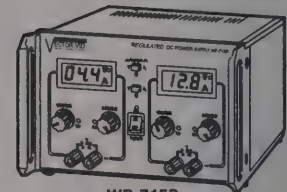
* Constant current; constant voltage and overload protection for all models except WB-703A and WP-704A.



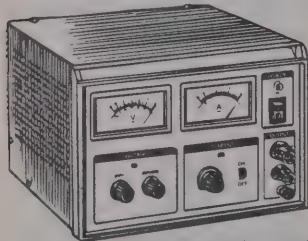
WP-702B



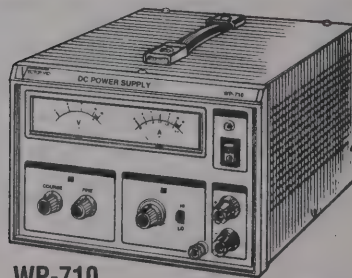
WP-78A



WP-715B



WP-775B



WP-710

DC Power Supplies: WP-773B — 0-30 Volts at 0-3 Amps, WP-775B — 0-30 Volts at 0-5 Amps and WP-710 DC — 0-16Volts at 0-10 Amps

In the WP-773B and WP-775B DC power supplies, Vector-Vid has achieved the ultimate balance between precision technology and rugged durability. The WP-773B and WP-775B are constant current/constant voltage DC power supplies. Voltage is continuously variable at 0-30 VDC. Current is switchable for HI/LOW, each continuously variable at 0-0.6 A DC (LOW) or 0-3 A DC (HI) for the WP-773B and 0-1.0 A DC (LOW) or 0-6 A DC (HI) for WP-775B. Coarse and fine adjustments for voltage output are standard. Two front panel analog meters monitor voltage and current. Other exciting features of both models include switchable main power 110-120 VAC or 220-240 VAC (50-60 Hz), and a detachable power cord. **Specifications. Output Voltage:** 0-30 VDC (continuous coarse/fine adjust). **Output Current:** WP-773B — high - 0-3 A DC (continuous adjustment), low - 0-6 A DC; WP-775B — high - 0-5 A DC (continuous adjustment), low - 2.5 A DC. **Load Regulation:** $\leq \pm 0.1\%$. **Line Regulation:** $\leq \pm 0.1\%$. **Ripple:** ≤ 5 mV RMS. **Load Protection:** Protected against reverse polarity (current limiting). **Meter Accuracy:** $\pm 2.5\%$. **Size (H x W x D):** $6\frac{1}{2}'' \times 9'' \times 11''$. **Weight:** 11 lbs. **Power Requirements:** 110-120 V AC or 220-240 V AC (50/60 Hz).

The WP-710 offers 0-16 volts at 0-10 amps constant current/constant voltage to meet the many needs of the electronics industry. Voltage and current outputs are monitored by two front panel mounted analog meters. Constant current and constant voltage models are indicated by two front panel mounted LED displays.

901-0773. WP-773B.....	EACH 295.00
901-0775. WP-775B.....	EACH 365.00
901-0710. WP-710.....	EACH 480.00

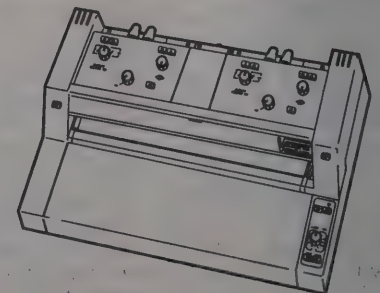
VR Series Strip Chart Recorders

- One or Two Pens
- 100% Span Control
- 250 nm Chart Width

- Interchangeable Input Preamplifiers
- Up to 0.25% Accuracy
- Line Power of 120 VDC Operation

Stock No.	Mfr.'s Type	Description	EACH
901Q7010	VR-10A	Recorder, 1 Pen General Purpose	1844.00
901Q7015	VR-100	Recorder, 1 Pen 1 Input	2445.00
901Q7020	VR-102	Recorder, 2 Pen 2 Input	3232.00
901Q7035	VR-100M*	1 Pen Mainframe Only	2023.00
901Q7040	VR-102M*	2 Pen Mainframe Only	2386.00
901Q7045	VPA-010	Thermocouple Preamp for VR-100s	562.00
901Q7050	VPA-020	PRT Preamp for VR-100s	589.00
901Q8000	VPA-035	High Performance mV/V Preamp	696.00
901Q7060	VPA-040	Standard mV/V Preamp	616.00

*One or two of the above preamps must be ordered also.



VR-102

AC/RMS Digital Wattmeters

WD-766A and WD-767 Wattmeters

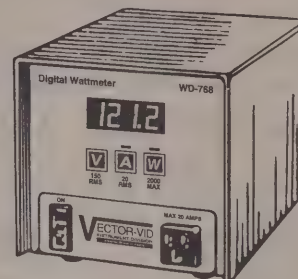
AC/RMS Digital Wattmeters. LED display and indicators. Measures RMS voltage and current, and apparent power. Operates directly from 120 VAC line. **Specifications.** Line Voltage Input: 105 to 150 VAC. Power Factor: .5 to unity. Amp Accuracy: $\pm 1\%$ ± 1 digit. Watt Accuracy: $\pm 1\%$ ± 2 digits. Frequency Response: 40 Hz to 5 KHz. Model WD-766A. 1 KW, 10 A. 3-digit display. Max. Current: RMS — 10 A; Peak — 20 A. Max. Power: 999 W. Volt Accuracy: $\pm 1\%$ ± 1 digit. Resolution: 1 V, .1 A, 1 W. Model WD-767. 2 KW, 20 A. 3.5-digit display. Max Current: RMS — 20 A; Peak — 35 A. Max Power: 1999 W. Volt Accuracy: $\pm .75\%$ ± 1 digit. Resolution: .1 V, .01 A, 1 W. Dimensions: $5.75 \times 5.8 \times 8.5"$ ($14.6 \times 14.9 \times 21.6$ cm). Weight: 4 lbs. (1.8 kg).

901-0766. Model WD-766A.....EACH 450.00
901-0767. Model WD-767.....EACH 560.00

WD-768 Wattmeter

The WD-768 Wattmeter is designed to provide quick, accurate, and direct measurement of RMS voltage, current, and apparent power. The WD-768 combines measuring versatility and accuracy in a compact, low cost unit. This unit incorporates three discrete analog output channels, one each for volts, amps, and watts. This feature allows independent monitoring of all three functions without regard to the front panel display selection. The WD-768 is designed to operate directly from the 120 VAC line, and line voltage can be measured up to 150 VAC. The WD-768 measures RMS current to 20 A RMS and power to 1999 W.

901-0768. Model WD-768.....EACH 670.00



WP-26A Isotap

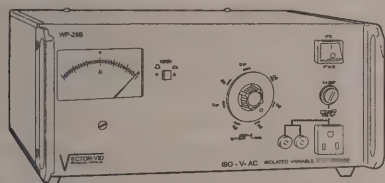
- ▶ 105-130 V, 50-60 Hz
- ▶ Low — 105 V; Medium — 115 V; High — 130 V
- ▶ Direct 500 VA/750 VA
- ▶ Isolated — 400 VA/450 VA
- ▶ $5\frac{1}{4} \times 5 \times 4"$
- ▶ 151 Lbs.



The WP-26A Isotap has both primary (auto-transformer) windings and isolated secondary windings. A switch provides for setting them to deliver low, medium, or high AC output voltages with input line voltage from 105 to 130 volts. They greatly facilitate service of transformerless AC-operated equipment, devices with intermittent troubles, and hazardous equipment. They are essential for safe servicing in the school, lab or shop. Isotap is protected by a 4 amp circuit breaker. Supplied with 3-wire AC cord.

901-5726. Model WP-26A.....EACH 295.00

WP-29B Monitor ISOTAP



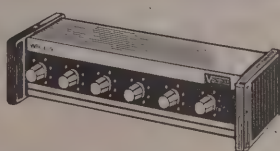
- ▶ Variable 0 to 150 VAC
- ▶ Max. Output 450 VA
- ▶ 3 Amp AC Continuous
- ▶ $\pm 2\%$ Accuracy
- ▶ Measures: AC Line and Load Voltage; AC Load Current
- ▶ Overload Protection

Designed to provide isolated AC output from 0 to 150 volts continuous. Input and isolated output can be monitored on $3\frac{1}{2}$ taut band meter with $\pm 2\%$ accuracy. Two Isolated Outputs: Polarized 3-prong AC socket and two banana jacks. Power Rating (Resistive Load): 450 VA. Primary to secondary leakage is limited to less than 0.1 milliamperes — 5 times lower than limits established in ANSI spec C101-1-1971. AC Input: 110 to 130 VAC, 60 Hz. With WG-413A output cables. Weight: 15 lbs.

901-0029. WP-29B.....EACH 455.00

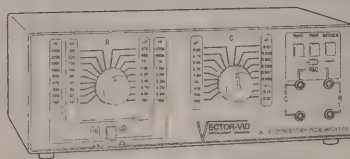
Decade Boxes

- ▶ Accuracy 1% or Better
- ▶ Light Durable Construction
- ▶ High Quality Resolution
- ▶ 5 Year Accuracy Stability



Vector-VID's line of decade boxes feature the highest quality, aged standard resistors and capacitors available, with a typical accuracy stability of five years.

WC-412B R-C Circuit Box



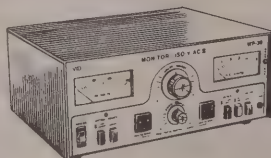
- ▶ 36 Resistor Values
- ▶ 18 Capacitor Values
- ▶ 10% Tolerance

Offers 36 standard resistor values from 15 ohms 10 M ohms. 1 W power rating; tolerance $\pm 10\%$, and 18 capacitor values from 100 pf to .22 μ f, 600 V rating tolerance $\pm 10\%$. Selections are available individually, in series, or in parallel RC combinations. Switchable high or low resistance. Comes with plug-in test leads. Dimensions: $7 \times 5\frac{1}{2} \times 2\frac{1}{2}"$ ($17.5 \times 13.7 \times 6$ cm). Weight: 28 oz. (340 g).

901-0412. Model WC-412B.....EACH 172.00

WP-30 Monitor ISO-V-AC II

- ▶ Variable Isolated AC Outputs
- ▶ Current Output to 10.0 A Continuous
- ▶ Audible Leakage Test
- ▶ Adjustable Current Limiting
- ▶ Primary to Secondary Current Leakage Less Than 0.2 mA
- ▶ Meets ANSI Specifications C101.1 for Leakage
- ▶ Ratings from 150 VA to 1300 VA



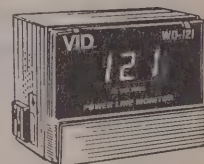
Provides isolated AC output variable from 0 to approximately 150 volts continuous. Supplies a continuous 5 amp output current to a maximum of 650 VA. Includes a power line leakage tester. Supplied with two $3\frac{1}{2}$ meters. One monitors output voltage and the other can display output current or leakage. Accuracy of the meters is $\pm 2\%$. Two parallel three prong AC sockets are provided. Input: 110 to 130 VAC, 60 Hz. Protection: Output-replay, input-thermal sensor. Temperature Rise: 10°C (30°F). Dimensions: $6" \text{H} \times 14" \text{W} \times 12\frac{1}{2}" \text{D}$. Weight: 25 lbs.

901-0030. WP-30.....EACH 750.00

Power Line Monitors

WD-121

- ▶ High Accuracy
- ▶ Easy to Read LED Display
- ▶ Reveals Voltage Fluctuation
- ▶ Indicates Brown Outs
- ▶ 50 to 60 Hz Frequency
- ▶ $\pm 2\%$ Accuracy



WV-120C and WV-503C

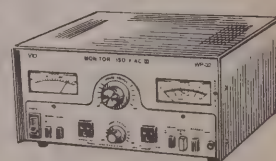
- ▶ Large, 3 Color Scale
- ▶ True RMS Readings Even on Distorted Sine Waves
- ▶ Fast Meter Action Shows Bounces and Fluctuations in Line Voltage
- ▶ 25 to 400 Hz Frequency
- ▶ Accuracy: WV-503C — $\pm 2\%$ Center Scale, 3% Both Ends; WV-121A — $\pm 1\%$ @ 117 V

AC Current: 0 — 8A max. Size: $4 \times 5 \times 3"$. Weight: 1.5 lbs.

901-4260. WV-120C. 100-140 VAC.....EACH 185.00
901-4625. WV-503C. 200-280 VAC.....EACH 195.00
901-4621. WV-121A. 100-150 VAC.....EACH 229.00

WP-32 Monitor ISO-V-AC III

- ▶ Variable Isolated AC Outputs
- ▶ Current Output to 10.0 A Continuous
- ▶ Audible Leakage Test
- ▶ Adjustable Current Limiting
- ▶ Primary to Secondary Current Leakage Less Than 0.2 mA
- ▶ Meets ANSI Specifications C101.1 for Leakage
- ▶ Ratings from 150 VA to 1300 VA



Designed to provide isolated power to equipment and to provide fixed or variable output voltages. Meter Accuracy: Voltage — $\pm 3\%$ FS; Current Leakage — $\pm 2\%$ FS. Load Protection: AC Input — fuse; AC Output — adjustable current relay with manual reset. Output Voltage: 0-150 VAC continuous. Dimensions: $7 \times 14 \times 12.5"$ ($17.8 \times 35.6 \times 31.8$ cm). Weight: 42.3 lbs. (19.2 kg). Features leakage meter and audible alarm.

901-3200. WP-32.....EACH 925.00

Resistance Decades

Stock No.	Mfr.'s Type	Resolution	Accuracy	Switches	EACH
901Q6415	WR-415	1,111,111.1	0.10%	8	1305.00
901-6416	WR-416	1,111.1	0.10%	4	605.00
901-6417	WR-417	111,111.0	0.10%	6	728.00
901-6418	WR-418	1,111,110.0	1.00%	6	320.00
901Q6419	WR-419	11,111,111.0	0.03%	8	2733.00

Capacitance Decade

Stock No.	Mfr.'s Type	Resolution	Accuracy	Switches	EACH
901Q6414	WC-414A	1,111,150.0 pf	1.00%	4	1149.00

HD Series 100 Heavy Duty Digital Multimeters

- ▶ Waterproof
- ▶ Shockproof
- ▶ Drop-Proof
- ▶ High Visibility Yellow

- ▶ Fused 600 V
- ▶ Meets MIL-T-2880, Style A, Class 2

General Specifications. Display: 3 1/2 digit LCD except HD140B 4 1/2 digit LCD. Dimensions: 7" x 3.9" x 2.0". Operating Temperature: 0°C to 50°C. Battery Type/Life: NEDA 1604 9 V/2000 hrs. Weight: 19 oz. Warranty: One year.

HD100. The HD100 measures DC voltage to 1500 V, AC to 100 V, AC/DC current up to 2 amps. It has a basic accuracy of 0.25% and overload protection on all ranges.

743-0100. Model HD100EACH 185.00

HD110. The HD110 has all features of HD100, plus it measures up to 10 amps AC or DC, and it comes equipped with an audible continuity beeper.

743-0110. Model HD110EACH 219.00

HD110T. In addition to the features of the HD110, the HD110T provides direct temperature readings using any type K thermocouple. Temp. Range: (-4°F to +1999°F).

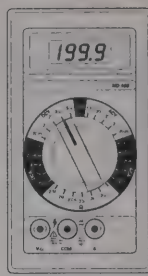
743-0111. Model HD110TEACH 239.00

HD160. The HD160 features 4 digit analog and digital display, heavy duty plus high performance, true RMS, operation below freezing to -20°C, 20 amps max.

743-0160. Model HD160EACH 219.95

HD140B. The HD140B has the features of the HD130B, plus a 4 1/2 digit LCD display for higher resolution and greater accuracy, 0.05% DC volts.

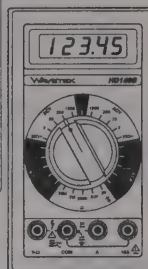
743-0140. Model HD140BEACH 309.00



HD100



HD110



HD140B

CPM Series True RMS Power Meters — NEW —

- ▶ True Power to 2000 kW
- ▶ Apparent Power to 2000 KVA
- ▶ Power Factor (cos ϕ)
- ▶ AC/DC Current to 2000 A
- ▶ AC/DC Voltage to 750/1000 V
- ▶ Resistance to 400 k Ω
- ▶ Frequency to 1000 Hz
- ▶ Surge/Peak/Average
- ▶ Analog Output
- ▶ Three-Phase Adapter
- ▶ RS232 Interface
- ▶ Scope Meter (Harmonic Analysis)



The CPM Series Clamp-On Power Meters combine the capabilities of many meters into one easy-to-use handheld instrument for power measurement when installing, maintaining, and monitoring electrical systems with traditional and nonlinear loads. Both the CPM2000 and the CPM2100 operate as a Wattmeter, Voltampere meter, and Power Factor meter, as well as an autoranging DMM with data hold, continuity, and diode test. Measurements are displayed on a 4-digit/4000 count display with a bar graph. Hall-effect sensors and a clamp-on jaw allow measurements without interrupting the circuit. Scope meter shows harmonics.

743-2000. Model 2000EACH 795.00
743-2005. Model 2100EACH 995.00

RMS225 Professional Digital Multimeters

- ▶ True RMS
- ▶ 4 Digit LCD (10000 Counts)
- ▶ Auto Min Max*
- ▶ Probe Hold (Automatic Reading Hold)
- ▶ Overload Alert*

The RMS225 is a 4 digit autoranging True RMS meter which measures up to 1000 VDC, 750 VAC, 10 amps AC/DC (fused), 0.25% basic accuracy. Can record minimums and maximums, and can automatically capture and freeze display with last stable reading. Includes protective holster. Display: 4 digit LCD, 1 1/2 high digits. Dimensions: 7.6" x 3.2" x 1.6" with holster. Operating Temperature: 0 to +50°C. Battery Type/Life: NEDA 1604 9 V/1000 hrs. Weight: 11.5 oz. Warranty: Three years standard, one year calibration.

743-0225. Model RMS225EACH 189.95



Series 2000 Professional Digital Multimeters

- ▶ True RMS — AC or AC+DC
- ▶ Auto Min. Max. Avg.
- ▶ 2 MHz Frequency Counter
- ▶ Fault Finder™ Intermittent Detector
- ▶ Probe Hold

- ▶ Peak Hold
- ▶ Capacitance to 2000 μ F
- ▶ 0.01 Ω Resolution
- ▶ Backlight

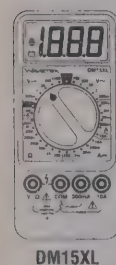
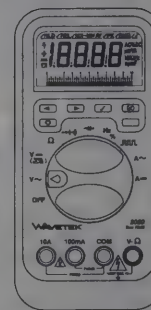
General Specifications. Display: LCD quadruplex, 19999 counts, menu features and bar graph. Dimensions: 7.5" x 3.5" x 1.3". Operating Temperature: 0°C to 50°C. Designed To: UL1244, IEC348, IEC1010. Battery Type/Life: NEDA 1604 9 V/200 hrs. Weight: 20 oz. Warranty: Three years.

2020. The 2020 is a 4 digit autoranging meter which measures up to 1000 VDC, 750 VAC, AC/DC current to 10 amps (fused), frequency to 2 MHz, capacitance to 2000 μ F, 50 ns logic pulse detector, intermittent detector, 0.25% basic accuracy. Plus True RMS (AC or AC+DC coupled, switchable), fiber optic backlit LCD, and Peak Hold. Safety features include Overload Alert, hazardous voltage warning, automatic low-battery shutdown and wrong input connection warning. Includes protective holster.

743-2020. Model 2020EACH 289.00

2030. The 2030 has all the features of the 2020 with a basic accuracy of 0.1%. Includes protective holster.

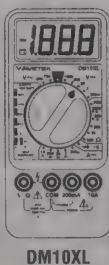
743-2030. Model 2030EACH 329.00



DM15XL



DM5XL



DM10XL



DM2

Pocket-Sized Digital Multimeters

General Specifications. Display: 3 1/2 digit LCD, 1999 counts. Operating Temperature: 0° to 50°C. Battery Type/Life: NEDA 1604 9 V/300 hrs. alkaline (170 hrs., DM2). Dimensions: 6.1" x 2.8" x 1.3" (4.7" x 2.8" x 1", DM2). Optional Accessories (XL Series): VC20 Padded Vinyl Carrying Case; H10/H10Y Protective rubber holster with tilt stand (black/yellow).

Special Features (XL Series). Safety Tester™. Detects and displays the presence of AC or DC voltage levels (positive or negative) through a series of LEDs. This feature does not use the multimeter's battery which means you can always ascertain a voltage presence even if the meter battery is dead. (DM10XL only) Input Warning Beeper. This warning beeper indicates that the test lead is plugged into a current jack when the function switch is not set to a current range. A safety feature for both the meter and user. Safety Test Leads. Insulation on the test lead probe tips allows only 3/32 mm exposure of metal for making those measurements in dense component areas. Fused 10 A Current Jacks. A safety feature previously found only in expensive DMMs, provides protection against meter damage. (DM10XL and DM15XL).

DM15XL. The DM15XL features a 20 MHz logic detector and also offers 28 measurement ranges, including AC volts to 750 V, DC volts to 1000 V, AC/DC current to 10 A (fused), resistance to 2000 M Ω , diode testing and a continuity beeper. Basic accuracy is 0.5%.

743-0010. Model DM15XLEACH 62.95

DM10XL. The DM10XL provides 21 ranges, measuring AC volts to 750 V, DC volts to 1000 V, DC current to 10 A (fused), resistance to 20 M Ω , diode testing and a continuity beeper. Basic accuracy is 0.7%. Safety Tester™ quickly indicates live voltage levels with LEDs (6, 12, 24, 50, 110 and 220 V).

743-0015. Model DM10XLEACH 52.45

DM5XL. The DM5XL provides 17 ranges to measure AC volts to 500 V, DC volts to 1000 V, DC current to 200 mA, resistance to 2 M Ω , diode test and continuity beeper. Basic accuracy is 0.8%.

743-0020. Model DM5XLEACH 41.95

DM2. The DM2 is a smaller sized unit with full DMM capacity, measuring AC volts to 500 V, DC volts to 1000 V, DC current to 200 mA, resistance to 2 M Ω , and diode test. Basic accuracy is 0.8%.

743-0005. Model DM2EACH 29.95

XT Series — Mid-Size Digital Multimeters

General Specifications. Display: 3 1/2 digit LCD, 1999 counts. Operating Temperature: 0° to 50°C. Battery Type/Life: 9 V Neda 1604, 300 hrs. alkaline. Dimensions: 7.2" x 3.1" x 1.3" (H x W x D). Optional Accessories: H30/H30Y Protective rubber holster (black/yellow), VC30 Padded Vinyl Carrying Case (unit without holster), VC231 Padded Vinyl Carrying Case (unit with holster).

DM23XT. Mid-Size, full-functioning DMM, measures ACV/DCV to 750 V/1000 V, AC/DC current to 10 A (fully fused), resistance to 2000 M Ω . Diode test, continuity beeper, measures temperature to 1400°F/750°C and TTL and CMOS logic and transistor hFE. Meter has Input Warning Beeper, Safety Tester™ (measures particular AC Voltage levels up to 440 V with LEDs without using DMM internal power), Auto Power Off and has large LCD with unit annunciators. Unit is shipped with K-type beaded wire thermocouple, test leads, operator's manual and spare fuse.

743-0024. Model DM23XTEACH 89.95

DM25XT. Mid-Size, full-functioning DMM, measures ACV/DCV to 750 V/1000 V, AC/DC current to 20 A (fully fused), resistance to 2000 M Ω . Diode test, continuity beeper, measures capacitance to 2000 μ F, power line frequency to 2 kHz, TTL and CMOS logic and transistor hFE. Meter has Input Warning Beeper, Auto Power Off and has large LCD with unit annunciators. Unit is shipped with test leads with attachable alligator clips, operator's manual and spare fuse.

743-0026. Model DM25XTEACH 99.95

DM27XT. Mid-Size, full-functioning DMM, measures ACV/DCV to 750 V/1000 V, AC/DC current to 20 A (fully fused), resistance to 2000 M Ω . Diode test, continuity beeper, measures capacitance to 2000 μ F, frequency to 20 MHz, inductance to 200 H, and both TTL and CMOS logic. Meter has Input Warning Beeper, Auto Power Off and has large LCD with unit annunciators. Unit is shipped with test leads with attachable alligator clips, operator's manual and spare fuse.

743-0028. Model DM27XTEACH 119.95

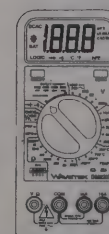
DM28XT. The ideal field service multimeter includes temperature to 2000°F, capacitance to 20 μ F, and a 2 kHz frequency counter. Data hold, max. reading hold. Screw-on alligator clips. "Wrong Input" warning beeper. Fused 10 A AC/DC current. Includes Bead Tip K Type Temperature Probe.

743-0030. Model DM28XTEACH 139.95

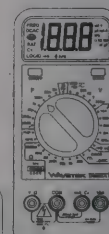
743-0032. Model H30. Holster BlackEACH 11.95

743-0034. Model H30Y. Holster YellowEACH 11.95

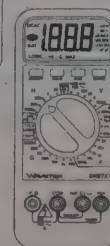
743-0036. Model VC30. Vinyl Case BlackEACH 12.95



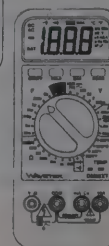
DM23XT



DM25XT



DM27XT



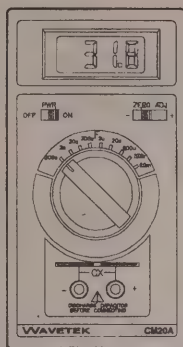
DM28XT

Digital Capacitance Meter

- 9 Ranges From 200 pF to 20 mF
- Separate Lead Insertion Jacks and Banana Jacks
- Optional AC/DC Adapter
- 0.5% Basic Accuracy

CM20A. Battery or AC powered, 3 1/2 digit LCD, tilt stand and anti-skid pads make the CM20A handy for field service and bench top use. Zero adjust capability. 2 1/2 measurements every second. **Capacitance Test. Ranges:** 200 pF, 2 nF, 20 nF, 200 nF, 2 µF, 20 µF, 200 µF, 2000 µF, 20 mF. **Resolution:** 0.1 pF. **Basic Accuracy:** 0.5% rdg. ±1 digit. **Display:** 3 1/2 digit, 1 1/2 inch high. **Battery Life:** 200 hrs. (alkaline). **Operating Temperature:** 0° to 50°C. **Dimensions:** 6.85" × 3.55" × 1.4". **Battery Type:** 9 V. **Weight:** 12.5 oz.

743-0050. CM20AEACH 135.00
743-0055. AJ11. Battery or AC/DC AdapterEACH 6.95

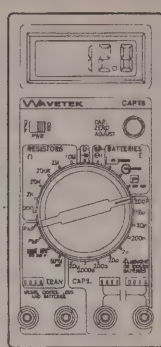


Capacitance and Parts Tester

- 24 User Ranges
- Tests Capacitance, Resistance, Diodes, Transistors and LEDs
- Tests Batteries Under Actual Loaded Conditions
- 0.5% Basic Accuracy

CAPT6. Measures capacitance in ranges from 200 pF to 20 mF pF. Resistance measurements in ranges from 200 Ω to 20 MΩ. Transistors tested for gain (hFE) and leakage (I_{ceo}), PNP or NPN devices. Diode and LED scales read approximate forward voltage. **Capacitance Test. Ranges:** 200 pF, 2 nF, 20 nF, 200 nF, 2 µF, 20 µF, 200 µF, 2000 µF, 20 mF. **Resolution:** 0.1 pF. **Basic Accuracy:** 0.5% rdg. ±1 digit. **Resistance Test. Ranges:** 200 Ω, 2 kΩ, 20 kΩ, 200 kΩ, 2 MΩ, 20 MΩ. **Basic Accuracy:** 0.5% rdg. ±1 digit. **Display:** 3 1/2 digit, 1 1/2 inch high. **Battery Life:** 200 hrs. (alkaline). **Operating Temperature:** 18° to 28°C. **Dimensions:** 6.3" × 3.0" × 1.4". **Battery Type:** 9 V. **Weight:** 88 oz.

743-0060. CAPT6EACH 95.95

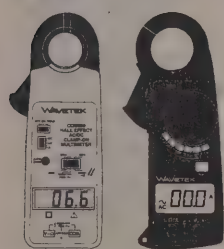
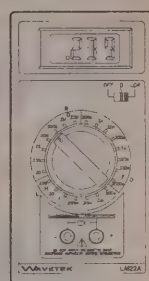


LCR Meter

- 22 User Ranges
- Measures Inductance, Capacitance and Resistance
- Measures Dissipation in L, C Ranges (D=1/Q)
- Separate Lead Insertion Jacks and Banana Jacks
- 2.0% Basic Accuracy

LM22A. Hand-held LCR meter measures inductance, capacitance and resistance with 3 1/2 digit LCD. Tests 7 inductance ranges, 8 capacitance ranges, and 7 resistance ranges. 9 V battery or AC power operation. **Inductance Test. Ranges:** 200 µH, 2 mH, 20 mH, 200 mH, 2 H, 20 H, 200 H. **Basic Accuracy:** 2.0% rdg. ±1 digit. **Capacitance Test. Ranges:** 200 pF, 2 nF, 20 nF, 200 nF, 2 µF, 20 µF, 200 µF, 2000 µF. **Resolution:** 0.1 pF. **Basic Accuracy:** 2.0% ±1 digit. **Resistance Test. Ranges:** 20 Ω, 200 Ω, 2 kΩ, 20 kΩ, 200 kΩ, 2 MΩ, 20 MΩ. **Basic Accuracy:** 0.5% ±1 digit. **Dissipation Test. Ranges:** L — 200 µH, 2 mH, 20 mH, 200 mH, 2 H, 20 H, 200 H; C — 200 pF, 2 nF, 20 nF, 200 nF, 2 µF, 20 µF, 200 µF, 2000 µF. **Basic Accuracy:** L — 1.0% rdg ±3 digits; C — 1.0% rdg. ±2 digits. **Display:** 3 1/2 digit, 1 1/2 inch high. **Battery Life:** 40 hrs. (alkaline). **Operating Temperature:** 0° to 40°C. **Dimensions:** 6.85" × 3.55" × 1.4". **Battery Type:** 9 V. **Weight:** 12.7 oz.

743-0065. LM22AEACH 185.00
743-0055. AJ11. Battery or AC/DC AdapterEACH 6.30



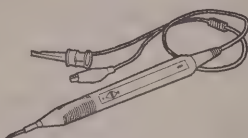
Clamp-On Multimeters

CDM600. Hall effect technology accurately measures AC and DC current to 600 A without disturbing the test circuit. CDM600 also measures AC voltage to 750 V, DC voltage to 1000 V, resistance to 2000 Ω has a continuity beeper and Data Hold. **Function Specifications. AC/DC Current. Ranges:** 200, 600 A. **Resolution:** 100 mA. **Accuracy:** 1% rdg ±5 dgts. **Bandwidth:** 15-400 Hz. **AC/DC Voltage. Ranges:** 200, 750 VAC/1000 VDC. **Resolution:** 100 mV. **Accuracy:** 1% rdg ±3 dgts. **Resistance. Ranges:** 2 kΩ. **Accuracy:** 1% rdg ±1 dgt. **Continuity. Signal:** Buzzer <500 Ω. **Conductor. Size:** 1.2".

AC30A. Pocket-size digital clamp-on multimeter, measuring up to 400 amps AC and up to 500 VAC. Includes an audible continuity beeper. Carrying case included. **Function Specifications. AC/DC Current. Ranges:** 20, 200, 400 A (AC only). **Resolution:** 10 mA. **Accuracy:** 1.5% rdg ±4 dgts, 1.5% rdg ±7 dgts. **Bandwidth:** 50-60 Hz. **AC/DC Voltage. Ranges:** 600 VAC. **Resolution:** 1 V. **Accuracy:** 1% rdg ±5 dgts. **Resistance. Ranges:** 2 kΩ. **Accuracy:** 1% rdg ±2 dgts. **Continuity. Signal:** Buzzer <300 Ω. **Conductor. Size:** 1.1".

743-0075. CDM600EACH 279.95
743-0080. AC30AEACH 149.95

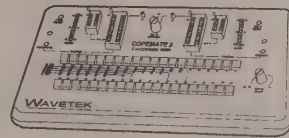
Logic Probe



LP10A. Pen-size logic probe with LED indicators. Measures TTL and CMOS levels at speeds up to 17 MHz. Indicates or holds pulses as short as 30 nsec. Powers from circuit under test 4 V-18 V. **LP25A.** Pen-size logic probe with LED indicators and audible tone indicators. Measures TTL, DTL, RTL, CMOS, NMOS and MOS logic levels at speeds up to 25 MHz. Detects pulses as short as 30 nsec., with pulse memory feature. Slim ball-type power clips and coiled power cord. **PR41A.**

743-0085. LP10AEACH 19.95
743-0090. LP25AEACH 39.95

Scopemate 2™ IC and Component Tester



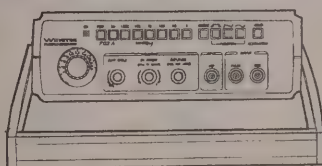
- Fast Testing of Most Components
- In or Out-Of-Circuit Testing
- Works with X-Y Mode Oscilloscopes
- Generates Simple Scope Patterns
- One Year Warranty

The Scopemate 2™ IC and component tester appeals to the engineer and technician as well as field service personnel. It operates as a valuable tool for determining component failure while testing for shorts and opens as well as diode action and leakage in semiconductors. The Scopemate 2™ has the capability to test all types of analog and digital ICs with as many as 40 pins, in addition to resistors, capacitors, and diodes using an oscilloscope's X-Y mode. Testing can be handled in the field or on the bench and the unit comes complete with cables, leads and operator's manual. Extension cables are options available for in-circuit testing of 14, 20, 24 and 40 pin ICs.

743-0825. SM2EACH 449.00

FG2A Function Generator

- Five Outputs — Sine, Square, Triangle, Ramp, and TTL
- Seven Ranges — 0.2Hz to 2MHz
- VCF Input (Voltage Controlled Frequency)
- DC Offset Control
- Duty Cycle Control
- One Year Warranty

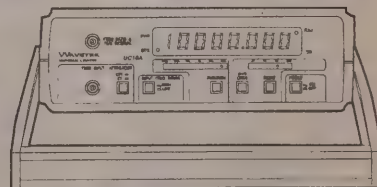


The FG2A, a versatile general purpose signal source, has five different outputs that can be modified with variable duty cycle and DC offset controls. The VCF input allows the frequency output to be controlled by a DC voltage. The FG2A is shipped with two test cables. Two switchable 20dB attenuators permit easy setting of low-amplitude signals.

743-0800. FG2AEACH 244.95
743-0805. RTL1. Replacement test leads for FG2A, FG3B, UC10A. BNC to alligator clips (2 each)EACH 27.95

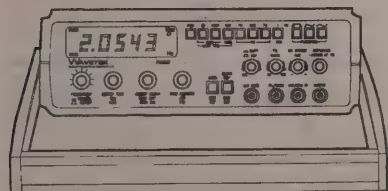
UC10A Universal Counter

- Universal Counter From 5Hz to 100MHz
- Measures Frequency, Period, Frequency Ratio, Time Interval, Unit Count
- Large 8-Digit LED Display
- Self-Checking Capability
- Highly Accurate Readings
- One Year Warranty



The Model UC10A Universal Counter has six measurement functions and four gate time selections to make it a counter that's universal for a wide variety of applications. The UC10A has a large LED display, reset capability and signal attenuation. The UC10A is shipped with two test cables.

743-0815. UC10AEACH 389.95

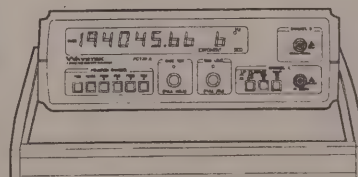


FG3B Sweep Function Generator

- Six Outputs — Sine, Square, Triangle, Ramp, TTL, and CMOS
- Seven Ranges — 0.2Hz to 2MHz
- Sweep Generator — Linear or Log Sweep
- Modulation — AM or FM
- Built-in 100 MHz/5 Digit Counter
- One Year Warranty

The FG3B with six different outputs, sweep generator, modulation, and built-in frequency counter is the bench top instrument that does it all. Any output can be modified with the variable duty cycle and DC offset controls. The FG3B provides logarithmic or linear sweep of any signal output, amplitude or frequency modulation with internal or external signals and a frequency counter that may be used as a stand-alone counter for measuring external signals up to 100 MHz. The FG3B is shipped with two test cables.

743-0810. FG3BEACH 489.95



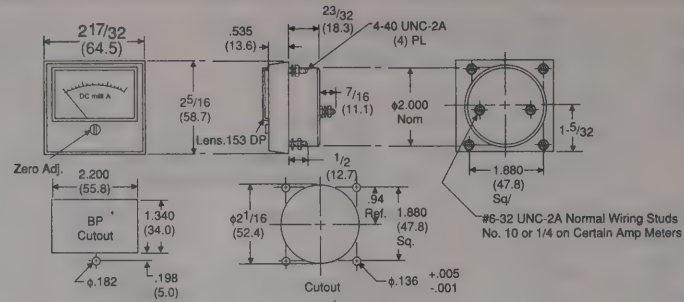
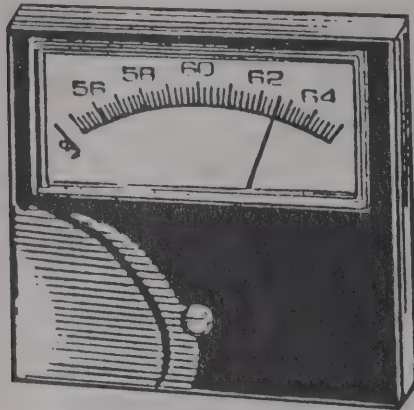
FC130A High Frequency Counter

- 1.3 GHz Frequency Counter
- Measures Frequency, Period and Rate Per Minute (RPM)
- Large 8-Digit LED Display
- High Sensitivity and Resolution
- Built-in Self Diagnostics
- One Year Warranty

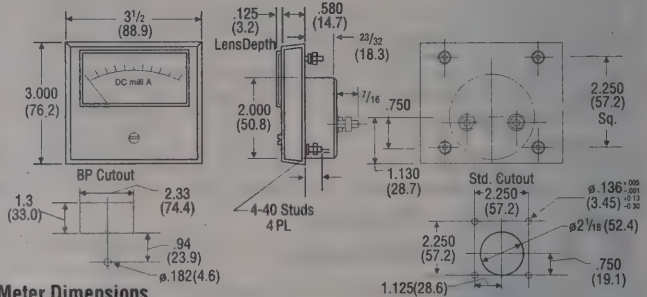
The Model FC130A is a microprocessor-controlled frequency counter that measures signals from 0.01 Hz to 1.3 GHz with up to 10 mV sensitivity. The FC130A is capable of monitoring transmitter output frequencies with a simple whip antenna due to its high sensitivity and broad frequency range. The FC130A is shipped with two test cables.

743-0820. FC130AEACH 599.95

Allied® 2 1/2" and 3 1/2" Panel Meters



2-1/2" Meter Dimensions



3-1/2" Meter Dimensions

Quality-made panel meters feature full scale accuracy of 2%, shielded meter movements, easy-to-read knife-edge pointer, spring-back jewel design. All have 4-40 mounting studs. The behind-the-panel meter cases can be mounted either in front of the panel using a round hole for the barrel or behind the panel using the rectangular cutout. Behind the panel mounting requires either blind mounting studs and clips or flush mount screws to mount the clips. Behind panel mounting hardware is not supplied. **Average shipping weight: 1 lb.**

DC mV

Range	Stock No.	Mfr.'s Type	EACH			Stock No.	Mfr.'s Type	EACH		
			1-9	10-24	25-99			1-9	10-24	25-99
0-100	701-0045	68850Z	47.00	42.73	36.15	701-0245	67850Z	50.00	45.45	38.46

DC Volts

0-5	701-0106	68104Z	47.00	42.73	36.15	701-0270	67104Z	50.00	45.45	38.46
0-10	701-0110	68107Z	47.00	42.73	36.15	701-0275	67107Z	50.00	45.45	38.46
0-15	701-0105	68108Z	47.00	42.73	36.15	—	—	—	—	—
0-25	701-0125	68109Z	47.00	42.73	36.15	701-0279	67109Z	50.00	45.45	38.46
0-50	701-0120	68122Z	47.00	42.73	36.15	701-0281	67122Z	50.00	45.45	38.46
0-100	701-0117	68113Z	47.00	42.73	36.15	701-0283	67113Z	50.00	45.45	38.46
0-150	701-0115	68115Z	47.00	42.73	36.15	701-0285	67115Z	50.00	45.45	38.46
0-300	701-0130	68117Z	47.00	42.73	36.15	—	—	—	—	—

AC Volts

0-5	701-0405	68402Z	49.00	44.55	37.69	701-0436	67402Z	50.00	45.45	38.46
0-10	701-0410	68403Z	50.00	45.45	38.46	701-0438	67403Z	53.00	48.18	40.77
0-15	701-0415	68404Z	50.00	45.45	38.46	701-0439	67404Z	53.00	48.18	40.77
0-25	701-0420	68412Z	50.00	45.45	38.46	701-0440	67412Z	53.00	48.18	40.77
0-50	701-0428	68405Z	50.00	45.45	38.46	701-0442	67405Z	53.00	48.18	40.77
0-100	701-0430	68408Z	50.00	45.45	38.46	701-0444	67408Z	53.00	48.18	40.77
0-150	701-0432	68406Z	51.00	46.36	39.23	701-0445	67406Z	55.00	50.00	42.31
0-300	701-0435	68407Z	51.00	46.36	39.23	701-0450	67407Z	55.00	50.00	42.31

AC Amps

0-1	701-0140	68501Z	49.00	44.55	37.69	701-0340	67501Z	51.00	46.36	39.23
0-3	701-0142	68502Z	49.00	44.55	37.69	701-0342	67502Z	51.00	46.36	39.23
0-5	701-0144	68503Z	49.00	44.55	37.69	701-0344	67503Z	51.00	46.36	39.23
0-10	701-0146	68504Z	49.00	44.55	37.69	701-0346	67504Z	51.00	46.36	39.23
0-15	701-0148	68508Z	49.00	44.55	37.69	701-0348	67508Z	51.00	46.36	39.23
0-25	701-0150	68505Z	49.00	44.55	37.69	701-0350	67505Z	51.00	46.36	39.23
0-100*	701-0154	68510Z	49.00	44.55	37.69	701-0352	67506Z	51.00	46.36	39.23
0-200*	701-0156	68520Z	49.00	44.55	37.69	701-0354	67510Z	51.50	46.82	39.62
0-300*	701-0158	68530Z	49.00	44.55	37.69	701-0356	67520Z	51.50	46.82	39.62
						701-0358	67530Z	51.50	46.82	39.62

*Requires separate current transformer. See Simpson panel meter page.

DCµA

0-100	701-0013	68902Z	47.00	42.73	36.15	701-0242	67902Z	50.00	45.45	38.46
0-200	701-0015	68903Z	47.00	42.73	36.15	701-0246	67903Z	50.00	45.45	38.46
0-500	701-0016	68904Z	47.00	42.73	36.15	701-0248	67904Z	50.00	45.45	38.46
50-0-50	701-0012	68906Z	47.00	42.73	36.15	701-0238	67906Z	50.00	45.45	38.46
100-0-100	701-0014	68907Z	47.00	42.73	36.15	701-0249	67907Z	50.00	45.45	38.46

DC mA

0-1	701-0020	68336Z	47.00	42.73	36.15	701-0250	67336Z	50.00	45.45	38.46
0-5	701-0021	68302Z	47.00	42.73	36.15	701-0252	67302Z	50.00	45.45	38.46
0-10	701-0022	68303Z	47.00	42.73	36.15	701-0254	67303Z	50.00	45.45	38.46
0-15	701-0023	68304Z	47.00	42.73	36.15	—	—	—	—	—
0-25	701-0025	68305Z	47.00	42.73	36.15	701-0258	67305Z	50.00	45.45	38.46
0-50	701-0026	68306Z	47.00	42.73	36.15	—	—	—	—	—
0-100	701-0027	68307Z	47.00	42.73	36.15	701-0264	67307Z	50.00	45.45	38.46
0-200	701-0028	68309Z	47.00	42.73	36.15	701-0328	67309Z	50.00	45.45	38.46

DC Amps

0-1	701-0001	68201Z	47.00	42.73	36.15	701-0201	67201Z	50.00	45.45	38.46
0-3	701-0005	68202Z	47.00	42.73	36.15	701-0203	67202Z	50.00	45.45	38.46
0-5	701-0002	68203Z	47.00	42.73	36.15	701-0205	67203Z	50.00	45.45	38.46
0-10	701-0003	68205Z	47.00	42.73	36.15	701-0210	67205Z	50.00	45.45	38.46
0-15	701-0004	68206Z	47.00	42.73	36.15	701-0215	67206Z	50.00	45.45	38.46
0-25	701-0006	68207Z	47.00	42.73	36.15	701-0225	67207Z	50.00	45.45	38.46
0-30	701-0007	68209Z	47.00	42.73	36.15	701-0230	67209Z	50.00	45.45	38.46
0-50	701-0008	68208Z	47.00	42.73	36.15	701-0231	67208Z	50.00	45.45	38.46

2% Accuracy Panel Meters

S Series Surface Mount. These clean-cut meters with straightforward design and pleasing aspect ratio are leaders of the line and will add distinction to any instrument or control panel. Meet or exceed performance required of ANSI C39.1-1981. **Accuracy:** $\pm 2\%$. **Tracking:** $\pm 1\frac{1}{2}\%$. **Repeatability:** $\pm 0.5\%$. **Response Time:** 1.5 seconds max. for all ranges except 0-50 μA which is 3.0 seconds max. **Scale Arc:** 100°. **Shielding:** self shielding — no special calibration needed for steel or nonferrous panel mounting, including iron vane meters. Specifications are percent of full scale. Custom scales and special inputs available as custom orders. Bezels available for window mount. Large quantity pricing available.

Dimensions

		A	B	C	D	E	F	G	H	J	K	L	M	R	S	T	V	W
2S	mm	57.70	75.90	33.80	27.20	28.70	14.20	10.20	33.00	31.50	N/A	M3*	12.70	56.40	23.90	23.90	47.80	3.200
	in.	2.27	2.99	1.33	1.07	1.13	.56	.40	1.30	1.24	N/A	4-40	.50	2.22	.94	.94	1.88	.125
3S	mm	72.90	94.00	36.60	33.80	36.60	14.20	10.40	33.00	39.40	N/A	M3*	12.70	71.60	28.40	28.40	57.20	3.200
	in.	2.87	3.70	1.44	1.33	1.44	.56	.41	1.30	1.55	N/A	4-40	.50	2.82	1.12	1.12	2.25	.125
4S	mm	100.60	129.50	44.20	33.80	44.20	14.20	12.90	33.00	55.90	N/A	M3.5*	12.70	71.60	50.80	39.10	90.40	3.800
	in.	3.96	5.10	1.74	1.33	1.74	.56	.51	1.30	2.20	N/A	6-32	.50	2.82	2.00	1.54	3.56	.150

DC Microameters

Range	2S Series 2 1/2"		3S Series 3 1/2"		4S Series 4 1/2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-50	229-0100	65.60	229-1100	65.60	229-2100	68.15
0-100	229-0102	55.35	229-1102	55.35	229-2102	57.85
0-200	229-0104	48.80	229-1104	48.80	229-2104	51.35
10-0-10	229-0106	83.60	229-1106	83.60	229-2106	86.10
25-0-25	229-0108	68.15	229-1108	68.15	229-2108	70.65
50-0-50	229-0110	57.85	229-1110	57.85	229-2110	60.35
100-0-100	229-0112	51.35	229-1112	51.35	229-2112	54.10

DC Milliameters

Range	2S Series 2 1/2"		3S Series 3 1/2"		4S Series 4 1/2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-1	229-0114	47.55	229-1114	47.55	229-2114	50.10
0-10	229-0116	47.55	229-1116	47.55	229-2116	50.10
0-15	229-0118	47.55	229-1118	47.55	229-2118	50.10
0-20	229-0120	47.55	229-1120	47.55	229-2120	50.10
0-25	229-0122	47.55	229-1122	47.55	229-2122	50.10
0-50	229-0124	47.55	229-1124	47.55	229-2124	50.10
0-100	229-0126	47.55	229-1126	47.55	229-2126	50.10
0-200	229-0128	47.55	229-1128	47.55	229-2128	50.10

DC Ammeters

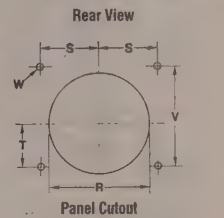
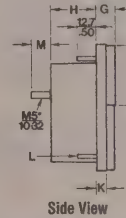
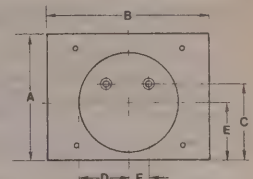
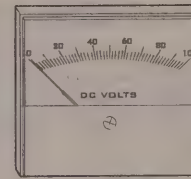
Range	2S Series 2 1/2"		3S Series 3 1/2"		4S Series 4 1/2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-1	229-0130	48.80	229-1130	48.80	229-2130	51.35
0-5	229-0132	48.80	229-1132	48.80	229-2132	51.35
0-10	229-0134	48.80	229-1134	48.80	229-2134	51.35
0-15	229-0136	48.80	229-1136	48.80	229-2136	51.35
0-25	229-0138	48.80	229-1138	48.80	229-2138	51.35
0-50	229-0140	48.80	229-1140	48.80	229-2140	51.35

DC Voltmeters

Range	2S Series 2 1/2"		3S Series 3 1/2"		4S Series 4 1/2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-1	229-0142	50.10	229-1142	50.10	229-2142	52.80
0-5	229-0144	50.10	229-1144	50.10	229-2144	52.80
0-10	229-0146	50.10	229-1146	50.10	229-2146	52.80
0-15	229-0148	50.10	229-1148	50.10	229-2148	52.80
0-30	229-0150	50.10	229-1150	50.10	229-2150	52.80
0-50	229-0152	50.10	229-1152	50.10	229-2152	52.80
0-100	229-0154	50.10	229-1154	50.10	229-2154	52.80
0-300	229-0156	50.10	229-1156	50.10	229-2156	52.80
10-0-10	229-0158	52.80	229-1158	52.80	229-2158	55.35
25-0-25	229-0160	52.80	229-1160	52.80	229-2160	55.35
50-0-50	229-0162	52.80	229-1162	52.80	229-2162	55.35
100-0-100	229-0164	52.80	229-1164	52.80	229-2164	55.35

AC Ammeters (Iron Vane)

Range	2S Series 2 1/2"		3S Series 3 1/2"		4S Series 4 1/2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-1	229-0166	51.45	229-1166	51.45	229-2166	53.85
0-3	229-0168	51.45	229-1168	51.45	229-2168	53.85
0-5	229-0170	51.45	229-1170	51.45	229-2170	53.85
0-10	229-0172	51.45	229-1172	51.45	229-2172	53.85
0-15	229-0174	51.45	229-1174	51.45	229-2174	53.85
0-25	229-0176	51.45	229-1176	51.45	229-2176	53.85
0-30	229-0178	51.45	229-1178	51.45	229-2178	53.85
0-50	229-0180	51.45	229-1180	51.45	229-2180	53.85



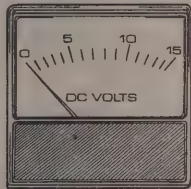
AC Voltmeters (Taut Band)

Range	2S Series 2 1/2"		3S Series 3 1/2"		4S Series 4 1/2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-3	229-0182	55.10	229-1182	55.10	229-2182	57.55
0-5	229-0184	55.10	229-1184	55.10	229-2184	57.55
0-10	229-0186	55.10	229-1186	55.10	229-2186	57.55
0-15	229-0188	55.10	229-1188	55.10	229-2188	57.55
0-25	229-0190	55.10	229-1190	55.10	229-2190	57.55
0-50	229-0192	55.10	229-1192	55.10	229-2192	57.55
0-100	229-0194	55.10	229-1194	55.10	229-2194	57.55
0-150	229-0196	55.10	229-1196	55.10	229-2196	57.55
0-300	229-0198	55.10	229-1198	55.10	229-2198	57.55
0-500	229-0200	55.10	229-1200	55.10	229-2200	57.55

AC Voltmeters (Iron Vane)

Range	2S Series 2 1/2"		3S Series 3 1/2"		4S Series 4 1/2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-3	229-0202	55.10	229-1202	55.10	229-2202	57.55
0-5	229-0204	55.10	229-1204	55.10	229-2204	57.55
0-10	229-0206	55.10	229-1206	55.10	229-2206	57.55
0-15	229-0208	55.10	229-1208	55.10	229-2208	57.55
0-30	229-0210	55.10	229-1210	55.10	229-2210	57.55
0-50	229-0212	55.10	229-1212	55.10	229-2212	57.55
0-100	229-0214	55.10	229-1214	55.10	229-2214	57.55
0-150	229-0216	55.10	229-1216	55.10	229-2216	57.55
0-300	229-0218	55.10	229-1218	55.10	229-2218	57.55
0-500	229-0220	55.10	229-1220	55.10	229-2220	57.55

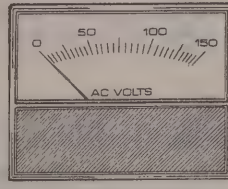
M Series Economy Moving-Magnet Panel Meter



OMS and MSQ Series



ME Series



3MAS Series

- Features 5% Accuracy of Full Scale
- Rectangular, Square, or Edgewise Configuration
- Flush or Surface Mount without Modification

- Precision-Molded Covers and Cases; UL Recognized Plastic Optional

Quality meters feature high-torque, powerful ballistic movements that permit mounting in steel panels without special calibration and production-engineered mounting and electrical connections. OMS and MSQ series square meters are 1 1/2" and 2 1/2" units with operating zero adjusters and scales printed on translucent plastic. ME series edgewise meters are 2" long units that are interchangeable with many d'Arsonval meters. Feature flush-to-panel covers — no disfiguring bulge. 3MAS series rectangular models are 3 1/2" meters with operating zero adjusters and scales printed on translucent plastic, permitting diffused lighting. All M-series meters operate in a temperature range of 0°C to +50°C.

DC Microammeters

Range	OMS Series 1 1/2"		MSQ Series 2 1/2"		3MAS Series 3 1/2"		ME Series 2"	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
500-0-500	—	—	—	—	229-4300	21.85	229-4400	18.35

DC Milliameters

Range	OMS Series		MSQ Series		3MAS Series		ME Series	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-1	229-4102	16.70	229-4202	19.20	229-4302	20.55	229-4402	15.95
0-5	229-4104	16.70	229-4204	19.20	229-4304	20.55	229-4404	15.95
0-10	229-4106	16.70	229-4206	19.20	229-4306	20.55	229-4406	15.95
10-0-10	229-4108	16.70	229-4208	19.20	229-4308	20.55	229-4408	15.95

DC Ammeters

Range	OMS Series		MSQ Series		3MAS Series		ME Series	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-5	229-4110	16.70	229-4210	19.20	229-4310	20.55	229-4410	15.95
0-10	229-4112	16.70	229-4212	19.20	229-4312	20.55	229-4412	15.95
0-20	229-4114	16.70	229-4214	19.20	229-4314	20.55	229-4414	15.95
0-30	229-4116	16.70	229-4216	19.20	229-4316	20.55	229-4416	15.95

DC Voltmeters

Range	OMS Series		MSQ Series		3MAS Series		ME Series	
	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9	Stock No.	1-9
0-10	229-4118	18.05	229-4218	20.55	229-4318	21.85	229-4418	16.70
0-15	229-4120	18.05	229-4220	20.55	229-4320	21.85	229-4420	16.70
0-30	229-4122	18.05	229-4222	20.55	229-4322	21.85	229-4422	16.70
0-50	229-4124	18.05	229-4224	20.55	229-4324	21.85	229-4424	16.70
0-100	229-4126	18.05	229-4226	20.55	229-4326	21.85	229-4426	16.70

AC Ammeters

0-1	229-4128	20.55	229-4228	23.10	229-4328	24.45	229-4428	19.20
0-5	229-4130	20.55	229-4230	23.10	229-4330	24.45	229-4430	19.20
0-10	229-4132	20.55	229-4232	23.10	229-4332	24.45	229-4432	19.20

Big-Little™ LCD Digital Panel Meters

BL series DPMs feature 3 1/2-digits that read 1999 full scale 1/2" high digits on high contrast liquid crystal display. **Accuracy:** $\pm (0.1\%, \pm 2 \text{ counts})$. **Resolution:** 1 part in 2000. Auto polarity (—) displayed. Type **BL-100** are surface/window mount with programmable decimal points. **BL-130** are bezel mount with user selectable decimal points. Both types have 13-pin terminals. **BL-176** are flat pack DPMs with solder pad connections. **176-BK** is bezel mounting kit for flat pack DPMs.

Surface Mount Digital Panel Meters

Stock No.	Mfr.'s Type	Input	DPM Power	EACH
229-5116	BL100201-U	200mVDC	+5V and -5VDC	53.70
229-5118	BL100202-U	2VDC	+5V and -5VDC	53.70
229-5120	BL100203-U	20VDC	+5V and -5VDC	53.70

Bezel Mount Digital Panel Meters

229-5128	BL130201-U	200mVDC	+5V and -5VDC	57.20
229-5130	BL130202-U	2VDC	+5V and -5VDC	57.20
229-5132	BL130203-U	20VDC	+5V and -5VDC	57.20

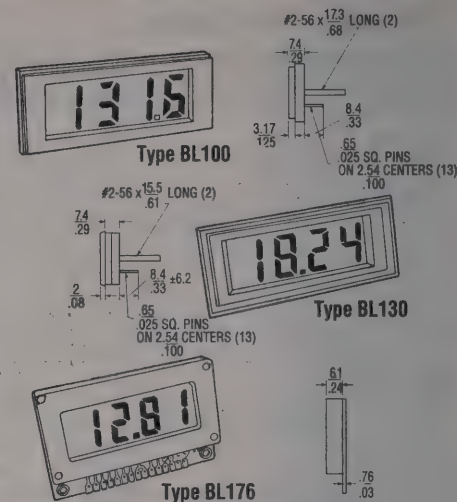
Flat Pack Digital Panel Meters

229-5140	BL176201-U	200mVDC	+5V and -5VDC	37.30
229-5142	BL176202-U	2VDC	+5V and -5VDC	37.30
229-5144	BL176203-U	20VDC	+5V and -5VDC	37.30
229-5146	BL176301-U	200mVDC	+5VDC	53.60

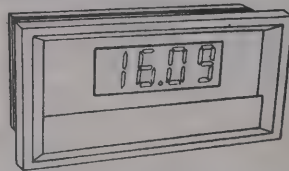
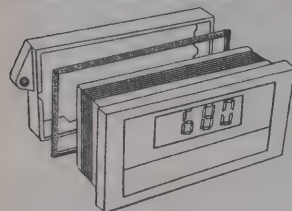
Stock No.	Mfr.'s Type	Input	DPM Power	EACH
229-5122	BL100301-U	200mVDC	+5VDC	60.75
229-5124	BL100302-U	2VDC	+5VDC	60.75
229-5126	BL100303-U	20VDC	+5VDC	60.75

229-5134	BL130301-U	200mVDC	+5VDC	64.25
229-5136	BL130302-U	2VDC	+5VDC	64.25
229-5138	BL130303-U	20VDC	+5VDC	64.25

229-5148	BL176302-U	2VDC	+5VDC	53.60
229-5150	BL176303-U	20VDC	+5VDC	53.60
229-0015	176-BK	Bezel Kit	—	3.70



2000 Series Industrial Digital Panel Instruments



Fits industry standard 1/2 DIN panel cutout. Depth behind panel less than 1". Meets NEMA 4, 12, and IPC 55 requirements for splash-proof and hose down. Auto polarity. Overrange indication. Common mode rejection greater than or equal to 100 dB at 50-60 Hz. 7 segment, 0.5" high, back lit 3 1/2 digit LCD display is readable in sunlight or under bright lights. High impact resistant polycarbonate case. **Operating Temperature Range:** -20°C to +60°C. User selectable decimal point and built-in screw terminals. All units require 115 VAC power except Loop Powered Process Meters.

DC Volts and Amperes

Accuracy: $\pm (0.1\% + 1 \text{ count})$ typical. Green backlit background with dark numerals.

Stock No.	Mfr.'s Type	Input Range	Input Resistance	EACH
229-6100	2033-3401-04	200mVDC	100M Ω	120.00
229-6102	2033-3402-04	2VDC	100M Ω	120.00
229-6104	2033-3403-04	20VDC	1M Ω	120.00
229-6106	2033-3404-04	200VDC	1M Ω	120.00
229-6158	2033-3410-04	200 μ ADC	200mV drop	120.00
229-6108	2033-3411-04	2mADC	200mV drop	120.00
229-6110	2033-3412-04	20mADC	200mV drop	120.00
229-6112	2033-3413-04	200mADC	200mV drop	120.00

AC Volts and Amperes

Accuracy: $\pm (0.5\% + 1 \text{ count})$ except (*) is $\pm (0.5\% + 5 \text{ counts})$. Bright red numerals on dark background.

229-6114	2053-3428-04	80-130VAC	1M Ω	120.00
229-6116	2053-3429-04	80-260VAC	1M Ω	120.00
229-6118	2053-3438-04-01	0-2000AAC	**	120.00
229-6120*	2053-3439-04	0-50AAC	***	120.00

*Requires 2000:5 current transformer, not supplied. ***Supplied with 50:5 current transformer.

Temperature

Thermocouple and RTD inputs (thermocouples and RTDs sold separately). **Input Characteristics:** Thermocouple Accuracy — $\pm (0.1\% + 1 \text{ count})$ with 45 μ V max. per 100 ohms input resistance; RTD Accuracy — $\pm (0.2\% + 1 \text{ count})$, 100 ohm platinum 0.00385, 2 or 3 wire connection, 1 mADC RTD current. Bright red numerals on dark background.

Stock No.	Mfr.'s Type	Input Range	Input Type	EACH
229-6122	2053-3480-04	-30° to +650°C	Type J	120.00
229-6124	2053-3481-04	-40° to +800°C	Type K	120.00
229-6126	2053-3482-04	-100° to +350°C	Type T	120.00
229-6128	2053-3470-04	-100° to +500°C	RTD	120.00
229-6130	2053-3471-04	-100° to +199.9°C	RTD	120.00

Frequency

Accuracy: $\pm 0.2 \text{ Hz}$ from 40 to 70 Hz, $\pm 0.5 \text{ Hz}$ from 70 Hz to 199.9 Hz, except #2053-3460-04 $\pm 1 \text{ Hz}$. Bright red numerals on dark background.

Stock No.	Mfr.'s Type	Displays Range of	EACH
229-6136	2053-3461-04	40 to 199.9Hz	120.00
229-6138	2053-3460-04	40 to 440Hz	120.00

Loop Powered Process Meters

Derives power for meter from process loop (no external power required). To conserve loop power, these LCD meters are not illuminated. Field scalable and reverse polarity protected. **Expanded Temperature Range:** -40°C to +65°C. **Accuracy:** $\pm 0.1\% \text{ f.s.} + 1 \text{ count}$. **Depth Behind Panel:** 2". **Range of Input:** 4 to 20 mADC with full scale factory calibrated to 100.0. Type 2013-3018-00 displays scalable square root of input for flow measurement.

Stock No.	Mfr.'s Type	Type of Display	EACH
229-6132	2013-3019-00	Linear Process	153.00
229-6134	2013-3018-00	Square Root	171.40

Big-Little™ Backlit Digital Panel Meters

The series BL300 have dark numerals on a green backlit background; the series BL500 have red backlit numerals on a dark background. They can be easily read in dark areas or in bright sunlight. These 3 1/2 digit, Liquid Crystal Display meters utilize LED backlighting; have an operating range of -20°C to +60°C; and read 1999 full scale. 0.5" high numerals; user selectable decimal point; and Autopolarity. The backlight power (isolated from meter) is 5 VDC and power consumption is 165 mADC (nominal) for the red backlighting and 115 mADC (nominal) for the green backlighting. Select between green or red backlighting and window or bezel mounting.

Red Backlight, Window Mount DPMs

Stock No.	Mfr.'s Type	Full Scale Input	DPM Power	EACH
229-5152	BL500201-01U	200mVDC	± 5 VDC	74.60
229-5154	BL500202-01U	2VDC	± 5 VDC	74.60
229-5156	BL500301-01U	200mVDC	± 5 VDC	81.65
229-5158	BL500302-01U	2VDC	± 5 VDC	81.65

Red Backlight, Bezel Mount DPMs

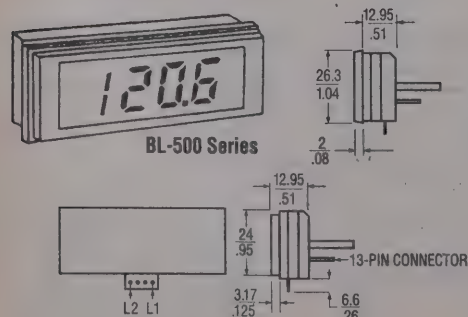
229-5160	BL530201-01U	200mVDC	± 5 VDC	78.10
229-5162	BL530202-01U	2VDC	± 5 VDC	78.10
229-5164	BL530301-01U	200mVDC	± 5 VDC	85.15
229-5166	BL530302-01U	2VDC	± 5 VDC	85.15

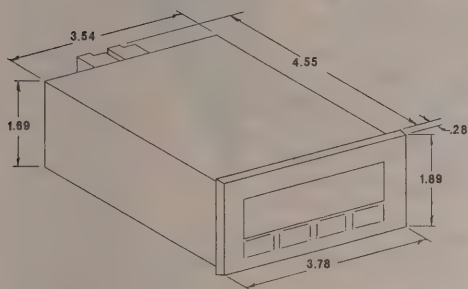
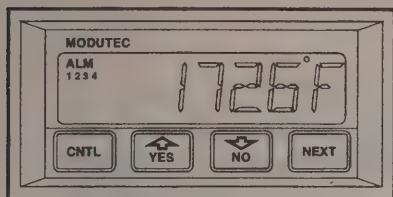
Green Backlight, Window Mount DPMs

Stock No.	Mfr.'s Type	Full Scale Input	DPM Power	EACH
229-5168	BL300201-01U	200mVDC	± 5 VDC	68.75
229-5170	BL300202-01U	2VDC	± 5 VDC	68.75
229-5172	BL300301-01U	200mVDC	± 5 VDC	75.80
229-5174	BL300302-01U	2VDC	± 5 VDC	75.80

Green Backlight, Bezel Mount DPMs

229-5176	BL330201-01U	200mVDC	± 5 VDC	72.25
229-5178	BL330202-01U	2VDC	± 5 VDC	72.25
229-5180	BL330301-01U	200mVDC	± 5 VDC	79.30
229-5182	BL330302-01U	2VDC	± 5 VDC	79.30





Genesis® Microprocessor Based Digital Controller

Powerful 16 bit microcontroller is ideally suited for process control. User adjustable parameters are stored in nonvolatile EEPROM. NEMA 4 meter requires 1/8th DIN panel cut-out with less than 5" depth behind panel. Illuminated alphanumeric LCD display is 0.5" high, four and one-half digit with dummy zero. Isolated input, outputs and power supply. Peak and valley hold; open sensor and over range indication. Power supply operates from 85-265 VAC or 90-300 VDC. Outputs include up to 4, Form C Relays (7 Amp/250 VAC) for alarm and/or control. Optional plug-in cards are available for proportionate voltage/milliamper output and data communications. User adjustable maximum resolution; dummy zero (0, 1 or 2); decimal point (5 places); security lockout; output configuration; hysteresis; and mode of on-off control. Temperature units offer the user the additional ability to select: degrees F or C; type J, K, or T thermocouple for temperature measurement from -450°F to 2500°F; RTD measurements from -328°F to 1472°F with 1.0° or 0.1° resolution. **Typical Accuracy:** DC voltage $\pm 0.005\%$ FS; DC current is $\pm 0.05\%$ FS; Tempco of RTD is 0.03°C. The GENESIS® meters are available with bright red numerals on a dark background or dark numerals on a green background.

Stock No.	Mfr.'s Type	Full Scale Input	No. of Outputs	Numerals/Background	EACH
229-3066	3100-DA-00-R2-00-A5	200 mVDC	2	Red/Dark	319.00
229-3067	3100-DF-00-R2-00-A5	200 VDC	2	Red/Dark	319.00
229-3068	3100-DI-00-R2-00-A5	20 mADC	2	Red/Dark	319.00
229-3069	3100-DI-00-R2-R2-A5	20 mADC	4	Red/Dark	379.00
229-3070	3100-DA-00-R2-00-A3	200 mVDC	2	Dark/Green	319.00
229-3071	3100-AG-00-R2-00-A5	650 VAC	2	Red/Dark	379.00
229-3072	3100-AL-00-R2-00-A5	5 AAC	2	Red/Dark	379.00
229-3073	3100-AL-00-R2-R2-A5	5 AAC	4	Red/Dark	439.00
229-3074	3100-ST-00-R2-00-A5	t/c and RTD	2	Red/Dark	389.00

229-3075. 00-939141-001. Genesis® Plug-In Output Card — RS-232 Communications Card*EACH 195.00
 229-3076. 00-939141-002. Genesis® Plug-In Output Card — RS-432 Communications Card*EACH 195.00
 229-3079. 00-939141-003. Genesis® Plug-In Output Card — RS-485 Communications Card*EACH 195.00
 229-3078. 00-939139-006. Genesis® Plug-In Output Card — Analog Volts/MilliamperesEACH 70.00

*Addition of Communications Card limits Genesis® to two relay outputs.

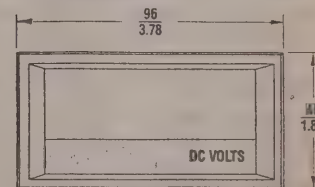
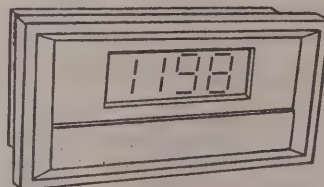
Universal Selectable Industrial Digital Panel Instruments

This series of panel meters provide the ability for the user to switch select range and scale to display the input signal in engineering units. 1/8 DIN panel cutout. **Depth Behind Panel:** less than 1". NEMA 4, 12, and IPC 55 case for splash-proof and hose down applications. Built-in screw terminals. Impact resistant polycarbonate case. 7 segment, 0.5" high, backlit 3 1/2 digit LCD display is readable in sunlight or low ambient lighting conditions. Common mode rejection is greater than or equal to 100 dB at 50-60 Hz with an operating temperature range of -20°C to +60°C.

DC Volts and Amps

Factory calibrated to the input range and display shown, although they may be re-scaled to any DC amp or voltage inputs shown via changes in the switch settings. The zero range adjustment for either 4-20 mADC or 1-5 VDC is -1000 to +1500 counts. The zero range adjustment for non-offset inputs is -1500 to +1500 counts. Full scale span adjustment for all ranges is 0 to 2000 counts. All DC units require 115 VAC external power and have dark numerals on green backlit background.

Stock No.	Mfr.'s Type	Input Range	Display	EACH
229-6140	2133-3401-04	200 mVDC	0 to 199.9	183.60
229-6142	2133-3402-04	2 VDC	0 to 199.9	174.90
229-6144	2133-3406-04	10 VDC	0 to 10.00	183.60
229-6146	2133-3405-04	1-5 VDC	0 to 100.0	174.90
229-6150	2133-3419-04	4-20 mADC	0 to 100.0	202.40



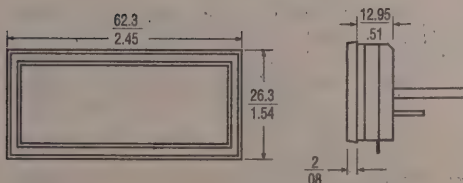
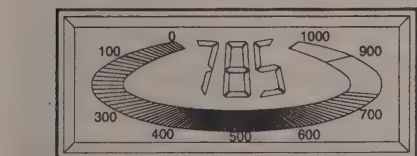
AC Volts and Amps

Feature True RMS measurement and have been designed for either POWER or INSTRUMENT applications. The POWER ranges are for full scale inputs from 20 to 250 volts AC or 2 to 5 amps AC. The INSTRUMENT ranges are for full scale voltage inputs of 200 mVAC to 20 VAC or full scale amperage inputs of 200 mAAC to 2 AAC. Both the POWER and the INSTRUMENT units can be re-scaled by the user to any input, within their designated range. The user need only to rest the DIP switches located on the rear of the unit to volts or amps. Span and offset adjustments are available via a 25 turn potentiometer. These universal AC units are available with dark numerals on a green backlit background or bright red numerals on a dark background. Both require external, user selectable, 115/230 VAC power.

Stock No.	Mfr.'s Type	Input Range	Numerals/Background	EACH
229-6150	2253-1021-10	Instrument	Red/Dark	202.40
229-6152	2353-1036-105	Power	Red/Dark	202.40
229-6154	2233-1021-10	Instrument	Dark/Green	202.40
229-6156	2333-1036-105	Power	Dark/Green	202.40

BGE™ Elliptical Bargraph with Single or Dual Inputs

The BGE series elliptical LCD bargraph/digital panel meter utilize chip-on-board and surface mount component technology. Fast responding (25 times per second) 100 segment, 3 1/2" long bargraph gives trend information and follows a rapidly-changing input signal with a typical 1% accuracy. The independent 3 digit (± 999), seven segment, 0.34" height display (updated 2.5 times per second) gives accurate readout of a second signal input with 0.1% typical accuracy. The digital readout has a selectable, three position decimal point. The input signal to the bargraph and digital display is 0 to 200 mVDC with the resultant display of 999 digital counts and 100 segments of the elliptical bargraph displayed. The bargraph and digital display can monitor either two separate input signals or they can both be connected to monitor one input signal. By incorporating the dual displays into one unit, the BGE series is ideal for power supplies, UPS systems, or any application that monitors two perimeters. The backlit display allows readability in sunlight or low ambient lighting conditions. The dual displays share either 5 VDC or 9 VDC power. Typical power consumption is 165 mA (nominal) for red displays and 115 mA (nominal) for green displays. These units are available in three different display configurations: green segments on a dark background; red segments on a dark background; and a green background with dark segments. The standard labeling is 0 to 1000 units on the elliptical bargraph and no labeling on the digital readout.



Stock No.	Mfr.'s Type	Power Required*	Segments/Background	EACH
229-5184	BGE-30-999-0U	5 VDC	Green/Dark	98.00
229-5186	BGE-40-999-0U	5 VDC	Dark/Green	100.40
229-5188	BGE-50-999-0U	5 VDC	Red/Dark	104.10
229-5190	BGE-30-999-1U	9 VDC	Green/Dark	98.00
229-5192	BGE-40-999-1U	9 VDC	Dark/Green	100.40
229-5194	BGE-50-999-1U	9 VDC	Red/Dark	104.10

*All back lighting required 5 VDC power.

ICN77000 Micro-Infinity™ Series 1/16 DIN Autotune Temperature/Process Controllers

- Companion Design Compliments INFINITY™ Series Indicators
- Extremely High Accuracy, $\pm 0.5^\circ\text{C}$; 0.03% Rdg. For Process Inputs
- Dual 4-Digit LED Display With Indicators For Output and Alarm Status
- Relay, SSR, DC Pulse, 0-10 V and 0-20 mA Output Types
- Ramp To Setpoint Feature Standard
- Universal Power Supply, VAC Or VDC (Optional 10-34 VAC Or VDC)
- Thermocouple, RTD Or Process Voltage/Current Input
- Single and Dual Output Models With Dual Alarm Capability
- Optional RS-232, RS-485, Analog Output Or Remote Setpoint Selection

3 Versions Available

- 1/16 DIN Bezel With Unique 1.75" Round Cutout, NEMA 12 Protection
- 1/16 DIN Cutout With 2.1" Square Bezel, NEMA 4 Protection
- 1/16 DIN Bezel and Cutout, NEMA 12 Protection

The ICN77000 Series meters feature a large, dual display, front panel configuration, and selectable temperature/process inputs. Available in single and dual output configurations, the ICN77000 meters are available with relay, SSR, DC pulse, analog voltage or current outputs. A single alarm is standard. Options include a second alarm, RS-232, RS-485, analog output or remote setpoint selection. Please specify options at time of order.

Stock No.	Mfr.'s Type	Description	EACH
544-0001	ICN77340	Single DC pulse output, 1 alarm standard, NEMA-12	219.00
544-0002	ICN77350	Single 0-20 mA, 0-10 V output, 1 alarm standard, NEMA-12	219.00
544-0003	ICN77333	Dual relay output, 1 alarm standard, NEMA-12	229.00
544-0004	ICN77343	Dual output, DC pulse and relay, 1 alarm standard, NEMA-12	229.00
544-0005	ICN77353	Dual output, analog and relay, 1 alarm standard, NEMA-12	229.00
544-0006	ICN77530	Single relay output, 1 alarm standard, NEMA-4	229.00
544-0007	ICN77540	Single DC pulse output, 1 alarm standard, NEMA-4	229.00
544-0008	ICN77550	Single 0-20 mA, 0-10 V output, 1 alarm standard, NEMA-4	229.00
544-0009	ICN77533	Dual relay output, 1 alarm standard, NEMA-4	239.00
544-0010	ICN77543	Dual output, DC pulse and relay, 1 alarm standard, NEMA-4	239.00
544-0011	ICN77553	Dual output, analog and relay, 1 alarm standard, NEMA-4	239.00



Additional Options Available for Controller

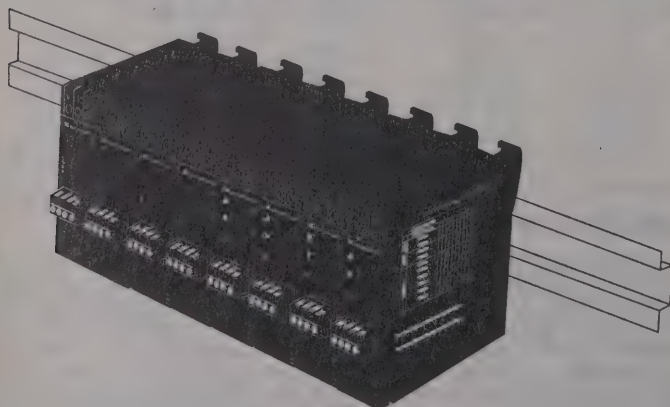
Not field installable. Must be specified at time of order.

Stock No.	Order Suffix	Alarm and Communications Options	EACH
544Q0032	-A2	2nd Alarm	6.00
544Q0033	-C2	Isolated RS-232 Communications	50.00
544Q0034	-C4	Isolated RS-485 Communications	50.00
544Q0035	-PV	Isolated Analog Output	65.00
544Q0036	-RSP	Remote Setpoint Selection	25.00

Note: Options are mutually exclusive. Only one option may be specified with a unit.

Stock No.	Order Suffix	Power Options	EACH
544Q0037	-DC	10-34 VAC/VDC power	20.00

DRN Series DIN Rail Mount Signal Conditioners



- Manually Scalable Or Computer-Configurable Models
- Models Available For Thermocouple, RTD, Process, Strain, Frequency/Pulse, AC Voltage and Current
- 0-10 V, 4-20 mA Or 0-20 mA Analog Output

The DRN Series DIN rail mount signal conditioners represent state-of-the-art signal conditioning technology, ideal for all process and power monitoring applications. Models feature 3-way isolation, high accuracy input and programmable outputs. The signal conditioners are excellent front-end interfaces for programmable logic controllers or data acquisition systems. Models are available for thermocouples, RTDs, AC voltage, AC current, process voltage, strain, and frequency/pulse inputs. For maximum user-configurability, two designs are available: one with complete input-output scaling and calibration via an RS-232 link to any PC, and the other with manual configuration and calibration via DIP switches and buttons.

Stock No.	Mfr.'s Type	Description	EACH
544-0017	DRN-TC-C/N	Computer-configurable, J, K, T, E, R, S, B, J DIN input	325.00
544-0018	DRN-TC-M1/N	DIP switch configurable, J, K, T, E, J DIN input	325.00
544-0019	DRN-TC-M2/N	DIP switch configurable, R, S, B, N input	325.00
544-0020	DRN-RTD-C/N	Computer-configurable, RTD input	355.00
544-0021	DRN-RTD-M/N	DIP switch configurable, RTD input	355.00
544-0022	DRN-PR-C/N	Computer-configurable, process input	325.00
544-0023	DRN-PR-M/N	DIP switch configurable, process input	325.00
544-0024	DRN-ST-C/N	Computer-configurable, strain gage/load cell input	345.00
544-0025	DRN-ST-M/N	DIP switch configurable, strain gage/load cell input	345.00
544-0026	DRN-FP-C/N	Computer-configurable, frequency/pulse input	295.00
544-0027	DRN-FP-M/N	DIP switch configurable, frequency/pulse input	295.00
544-0028	DRN-ACV-C/N	Computer-configurable, AC voltage input	295.00
544-0029	DRN-ACV-M/N	DIP switch configurable, AC voltage input	295.00
544-0030	DRN-ACC-C/N	Computer-configurable, AC current input	295.00
544-0031	DRN-ACC-M/N	DIP switch configurable, AC current input	295.00

Accessories

Stock No.	Mfr.'s Type	Description	EACH
544-0012	DRN-PS-300/N	90-250 VAC input, 24 VDC at 300 mA output power supply	110.00
544-0013	DRN-PS-410/N	115/230 VAC input, 24 VDC at 410 mA output power supply	120.00
544-0014	DRN-PS-750/N	115/230 VAC input, 24 VDC at 750 mA output power supply	130.00
544-0015	DRN-CONFIG-9/N	Configuration Software, includes 9-pin serial cable	100.00
544-0016	DRN-CONFIG-25/N	Configuration Software, includes 25-pin serial cable	100.00
544-0137	RAIL-35-2/N	35 mm DIN rail, 2 m length	15.00

Infinity™ C Series Indicators/Controllers



- 9 Models For Process, Thermocouple, RTD, Thermistor, Strain and pH Inputs
- Dual 7 A Relays and Analog Output Options Available At Time Of Order
- High Accuracy, 4-Digit LED
- Sleek 1/2 DIN Design
- 115 VAC Power Standard — 230 VAC, 10-32 VDC Or 26-56 VDC Power Also Available

INFCT Thermocouple Input Temperature Meter

Standard features include 0.1° or 1° resolution, °C/°F switchable.

Stock No.	Mfr.'s Type	Signal Input	Control Output	Analog Output	EACH
544-0038	INFCT-000	J, K, T or J-DIN	No	No	245.00
544-0039	INFCT-001		No	Yes	325.00
544-0040	INFCT-010		Yes	No	315.00
544-0041	INFCT-011		Yes	Yes	395.00

INFCS Strain Meter

Standard features include a wide selection of signal inputs, dual setpoints, peak reading, large offset capabilities for display in engineering units, front panel and remote tare, user selectable sensor excitation of 5,10,12 or 24 VDC.

544-0042	INFCS-000	0-100 mV, ±50 mV,	No	No	245.00
544-0043	INFCS-001	0-5 V, 1-5 V, 0-10 V,	No	Yes	325.00
544-0044	INFCS-010	±5 VDC, 0-20 mA,	Yes	No	315.00
544-0045	INFCS-011	or 4-20 mA	Yes	Yes	395.00

INFCP Process Meter

Standard features include a wide selection of signal inputs, dual setpoints, peak reading, large offset capabilities for display in engineering units, front panel and remote tare, user selectable sensor excitation of 5,10,12 or 24 VDC.

544-0046	INFCP-000	0-100 mV, ±50 mV,	No	No	245.00
544-0047	INFCP-001	0-100 mV, ±50 mV,	No	Yes	325.00
544-0048	INFCP-010	0-5 V, 1-5 V, 0-10 V,	Yes	No	315.00
544-0049	INFCP-011	or 4-20 mA	Yes	Yes	395.00

Infinity™ C True RMS Meter

- 4-Digit, 14-Segment Red LED
- High 0.1% Of Reading Accuracy
- AC Current and Voltage Ranges
- Smart Filtering Detects The Difference Between A Spike Or Process Change
- Front Panel Configuration
- Peak and Valley Detection and Memory

The INFCAC true RMS meter represents an advance in AC monitoring and control. The two models available are an AC voltmeter and an AC ammeter. The INFCAC has broad scaling capabilities for most applications. Easy plug-in rear panel connectors make installation/removal quick and easy. The range can be changed via the front panel or via the serial communications option. Security is provided by an internal hardware lockout.

INFCR RTD Temperature Meter

Standard features include a choice of 0.00385 or 0.00392 alpha curves, 2, 3, or 4 wire RTDs, 0.1° or 1° resolution, °C/°F switchable.

Stock No.	Mfr.'s Type	Signal Input	Control Output	Analog Output	EACH
544-0050	INFCR-000	0.00385 or 0.00392	No	No	245.00
544-0051	INFCR-001		No	Yes	325.00
544-0052	INFCR-010		Yes	No	315.00
544-0053	INFCR-011		Yes	Yes	395.00

INFCH Thermistor Meter

Standard features include accuracy of ±0.1°C, resolution of 0.1° or 1°, °C/°F switchable.

544-0054	INFCH-000	400 Series or 700 Series	No	No	245.00
544-0055	INFCH-001		No	Yes	315.00
544-0056	INFCH-010		Yes	No	315.00
544-0057	INFCH-011		Yes	Yes	395.00

INFCRP Proportional RTD Temperature Meter

Features time proportional relay and open-collector outputs, 0.1° or 1° resolution, °C/°F switchable, dual 6 A relay outputs and analog outputs.

544-0058	INFCRP-011	0.00385	Yes	Yes	395.00
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INFCTP Proportional T/C Temperature Meter

Features time proportional relay and open-collector outputs, 0.1° or 1.0° resolution, °C/°F switchable, dual 6 A relay outputs and analog outputs.

544-0059	INFCTP-011	J, K, or T	Yes	Yes	395.00
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INFCDR Differential RTD Temperature Meter

Accepts 2, 3, or 4 wire RTDs, a choice of 0.00385 or 0.00392 alpha curve, front panel selection of T1, T2 or T1-T2 indication, 0.1° or 1° resolution, °C/°F switchable.

544-0060	INFCDR-000	0.00385 or 0.00392	No	No	345.00
544-0061	INFCDR-010		Yes	No	415.00
544-0062	INFCDR-011		Yes	Yes	495.00

INFCDT Differential Thermocouple Temperature Meter

Features include front panel selection of T1, T2 or T1-T2 indication. 0.1° or 1° resolution, °C/°F switchable.

544-0063	INFCDT-000	J, K, T, or J-DIN	No	No	345.00
544-0064	INFCDT-010		Yes	No	415.00
544-0065	INFCDT-011		Yes	Yes	495.00

INFCPH pH Meter

544-0066	INFCPH-011	pH	Yes	Yes	395.00
544-0067	INFC-011	Conductivity	Yes	Yes	395.00
544-0068	INFCOR-011	ORP	Yes	Yes	395.00

*U.S. and International Patents and Pending Applications.

Stock No.	Mfr.'s Type	Power/LED	Relay	Analog Output	Input Type	EACH
544-0069	INFCAC-0000-V5	115 VAC, Red	No	No	0-750 V	345.00
544-0070	INFCAC-0010-V5	115 VAC, Red	No	Yes	0-750 V	425.00
544-0071	INFCAC-0100-V5	115 VAC, Red	Yes	No	0-750 V	415.00
544-0072	INFCAC-0110-V5	115 VAC, Red	Yes	Yes	0-750 V	495.00
544-0073	INFCAC-0000-C5	115 VAC, Red	No	No	0-5 A	345.00
544-0074	INFCAC-0010-C5	115 VAC, Red	No	Yes	0-5 A	425.00
544-0075	INFCAC-0100-C5	115 VAC, Red	Yes	No	0-5 A	415.00
544-0076	INFCAC-0110-C5	115 VAC, Red	Yes	Yes	0-5 A	495.00

*Note: relay and analog outputs must be specified at time of order. 230 Vac, green display and serial communications available upon request.

Infinity™ Series 1/2 DIN Indicators/Controllers



- High Accuracy, 6-Digit, 14-Segment LED
- Optional 7 A Dual Relays
- Optional Scalable Analog Output
- Optional Serial RS-232 Or RS-485 Communications

High accuracy 6-digit panel meters allow user to select various input signal via front panel pushbutton and jumpers. NEMA-4 front panel, security lockout. For INFP and INFS units there is a choice of 10 or 24 VDC sensor excitation. Inputs can be scaled to engineering units. The INFs come with 4 programmable open-collector outputs for setpoint or alarms, read rates up to 13/sec, high accuracy, peak/valley detection with memory. Standard 1/2 DIN case panel cutout. Strain models have Auto Tare.

Temperature Meters

Stock No.	Mfr.'s Type	Signal Input	Relay Output	Analog Output	Serial Comm.	EACH
544-0077	INFT-0000-KF	J, K, T, E,	No	No	No	595.00
544-0078	INFT-0200-KF	B, R, S, N,	Yes	No	No	670.00
544-0079	INFT-0210-KF	or J DIN	Yes	Yes	No	780.00
544-0080	INFT-0211-KF	(thermocouples)	Yes	Yes	Yes	890.00
544-0081	INFT-0000-RTD2	100 Ω Pt. RTD	No	No	No	595.00
544-0082	INFT-0200-RTD2	0.00385 alpha	No	No	No	670.00
544-0083	INFT-0210-RTD2	100 Ω Pt. RTD	Yes	Yes	No	780.00
544-0084	INFT-0211-RTD2	0.00392 Pt. RTD or 10 Ω copper	Yes	Yes	Yes	890.00

Strain Meters

544-0085	INFS-0000-DC1	0-100 mV, 0-1 V,	No	No	No	545.00
544-0086	INFS-0200-DC1	0-5 V, 1-5 V, 0-10 V,	Yes	No	No	620.00
544-0087	INFS-0210-DC1	0-100 V, ±50 mV,	Yes	Yes	No	730.00
544-0088	INFS-0211-DC1	±500 mV, ±5 V, ±50 V, 0-20 mA, or 4-20 mA	Yes	Yes	Yes	840.00

Process Meters

544-0089	INFP-0000-DC1	0-100 mV, 0-1 V,	No	No	No	545.00
544-0090	INFP-0200-DC1	0-5 V, 1-5 V, 0-10 V,	Yes	No	No	620.00
544-0091	INFP-0210-DC1	0-100 V, ±50 mV,	Yes	Yes	No	730.00
544-0092	INFP-0211-DC1	±500 mV, ±5 V, ±50 V, 0-20 mA, or 4-20 mA	Yes	Yes	Yes	840.00

Infinity™ D Series Economical Meters For Process, Temperature Or Strain

IDP-0
(Shown With
HHCT-6 Milliamp
Calibrator/Meter)



- Thermocouple, Process and Strain Input Models
- 4-Digit Red LED Displays
- Front Panel Setup
- 115 VAC Power Standard
- User Selectable Inputs

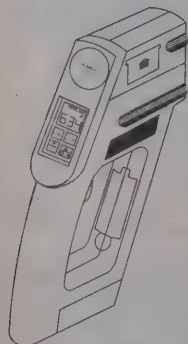
Process Meter — Type IDP: Easily scaled to engineering units, -1999 to +9999 display, front panel and remote tare, peak or valley detection and memory.

Temperature Meter — Type IDT: °C/°F switchable, 1° and 0.1° resolution, min./max. recall, external display HOLD input.

Strain Meter — Type IDS: Ratiometric input, easy scaling, front panel and remote tare set and reset, min./max. recall, external display HOLD input.

Stock No.	Mfr.'s Type	Type	Input Types	Excitation	EACH
544-0093	IDP-0	Process	0-5 V, 1-5 V, 0-10 V, 4-20 mA	10 or 24 VDC	155.00
544-0094	IDT-0	Thermocouple	J, K, T, J DIN	N/A	225.00
544-0095	IDS-0	Strain	±20 mV to ±2.0 mV	5, 10 or 24 VDC	245.00
544-0096	HHCT-6	mA Calibrator	0-21 mA	0-21 mA	495.00

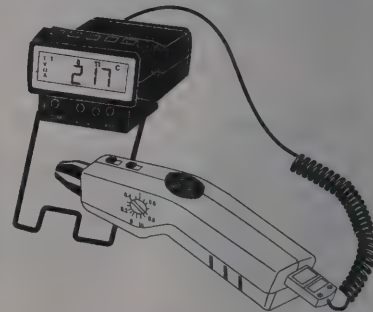
Handheld Infrared Thermometers



With a combination of powerful features, the new portable and rugged OS520 series infrared thermometers offer solutions for many non-contact temperature measurement applications. Emissivity range of 0.1 to 1.0 is adjustable in 0.01 increments, provides versatility when measuring a variety of surfaces. A custom backlit LCD display provides dual digital display of current and max. or min. temperatures simultaneously. This provides the user with more information at a glance. The OS520 also features a high alarm setpoint, providing both audible and visual indication of the alarm status. The standard 1 mV per degree analog output allows interfacing with data acquisition equipment, including chart recorders, dataloggers and computers. 1% rdg. accuracy standard.

Stock No.	Mfr.'s Type	Infrared Thermometer	EACH
544-0097	OS520-E	0-1000°F range, 10:1 distance to spot size ratio.	495.00
544-0098	OS521	0-1000°F range, 20:1 distance to spot size ratio. Low alarm, ambient target temperature compensation, RS-232 output, printer output.	895.00
544-0099	OS522	0-1600°F range, 30:1 distance to spot size ratio. Same features as OS521 with data storage and laser sight.	1295.00

Infrared Sensors With Thermocouple Or 1 mV/Degree Output



The OS-TAC Series handheld non-contacting infrared sensors feature a choice of either thermocouple or analog outputs. The OS-TAC-J offers Type J thermocouple output whereas the OS-TAC-K offers Type K thermocouple output allowing for simple connection to any thermocouple meter or controller. The OS-TAC-MV has a 1 mV/°C or 1 mV/°F switchable output which is compatible with a wide variety of voltmeters and process controllers. Both meters feature emissivity of 0.1 to 1.0 adjustable in 0.01 increments and a temperature range of -17 to 398°C (0 to 750°F). An additional feature is the convenient tripod mount for permanent and fixed position mounting. The output from the OS-TAC is compatible with temperature indicators designed for K or J thermocouples. HHMI digital thermometer sold separately. See page 963.

Stock No.	Mfr.'s Type	Description	EACH
544-0100	OS-TAC-MV	Infrared to analog converter, 1 mV/° output	199.00
544-0101	OS-TAC-K	Infrared to T/C converter, type K output	199.00
544-0102	OS-TAC-J	Infrared to T/C converter, type J output	199.00

Panel Meters and Test Equipment

PM Series Miniature Panel Meters — Voltage, Current, Ratio Meters



- Small Stackable Case
- Multiple Options
- 0.3" Red LED Display (Green and Yellow Option)
- Automatic Zero and Polarity Indication
- Special Scaling and Zero Offset Option
- Presettable Decimal Points

The PM Series full-functioned miniature digital panel meters are suited for Voltage (DC or AC), Ratio or Current applications. They feature DC reading (Model PM-352 has an AC reading option) as well as DC or AC power options. Highly accurate (from 0.1% to 0.02% full scale), with rapid update rates (three readings per second), these meters feature a presetttable decimal point. **Common Mode Rejection Rates:** 80 dB min. **Normal Mode Rejection Ratio:** 40 dB min. **Warm-Up to Rated Accuracy:** 10 seconds. Connector, if required, must be purchased separately.

Model PM-349 3 1/2 Digit LED Voltage Meter

Stock No.	DC Voltage Range	Digits	Input Impedance	EACH
667-8000	200 mV	3 1/2	100 MΩ	92.00
667-9997	2 V	3 1/2	1000 MΩ	72.00
667-8020	20 V	3 1/2	1 MΩ	92.00
667-8030	200 V	3 1/2	10 MΩ	92.00
667-8040	1000 V	3 1/2	10 MΩ	86.61

Model PM-352 3 1/2 Digit LED Voltage Meter

667-5001	2 V	3 1/2	1000 MΩ	138.00
667-5003	20 V	3 1/2	1 MΩ	158.00
667-5004	200 V	3 1/2	10 MΩ	158.00
667-5006	1000 V	3 1/2	10 MΩ	158.00

Model PM-4 4 Digit LED Voltage Meter

667-2100	1 V	4	1000 MΩ	182.00
667-2102	10 V	4	1 MΩ	202.00
667-2104	100 V	4	10 MΩ	202.00
667-2106	1000 V	4	10 MΩ	202.00

Model PM-452 4 1/2 Digit LED Voltage Meter

667-5501	2 V	4 1/2	1000 MΩ	99.00
667-5503	20 V	4 1/2	1 MΩ	174.00
667-5505	200 V	4 1/2	10 MΩ	119.00
667-5506	1000 V	4 1/2	10 MΩ	119.00

Model PM-349/CS 3 1/2 Digit LED Current Meter

Stock No.	DC Current Range	Digits	Voltage Drop Full Scale	EACH
667-3005	20 μA	3 1/2	200 mV	97.00
667-3010	200 μA	3 1/2	200 mV	97.00
667-3015	2 mA	3 1/2	200 mV	97.00
667-3020	20 mA	3 1/2	200 mV	97.00
667-3025	200 mA	3 1/2	200 mV	97.00

Model PM-352/CS 3 1/2 Digit LED Current Meter

667-3055	20 μA	3 1/2	2 V	163.00
667-3060	200 μA	3 1/2	2 V	163.00
667-3065	2 mA	3 1/2	2 V	163.00
667-3070	20 mA	3 1/2	2 V	163.00
667-3075	200 mA	3 1/2	2 V	163.00

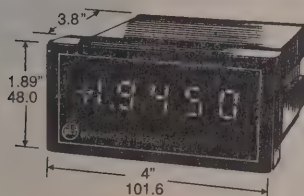
Model PM-4/CS 4 Digit LED Current Meter

667-3030	10 μA	4	1 V	207.00
667-3035	100 μA	4	1 V	207.00
667-3040	1 mA	4	1 V	207.00
667-3045	10 mA	4	1 V	207.00
667-3050	100 mA	4	1 V	207.00

Model PM-452/CS 4 1/2 Digit LED Current Meter

667-3080	20 μA	4 1/2	2 V	124.00
667-3085	200 μA	4 1/2	2 V	124.00
667-3090	2 mA	4 1/2	2 V	124.00
667-3095	20 mA	4 1/2	2 V	124.00
667-4000	200 mA	4 1/2	2 V	124.00

RM-Series Panel Meters — Voltage, Current, Ratio, or Ohms



- High Accuracy (From 0.1% to 0.02% Full Scale)
- Optional 120 or 240 Vac Power Input
- Automatic Zero and Polarity Indication
- Special Scaling and Zero Offset
- Bright Red 0.56" LEDs (Green and Yellow Option)
- 0.6" LCD RM-351 and 0.4" LCD Display RM-451 and RM-453 Models
- +5 Vdc Power Standard (+5, 12, 24, 28 Vdc Isolated Optional)

Ideal for OEM and replacement applications. New large 0.8 inch LED display available on RM-350 model. 2000 variations, sized to industry standard case (1/8 DIN/NEMA cutout). Meter standard is DC powered and DC reading. AC power and/or AC reading option can be ordered. **Accuracy:** 0.1% to 0.02% full scale. **Update Rate:** 3 readings per second. **Common Mode Rejection Rates:** 80 dB min. **Normal Mode Rejection Ratio:** 40 dB min. A presetttable decimal point to any of 3 or 4 locations. **Warm-Up to Rated Accuracy:** 10 seconds. **Operating Temperature:** 0°C to 50°C ambient. MUX/BDC output on some models, choose Edge Connector (EC) or Terminal Block (TB).

Model RM-350 3 1/2 Digit LED Voltage Meter

Stock No.	DC Voltage Range	Digits	Input Impedance	EACH
667-4005	200 mV	3 1/2	1000 MΩ	92.00
667-4090	2 V	3 1/2	1000 MΩ	92.00
667-4015	20 V	3 1/2	1 MΩ	112.00
667-4020	200 V	3 1/2	10 MΩ	112.00
667-4025	1000 V	3 1/2	10 MΩ	112.00

Model RM-351 3 1/2 Digit LCD Voltage Meter

667-4030	200 mV	3 1/2	100 MΩ	110.00
667-4035	2 V	3 1/2	1000 MΩ	110.00
667-4040	20 V	3 1/2	1 MΩ	130.00
667-4045	200 V	3 1/2	10 MΩ	130.00
667-4060	1000 V	3 1/2	10 MΩ	130.00

Model RM-451 4 Digit LCD Voltage Meter

667-4060	2 V	4 1/2	1000 MΩ	207.00
667-4065	20 V	4 1/2	1 MΩ	227.00
667-4070	200 V	4 1/2	10 MΩ	227.00
667-4075	1000 V	4 1/2	10 MΩ	227.00

Model RM-452 4 1/2 Digit LED Voltage Meter

667-5600	2 V	4 1/2	1000 MΩ	171.00
667-5602	20 V	4 1/2	1 MΩ	191.00
667-5604	200 V	4 1/2	10 MΩ	191.00
667-5605	1000 V	4 1/2	10 MΩ	191.00

Model RM-350/CS 3 1/2 Digit LED Current Meter

Stock No.	DC Current Range	Digits	Voltage Drop Full Scale	EACH
667-4085	20 μA	3 1/2	200 mV	117.00
667-4090	200 μA	3 1/2	200 mV	92.00
667-4095	2 mA	3 1/2	200 mV	117.00
667-5000	20 mA	3 1/2	200 mV	117.00
667-5005	200 mA	3 1/2	200 mV	158.00
667-5010	2 A	3 1/2	200 mV	117.00

Model RM-351/CS 3 1/2 Digit LCD Current Meter

667-5015	20 μA	3 1/2	200 mV	135.00
667-5020	200 μA	3 1/2	200 mV	135.00
667-5025	2 mA	3 1/2	200 mV	135.00
667-5030	20 mA	3 1/2	200 mV	135.00
667-5035	200 mA	3 1/2	200 mV	135.00
667-5040	2 A	3 1/2	200 mV	135.00

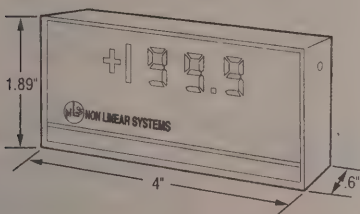
Model RM-451/CS 3 1/2 Digit LCD Current Meter

667-5050	200 μA	4 1/2	2 V	232.00
667-5055	2 mA	4 1/2	2 V	232.00
667-5060	20 mA	4 1/2	2 V	232.00
667-5065	200 mA	4 1/2	2 V	232.00

Model RM-452/CS 3 1/2 Digit LED Current Meter

667-5075	200 μA	4 1/2	2 V	201.00
667-5080	2 mA	4 1/2	2 V	201.00
667-5085	20 mA	4 1/2	2 V	201.00
667-5090	200 mA	4 1/2	2 V	201.00

X-Series Low Cost Digital Panel Meters DC Volt and DC Ammeters



- Short Depth, Only 1/2 Inch Behind Panel
- Accuracy from 0.2% to 0.1% Full Scale
- Automatic Zero and Polarity
- Bright Red 0.56" LEDs (Green or Yellow Option)
- Special Scaling and Zero Offset Available
- Pin Connector

The X series meters are low-cost, short depth that are ideal for shallow equipment. Select 100 mV to 1000 V ranges depending on the model, all meters have a presetttable decimal point, also a connection for external reference supply. **Update Rate:** 3 readings/second. **Power:** +5 Vdc ±5% (at 200 mA for X-32 and X-34, 6 mA for X-37). **Weight:** approximately 2 oz. **Operating Temperature:** 0°C to 50°C ambient. **Case Size:** 1.9H × 4W × 1.1D (0.5" behind bezel). Connector, if required, must be purchased separately.

Model X-32 3 Digit LED Voltage Meter

Stock No.	DC Voltage Range	Digits	Input Impedance	EACH
667-9000	100 mV	3	100 MΩ	55.00
667-7500	1 V	3	1 MΩ	35.00
667-9005	10 V	3	1 MΩ	55.00
667-9010	100 V	3	1 MΩ	57.75
667-9015	1000 V	3	4 MΩ	55.00

Model X-34 3 1/2 Digit LED Voltage Meter

667-9020	200 mV	3 1/2	100 MΩ	67.00
667-7505	2 V	3 1/2	1 MΩ	47.00
667-9025	20 V	3 1/2	1 MΩ	67.00
667-9030	200 V	3 1/2	1 MΩ	67.00
667-9035	1000 V	3 1/2	4 MΩ	67.00

Model X-37 3 1/2 Digit 0.60" LCD Voltage Meter

667-9040	200 mV	3 1/2	100 MΩ	69.00
667-7015	2 V	3 1/2	1 MΩ	51.45
667-9045	20 V	3 1/2	1 MΩ	69.00
667-9050	200 V	3 1/2	1 MΩ	69.00
667-9055	1000 V	3 1/2	4 MΩ	69.00

Model X-32/CS 0.56" LED

Stock No.	DC Current Range	Digits	Voltage Drop Full Scale	EACH
667-9050	100 μA	3	200 mV	55.00
667-9065	1 mA	3	200 mV	55.00
667-9070	10 mA	3	200 mV	55.00
667-9075	100 mA	3	200 mV	55.00
667-9080	1 A	3	200 mV	55.00

Model X-34/CS 0.56" LED

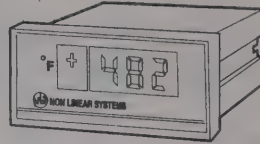
667-9085	200 μA	3 1/2	200 mV	67.00
667-9090	2 mA	3 1/2	200 mV	67.00
667-9095	20 mA	3 1/2	200 mV	67.00
667-9500	200 mA	3 1/2	200 mV	249.00
667-9505	2 A	3 1/2	200 mV	67.00

Model X-37/CS 0.56" LCD

667-9510	200 μA	3 1/2	200 mV	69.00
667-9515	2 mA	3 1/2	200 mV	69.00
667-9520	20 mA	3 1/2	200 mV	69.00
667-9525	200 mA	3 1/2	200 mV	69.00
667-9530	2 A	3 1/2	200 mV	69.00

Temperature Meters (3 1/2 Digits)

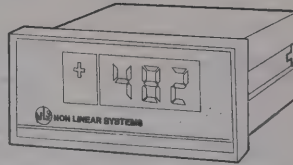
- Versatile, Low Cost Meters in 3 Case Sizes
- 3 1/2 Digit, Bright Red LED Display (Green or Yellow Option)
- Readout in Degrees for °F or °C
- Optional 120 or 240 Vac Power Supply
- DC Powered at +5 Vdc
- K Thermocouple Standard (J, T, or E are Optional, Specify With Order)



Accuracy: 0.1% F.S. **Resolution:** One part in 20,000. **Update Rate:** 3 readings per second. **Automatic Polarity Indication, Overload Indication, Warm-Up To Rated Accuracy:** 10 seconds. **Display:** 0.56" 3 1/2 Digit LEDs (1999 counts) (0.3" for PT series). **Case Size:** mini — (0.94"H x 2.88"W x 3.40"D); 1/8 DIN — (1.9"H x 4.0"W x 1.2"D); short depth — (1.9"H x 4.0"W x 4.5"D).

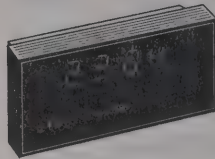
Strain Gauge/Millivolt Panel Meters

- 10 V Excitation Voltage Built-in
- Fully Adjustable Zero and Span
- Designed-In Excitation Voltage Compensation Circuits
- Automatic Overload Indication
- Presettable Decimal Point
- 120 Vac Power Supply Option



Counters

- Crystal Time-Base (PF-5 and RC-5)
- DC Powered at +5 Vdc
- Bright Red LED Display (Yellow and Green Option)
- Versatile Meters in Four Case Styles



Accuracy: ±1 count. **Input Signal Voltage:** +3 V to +15 V, +3 V to 700 V on model PF-5. Display hold, presettable decimal point, leading zero suppression. **Case Size:** mini — (0.94"H x 2.88"W x 3.40"D); 1/8 DIN — (1.9"H x 4.0"W x 1.2"D); Short depth — (1.9"H x 4.0"W x 4.5"D); LM — (1.9"H x 2.7"W x 4.0"D).

Stock No.	Mfr.'s Type	Power	Function	Digits	Case Size	EACH
667-3000	PC-4	5 Vdc	Counter (200,000 c/s)	4 1/2	mini case	80.00
667-9580	PF-5	5 Vdc	Frequency (10 mHz max.)	5	mini case	171.00
667-7515	XC-4	5 Vdc	Counter (1,000,000 c/s)	4	short-depth	43.05
667-9570	RC-5TB	5 Vdc	Universal (10 mHz max.)	5	1/8 DIN case	187.00
667-9575	RC-5TB/120	5 Vdc	Universal (10 mHz max.)	5	1/8 DIN case	233.00
667-9585	PR-5	12 Vdc	Up/Down, Preset 500,000 c/s	5	LM case	259.00

Stock No.	Mfr.'s Type	Readout	Connector Type	Case Size	Sensor Input	EACH
667-9535	PT-3/C/T	°C	Edge	mini	Thermistor	81.00
667-9625	PT-3/F/T	°F	Edge	mini	Thermistor	81.00
667-9620	PT-3/C/R	°C	Edge	mini	RTD	81.00
667-9540	PT-3/F/R	°F	Edge	mini	RTD	81.00
667-9545	PT-3/C/TC/K	°C	Edge	mini	K Thermocouple	126.00
667-9702	PT-3/F/TC/K	°F	Edge	mini	K Thermocouple	126.00
667-9550	RT-3TB/F/T	°F	Terminal Blk	1/8 DIN	Thermistor	92.00
667-9555	RT-3TB/C/R	°C	Terminal Blk	1/8 DIN	RTD	92.00
667-9704	RT-3TB/F/R	°F	Terminal Blk	1/8 DIN	RTD	92.00
667-9560	RT-3TB/C/TC/K	°C	Terminal Blk	1/8 DIN	K Thermocouple	137.00
667-9705	RT-3TB/F/TC/K	°F	Terminal Blk	1/8 DIN	K Thermocouple	137.00
667-9565	XT-3/C/TC/K	°C	Pin Terminal	short depth	K Thermocouple	81.00
667-6706	XT-3/F/TC/K	°F	Pin Terminal	short depth	K Thermocouple	81.00

Maximum Sensitivity: 20 mV Full Scale. **Input Offset Current:** 65 pA max. **Input Bias Current:** 135 pA maximum. **Input Voltage Limits:** -0.3 V to excitation voltage +0.3V. **Input Power:** +5 Vdc +5%. **Common Mode Rejection Ratio:** 100 dB. **Normal Mode Rejection Ratio:** 40 dB. **Excitation Supply Rejection Ratio:** 60 dB.

Stock No.	Mfr.'s Type	Digits	Output Connection	DC Input	Case Type and Dimensions (H x W x D)	EACH
667-9590	XS-3	3 1/2	Pin	20 mV F.S.	Short depth (1.9" x 4.0" x 1.2")	106.00
667-9595	RS-3TB	3 1/2	Term Blk	20 mV F.S.	DIN Nema (1/8) (1.9" x 4.0" x 4.5")	151.00
667-9600	RS-4EC	4 1/2	Term Blk	20 mV F.S.	DIN Nema (1/8) (1.9" x 4.0" x 4.5")	249.00
667-9605	PS-3	3 1/2	Edge	20 mV F.S.	Mini case (1.9" x 2.88" x 3.4")	131.00

Digital Line-Frequency Monitors

Dependable and rugged. No calibration required. **Line Voltage:** FM-3TB/120, FM-300TB/120, FM-340TB/120 — 85 VAC to 125 VAC; FM-3TB/240, FM-300TB/240, FM-340TB/240 — 170 VAC to 250 VAC. **Frequency Range:** FM-3TB, FM-300TB — 45.0 Hz to 99.9 Hz; FM-340TB — 45 Hz to 450 Hz. **Resolution:** FM-3TB and FM-300TB — 0.1Hz; FM-340TB — 1 Hz. **Accuracy:** FM-3TB and FM-300TB — ±0.1 Hz; FM-340TB — ±1 Hz. **Display:** FM-3TB — 3 digits, 0.56" high LED; FM-300TB and FM-340TB, 3 digits, 0.6" high LCD. Display is updated every two seconds. **Time Base:** 1 second, crystal controlled. **Operating Temperature:** 0°C to +50°C. **Weight:** 6.6 oz. (187 g).



667-6005. FM-340TB/120.....	EACH 160.00
667-6011. FM-340TB/240.....	EACH 160.00
667-6015. FM-300TB/120.....	EACH 139.00
667-6020. FM-300TB/240.....	EACH 139.00
667-9998. FM-3TB/120.....	EACH 122.00
667-6030. FM-3TB/240.....	EACH 122.00

CM-1 TB Current Loop Meter

The NLS Model CM-1TB Current Loop Meter is a 3 1/2 digit panel meter packaged in a DIN/NEMA instrument case. Meter reads 4 to 20 mA or 10 to 50 mV loop. However, recalibration to display directly in various engineering units is readily accomplished in the field. The readout is a large 0.6 inch high liquid crystal display (LCD) suitable for outdoor or indoor viewing. Three programmable decimal points and large + and - signs are included. Polarity display for positive and negative loop currents is automatic. Overload indication is provided. Accuracy is ± (0.1% of reading + 1 digit). The popular DIN/NEMA instrument case uses a retaining spring so that no tools are needed for quick installation and removal. Weight is a mere 5 ounces. In single loop systems it provides improved resolution, fewer errors and more operator convenience. In multiloop systems the CM-1TB is an excellent monitor which can be used for trend sensing without interrupting the process control system. CM-1TB is a modern digital current loop meter which converts standard loop currents to engineering units without any source of power other than the current loop input.

667-1000. CM-1TB.....EACH 124.00
Special scaling available. Call for information.

TR-2 Circuit/Component Analyzer

The TR-2 Tracer is a versatile, low-cost, compact circuit/component analyzer. This small, lightweight portable tracer measures impedance, inductance, and capacitance. It provides two switch-selectable signal frequencies (150 Hz and 2 kHz). Three switch-selectable peak voltages (2.5 V, 12.5 V, and 50 V) provide three test ranges (0-100 phms, 100-100 K ohms, and 500-500 K ohms). Besides testing isolated components, this bench-type tracer allows in-circuit testing. The large (2.5" diagonal length) green phosphor screen and two input channels make it easy for an operator with only minimal training to tell at a glance how a test component compares to one that's known to be good. Features manual or automatic switching between channels. An easy-to-read LED indicator tells which channel is in operation. **Power Source:** Operates continuously from 115 VAC source, 50 to 400 Hz when connected to battery charger or battery operated. **Operating Temperature:** 0 to +40°C. **Size:** 2.9"H x 6.4"W x 8.0"D. **Weight:** Less than 3 lbs.

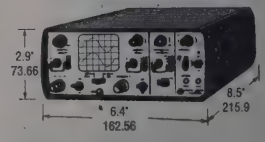


667-7302. TR-2. Battery Powered.....EACH 1020.00

Portable Dual Trace Miniscope

- 30 MHz Bandwidth
- Battery or Line Operation

Model MS-215. Features dual trace — 2 channel; separate, chopped or alternate modes. 30-megahertz bandwidth. External and internal trigger. Battery (rechargeable) or line operation (115 VAC, 50-400 Hz). **Input Impedance:** 1 megohm in parallel with 50 pF. **Maximum Input Voltage:** 350 V(DC and Peak AC). **Slope:** + or -, switch selectable. **Sensitivity:** less than 1 div. for internal trigger and less than 1 volt for external trigger. **Calibrator:** a square-wave signal of 1 volt p-p is provided. Voltage accuracy is ±5%, frequency is approximately 1 kHz. **Display:** CRT, bluish-white phosphor, medium persistence. **Operating Temperature:** 0° to 40°C. **Size:** 2.9"(73.66)H x 6.4"(162.56)W x 8.6"(218.4)D. 3.6 lbs. (1.59 kg) with batteries. Includes two shield input cables with BNC connector and alligator clips, three mini-banana plugs and battery charger.

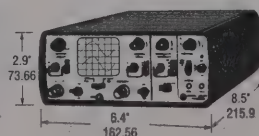


667-7200. MS-230. Scope.....	EACH 1029.00
667-0019. 41-180. Case.....	EACH 72.00
667-2301. 41-216. 10/1, 1:1 Probe.....	EACH 77.00

Model MS-215 Portable Dual Trace Miniscope

- Dual Trace — 2 Channels
- Chopped or Alternate Modes

Model MS-215. The miniscope may be small but it delivers a big performance. Features automatic or line sync modes, battery or line operation, external and internal trigger, and 15-megahertz bandwidth. **Time Base:** 0.1 µSEC/div to 0.5 SEC/div in 21 calibrated ranges. **Input Impedance (Vertical and Horizontal):** 1 megohm in parallel with 50 pF. **Maximum Input Voltage (Vertical and Horizontal):** 350 V (DC and Peak AC). Power consumption is less than 15 W. Comes with two shielded input cables with BNC connector and alligator clips, three mini-banana plugs and battery-charger. **Size:** 2.9" x 6.4" x 8.5" (73.7 x 162.6 x 203.2 mm). **Weight:** 3 lbs. (1.36 kg) with rechargeable batteries.



667-7100. MS-215. Scope.....	EACH 835.00
667-0018. 41-140. Case.....	EACH 65.00
667-2301. 41-216. 10/1, 1:1 Probe.....	EACH 77.00

Model 350 Edgewise Meters

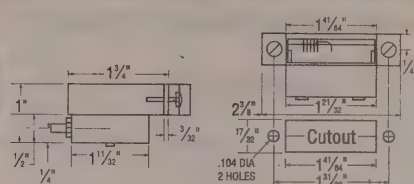
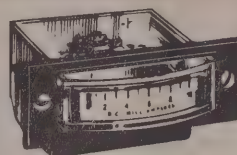
Model 350. DC types are moving magnet. AC types incorporate a rectifier. Mount in rectangular hole, $1\frac{1}{2} \times 1\frac{1}{2}$ inches. Accuracy within $\pm 5\%$ of full scale. High temperature polystyrene case. $1\frac{1}{16}$ inch scale length. Black escutcheon plate.

DC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-3300	3300	0-1	500.00	12.80	11.73	10.83	10.06
698-3303	3303	0-10	45.00	11.40	10.45	9.65	8.96
698-3305	3305	0-25	15.00	11.40	10.45	9.65	8.96
698-3306	3306	0-50	4.00	11.40	10.45	9.65	8.96
698-3307	3307	0-100	1.00	11.40	10.45	9.65	8.96

DC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	1-24	25-49	50-99	100-499
698-3202	3202	0-3	0.02 max.	11.60	10.45	9.65	8.96
698-3203	3203	0-5	0.02 max.	11.60	10.45	9.65	8.96
698-3205	3205	0-10	0.02 max.	11.60	10.45	9.65	8.96



DC Voltmeters (1000Ω/v)

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-3104	3104	0-5	5000.00	11.90	10.45	9.65	8.96
698-3107	3107	0-10	10000.00	11.90	10.45	9.65	8.96
698-3108	3108	0-15	15000.00	11.90	10.45	9.65	8.96

AC Voltmeter

Stock No.	Mfr.'s Type	Range	Ohms	1-24	25-49	50-99	100-499
698-3406	3406	0-150	—	14.00	12.83	11.85	11.00

Model 850 Rectangular Panel Meters

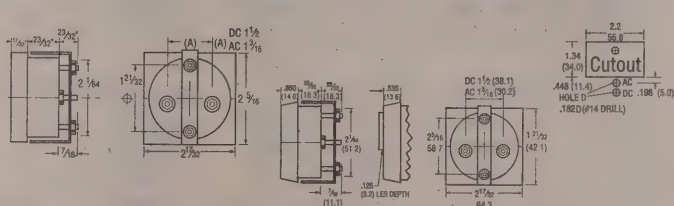
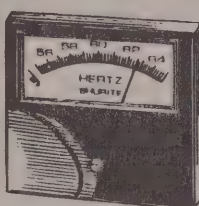
Model 850. $2\frac{1}{2}$ inch rectangular panel meters have snap-on plastic crystal and an accuracy of $\pm 5\%$ of full scale. DC types have moving magnet (bridge-type) design. AC types double-vane repulsion jeweled bearing. To order conventional panel meters which mount in $2\frac{1}{2} \times 2\frac{1}{2}$ inch hole, replace "X" in stock no. with an "8". To order behind the panel meters, replace "X" in stock no. with a "6". (Note: These meters may be mounted either in front of the panel thru a $2\frac{1}{2} \times 2\frac{1}{2}$ inch hole or from behind the panel thru a rectangular cut-out.) Behind the panel mounting hardware not supplied. *External current transformer required.

DC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-X336	8336Z	0-1	1000.00	14.50	13.29	12.27	11.39
698-X302	8302Z	0-5	150.00	13.25	12.15	11.21	10.41
698-X305	8305Z	0-25	15.00	13.00	11.92	11.00	10.21
698-X306	8306Z	0-50	4.00	13.00	11.92	11.00	10.21
698-X307	8307Z	0-100	1.00	13.00	11.92	11.00	10.21
698-X309	8309Z	0-200	.40	13.00	11.92	11.00	10.21
698-X310	8310Z	0-300	.15	13.00	11.92	11.00	10.21
698-X312	8312Z	0-500	.07	13.00	11.92	11.00	10.21

DC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	1-24	25-49	50-99	100-499
698-X201	8201Z	0-1	0.020max.	13.00	11.92	11.00	10.21
698-X202	8202Z	0-3	0.020max.	13.00	11.92	11.00	10.21
698-X203	8203Z	0-5	0.020max.	13.00	11.92	11.00	10.21
698-X205	8205Z	0-10	0.020max.	13.00	11.92	11.00	10.21
698-X206	8206Z	0-15	0.020max.	13.00	11.92	11.00	10.21
698-X207	8207Z	0-25	0.020max.	13.00	11.92	11.00	10.21
698-X208	8208Z	0-50	0.020max.	13.00	11.92	11.00	10.21
698-X215	8215Z	30-0-30	0.020max.	13.00	11.92	11.00	10.21



DC Voltmeters (1000Ω/v)

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-X102	8102Z	0-3	3000	13.00	12.00	11.14	10.40
698-X104	8104Z	0-5	5000	13.00	12.00	11.14	10.40
698-X107	8107Z	0-10	10000	13.00	12.00	11.14	10.40
698-X108	8108Z	0-15	15000	13.00	12.00	11.14	10.40
698-X109	8109Z	0-25	25000	13.25	12.23	11.36	10.60
698-X122	8122Z	0-50	50000	13.25	12.23	11.36	10.60
698-X115	8115Z	0-150	150000	13.75	12.69	11.79	11.00

AC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	1-24	25-49	50-99	100-499
698-X605	8605Z	0-500	1.80	16.20	14.85	13.71	12.73

AC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	1-24	25-49	50-99	100-499
698-X501	8501Z	0-1	0.420max.	14.90	13.66	12.61	11.71
698-X503	8503Z	0-5	0.040max.	15.80	14.48	13.37	12.41
698-X504	8504Z	0-10	0.040max.	15.80	14.48	13.37	12.41
698-X508	8508Z	0-15	0.040max.	15.80	14.48	13.37	12.41
698-X500	8500Z	0-50	0.040max.	16.90	15.49	14.30	13.28
698-X507	8507Z	0-80	0.040max.	17.10	15.68	14.47	13.44

AC Voltmeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-X403	8403Z	0-10	25	15.00	13.75	12.69	11.79
698-X404	8404Z	0-15	25	15.00	13.75	12.69	11.79
698-X406	8406Z	0-150	100	15.00	13.75	12.69	11.79
698-X407	8407Z	0-300*	100	16.00	13.75	12.69	11.79

*Supplied with external resistor.

Frequency Meters

Stock No.	Mfr.'s Type	Volt Range	Scale	Hz	EACH			
					1-24	25-49	50-99	100-499
698-8010	8010ZBP	90/140	45-55	50	58.41	53.55	49.43	45.90
698-8011	8011ZBP	90/140	55-65	60	58.41	53.55	49.43	45.90
698-8014	8014ZBP	90/140	360-440	400	71.40	65.45	60.41	56.10
698-8020	8020ZBP	180/280	45-55	50	64.90	59.50	54.90	51.00
698-8021	8021ZBP	180/280	55-65	60	64.90	59.50	54.92	51.00
698-8024	8024ZBP	180/280	360-440	400	84.38	77.35	71.40	66.30

Model 750 Rectangular

Model 750. Accuracy within $\pm 5\%$ of full scale. DC movements have moving magnet design. AC types have high torque repulsion vane design. Both AC and DC types have jeweled bearings. Polystyrene meter fronts. To order conventional panel meters which mount in $2\frac{1}{2} \times 2\frac{1}{2}$ inch hole, replace "X" in stock no. with "7". To order behind the panel meters, replace "X" in stock no. with "5". (Note: These meters may be mounted either in front of the panel thru a $2\frac{1}{2} \times 2\frac{1}{2}$ inch hole or from behind the panel thru a rectangular panel cut-out.) Behind the panel mounting hardware not supplied.

DC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-X336	7336Z	0-1	1000.00	15.20	13.93	12.86	11.94
698-X303	7303Z	0-10	45.00	14.80	13.57	12.52	11.63
698-X305	7305Z	0-25	15.00	14.80	13.57	12.52	11.63
698-X309	7309Z	0-200	0.400	14.95	13.70	12.65	11.75
698-X312	7312Z	0-500	0.070	14.95	13.70	12.65	11.75

DC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	1-24	25-49	50-99	100-499
698-X201	7201Z	0-1	0.020max.	14.95	13.70	12.65	11.75
698-X203	7203Z	0-5	0.020max.	14.95	13.70	12.65	11.75
698-X205	7205Z	0-10	0.020max.	14.95	13.70	12.65	11.75
698-X207	7207Z	0-25	0.020max.	15.35	14.07	12.99	12.06
698-X208	7208Z	0-50	0.020max.	15.35	14.07	12.99	12.06

*Supplied with external resistor.

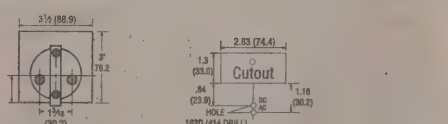
DC Voltmeters (1000Ω/v)

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-X104	7104Z	0-5	5000.000	15.75	14.40	13.29	12.34
698-X108	7108Z	0-15	15000.000	15.75	14.44	13.33	12.38
698-X109	7109Z	0-25	25000.000	15.75	14.44	13.33	12.38
698-X122	7122Z	0-50	50000.000	16.00	14.67	13.54	12.57

AC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	1-24	25-49	50-99	100-499
698-X503	7503Z	0-5	0.040max.	16.95	15.54	14.34	13.32
698-X504	7504Z	0-10	0.040max.	17.60	16.13	14.89	13.83
698-X508	7508Z	0-15	0.040max.	17.60	16.25	15.09	14.08
698-X505	7505Z	0-30	0.040max.	17.90	16.41	15.15	14.06
698-X506	7506Z	0-50	0.040max.	18.00	16.50	15.20	14.14
698-X507	7507Z	0-80	0.040max.	18.50	16.96	15.65	14.54

AC/DC Terminal Location
AC $1/8$ " below centerline
DC $1/8$ " above centerline



AC Voltmeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH			
				1-24	25-49	50-99	100-499
698-X406	7406Z	0-150	100.000	16.40	15.03	13.88	12.89
698-X407	7407Z	0-300*	100.000	17.10	14.68	14.47	13.44

Frequency Meters

Stock No.	Mfr.'s Type	Volt Range	Scale	Hz	EACH			
					1-24	25-49	50-99	100-499
698-7010	7010ZBP	90/140	45-55	50	64.90	59.50	54.92	51.00
698-7011	7011ZBP	90/140	55-65	60	64.90	59.50	54.92	51.00
698-7014	7014ZBP	90/140	360-440	400	84.38	77.35	71.40	66.30
698-7020	7020ZBP	180/280	45-55	50	71.58	65.45	60.41	56.10
698-7021	7021ZBP	180/280	55-65	60	71.58	65.45	60.41	56.10
698-7024	7024ZBP	180/280	360-440	400	97.36	89.25	82.38	76.50



3/64 DIN Voltage/Current Indicators

Mini Series 3 1/2 and 4 1/2 Digit Indicators

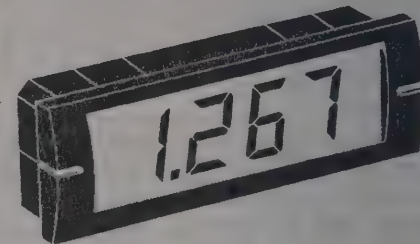
- +5 VDC Power Supply Standard; ± 5 VDC or +9 VDC Optional
- 0.5" (12.7 mm) High LCD Display
- Less Than 0.5" (12.7 mm) Behind-Panel Depth

3 1/2 Digit Non-Backlit DC Voltage/Current Indicators

Stock No.	Mfr.'s Type	Input	EACH
919-5000	M135-0-0-11-0	200 mV	50.00
919-5001	M135-0-0-12-0	2 V	50.00
919-5002	M135-0-0-13-0	20 V	50.00
919-5003	M135-0-0-14-0	200 V	50.00
919-5004	M135-0-0-23-0	20 mA	50.00
919-5005	M135-0-0-24-0	200 mA	50.00

4 1/2 Digit Non-Backlit DC Voltage/Current Indicators

Stock No.	Mfr.'s Type	Input	EACH
919-5012	M145-0-0-11-0	200 mV	75.00
919-5013	M145-0-0-12-0	2 V	75.00
919-5014	M145-0-0-13-0	20 V	75.00
919-5015	M145-0-0-14-0	200 V	75.00
919-5016	M145-0-0-23-0	20 mA	75.00
919-5017	M145-0-0-24-0	200 mA	75.00



3 1/2 Digit Backlit DC Voltage/Current Indicators

919-5006	M135-1-0-11-1	200 mV	70.00
919-5007	M135-1-0-12-1	2 V	70.00
919-5008	M135-1-0-13-1	20 V	70.00
919-5009	M135-1-0-14-1	200 V	70.00
919-5010	M135-1-0-23-1	20 mA	70.00
919-5011	M135-1-0-24-1	200 mA	70.00

4 1/2 Digit Backlit DC Voltage/Current Indicators

919-5018	M145-1-0-11-1	200 mV	95.00
919-5019	M145-1-0-12-1	2 V	95.00
919-5020	M145-1-0-13-1	20 V	95.00
919-5021	M145-1-0-14-1	200 V	95.00
919-5022	M145-1-0-23-1	20 mA	95.00
919-5023	M145-1-0-24-1	200 mA	95.00

3/64 DIN Voltage/Current Indicators

Mini Max Series 3 1/2 and 4 1/2 Digit Indicators



- 120 VAC Power Supply Standard; 220 VAC or 12, 24, or 48 VDC Optional
- Optional Negative Image, Bright Red Backlighting
- Shallow, 2.36" (60 mm) Behind-Panel Depth
- Standard Screw Terminals For Easy Installation
- 0.5" (12.7 mm) High LCD Display
- M235 Has 3 1/2 Digits; M245 Has 4 1/2 Digits

DC Process Indicators

Stock No.	Mfr.'s Type	Input	EACH
919-5080	M235-0-0-71-0	4-20 mA	94.00
919-5081	M235-0-0-72-0	1-5 V	94.00
919-5082*	M235-1-0-71-0	4-20 mA	114.00
919-5083*	M235-1-0-72-0	1-5 V	114.00
919-5084	M245-0-0-71-0	4-20 mA	114.00
919-5085	M245-0-0-72-0	1-5 V	114.00
919-5086*	M245-1-0-71-0	4-20 mA	114.00
919-5087*	M245-1-0-72-0	1-5 V	114.00

*Negative image red backlit display.

DC Voltage/Current Indicators

Stock No.	Mfr.'s Type	Input	EACH
919-5024	M235-0-0-11-0	200 mV	79.00
919-5025	M235-0-0-12-0	2 V	79.00
919-5026	M235-0-0-13-0	20 V	79.00
919-5027	M235-0-0-14-0	200 V	79.00
919-5028	M235-0-0-15-0	750 V	79.00
919-5029	M235-0-0-24-0	200 mA	79.00
919-5030	M235-0-0-25-0	2 A	79.00
919-5031*	M235-1-0-11-0	200 mV	99.00
919-5032*	M235-1-0-12-0	2 V	99.00
919-5033*	M235-1-0-13-0	20 V	99.00
919-5034*	M235-1-0-14-0	200 V	99.00
919-5035*	M235-1-0-15-0	750 V	99.00
919-5036*	M235-1-0-24-0	200 mA	99.00
919-5037*	M235-1-0-25-0	2 A	99.00
919-5038	M245-0-0-11-0	200 mV	105.00
919-5039	M245-0-0-12-0	2 V	105.00
919-5040	M245-0-0-13-0	20 V	105.00
919-5041	M245-0-0-14-0	200 V	105.00
919-5042	M245-0-0-15-0	750 V	105.00
919-5043	M245-0-0-24-0	200 mA	105.00
919-5044	M245-0-0-25-0	2 A	105.00
919-5045*	M245-1-0-11-0	200 mV	125.00
919-5046*	M245-1-0-12-0	2 V	125.00
919-5047*	M245-1-0-13-0	20 V	125.00
919-5048*	M245-1-0-14-0	200 V	125.00
919-5049*	M245-1-0-15-0	750 V	125.00
919-5050*	M245-1-0-24-0	200 mA	125.00
919-5051*	M245-1-0-25-0	2 A	125.00

*Negative image red backlit display.

AC Voltage/Current Indicators

Stock No.	Mfr.'s Type	Input	EACH
919-5052	M235-0-0-31-0	200 mV	114.00
919-5053	M235-0-0-32-0	2 V	114.00
919-5054	M235-0-0-33-0	20 V	114.00
919-5055	M235-0-0-34-0	200 V	114.00
919-5056	M235-0-0-35-0	750 V	114.00
919-5057	M235-0-0-44-0	200 mA	114.00
919-5058	M235-0-0-46-0	5 A	114.00
919-5059*	M235-1-0-31-0	200 mV	134.00
919-5060*	M235-1-0-32-0	2 V	134.00
919-5061*	M235-1-0-33-0	20 V	134.00
919-5062*	M235-1-0-34-0	200 V	134.00
919-5063*	M235-1-0-35-0	750 V	134.00
919-5064*	M235-1-0-44-0	200 mA	134.00
919-5065*	M235-1-0-46-0	5 A	134.00
919-5066	M245-0-0-31-0	200 mV	140.00
919-5067	M245-0-0-32-0	2 V	140.00
919-5068	M245-0-0-33-0	20 V	140.00
919-5069	M245-0-0-34-0	200 V	140.00
919-5070	M245-0-0-35-0	750 V	140.00
919-5071	M245-0-0-44-0	200 mA	140.00
919-5072	M245-0-0-46-0	5 A	140.00
919-5073*	M245-1-0-31-0	200 mV	160.00
919-5074*	M245-1-0-32-0	2 V	160.00
919-5075*	M245-1-0-33-0	20 V	160.00
919-5076*	M245-1-0-34-0	200 V	160.00
919-5077*	M245-1-0-35-0	750 V	160.00
919-5078*	M245-1-0-44-0	200 mA	160.00
919-5079*	M245-1-0-46-0	5 A	160.00

*Negative image red backlit display.

Multiple Package 3/64 DIN Indicators

AC Voltage/Current /Frequency 3 1/2 Digit Indicators

- 120 VAC Power Supply Standard
- 0.5" (12.7 mm) High LCD Display
- Optional Negative Image, Bright Red Backlighting

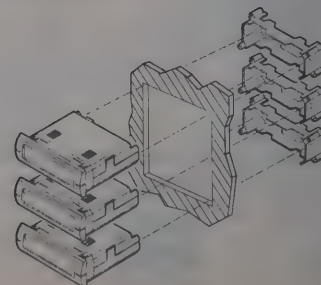
Stock No.	Mfr.'s Type	Input	EACH
919-5088	M35031	200 V/5 A/199.9 Hz	307.00
919-5089*	M35151	200 V/5 A/199.9 Hz	367.00

*Negative image red backlit display.

- Shallow, 2.36" (60 mm) Behind-Panel Depth
- Standard Screw Terminals For Easy Installation

Stock No.	Mfr.'s Type	Input	EACH
919-5090	M35032	750 V/5 A/199.9 Hz	307.00
919-5091*	M35132	750 V/5 A/199.9 Hz	367.00

*Negative image red backlit display.



Hawk™ Voltage/Current Controllers



1/8 DIN (48 mm × 96 mm) Controllers

- ▶ DC, AC/ACTRMS Voltage or Current Ranges
- ▶ Resistance, Frequency, and Tachometer Ranges
- ▶ Standard 120 VAC Power Supply
- ▶ Optional 24/48 VAC or 9-32 VDC Power Supply
- ▶ Optional Single or Dual Relays Available
- ▶ Optional Excitation Outputs (12 or 24 VDC)
- ▶ Two-Piece Screw Terminal Connector
- ▶ Scaling/Programming Via Buttons on Front Panel
- ▶ HK35 Has 3 1/2 Digit Display; HK45 Has 4 1/2 Digit Display
- ▶ BCD, Digital, and Analog Outputs Available

DC Voltage Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3000	HK351-0110-010	200 mV	244.00
919-3001	HK351-0120-010	2 V	244.00
919-3002	HK351-0130-010	20 V	244.00
919-3003	HK351-0140-010	200 V	244.00
919-3004	HK351-0150-010	750 V	244.00
919-3005	HK451-0110-010	200 mV	294.00
919-3006	HK451-0120-010	2 V	294.00
919-3007	HK451-0130-010	20 V	294.00
919-3008	HK451-0140-010	200 V	294.00
919-3009	HK451-0150-010	750 V	294.00

AC Voltage Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3018	HK351-0340-010	200 V	279.00
919-3019	HK351-0350-010	750 V	279.00
919-3020	HK451-0340-010	200 V	329.00
919-3021	HK451-0350-010	750 V	329.00

AC Current Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3022	HK351-0460-010	5 A	279.00
919-3023	HK451-0460-010	5 A	329.00

DC Current Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3010	HK351-0240-010	200 mA	244.00
919-3011	HK351-0250-010	2 A	244.00
919-3012	HK451-0240-010	200 mA	294.00
919-3013	HK451-0250-010	2 A	294.00

DC Process Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3014	HK351-0710-010	4-20 mA	244.00
919-3015	HK351-0720-010	1-5 V	244.00
919-3016	HK451-0710-010	4-20 mA	294.00
919-3017	HK451-0720-010	1-5 V	294.00

AC TRMS Current Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3024	HK351-0660-010	5 A	439.00
919-3025	HK451-0660-010	5 A	489.00

DC Process Controllers, Single Relay, 12 VDC Excitation

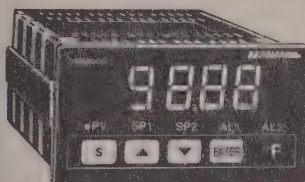
Stock No.	Mfr.'s Type	Input	EACH
919-3026	HK351-0710-011	4-20 mA	298.00
919-3027	HK351-0720-011	1-5 V	298.00

DC Process Controllers, Single Relay, 24 VDC Excitation

Stock No.	Mfr.'s Type	Input	EACH
919-3028	HK351-0710-012	4-20 mA	298.00
919-3029	HK351-0720-012	1-5 V	298.00

Hawk™ Temperature On-Off Controllers

- ▶ J, K, R, and S Type Thermocouple Inputs Available
- ▶ RTD Pt100 and Ni100 Sensor Inputs Available
- ▶ Standard 120 VAC Power Supply
- ▶ Optional 9-32 VDC Power Supply Available
- ▶ Optional 24 or 48 VAC Power Supply Available
- ▶ Optional Relays and Analog Outputs Available
- ▶ Two-Piece Screw Terminal Connector
- ▶ Scaling/Programming Via Buttons on Front Panel
- ▶ HK45 Has 4 1/2 Digit Display, in Degrees Fahrenheit



Hawk Temperature Controllers, with Single Relay

Stock No.	Mfr.'s Type	Sensor	EACH
919-3030	HK451-1720-010	J	349.00
919-3031	HK451-1820-010	K	349.00

Hawk II™ Temperature Controllers

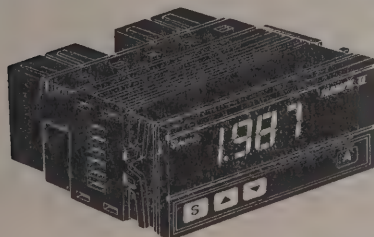
- ▶ J and K Type Thermocouple Inputs Available
- ▶ RTD Pt100 Sensor Inputs Available
- ▶ Standard 120 VAC Power Supply
- ▶ Optional Relays and Analog Outputs Available
- ▶ Optional Excitation Outputs (12 or 24 VDC)
- ▶ Screw Terminal Connector
- ▶ Scaling/Programming Via Buttons on Front Panel
- ▶ H235 Has 3 1/2 Digit Display, User Programmable Display for Degrees Fahrenheit or Celsius



Hawk II Temperature Controllers, with Single Relay

Stock No.	Mfr.'s Type	Sensor	EACH
919-3032	H2351-0910-010	J	239.00
919-3033	H2351-0920-010	K	239.00
919-3034	H2351-0930-010	RTD Pt100	249.00

Hawk II™ Voltage/Current Controllers



1/8 DIN Controllers, with Nema 4 Front Panel

- ▶ DC Voltage, DC Current, and DC Process Ranges
- ▶ AC Voltage, AC Current, and Resistance Ranges
- ▶ Standard 120 VAC Power Supply
- ▶ Optional 24, 48, or 220 VAC Power Supply
- ▶ Nema 4 Rated Front Panel
- ▶ Optional Relays and Analog Outputs Available
- ▶ Optional Excitation Outputs (12 or 24 VDC)
- ▶ Screw Terminal Connector
- ▶ Scaling/Programming Via Buttons on Front Panel
- ▶ 3 1/2 Digit Display, 0.56" High Digits
- ▶ Direct 5 A Input for AC and DC Current Ranges

DC Voltage Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3035	H2351-0110-010	200 mV	179.00
919-3036	H2351-0120-010	2 V	179.00
919-3037	H2351-0130-010	20 V	179.00
919-3038	H2351-0140-010	200 V	179.00
919-3039	H2351-0150-010	690 V	179.00

DC Current Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3040	H2351-0210-010	200 µA	179.00
919-3041	H2351-0220-010	2 mA	179.00
919-3042	H2351-0230-010	20 mA	179.00
919-3043	H2351-0240-010	200 mA	179.00
919-3044	H2351-0250-010	2 A	179.00
919-3045	H2351-0260-010	5 A	179.00

DC Process Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3046	H2351-0710-010	4-20 mA	179.00
919-3047	H2351-0720-010	1-5 V	179.00

DC Process Controllers, with Dual Relays

Stock No.	Mfr.'s Type	Input	EACH
919-3048	H2351-0710-020	4-20 mA	199.00
919-3049	H2351-0720-020	1-5 V	199.00

AC Voltage Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3050	H2351-0310-010	200 mV	214.00
919-3051	H2351-0320-010	2 V	214.00
919-3052	H2351-0330-010	20 V	214.00
919-3053	H2351-0340-010	200 V	214.00
919-3054	H2351-0350-010	690 V	214.00

AC Current Controllers, with Single Relay

Stock No.	Mfr.'s Type	Input	EACH
919-3055	H2351-0410-010	200 µA	314.00
919-3056	H2351-0420-010	2 mA	314.00
919-3057	H2351-0430-010	20 mA	314.00
919-3058	H2351-0440-010	200 mA	314.00
919-3059	H2351-0450-010	2 A	314.00
919-3060	H2351-0460-010	5 A	314.00

DC Process Controllers, Single Relay, 12 VDC Excitation

Stock No.	Mfr.'s Type	Input	EACH
919-3061	H2351-0710-011	4-20 mA	214.00
919-3062	H2351-0720-011	1-5 V	214.00

DC Process Controllers, Single Relay, 24 VDC Excitation

Stock No.	Mfr.'s Type	Input	EACH
919-3063	H2351-0710-012	4-20 mA	214.00
919-3064	H2351-0720-012	1-5 V	214.00

1/8 DIN Voltage/Current Indicators



Falcon Series 3 1/2 Digit Indicators

- ▶ DC, AC, and AC TRMS Voltage and Current Ranges
- ▶ Optional 9-32 VDC Power Supply Available
- ▶ Large, 0.56" (14mm) High, Red LED Display with Automatic Zero and Polarity Indication
- ▶ Screw Terminals Standard for Easy Installation
- ▶ Short, 3.01" (76.5mm) Deep, 1/8 DIN Case
- ▶ Direct 5 AAC Input for Use with Donut Current Transformers
- ▶ Broad Range Scaling and Adjustable Zero Offset for Process Inputs
- ▶ Optional 12 VDC or 24 VDC Excitation Output

DC Current Indicators

Stock No.	Mfr.'s Type	Input	Power	EACH
919-0001	F35-1-21-0	200 μ A	120 VAC	89.00
919-0005	F35-1-22-0	2 mA	120 VAC	89.00
919-0007	F35-1-23-0	20 mA	120 VAC	89.00
919-0010	F35-1-24-0	200 mA	120 VAC	89.00
919-0015	F35-1-25-0	2 A	120 VAC	89.00

DC Voltage Indicators

919-0020	F35-1-11-0	200 mV	120 VAC	89.00
919-0025	F35-1-12-0	2 V	120 VAC	89.00
919-0030	F35-1-13-0	20 V	120 VAC	89.00
919-0035	F35-1-14-0	200 V	120 VAC	89.00
919-0040	F35-1-15-0	750 V	120 VAC	89.00

AC Current Indicators

919-0090	F35-1-41-0	200 μ A	120 VAC	119.00
919-0291	F35-1-42-0	2 mA	120 VAC	119.00
919-0100	F35-1-43-0	20 mA	120 VAC	119.00
919-0105	F35-1-44-0	200 mA	120 VAC	119.00
919-0110	F35-1-45-0	2 A	120 VAC	119.00
919-0120	F35-1-46-0	5 A	120 VAC	119.00

AC Voltage Indicators

919-0125	F35-1-31-0	200 mV	120 VAC	119.00
919-0130	F35-1-32-0	2 V	120 VAC	119.00
919-0135	F35-1-33-0	20 V	120 VAC	119.00
919-0140	F35-1-34-0	200 V	120 VAC	119.00
919-0145	F35-1-35-0	750 V	120 VAC	119.00

TRMS AC Current Indicators

Stock No.	Mfr.'s Type	Input	Power	EACH
919-0156	F35-1-61-0	200 μ A	120 VAC	149.00
919-0157	F35-1-62-0	2 mA	120 VAC	149.00
919-0158	F35-1-63-0	20 mA	120 VAC	149.00
919-0165	F35-1-64-0	200 mA	120 VAC	149.00
919-0170	F35-1-65-0	2 A	120 VAC	149.00
919-0175	F35-1-66-0	5 A	120 VAC	149.00

TRMS AC Voltage Indicators

919-0180	F35-1-51-0	200 mV	120 VAC	149.00
919-0185	F35-1-52-0	2 V	120 VAC	149.00
919-0190	F35-1-53-0	20 V	120 VAC	149.00
919-0195	F35-1-54-0	200 V	120 VAC	149.00
919-0200	F35-1-55-0	750 V	120 VAC	149.00

Process Indicators

919-0045	F35-1-71-0	4-20 mA DC	120 VAC	119.00
919-0050	F35-1-72-0	1-5 VDC	120 VAC	119.00
919-0055	F35-1-73-0	0-10 VDC	120 VAC	119.00

Process Indicators With Excitation Output

919-0060*	F35-1-71-1	4-20 mA DC	120 VAC	169.00
919-0065*	F35-1-72-1	1-5 VDC	120 VAC	169.00
919-0070*	F35-1-73-1	0-10 VDC	120 VAC	169.00
919-0075†	F35-1-71-2	4-20 mA DC	120 VAC	169.00
919-0080†	F35-1-72-2	1-5 VDC	120 VAC	169.00
919-0085†	F35-1-73-2	0-10 VDC	120 VAC	169.00

*12 VDC Excitation. †24 VDC Excitation.

1/8 DIN Temperature Indicators

Falcon Series 4 1/2 Digit Indicators

- ▶ 4 1/2 Digit Microprocessor Based Indication for Thermocouples and RTDs
- ▶ User selectable Thermocouple/RTD type
- ▶ Choice of J, K, R, S, E, and T Thermocouple Types or 2, 3, or 4 Wire Platinum 100 RTD
- ▶ Easily Configured for J, K, R, S, T, and E Type Thermocouple and Platinum 100 RTD Measurements
- ▶ User Selectable °C or °F Measurement
- ▶ Screw Terminals Standard for Easy Installation
- ▶ Short 3.01" (76.5mm) Deep, 1/8 DIN Case

Stock No.	Mfr.'s Type	Range	Sensor Type	Power	EACH
919-0205	F45-1-80-0	-210° to 760°C, -346° to 1400°F	J	120 VAC	165.00
919-0210	F45-1-81-0	-205° to 1372°C, -337° to 2502°F	K	120 VAC	165.00
919-0215	F45-1-82-0	-50° to 1768°C, -58° to 3214°F	S	120 VAC	165.00
919-0220	F45-1-90-0	-200° to 850°C, -328° to 1562°F	RTD Pt 100	120 VAC	165.00



1/8 DIN Voltage/Current Indicators



Falcon Series 4 1/2 Digit Indicators

- ▶ Precise 4 1/2 Digit Microprocessor Based Indication
- ▶ DC, AC, and AC TRMS Voltage and Current Ranges
- ▶ Optional 9-32 VDC Power Supply Available
- ▶ Large, 0.56" (14mm) High, Red LED Display with Automatic Zero and Polarity Indication
- ▶ Screw Terminals Standard for Easy Installation
- ▶ Short, 3.01" (76.5mm) Deep, 1/8 DIN Case
- ▶ Direct 5 AAC Input for Use with Donut Current Transformers
- ▶ Broad Range Scaling and Adjustable Zero Offset for Process Inputs
- ▶ Optional 12 VDC and 24 VDC Excitation Output

DC Current Indicators

Stock No.	Mfr.'s Type	Input	Power	EACH
919-0281	F45-1-21-0	200 μ A	120 VAC	165.00
919-0282	F45-1-22-0	2 mA	120 VAC	166.00
919-0283	F45-1-23-0	20 mA	120 VAC	166.00
919-0284	F45-1-24-0	200 mA	120 VDC	166.00
919-0280	F45-1-25-0	2 A	120 VAC	185.00

DC Voltage Indicators

919-0230	F45-1-11-0	200 mV	120 VAC	165.00
919-0235	F45-1-12-0	2 V	120 VAC	165.00
919-0255	F45-1-13-0	20 V	120 VAC	166.00
919-0240	F45-1-14-0	200 V	120 VAC	166.20
919-0245	F45-1-15-0	750 V	120 VAC	166.00

AC Current Indicators

919-0335	F45-1-41-0	200 μ A	120 VAC	195.00
919-0340	F45-1-42-0	2 mA	120 VAC	195.00
919-0345	F45-1-43-0	20 mA	120 VAC	195.00
919-0350	F45-1-44-0	200 mA	120 VAC	195.00
919-0355	F45-1-45-0	2 A	120 VAC	195.00
919-0360	F45-1-46-0	5 A	120 VAC	195.00

AC Voltage Indicators

919-0395	F45-1-31-0	200 mV	120 VAC	195.00
919-0500	F45-1-32-0	2 V	120 VAC	195.00
919-0505	F45-1-33-0	20 V	120 VAC	195.00
919-0510	F45-1-34-0	200 V	120 VAC	195.00
919-0515	F45-1-35-0	750 V	120 VAC	195.00

TRMS AC Current Indicators

Stock No.	Mfr.'s Type	Input	Power	EACH
919-0520	F45-1-61-0	200 μ A	120 VAC	225.00
919-0525	F45-1-62-0	2 mA	120 VAC	225.00
919-0530	F45-1-63-0	20 mA	120 VAC	225.00
919-0535	F45-1-64-0	200 mA	120 VAC	225.00
919-0540	F45-1-65-0	2 A	120 VAC	225.00
919-0545	F45-1-66-0	5 A	120 VAC	225.00

TRMS AC Voltage Indicators

919-1180	F45-1-51-0	200 mV	120 VAC	225.00
919-1185	F45-1-52-0	2 V	120 VAC	225.00
919-1190	F45-1-53-0	20 V	120 VAC	225.00
919-1195	F45-1-54-0	200 V	120 VAC	225.00
919-1200	F45-1-55-0	750 V	120 VAC	225.00

Process Indicators

919-0285	F45-1-71-0	4-20 mA DC	120 VAC	195.00
919-0290	F45-1-72-0	1-5 VDC	120 VAC	195.00
919-0295	F45-1-73-0	0-10 VDC	120 VAC	195.00

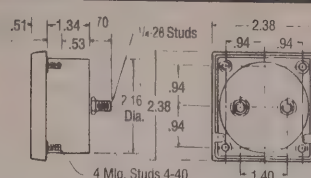
Process Indicators With Excitation Output

919-0300*	F45-1-71-1	4-20 mA DC	120 VAC	245.00
919-0305*	F45-1-72-1	1-5 VDC	120 VAC	245.00
919-0310*	F45-1-73-1	0-10 VDC	120 VAC	245.00
919-0320†	F45-1-71-2	4-20 mA DC	120 VAC	245.00
919-0325†	F45-1-72-2	1-5 VDC	120 VAC	245.00
919-0330†	F45-1-73-2	0-10 VDC	120 VAC	245.00

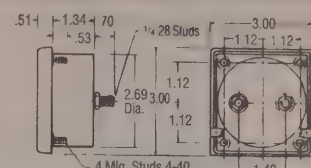
*12 VDC Excitation. †24 VDC Excitation.

Century Panel Meters

2 1/2" Models



3 1/2" Models



Century meters have phenolic cases with glass windows with distinctive case styles and are UL Recognized. All Century DC rectifier type meters have self-shielding movement (calibration is not

affected by stray magnetic field or magnetic mounting). The listed AC meters have the iron-vane type movements and are calibrated at 60 Hz. Other meter sizes and ranges and type available.

AC Voltmeters

Range	Model 2142 2 1/2"			Model 2143 3 1/2"		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
0-10	918-5100	17685	55.23	918-5200	17726	60.20
0-15	918-5101	17686	55.23	918-5201	17727	60.20
0-25	918-5102	17687	55.23	918-5202	17728	60.20
0-50	918-5103	17688	55.23	918-5203	17729	60.20
0-100	—	—	—	918-5204	17730	60.20

AC Ammeters

Range	Model 2152 2 1/2"			Model 2153 3 1/2"		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
0-1	918-5104	17665	56.94	918-5205	17695	60.02
0-3	918-5405	17667	56.94	918-5206	17698	60.02
0-5	918-5106	17668	56.94	918-5207	17699	60.02
0-10	918-5107	17669	56.94	918-5208	17700	60.02
0-15	918-5108	17670	56.94	918-5209	17701	60.02
0-25	918-5109	17671	56.94	918-5210	17702	62.08
0-50	918-5110	17673	56.94	918-5211	17704	62.08
0-100*	918-5111	17674	56.94	918-5212	17706	60.02
0-300*	—	—	—	918-5213	17707	60.02

*Requires external donut transformer.

DC Voltmeters

Range	Model 2122 2 1/2"			Model 2123 3 1/2"		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
0-5	918-5113	17445	65.85	918-5214	17525	67.78
0-10	918-5114	17446	65.85	918-5215	17527	67.78
0-15	918-5115	17447	65.85	918-5216	17528	67.78
0-25	918-5116	17448	65.85	918-5217	17529	67.78
0-50	918-5117	17450	65.85	918-5218	17531	67.78
0-100	918-5118	17451	65.85	918-5219	17532	67.78

DC Ammeters

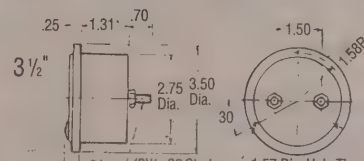
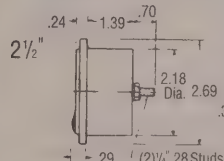
0-1	918-5119	17400	62.95	918-5220	17475	65.85
0-10	918-5120	17405	62.95	918-5221	17480	65.85
0-15	918-5121	17406	62.95	918-5222	17481	65.85
0-25	918-5122	17407	62.95	918-5223	17482	65.85
0-50	918-5123	17409	62.95	918-5224	17484	65.85
0-100*	918-5124	17410	62.95	918-5225	17485	65.85

*Requires external shunt.

DC Milliammeters

0-1	918-5125	17430	62.02	918-5226	17510	63.11
0-25	918-5126	17436	62.65	918-5227	17516	65.85
0-50	918-5127	17437	62.65	918-5228	17517	65.85

Round Panel Meters



NOTE: *Model 55 Barrel Length 1.41

These meters have phenolic cases with glass windows with distinctive case styles and are UL Recognized. All DC rectifier type meters have self-shielding movement (calibration is not affected by stray magnetic field or magnetic mounting). The listed AC meters have the iron-vane type movements and are calibrated at 60 Hz. Other meter sizes and ranges and types available.

AC Voltmeters

Range	Model 155 2 1/2"			Model 55 3 1/2"		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
0-10	—	—	—	918-5700	08420	61.51
0-15	—	—	—	918-5701	08430	61.51
0-25	—	—	—	918-5702	08440	61.51
0-50	918-5603	09290	60.52	918-5703	08450	61.51
0-100	—	—	—	918-5704	08460	63.44

AC Ammeters

0-1	918-5604	02100	56.94	918-5705	00950	60.02
0-3	918-5605	02110	56.94	918-5706	00980	60.02
0-5	918-5606	02120	56.94	918-5707	00990	60.02
0-10	918-5607	02130	56.94	918-5708	01001	60.02
0-15	918-5608	02140	56.94	918-5709	01010	60.02
0-25	918-5609	02150	56.94	918-5710	01020	62.08
0-50	918-5610	02160	56.94	918-5711	01040	62.08
0-100*	918-5611	02170	58.55	918-5712	01060	60.02
0-300*	—	—	—	918-5713	01100	60.02

*Requires external donut transformer.

DC Voltmeters

Range	Model 125 2 1/2"			Model 25 3 1/2"		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
0-5	918-5613	08870	65.85	918-5714	07080	66.64
0-10	918-5614	08890	65.85	918-5715	07100	66.64
0-15	918-5615	08900	65.85	918-5716	07110	66.64
0-25	918-5616	08910	65.85	918-5717	07120	66.64
0-50	918-5617	08930	65.85	918-5718	07140	66.64
0-100	918-5618	08940	65.85	918-5719	07150	66.64

DC Ammeters

0-1	918-5619	01460	62.65	918-5720	00005	65.85
0-10	918-5620	01510	62.65	918-5721	00060	65.85
0-15	918-5621	01520	62.65	918-5722	00070	65.85
0-25	918-5622	01530	62.65	918-5723	00080	65.85
0-50	918-5623	01550	62.65	918-5724	00099	65.85
0-100*	918-5624	01570	62.65	918-5725	00120	65.85

*Requires external shunt.

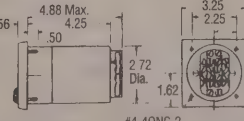
DC Milliammeters

0-1	918-5625	05580	62.08	918-5726	04610	63.11
0-25	918-5626	05650	62.65	918-5727	04680	65.85
0-50	—	—	—	918-5728	04690	65.85

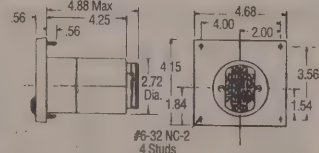
Controllers, Meter Relays



3 1/2" Model 3323AIXA



Model 3344AIXA



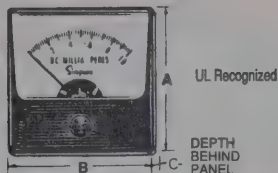
Used for a wide variety of control, alarm, and limit applications. Photo conductor sensing eliminates all interference with the indicating meter. These relays incorporate an amplifier input which drives a rugged high torque pivot and jewel or taut-band meter. All voltage ranges are 20,000 Ω /volt and all current ranges have 50mV drop. Metal cased "Rugged Seal" construction and glass window withstands rigorous environmental

conditions. High-gain transistor switch circuit provides accurate switching with a "dead band" of no more than 0.5% fs. Fail safe circuitry opens output relays in the event of power failure. 50-1000 Hz frequency response. Latching function can be enabled independently for each relay by removing jumpers on terminal block. DPDT relay contacts for each control point rated at 5 amps, 115 VAC. Meter power is 108-132 VAC, 50-400 Hz.

Range	3 1/2" Single Setpoint			3 1/2" Double Setpoint		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
0-5 DCA	918-5300	21662	332.63	918-5350	21622	391.86
0-50 DCAV	918-5310	21663	335.02	918-5360	21623	389.24
0-50 DCV	918-5315	21665	329.21	918-5365	21625	409.68

Range	4 1/2" Single Setpoint			4 1/2" Double Setpoint		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
0-5 ACA	918-5325	21677	379.52	918-5375	21637	469.34
0-10 ACV	918-5335	21679	353.17	918-5385	21639	441.83
0-150 ACV	918-5340	21680	353.17	918-5390	21640	441.83
0-300 ACV	918-5345	21682	353.17	918-5395	21642	441.83

Wide-Vue Panel Meters



Meter Dimensions

Mfr.'s Type	A		B		C	
	Inch	mm	Inch	mm	Inch	mm
1227	2.47	62.73	2.47	62.73	1.06	26.92
1257	2.47	62.73	2.47	62.73	1.06	26.92
1327	3.25	82.55	3.25	82.55	1.08	27.43
1329	4.68	118.87	3.25	82.55	1.08	27.43
1357	3.25	82.55	4.68	118.87	1.08	27.43
1359	4.68	118.87	4.68	118.87	1.08	27.43

AC Voltmeters, Iron-Vane Type Movement

Range	Model 1257 — 2 1/2"			Model 1357 — 3 1/2"			Model 1359 — 4 1/2"		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
		1-9	10-24		1-9	10-24		1-9	10-24
0-50	918-2981	60.02	58.00	918-3881	62.65	60.00	918-3981	69.50	67.00
0-100	918-2982	61.61	59.00	918-3882	65.27	63.00	918-3982	69.50	67.00
0-150	918-2983	62.65	58.00	918-3883	65.27	63.00	918-3983	71.43	68.00
0-300	918-2984	62.65	58.00	918-3884	66.76	64.80	918-3984	71.43	68.00

AC Ammeters, Iron-Vane Type Movement

Range	Model 1257 — 2 1/2"			Model 1357 — 3 1/2"			Model 1359 — 4 1/2"		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
		1-9	10-24		1-9	10-24		1-9	10-24
0-1	918-2902	56.94	54.63	918-3702	58.88	56.00	918-3802	61.97	59.00
0-3	918-2903	56.94	54.63	918-3703	58.88	56.00	918-3803	61.97	59.00
0-5	918-2904	56.94	54.63	918-3704	58.88	56.00	918-3804	61.97	59.00
0-10	918-2905	56.94	54.63	918-3705	58.88	56.00	918-3805	61.97	59.00
0-15	918-2906	56.94	54.63	918-3706	58.88	56.00	918-3806	61.97	59.00
0-25	918-2907	58.55	56.00	918-3707	59.57	57.00	918-3807	64.48	62.00
0-50	918-2909	58.55	56.00	918-3709	59.57	57.00	918-3809	64.48	62.00
0-100*	918-2911	56.94	54.63	918-3711	58.88	56.00	918-3811	61.97	59.00
0-300*	918-2914	56.94	54.63	918-3714	58.88	56.00	918-3814	61.97	59.00

*Require Donut Current Transformer.

DC Voltmeters, Self-Shielding Meter Movement

Range	Model 1227 — 2 1/2"			Model 1327 — 3 1/2"			Model 1329 — 4 1/2"		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
		1-9	10-24		1-9	10-24		1-9	10-24
0-10	918-2577	65.85	63.00	918-3277	67.78	65.00	918-3477	73.70	70.63
0-15	918-2578	65.85	63.00	918-3278	67.78	65.00	918-3478	73.70	70.63
0-25	918-2579	65.85	63.00	918-3279	67.78	65.00	918-3479	73.70	70.63
0-50	918-2581	65.85	63.00	918-3281	67.78	65.00	918-3481	73.70	70.63
0-100	918-2582	65.85	63.00	918-3282	67.78	65.00	918-3482	73.70	70.63
0-150	918-2583	65.85	63.00	918-3283	67.78	65.00	918-3483	73.70	70.63
0-300	918-2586	65.85	63.00	918-3286	67.78	65.00	918-3486	73.70	70.63

DC Ammeters, Self-Shielding Meter Movement

Range	Model 1227 — 2 1/2"			Model 1327 — 3 1/2"			Model 1329 — 4 1/2"		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
		1-9	10-24		1-9	10-24		1-9	10-24
0-1	918-2501	62.65	60.00	918-3201	65.85	63.00	918-3401	71.43	68.00
0-3	918-2503	63.65	60.00	918-3203	65.85	63.00	918-3403	71.43	68.00
0-5	918-2504	63.65	60.00	918-3204	65.85	63.00	918-3404	71.43	68.00
0-10	918-2505	63.65	60.00	918-3205	65.85	63.00	918-3405	71.43	68.00
0-15	918-2506	63.65	60.00	918-3206	65.85	63.00	918-3406	70.18	67.00
0-25	918-2507	63.65	60.00	918-3207	65.85	63.00	918-3407	70.18	67.00
0-30	918-2508	63.65	60.00	918-3208	65.85	63.00	918-3408	70.18	67.00
0-50	918-2509	63.65	60.00	918-3209	65.85	63.00	918-3409	70.18	67.00
0-100*	918-2510	63.65	60.00	918-3210	65.85	63.00	918-3410	70.18	67.00

*Require 50 mV shunt; meter has a 50 mV movement and a 0-100 DC amp dial.

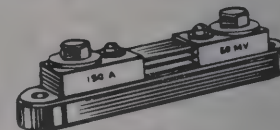
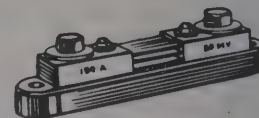
DC Milliammeters, Self-Shielding Meter Movement

Range	Model 1227 — 2 1/2"			Model 1327 — 3 1/2"			Model 1329 — 4 1/2"		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
		1-9	10-24		1-9	10-24		1-9	10-24
0-1	918-2550	62.08	59.00	918-3250	61.61	59.00	918-3450	67.78	65.00
0-5	918-2552	62.08	59.00	918-3252	61.61	59.00	918-3452	67.78	65.00
0-10	918-2553	62.08	59.00	918-3253	61.61	59.00	918-3453	67.78	65.00
0-25	918-2556	62.08	59.00	918-3256	65.85	63.00	918-3456	71.43	68.00

DC Microammeters, Self-Shielding Meter Movement

Range	Model 1257 — 2 1/2"			Model 1357 — 3 1/2"			Model 1359 — 4 1/2"		
	Stock No.	EACH		Stock No.	EACH		Stock No.	EACH	
		1-9	10-24		1-9	10-24		1-9	10-24
0-100	918-2530	71.43	68.00	918-3230	73.61	70.00	918-3430	81.93	79.00
50/0/50	918-2536	72.01	69.00	918-3236	74.07	71.00	918-3436	81.93	79.00

Portable Shunts For DC Ammeters



These shunts are adjusted for a 50 millivolt drop for use with analog and digital panel ammeters where external shunts are required. Portable shunts have phenolic bases and accept up to 200 amperes. **Accuracy:** $\pm 1\%$. 5-foot leads (0.065 ohms) are included.

Stock No.	Mfr.'s Type	Amps	EACH
918-6705	06705	15	38.89
918-6707	06707	25	38.89
918-6709	06709	50	38.89
918-6713	06713	100	38.89
918-6715	06715	200	38.89

Donut Current Transformers

For use with AC analog and digital ammeters. Insert one turn primary type for use with switchboard and panel ammeters where external transformers are required. Rated at 2 VA input. All have 5 A output. All have 2' leads.



Stock No.	Mfr.'s Type	Amps	EACH
918-1294	01293	50	27.62
918-1297	01297	100	28.55
918-1296	01298	150	28.55
918-1298	01299	200	28.55
918-1299	01300	300	28.55

Current Transformers and Transducers



Current Transformers are similar to Donut Current transformers, except that the Transformers have terminals instead of secondary leads. These are ideal for use with a digital AC Ammeter, and can be conveniently mounted to a panel or fixture.

Current Transducers monitor high AC Current signals and emit a 4-20 mA signal. This signal can be sent over long distances (up to 1000') to a digital Process Indicator in a remote location.

Current Transformers With Terminals

Stock No.	Range	Burden VA @ 60 Hz	EACH
918-4000	100:5	2.0	25.20
918-4001	150:5	5.0	25.20
918-4002	200:5	5.0	25.20
918-4003	300:5	12.5	25.20
918-4004	500:5	20.0	25.20
918-4005	25:0	20.0	33.60

Current Transducers (AC Amps To 4-20 DCmA)

Stock No.	Input Range	Current Output	EACH	
			1-9	10-24
918-4010	0-5	4-20 mA	214.20	192.97
918-4011	0-50	4-20 mA	239.40	215.67
918-4012	0-75	4-20 mA	253.06	227.97
918-4013	0-100	4-20 mA	253.06	227.97
918-4014	0-150	4-20 mA	264.60	238.37
918-4015	0-200	4-20 mA	264.60	238.37
918-4016	0-300	4-20 mA	279.30	251.62

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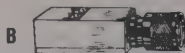
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Baluns



Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-9	10-24	25-99
510-3005	30-9400	BNC male to twisted pair/RJ-11	A	11.90	10.71	9.64
510-3010	30-9406	Twin-ax male to twisted pair/RJ-11	B	17.90	16.11	14.50

Wall Plates



For Wall Phones (Plastic)

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-9	10-24	25-99
510-3100	32-1224	4 Conductor	A	3.20	2.88	2.56

*Meets UL specifications.

Flush Mounting For Voice and Data (Plastic)

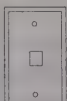
Designed and engineered to meet UL specifications except for 32-1268.

510-3135	32-1218KUL	Keyed 8 Conductor (Dual)	B	5.90	5.31	4.78
510-3140	32-1268	1-6 Cond., 1-Keyed 8 Cond.	B	5.60	5.04	4.54

For D-Subs (Stainless Steel)

510-3180	40-9531	Single for 25-contact	C	2.21	1.89	1.62
510-3185	40-9532	Double for 25-contact	D	2.21	1.89	1.62

Data Connectors and Wall Plates



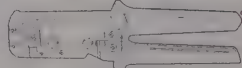
Data Connector Type 1 & Type 2 Wall Plates (Plastic)

Stock No.	Mfr.'s Type	Description	Fig.	EACH		
				1-9	10-24	25-99
510-3302	30-9204	Type 1 Wall Plate	A	2.84	2.43	2.19
510-3304	30-9205	Type 2 Wall Plate	B	2.84	2.43	2.19

Keystone Jack and Keystone Wall Plates (Plastic)

510-3310	30-9200	4 Contact Jack	C	4.10	3.51	3.16
510-3312	30-9201	6 Contact Jack	C	4.10	3.51	3.16
510-3314	30-9203	6 Contact DEC Offset Jack	C	4.50	4.05	3.65
510-3316	30-9202	8 Contact Keyed Jack	C	4.50	4.05	3.65
510-3318	30-9209	Single Outlet Keystone Wall Plate	D	2.21	1.89	1.62
510-3320	30-9210	Dual Outlet Keystone Wall Plate	E	2.21	1.89	1.62

Modular Plug Crimping Tools

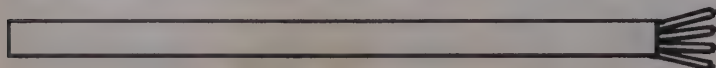


Strips the wire and crimps the wire to plug. For round or flat cable.

Stock No.	Mfr.'s Type	Description	Fig.	EACH	
				1-9	10-24
510-7746	24-7746P	For 2, 4 or 6 Contact Modular Plugs	B	18.90	17.01
510-7751	24-7751P	For 4 or 6 Contact DEC Offset Plugs	A	57.00	51.30
510-7748	24-7748P	For 8 and 8-Keyed Contact Modular Plugs	A	25.90	23.31
510-4680**	24-4681P	For 4, 6, 8 and 8-Keyed Contact Modular Plugs	C	59.90	53.91
510-7864†	24-7864P	For 4, 6, 8, 10 Contact and 6 Contact DEC Offset Plugs	—	199.00	179.10
510-7749	24-7749P	For 4 Conductor Mini Handset Plugs	A	25.90	23.31

**Won't work on Amp RJ-45 plugs. †Will work on Amp RJ-45 plugs.

Flat, Silver-Color Telephone Wire



Modular Telephone Plugs



For Terminating Line Cords (not for handset cords)

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
510-3052	32-1984	4 contact (RJ-11/4) color coded*	.50	.45	.41

*For flat or round wire

Designed and Engineered to Meet UL Specifications

510-3040	32-1974UL	4 contact DEC Offset	.53	.48	.41
510-3042	32-1976UL	6 contact DEC Offset	.53	.48	.41
510-3044	32-1986UL	6 contact for round Cable	.26	.23	.19
510-3046	32-1988UL	8 contact for round Cable	.42	.38	.32
510-3051	32-1954UL	4 contact (RJ-11/4)	.15	.14	.11
510-3056	32-1956UL	6 contact (RJ-12/6)	.19	.17	.15
510-3061	32-1958UL	8 contact (RJ-45/8)	.38	.34	.29
510-3063	32-1968KUL	8 contact keyed	.42	.38	.32
510-3064	32-1910UL	10 contact	.84	.76	.65

Mini Handset Modular Plug (not for line cords)

510-3065	32-1964UL	4 contact mini handset	.16	.14	.13
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25-Contact D-Sub to Modular Jack Adapter



Deluxe 2-Piece Construction

RS-232 Plug to Modular Jacks

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-99
510-3155	40-9576M	6 Contact Jack	6.00	5.40	4.86
510-3160	40-9578M	8 Contact Jack	5.50	4.95	4.46

RS-232 Receptacle to Modular Jacks

510-3170	40-9576F	6 Contact Jack	6.00	5.40	4.86
510-3175	40-9578F	8 Contact Jack	5.50	4.95	4.46

1-Piece Construction

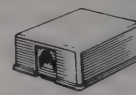
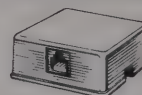
RS-232 Plug to Modular Jacks

510-3151	40-9584M	25 Pos., 4 Conductor	4.00	3.60	3.24
510-3156	40-9586M	25 Pos., 6 Conductor	4.00	3.60	3.24
510-3161	40-9588M	25 Pos., 8 Conductor	4.00	3.60	3.24

RS-232 Receptacle to Modular Jacks

510-3166	40-9584F	25 Pos., 4 Conductor	3.68	3.15	2.84
510-3171	40-9586F	25 Pos., 6 Conductor	3.68	3.15	2.84
510-3176	40-9588F	25 Pos., 8 Conductor	3.68	3.15	2.84

Surface Mount Modular Jack



Removable Snap On Cover; Screw Terminal for Easy Wiring

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-24	25-99
510-3250	32-2034	4 Contacts	2.10	1.89	1.70
510-3255	32-2036	6 Contacts	3.10	2.79	2.51
510-3257	32-2038K	8 Contacts	4.20	3.78	3.40

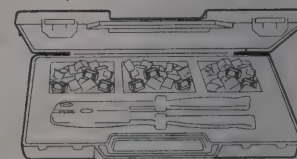
RJ31X Surface Jack

510-3260	32-2058K	8 Contact Jack with shorting bar	4.10	3.69	3.32
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Tele-Communications Installer Kit

This Kit Contains

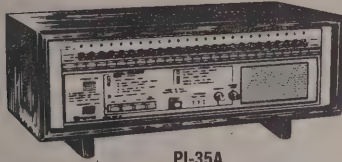
- 1 — 24-4680P Combination Crimp Tool: Crimps 2, 4, 6, 8 and 8-Keyed Mod-Plugs (Will Not Work On AMP Modular Plugs)
- 50 — 32-1954UL 4 Cond. Modular Plugs
- 50 — 32-1956UL 6 Cond. Modular Plugs
- 50 — 32-1958UL 8 Cond. Modular Plugs
- 1 — Durable Hard Shell Storage Box



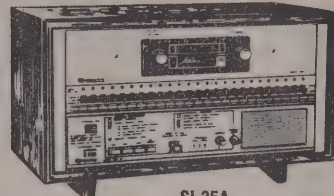
510-8832, Model 24-8832KEACH 115.80

Stock No.	Mfr.'s Type	Description	CX/1000'		
			1-4	5-9	10-Up
510-3075	65-TF224M	4 conductor, 28 AWG	74.00	66.60	59.94
510-3080	65-TF226M	6 conductor, 28 AWG	110.00	99.00	89.10
510-3085	65-TF228M	8 conductor, 28 AWG	150.00	135.00	121.50

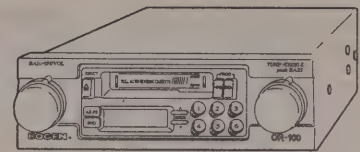
PI-35A and SI-35A



PI-35A



SI-35A



CR-100

- ▶ Instant Two-Way Communication with Master Station
- ▶ Color Coded for Easy Operation

These models are handsome, executive-style units designed to serve the high-power intercom paging requirements of business, industry, school, and institutions. Both have built-in 20-Watt intercom and 35-Watt program amplifiers, enabling instant communication with any station without interrupting program distribution to others. Calls from a remote station equipped with the CA-10 Call-in switch are announced by light annunciation and tone signal. These models are enclosed in compact consoles, finished in an attractive simulated walnut veneer. **Specifications. Output:** Balanced 25 VCT line. **Power Requirements:** 120 V, 60 Hz AC; 100 W maximum.

- ▶ Instant EMERGENCY/ALL ROOM Announcements
- ▶ Separate 35-Watt Program Channel

Model PI-35A. Provides facilities for communication with up to 25 remote locations equipped with loud speakers. Capable of distributing program material from external sources such as microphones, tuner, cassette player, or "piped in" background music sources.

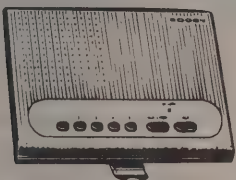
Model SI-35A. Provides communication, paging and program distribution serving 25 to 75 remote speakers and custom flexibility in a space-saving design.

Stock No.	Mfr.'s Type	Description	Dimensions Inches	Shipping Weight (Lbs.)	EACH	
					1-5	6-Up
733Q2560†	PI-35A	Control Center Intercom	8½ × 20½ × 11	20	1307.80	1198.16
733Q2565*†	SI-35A	Control Center Intercom	12 × 20½ × 11	35	1432.00	1311.75
733Q0101	CR100	Cassette Player	—	5	316.01	287.83
733Q2570	SBA225	Room Selector and Annunciator Panel	19 × 1¾ × 2	4	287.23	261.12
733-2575	CA-10	Remote Call-In Annunciator Switch	2¾ × 4½	1	15.83	14.39

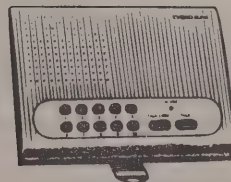
*Pictured with optional cassette player CR100. †Connector kits (below) required for installation of each 25-station group.

Accessories

Stock No.	Mfr.'s Type	Description	EACH
733-1500	25-18	Connector Kit (18 ga.)	21.38
733-1505	25-20	Connector Kit (20 ga.)	21.22
733-1510	25-22	Connector Kit (22 ga.)	21.22
733-1520	TL156	Insertion Tool	22.85



CM205M



CM211M

Administrative Intercom System

The CM-Series Administrative Intercoms are versatile intercommunication devices designed to operate as an all-master system, or as a single-master/multiple remote system. Each station in an all-master system can selectively call any other station(s). The single-master/multiple remote configuration lets the master station call any remote and any remote call the master station. All-master systems use the Model CM-206M or CM211M master station for capacity of up to 6 or 11 stations, respectively. Each master has push-on/push-off call buttons to select a station and sound an electronic call tone. A privacy feature alerts the parties when their conversation has been joined by sounding the call tone at both stations. A single power supply (Bogen Model RF-12A) is required for each installation.

Stock No.	Mfr.'s Type	Description	Dimensions	EACH
733-0206	CM-206M	Master Station (6)	5.46 × 7.09 × 1.67	165.00
733-0211	CM-211M	Master Station (11)	5.46 × 7.09 × 1.67	198.00
733-0200	CM-200X	Remote Station	5.46 × 7.09 × 1.67	38.33

Selective Ring-Common Talk Interphone/Paging System

The TP-6AP and TP-12AP are selective ring, common talk interphones providing two-way and conference call communication, and all-station paging in systems of 6 and 12 stations, respectively. Each interphone has a push-button keypad to select and ring the desired station(s). Paging is easily defeated at any station where this feature is not desired. A two-position high/low switch is provided at each station to control the volume of page announcements and the electronic calltone. Each station has a built-in amplifier, permitting the addition of an external loudspeaker (such as the Bogen IH-8A) to any station. A single power supply (Bogen Model RF-24A) is required for each installation.

Stock No.	Mfr.'s Type	Description	Dimensions	EACH
733-6000	TP-6AP	6 Button Interphone	9.36 × 4.1 × 3.51	100.89
733-6001	TP-12AP	12 Button Interphone	9.36 × 4.1 × 3.51	109.79

Accessories

Stock No.	Mfr.'s Type	Description	Dimensions	EACH
733-2305	IH-8A	Horn (2 Way)	6½ × 6½	48.65
733-5210	RF-12A	Power Supply	2.75 × 3.25 × 6.375	97.92
733-5215	RF-24A	Power Supply	2.75 × 3.25 × 6.375	97.92



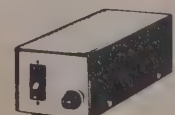
TP-6AP



TP-12AP



IH-8A



RF-12A/RF-24A

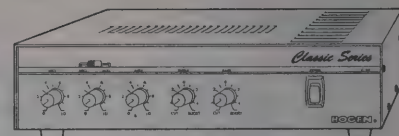
Classic Series

— NEW —

The Bogen Classic Series Models C10, C20, C35, C60, and C100 are latest evolution of the long line of popular C Series of amplifiers from Bogen Communications. They surpass previous models in both performance and flexibility, and include new features and sleek 1990s styling. The models are rated at, 10 watts, 20 watts, 35 watts, 60 watts, and 100 watts.

Each Classic Series amplifier offers a choice of inputs — 2 Lo-Z balanced microphone inputs and 1 AUX input, or 1 Lo-Z microphone and 2 AUX inputs. A TEL input is also provided to permit paging from a telephone. A built-in microphone preamplifier circuit lets you mute the AUX 2 channel with the use of a customer-supplied switch. This lets you mute background music from a tuner, CD or cassette player when you make a public address announcement. Independent volume controls are provided for each input. Treble and bass controls offer tonal balance.

Output screw terminal connections are provided for 8 and 16 ohm balanced and 4 ohm unbalanced systems, and also for 25-volt and 70-volt constant-voltage speaker systems. Output jacks let you patch into a tape recorder or an additional (booster) amplifier. An accessory transformer, Bogen Model WMT-1A, can be installed to allow output-matching to a telephone line.



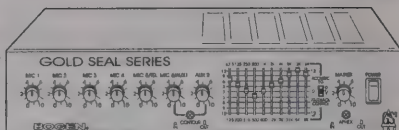
The amplifiers operate from a 120 VAC, 60 Hz source and are equipped with thermal breaker, electronic overload and electrical circuit breaker protection.

Stock No.	Mfr.'s Type	Power Output	Outputs Impedance	Dimensions Inches	Shipping Weight (Lbs.)	Power Consumption	EACH	
							1-5	6-Up
733-0084	C100	100 Watts	Balanced 4 and 16 Ohms, 25 V C.T. 70 V Line (49 Ohms)	14 1/2 x 11 x 3 3/4	22	250 W, 120 V, 60 Hz	452.06	410.97
733-1105	C60	60 Watts	Balanced 8 and 16 Ohms, 25 V C.T. 70 V Line (82 Ohms)	14 1/2 x 11 x 3 3/4	17	170 W, 120 V, 60 Hz	381.39	347.10
733-0082	C35	35 Watts	Balanced 8 and 16 Ohms, 25 V C.T. 70 V Line (140 Ohms)	14 1/2 x 10 7/8 x 3 3/4	15	96 W, 120 V, 60 Hz	311.21	285.66
733-2011	C20	20 Watts	Balanced or Unbalanced 4, 8 and 16 Ohms 25 V (31.3 Ohms), 70 V Line (250 Ohms)	11 3/8 x 7 3/4 x 2 1/8	8	60 W, 120 V, 60 Hz	226.85	206.30
733-2021	C10	10 Watts	Balanced or Unbalanced 4, 8 and 16 Ohms 25 V (62.5 Ohms), 70 V Line (500 Ohms)	11 3/8 x 7 3/4 x 2 1/8	7	46 W, 120 V, 60 Hz	182.78	166.17
733-1114	GA6A	6 Watts	8 Ohms, 25 V, 70 V Line	8 1/2 x 6 x 2 5/8	5	16 W, 120 V, 50 Hz	146.88	133.53

Gold Seal Series Amplifiers

— NEW —

The Gold Seal Series amplifiers offer a combination of features. These features include the Apex Aural Exciter circuit and a true contour control. The Apex Aural Exciter enhances intelligibility, increases presence and perceived loudness while reducing listener fatigue. The contour control provides a boost (at 100 Hz and 10 KHz) at low listening levels. Also included is a Bogen-exclusive dual-function equalizer for feedback control or full range EQ, variable muting, remote volume control, precedence circuitry and a lo-cut filter.



Each Gold Seal amplifier provides four electronically balanced low-impedance microphone inputs (MIC 1-4), with rear-panel

female XLR-type connectors. Phantom power is built-in for use with condenser-type microphones. A switch selected MIC 5/TEL input accepts either a balanced low-impedance microphone or 600 ohm telephone paging input, via screw terminal connections. The TEL input includes an ALC circuit to maintain a constant paging level, a VOX sensitivity control, and a music muting circuit which automatically mutes AUX 1 or 2 during a page, restoring musing gradually following the page. A switch selected MIC 6/AUX 1 input accepts either a balanced low-impedance microphone or high-impedance auxiliary input source, via screw terminals (for microphone) or RCA jack (for the AUX source). The AUX inputs include a true variable loudness contour switch, which provides a boost of +8 dB at 100 Hz and +4 dB at 10 KHz, at low volume levels. Input/output connectors include an RCA jack for a booster amp, Power In/Preamp Out jacks, a Tape Output jack and provisions for a Bogen WMT-1A matching transformer. The amplifiers provide a 500/600 ohm line matching transformer output (with accessory transformer WMT-1A), as well as balanced or unbalanced outputs at 8 ohms, 25 V, 25 VCT, 70 V, or 100 V. A direct, unbalanced 4 ohm output is also provided.

The Gold Seal amplifiers operate from a 120 volt AC source (the unit can be adapted for 240 volt operation). The output stage is protected by a thermal breaker. Electronic overload protection and a resettable circuit breaker are also included.

Stock No.	Mfr.'s Type	Power Output	Outputs Impedance	Dimensions Inches	Shipping Weight (Lbs.)	EACH	
						1-5	6-Up
73303000	GS35	35 Watts	500/600 Ohm Line-Matching Transformer (with WMT-1A accessory); Balanced or Unbalanced at 8 Ohms, 25 V, 25 V CT, 70 V, 100 V *	3 1/2 x 16 1/2 x 12	19.0	502.00	456.00
73303005	GS60	60 Watts	500/600 Ohm Line-Matching Transformer (with WMT-1A accessory); Balanced or Unbalanced at 8 Ohms, 25 V, 25 V CT, 70 V, 100 V *	3 1/2 x 16 1/2 x 12	24.0	612.00	556.00
73303010	GS100	100 Watts	500/600 Ohm Line-Matching Transformer (with WMT-1A accessory); Balanced or Unbalanced at 8 Ohms, 25 V, 25 V CT, 70 V, 100 V *	3 1/2 x 16 1/2 x 12	28.0	698.00	634.00
73303015	GS150	150 Watts	500/600 Ohm Line-Matching Transformer (with WMT-1A accessory); Balanced or Unbalanced at 8 Ohms, 25 V, 25 V CT, 70 V, 100 V *	3 1/2 x 16 1/2 x 12	30.5	806.00	732.00

*Direct Unbalanced at 4 ohms.

CTS Series

- Mix Up to Five Inputs — Microphones or a Combination of Microphones and Auxiliary Inputs
- Built-In Microphone Precedence Circuit
- Input- and Output-Matching to a Telephone Line, Using WMT-1A Accessory
- Ten Frequency Equalizer Filters with Slide Controls Provide Antifeedback and Tone Control Circuit
- Phantom Power Supply for Condenser Microphones
- Integral Automatic Level Control (ALC)

The Bogen Models CTS-1035, CTS-1060, and CTS-1100 are public address amplifiers designed for use in high-quality sound systems. They combine advanced solid-state design with versatile operating features and the flexibility to meet a wide range of application requirements.

Each CTS-Series amplifier mixes five input signals, either five low-impedance microphones, or a combination of microphone and auxiliary inputs. Microphone input is via screw terminal strips; standard Hi-Z phono jacks for the

auxiliary inputs accept a tuner, tape/cassette player, line-matching transformer, or tone generator. Switches are used to select MIC 4/AUX 1 and/or MIC 5/AUX 2 operation. An internal jumper configuration activates a phantom power supply for condenser microphones.



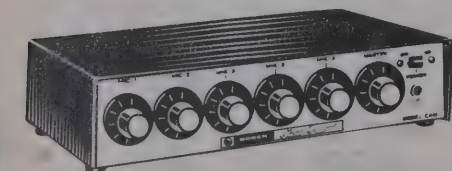
Precedence circuitry is provided for the MIC/AUX channels (requires customer-supplied contract closure). The RVC-CTS accessory permits remote volume control of the master output level from distances up to 2000 feet without loss of gain or tone quality. Automatic Level Control (ALC) circuitry compensates for differing microphone techniques and assures a uniform output level. A 2 1/2-octave equalizer permits boosting or attenuating any of 10 selected frequencies to provide antifeedback and tone control circuit.

Stock No.	Mfr.'s Type	Power Output	Outputs Impedance	Dimensions Inches	Shipping Weight (Lbs.)	Power Consumption	EACH	
							1-5	6-Up
733-1035	CTS1035	35 Watts	8-, 16-ohms, 25 VCT (4.5-ohms), 25 V, and 70.7 V (140-ohms) balanced/unbalanced lines	3 3/4 x 16 1/4 x 11	16	0.9 A, 98 W	422.55	384.20
733-0091	CTS1060	60 Watts	8-, 16-ohms, 25 VCT, 25 V, and 70.7 V (82-ohms) balanced/unbalanced lines	3 3/4 x 16 1/4 x 12 1/4	18	1.6 A, 170 W	501.02	455.48
733-1100	CTS1100	100 Watts	4-, 6-, 8-, 16-ohms, 25 VCT, 25 V (6.25 ohms), and 70.7 V (40 ohms) balanced/unbalanced lines	3 3/4 x 16 1/4 x 12 1/4	20	2.5 A, 250 W	587.52	534.11

Mixer/Preamplifier

Add all the microphones you need, easily and economically with Bogen's Mixer/Preamplifiers. Model CAM offers four microphone inputs, plus master volume control. It also has one auxiliary input with individual volume control. Its units may be interconnected for more MIC inputs. Plus it has integrated circuits, and an illuminated, calibrated VU meter. Model CDM provides six transformer-isolated inputs, each preceded by a switch-selectable attenuator pad to allow channels one through four to accept 0 dBm, 600 ohm line or microphone level inputs. A built-in circuit provides precedence over channel five and six, it may also be used for remote control.

Stock No.	Mfr.'s Type	Outputs	Dimensions Inches	Shipping Weight (Lbs.)	Power Consumption	EACH	
733-1080	CAM	Hi-Z 2.5 V; MIC 125 mV; Lo-Z MIC 12.5 mV	11 3/8 x 7 3/4 x 2 1/8	6	120 V, 60 Hz, .02 A; 24-28 VDC, .01 A	303.55	275.95



Power Amplifiers

The BPA and HTA Series are designed to fulfill power amplification requirements with high quality and reliability. Inputs are high impedance, unbalanced, convertible to low impedance, balanced or unbalanced, with optional TL600 transformer. Designed for continuous heavy-duty operation. The amplifiers are thermally protected to prevent damage due to excessive temperatures. Accessory rack panel kits permit mounting in a 19-inch equipment rack. (RPK-53, RPK-54 for BPA-60, BPA-125, respectively).



Stock No.	Mfr.'s Type	Power Output	Outputs (Impedance)	Dimensions Inches	Shipping Weight (Lbs.)	Power Consumption	EACH	
							1-5	6-Up
733-2250*	HTA-250A	250 Watts	4, 8 Ohms, 25 VCT (2.5 Ohms), 70.7 V (20 Ohms)	19 x 11 x 5 1/4	50	120 V, 60 Hz, 520 W Idle, 60 W	985.00	912.44
733-2125*	HTA-125A	125 Watts	4, 8 Ohms, 25 VCT (5 Ohms), 70.7 V (40 Ohms)	19 x 11 x 5 1/4	36	120 V, 60 Hz, 260 W Idle, 45 W	623.40	566.75
733-2240	BPA-60	60 Watts	8 Ohms, 25 V, 16 Ohms, 25 VCT, 70 V	15 1/4 x 8 x 3 1/2	19	180 W, 120 V, 60 Hz	504.29	458.44

*Furnished with brackets.

733-2420. Model RPK-53. 3 1/2"H brackets for BPA-60. 1-5.....EACH 27.74

6-Up.....EACH 25.22

Microphone

The Bogen Model MBS-1000 is a dual impedance, omnidirectional dynamic desk microphone offering modern styling and features in a rugged Cycloc housing for all industrial and commercial public address and paging applications. The Model MBS-1000 has a slide switch for low or high impedance selection. Weight: 1.8 lbs.



733-1000. Model MBS1000. 1-5.....EACH 158.30
6-Up.....EACH 143.91

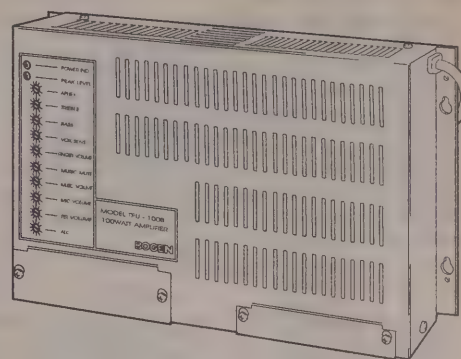
TPU-A and TPU-B Series Amplifiers

- Built-In Telephone Line Input Transformers
- Screwdriver Adjustable Controls

► Wall or 19" Rack Mounting

Four models and power levels available: TPU-15A — 15 watts, TPU-35B — 35 watts, TPU-60B — 60 watts, and TPU-100B — 100 watts. Inputs for 600-ohm balanced telephone line, LO-Z balanced microphone, and background music source. **Choice of Outputs:** 16-ohm, 25 VCT, 25 V, 70.7 V, or 100 V outputs, balanced or unbalanced. Choice of RCA jack or screw terminals for Music source (unbalanced). Volume controls for Tel channel, MIC, Music, and Ringer. Ringer circuit activated by contact closure or 90 V ring signal. Variable music mute with adjustable Mute level control. Signal-activated paging channel with VOX sensitivity and ALC adjustments. Aphex Aural Exciter® Circuit with on/off switch and effect adjustment. Bridging jacks supplied to a double number of inputs and outputs. Output (RCA jack) to line-matching transformer (WMT-1A).

Stock No.	Mfr.'s Type	Power Output	Outputs (Impedance)	Shp. Wt. Lbs.	EACH
733-2215	TPU-15A	15 Watts	25V, 70V Balanced, Transformer Coupled (8 Ohms)	4	225.22
733-2256	TPU-35B	35 Watts	25V, 25 VCT, 70V, 16 Ohms, Balanced/Unbalanced	10	357.41
733-2261	TPU-60B	60 Watts	25V, 25 VCT, 70V, 16 Ohms, Balanced/Unbalanced	13	450.47
733-2266	TPU-100B	100 Watts	25V, 25 VCT, 70V, 16 Ohms, Balanced/Unbalanced	15	492.86



Amplified Speakers and Horns

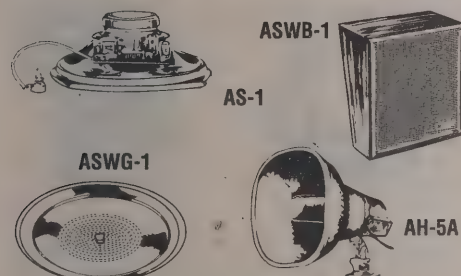
Amplified speakers eliminate the need for a centralized amplifier and provide individual volume adjustment of each location. They are easy to install and interface with any phone system, via the SAM or PAM access modules.

Model AS-1. 8", 45 ohm cone speaker with compact IC amplifier and volume control. 1 Watt output and operates on 24 VDC. **Weight:** 2 lbs.
733-2325 EACH 31.00

Model ASWB-1. For wall mounting, consists of the AS-1 in the attractive WB8 baffle. **Weight:** 8 lbs.
733-2335 EACH 55.49

Model ASWG-1. For recessed ceiling installation. Features an aluminum baffle finish in white enamel. **Weight:** 3 lbs.
733-2330 EACH 42.43

Model AH-5A. Amplified horn speaker for use outdoors or in high noise locations. 5 Watts output, operates on 24 VDC and is equipped with a volume control and mounting bracket. **Dimensions:** 8 x 8 x 9". **Weight:** 4½ lbs.
733-2435 EACH 110.98



GA-2 Music-On-Hold Amplifier

Compact, reliable, 1½ Watt amplifier. Excellent for feeding "music-on-hold" to a telephone system. It has a high-impedance input that is available at both a phono jack and screw terminals. 8 Ohms or 600 Ohms output. Only 50 mV input is required for full output. **Power Consumption:** 4 W, 120 V, 60 Hz. **Dimensions:** 5½ x 4½ x 2¼". **Weight:** 1 lb.

733-1113. Model GA-2 EACH 94.66



Model MMT Digital "Message-On-Hold" Announcer

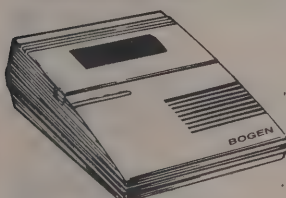
Turn waiting time into selling time! Bogen's MMT-34, MMT-68 and MMT-1216 are completely automatic. Drop in a cassette containing message...the MMT does the rest! It automatically downloads the cassette into digital memory, automatically switches to the playback mode, and

automatically reloads the program after any power failure.

Available in switchable ¾, ½ or ¼ minute capacity (lower time limit uses higher sampling rate for improved performance). To change the message, simply drop in a new cassette, which automatically erases the old one.

No controls to operate, no continuous tape wear, no moving parts in digital circuitry to break down or wear out. The MMT utilizes advanced digital technology to deliver the message to every caller "on hold", more easily and dependably than conventional tape equipment. Three-year warranty on both materials and workmanship. **Dimensions:** 7½" x 6½" x 2½". **Shipping Weight:** 3¼ lbs.

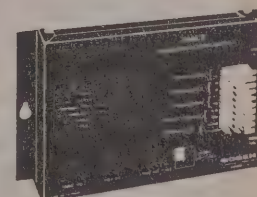
733-5301. Model MMT-34 EACH 408.00
733-5305. Model MMT-68 EACH 528.00
733Q1216. Model MMT-1216 EACH 466.75



Telephone Access Module

- Dual-Mode, Station Port or Trunk Port Paging Access
- Compact, Wall-Mount Design
- 24- or 48-Volt Operation (Trunk Port Model)
- Compatible with Most Standard Telephone Systems
- Calling-Party-Controlled Disconnect
- Volume-Adjustable Preannounce or Splash Tones

733-2281. Model TAMB EACH 187.68



Microphone and Line Plug In Transformers



WMT-1A



TM-200A

WMT-1A may be used as input-matching transformer to connect telephone systems to aux. input of most Bogen public address amplifiers for telephone paging. It may also function as output-matching transformer in feeding special program material over 500/600 ohm telephone line for transmission to a local broadcast studio. May be used with any amplifier having a 25-Volt output terminal. **TM200A** will provide a low impedance microphone input for CHS-A or CT series amplifiers.

733-1107. Model WMT-1A EACH 27.74
733-1108. Model TM-200A EACH 44.25

Power Supplies

Bogen power supplies can be plugged into any convenient 120 VAC/60 Hz electrical outlet. Up to ten AS-1s can be driven by a single PRSASA Power Supply. For larger systems, or those which incorporate amplified horns or zoned paging, the PRS-624DA Power Supply is recommended.

Model PRSASAC. Provides 24 VDC regulated and filtered output at .5 amps. U.L. listed. **Dimensions:** 2¾ x 4½ x 2½". **Weight:** 2 lbs.
733-2300 EACH 75.07

Model PRS624DA. Provides 24VDC at 4 amps, also includes separate 250 mA talk battery supply. U.L. listing pending. **Dimensions:** 4¾ x 6¾ x 6¼". **Weight:** 10 lbs.
733-2295 EACH 208.90



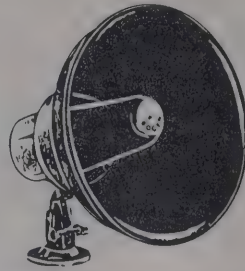
PRSASAC



PRS624DA

Re-Entrant Horns

The Bogen **SPT-15** and **SP15-8A** are high-intelligibility horns designed for one or two-way paging systems. Their weatherproof, all metal construction features a unique all-purpose mounting bracket. **SPT-15A** has a variable impedance selector switch for 25 V or 70 V line; **SP15-8A** impedance is 8 Ohms. **Power Rating (RMS):** 15 Watts continuous, 20 Watts equalized. Models **SPT-30A** and **SP30-8A** are similar to the **SPT-15A** and **SP 15-8A**, except rated at 30 Watts continuous, 40 Watts equalized. **Model SPT-5A** is a 7.5 Watt speaker with variable impedance selection for 25 V or 70 V line.



Stock No.	Mfr.'s Type	Description	Dimensions	Weight Lbs.	EACH	
					1-5	6-Up
733-2515	SPT-15A	15 Watt Paging Horn w/Trans	8 x 8 x 9"	4 1/2	81.66	74.18
733-2520	SP15-8A	15 Watt Paging Horn 8 Ohms	8 x 8 x 9"	4	65.28	59.35
733-2525	SPT-30A	30 Watt Paging Horn w/Trans.	10 x 9 1/2 x 10 1/2"	6	100.37	91.24
733-2530	ST30-8A	30 Watt Paging Horn 8 Ohms	10 x 9 1/2 x 10 1/2"	5 1/2	81.60	74.18
733-2535	SPT-5A	7.5 Watt Speaker 8 Ohms	6 x 4"	2 1/2	65.28	59.35

Cone Speakers and Baffles

Bogen cone speakers feature powerful ceramic magnets and diaphragms selected for high sensitivity and optimized response. They are only 3" deep and easily mounted in wall or ceiling baffles. Preassembled to save you time, the S86 and S810 are available with a 25/70 V transformer mounted and wired.

Stock No.	Mfr.'s Type	Power Hdg. Capacity	Cone Dia.	Magnet Wt.	Voice Coil Impedance	Weight Lbs.	EACH	
							1-5	6-Up
733-2450	S86	7 Watts	8"	6 oz.	8 Ohms	4 @ 8 lbs.	10.12	9.20
733-2455	S810	15 Watts	8"	10 oz.	8 Ohms	4 @ 13 lbs.	12.57	11.43
733-2460	S86T725	S86 with 25V/70V transformer					15.34	13.95
733-2465	S810T725	S810 with 25V/70V transformer					18.12	16.47

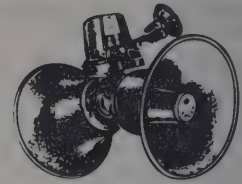
Model WB8 wall baffle is ruggedly constructed of 3/8" particle board covered in simulated walnut vinyl, with textured black cellular plastic grille cloth. 9 1/2 x 11 5/8 x 6 5/8" deep, it accommodates an 8" speaker. **Weight:** 4 @ 15 lbs. For easy installation, these assemblies include cone speaker, transformer, and baffle, ready to install.

Stock No.	Mfr.'s Type	Description	EACH	
			1-5	6-Up
733-2480	WBS8T725	S86 with 25V/70V transformer in WB8 baffle	37.54	34.12
733-2485	WBS810T725	S810 with 25V/70V transformer in WB8 baffle	40.80	37.09

Bogen's metal ceiling baffles are sturdy, handsome, and economical. They are made of aluminum or steel, attractively finished, and supplied with complete hardware. **Models S86T725PG8W** and **S810T725PG8W** are ceiling baffles available in assemblies with speaker and transformer already mounted.

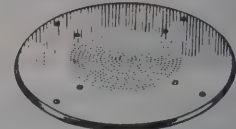
Stock No.	Mfr.'s Type	Speaker Size	Baffle Dia.	Finish	Weight Lbs.	EACH	
						1-5	6-Up
733-2490	CG8A Aluminum	8"	12 5/8"	Satin Aluminum	15 @ 8 lbs.	6.69	6.08
733-2495	CG8AW Aluminum	8"	12 5/8"	Semi-Gloss White Enamel	15 @ 9 lbs	6.69	6.08
733-2500	PG8W Steel	8"	13 1/4"	Semi-Gloss White Enamel	20 @ 24 lbs.	6.20	5.64
733-2505	PG8A Aluminum	8"	12 1/8"	Satin Aluminum	20 @ 10 lbs.	6.69	6.08
733-2470	S86T725PG8W	S86 speaker with 25V/70V transformer in PG8W baffle				24.97	22.70
733-2475	S810T725PG8W	S810 speaker with 25V/70V transformer in PG8W baffle				24.48	22.25

Bi-Directional Horn



Featuring twin horns for bi-directional projection, **Model BDT-30A** is a high-intelligibility re-entrant speaker for one or two-way use. Weatherproof, all metal construction with all-purpose mounting bracket. Variable impedance selector switch to match power requirements to 25 V or 70 V constant voltage line. **Power Rating (RMS):** 30 Watts continuous, 40 Watts equalized. **Dimensions:** 16 1/2 x 9 3/4". **Weight:** 8 lbs.

733-2540. Model BDT-30A. 1-5EACH 143.62
6-UpEACH 130.50



Model RE84 is a protective enclosure for an 8" speaker designed for use with any of the above ceiling baffles. **Weight:** 10 @ 20 lbs.

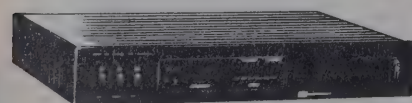
733-2545. 1-5EACH 11.91
6-UpEACH 10.83

Model MR8 is a steel plaster ring which will mount to any of the ceiling baffles. **Weight:** 25 @ 18 lbs.

733-2550. 1-5EACH 6.20
6-UpEACH 5.64

Model TB8 is a load bearing steel support designed to sustain the weight of 8" speakers, baffles and protective enclosures in suspended ceiling construction. **Weight:** 10 @ 23 lbs.

733-2555. 1-5EACH 6.20
6-UpEACH 5.64

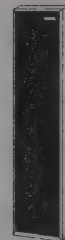


FM/AM Tuners

Model TP-50A and **TP-100A** tuners offer precise tuning and superior signal quality for FM and AM mono

reception, and the TP-100A offers FM-Stereo reception as well. Both incorporate excellent sensitivity, image rejection, and frequency response. Each is extremely compact, 10 1/4 x 7 1/4" and requiring only 1 3/4" of height when rack-mounted with the optional **RPK-46** panel kit. **Shpg. Wt.:** 7 lbs.

733-2220. TP-50A. 1-5EACH 205.63 6-UpEACH 186.94
733-2225. TP-100A. 1-5EACH 285.00 6-UpEACH 259.64



Sound Columns

Wall mounted sound columns restrict sound projection to a narrow vertical pattern, minimizing undesirable reflections. Choice of three models.

Stock No.	Mfr.'s Type	Wattage Rating (cont.)	Speakers	Size Inches	Weight Lbs.	EACH	
						1-5	6-Up
733-2315	SCW35	35 Watts	Six 6"	42 x 6 x 9 1/2	31	236.00	215.13
733-2310	SCW20	20 Watts	Four 5"	20 x 5 x 7 1/2	12	122.40	111.27

FM/AM RECEIVERS

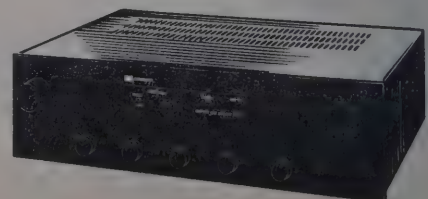
Versatile receivers that feature high quality mono reception on both FM and AM bands. Microphone precedence circuitry permits double duty for paging. The receivers may be rack-mounted with optional panel kit **RPK-47**.

Model RM-150A can provide music for 1 to 40 loud speakers. **Power Output:** 15 W. **Output Impedance:** 4, 8, 16 Ohms, 70 V line, tape/booster. **Power Consumption:** 60 W, 120 V, 60 Hz. **Dimensions:** 12 x 10 3/8 x 3 5/8". **Weight:** 11 lbs.

733-2230. 1-5EACH 396.58 6-UpEACH 360.52

Model RM-350A can provide music for up to 100 speakers. **Power Output:** 35 W. **Output Impedance:** 4, 8, 16 Ohms, 25 V, 70 V lines, tape/booster. **Power Consumption:** 100 W, 120 V, 60 Hz. **Dimensions:** 12 x 10 3/8 x 3 5/8". **Weight:** 20 lbs.

733-2235. 1-5EACH 425.95 6-UpEACH 387.23



Cameras

CVC-150 Camera

Rugged, black metal case houses this 1/3" CCD camera requiring only 0.3 lux of light. Built-in electronic iris control has 400 line resolution and uses a C or CS mount lens, supplied with CS/C adapter ring and 12 volt DC power supply. (Lens sold separately). **Specifications. Image Device:** 1/3" CCD image sensor interline transfer 512 H x 492 V picture elements. **Scanning System:** EIA standard 525 TV lines 60 fields/sec. **Interface:** PLL 2:1. **Synchronizing System:** Internal. **Resolution:** Horizontal — 400 TV lines; Vertical — 350 TV lines. **Shutter Control:** Auto 1/60-1/1000 sec. **Auto Shutter/Iris:** Optional by slide switch and four pin connector (for auto iris lens). **Lens Mount:** C or CS mount, CS/C mount adapter ring included. **Scanning Frequency:** Horizontal — 15.75 KHz; Vertical — 60 Hz. **Minimum Illumination:** 0.3 lux (with F: 1.4 lens). **Video Output Level:** 1.0 Vp-p, 75 ohms composite, BNC connector. **Video S/N Ratio:** Greater than 45 dB. **Outputs/Connections:** BNC — Video; DC jack — Power. **Operating Temperature:** 14°F-122°F. **Humidity:** Within 90% RH. **Power Requirements:** 12 VDC supplied by AC adapter; UL and CSA listed. **Power Consumption:** 100 mA. **Weight:** 11 oz. **Dimensions:** 1 5/8" H x 2 1/8" W x 4 3/8" D. **Housing:** Black metal case. **Camera Mount Thread:** 1/4" top and bottom. **732-0120. Model CVC-150. 1-4** EACH 299.00
5-Up EACH 244.00



CVC-300 Camera with Audio Output With Built-In 4MM Lens

Only 1 1/4" thick, this 1/3" CCD camera offers great observation capabilities. Actually 3 3/4" H x 2 1/4" W x 1 1/4" D, this unit weighs a mere 3.7 oz. Built-in 4 mm lens with electronic iris automatically compensates for all light conditions with only a minimum of 0.1 lux. This 400 line resolution compact camera comes in a weather resistant case and can withstand temperatures from -4° to +122°F. A 12 volt DC power supply and mounting bracket are included. **Specifications. Image Device:** 1/3" CCD image sensor interline transfer 512 H x 492 V picture elements. **Scanning System:** EIA standard 525 TV lines 60 fields/sec. **Interface:** PLL 2:1. **Synchronizing System:** Internal. **Resolution:** Horizontal — 400 TV lines; Vertical — 350 TV lines. **Shutter Control:** Auto 1/60-1/1000 sec. **Auto Shutter/Iris:** Built-in. **Lens/Angle of View:** 4.3 mm lens, horizontal — 74°; vertical — 53°. **Scanning Frequency:** Horizontal — 15.75 KHz; Vertical — 60 Hz. **Minimum Illumination:** 0.1 lux infrared LED (200-300 lux for best picture). **Video Output Level:** 1.0 Vp-p, 75 ohms composite, RCA connector. **Video S/N Ratio:** Greater than 45 dB. **Audio Output Level:** 300 mV at 600 ohms. **Outputs/Connections:** RCA — Video; DC jack — Power. **Operating Temperature:** 0°F-122°F. **Humidity:** Within 90% RH. **Power Requirements:** 12 VDC supplied by AC adapter; UL and CSA listed. **Power Consumption:** 100 mA. **Weight:** 4 oz. **Dimensions:** 3 3/4" H x 2 1/4" W x 1 1/4" D. **Housing:** White ABS molded plastic. **Camera Mount:** Universal mounting bracket included. **732-0130. Model CVC-300. 1-4** EACH 325.00
5-Up EACH 265.00

CVC-100L Camera With Audio Output With Built-In 4MM Lens

This compact, 1/3" CCD camera with audio weighs only 8 oz. including the lens. Its 4 mm lens has auto-iris for all light conditions, requires only 0.3 lux of light to operate and has 400 line resolution. Audio output is 300 mV at 600 ohms. A 12 volt DC power supply is included. **Specifications. Image Device:** 1/3" CCD image sensor interline transfer 512 H x 492 V picture elements. **Scanning System:** EIA standard 525 TV lines 60 fields/sec. **Interface:** PLL 2:1. **Synchronizing System:** Internal. **Resolution:** Horizontal — 400 TV lines; Vertical — 350 TV lines. **Shutter Control:** Auto 1/60-1/1000 sec. **Auto Shutter/Iris:** Built-in. **Lens/Angle of View:** 4 mm lens, horizontal — 72°; vertical — 53°. **Scanning Frequency:** Horizontal — 15.75 KHz; Vertical — 60 Hz. **Minimum Illumination:** 0.3 lux (with F: 1.4 lens, incandescent lighting). **Video Output Level:** 1.0 Vp-p, 75 ohms composite, BNC connector. **Video S/N Ratio:** Greater than 45 dB. **Audio Output Level:** 300 mV at 600 ohms. **Outputs/Connections:** BNC — Video; RCA — Audio; DC jack — Power. **Operating Temperature:** 14°F-122°F. **Humidity:** Within 90% RH. **Power Requirements:** 12 VDC supplied by AC adapter; UL and CSA listed. **Power Consumption:** 200 mA. **Weight:** 8 oz. **Dimensions:** 2 1/8" H x 2 9/16" W x 4 1/2" D with lens. **Housing:** Charcoal grey ABS molded plastic. **Camera Mount Thread:** 1/4" top and bottom. **732-0100. Model CVC-100L. 1-4** EACH 325.00
5-Up EACH 260.00



CVC-200 Camera with Audio Output

In a lightweight molded plastic case, this 1/3" CCD camera with audio weighs only 7 oz. Built-in electronic iris control with 400 line resolution, requires a minimum of 0.3 lux of light. Uses a C or CS mount lens, supplied with GS/C adapter ring and 12 volt DC power supply. (Lens sold separately). **Specifications. Image Device:** 1/3" CCD image sensor interline transfer 512 H x 492 V picture elements. **Scanning System:** EIA standard 525 TV lines 60 fields/sec. **Interface:** PLL 2:1. **Synchronizing System:** Internal. **Resolution:** Horizontal — 400 TV lines; Vertical — 350 TV lines. **Shutter Control:** Auto 1/60-1/1000 sec. **Auto Shutter/Iris:** Built-in. **Lens Mount:** C or CS mount, CS/C mount adapter ring included. **Scanning Frequency:** Horizontal — 15.75 KHz; Vertical — 60 Hz. **Minimum Illumination:** 0.3 lux (with F: 1.4 lens). **Video Output Level:** 1.0 Vp-p, 75 ohms composite, BNC connector. **Video S/N Ratio:** Greater than 45 dB. **Audio Output Level:** 300 mV at 600 ohms. **Outputs/Connections:** BNC — Video; RCA — Audio; DC jack — Power. **Operating Temperature:** 14°F-122°F. **Humidity:** Within 90% RH. **Power Requirements:** 12 VDC supplied by AC adapter; UL and CSA listed. **Power Consumption:** 200 mA. **Weight:** 7 oz. **Dimensions:** 2 1/8" H x 2 9/16" W x 4" D. **Housing:** Charcoal grey ABS molded plastic. **Camera Mount Thread:** 1/4" top and bottom. **732-0110. Model CVC-200. 1-4** EACH 298.00
5-Up EACH 251.00

Specialty CCTV Cameras With Built-In 4 mm Lens

CVC-250SD with Audio Output

Experience an exceptional field of view with this 1/3" CCD disguised smoke detector camera with audio. A 400 line resolution and electronic iris control gives you a sharp image in a variety of light conditions even as low as 0.3 lux. Audio output is 300 mV at 600 ohms. A 12 volt DC power supply is included. **NOTE:** Smoke Detector Camera does not operate as a working Smoke Detector. **Specifications. Image Device:** 1/3" CCD image sensor interline transfer 512 H x 492 V picture elements. **Scanning System:** EIA standard 525 TV lines 60 fields/sec. **Interface:** PLL 2:1. **Synchronizing System:** Internal. **Resolution:** Horizontal — 400 TV lines; Vertical — 350 TV lines. **Shutter Control:** Auto 1/60-1/1000 sec. **Auto Shutter/Iris:** Built-in. **Lens/Angle of View:** 4 mm lens, horizontal — 72°; vertical — 53°. **Scanning Frequency:** Horizontal — 15.75 KHz; Vertical — 60 Hz. **Minimum Illumination:** 0.3 lux (with F: 1.4 lens, incandescent lighting). **Video Output Level:** 1.0 Vp-p, 75 ohms composite, BNC connector. **Video S/N Ratio:** Greater than 45 dB. **Audio Output Level:** 300 mV at 600 ohms. **Outputs/Connections:** BNC/RCA — Video; RCA — Audio; DC jack — Power. **Operating Temperature:** 14°F-122°F. **Humidity:** Within 90% RH. **Power Requirements:** 12 VDC supplied by AC adapter; UL and CSA listed. **Power Consumption:** 200 mA. **Weight:** 6 oz. **Dimensions:** 6 3/4" Dia. x 1 1/2" H. **Housing:** White ABS molded plastic. **Camera Mount:** Plate for ceiling/wall mount. **732-0140. Model CVC-250SD. 1-4** EACH 376.00
5-Up EACH 315.00



732-0140. Model CVC-250SD. 1-4 EACH 376.00
5-Up EACH 315.00

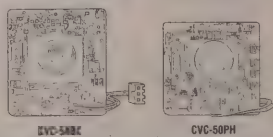
CVC-275CL With Audio

See what's going on, while others see the time with this stylish clock camera. An undetectable 1/3" CCD camera, with a 3.6 mm wide angle lens is housed within this wood frame clock. A 12 volt DC power supply is included. Clock requires one AA battery. **Specifications. Image Device:** 1/3" CCD image sensor interline transfer 512 H x 492 V picture elements. **Scanning System:** EIA standard 525 TV lines 60 fields/sec. **Interface:** PLL 2:1. **Synchronizing System:** Internal. **Resolution:** Horizontal — 400 TV lines; Vertical — 350 TV lines. **Shutter Control:** Auto 1/60-1/1000 sec. **Auto Shutter/Iris:** Built-in. **Lens/Angle of View:** 4 mm lens, horizontal — 72°; vertical — 53°. **Scanning Frequency:** Horizontal — 15.75 KHz; Vertical — 60 Hz. **Minimum Illumination:** 3 lux (F: 1.6). **Video Output Level:** 1.0 Vp-p, 75 ohms composite, RCA connector. **Video S/N Ratio:** Greater than 50 dB. **Outputs/Connections:** RCA — Video; DC jack — Power. **Operating Temperature:** 14°F-122°F. **Humidity:** Within 90% RH. **Power Requirements:** 12 VDC supplied by AC adapter; UL and CSA listed. **Power Consumption:** 170 mA (clock uses AA battery). **Weight:** 2.5 lbs. **Dimensions:** Approximately 12" W x 12" H x 2" D. **Housing:** Wood frame. **732-0150. Model CVC-275CL. 1-4** EACH 452.50
5-Up EACH 369.36

CCTV Board Cameras

Model CVC-50BC.

Using ultra miniature design, this high performance 1/3" CCD single board camera features a built-in wide angle lens, 400 lines of resolution and low light requirements. Model CVC-50PH. Using ultra miniature design, this high performance 1/3" CCD pin hole camera features a built-in wide angle lens, 400 lines of resolution and low light requirements. The CVC-50PH uses a pin hole lens which is easily concealed. **Specifications. Image Device:** 1/3" CCD image sensor interline transfer 512 H x 492 V picture elements. **Scanning System:** EIA standard 525 TV lines 60 fields/sec. **Interface:** PLL 2:1. **Synchronizing System:** Internal. **Resolution:** Horizontal — 400 TV lines; Vertical — 350 TV lines. **Shutter Control:** Auto 1/60-1/1000 sec. **Auto Shutter/Iris:** Built-in. **Lens/Angle of View:** 3.6 mm lens, horizontal — 72°; vertical — 53°. **Scanning Frequency:** Horizontal — 15.75 KHz; Vertical — 60 Hz. **Minimum Illumination:** 0.3 lux (F: 1.6); CVC-50PH — 3 lux (F: 1.5). **Video Output Level:** 1.0 Vp-p, 75 ohms composite, RCA connector. **Video S/N Ratio:** CVC-50BC — Greater than 50 dB; CVC-50PH — Greater than 46 dB. **Outputs/Connections:** RCA — Video; DC jack — Power. **Operating Temperature:** 14°F-122°F. **Humidity:** Within 90% RH. **Power Requirements:** 12 VDC (optional PSW-2). **Power Consumption:** 150 mA. **Weight:** CVC-50BC — 1.8 oz.; CVC-50PH — 1.1 oz. **Dimensions:** CVC-50BC — Approximately 1 1/2" W x 1 7/8" H x 1" D; CVC-50PH — 1" W x 1 1/4" H x 1/2" D. **Housing:** CVC-50BC — Optional, specify BCC-01; CVC-50PH — N/A. **732-0160. Model CVC-50BC. 1-4** EACH 206.50
5-Up EACH 178.75
732-0170. Model CVC-50PH. 1-4 EACH 244.50
5-Up EACH 205.71



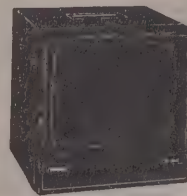
Cameras and Observations Systems

VOS-100

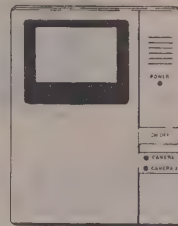
Includes VM-401W and CVC-300. Video observation system for monitoring and listening to different locations. Weatherproof high speed auto iris 1/3" CCD camera with audio. Monitor has 4" picture tube. Desk or wall mounted. Accommodates up to 2 cameras and 2 monitors. **Dimensions:** Camera — 3 1/4" H x 2 1/4" W x 1 1/4" D; Monitor — 8 1/4" H x 6 1/2" W x 2 1/2" D. **732-0330. Model VOS-100. 1-4** EACH 557.06
5-Up EACH 451.20

CCTV-1
This closed circuit TV surveillance package allows both video and audio surveillance. System includes the CVC-100L, VM-1205B, CST-100, 50' of video cable and 50' of audio cable. **732-0340. Model CCTV-1. 1-4** EACH 647.00
5-Up EACH 581.40

Monitors



VM-901B, VM-1201B, VM-1205B, VM-1501B/SQ



VM-401W

VM901B Monitor

Rugged, black metal cabinet houses a high resolution (1000 lines at center), B/W monitor. Monitor has flip open control cover, LED on/off indicator, video output, solid state circuitry, and is UL and CSA listed. Measures 9" W x 10" H x 9 1/4" D. **Specifications. Input Voltage:** AC 110 V/60 Hz. **Power Consumption:** 35 watts. **Input Signal:** 0.5-2.0 Vp-p composite video, sync. negative. **Input Impedance:** BNC connector, 75 ohm/high, switchable. **Bandwidth:** 100 Hz-10 MHz ±3 dB. **Video Gain:** 33 dB. **Resolution:** Center — 1000 TV lines; Corner — 800 TV lines. **Scanning Frequency:** (EIA) Horizontal — 15.750 Hz; Vertical — 48-62 Hz. **EHT Impedance:** 8 MHz. **Vertical Linearity:** 10% Max. **Horizontal Linearity:** 15% max. **Adjustment Size Range:** Vertical — 105%-70%; Horizontal — 105%-80%. **CRT:** 9", 90°. **CRT Color:** B/W. **Operating Temperature:** 32°F-140°F. **Dimensions:** 9" W x 10" H x 9 1/4" D. **Weight:** 13.5 lbs. **Housing Color:** Black, Metal. **732-0190. Model VM901B. 1-4** EACH 228.95
5-Up EACH 184.00

VM1201B Monitor and 1205B Monitor with One-Way Audio

Rugged, black metal cabinet houses a high resolution (1000 lines at center), B/W monitor. Monitor has flip open control cover, LED on/off indicator, video output, solid state circuitry, and is UL and CSA listed. Measures 12 1/4" W x 12 1/4" H x 12 1/4" D. **Specifications. Input Voltage:** AC 110 V/60 Hz. **Power Consumption:** 35 watts. **Input Signal:** 0.5-2.0 Vp-p composite video, sync. negative. **Input Impedance:** BNC connector, 75 ohm/high, switchable, 600 ohm voice (VM-1205B). **Bandwidth:** 100 Hz-10 MHz ±3 dB. **Video Gain:** 33 dB. **Resolution:** Center — 1000 TV lines; Corner — 800 TV lines. **Scanning Frequency:** (EIA) Horizontal — 15.750 Hz; Vertical — 48-62 Hz. **EHT Impedance:** 8 MHz. **Vertical Linearity:** 10% Max. **Horizontal Linearity:** 15% max. **Adjustment Size Range:** Vertical — 105%-70%; Horizontal — 105%-80%. **CRT:** 12", 90°. **CRT Color:** B/W. **Operating Temperature:** 32°F-140°F. **Dimensions:** 12 1/4" W x 12 1/4" H x 12 1/4" D. **Weight:** 21 lbs. **Housing Color:** Black, Metal. **732-0200. Model VM1201B. 1-4** EACH 270.00
5-Up EACH 199.00
732-0210. Model VM1205B. 1-4 EACH 299.00
5-Up EACH 225.00

VM-1501B/SQ

Rugged, black metal cabinet houses a high resolution (1000 lines at center), B/W monitor. Monitor has flip open control cover, LED on/off indicator, video output, solid state circuitry, and is UL and CSA listed. Measures 18" W x 16" H x 16" D. **Specifications. Input Voltage:** AC 110 V/60 Hz. **Power Consumption:** 35 watts. **Input Signal:** 0.5-2.0 Vp-p composite video, sync. negative. **Input Impedance:** BNC connector, 75 ohm/high, switchable. **Bandwidth:** 100 Hz-10 MHz ±3 dB. **Video Gain:** 33 dB. **Resolution:** Center — 1000 TV lines; Corner — 800 TV lines. **Scanning Frequency:** (EIA) Horizontal — 15.750 Hz; Vertical — 48-62 Hz. **EHT Impedance:** 8 MHz. **Vertical Linearity:** 10% Max. **Horizontal Linearity:** 15% max. **Adjustment Size Range:** Vertical — 105%-70%; Horizontal — 105%-80%. **CRT:** 15", 90°. **CRT Color:** B/W. **Operating Temperature:** 32°F-140°F. **Dimensions:** 18" W x 16" H x 16" D. **Weight:** 28 lbs. **Housing Color:** Black, Metal. **732-0220. VM1501B/SQ. 1-4** EACH 545.00
5-Up EACH 437.00

VM-401W Monitor

A flat screen B/W 4" monitor equipped with 2 camera selector and one-way audio, measures 8 1/4" W x 6 1/2" H x 2 1/2" D. Desk or wall mountable, easy screw terminal connection with 12 volt DC power supply included. **Specifications. Input Voltage:** AC 110 V/60 Hz. **Power Consumption:** 15 watts. **Input Signal:** 1 Vp-p composite video, sync. negative. **Input Impedance:** Screw terminals and/or 4 pin modular jack, 75 ohm picture, 600 ohm voice. **Bandwidth:** 100 Hz-10 MHz ±3 dB. **Video Gain:** 33 dB. **Resolution:** 450 TV lines. **Scanning Frequency:** (EIA) Horizontal — 15.750 Hz; Vertical — 60 Hz. **EHT Impedance:** 8 MHz. **Vertical Linearity:** 10% Max. **Horizontal Linearity:** 15% max. **Adjustment Size Range:** Vertical — 105%-70%; Horizontal — 105%-80%. **CRT:** 4" Flat Braun. **CRT Color:** B/W. **Operating Temperature:** 32°F-140°F. **Dimensions:** 8 1/4" W x 6 1/2" H x 2 1/2" D. **Weight:** 2.5 lbs. **Housing Color:** White Plastic. **732-0180. VM401W. 1-4** EACH 255.00
5-Up EACH 212.00

Accessories



Model VCH-100. Weatherproof outdoor camera housing measures 3 3/4" H x 3 1/4" W x 10" D. Plastic. **732-0300. 1-4** EACH 88.50
5-Up EACH 79.74
Model CST-125. Universal camera bracket, ABS plastic. Black. **732-0280. 1-4** EACH 21.50
5-Up EACH 16.00
Model CST-150. Heavy duty universal camera bracket, ABS plastic. Black. **732-0290. 1-4** EACH 28.50
5-Up EACH 22.63
Model CST-100. Universal camera bracket, ABS plastic. Black. **732-0270. 1-4** EACH 15.95
5-Up EACH 12.50
Model PSW-2. 12 VDC power adapter. **732-0310. 1-4** EACH 8.75
5-Up EACH 6.09

120 Watts RMS P.A. Amplifier



- Features**
- Heavy duty heat sinks
 - 4 microphone inputs with lock-in cannon connectors. Can be used with balanced or unbalanced, high or low impedance microphones
 - 2 aux. inputs
 - 1 magnetic phone input
 - 1 equalizer input
 - Separate volume control for each microphone and aux. input
 - Master volume control
 - Separate bass and treble control
 - 4, 8, 16 ohm outputs, screw terminals
 - 25 and 70 volt outputs, screw terminals
 - 2 RCA speaker outputs
 - 1 booster/tape output
 - Built-in priority paging
 - Separate on/off switch

Specifications
Power: 120 watts RMS @ less than 50% distortion. **Frequency Response:** 50 Hz to 15 KHz. **Noise:** Mic—60 dB, Aux.—75 dB. **Sensitivity:** Mic—0.3 mV, Aux.—0.3V. **Tone Controls:** Bass—±15 dB @ 100 Hz, Treble—±15 dB @ 10 KHz. **Power Req.:** 120 VAC, 50-60 Hz, 230 W. **Dimensions:** 4 1/4" (H) x 17 1/4" (W) x 11 1/2" (D). **Weight:** 33 lbs.

958-8120. P-120AEACH 505.53

60 Watts RMS P.A. Amplifier with Digital FM/AM Tuner

— NEW —

- Features**
- FM/AM digital tuner with 30 presets
 - 4 & 8 ohm, 25 & 70 volt output
 - Voice activated priority page
 - Dual 110/220V AC 50/100 Hz
 - 4 microphone cannon inputs
 - 1 aux input
 - 600 ohm telephone paging input built-in
 - Auto reverse cassette deck



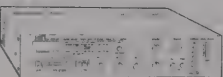
Specifications. Power: 60 watts RMS @ less than 1.0% distortion. **Frequency Response:** 30 Hz to 20 KHz. **Noise:** Mic—1-4 60 dB, Aux.—70 dB. **Sensitivity:** Mic—0.3 mV, Aux.—0.3 V.

958-0060. P-60FACEACH 580.83

30 Watts RMS P.A. Amplifier with Digital FM/AM Tuner

— NEW —

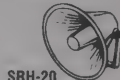
- Features**
- Aux/CD Input
 - 4 & 8 ohm, 25 & 70 volt outputs
 - Voice activated priority page
 - 2 microphone 1/4" inputs
 - Dual 110/220V AC 50/100 Hz
 - Auto reverse cassette deck



Specifications. Power: 30 watts RMS @ less than 1.0% distortion. **Frequency Response:** 30 Hz to 20 KHz. **Noise:** Mic—1-2 60 dB, Aux.—70 dB. **Sensitivity:** Mic—0.3 mV, Aux.—0.3 V.

958-0030. P-30FACEACH 536.41

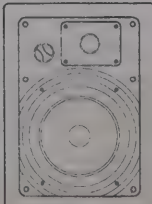
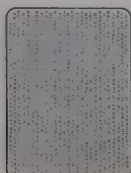
Projection Horns—Aluminum, Weatherproof Use with SRD Drivers



Stock No.	Mfr.'s Type	Diameter	Depth	Dispersion	Low End Cutoff	EACH
958-8745	SRH-16	16"	13 1/2"	90	250 Hz	41.50
958-8750	SRH-20	20"	20 1/4"	80	250 Hz	49.95
958-8755 *	SRH-159R	15" x 9"	12 3/4"	120 x 60	250 Hz	40.95

* Rectangular

SP-502
SP-802



SP-602

In-View Weatherproof Speaker Systems

Paintable Grille and Frame

SP502A Hi-Fidelity 2-Way. 20 Watts RMS, 30 Watts Max., 8 Ohm — 50-20,000 Hz., 5 1/4" polypropylene woofer, Mylar cone tweeter.

958-8715. SP502A. 11"H x 7 1/2"W x 2 3/4"DEACH 42.41

SP602A Super Hi-Fidelity 2 Way. 40 Watts RMS, 50 Watts Max., 8 Ohm — 40-20,000 Hz., 6" polypropylene woofer, Soft dome tweeter.

958-8720. SP602A. 12"H x 8 3/8"W x 3 1/4"DEACH 65.99

SP802A Deluxe Hi-Fidelity 2 Way. 60 Watts RMS, 80 Watts Max., 8 Ohms — 35-20,000 Hz., 8" polypropylene woofer.

958-0802. SP802AEACH 108.64

60 Watts PA Amplifier



- Features**
- 117/220V AC or 12V DC mobile
 - Heavy duty adjustable chrome plated mounting bracket
 - AC and DC fuse protected
 - Inputs to accommodate micro phones, tape decks, phonos, tuners
 - Attractive silver front panel, black accents, dark grey cabinet
 - Output impedances for all installations
 - Dimensions: 4 1/2 x 10 x 8 1/2

Specifications. Output Power: 60 Watts Music Power, 20 watts RMS @ 5% THD. **Frequency Response:** 100-18,000 Hz. **Output Impedance:** 4, 8, 16 Ohms, 25 and 70 Volt Line. **Power Source:** 117VAC, 50/60 Hz, 220/240V AC, 12V DC Mobile. **Weight:** 10 Lbs. **Inputs:** Mic-1 (L-O-Z) 2mV/600 Ohms, Mic-2 (H-Z) 2mV/50K Ohms, Aux.-1 200mV/100K Ohms, Aux.-2 200mV/100K Ohms. **Controls:** Mic 1, Mic 2, Aux. 1, Aux. 2, On/off Power/Tone

958-8060. PAT-60EACH 195.69

20 Watt, 12V DC Mobile PA Amplifier



- Features**
- Compact, 12V DC, 20 watt PA amplifier
 - Comes with push-to-talk mic and cigarette lighter plug
 - Has auxiliary input for cassette tape deck, phone, or tuner
 - Plugs into cigarette lighter
 - Complete with mounting bracket and hardware
 - Deluxe display package
 - Has suction cups for portable dashboard mounting
 - Perfect for auto, bus, truck or marine applications

Specifications. Frequency Response: 50-18,000 Hz. **Tone Control Range:** 18dB ± 3dB at 10 KHz. **Input Sensitivity:** Mic 2mV/4K Ohms, Aux. 200mV/50K Ohms. **Current Drain:** 3.5A Maximum. **Semiconductors:** 1/C, 1/TR, 1 LED. **Weight:** 1.1 Lbs. **Total Distortion:** Less than 1% at 10 Watts output. **Output Impedance:** 8 Ohms. **Maximum Output Power:** 20 Watts (8 Ohm), 10 Watts RMS. **Power Supply Voltage:** DC 12V Negative Ground, 5A Fuse. **Dimensions:** 1 1/4" (H) x 5 1/8" (W) x 4 1/2" (D)

958-8200. PAT-20EACH 70.82

Accessories



Monaural

Stereo

Wall mount custom design and high power attenuators. Monaural and stereo. Stainless steel plate/black knob, white plastic plate/white knob.

Monaural					
Stock No.	Mfr.'s Type	Watt	Plate Type	Line/Volt	Ohm
958-8515	WAT-10W	10	White/Plas	70/25	—
958-8520	WAT-10-8	10	Stain/Stl	—	8
958-8530	WAT-25	25	Stain/Stl	70/25	—
958-8535	WAT-25-8W	25	White/Plas	—	8
958-8540	WAT-35*	35	Stain/Stl	70/25	—
Stereo					
958-8545	WAT-10D	10	Stain/Stl	70/25	—
958-8550	WAT-10D-8W	10	White/Plas	—	8
958-8555	WAT-25D	25	Stain/Stl	70/25	—
958-8560	WAT-50D-8	50	Stain/Stl	—	8

* Dual Gang



Weatherproof Specialty Speaker

Indoor or outdoor 3-way polypropylene cone speaker system with dual built-in line transformer. 70/25 Volt line or 8 Ohm. Rotary switch adjusted by screwdriver. Each speaker contains: 4" 10 oz. air suspension woofer, P.P. super 2" cone tweeter, 55-20,000 Hz die cast enclosure. Complete with mounting bracket, wire and hardware. Perfect for all commercial foreground applications.

958-8605. DMS-3TS. BlackEACH 53.50

958-8610. DMS-3TSW. WhiteEACH 53.50

Wall Mount Audio Level Control



WM-100 WM-10

Stereo and monaural. 10 Watt, 8 Ohm, with brushed aluminum mounting plate for installation in standard gem box.

958-8570. WM-100. StereoEACH 9.69

958-8567. WM-10. MonauralEACH 8.50

Stereo and Monaural Audio Level Control



AT-100
AT-50
AT-1000



AT-10D
AT-50D
AT-100D

Long threaded bushing for mounting in cabinets. Complete with knob and mounting plate.

Monaural: Heavy Duty Single "L" Pad

Stock No.	Mfr.'s Type	Watts	EACH
958-8575	AT-10	10 Watts	5.06
958-8580	AT-50	50 Watts	10.85
958-8585	AT-100	100 Watts	14.95

Stereo: Dual Stereo "L" Pad with Single Control

Stock No.	Mfr.'s Type	Watts	EACH
958-8590	AT-10D	10 Watts	7.95
958-8595	AT-50D	50 Watts	19.50
958-8600	AT-100D	100 Watts	26.95

Drivers and Projection Horns



35 Watt RMS Universal Driver With Built-In 70 Volt Line Transformer

Frequency Response: 250-6000 Hz. **Transformer Taps:** 35, 25, 15, 10. **Power Rating:** 35 Watts RMS, 45 Watts Max. **Sensitivity:** 106 dB. **Throat Diameter:** 1 3/8" x 18 TPI.

958-8725. SRD-35TEACH 71.67

50 Watt RMS Universal Driver

Frequency Response: 250-6000 Hz. **Impedance:** 16 Ohms. **Power Rating:** 50 Watts RMS, 65 Watts Max. **Sensitivity:** 110 dB. **Throat Diameter:** 1 3/8" x 18 TPI.

958-8730. SRD-50EACH 36.55

75 Watt RMS Universal Driver

Frequency Response: 250-8000 Hz. **Impedance:** 16 Ohms. **Power Rating:** 75 Watts RMS, 90 Watts Max. **Sensitivity:** 110 dB. **Throat Diameter:** 1 3/8" x 18 TPI.

958-8735. SRD-75EACH 77.50

80 Watt RMS Universal Driver With Built-In 70 Volt Line Transformer

Frequency Response: 300-5000 Hz. **Transformer Taps:** 80, 40, 20, 10, 5. **Power Rating:** 80 Watts RMS, 100 Watts Max. **Sensitivity:** 112 dB. **Throat Diameter:** 1 3/8" x 18 TPI.

958-8740. SRD-80TEACH 111.34

100 Watt RMS Universal Driver

Frequency Response: 250-8000 Hz. **Impedance:** 16 Ohms. **Power Rating:** 100 Watts RMS, 120 Watts Max. **Sensitivity:** 113 dB. **Throat Diameter:** 1 3/8" x 18 TPI.

958-8746. SRD-100EACH 52.80

Deluxe Professional Speaker with Built-In 70V Line Transformer

The SP-150T speakers are excellent for professional surround sound and foreground sound. Featuring a 2-way weatherproof indoor/outdoor deluxe system with big speaker sound, the systems offer a polycarbon 5 1/4" woofer, 2" tweeter and comes complete w/ mounting brackets for ease of installation. The sealed die cast aluminum housing has a 70V line transformer with wattage taps of 20, 10, 5, 2.5W and 8 Ohm VC and quick connect terminals.



SP-150T-Black
SP-150TW-White

50 Watts RMS/Channel
80 Watts/Channel
Power8 Ohms
Voice Coil Impedance8 Ohms
Frequency Response85-20,000 Hz
Dimensions9"(H) x 6 1/4"(W) x 6 1/2"(D)
Weight10lbs. 4 oz.
 958-0150. SP150TEACH 113.25
 958-1150. SP150-TWEACH 113.25

Audio Equipment PA Speakers, Sirens, and Megaphones



1" to 4" Mini Speakers



Stock No.	Mfr.'s Type	Dia. Inch	Imp. Ohms	Resonant Freq. (Hz)	Frequency Range (Hz)	Sensit. DB	Power Nom. Watts	Alnico Mag. Wht. Oz.	EACH
958-8620	U101	1" RD	8	430-530	fo-5,000	89.0	0.15	0.20	4.85
958-8625	U105	1 1/2" RD	8	430-530	fo-7,000	89.0	0.20	0.24	4.20
958-8630	U105S	1 1/2" SQ	8	430-530	fo-7,000	89.0	0.20	0.24	4.20
958-8645	U260	2" RD	8	375-485	fo-4,500	92.0	0.20	0.33	4.00
958-8650	U260S	2" SQ	8	375-485	fo-4,500	92.0	0.20	0.33	4.10
958-8655	U261	2 1/4" RD	8	350-450	fo-5,000	93.5	0.20	0.42	3.85
958-8660	U261S	2 1/4" SQ	8	350-450	fo-5,000	93.5	0.20	0.42	4.10
958-8665	U265	2 1/2" RD	8	300-400	fo-5,000	94.0	0.20	0.42	4.10
958-8670	U265S	2 1/2" SQ	8	300-400	fo-5,000	94.0	0.20	0.42	4.10
958-8675	U208	2 3/4" RD	8	260-340	fo-4,000	95.0	0.30	0.42	4.10
958-8680	U208S	2 3/4" SQ	8	260-340	fo-4,000	95.0	0.30	0.42	4.25
958-8685	U300	3" RD	8	220-280	fo-5,000	94.5	0.50	0.42	4.10
958-8690	U300S	3" SQ	8	220-280	fo-5,000	94.5	0.50	0.42	4.25
958-8695	R305	3 1/2" RD	8	210-260	fo-5,000	94.5	0.50	0.42	4.10
958-8700	S305	3 1/2" SQ	8	210-260	fo-5,000	94.5	0.50	0.42	4.15
958-8705	G4AF1	4" SQ	8	210-260	fo-5,000	94.5	3.00	1.00	4.95

Megaphones for Emergency, Public Address and Marine



ER-360



ER-370



ER-380



ER-390

Model ER-360 Lightweight Portable Megaphone. Solid state megaphone features pistol grip w/press to talk switch, volume control and wrist strap. Made of weatherproof ABS plastic. Operates on AA batteries (not supplied). **Specifications:** Length: 12 3/4". Bell Diameter: 7 1/2". Weight: 2.2 lbs. without batteries. **Wattage:** 10 watts max. **Effective Range:** 500 ft.

958-8766.....EACH 90.00

Model ER-370 Deluxe Megaphone With Siren. Powerful solid state megaphone. Features a built-in switch-selectable electronic alarm siren, pistol grip press to talk switch, volume control and shoulder strap. Durable weatherproof construction. Operates from 6C cells (not supplied). **Specifications:** Length: 15". Bell Diameter: 8 1/4". Weight: 3 1/2 lbs. without batteries. **Wattage:** 16 watts max. **Effective Range:** 800 ft.

958-8009.....EACH 124.95

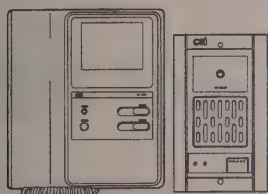
Model ER-380 Marine Megaphone With Siren And Fog Horn. Powerful solid state megaphone. Features a switch-selectable electronic alarm siren and fog horn, a pistol grip push to talk switch and shoulder strap. Durable weatherproof construction. Operates from 8C cells (not supplied). **Specifications:** Length: 14 1/4". Bell Diameter: 9 1/8". Weight: 3 1/2 lbs. without batteries. **Wattage:** 20 watts max. **Effective Range:** 1,200 ft.

958-8770.....EACH 179.95

Model ER-390 Delux Megaphone With Detachable Microphone And Siren. Powerful solid state megaphone. Features a built-in switch-selectable electronic alarm siren, a push to talk detachable microphone with volume control, shoulder strap and table stand. Durable weatherproof construction. Operates from 8C cells (not supplied). Length: 13 1/8". Bell Diameter: 9 1/8". Weight: 3 1/4 lbs. without batteries. **Wattage:** 25 watts max. **Effective Range:** 1,400 ft.

958-0390.....EACH 150.28

State-of-the-Art Video Doorphone



For home or office, CCD camera, auto iris, infrared lens, 4" Braun picture tube.
95808820. VDP-2000.....EACH 538.42

Amplified Extension Speaker



Model AES-4. Amplified Communications Speaker. An economical extension speaker with 10 Watts of amplified power. Ideal for mobile or base 2-way. ABS plastic enclosure with soft-padded grille and all-angle swivel bracket. Includes 10' cord and 3.5 mm mini plug. **Specifications:** Voltage: 12VDC. Input Impedance: 4 to 80. **Wattage:** 10 W Amplified.

958-8036.....EACH 42.82

10-Watt 70-Volt Line Transformer With Color-Coded Leads

Type T-7010. 10-watt primary. Taps at 10, 5, 2.5, 1.25, and .62 watts. **Secondary Impedance:** 4 or 8 Ohms. For driving speakers at various power levels from the same 70-volt line, simply change the transformer taps to achieve the power level you desire. 1.6 x 1.6 x 1.0". **Shipping Weight:** 1 1/2 lbs.

958-0013.....EACH 5.75



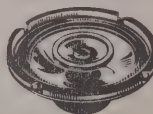
Ready-to-Install, Quality 8" Speakers

Model G810CPP. 25-Watt, 10-oz. Magnet.

- Weatherproof 8"
- Polypropylene
- With 3" Tweeter
- Air Suspension Coaxial

Pre-drilled for easy line transformer installation. **Specifications:** Frequency Response: 50-50,000 Hz. Magnet Weight: (ceramic) 10 oz. **Power:** 25 W max. **Voice Coil:** 1" high-temp. **Impedance:** 8 Ohms.

958-8043. 1-19.....EACH 25.55 20-Up.....EACH 23.46



8" and 12" Speaker with Line Transformer and 12" Grille

Model G86FT70GW. 8" speaker with line transformer and grille— assembled and wired. 6 oz. dual cone, 70V, 10 Watt transformer, white metal grille. (10 oz. dual cone, air susp. and coaxial in 70V and 25V also available upon request.)

958-8018. 1-9.....EACH 22.81

Grilles. Fit within 12" ceiling tile for an attractive flush-mount speaker assembly. Fit 8" speaker.

Model G12WD. 12" white, round metal grille. Hardware furnished.

958-8017. 1-9.....EACH 6.36

Model G12P. 12" white, round plastic grille. Hardware furnished.

958-8016. 1-9.....EACH 6.36



Communications Extension Speaker

Model CBS-240. 4", 5 Watt 8 Ohms, enclosed extension voice communication speaker. Multi-angle 180° mounting bracket; 10' cord and 3.5 mm mini plug. ABS plastic enclosure.

958-7090.....EACH 14.10

Alarm Sirens



SA-15RP



SA-4P



SA-5P

Model SA-15RP. 5 x 8", 30 Watt DC Siren. Made of weatherproof ABS plastic. Tamperproof, concealed cable. Dual tone—warbling and steady; 120 dB. Operates on 6 to 12VDC.

958-8010. 1-5.....EACH 34.66

6-Up.....EACH 31.06

Model SA-4P. 4", 20 Watts, 120 dB, warbling tone. Weatherproof ABS plastic. Operates on 6-12VDC. Easy mounting base.

958-8111. 1-5.....EACH 15.88

6-Up.....EACH 12.88

Model SA-5P. 5", 20 Watt DC Siren. Provides sharp, loud warbling tone, 115 dB. Black weatherproof ABS plastic with horn design. Operates on 6 to 12 VDC.

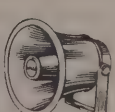
958-8012. 1-5.....EACH 14.55

6-Up.....EACH 12.73

ABS Plastic and Aluminum Series Speakers



SPC-8



SPC-10



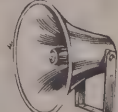
SPC-15



SPC-40RP



SPC-5P



SPC-30



SPC-15R

All the SPC-series aluminum and ABS plastic speakers are fully weatherproof and of rugged design to assure durability. All are furnished with hook-up wires and mounting bracket. The SPC-10 is also available in 4 Ohms (SPC-10/4) at the same price shown below. Frequency response and sensitivity may vary slightly with each individual speaker.

Model SPC-8. 5" Aluminum Weatherproof PA Speaker. **Specifications.** Frequency Response: 30-15,000 Hz. **Power Rating:** 12W Nom. 15W Max. **Sensitivity:** 105 dB/1W/1M. **Impedance:** 8 Ohms. **Size:** 5 x 5".

958-8005. 1-5.....EACH 14.95

Model SPC-10. 6" Aluminum Weatherproof PA Speaker. **Specifications.** Frequency Response: 250-15,000 Hz. **Power Rating:** 10W Nom. 15W Max. **Sensitivity:** 105 dB/1W/1M. **Impedance:** 8 Ohms. **Size:** 6 x 6".

958-7090. 1-5.....EACH 24.00

Model SPC-15. 8" Aluminum Weatherproof PA Speaker. **Specifications.** Frequency Response: 200-15,000 Hz. **Power Rating:** 15W Nom. 25W Max. **Sensitivity:** 110 dB/1W/1M. **Impedance:** 8 Ohms. **Size:** 8 x 8".

958-8006. 1-5.....EACH 34.95

Model SPC-40RP. 6 1/2" x 11" White ABS Speaker with universal all position mounting bracket and stainless steel hardware. Completely weatherproof. **Specifications:** Frequency Response: 200-15,000 Hz. **Power Rating:** 40W Max. **Sensitivity:** 1020 dB/1W/1M. **Impedance:** 8 Ohms. **Size:** 6 1/2 x 11" (Dia.) x 9" (L).

958-8025.....EACH 44.95

Model SPC-5P. 5" White ABS Indoor/Outdoor PA Speaker with 10' cord and mini plug and stainless steel hardware. **Specifications:** Frequency Response: 300-15,000 Hz. **Power Rating:** 8W Nom. 12W Max. **Sensitivity:** 105 dB/1W/1M. **Impedance:** 8 Ohms. **Size:** 5 x 5".

958-7097. 1-5.....EACH 10.74

Model SPC-30. 15" Aluminum Weatherproof PA Speaker. **Specifications.** Frequency Response: 130-15,000 Hz. **Power Rating:** 40W Nom. 75W Max. **Sensitivity:** 120 dB/1W/1M. **Impedance:** 8 Ohms. **Size:** 15 x 13".

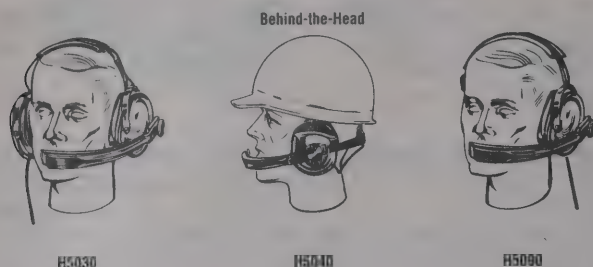
958-8007. 1-5.....EACH 72.11

Model SPC-15R. 5 x 8" Aluminum Weatherproof PA Speaker. **Specifications:** Frequency Response: 200-15,000 Hz. **Power Rating:** 15W Nom. 25W Max. **Sensitivity:** 110 dB/1W/1M. **Impedance:** 8 Ohms. **Size:** 5 x 8 x 8".

958-8008. 1-5.....EACH 36.95

Voice Powered Communication Systems

Headsets Requiring No External Power, Batteries or Electricity



H5030 Headset With Acoustic Boom. Boom allows hand-free operations. The symmetrical design allows the headset to be worn with boom on either side of head. Recommended for noise levels to 100 dB. MSHA Approval Number 9B-67.

535-0185. Model H5030 **EACH 266.00**

H5040 Headset With Acoustic Boom. Behind-the-head version of model H5030. Has soft, adjustable over-head strap that fits under safety cap. Recommended for noise levels to 100 db. MSHA Approval Number 9B-67.

535-0380. Model H5040 **EACH 266.20**

H5090 Headset With Acoustic Boom. Single ear version of model H5030. Recommended for noise levels to 80 db.

535-0400. Model H5090 **EACH 187.00**

Voice Powered Communication Kit

Ready-to-use, easy-to-store, two-man Communication System. Complete with carrying case, kit includes two H5040 headsets, two C5401 Adapter Cords and a C52-50 Jumper Cord. Ideal for use in pulling and pairing wires, continuity checks (ringing out wires), calibrating instrument readings, etc.

535Q6025. Model K5501. Six Piece Kit **EACH 661.00**

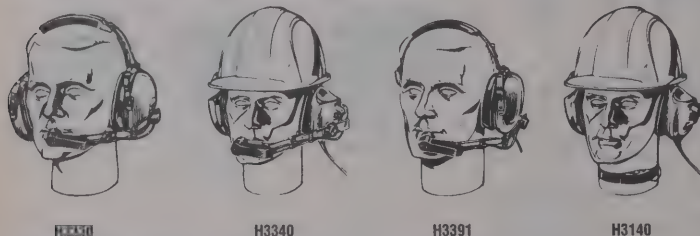
Carrying Case. Headset carrying case (case only) available as a separate item.

535-6020. Model 9143P-26 **EACH 67.00**



AC Powered Communication System

Noise Attenuating Headsets for Use with Series 3400



H3330 Headset/Microphone
Over-the-Head style with boom mounted noise canceling microphone. For Noise levels to 125 db.

535Q7040. Model H3330 **EACH 257.00**

H3340 Headset/Microphone
Behind-the-Head style with boom mounted noise cancelling microphone. For noise levels to 125 db.

535-7045. Model H3340 **EACH 254.00**

H3391 Headset/Microphone
Single ear version with boom mounted noise canceling microphone. Not to be used in noise levels above 85 db.

535-7050. Model H3391 **EACH 225.00**

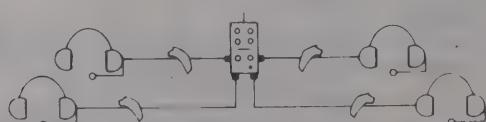
H3140 Headset/Microphone
Behind-the-Head style with throat microphone for use with breathing mask.

535-3140. Model H3140 **EACH 364.00**

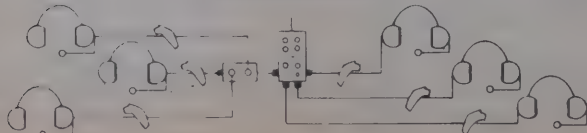
Belt Station required for each headset. All headsets shown are interchangeable throughout system.

Typical Series 3400 Applications

Two to Four Headsets



Five to Six Headsets



Accessories

Extension Cords

Two conductor cords with phone plug and phone jacks. Extension cords are used to extend distance from jumper cord, jack plate or junction box. May be coupled for longer length. Number after dash indicates cord length.

535-0012. C51-12	EACH	52.00
535-6005. C51-25	EACH	68.00
535-0074. C51-50	EACH	90.00
535-0075. C51-100	EACH	142.00



Jumper Cords

All that is needed to complete a two-man VOICE POWERED System. It is a two conductor cord with 2 phone jacks to plug into each headset. For longer systems, extension cords may be added. Number after dash indicates cord length.

535-0059. C52-12	EACH	52.00
535-0010. C52-25	EACH	68.00
535-0064. C52-50	EACH	90.00
535-0065. C52-100	EACH	142.00

Jack Plate

Two outlets with C-11 jacks. Receives plug from headset or extension cord. Two outlet faceplate has weatherproof covers and fits standard electrical box. Can be used for permanent, multiple station installations. Electrical box not included.

535-0040. Model M5002 **EACH 54.00**



Six Plug Junction Box

Heavy duty metal box has weatherproof covers and takes up to six plugs from headsets or extension cords.

535Q6015. Model M5006 **EACH 163.90**

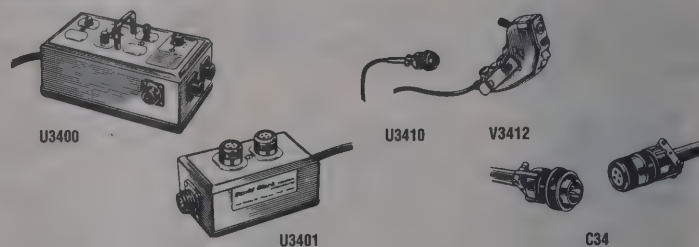
Amplifier/Belt Station

For use with Models H5030, H5040 and H5090 headsets. The amplifier increases the volume of transmission from the user's headset by up to 30 dB. Includes an adjustable talk level and a Push-To-Amplify switch. Completely portable (comes with self contained 9 V battery). Adapter cord assembly included.

535-6110. Model M5410 **EACH 375.99**



Series 3400



This System operates on standard 110 VAC current and can easily be converted to 220 VAC. Up to 32 Headsets may be connected at one time using belt stations and remote junction modules. Four conductor shielded cables provide shielding from electrical and radio frequency interference.

U3400 Master Station

The heart of the Series U3400 Communication System. It contains the power supply, amplifier and impedance selector in a single, sturdy metal box. There are four output connectors, 12 ft. grounded power cord, roll bar/carry handle, master volume control, and system On/Off switch. Belt Stations connected to four outputs form a four-man communication system. See Application No. 1 below. Remote Junction Modules connected to these outputs may further expand the system. See Application No. 2 below. **Specifications.** Input: 110-125 VAC, 60-50 Hz. Output: 24 VDC. Max. Current: 1/2 amp. Dimensions: 4 3/4 x 9 1/2 x 4 3/4".

535Q7000. Model U3400 **EACH 763.54**

U3401 Remote Junction Module

Used for additional Belt Station connections. Will provide three Belt Station connections or two Belt Station connections plus another Remote Junction Module or extension cord. Your system arrangement will accommodate a maximum of 32 headsets. See Application No. 2 below.

535Q7005. Model U3401 **EACH 235.00**

U3410 Belt Station

Serves as a preamplifier and interfaces between Headset and system. EVERY HEADSET MUST BE PLUGGED INTO A BELT STATION. Belt Station then connects to a Master Station or Remote Junction Module, either directly or via extension cords. Unit features headset jack, individual earphone volume controls, push-to-talk or lock microphone button, belt clip, 12 ft. cord with connector.

535Q7010. Model U3410 **EACH 213.40**

V3412 Vox Belt Station

May be used in place of U3410 Belt Station. No buttons to press for hands-free operation. Voice activated start/stop transmission. Has Vox sensitivity control, headset jack, listening volume control, Vox override push to talk button, belt clip, 12 ft. cord with connector.

535Q7015. Model V3412 **EACH 326.00**

C34 Extension Cords

With screw-on-type connectors. Four conductor oil resistant cords are used to connect all components: Master Station, Remote Junction Modules and Belt Stations. Number after dash indicates length in feet.

535-7020. C34-12	EACH	112.00
535-7025. C34-25	EACH	132.00
535-7030. C34-50	EACH	165.00
535-7035. C34-100	EACH	239.00

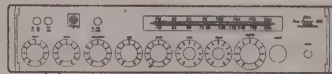
Pro-120 120 Watt PA Amplifier



With priority paging. **Specifications.** Power Output: 120 W rms. Frequency Response: 50 Hz to 15 kHz. Noise: mic — -60 dB; aux. — -75 dB. Sensitivity: mic — 0.3 mV; aux. — 0.3 V. Tone Controls: bass (100 Hz) — ±12 dB; treble (10 kHz) — ±12 dB. **Front Panel Controls:** 4 mic volume, master volume, (2) aux. volume, bass, treble, mag. phono volume, power on/off. **Inputs:** mic 1, 2, 3, 4 (balanced or unbalanced); HIZ; LOZ; (2) aux. —100K; mag phono; equalizer. **Outputs:** 4, 8, 16 ohms, 25 V and 70 V (balanced or unbalanced), booster/tape, screw terminals, speaker jacks. **Power Requirements:** 117 VAC, 50-60 Hz, 230 W. **Dimensions:** 3 1/2"H x 17 1/4"W x 11"D. **Weight:** 33 lbs.

790-7598. Pro-120. 1-5EACH 640.92
6-UpEACH 589.55

Pro-40T 40 Watt Amplifier With Built-In AM/FM Tuner



With priority paging. **Specifications.** Power Output: 40 W rms. Frequency Response: 50 Hz to 15 kHz. Noise: mic. — -60 dB; aux. — -75 dB. Sensitivity: mic. — 0.3 mV; aux. — 0.3 V. **Front Panel Controls:** AM/FM, AFC on/off, mic. 1, 2, 3 (Mag. phono), volume, aux. volume, tuner volume, bass/treble, master volume, tuning, power on/off. **Inputs:** Mic. 1, 2, 3, (balanced or unbalanced); HIZ; LOZ; (2) aux. —100K; mag phono; equalizer. **Outputs:** 4, 8, 16 ohms, 25 V and 70 V (balanced or unbalanced), booster/tape, screw terminals, equalizer, speaker jacks. **Power Requirements:** 117 VAC, 50-60 Hz, 125 W. **Dimensions:** 3 1/2"H x 17 1/4"W x 11"D. **Weight:** 27.5 lbs.

790-0040. Pro-40T. 1-5EACH 638.35
6-UpEACH 588.40

FM Wireless Intercoms



- ▶ Two Way "Hands-Free" Voice (VOX) and Manual Operation
- ▶ Operates Room-to-Room or Between Houses on Same AC Electrical Wiring; No Installation Is Required
- ▶ Any Number of Stations May Be Operated on Same Line
- ▶ Each Intercom Unit Is Plugged into an AC Outlet and Uses the House or Office Electrical Wiring as a Message Path
- ▶ Ultra-Sensitive FM Circuitry with Separate Microphone and Speaker Provides Dependable Clarity of Voice Transmission
- ▶ Instant "ON" Operation Assuring Dependable Service; No Warm-Up Time Required
- ▶ All Stations Are Equipped with "Call" Button for Signaling, Lock Buttons for Continuous Monitoring of Baby, Sickroom, etc.
- ▶ All Models Are Fully Compatible with Each Other
- ▶ Can Be Used on Desk, Table, Counter or Wall Mounted
- ▶ Cabinets Are of High Impact Plastic with Woodgrain and Charcoal Brown Colors — 6"W x 5"D x 2"H; Weights 1 lb.

790-3502. VFM-300. 3-Channel — Single StationEACH 42.42
790-3504. VFM-200. 2-Channel — Single StationEACH 39.02
790-3506. VFM-100. 1-Channel — Single StationEACH 33.91

Multi-Purpose Speakers

Model HDA-15T-2V. Power 15 watts, power taps 25 and 70.7 volt lines — 15, 7.5, 3.5, 2.0 watts, 8 1/2" bell diameter. Ruggedly constructed of aluminum with baked enamel finish. Anyone can hook up a multi-horn P.A. system with "Multi-Tap" Speakers, with built-in matching transformer. They are equipped with four different power selections on each horn. All you have to do is select the power you need. Comes complete with 18" speaker wires.

790-7605. HDA-15T-2V. 1-5EACH 72.06
6-UpEACH 66.07
Model HDA-30T-2V. Same as HDA-15T, above, Power 30 watts, power taps 25 and 70.7 volt lines — 30, 15, 7.5, 4.5, watts, bell diameter 10". Recommended for higher powered system.

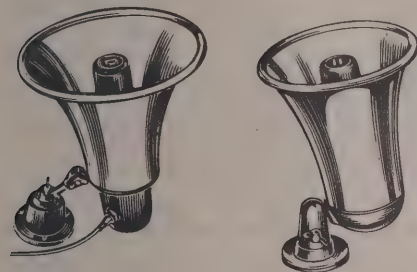
790-6000. HDA-30T-2V. 1-5EACH 90.31
6-UpEACH 81.71
Model HDA-6 8 Ohms. Outperforms all directly competitive speakers in its size and class. Rated at full 15 watts continuous duty. Speaker has 6 1/2" diameter bell and is 8" long. Smooth response and very high conversion efficiency. Full-range swivel mount with positive locking action. **Weight:** 4 lbs.

790-6150. HDA-6. 1-5EACH 43.00
6-UpEACH 37.00

Model HDA-10 8 Ohms. Higher power version of HDA-5 and HDA-6 with improved low frequency response. Rated at 30 watts continuous output, it has a 10" diameter bell. Produces a sound pressure of 124 dB or double the efficiency of speakers of the same size and input rating. Good wide-range response. Full-range swivel mount with positive locking action. **Weight:** 5 lbs.

790-7603. HDA-10. 1-5EACH 45.00
6-UpEACH 38.00

Model HDA-10-8XL. Same as HDA-10-8 except with 25 ft. cord.
790-9015. HDA-108XL. 1-5EACH 46.00
6-UpEACH 39.00



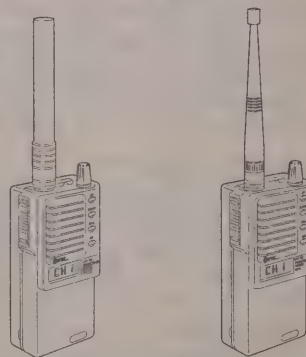
HDA-15T-2V
HDA-30T-2V
HDA-6-8
HDA-10-8
HDA-10-8XL

PROCOM Synthesized Programmable VHF and UHF FM Transceivers Handheld Miniatures — 5 Watts, 10 Channels

- ▶ Range Up to 3 Miles Subject to Environmental Conditions
- ▶ Weather Resistant with Die-Cast Frame, High Impact Case with Belt Clip
- ▶ Rechargeable Nickel Cadmium Battery Pack, A.C. Battery Charger, Flexible Antenna with BNC Connector, F.C.C. License Application Included
- ▶ Jacks for A.C. Charger, Earphone, External Speaker/Microphone and External Antenna with BNC Connector
- ▶ Low/Med./High Transmit Power Output
- ▶ Battery/Transmit and Busy LED Indicator
- ▶ Channel LCD Digital Readout
- ▶ Ten Channel Selector
- ▶ Channel Scan with Lockout
- ▶ Varactor Track Tuning Assures Peak Tuning when Changing Channels
- ▶ Programmable CTCSS Tone Squelch (Optional)
- ▶ Volume Control/Power On-Off Switch
- ▶ Built-In Squelch Control

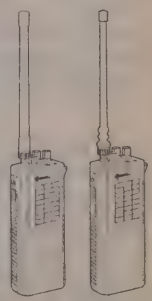
790-0510. PROCOM M510. 5 Watts, 10 Channels VHF. 1-5EACH 333.25
790-0511. PROCOM MU510. 5 Watts, 10 Channels UHF. 1-5EACH 366.00
790-0512. PRIVACOM-10. CTCSS Tone Module (Added at Factory)EACH 83.00
790-7761. RSM-1. Remote Speaker and MicrophoneEACH 49.95
790-0513. VMSM-2. Voice Operated "Hands-Free" MINI-VOX/PTT Headset and VOX Control Unit with Belt Clip, for PROCOM Handheld TransceiversEACH 98.00
790-0514. DIC-10. Single Drop-In Quick ChargerEACH 80.00

— NEW —



PROCOM VHF and UHF FM Transceivers — Crystal Controlled Handheld Miniatures — 5 Watts, 4 Channels

- ▶ Ideal for Use on Construction Sites, in Factories, for Security Control and Many Other
- ▶ Range Up to 3 Miles
- ▶ Rechargeable Battery Pack
- ▶ Adjustable Squelch Control/Tone Squelch On-Off Switch
- ▶ Sturdy ABS Plastic Case
- ▶ Volume Control/On-Off Switch
- ▶ Operates On Any F.C.C. Part 90 and 95 (UHF) Radio Frequencies
- ▶ One Set of Crystals Installed



790-0054. PROCOM M54. 5 Watts, 4 Channels. 1-5EACH 277.00
6-11EACH 253.00
790-0070. PROCOM MU54. 5 Watts, 4 Channels. 1-5EACH 341.66
6-11EACH 312.00

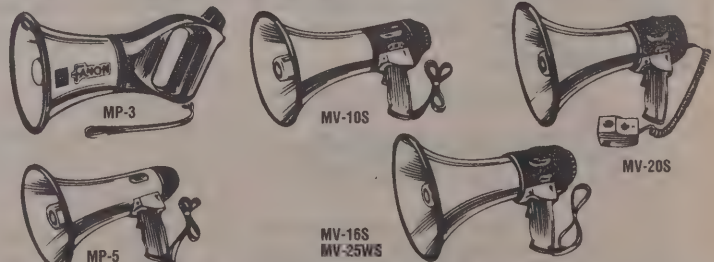
Megaphones

Model MP-3. Compact megaphone similar to our larger series. **Specifications.** Power Output: 3 watts peak — 2 watts rated. **Batteries:** 6 "AA" cells (not included).
790-7954. MP-3. 1-5EACH 99.95
6-UpEACH 68.53

Model MP-5 — 5 Watt, 300 Yd. Range Megaphone. Battery operated and convenient to use. The sturdy, high-impact ABS plastic bell and weather-proof, built-in microphone will give years of use from this low-priced, but rugged megaphone. Trigger talk switch. Includes volume control, dynamic microphone and carrying strap. **Specifications.** Power Output: 10 watts peak, 5 watts rated. **Batteries:** 6 "AA" cells (not included).
790-7593. MP-5. 1-5EACH 141.37
6-UpEACH 97.36

Model MV-10S — 10 Watts, 600 Yd. Range Built-In Signal Alarm/Fog Horn. Ideal for police, fire, industrial and recreational applications. Weatherproof. Carrying strap included. Sturdy high-impact ABS plastic bell. Volume control, signal alarm switch, pistol-trigger talk switch, dynamic microphone and carrying strap. **Specifications.** Power Output: 16 watts peak, 10 watts rated. **Batteries:** 6 "C" cells (not included).
790-7592. MV-10S. 1-5EACH 183.95
6-UpEACH 124.95

Model MV-16S — 16 Watts, 800 Yd. Range Built-In Signal Alarm/Fog Horn. Powerful signal alarm for fog horn or general alert. Weatherproof construction. Adjustable volume control. 12 VDC Negative ground only. Features include volume control, signal alarm switch, pistol-trigger talk switch, 12 VDC input jack, dynamic microphone and carrying strap. **Specifications.** Power Output: 20 watts peak, 16 watts rated. **Batteries:** 8 "C" cells (not included).
790-7591. MV-16S. 1-5EACH 165.98
6-UpEACH 153.15



Model MV-20S — 20 Watts, 1000 Yd. Range Built-In Signal Alarm/Fog Horn. Weather-proof mike hooks on to rear for standard use. Megaphone may be shoulder mounted with mike detached. Coiled cord and talk switch on mike for hand-held use. Solid state amplifier has a signal alarm for warning alarm, fog horn or "mayday". Negative ground only. Includes volume control, hand and shoulder straps, dynamic microphone with coiled cord and talk switch. Pistol-trigger switch. 12 VDC input jack. Signal alarm switch. **Specifications.** Power Output: 25 watts peak, 20 watts rated. Uses Class B push-pull circuit. **Batteries:** 8 "C" cells (not included).
790-7590. MV-20S. 1-5EACH 194.63
6-UpEACH 178.41

Model MV-25WS — 20 Watts Peak, 16 Watts Rated. Features are the same as the MV-16S plus an additional whistle switch.
790-9000. MV-25WS. 1-5EACH 175.25
6-UpEACH 160.65

Speaker Wire

For in-wall installations. 2 and 4-conductor stranded bare copper wire. Each conductor is insulated with an overall jacket.

UL/CL2 Speaker Wire (4-Conductor)

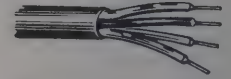
Specifications. Gauge: 16. Stranding: 19/29. Insulation Thickness: .010 PVC. Nominal O.D.: .232. Length: 1000 ft. Color: Grey.

797-0600. Model 14-216-4F89.....EACH 383.86

UL/CL2 Speaker Wire (2-Conductor)

16 Gauge Specifications. Stranding: 19/29. Insulation Thickness: .010 PVC. Nominal O.D.: .199.14 Gauge Specifications. Stranding: 19/27. Insulation Thickness: .014 PVC. Nominal O.D.: .244.

797-0605. Model 14-216-2F89.....EACH 195.00

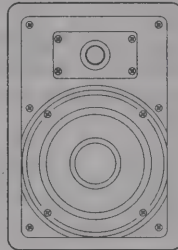


Epitome™ Speakers

All Epitome 2-Way In-Wall Speakers feature polypropylene cones and soft dome tweeter for improved sound quality and durability.



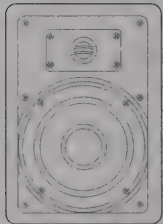
30-3500



30-3508



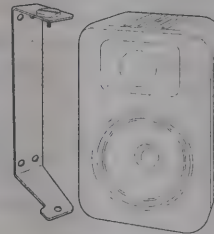
30-3526



30-3506



30-3525



30-3510

5 1/4" 2-Way In-Wall Speaker

Specifications. Woofer: 5 1/4" polypropylene cone. Tweeter: 1" soft dome. Impedance: 8 ohms. Frequency Response: 50 Hz to 20 kHz. Power Handling: 60 watts (max.). Sensitivity: 90 dB, 1 watt, 0.5 meter.

797-0610. 30-3500. Speakers.....PER PAIR 97.00

797-0615. 30-3515. Mounting Brackets...PER PAIR 15.99

5 1/4" Coaxial In-Wall Speaker

Specifications. Woofer: 5 1/4" polypropylene cone. Tweeter: 3/4" polycarbonate dome. Impedance: 8 ohms. Frequency Response: 69 Hz to 20 kHz. Power Handling: 25 watts RMS, 50 watts (max.). Sensitivity: 90 dB, 1 watt, 0.5 meter. Dimensions: 6 3/4" L x 6 3/4" W x 2 1/4" D.

797-0620. 30-3525. Speaker.....PER PAIR 68.00

6 1/2" 2-Way In-Wall Speaker

Specifications. Woofer: 6 1/2" polypropylene cone with 25 mm voice coil and 10 oz. ceramic magnet. Tweeter: 1" soft dome with 6 oz. magnet. Impedance: 8 ohms. Frequency Response: 45 Hz to 20 kHz. Power Handling: 40 watts RMS, 80 watts (max.). Sensitivity: 90 dB, 1 watt, 0.5 meter. Dimensions: 12" L x 8 1/2" W x 3" D.

797-0635. 30-3506. Speakers.....PER PAIR 118.06

797-0630. 30-3516. Mounting Brackets...PER PAIR 19.00

6 1/2" Coaxial In-Wall Speaker

Specifications. Woofer: 6 1/2" polypropylene cone. Tweeter: 3/4" polycarbonate dome. Impedance: 8 ohms. Frequency Response: 65 Hz to 20 kHz. Power Handling: 25 watts RMS, 50 watts (max.). Sensitivity: 92 dB, 1 watt, 0.5 meter. Dimensions: 8" L x 8" W x 2 1/4" D.

797-0625. 30-3526. Speaker.....PER PAIR 81.60

Epitome™ Acoustic Speakers

Excellent by themselves or complementing an existing home theater system. Use where space is at a premium and quality sound is a requirement.

Specifications. Woofer: 5" polypropylene cone. Tweeter: 1/2" horn. Impedance: 4 ohms. Frequency Response: 50 Hz to 20 kHz. Power Handling: 60 watts (max.). Sensitivity: 89 dB, 1 watt, 0.5 meter.

797-0650. 30-3510. Black Speaker.....PER PAIR 122.00

797-0655. 30-3511. White Speaker.....PER PAIR 122.00

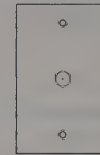
8" In-Wall Speaker

Specifications. Woofer: 8" polypropylene cone. Tweeter: 1" soft dome. Impedance: 8 ohms. Frequency Response: 40 Hz to 20 kHz. Power Handling: 100 watts (max.). Sensitivity: 90 dB, 1 watt, 0.5 meter.

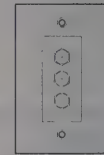
797-0640. 30-3508. Speakers.....PER PAIR 155.55

797-0645. 30-3518. Mounting Brackets...PER PAIR 22.99

Wall Plates Coax Connectors



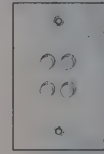
65-100



65-130



65-310



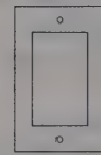
65-300



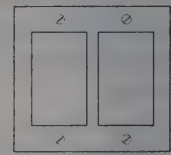
65-210



65-220



65-050



65-160

65-400

797-0710. 65-100. Single Coax, Gold, White.....EACH 6.47

797-0720. 65-120. Double Coax, Gold, White.....EACH 7.65

797-0715. 65-130. Triple Coax, Gold, White.....EACH 8.95

Binding Post Connectors

Decor Wall Plate Inserts

797-0065. 65-300. Single 5-Way, Gold, White.....EACH 13.45

797-0660. 65-301. Single 5-Way, Gold, Ivory.....EACH 13.45

797-0695. 65-310. Double 5-Way, Gold, White.....EACH 13.60

Banana Jack / Spring Clip Connectors

Decor Wall Plate Inserts

797-0705. 65-210. Gold, White.....EACH 8.50

797-0690. 65-220. Gold, White.....EACH 10.63

Decor Trim Plates

797-0685. 65-400. Single, White.....EACH 1.60

RCA Connectors

Decor Wall Plate Inserts

797-0670. 65-140. Single RCA, Gold, White.....EACH 6.80

797-0700. 65-050. Double RCA, Gold, White.....EACH 8.25

797-0730. 65-160. Triple RCA, Gold, White.....EACH 8.95

797-0725. 65-170. Double RCA, Gold, White.....EACH 8.95

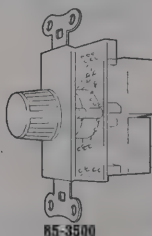
Volume Controls

10 Step-Stereo Volume Control



65-1520

10 steps of attenuation at 3 dB each, final 2 steps at 6 dB each. Total Attenuation: 30 dB and off. 25 RMS, 150 watts peak. Accepts up to 14 gauge wire. ABS plastic knob with indicator mark. Fits in standard single gang junction box.



65-3500

12 Step Volume Control

12-step control with an attenuation range of 34 dB to provide a balanced graduation of volume. The unit is sealed to prevent malfunction from the harmful effects of dust and moisture allowing installation in any situation.

Specifications. Power Handling Capacity: 35 watts RMS, 105 watts (max.). Impedance: adjustable 2-32 ohms. Frequency Response: 35 Hz to 20 kHz. Attenuation Range: 3 dB per step, last two steps are 4 and 6 dB.

Total Attenuation: 34 dB (max.). 0 dB (min.). Number of Switch Steps: 12. Dimensions: 1 5/8" L x 2 1/4" H x 2" D.

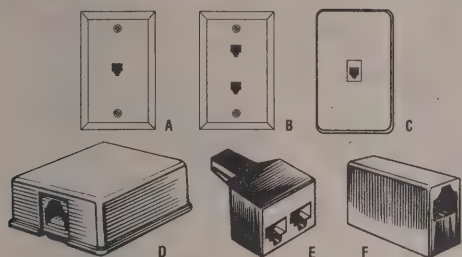
797-0675. 65-3500. Decor Wall Plate, White.....EACH 49.99

797-0680. 65-1520. Standard white wall plate.....EACH 40.99

Telephone Accessories



Telephone Accessories



Flush Wall Jack — Fig. A. Modular flush wall jack assembly allows flush-mounted connection of plug-ended modular line cords. Ideal for initial installation or conversion from existing wall receptacles. UL Listed. Complies with USOC numbers RJ11C, RJ13C, RJ1DC.

796-9787, 30-9787-BU, 4-Conductor, White*EACH 2.06

Modular Flush Wall Jack — Fig. A. Modular flush wall jack assembly allows flush mounted connection of plug ended modular line cords.

796-0010, 30-9747-BU, 4-Conductor, AlmondEACH 3.67

796-9700, 30-9700-BU, 6-Conductor, IvoryEACH 2.40

796-9998, 30-9706-BU, 8-Conductor, IvoryEACH 5.28

Dual Flush Jack — Fig. B. Can be flush mounted in wall to eliminate external wires. Two modular jacks permit use of two telephones at same location or one telephones and answering machine or other related equipment. Two solderless jacks can be connected independently or in series, utilizing one or two lines. UL Listed. Complies with USOC numbers RJ11C, RJ12C, RJ13C, RJ14C, RJ1DC.

796-9783, 30-9783-BU, 4-Conductor, White*EACH 3.43

Dual Flush Mount Jack — Fig. B. Can be flush mounted to eliminate external wires. Two modular jacks permit use of two telephones, a telephone and answering machine or other communication equipment.

796-9708, 30-9708, 8-Conductor, IvoryEACH 7.55

Wall Mount Phone Jack — Fig. C. Use when mounting wall-type telephones. Easy to install, screw terminals.

796-0011, 30-9744-BU, 4-Conductor, AlmondEACH 5.47

Quick Mount Wall Phone Jack — Fig. C. Use when mounting wall-type telephones. Easy-to-hook-up screw-type terminals. Heavy-duty construction. UL Listed Complies with USOC numbers RJ11C, RJ12W, RJ13C, RJ14C, RJ1DC.

796-9784, 30-9784-BU, 4-Conductor, White*EACH 3.10

Modular Surface Jack — Fig. D. Surface mounts to baseboard or wall. Screw terminals for easy installation. UL Listed. Complies with USOC numbers RJ11C, RJ12C, RJ13C, RJ14C, RJ1DC.

796-9786, 30-9736-BU, 4-Conductor, AlmondEACH 2.15

Surface Jack — Fig. D. Surface mounts to baseboard or wall. Screw terminals for easy installation.

796-0012, 30-9746-BU, 4-Conductor, AlmondEACH 3.69

Modular "T" Adapter — Fig. E. "T" adapter enables two modular plugs to be used in a single modular jack.

796-9654, 30-9654-BUEACH 1.10

Modular In-Line Coupler — Fig. F. Allows two modular line cords to be connected together to increase length.

796-9678, 30-9678-BU, 4-Conductor, IvoryEACH 1.16

*These telephone products are constructed with UL-94V-0 flame retardant plastic and 50 micro inches of gold plating. They comply with UL standard 1863 and article 800-51 of the National Electrical Code.



Twisstop™

Prevents handset cords from becoming twisted and tangled by allowing the handset to rotate freely. Compatible with all modular handset cords. Swivel rotary action spins the cord around to its original position, without decreasing sound quality.

796-9310, 30-9310EACH 11.90

Tele-Check Modular Line Tester

Analyzes modular phone line problems. Tester inserts into modular jack or in receptacle which holds line wire in network interface panel. Provides visual indication of the type and location of the phone line problem. Eliminates costly unneeded telephone service calls.



796-9450, 30-9451EACH 9.86



Solid Telephone Hook-Up Wire

Beige-jacketed hook-up wire with color-coded wires within.

796-9901, 30-9901, (100')EACH 11.19

796-9905, 30-9905, (500' knockout carton)EACH 29.73

796-9953, 30-9953, (1000' pull-out box)EACH 68.01

796-9959, 30-9959, (1000')EACH 59.63

796-9970, 30-9970, (500')EACH 49.92

796-9971, 30-9971, (1000')EACH 102.98

796-9957, 30-9957, (500' knockout box)EACH 23.09

796-9952, 30-9952, (1000' pull-out box)EACH 41.27

796-9980, 30-9980, (5000' Spool)EACH 225.81

796-9958, 30-9958, (1000' knockout carton)EACH 41.45

796-9976, 30-9976, (1000' knockout carton)EACH 60.68

796-9972, 30-9972, (3000' Spool)**EACH 272.81

796-9982, 30-9982, (4000' Spool)**EACH 241.51

*22-gauge, 4 conductor. **22-gauge, 6 conductor.

*24-gauge, 4 conductor. **24-gauge, 6 conductor.



Flush Wall Jack

Modular flush wall jack assembly allows flush-mounted connection of plug-ended modular line cords. Ideal for initial installation or conversion from existing wall receptacles. Jacks can be connected in parallel use with 4- and 6-wire systems.

796-9700, 30-9700, 6 wire, IvoryEACH 1.61

796-9707, 30-9707, 4 wire, IvoryEACH 1.41

Quick-Mount Wall Phone Jack

Use when mounting wall-type telephones. Easy-to-hook-up screw-type terminals. Heavy-duty construction. Wall phone snaps into place!

796-9704, 30-9704EACH 1.98

Designed for wall-mounting phones, this unique device offers dual side jacks which will accommodate hook-up of answering machines, auto dialers or extension phones.

796-9705, 30-9705EACH 4.53



Dual Flush Jack

Can be flush mounted in wall to eliminate external wires. Two modular jacks permit use of two telephones at same location or one telephone and answering machine or other related equipment. Two solderless jacks can be connected independently or in series, utilizing one or two lines.

796-9703, 30-9703, 4-Conductor ivoryEACH 1.87

796-9710, 30-9710, 6-Conductor ivoryEACH 3.82

Dual Floor Jack

The floor jack contains duplex jacks and a center tapped mounting hole. Two modular jacks permit use of two telephones at the same location, one telephone and an answering machine or other related equipment. Spring loaded protective doors cover jacks.

796-9711, 30-9711-BU, 4-conductor ivoryEACH 3.47



Combination Telephone/Coax Wallplate

Specialty designed wallplate allows hookup of both modular telephone wire and coax cable from one location. (4-conductor)

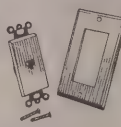
796-9732, 30-9732, IvoryEACH 2.60

Decor Modular Wall Plates

Mounts to standard electrical box to accept modular line cords. The decor wall plate enhances custom interiors.

796-9767, 30-9767, 4 cond. IvoryEACH 3.13

796-9777, 30-9777, 4 cond. WhiteEACH 3.13



Outdoor Telephone Bell

The outdoor telephone bell is a loud mechanical bell. Weather resistant molded housing for use indoors or outdoors, ideal for factory, farm, porch or garage or in any noisy environment. This telephone bell is line powered and uses a modular jack for simple installation. FCC registered.

796-9835, 30-9835EACH 46.65

Telephone Extension Ringer

Telephone ringer installs with modular connections. Ideal when in a remote location such as the basement, garage, patio or laundry room to alert the individual of a phone call.

796-9820, 30-7520EACH 32.80

Modular Crimp Tool

Makes it easy to install modular plugs on 4-conductor modular line cord. Has built-in wire stripper.

796-9950, 30-9951EACH 10.34



Stranded Flat Modular Line Cord



26-gauge Silver or Ivory-jacketed line cord with color-coded wires. Use with telephone modular plugs.

796-9907, 30-9907, 50' silver*EACH 7.14

796-9920, 30-9920, 50' ivory*EACH 6.68

796-9908, 30-9908, 100' silver*EACH 11.44

796-9922, 30-9922, 100' ivory*EACH 11.49

796-9906, 30-9906, 500' silver*EACH 35.85

796-9924, 30-9924, 500' ivory*EACH 35.99

796-9962, 30-9962, 1000' silver*EACH 69.62

796-9963, 30-9963, 1000' ivory*EACH 69.62

796-9932, 30-9932, 100' Hank silver**EACH 15.19

796-9933, 30-9933, 100' Hank ivory**EACH 15.19

796-9934, 30-9934, 500' Knockout silver**EACH 54.69

796-9965, 30-9965, 1000' spool silver**EACH 96.76

796-9966, 30-9966, 1000' spool ivory**EACH 96.76

796-9945, 30-9945, 500' spool silver**EACH 78.85

796-9940, 30-9940, 1000' spool silver**EACH 148.03

*4 conductor. **6 conductor. *8 conductor.



Surface Jacks

Modular Surface Jack. Surface mounts to baseboard or wall. Screw terminals for easy installation.

796-9604, 30-9604, 4 cond.EACH 1.55

796-9607, 30-9607, 6 cond.EACH 3.30

796-9660, 30-9660, 8 cond.EACH 3.26

Dual Modular Surface Jack. Surface mounts to baseboard or wall. Dual jacks for hook-up of telephone and answering machine, auto dialer. Screw terminals for easy installation.

796-9605, 30-9605EACH 3.77

Multi-Line-To-Modular Jack Adapter

Allows a single-line modular telephone to be connected to an existing 50-pin connector. With this adapter, installers are able to convert multi-line service, multi-button-equipped telephone stations in minutes.



796-9812, 30-9812EACH 13.20



Modular Plugs

Use with flat-line cord for making replacement cables or extension cords. Use modular crimp tool #30-9951.

796-9910, 30-9910, 4 cond.PER PKG./10 2.97

796-9914, 30-9914, 6 cond.PER PKG./10 4.72

796-9911, 30-9911, 4 cond.PER PKG./100 31.97

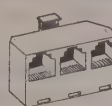
796-9915, 30-9915, 6 cond.PER PKG./100 46.42

796-9917, 30-9917, 8 cond.PER PKG./100 70.16

Two-Line Adapter

Converts a two-line system into two single line outlets.

796-9655, 30-9655EACH 4.99



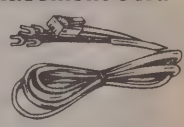
Modular Triplex Adapter

Allows three modular plugs to be used in a single modular jack.

796-9656, 30-9656EACH 4.59

Modular Telephone Replacement Cord

Use for converting "hard-wired" telephones to modular, or as a replacement/extension. Spade terminals one end; modular plug other end. Silver.



796-9540, 30-9540, 6 ft.EACH 2.99

796-9542, 30-9542, 25 ft.EACH 4.40

Modular Plug-To-Plug Extension Cord



Use to extend length of cord between telephone and wall jack or as an extension.

796-9502, 30-9502, 15 ft. WhiteEACH 2.95

796-9513, 30-9513, 15 ft. IvoryEACH 4.08

796-9515, 30-9515, 15 ft. SilverEACH 4.04

796-9503, 30-9503, 25 ft. WhiteEACH 3.69

796-9514, 30-9514, 25 ft. IvoryEACH 4.94

796-9516, 30-9516, 25 ft. SilverEACH 4.94

Modular Plug-To-Modular Jack Extension Cord

Extension cord with modular plug and jack on each end. Cord offers the convenience of adding 25-foot extension to existing telephone system. Modular plug at one end snaps into wall receptacle while modular jack at the other accepts line cord from existing telephone.



796-9506, 30-9506EACH 6.48

Modular Handset Coil Cords



Coiled cord with modular plugs at both ends. Available in 6, 12 or 25 foot lengths and 9 color selections. Cords fit between handset and phone base.

796-9565, 30-9565, 6 ft. AlmondEACH 3.49

796-9519, 30-9519, 12 ft. BlackEACH 4.09

796-9520, 30-9520, 12 ft. WhiteEACH 4.09

796-9521, 30-9521, 12 ft. BeigeEACH 4.09

796-9524, 30-9524, 12 ft. Chocolate BrownEACH 4.09

796-9525, 30-9525, 12 ft. AlmondEACH 4.09

796-9526, 30-9526, 12 ft. AshEACH 4.09

796-9529, 30-9529, 25 ft. BlackEACH 5.29

796-9530, 30-9530, 25 ft. WhiteEACH 4.59

796-9531, 30-9531, 25 ft. BeigeEACH 4.85

796-9534, 30-9534, 25 ft. Chocolate BrownEACH 5.59

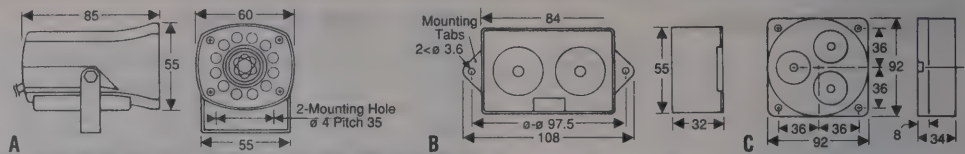
796-9535, 30-9535, 25 ft. AlmondEACH 5.59

796-9536, 30-9536, 25 ft. AshEACH 5.59

796-9538, 30-9538, 25 ft. IvoryEACH 5.59

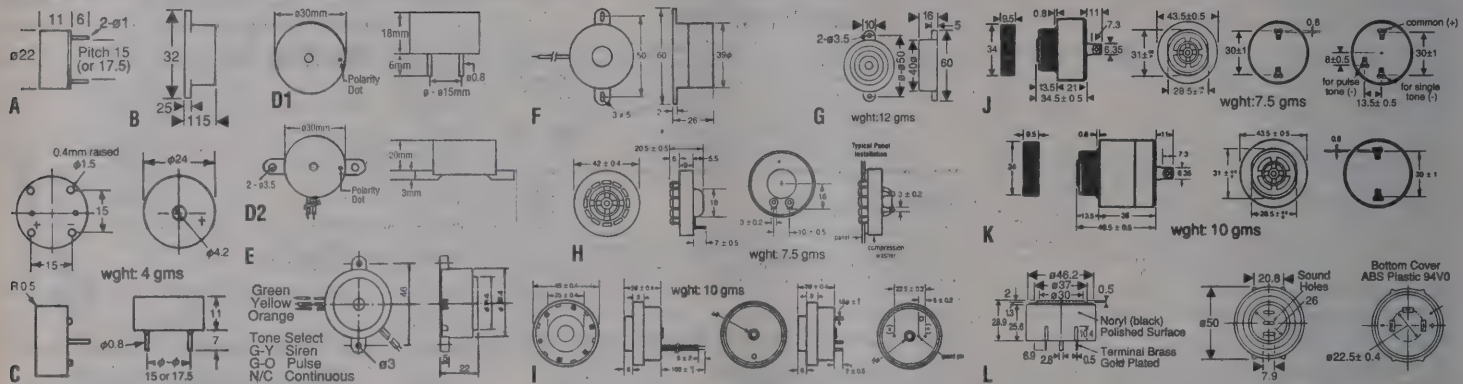
Piezo Sounders

These INTERVOX devices are designed to give immediate attention in case of emergency. Their piercing siren and two-tone sound modes make them suitable for use in auto alarms, personal protection alarms, fire alarms, etc.



Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max. Current (mA)	Sound Pressure Level (dB)	Diameter (mm)	Height (mm)	Terminal Type	Mounting Dim. or Pin Spacing (mm)	EACH	
												1-24	25-99
623-2032	BPS6055L-12-C	A	2500-3000	6-12	Siren	350	115 @ 100 CM	60	55	2 Leadwires	35.0	25.01	20.91
623-2035	BPS8432L-12-C	B	2500-2800	6-15	3 Tone	85	105 @ 100 CM	84	32	2 Leadwires	97.5	11.01	9.20
623-2034	BPS9234S-12-C	C	2800	6-15	3 Tone	300	115 @ 100 CM	92	34	4 Screws	72.0	15.28	12.78

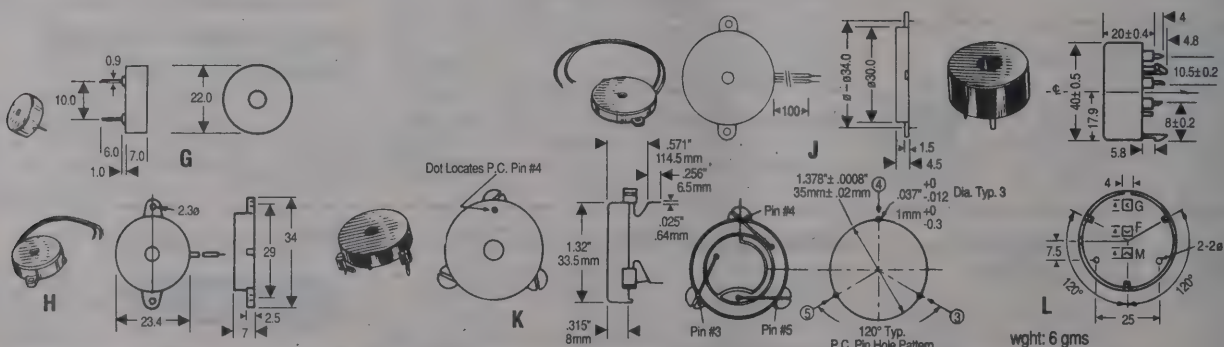
Piezo Electric Buzzers with Internal Circuitry



These INTERVOX devices were developed with circuits so they can easily be used by applying your D.C. voltage source. Their clear penetrating sound quality enables these buzzers to be used in applications such as fire and burglar alarms, smoke detectors, and medical instruments.

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max. Current (mA)	Sound Pressure Level (dB)	Diameter (mm)	Height (mm)	Terminal Type	Mounting Dim. or Pin Spacing (mm)	EACH	
												1-24	25-99
623-2004	BRP1408P-12-CS	F	4000 ± 500	3.0-16	Cont.	7.0	80 @ 30 CM	14.1	7.5	2 Pins	7.6	3.30	2.75
623-2022	BRP2211P-12-CS	A	4000 ± 500	3.0-15	Cont.	4.5	75 @ 100 CM	22.0	11.0	2 Pins	15.0	2.48	2.08
623-2024	BRP2212L-12-C	B	4000 ± 500	3.0-15	Cont.	4.5	90 @ 30 CM	22.0	11.5	2 Leadwires	26.5	2.30	1.93
623-1950	BRP2411P-12-CFS	C	3700 ± 500	3.0-15	Cont.	10.0	90 @ 30 CM	24.0	11.7	2 Pins	15.0	2.53	2.12
623-1951	BRP3018L-12-C	D2	2000 ± 500	3.0-15	Cont.	10.0	90 @ 30 CM	30.0	18.0	2 Leadwires	—	2.64	2.20
623-1952	BRP3018P-12-C	D1	2000 ± 500	3.0-15	Cont.	10.0	90 @ 30 CM	30.0	20.0	2 Pins	15.0	2.64	2.20
623-2026	BRP3922L-12-CT3	E	2800 ± 500	6.0-15	Cont.	95.0	107 @ 1 M	39.0	22.0	5 Leadwires	46.0	6.37	5.33
623-2028	BRP4016L-12-C	G	2800 ± 300	3.0-24	3 Tone	18.0	100 @ 1 M	40.0	16.0	2 Leadwires	50.0	3.10	2.59
623-1953	BRP4016L-12-CP	G	2800 ± 300	3.0-24	Cont.	18.0	100 @ 1 M	40.0	16.0	2 Leadwires	50.0	3.46	2.89
623-1954	BRP4222T-24-C	H	2900 ± 500	1.0-28	Intermitt 1	15.0	85 @ 30 CM	42.0	20.5	2 Lugs	10.0	4.22	3.53
623-1955	BRP4526P-12-C	I	2900 ± 500	1.0-13	Cont.	35.0	105 @ 30 CM	45.0	26.0	2 Pins	15.0	4.89	4.09
623-2030	BRP4535S-12-C	J	2900 ± 500	1.0-16	Cont.	30.0	100 @ 30 CM	43.5	34.5	2 Screws	50.0	6.32	5.29
623-2027	BRP4535S-12-CP	J	2900 ± 500	4.0-16	Cont.	20.0	90 @ 30 CM	43.5	34.5	2 Screw Lugs	50.0	7.01	5.86
623-2029	BRP4535S-24-C	J	2900 ± 500	1.0-28	Intermitt 0.8-1.2	15.0	90 @ 30 CM	43.5	34.5	2 Screw Lugs	50.0	5.71	4.77
623-2031	BRP4535S-24-CD	J	2900 ± 500	4.0-28	Cont.	30/20	80/85 @ 30 CM	43.5	34.5	2 Screw Lugs	50.0	6.29	6.93
623-1956	BRP4535S-24-CP	J	2900 ± 500	4.0-28	Dual	22.0	80 @ 30 CM	43.5	34.5	2 Screw Lugs	30.0	7.63	6.38
623-1957	BRP4549S-110-CP	K	2900 ± 500	30.0-120	Intermitt 0.8-1.2	20.0	90 @ 30 CM	43.5	8.0	3 Screw Lugs	30.0	11.01	9.20
623-2033	BRP4629T-09-C	L	2000 - 3000	5.0-13	Intermitt 0.8-1.2	70.0	105 @ 1 M	46.0	29.0	3 Lugs	—	8.83	7.38

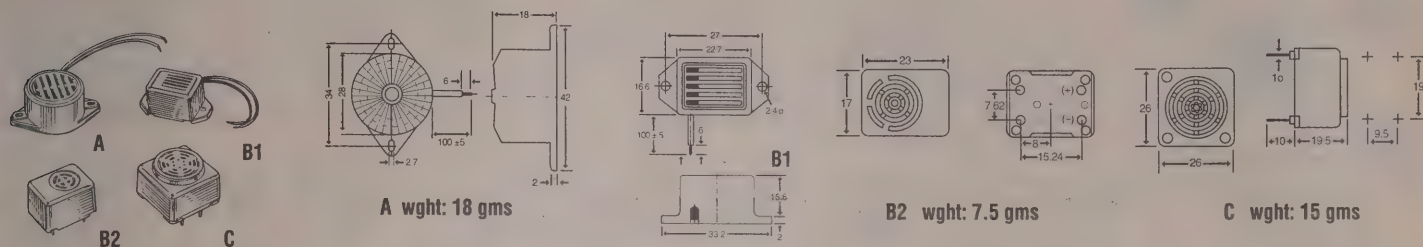
External Drive Piezo Buzzers



Because of their low profile housings, these INTERVOX devices can be easily mounted in limited space designs. Their clear, penetrating sound quality enables them to be used in virtually any application.

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Resonant Resistance (Ohm) Max.	Electro-Static Capacitance (pF)	Max. Input Voltage	Diameter (mm)	Height (mm)	Terminal Type	Mounting Dim. or Pin Spacing (mm)	EACH	
											1-24	25-99
623-2036	BRP2207P-30	G	4000 ± 500	300	12,000 ± 30%	30Vp-p	22.0	7.0	2 Pins	10.0	1.38	1.16
623-2037	BRP2207P-30-FS	G	4000 ± 500	300	12,000 ± 30%	30Vp-p	22.0	7.0	2 Pins	10.0	1.54	1.28
623-2038	BRP2407L-30	H	5600 ± 600	1500	10,000 ± 30%	30Vp-p	23.4	7.0	2 Leadwires	29.0	1.13	.94
623-2039	BRP2407P-30	H	5600 ± 600	1500	10,000 ± 30%	30Vp-p	23.4	7.0	2 Pins	29.0	1.31	1.09
623-2041	BRP3005L-30	J	4500 ± 500	300	20,000 ± 30%	30Vp-p	30.0	4.5	2 Leadwires	34.3	1.33	1.11
623-2042	BRP3408P-30	K	2500 ± 500	300	25,000 ± 30%	30Vp-p	34.0	8.0	3 Pin Config.	—	1.69	1.41
623-2044	BRP4016P-30	L	3200 ± 500	200	30,000 ± 30%	30Vp-p	39.0	16.0	3 Pin Config.	—	2.05	1.71

Electronic Buzzers

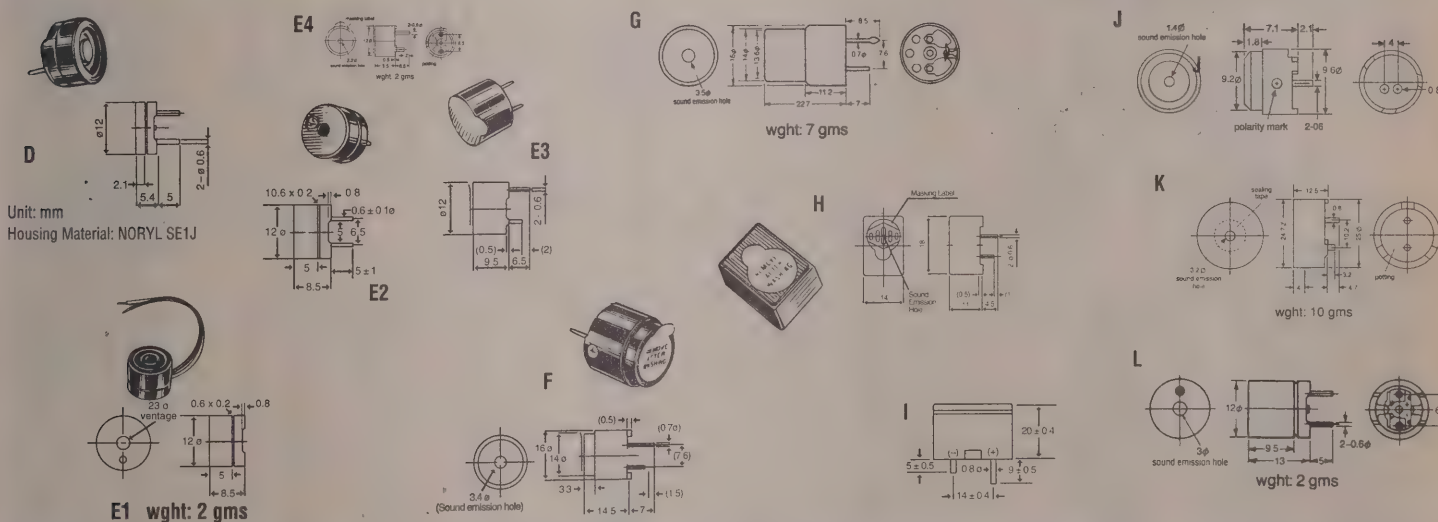


These INTERVOX devices are designed to eliminate arcing and Rf noise commonly found in electro-magnetic type buzzers. They provide a low frequency sound that is easily recognized making them ideal for applications such as

Industrial Controls, Auto Warning Devices, Test Apparatus, Appliance Timers, Intrusion Alarms.

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max Current (mA)	Sound Pressure Level (dB)	Diameter (mm)	Height (mm)	Terminal Type	Mounting Dim. or Pin Spacing (mm)	EACH	
												1-24	25-99
623-1901	BR2818L-06	A	400 ± 50	4.0-9	Cont.	35	80 @ 30 CM	28	18.0	2 Leadwires	34	2.70	2.25
623-2000	BR2818L-12	A	400 ± 50	9.0-20	Cont.	35	80 @ 30 CM	28	18.0	2 Leadwires	34	2.70	2.25
623-2002	BR2818L-24	A	400 ± 50	20.0-28	Cont.	35	85 @ 30 CM	28	18.0	2 Leadwires	34	2.80	2.34
623-1902	BR2818L-48	A	400 ± 50	30.0-54	Cont.	35	85 @ 30 CM	28	18.0	2 Leadwires	34	3.11	2.59
623-2005	BS2316L-06	B1	400 ± 50	4.0-9	Cont.	25	75 @ 30 CM	23	16.0	2 Leadwires	27	2.26	1.89
623-1903	BS2316L-12	B1	400 ± 50	9-20	Cont.	25	75 @ 30 CM	23	16.0	2 Leadwires	27	2.26	1.89
623-1904	BS2316L-24	B1	400 ± 50	10-27	Cont.	25	75 @ 30 CM	23	16.0	2 Leadwires	27	2.34	1.95
623-2006	BS2316P-06-C	B2	400 ± 50	4.0-8	Cont.	35	80 @ 30 CM	23	16.0	4 Pins	27	2.75	2.29
623-1905	BS2316P-12-C	B2	400 ± 50	8.0-16	Cont.	35	80 @ 30 CM	23	16.0	4 Pins	27	2.75	2.29
623-1906	BS2316P-24-C	B2	400 ± 50	16-27	Cont.	35	80 @ 30 CM	23	16.0	4 Pins	27	2.91	2.42
623-1907	BS2620FV-06	C	400 ± 50	4.0-8	Cont.	70	75 @ 100 CM	26	19.5	2 Fast-on	19 x 9.5	3.21	2.68
623-1908	BS2620FV-12	C	400 ± 50	8.0-16	Cont.	60	75 @ 100 CM	26	19.5	2 Fast-on	19 x 9.5	3.21	2.68
623-1909	BS2620FV-24	C	400 ± 50	20.0-28	Cont.	60	75 @ 100 CM	26	19.5	4 Pins	19 x 9.5	3.57	2.98
623-1910	BS2620PH-06-C	C	400 ± 50	4.0-8	Cont.	30	75 @ 100 CM	26	19.5	4 Pins	19 x 9.5	3.42	2.85
623-2008	BS2620PH-12-C	C	400 ± 50	8.0-16	Cont.	20	75 @ 100 CM	26	19.5	4 Pins	19 x 9.5	3.42	2.85
623-1911	BS2620PH-24-C	C	400 ± 50	20-28	Cont.	20	75 @ 100 CM	26	19.5	4 Pins	19 x 9.5	3.42	2.85

Electro-Acoustic Transducers

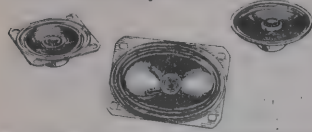


These INTERVOX devices are small and lightweight enabling them to be used in equipment where space is extremely limited. Many of these types are sealed with removable tabs for designs requiring wave solder and washing

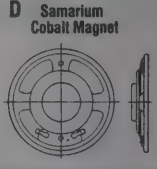
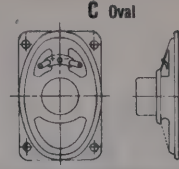
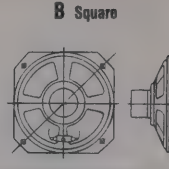
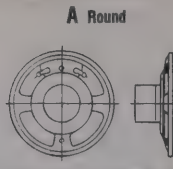
operations. In addition the BST1811P series is available with a carrier tube suitable for automatic insertion. Typical applications include Pocket Pagets, Counters, Monitors, Scanners, Computer, Peripheral equipment.

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max Current (mA)	Sound Pressure Level (dB)	Diameter (mm)	Height (mm)	Terminal Type	Mounting Dim. or Pin Spacing (mm)	EACH	
												1-24	25-99
623-2007	BRT0907P-01	J	3100	1-2	Cont.	80	80 @ 10 CM	9.6	7.1	2 Pins	4.0	5.53	4.61
623-2009	BRT1206P-01	D	2048	1-2	Cont.	10	70 @ 10 CM	12.0	6.0	2 Pins	6.5	1.08	.90
623-2010	BRT1209L-01	E1	2048	1-2	Cont.	10	80 @ 10 CM	12.0	8.5	2 Leadwires	6.5	.77	.64
623-2012	BRT1209P-01	E2	2048	1-2	Cont.	10	80 @ 10 CM	12.0	8.5	2 Pins	6.5	.77	.64
623-2014	BRT1209P-06-C	E3	2300	4-8	Cont.	30	80 @ 10 CM	12.0	9.5	2 Pins	7.6	2.80	2.34
623-1925	BRT1209P-12-C	E3	2300	7-15	Cont.	30	80 @ 10 CM	12.0	9.5	2 Pins	7.6	2.80	2.34
623-2001	BRT1209PF-06	E4	2400	4-8	Cont.	40	85 @ 10 CM	12.0	9.5	2 Pins	6.5	1.75	1.46
623-1927	BRT1209PF-12	E4	2400	6-15	Cont.	40	85 @ 10 CM	12.0	9.5	2 Pins	6.5	.31	.26
623-1927	BRT1213P-01	F	2048	1-2	Cont.	30	80 @ 10 CM	12.0	13.5	2 Pins	6.5	1.13	.94
623-2015	BRT1615P-01	F	2048	1-3	Cont.	12	80 @ 10 CM	16.0	14.5	2 Pins	7.6	1.90	1.59
623-2016	BRT1615P-06	F	2048	3-12	Cont.	40	85 @ 10 CM	16.0	14.5	2 Pins	7.6	1.90	1.59
623-2018	BRT1615P-12	F	2048	4-7	Cont.	30	85 @ 10 CM	16.0	14.5	2 Pins	7.6	3.01	2.51
623-2018	BRT1615P-06-C	F	2200	6-18	Cont.	40	85 @ 10 CM	16.0	14.5	2 Pins	7.6	1.90	1.59
623-2013	BRT1615P-12	F	2048	8-16	Cont.	30	85 @ 10 CM	16.0	14.5	2 Pins	7.6	3.01	2.51
623-2013	BRT1615P-12-C	F	2200	8-16	Cont.	30	85 @ 10 CM	16.0	14.5	2 Pins	7.6	1.90	1.59
623-1928	BRT1623P-01	G	2048	1-3	Cont.	12	80 @ 10 CM	16.0	23.0	2 Pins	7.6	1.90	1.59
623-1929	BRT1623P-06	G	2048	3-12	Cont.	40	85 @ 10 CM	16.0	23.0	2 Pins	7.6	1.90	1.59
623-1929	BRT1623P-12	G	2048	6-18	Cont.	40	85 @ 10 CM	16.0	23.0	2 Pins	7.6	1.90	1.59
623-2019	BST1811P-06	H	2000-2500	3-20	Cont.	40	85 @ 10 CM	18.0	11.0	2 Pins	6.5	2.31	1.93
623-1930	BRT2821L-12	I	2800 ± 200	9-15	Cont.	40	95 @ 30 CM	28.0	20.0	2 Leadwires	14.0	1.95	1.63
623-1931	BRT2821P-06	I	2800 ± 200	4-9	Cont.	35	90 @ 30 CM	28.0	20.0	2 Pins	14.0	2.06	1.71
623-2020	BRT2821P-12	I	2800 ± 200	9-15	Cont.	40	95 @ 30 CM	28.0	20.0	2 Pins	14.0	2.06	1.71
623-1932	BRT2821P-24	I	2800 ± 200	15-28	Cont.	25	95 @ 30 CM	28.0	20.0	2 Pins	14.0	2.16	1.80
623-2021	BRT2513P-06	K	730	3-5	Cont.	80	85 @ 10 CM	25.0	12.5	2 Pins	10.2	2.70	2.25

Miniature Speakers



General Purpose



These INTERVOX devices were designed with a wide frequency range. Available in both low profile samarium magnets and alnico V magnets, these products are suitable for applications such as computer, modems, Digital Communication, queuing annunciators and intercom.

General Purpose Alnico V Magnet

Stock No.	Mfr.'s Type	Cone Diameter & Shape	Fig.	Rated Power (Watts)	Voice Coil Impedance (OHMS)	Frequency Response (Hz)	Magnet Material	Magnet Weight (OZ)	Frame Depth (IN)	EACH	
										1-24	25-99
623-2046	S150RA	1 1/2" Round	A	0.1	8 ±15%	600-5600	—	.350	.622	3.34	2.79
623-2070	S175RA	1 3/4" Round	A	0.1	8 ±15%	470-5200	—	.350	.653	3.57	2.98
623-2072	S175SA	1 3/4" Square	B	0.1	8 ±15%	470-4500	—	.350	.630	3.42	2.85
623-2048	S200RA	2" Round	A	0.2	8 ±15%	450-5000	—	.350	.709	2.70	2.25
623-2050	S200SA	2" Square	B	0.2	8 ±15%	450-5000	—	.350	.709	3.11	2.59
623-2052	S225RA	2 1/4" Round	A	0.2	8 ±15%	400-4600	—	.350	.748	2.49	2.08
623-2074	S250RA	2 1/2" Round	A	0.3	8 ±15%	330-5000	—	.350	.827	3.32	2.76
623-2076	S250SA	2 1/2" Square	B	0.5	8 ±15%	350-5000	—	.350	.843	3.42	2.85
623-2078	S275RA	2 3/4" Round	A	0.3	8 ±15%	280-5000	—	.350	.858	3.37	2.81
623-2082	S300RA	3" Round	A	0.5	8 ±15%	250-5000	—	.350	.913	3.75	3.13
623-2056	S300SA	3" Square	B	0.5	8 ±15%	250-5000	—	.350	.984	3.57	2.98
623-2084	S350RA	3 1/2" Round	A	1.0	8 ±15%	190-12000	—	.360	1.070	4.27	3.56
623-2086	S350SA	3 1/2" Square	B	1.0	8 ±15%	190-12000	—	.360	1.071	4.47	3.73
623-2214	S400RA	4" Round	A	1.0	8 ±15%	180-20000	—	.360	1.380	6.40	5.34
623-2216	S400SA	4" Square	B	1.0	8 ±15%	180-20000	—	.350	1.331	6.61	5.51
623-2088	S15X25VA	1.5" X 2.5" Oval	C	2.0	8 ±15%	280-20000	—	.410	1.161	6.25	5.21
623-2220	S3X5VA	3" X 4" Oval	C	1.5	8 ±15%	250-12000	—	.590	1.547	8.23	6.86
623-2092	S4X6VA	4" X 6" Oval	C	2.0	8 ±15%	180-8000	—	.600	1.858	9.82	8.19

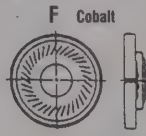
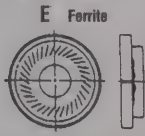
Telecommunications and Intercom Speakers

623-2120	S200RA-16	2" Round	A	0.2	16 ±15%	500-10000	—	.350	.709	3.14	2.61
623-2122	S200RA-45	2" Round	A	0.2	45 ±15%	450-6000	—	.350	.709	3.21	2.68
623-2124	S200RA-100	2" Round	A	0.2	100 ±15%	450-4000	—	.350	1.020	3.83	3.19
623-2126	S225RA-45	2 1/4" Round	A	0.2	45 ±15%	400-4500	—	.350	.748	2.55	2.12
623-2128	S225RA-100	2 1/4" Round	A	0.2	100 ±15%	400-3500	—	.350	.756	3.73	3.11
623-2130	S250RA-16	2 1/2" Round	A	0.3	16 ±15%	320-4000	—	.350	.827	3.73	3.11
623-2132	S300RA-16	3" Round	A	0.5	16 ±15%	250-7000	—	.350	.984	3.83	3.19

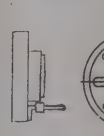
Low Profile Rare Earth Samarium Cobalt Magnet

623-2061	S125RL	1 1/4" Round	D	0.1	8 ±15%	680-10000	—	.056	.193	6.35	5.29
623-2136	S150RLS	1 1/2" Round	D	0.2	8 ±15%	700-5000	—	.056	.315	4.73	3.94
623-2138	S175RL	1 3/4" Round	D	0.2	8 ±15%	470-4500	—	.056	.327	4.86	4.05
623-2140	S200RL	2" Round	D	0.2	8 ±15%	450-4500	—	.056	.354	3.91	3.26
623-2142	S225RL	2 1/4" Round	D	0.2	8 ±15%	400-4800	—	.056	.378	4.89	4.07

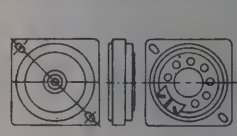
Round Plastic Frame



P.C. Mount



Square Plastic Frame



Plastic Frame Ferrite Magnet

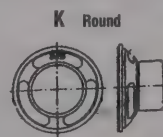
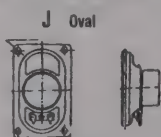
623-2144	SR800RMF	.8" Round	E	0.1	8 ±15%	750-3000	—	—	.236	2.16	1.80
623-2146	S100RMF	1" Round	E	0.1	8 ±15%	800-5000	—	—	.374	1.59	1.33
623-2148	S125RMF	1 1/4" Round	E	0.1	8 ±15%	700-7000	—	—	.386	1.70	1.41
623-2150	S125RMFL	1 1/4" Round	E	0.1	8 ±15%	750-6000	—	—	.244	1.59	1.33
623-2152	S150RMF	1 1/2" Round	E	0.1	8 ±15%	350-3000	—	—	.354	1.80	1.50
623-2154	S150RMFS	1 1/2" Round	E	0.1	8 ±15%	550-3000	—	—	.335	1.85	1.54
623-2156	S100RMF-PCR*	1" Round	G	0.1	8 ±15%	350-7000	—	—	.346	2.34	1.95

Plastic Frame Samarium Cobalt Magnet

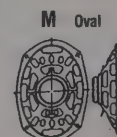
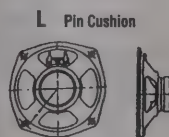
623-2158	SR800RMS	.8" Round	F	0.1	8 ±15%	750-5000	—	—	.157	2.85	2.38
623-2160	S100RMSS	1" Round	F	0.1	8 ±15%	550-5000	—	—	.150	3.16	2.64
623-2162	S150RMSS	1 1/2" Round	F	0.1	8 ±15%	550-5000	—	—	.150	1.85	1.54
623-2164	SR900R-PC*	.8" Round	H	0.1	8 ±15%	800-7000	—	—	.394	3.50	2.91
623-2165	S150SLA	1 1/2" Square	I	0.2	8 ±15%	250-7000	—	—	.177	4.08	3.40

*PC Board Design — The unique square pin design permits uniform spacing for PC board mounting

Low Leakage Flux



General Purpose and Commercial



Low Leakage Flux Speakers - Ferrite Magnet - For Computer and Television Monitors

These units prevent picture distortion as well as color shearing normally associated with magnetic fields. They are available in Oval, Square, and Round designs.

623-2166	S20X35VFS-5W	2" x 3.5" Oval	J	5.0	8 ±15%	200-20000	—	.58	1.7	3.73	3.11
623-2168	S20X35VFS-2W	2" x 3.5" Oval	J	2.0	8 ±15%	230-20000	—	.58	4.5	3.86	3.21
623-2170	S300RFS-3W	8" Round	K	3.0	8 ±15%	180-20000	—	.58	1.4	4.04	3.36

General Purpose and Commercial Speakers

623-2200	S500P3	5" Pin Cushion	L	3.0	8 ±15%	135-10000	—	3.0	1.83	8.87	7.39
623-2202	S525P3	5.25" Pin Cushion	L	4.0	8 ±15%	105-10000	—	3.0	1.81	10.23	8.53
623-2204	S650P3	6.25" Pin Cushion	L	5.0	8 ±15%	90-12000	—	5.0	2.09	10.75	8.96
623-2206	S6X9V6	6" x 9" Oval	M	6.0	8 ±15%	70-15000	—	6.0	2.89	17.54	14.61
623-2208	S800R6	8" Round	N	6.0	8 ±15%	70-10000	—	6.0	3.04	14.79	12.32
623-2210	S800C10	8" Round	N	15.0	8 ±15%	70-13000	—	10.0	3.12	17.72	14.76
623-2212	S800D10	8" Round	N	15.0	8 ±15%	70-12000	—	10.0	3.27	18.57	15.47

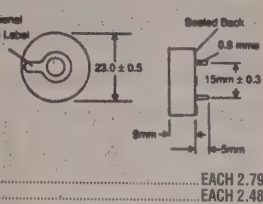
Compact Sonalert II Audible Signal

Miniature piezo audible signal uses standard printed circuit mounting. Has low power consumption. Suitable for fire alarm, call buzzers, car alarms, clocks, and cash register applications. Will accept from 3VDC to 20VDC at 16 mA (max). Units are available with optional wash label sealed for wave soldering on special order. Manufacturer literature is available upon request. **Frequency:** 3.4 ±0.5 kHz. **Sound Pressure, dB at 2 ft.:** 75 dB min. at 12 VDC. **Input DC Voltage:** 3-20 VDC. **Current (mA) at 12 VDC:** 16 mA max. Sealed for wave soldering on special order.

854-9380, MSR320, 1-49

50-99 EACH 2.57

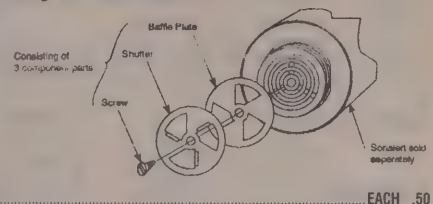
100-Up



EACH 2.79
EACH 2.48

Volume Control for Mallory Sonalerts

A cost effective volume control for all Mallory SC Sonalerts using the classic screw neck. Unit consists of three component parts. The baffle plate snaps into the Sonalert's grill. The shutter is easily mounted with a screw (provided) and has flanges that can be gripped to adjust the volume of the Sonalert. The screw is tightened to hold the shutter in position. This unit allows the output of the Sonalert to be controlled. It can be assembled to the existing Sonalerts in the field while they are mounted.



854-9300, SCVC

EACH .50

PC Board Mounted Sonalert Signal

Low profile pin mounted signal. Suited for insertion and soldering into printed circuit boards. May be hand or wave soldered. Audible signal is 2900 Hz medium loud and is available as continuous tone, fast pulse, or slow pulse.

Stock No.	Mfr.'s Type	VDC	Sound Level dB	Typical Oper. Curr. (mA)	EACH		
					1-24	25-49	50-99
854-5570	SBM2*	1-5	Cont. Tone 55-68	3-16	12.80	11.82	10.67
854-5575	SBM428*	4-28	Cont. Tone 64-78	3-16	12.80	11.82	10.67
854-5581	SBM616P	6-16	Fast Pulse 68-78	1-4	16.00	14.77	13.33
854-5582	SBM616J	6-16	Slow Pulse 68-78	1-4	16.00	14.77	13.33
854-5583	SBM616PU	6-16	Dual-Cont. + Fast 68-78	3-12	19.19	17.72	15.99
854-5584	SBM616JU	6-16	Dual-Cont. + Slow 68-78	3-12	19.19	17.72	15.99

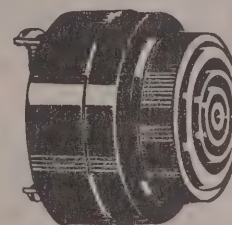
* Denotes UL Models

Sonalert® Solid-State Audible Warning Device

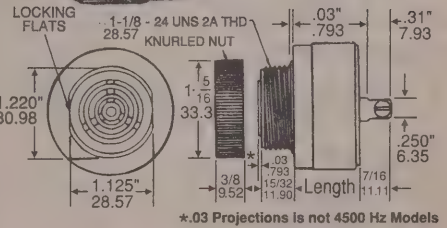
Emits penetrating signal at min. current. Solid-state circuit — no arcing — no RF noise, no mechanical wear, lowest failure rate with max. efficiency. Compact, lightweight, versatile — consumes less current than normal indicator light. Ideal for use as safety device. Alerts to mechanical malfunctions in cars, communications, computers, fire signals, medical electronics, etc. Sonalert signals may be powered by many electrical sources ranging from single cell batteries to industrial power lines. Little electrical power is required making them ideally suitable for portable battery operated equipment. This low power feature allows the Sonalert signal to be turned on or off with a low power transistor, SCR, or integrated circuit. Completely solid state with no moving parts, no arcing, and mechanical wear, the Mallory Sonalert signals should give you many years of trouble-free service. **Temperature Range:** -20°C to +65°C. Self-extinguishing black nylon case, 1.687" dia. (lgh. in table). **Weight:** 8 oz.

Stock No.	Mfr.'s Type	Notes	Sound Freq. (Hz)	Operating Volts	Tone	Oper. Curr. (mA)	Sound Level (dB)	Length - In.	EACH		
									1-24	25-49	50-99
854-5540	SC1.5	—	3500	1-4 DC	Cont	4	60	.675	16.00	14.77	13.33
854-5545	SC6	—	3500	4-8 DC	Cont	12	70	.675	16.00	14.77	13.33
854-5550	SC12	—	3500	8-15 DC	Cont	14	70	.675	16.00	14.77	13.33
854-5551	SC24	—	3500	20-30 DC	Cont	16	70	.675	16.00	14.77	13.33
854-5500	SC110*	—	2900	30-120 AC/DC	Cont	6-21	68-80	1.375	24.62	22.72	20.51
854-5544	SC105	—	2900	1-5 DC	Cont	3-16	60-75	.812	16.00	14.77	13.33
854-5546	SC1100*	—	1900	30-120 AC/DC	Cont	6-21	68-80	1.375	29.58	27.30	24.65
854-5510	SC110H*	—	4500	30-120 AC/DC	Cont	6-21	68-80	1.375	29.58	27.30	24.65
854-5521	SC110N*	—	2900	30-120 AC/DC	Cont	8-28	80-95	1.375	33.59	31.01	27.99
854-5525	SC110P*	3	2900	30-120 AC/DC	Pulse	6-21	68-80	1.937	34.85	32.17	29.04
854-5531	SC110J*	4	2900	30-120 AC/DC	Pulse	6-21	68-80	1.937	34.85	32.17	29.04
854-5529	SC250	—	2900	60-250 AC/DC	Cont	4-16	68-80	1.375	24.62	22.72	20.51
854-5516	SC616N	—	2900	6-16 DC	Cont	4-16	80-95	.812	20.79	19.19	17.33
854-5547	SC616NL	1	2900	6-16 DC	Cont	4-16	80-95	.812	20.79	19.19	17.33
854-5543	SC616N-3	11	2900	6-16	Cont	4-16	80-95	.812	24.75	22.08	20.50
854-5532	SC616NPU	10	2900	6-16	Dual	4-16	80-95	1.375	29.04	26.80	24.20
854-5533	SC616PU	10	2900	6-16	Dual	3-12	68-78	1.375	21.59	19.93	17.99
854-5534	SC616JU	9	2900	6-16	Dual	3-12	68-78	1.375	21.59	19.93	17.99
854-5502	SC628*	—	2900	6-28 DC	Cont	3-18	64-80	.812	16.00	14.77	13.33
854-5504	SC628A*	—	2900	6-28 AC/DC	Cont	6-23	68-80	1.375	24.62	22.72	20.51
854-5548	SC628AD*	—	1900	6-28 AC/DC	Cont	4-16	60-75	1.375	29.58	27.30	24.65
854-5549	SC628AH*	—	4500	6-28 AC/DC	Cont	4-16	68-80	1.375	29.58	27.30	24.65
854-5503	SC628AN	—	1900	6-28 AC/DC	Cont	8-28	80-95	1.375	33.59	31.01	27.99
854-5520	SC628D	—	4500	6-28 AC/DC	Cont	6-23	68-80	1.375	33.59	31.01	27.99
854-5506	SC628H	—	2900	6-28 DC	Cont	6-23	68-80	.812	18.39	16.98	15.33
854-5505	SC628L	1	2900	6-28 DC	Cont	3-14	68-80	.812	17.60	16.24	14.66
854-5571	SC648*	—	2900	10-48 DC	Cont	5-22	68-80	.812	16.00	14.77	13.33
854-5572	SNP2	—	2900	1-5 DC	Cont	2-12	55-68	.563	15.20	14.03	12.67
854-5565	SNP428*	—	2900	4-28 DC	Cont	3-18	64-78	.563	15.20	14.03	12.67
854-5535	SNP616P	3	2900	6-16	Pulse	1-4	65-75	.343	17.60	16.24	14.66
854-5536	SNP616J	4	2900	6-16	Pulse	1-4	65-75	.343	17.60	16.24	14.66
854-5530	SC628W	2	2900	6-28	Warble	3-16	68-80	1.375	21.93	20.24	18.28
854-5538	SC616JW	—	2800	6-16	Warble	6-18	68-80	.812	29.99	26.76	24.85
854-5523	SC616CP	—	2800	6-16 DC	Chime	3-8	68-80	1.375	27.16	25.09	22.65
854-5539	SC648S	—	2800	10-48	Siren	15-30	80-90	1.375	45.92	42.38	39.36
854-5573	SC110NP	3	2900	30-120 AC/DC	Pulse	8-28	80-95	1.375	35.65	32.91	29.71
854-5574	SC110NJ	4	2900	30-120 AC/DC	Pulse	8-28	80-95	1.375	35.65	32.91	29.71
854-5522	SC616NP	3	2900	6-16 DC	Pulse	4-16	80-95	.812	21.59	19.93	17.99
854-5512	SC616NJ	4	2900	6-16 DC	Pulse	4-16	80-95	.812	21.59	19.93	17.99
854-5576	SC628ANP	3	2900	6-28 AC/DC	Pulse	8-28	80-95	1.375	35.65	32.91	29.71
854-5508	SC628P*	3	2900	6-28 DC	Pulse	6-22	68-80	1.375	22.39	20.67	18.66
854-5577	SC628J*	4	2900	6-28 DC	Pulse	6-22	68-80	1.375	22.39	20.67	18.66
854-5578	SC628K	5	2900	6-28 DC	Pulse	3-14	68-80	.812	22.39	20.67	18.66
854-5579	SC1100*	8	2900	30-120 AC Only	Chirp	6-22	68-80	.812	19.19	17.72	15.99
854-5537	SC616Q	8	2900	6-16	Chirp	1-4	68-78	.812	21.59	19.93	17.99
854-5519	SC628MP	6	2900	6-28 DC	Cont	3-14	68-80	.812	38.52	35.56	32.10
854-5501	SC628MP	3/6	2900	6-28 DC	Pulse	3-14	68-80	1.375	53.94	49.79	44.95
854-5524	SC110HP	6	4500	30-120 AC/DC	Pulse	4-16	68-80	1.937	39.64	36.59	33.04
854-5580	SC250P	3	2900	60-250 AC/DC	Pulse	4-16	68-80	1.937	34.85	32.17	29.04
854-5581	SC628AP	3	2900	6-28 AC/DC	Pulse	4-16	68-80	1.937	34.85	32.17	29.04
854-5582	SC628AJ	4	2900	6-28 AC/DC	Pulse	4-16	68-80	1.937	34.85	32.17	29.04
854-5583	SC110K*	5	2900	30-120 AC/DC	Pulse	6-22	68-80	1.937	36.62	33.80	30.52
854-5584	SC307N	—	2900	3-7 DC	Cont	3-8	68-80	.812	23.99	22.14	19.99
854-5585	SC628N	—	2900	6-28 DC	Cont	3-14	80-90	.812	18.39	16.98	15.33
854-5586	SC648AN	—	2900	10-48 AC/DC	Cont	8-28	80-90	1.375	33.59	31.01	27.99
854-5587	SC250D	—	1900	60-250 AC/DC	Cont	4-16	80-95	1.375	29.58	27.30	24.65
854-5588	SC250H	—	4500	60-250 AC/DC	Cont	4-16	60-75	1.375	29.58	27.30	24.65
854-5589	SC416*	—	2900	4-16 DC	Cont	4-14	68-80	.812	16.00	14.77	13.33
854-5590	SC648A	—	2900	10-48 AC/DC	Cont	4-16	68-80	1.375	24.62	22.72	20.51
854-5591	SC648AD*	—	1900	10-48 AC/DC	Cont	4-16	60-75	1.375	29.58	27.30	24.64
854-5592	SC648AH	—	4500	10-48 AC/DC	Cont	4-16	68-80	1.375	29.58	27.30	24.64
854-5593	SC110E	—	1900	30-120 AC/DC	Cont	3-14	55-65	1.375	27.18	25.09	22.65
854-5594	SC110F	—	2900	30-120 AC/DC	Cont	3-14	55-65	1.375	29.26	27.01	24.38
854-5595	SC250E	—	1900	60-250 AC/DC	Cont	1-4	55-70	1.375	27.18	25.09	22.65
854-5596	SC250F	—	2900	60-250 AC/DC	Cont	1-4	55-70	1.375	27.18	25.09	22.65
854-5567	PW1	7	—	—	—	—	—	—	—	—	—
854-5567	PW2	7	—	—	—	—	—	—	—	—	—
854-5568	PW3	7	—	—	—	—	—	—	—	—	—

Notes: 1-Wire Leads, 2-Warble Unit for use with SC628D or SC628H, 3-Fast Pulse (2-10 per second), 4-Slow Pulse (1-5 to 2 per second), 5-Short Pulse, 6-Military Applications, 7-For SNP series only, 8-Chirp, 9-Dual tone (Cont + slow pulse), 10-Dual tone (Cont + fast pulse), 11-PC Pins mounting, *Denotes UL Models

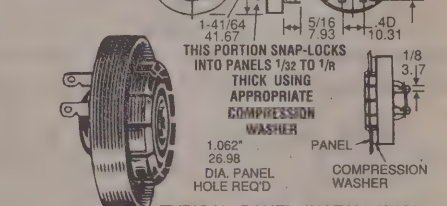


SC SERIES (PANEL MOUNT)

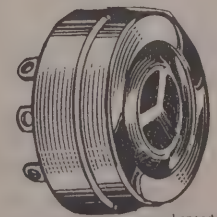


*.03 Projections Is not 4500 Hz Models

SNP SERIES (SNAP-IN PANEL MOUNT)

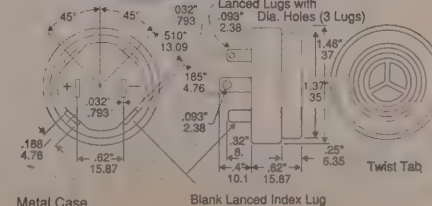


TYPICAL PANEL INSTALLATION



SONALERT (CHASSIS MOUNT)

SC1.5 SC6 SC12 SC24



Metal Case

Blank Lanced Index Lug



These rugged handheld/jobsite radios are productivity builders for such typical applications as: security, plant/property maintenance, warehouse operations, construction, property management, athletics and wherever job coordination is desirable.

Each radio comes complete with antenna, removable belt clip, rechargeable battery, battery charger, operator manual, FCC licensing information and features transmit/battery status indicator and automatic squelch.

Range: 1 watt-up to 2 miles, 2 watt-up to 2.25 miles (flat terrain with few obstructions). **Durability:** Pass 5 year accelerated life and 4 foot drop to concrete tests. **Battery Charge Life:** VHF-13 hrs., UHF-8 hrs. based on 90/5/5 usage. **Frequency:** VHF models — SV10, SV11, SV11C-Blue DOT, V32C-Blue/Green DOT; UHF models — SU21, SU21C-J DOT, J=467.7625, K=467.8125. **License:** FCC license required (information furnished with radio). **Warranty:** 1 year (limited) replacement.

Spirit 2-Way

2-Way SV10

Each Spirit 2-way Radio comes fully equipped and ready for use. Each Spirit 2-Way radio has:

- ▶ 1 Watt of Transmit Power in the VHF Frequency Range
- ▶ 1 Channel
- ▶ Open Squelch (Convertible to Coded)
- ▶ 10-Hour Charging Adapter
- ▶ Transmit Battery Status Indicator
- ▶ Removable Belt Clip
- ▶ Rechargeable Battery
- ▶ 6.2" x 2.5" x 1.2"
- ▶ 11.1 Ounces



295-0085, SV10, 1-5.....EACH 239.00
6-UpEACH 220.00

Spirit Pro/Pro-C

Each Spirit Pro Radio comes fully equipped and ready for use. Each Spirit Pro radio has:

- ▶ 1 Watt of Transmit Power in the VHF Frequency Range
- ▶ 1 Channel
- ▶ Interference Eliminator
- ▶ 10-Hour Charging Adapter
- ▶ Transmit Battery Status Indicator
- ▶ Removable Belt Clip
- ▶ Rechargeable Battery
- ▶ Audio Accessory Connector
- ▶ 11.1 Ounces
- ▶ 5.3" x 2.5" x 1.2"



Spirit Pro, SV11
295-0090, SV11, 1-5.....EACH 255.00
6-UpEACH 233.14

Spirit Pro-C, SV11C
Same as SV11 except with Coded Squelch installed
295-0095, SV11C, 1-5.....EACH 306.00
6-UpEACH 280.91

Spirit Pro+/Pro+C

The Spirit Pro+ comes fully equipped and ready for use. Each Spirit Pro+ radio has:

- ▶ 2 Watts of Transmit Power in the UHF Frequency Range
- ▶ 1 Channel
- ▶ Interference Eliminator
- ▶ 10-Hour Charging Adapter
- ▶ Transmit Battery Status Indicator
- ▶ Removable Belt Clip
- ▶ Rechargeable Battery
- ▶ Audio Accessory Connector
- ▶ 5.3" x 2.5" x 1.2"
- ▶ 11 Ounces



PRO+ SU21
295-0105, SU21, 1-5.....EACH 285.00
6-UpEACH 260.00

PRO+C SU21C
Same as SU21 except with Coded Squelch installed
295-0110, SU21C, 1-5.....EACH 338.00
6-UpEACH 312.00

Spirit Pro 2 Channel

- ▶ 2 Channel
- ▶ Interference Eliminator
- ▶ Desktop Charger Included
- ▶ Transmit Battery Status Indicator
- ▶ Removable Belt Clip
- ▶ Rechargeable Battery
- ▶ Audio Accessory Connector
- ▶ 5.3" x 2.5" x 1.2"
- ▶ 11.1 Ounces



SV12CD VHF
▶ 1 Watt of Transmit Power in the VHF Frequency Range
295-1200, 1-5.....EACH 370.00
6-UpEACH 339.51

SSU22CD UHF
▶ 2 Watts of Transmit Power in the UHF Frequency Range
295-1210, 1-5.....EACH 399.00
6-UpEACH 367.00

Accessories for Spirit Radios

Accessory	Spirit 2-Way			Spirit Pro			Spirit Pro+			Spirit Pro 2		
	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
Rechargeable Battery Pack	295-0035	HNN9044	36.00	295-0035	HNN9044	36.00	295-0035	HNN9044	36.00	295-0035	HNN9044	36.00
3 Hr. Desktop Charger (2)	295-0050	HTN9026	64.00	295-0050	HTN9026	64.00	295-0050	HTN9026	64.00	295-0050	HTN9026	64.00
6 Unit Desktop Charger "Manifold" (3)	—	—	—	295-0055	HTN9295	95.00	295-0055	HTN9295	95.00	—	—	—

Carry Case/Belt Clips

Nylon Carry Case	295-0115	HLN9034	35.00	295-0120	HLN8253	35.00	295-0120	HLN8253	35.00	295-0120	HLN8253	35.00
Swivel Belt Loop Adapter (7)	295-0045	HLN9149	12.00	295-0045	HLN9149	12.00	295-0045	HLN9149R	12.00	295-0045	HLN9149	12.00
Heavy Duty Spring Belt Clip	295-1205	HLN8255	10.00	295-1205	HLN8255	10.00	295-1205	HLN8255	10.00	295-1205	HLN8255	10.00

Audio Accessories

Earpiece	—	—	—	295-0130	HMN8433	35.00	295-0130	HMN8433	35.00	295-0130	HMN8433	35.00
Remote Speaker/Microphone	—	—	—	295-0135	HMN8432	76.00	295-0135	HMN8432	76.00	295-0135	HMN8432	76.00
Headset with Boom Microphone	—	—	—	295-0145	BDN6773	69.00	295-0145	BDN6773	69.00	295-0145	BDN6773	69.00
Earpiece with Microphone	—	—	—	295-0155	BDN6774	62.00	295-0155	BDN6774	62.00	295-0155	BDN6774	62.00
VOX Radio Adapter (5)	—	—	—	295-0160	BDN6775	57.00	295-0160	BDN6775	57.00	295-0160	BDN6775	57.00
Surveillance Microphone	—	—	—	295-0165	HMN8435	55.00	295-0165	HMN8435	55.00	295-0165	HMN8435	55.00

Coded Squelch Retro Kit

Tone Coded Squelch Plug-in Module	295-0170	HLN3987A	62.00	295-0170	HLN3987A	62.00	295-0170	HLN3987A	62.00	295-0170	HLN3987A	62.00
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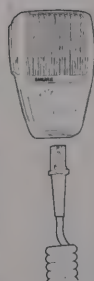
(2) This will only charge batteries outside the radio for the SPIRIT 2-WAY, PRO and PRO+ radio models. (3) This is a "power strip" for six HTN9026R Desktop Chargers. Chargers must be purchased separately. (5) For use with Headset with Microphone BDN 6773 or Earpiece with Microphone BDN6774. (7) For use with nylon carry cases.

590T Transistor Amplified Dynamic SHURE

This rugged handheld microphone features a Shure dynamic cartridge. Tailored frequency response provides optimum voice articulation while it discriminates against other sounds. The 590T is ideally suited to a wide range of mobile installations. The unique replaceable Modulink cordset system makes the 590T a workhorse that is easy to service. The microphone itself is designed to provide trouble-free service even under the harshest conditions.

Specifications. Frequency Response: 200 to 4,000 Hz. **Impedance (at 1kHz):** 200 ohms (non-amplified mode). **Recommended Load:** Greater than 500 ohms. **Non-Amplified Output Level (at 1 kHz):** 1.58 mV (-36.0 dB-1 V/100 microbars). **Amplified Output Level (at 1 kHz):** 0.32 V (-10 dB, 0 dB=1 V/100 microbars) for a DC Supply Current of 2.5 ±0.25 mA. **PTT* Switch:** Million-Cycle Plus™ leaf-type. **Cable Type:** Detachable 5-conductor, 1-shielded, coiled, with 8-conductor (6 used) modular telephone type connector. **Cable Length:** 1.2 m (4 ft). **Replacement Parts:** 90A4056 Cartridge, 90A4040 Printed Circuit Board Assembly, 90A3543 Switch Assembly. **Optional Accessories:** RK6MB Mounting Bracket. *Push to talk.

944-0590, Model 590TEACH 47.00



885TT — Quality That's Affordable SHURE

- ▶ Continuous-Tone Dialing
- ▶ Illuminated Keypad
- ▶ Positive Tactile-Feel Keys and Audible Confirmation Tone to Help Make Number Entry Easy and Accurate
- ▶ Externally Adjustable Audio and DTMF Levels for Easy Installation
- ▶ Tailored Frequency Response and Top-Talk Sound Channels™ Provide Optimum Clarity and Intelligibility
- ▶ Million-Cycle Plus™ Leaf Switch — a Shure Exclusive, Giving You Longer Trouble-Free Use
- ▶ Virtually Indestructible Armo-Dur® Case

The new 885TT gives you an unbeatable combination of economy, dependability, audio quality, and ease of use. It's a manual-dial DTMF microphone that sets new standards for quality and economy.

Specifications. Frequency Response: 200 to 4,000 Hz. **Output Level (at 1 kHz):** -5.0 dB (0 dB=1 volt per 100 microbars) for a DC Supply Current of 2.3 mA. **DTMF Output Level:** 1.1 volts peak-to-peak. **PTT* Switch:** Million-Cycle Plus™ leaf-type. **Cable (optional):** Detachable, 1.4 (48 in.) 5-conductor (1 shielded) modular telephone type connector. **Optional Accessories:** RK6MB Mounting Bracket (3 in kit). *Push to talk.

944-0885, Model 885TTEACH 148.50



562 Noise-Canceling Dynamic

Designed to withstand abnormal moisture and temperature conditions, the 562 is perfectly suited for high-noise environments found in some mobile dispatch operations, such as numerous dispatchers in close quarters — even in situations where there is so much noise the dispatcher cannot hear himself talk. Excellent voice reproduction, highly intelligible speech communication and ruggedness. The 562 fits Shure goosenecks (not supplied) with 5/8" diameter.

Specifications. Frequency Response: 100 to 6,000 Hz. **Impedance (at 1kHz):** 180 ohms. **Recommended Load:** 1,000 ohms. **Output Level (at 1 kHz):** 0.06 mV (-84.0 dB, 0 dB=1 V/microbars). **Cable Type:** 2-conductor shielded. **Cable Length:** 1.2 m (4 ft). **Switch:** Requires external switch (not supplied). **Dimensions:** 67 mm L x 34.6 mm Dia. (2 5/8 x 1 3/8 in.). **Weight:** 128 grams (8.5 oz). **Supplied Accessories:** No. 4 Allen Wrench. **Replacement Parts:** 70A292 Cable, R90 Cartridge, RK1836 Screen/Grille Assembly, 31A1238A Case. **Optional Accessories:** A1WS Windscreen, A12 Mounting Flange, A13HD Heavy-Duty Mounting Flange, Any length Shure 5/8" gooseneck.

944-0562, Model 562EACH 67.27



404B Low-Impedance Controlled Magnetic

The classically styled 404B is a workhorse designed for extreme ruggedness, reliability and clear, natural voice response. It features a Million-Cycle Plus™ push-to-talk leaf switch with an extra contact for either shorted or open circuit. It is recommended where extreme operating conditions are the norm. The 404B has a rugged impact-resistant case and durable neoprene cable.

Specifications. Frequency Response: 200 to 4,000 Hz. **Impedance (at 1 kHz):** 200 ohms. **Recommended Load:** 1,000 ohms. **Output Level (at 1 kHz):** 22.5 mV (-33.0 dB, 0 dB=1 V/100 microbars). **PTT* Switch:** Million-Cycle Plus™ leaf-type. **Cable Type:** 4-conductor, 2 shielded, coiled. **Cable Length:** 1.5 m (5 ft). **Supplied Accessories:** RK6MB Mounting Bracket. **Replacement Parts:** C14C Cable, RK7S PTT Switch, RK1C Case R5E Cartridge. *Push to talk.

944-0404, Model 404BEACH 57.82



Piezo Audio Transducers

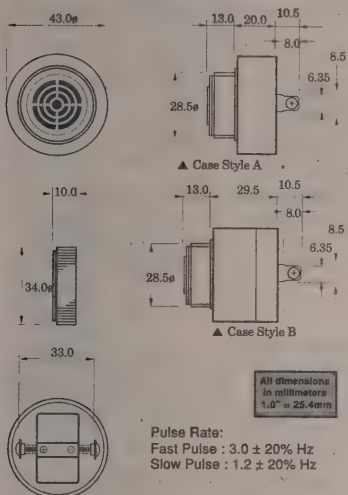


Fig. A

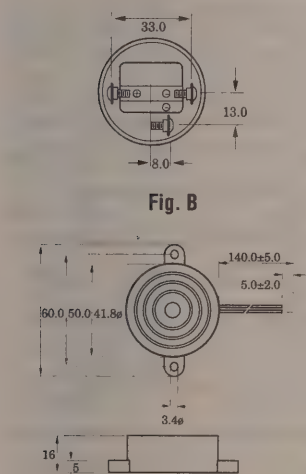


Fig. B

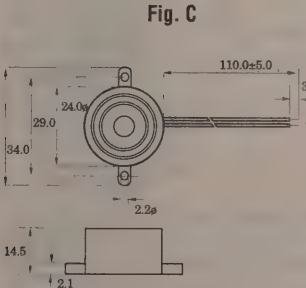


Fig. C

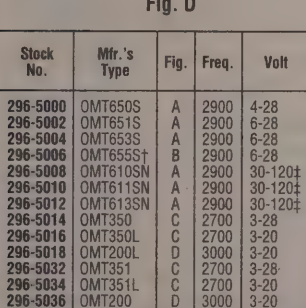


Fig. D

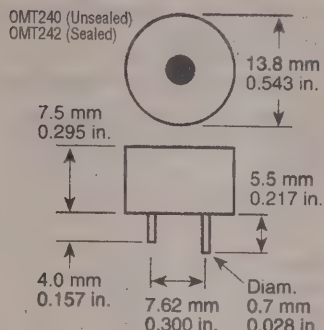


Fig. E

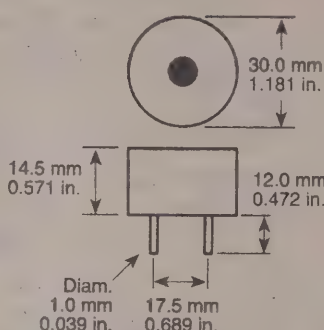


Fig. F

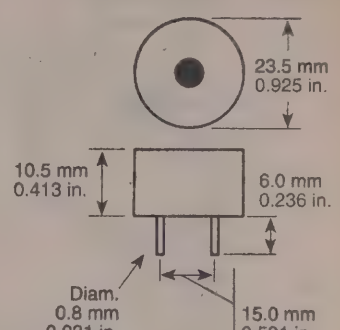


Fig. G

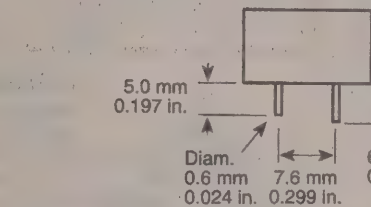


Fig. H

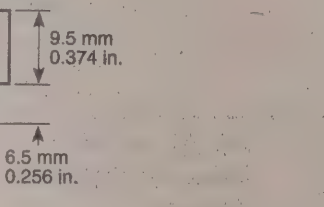


Fig. I

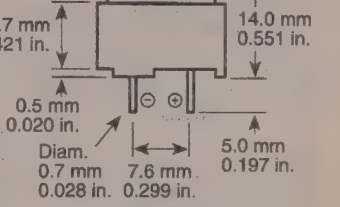


Fig. J

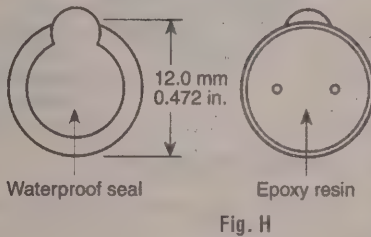


Fig. K

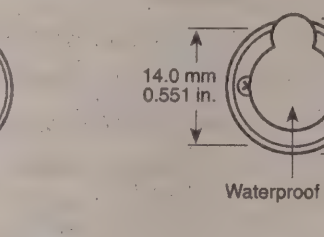


Fig. L

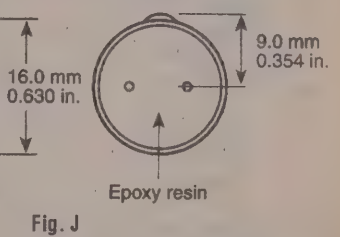


Fig. M

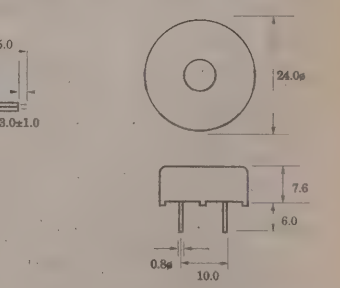


Fig. N

Stock No.	Mfr.'s Type	Fig.	Freq.	Volt	Sound	Current	Tone*	Weight (gram)	EACH	
									1-24	25-49
296-5000	OMT650S	A	2900	4-28	70-85	4-18	Continuous	32	12.18	10.35
296-5002	OMT651S	A	2900	6-28	70-85	6-28	Fast Pulse	37	16.67	14.17
296-5004	OMT653S	A	2900	6-28	70-85	6-28	Slow Pulse	37	16.67	14.17
296-5006	OMT655S†	B	2900	6-28	70-85	6-28	Cont.+Fast Pulse	38	19.40	16.49
296-5008	OMT610SN	A	2900	30-120‡	70-85	4-18	Continuous	40	27.15	23.08
296-5010	OMT611SN	A	2900	30-120‡	70-85	4-18	Fast Pulse	40	28.48	24.21
296-5012	OMT613SN	A	2900	30-120‡	70-85	4-18	Slow Pulse	40	28.48	24.21
296-5014	OMT350	C	2700	3-28	91	8	Continuous	20	4.75	4.04
296-5016	OMT350L	C	2700	3-20	97	10	Continuous	20	5.56	4.73
296-5018	OMT200L	D	3000	3-20	93	5	Continuous	7	5.33	4.53
296-5032	OMT351	C	2700	3-28	91	8	Pulse	20	7.29	6.71
296-5034	OMT351L	C	2700	3-20	97	10	Pulse	20	8.53	7.86
296-5036	OMT200	D	3000	3-20	87	12	Continuous	7	4.66	4.29

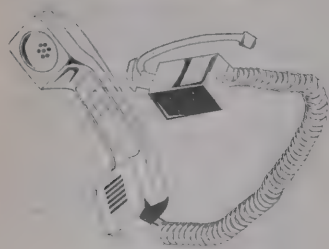
*Fast Pulse: 3 Hz; Slow Pulse: 1.2 Hz. †Three terminals instead of two. ‡AC/DC.

Stock No.	Mfr.'s Type	Fig.	Freq.	Volt (AC)	Sound Level	Cap. (pF)	Weight (gram)	EACH	
								1-24	25-49
296-5020	OMT150	K	5000	25	82	8000	1	1.90	1.61
296-5024	OMT152	L	5000	25	80	8000	1	1.97	1.67

Stock No.	Mfr.'s Type	Fig.	Freq.	Volt	Sound	Current	Tone*	Weight (gram)	EACH	
									1-24	25-49
296-5038	OMT240	E	4100	3-16	72	8	Continuous	1	4.71	4.33
296-5040	OMT242	E	4100	3-16	72	8	Continuous	1	4.66	4.29
296-5042	OMT272	F	3500	3-28	88	5	Continuous	7	4.66	4.29
296-5044	OMT272L	F	3500	3-20	97	8	Continuous	7	3.83	3.52
296-5046	OMT276	F	2500	3-28	90	5	Continuous	7	5.53	5.10
296-5048	OMT276L	F	2500	3-20	98	8	Continuous	7	5.53	5.10
296-5050	OMT222	G	3400	3-20	84	13	Continuous	6	3.88	3.57
296-5052	OMT222L	G	3400	3-20	90	10	Continuous	6	4.55	4.19
296-5054	OMT205C	H	2300	5	80	30	Continuous	2	5.12	4.71
296-5056	OMT212C	H	2300	12	86	30	Continuous	2	5.12	4.71
296-5058	OMT1601	J	2048	1.5	86	6.8	Continuous	5	4.03	3.71
296-5060	OMT1606	J	2048	5	88	25	Continuous	5	4.03	3.71
296-5062	OMT1612	J	2048	12	88	25	Continuous	5	4.03	3.71

Stock No.	Mfr.'s Type	Fig.	Freq.	Volt (AC)	Sound Level	Cap. (pF)	Weight (gram)	EACH	
								1-24	25-49
296-5022	OMT110	M	4100	30	90	14000	3	1.90	1.61
296-5024	OMT112	N	4000	30	90	14000	3	1.97	1.67

Noise Censor Series



W6-UNI-K-NC



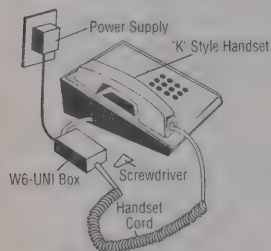
Noise Censor
"NC-1"
G-Style Replacement Mic



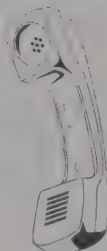
W6B-NC

Noise Censor is a family of noise-cancelling products designed for telephones that are located in noisy or hard-to-hear areas. The W6-UNI and W6B are compatible with virtually all telephones. The W6-UNI and W6B replace all K-style handsets with modular connection. The NC-1 is a noise-cancelling microphone replacement for carbon mics in "G" style handsets.

887-0001. Model W6-UNI-K-NC-44. Ash.....	EACH 76.50
887-0002. Model W6-UNI-K-NC-00. Black.....	EACH 76.50
887-0004. Model NC-1-44. Ash.....	EACH 31.00
887-0005. Model NC-1-00. Black.....	EACH 31.00
887-0040. Model W6B-KM-NC-44. Ash.....	EACH 76.50
887-0039. Model W6B-KM-NC-00. Black.....	EACH 76.50



W6-UNI



W6B

W6-UNI and W6B Universal Amplified Handsets

- ▶ Compatible with All K-Style Handsets
- ▶ Fingertip Volume Control up to 3 Times Normal
- ▶ Adjustable Transmit and Receive
- ▶ User Installable with Modular Connection

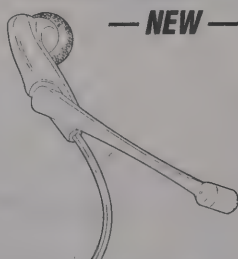
887-0018. Model W6-UNI-K-44. Ash.....	EACH 59.95
887-0019. Model W6-UNI-K-00. Black.....	EACH 59.95
887-0038. Model W6B-KM-44. Ash.....	EACH 59.95
887-0037. Model W6B-KM-00. Black.....	EACH 59.95

CAT Communication Headset for Computer Audio and Telephony Applications

Now there is a lightweight, portable, and private alternative to PC microphones and speakers. Plantronics CAT (computer audio and telephony) headsets enable you to work with computer telephony integration (CTI), voice recognition, personal conferencing, business audio, and multimedia applications. Plantronics H132 communication headset is extremely lightweight and can be put on and off in seconds. Instead of broadcasting personal messages or other sound files by playing them over speakers, you can use Plantronics headsets for private communications. Our CAT series of products reduce disruptive noise pollution and eliminate the desktop clutter that comes from PC speakers and microphones.

The H132 is a high-performance headset featuring a boom-mounted, noise-cancelling microphone that dramatically reduces background noise for clear CTI or personal conferencing communications. With the H132 you get high performance in a sleek, lightweight design.

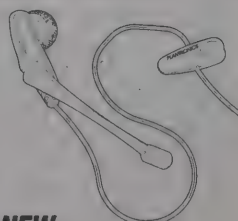
888-5999. Model H132.....	EACH 64.25
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— NEW —

Plantronics FreeHand™

- ▶ Cushioned Earbud Receiver Slips On and Off Instantly
- ▶ Unidirectional Noise-Cancelling Microphone Reduces Unwanted Noise Up to 75%
- ▶ Lightweight — Under 1/2 Ounce
- ▶ Plugs Directly Into Your Existing Phone in a Moment
- ▶ Patented SoundGuard® Circuitry Offers Safety Beyond OSHA Levels
- ▶ 6' Cord for Freedom of Movement
- ▶ Full Two-Year Warranty



— NEW —

Finally, a high performance headset for professionals that slips on and off instantly. A handset replacement that makes sense. Independent professionals like you can now get a

500 Type Handsets

- ▶ Built-In 4/Cond. Mod. Jack
- ▶ Carbon Transmitter
- ▶ Use Exist. Mod. Cord
- ▶ For Replacing Conventional Handsets

887-0006. Model W3-500CM. Brown.....	EACH 19.00
887-0007. Model W3-500CM. Ash.....	EACH 19.00
887-0008. Model W3-500CM. Beige.....	EACH 19.00
887-0009. Model W3-500CM. Black.....	EACH 19.00
887-0010. Model W3-500CM. Ivory.....	EACH 19.00
887-0011. Model W3-500CM. White.....	EACH 19.00



Amplified Receiver Handsets

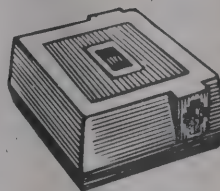
- ▶ Rotary Volume Control
- ▶ Built-In 4/Cond. Mod. Jack
- ▶ Use Exist. Mod. Cord

887-0012. Model W6-500M. Brown.....	EACH 47.60
887-0013. Model W6-500M. Ash.....	EACH 47.60
887-0014. Model W6-500M. White.....	EACH 47.60
887-0015. Model W6-500M. Beige.....	EACH 47.60
887-0016. Model W6-500M. Ivory.....	EACH 47.60
887-0017. Model W6-500M. Black.....	EACH 47.60

W10 Receiver Amplifier

For fine-tuned hearing this compact phone-side companion contains a unique amplifier to boost receiver volume three times. Installs to any desk-type phone with a modular handset cord. Plugs into any phone including single or multiline electronic models. Comes with power supply module, 4" modular connection cord and fingertip volume control. Color: Ash.

887-0022. Model W10.....	EACH 34.00
Model W10BP. Same as W10, but battery-powered.	
887-0023. Model W10BP.....	EACH 38.00



Line Test Handset

Features key pad, tone-pulse switch, talk-monitor switch, polarity indicator, ringer, built-in 4/cond. mod. jack, cord with alligator clips.

887-0021. Model WTS-201.....	EACH 136.00
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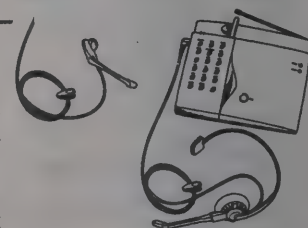


CT-460 Hands Free Cordless Telephone

A single-line cordless telephone that lets you move about and converse hands-free, while handling any task easily and efficiently. Perfect for the office — or even at home.

Two headset designs — a cushioned earbud headset that easily slips into either ear using just one hand, and an adjustable headband-style headset for maximum stability and all day comfort. Palm-sized remote with full phone functions including on/off and mute controls, volume and ringer controls, redial/pause, flash, tone, channel select. Ten number speed dial which can accommodate up to 16 digits each. Base unit with headset holder, ringer volume control, and tone/pulse switch. Ten frequency channels in the 46/49 MHz band for optimum call clarity. One-way paging from base unit to remote. 65,000 digital security codes to prohibit other phones from calling out through the same base unit. Holster belt clip and neck strap options for wearing remote unit. Wall mount option to eliminate desktop clutter.

888-0460. CT-460.....	EACH 259.99
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grip on work again. The Plantronics FreeHand™ is uniquely designed to let you work the way you want. Use the computer, take notes, look for papers with both hands while you're on the phone. It's comfortable, looks and sounds great. And the FreeHand is a breeze to put on, take off — and hooks up to your phone in a moment. There's no headband, no earplug — nothing to get in the way of your work. When you're ready to make or answer a call, just slip the cushioned earbud receiver on the outside of your ear. It's that easy and fast. Now you'll have both hands free to take notes, refer to documents or work at your computer. Sound quality you've got to hear to believe. The Plantronics FreeHand boasts sound equal to your regular phone. Only you will know you're using it. And it's better than an annoying speakerphone. Plus it's private. The Plantronics FreeHand is compatible with all major business phones and plugs in instantly with a modular adapter (included). It comes complete with volume control, handset/headset switch and a mute button.

888-6100. Model H132N-M06. FreeHand Headset with M10 Adapter.....	EACH 220.00
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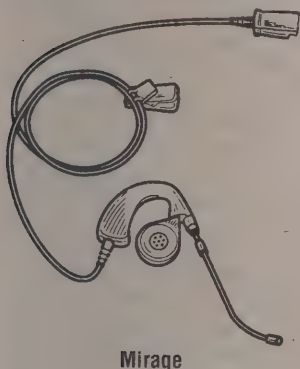
The World's Best Selling Headsets — Designed to Fit the Way You Use the Phone

- **Quality** — First Headset Maker to Earn ISO-9001 Certification
- **Sound** — Only Headsets with SoundGuard® Plus™ and Call Clarity Systems
- **Compatibility** — Works with all Major Business Phones — Nearly 4,000

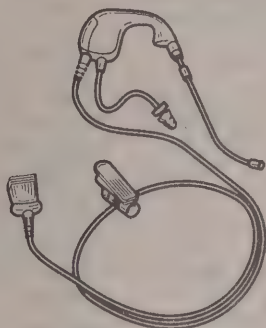
Want to know who makes the best headset? Ask any operator! Plantronics invented the lightweight headset. Its headsets are approved and used by more companies,

- **Reliability** — Over 12 Million Sold and Backed by a 2-Year Warranty
- **Ultimate in Comfort** — Widest Selection to Fit Every Need

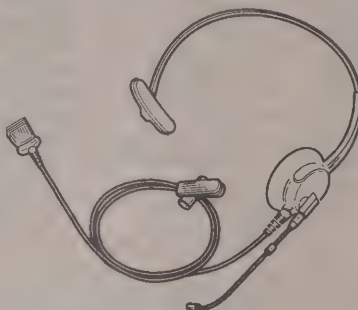
businesses, and call centers around the world than all other manufacturers' headsets combined.



Mirage



StarSet



Supra



Supra NC

Mirage® Headset Stylish Ultralight Behind-the-Ear Design for Professionals

- Receiver Rotates to Fit Comfortably Over the Outside of Either Ear
- So Lightweight — Under 3/4 Ounce — You'll Forget It's On
- Adjustable, Replaceable Clear Voice Tube
- Quick Disconnect™ Feature Lets You Leave Your Desk without Removing Headset, While Caller Stays On Line
- 10-Foot Coil Cord Offers You Freedom of Movement

StarSet® Headset The Lightest and Best Acoustics of any Headset — The Choice of Seasoned Professionals

- Soft, Pliable Versatip® Eartip Fits Any Ear Comfortably to Form a Crystal Clear Acoustic Seal
- Behind-the-Ear Styling Eliminates the Need for a Headband
- So Ultra-Lightweight — Under 1/2 Ounce — You'll Forget It's On
- Adjustable, Replaceable Clear Voice Tube
- Quick Disconnect™ Feature Lets You Leave Your Desk without Removing Headset, While Caller Stays On Line
- 10-Foot Coil Cord Offers You Freedom of Movement

Supra® Headsets Exceptional, Long-Wearing Comfort Makes These the World's #1 Selling Headsets

- Adjustable Headband Provides a Perfect, Ultra-Stable Fit
- Soft, Replaceable Ear Cushion Buffers Outside Noise
- Lightweight — 1.7 Ounces
- Available in One-Ear (Monaural) and Two-Ear (Binaural) Models
- Adjustable, Replaceable Clear Voice Tube
- Quick Disconnect™ Feature Lets You Leave Your Desk without Removing Headset, While Caller Stays On Line
- 10-Foot Coil Cord Offers You Freedom of Movement

Supra NC™ Headsets (Noise-Cancelling) Make Sure Your Voice Is Always Heard — Even in Noisy Work Environments

- Unidirectional Microphone on Flexible Boom Reduces Transmission of Background Noise up to 75%
- Noise-Cancelling Circuitry Increases Voice Clarity
- Available in One-Ear (Monaural) and Two-Ear (Binaural) Models
- Soft, Replaceable Ear Cushion Buffers Outside Noise
- Quick Disconnect™ Feature Lets You Leave Your Desk without Removing Headset, While Caller Stays On Line
- 10-Foot Coil Cord Offers You Freedom of Movement

Plantronics Headset Adapters

Plantronics Headsets Work with any Phone or Phone Systems. Here's How to Choose the Right Adapter.

Plug Prong Adapter

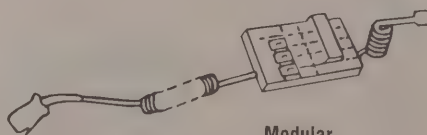
Use this adapter with operator consoles, PBX, and most ACDs. With volume control.

Modular Adapter

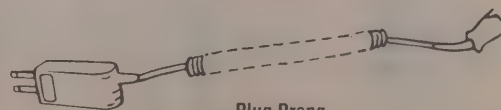
Specify this adapter when using a Plantronics headset with most ordinary phones (except those with a dial in the headset). With volume control, headset/handset switch and mute button.

CompuSet® Adapter

Select this adapter when using a Plantronics headset with your personal computer, modem and standard communications software. With on-off/volume control.



Modular



Plug Prong

StarBase™ 2000 Plus Phone



► Single-Line Memory Phone with Handset PLUS HEADSET

Plantronics StarBase™ 2000 Plus Phone is a single-line memory phone with a headset for extended phone use and a handset for brief conversations. The StarBase™ Phone features 20 memory buttons, a redial button, a hold button with indicator light, a flash button, three different ringer tones, a ringer volume control, and a visual ringer light. The phone is tone/pulse switchable and desk/wall mountable.

887-2000. Model 2000. 1-5EACH 95.95
6-UpEACH 89.05

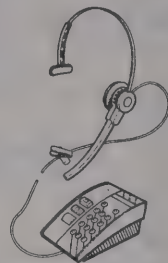
CompuSet® — NEW —

- Make and Receive Phone Calls at Your Personal Computer; Your Computer Becomes the Telephone Freeing Desktop Space
- Select from Eight Different Plantronics Headset Styles and Take Advantage of Hands-Free Communications
- Excellent Sound Quality; Switchhook (ON/OFF) and Receiver Volume Control; Headset Quick Disconnect Puts Caller on Hold
- Ten-Foot Coil Cord Allows Ample Office Mobility
- Supports IBM PC Compatible, Apple Computers and Workstations Which Are Equipped with Modems

888-1848. Model SOH1858-12. 1-5EACH 110.00
6-UpEACH 95.00

PLX™ Lightweight Telephone Headsets

— NEW —



- PLX™-400 Headset with Telephone
- Save! All-In-One: High Quality, Lightweight Headset and Single-Line Feature Phone
- Makes Your Job Easier, More Productive — Frees Both Hands
- Eliminate Backaches, Neckaches
- Ideal for Small Business, Home Office
- Features: Volume Control, Last Number Redial, Mute/Flash, 80" Headset Cord

► Sound Quality Equal to Your Regular Telephone

888-4000. Model PLX™-400. 1-5EACH 109.95
6-UpEACH 99.00
888-9266. SP-66. Replacement TopEACH 39.99

PLX™-500 Telephone Headset

- Makes Your Job Easier, More Productive — Frees Both Hands
- Superior Quality Headset
- Works with and Sounds Just Like Your Phone
- Eliminate Backaches, Neckaches
- Easy, One Minute Installation
- Ideal for Small Business, Home Office
- Features: Volume Control, Mute, Headset/Handset Selection, 80" Headset Cord



888-5000. Model PLX™-500. 1-5EACH 104.95
6-UpEACH 95.00
888-9266. SP-66. Replacement TopEACH 39.99

SP™ Modular Headsets for Standard Telephones



SP-02



SP-04



SP-05

The SP™ Modular Headset makes time on the telephone in your office or home a lot easier. It frees both hands so you can write, type, or perform household chores while talking on the phone. SP™ headsets are made by the world's largest supplier of modular headsets for standard telephones. Each headset is user-installable and works with traditional style touch-tone or rotary desk telephones with modular handsets. These phones normally have "bell" rather than electronic tone ringers. All headsets feature single, lightweight earpad, adjustable headband and boom-mounted microphone. SP™ gives you superior comfort and performance at low cost.

Model SP-02. Designed for use with electronic telephones.
888-9261. Model SP-02.....EACH 79.95

Model SP-04. Headset with dial pad. Telephone headset. Last number redial, mute/hold. Operates with tone or pulse service. Plugs directly into single line modular phone outlet.
888-9264. Model SP-04.....EACH 99.95

Model SP-05. Telephone headset works with all telephones, single or multi-line. Transmit/receive volume control, headset/handset switch; mute switch.
888-9265. Model SP-05.....EACH 89.95

Headsets

Stock No.	Mfr.'s Type	Description	Connection	EACH		
				1-9	10-24	25-Up
888-6101	H31-P10	StarSet II, Quick-Disconnect	Plug Prong	186.00	143.08	124.00
888-6102	H31-P10H	StarSet II, Straight Cord, Hi Gain	Plug Prong	208.00	160.00	138.67
888-6103	H31-M10	StarSet II, Quick-Disconnect	Modular	196.00	150.77	130.67
888-6104	H41-P10	Mirage, Quick-Disconnect	Plug Prong	198.00	152.31	132.00
888-6105	H41-M10	Mirage, Quick-Disconnect	Modular	208.00	160.00	138.67
888-6106	H51-P10	Supra, Quick-Disconnect	Plug Prong	186.00	143.08	124.00
888-6108	H51-M10	Supra, Quick-Disconnect	Modular	196.00	150.77	130.67
888-6109	H61-P10	Supra, Quick-Disconnect, Binaural	Plug Prong	210.00	163.08	141.33
888-6111	H61-M10	Supra, Quick-Disconnect, Binaural	Modular	220.00	169.23	146.67
888-6112	H51N-P10	Supra Noise-Cancelling, Quick-Disconnect	Plug Prong	210.00	163.08	141.33
888-6113	H51N-M10	Supra Noise-Cancelling, Quick-Disconnect	Modular	220.00	169.23	146.67
888-6114	H61N-P10	Supra Noise-Cancelling, Binaural Q.D.	Plug Prong	230.00	176.92	153.33
888-6115	H61N-M10	Supra Noise-Cancelling, Binaural Q.D.	Modular	240.00	184.62	160.00
888-6116	H31	StarSet Headset Top Only	—	76.00	58.46	50.67
888-6117	H41	Mirage Headset Top Only	—	88.00	67.69	58.67
888-6118	H51	Supra Headset Top Only	—	80.00	61.54	53.33
888-6119	H61	Supra Binaural Headset Top Only	—	100.00	78.46	72.86
888-6120	H51N	Supra Noise-Cancelling Top Only	—	100.00	78.46	72.86
888-6121	H61N	Supra Noise-Cancelling Binaural Top Only	—	120.00	92.31	80.00
888-6122	P10	Plug Prong Bottom Only	—	110.00	84.62	73.33
888-6124	M10	Modular Bottom Only	—	120.00	92.31	80.00

Accessories

Stock No.	Mfr.'s Type	Description	EACH		
			1-4	5-9	10-Up
888-0009	09289-02	StarSet II Earpieces, Size 2	1.15	1.00	.86
888-0010	09289-03	StarSet II Earpieces, Size 3	1.15	1.00	.86
888-0007	15729-04*	Supra Foam Ear Cushion Pair/Nutmeg	2.80	2.33	2.00
888-0050	15729-05*	Supra Foam Ear Cushion Pair/Black	2.80	2.33	2.00
888-0036	24316-01	Supra NC Windscreen Polaris/Foam	2.95	2.00	1.50
888-0022	07165-00	StarSet Eartrip Kit (6 sizes)	7.95	6.67	5.71
888-0023	17593-01	StarSet II/Supra Voice Tube	7.00	5.83	5.00
888-0024	18093-01	StarSet II Voice Tube	6.00	5.50	5.00
888-0027	10757-00	StarSet II Background Noise Suppressor	3.00	2.50	2.14
888-0028	07169-00	Eyeglass Clips	1.80	1.50	1.28
888-0501	23408-01	Liteset Battery	19.95	18.00	16.66
888-1000	27019-01	Y-Connector for New Tops with Mute	39.95	36.00	32.05
888-6125	25640-01	Versatip Eartrip	2.50	2.25	2.00

*Per Pair.

Industrial
LoudspeakersThe Sound Decision
Since 1930 Quam-Nichols Company

Stock No.	Mfr.'s Type	Size (In.) And Shape	Frequency Response (Hz)	Power Handling Capacity (Watts)	Voice Coil Imp. (Ohms)	Depth (In.)	Shipping Weight (Lbs.)	EACH
897-1192	2A05Z8	2 RD	300 Hz to 6 KHz	1	8-10	7/8	1/4	7.60
897-1181	3A05Z8	3 SQ	150 Hz to 12 KHz	2	8-10	19/32	1/4	7.23
897-1182	35A05Z8	3 x 5 OV	130 Hz to 14 KHz	2	8-10	1 1/2	1/4	7.97
897-1183	30C25Z8	3 SQ	150 Hz to 14 KHz	5	8-10	13/16	1/2	7.97
897-1188	40C5Z8	4 SQ	120 Hz to 15 KHz	7	8-10	15/8	1	10.28
897-1192	2A05Z8	2 RD	300 Hz to 6 KHz	1	8-10	7/8	1/4	7.60
897-1195	25A07Z8	2 1/2 SQ	150 Hz to 12 KHz	1 1/2	8	1 1/4	1/4	7.05
897-1196	25A07Z45	2 1/2 SQ	150 Hz to 12 KHz	1 1/2	45	1 1/4	1/4	7.97
897-1197	30A05Z45	3 SQ	130 Hz to 14 KHz	2	45	13/16	1/4	8.16
897-1198	3A07Z45OT	3 1/2	150 Hz to 10 KHz	2 1/2	45	17/16	1/2	9.45
897-1199	4A1Z45	4	180 Hz to 12 KHz	3	45	1 13/16	3/4	7.41

Transformers



Stock No.	Mfr.'s Type	Power Rating	Primary Volts	Primary Tape	Mounting Centers	Core Size	Secondary Load	Shipping Weight (Lbs.)	EACH
897-1209	TBL70	4W	70.7	1/4-1/2-1-2-4W	2"	1/2 x 5/8	8	1/2	6.03
897-1210	TCL70	8W	70.7	1/2-1-2-4-8W	2 3/8"	5/8 x 5/8	8	3/4	9.18

Ceiling
Baffles

BR8W



Stock No.	Mfr.'s Type	Type	Speaker Size (In.)	Baffle Diameter	Material	Finish	Shipping Weight (Lbs.)	EACH
897-1211	BR8W	One-step	8	12 7/8	22-ga. steel	White epoxy	1 1/2	6.57

Ceiling Speaker Mounting Device



Speaker support bridge eliminates tile sag caused by weight of installation on suspended ceilings. Use with C5 Series assemblies listed above. Order separately. Can also be used in conjunction with ERD-8 Series. Backboxes mount with tabs. SSB-2 mounts round or square grills.

897-0102. Model SSB-2.....EACH 4.75

Professional
Omni-Purpose
Speakers

ATLAS / SOUNDOLIER

AP-15T



AP-30T



APC-30T



SC-15



Stock No.	Mfr.'s Type	Continuous Power (Watts)	Equalized Power (Watts)	Frequency (Hz)	Sound Level	Impedance* (Ohms)	Power Taps* (Watts)	Dispersion	Dimensions (W x H x D)	Weight (Lbs.)	EACH
537-3003	AP-15T	15	20	275-14,000	121 db†	5000, 2500, 1300, 666, 333, 89, 45	70V: 9, 1.8, 3.8, 7.5, 15; 25V: 48, .94, 1.8, 7.5, 15	110°	8 x 8 x 9"	4; 4 1/2	89.00
537-3004	AP-30T	30	40	225-14,000	125 db‡	4000, 2000, 1000, 666, 333, 167	1.2, 2.5, 5, 7.5, 15, 30	100°	10 x 9 1/2 x 10 1/2"	5 1/2; 6	108.00
537-3005	APC-30T	30	40	250-14,000	123 db	2500, 1300, 666, 333, 167; 89, 45	70V: 1.8, 3.7, 7.5, 15, 30; 25V: 1.8, 3.7, 7.5, 15, 30	120° x 60°	14 x 6 x 12 3/4"	7 1/2; 8	119.00
537-3006	SC-15	—	15	350-12,000	120 db	4, 8 or 45	—	130°	6 1/4" dia. x 6 1/2" D	3	58.00

*Vari-Tap Switch on Transformer Models. †Measured 4' on axis at 15 watts input. ‡Measured 4' on axis at 30 watts input.

Projector Horns

Model BIA-100. Bi-axial sectoral horn with computer calculated exponential flare rate. Uniform wide angle sound coverage. The high efficiency non-resonant projector is molded of vibration-free rigid material and equipped with steel mounting bracket.

Model DR-32. Directional projector horn for uniform reflex sound path for high efficiency penetration over distance and ambient noise. Weatherproof, all-metal construction. Heavy duty adjustable mounting bracket.



BIA-100

DR-32 (Shown with Driver)

Stock No.	Mfr.'s Type	Low-Off Cut-Off	Dispersion	Air Column Length	Bell Size	Horn Length	Weight (Lbs.)	EACH
537-3008	BIA-100	180 Hz	130° x 60°	2.8'	21 1/2 x 10 1/2"	19 1/4"	10	149.00
537-3009	DR-32	190 Hz	95°	2.5'	16 1/2" dia.	12 1/2"	10	117.00

Driver Units

These heavy-duty weatherproof compression driver units are designed for reliability, efficient sound production, high intelligibility and penetration. PD series drivers feature self-aligning field-replaceable diaphragm and standard 1 3/8" — 18 male threads for CJ-46, BIA-100, WCH-100, or DR-Series models or as replacement drivers for use with standard threaded projector horn.

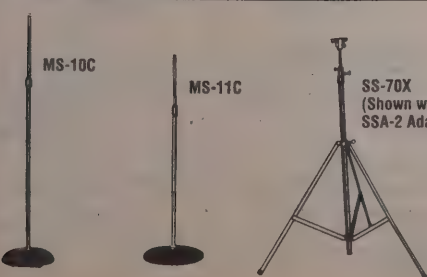


PD-30T

PD-60T

Stock No.	Mfr.'s Type	Power (Continuous)	Power (Equalized)	Impedance	Frequency (Hz)	Weight (Lbs.)	EACH
537-3011	PD-30T	30 Watts	40 Watts	Built-In X-Former	120-14,000	4 3/4	103.00
537-3021	PD-30	30 Watts	40 Watts	8 Ohms	120-14,000	3	84.00
537-3013	PD-60T	60 Watts	100 Watts	Built-In X-Former	70-12,000	8	170.00

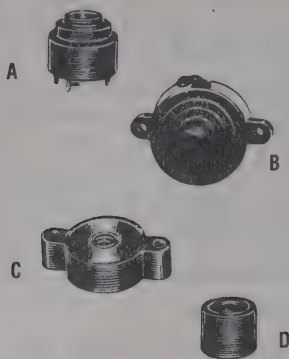
Microphone Stands, Adapters and Fittings



Stock No.	Mfr.'s Type	Description	EACH
537-2000	MS-10C	Economic floor stand. Cast iron base (10" dia.), charcoal. Height: 35" to 63".	33.99
537-2001	MS-11C	General Purpose Stand. Low-profile chrome base (10" dia.) Height: 34" to 62".	45.42
537-2007	DS-7	Adjustable Desk Stand. Chrome tube assembly. Height: 8" to 13". Grip-action clutch. 6" dia.	21.03
537-2008	GN-13	13" Flexible Gooseneck. Attach to Atlas Sound stand or adapter, 5/8"-27 male and female threads.	9.11
537-2010	SO-1B	Snap-on Accessory. For quick fastening or disconnection of microphone-holder or boom attachment from any stand.	15.51
537-2011	AD-5B	5/8"-27 female to 5/8"-27 female, coupling.	5.32
537-2013	AD-8B	6" long tube 5/8"-27 male each end.	5.32
537-2014	AD-15B	Cable feed-thru adapter: 5/8"-27 male and female end.	9.55
537-3014	SS-70X	Heavy-duty, multi-purpose stand for stage monitor and loudspeaker cabinets, portable lighting, instrument and industrial. Height: 55" to 100". Tubing dia: 1 3/8".	153.00

15

Efficient Piezo Buzzers and Elements



A. Pulsing/Continuous Piezo Buzzer. Great for alarm systems, vehicle backup alerts. May be panel mounted. Three screwdriver terminals, one is common positive. Negative terminals select mode. Approx. 2800 Hz pulsed at 1.2 Hz. Output: 90 dB at 12 VDC. 4 to 28 VDC, only 10 mA at 12 VDC. Fits 1/16" diameter hole. With threaded mounting ring. **910-2105. Type 273-068.....EACH 8.49**

B. Pulsing Piezo Buzzer. Approx. 2800 Hz. 90 dB. 3 to 28 VDC; 12 mA at 12 volts. Mounting hole centers 1 1/16" apart. **910-2104. Type 273-066.....EACH 4.29**

C. Piezo Buzzer With Leads. Piercing 3.6 kHz signal. 4 to 28 VDC; 5 mA at 12 V. Mounting hole centers 1 3/4" apart. **910-2101. Type 273-060.....EACH 3.29**

D. PC Board-Mount Piezo Buzzer. 3 to 20 VDC. 1/16" x 9/16" dia. **910-2103. Type 273-065.....EACH 2.49**

Fixed-Frequency Piezo Element. Three-wire type. Up to 90 dB at 6.5 kHz. Requires external driver circuit. 1/16" mounting centers. With data. **910-2102. Type 273-064.....EACH 1.79**

Mini DC Buzzers

Small enough to hide, loud enough to demand attention! 1/16" mounting centers. With leads. DC Voltage: 1.5 to 3.



910-2089. Type 273-053.....EACH 2.49

Chassis Mount Socket and Mike Plug



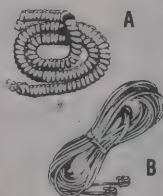
Chassis Mount Socket
Type 274-002. Mates with 4-pin plug. **910-2070.....EACH 1.59**

Mike Plug
Type 274-001. Many communications uses. Cable strain relief. Solder terminals **910-2116.....EACH 3.99**

Telephone Wires

A Handset Cord. 25' almond coiled cord for replacement or extension use in modular phones. **910-9014. Type 279-302.....EACH 5.99**

B Modular-Modular Line Cord. 25' extension replaces shorter cords. Both ends terminate with modular plugs. **910-7026. Type 279-356.....EACH 6.19**



Power Transformers



Mini



Heavy Duty

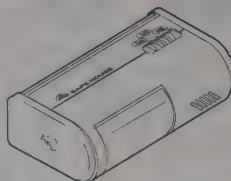
Five popular values for new equipment or replacement use. The miniature types may be PC board mounted. The standard and heavy-duty types have steel frames with lugs for chassis mounting. All primaries are for 120 VAC, 60 Hz.

Stock No.	Mfr.'s Type	Volts	Current	Size Inches	EACH
910-1120	273-1385*	12.6	300 mA	1 1/4 x 1 7/16 x 1 1/16	3.99
910-2213	273-1365†	12.6 CT	450 mA	1 7/16 x 1 11/16 x 1 1/2	4.99
910-2214	273-1366†	25.2 CT	450 mA	1 11/16 x 1 19/16 x 1 3/4	4.99
910-1180	273-1511‡	12.6 CT	3.0 A	2 1/16 x 2 1/2 x 2 1/4	8.99
910-1190	273-1512‡	25.2 CT	2.0 A	2 1/4 x 2 3/4 x 2 1/4	9.99

*Miniature. †Standard. ‡Heavy Duty.

Mini Motion Detector Alarm

Type 49-425. Ideal security for home or travel. Just aim it and switch it on. Detects motion, sounds a loud, ear-piercing 90 dB alarm or chime announcer. Requires 9 V battery.



910-5296. Type 49-425.....EACH 23.99

Two-Sound Indoor Siren



Type 49-490. Super loud steady or rise-fall sound. Ceiling or wall mount. 12 VDC. 1/2 amp.

910-2109. Type 49-490.....EACH 13.99

Microphones and Accessories

Super Omni Dynamic Mike



Model 33-1070. Wide 40-17,000 Hz ± 3 dB response mike is perfect for music recordings or hand held vocals. Rugged all-metal body with built-in windscreen. Rubber shock ring, XLR-type connector, low impedance (500 ohms) balanced or unbalanced. 16' cable with 1/4" phone plug. Includes carry case and stand adapter.

910-0021. Type 33-1070.....EACH 49.99

Highball Dynamic Mike



Model 33-984. Rugged, high-performance mike has 80-15,000 Hz response with emphasis on "presence" for clean, articulate, natural sound. Ball windscreen minimizes breath "pops" and rubber anti-shock ring withstands rough handling. Unidirectional pattern helps control unwanted sounds and feedback. On/Off switch. High (10 K) and low (600 ohm) impedances with balanced low Z capability. With XLR-type connector, 16' heavy-duty cable, and stand adapter.

910-0017. Type 33-984.....EACH 59.99

Wide Range Speakers

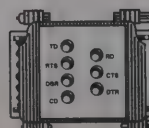


For all kinds of new or replacement use. 8 ohms. Size: 3". Power Cap. (Watts): 2.0. Magnet Wt.: 0.4 in. Oz.

910-0112. Type 40-248.....EACH 3.39

RS232 Testing and Connections

RS232 Mini Tester. Diagnose interface problems yourself, without costly repair calls. Dual-color LEDs indicate status of TD, RTS, DSR, CD, RD, CTS, and DTR lines. Connects inline.



910-9034. Type 276-1401.....EACH 14.99

Miniature 8-Ohm Radio Speakers

ALECTRON

Alnico PM replacement speakers with very thin profiles to fit the tightest spaces possible. Suitable for transistor radios, tape recorders and walkie-talkies.



Stock No.	Mfr.'s Type	Size	EACH			
			1-99	100-499	1000	2500
284-0200	A-0200	2"	2.34	2.11	1.95	1.81
284-0201	A-0201	2 1/4"	2.35	2.15	1.98	1.84
284-0202	A-0202	2 1/2"	1.28	1.10	.96	.79
284-0203	A-0203	2 3/4"	1.28	1.10	.96	.79
284-4018	EH-971	40 mm	1.32	1.10	.97	.88

Multi-Purpose Powerhorns



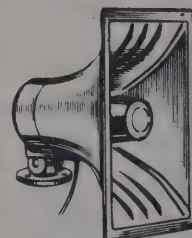
These weatherized PA, music and paging speakers are waterproof, dustproof, shockproof and resist rust with years of quality performance, indoors or out. Choose the size that's right for your application, either 4", 5", or 8". All 8 ohms, includes mounting bracket.

A. 8" Horn. 15 watts. **910-2123. Type 40-123.....EACH 33.99**

B. 5" Horn. 8 watts. **910-7097. Type 40-1236.....EACH 21.99**

Super PowerHorn® Speaker

► Extra-Wide 275-14,000 Hz Frequency Response

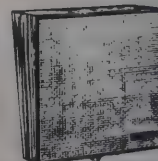


Model 40-1307. High-efficiency design for maximum sound fidelity for speech and music. Engineered for years of reliability. Weatherized molded housing, metal swivel base. 40 watts. SPL: 110 dB (1W/1M). 11 x 6 1/2 x 8 1/2".

910-1307. Type 40-1307.....EACH 41.99

Speakers

40-219



40-1227



40-1248



8" Speaker and Baffle

High quality 8" (203.2 mm) speaker, attractively mounted in a sleek walnut, vinyl finished wall mounting baffle. Delivers good sound reproduction without the bother of a separate speaker installation. Completely assembled, including a pre-wired L-pad volume control. 10 3/4 x 10 3/4 x 4 1/4". Wt.: 4 lbs (113.3 gms.). **910-7111. Type 40-219.....EACH 21.99**

Indoor/Outdoor

Keyhole slots and hardware for easy wall mounting. Moisture-proof. 8 ohms.

4" Speaker. 4 3/4 x 5 1/2 x 3". **910-7090. Type 40-1227.....EACH 13.99**

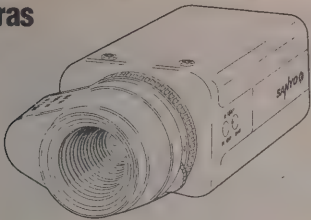
6 1/2" Speaker. 4 1/2 x 8 1/4 x 3 1/8". **910-2121. Type 40-1248.....EACH 23.99**

Security Cameras, Monitors and Accessories



SANYO

Cameras



Model VCC-3924

- ▶ 24 VAC
- ▶ Sync — LL/Int
- ▶ Minimum Illumination 1.4 Lux At F 1.2
- ▶ Resolution 330 TVL/270,000 Pixels
- ▶ New Compact Size
- ▶ Electronic Iris/Backlight Compensation

912-0002. VCC-3924EACH 599.00

Model VCB-3324

- ▶ 1/3" CCD Image Sensor (Approximately 270,000 Picture Elements)
- ▶ High-Resolution Picture (400+ Lines of Resolution)
- ▶ Minimum Light Requirement: 0.22 Lux with f1.2 Lens
- ▶ Backlight Compensation
- ▶ Electronic/Auto Iris
- ▶ CS/C-Mount Lens

912-9831. VCB-3324EACH 295.00

Model VCB3524

1/2" frame transfer CCD with 570 line resolution. Built in sensitivity switch. CS or C type lens with 5 mm spacer included. Lens not included.

912-9801. VCB3524EACH 468.00

Lenses

Vari-Focal Lenses

COMPUTAR

— NEW —

Stock No.	Mfr.'s Type	Format	Focal Length (mm)	Iris Aperture	Angular Field of View (Horiz.) Tel-Wide	Field of View at Min. Focus Dist. (Horiz.) Tel-Wide	Mechanical Dim. (mm)		Weight Grams	Min. Focus Dist. (m)	Filter Size		EACH
							Max. Dia.	Length			mm	P	
912-6000	T223514CS	1/3"	3.5-8	F1.4-C	35.3-77.5°	48.0 x 19.0	39.5	49.0	120	0.3	37.5	0.50	127.00
912-6005	H224515CS	1/2"	4.5-10	F1.5-C	37.7-85.3°	55.3 x 20.5	45.0	54.6	120	0.3	43.0	0.75	155.00
912-6010	HG224515FCS	1/2"	4.5-10	F1.5-C	37.7-85.3°	55.3 x 20.5	57.4	54.6	155	0.3	43.0	0.75	206.00
912-6015	HG224515AFCS	1/2"	4.5-10	F1.5-C	37.7-85.3°	55.3 x 20.5	57.4	54.6	165	0.3	43.0	0.75	243.00

Auto Iris, CS Mount with Iris Circuitry (Video Type), No Connector

Stock No.	Mfr.'s Type	Format	Focal Length (mm)	Iris Aperture	Angular Field of View (Horiz.)	Field of View at Min. Focus Dist. (cm)		Mechanical Dimensions		Weight Grams	Min. Focus Dist. m	EACH
						Horizontal	Vertical	Max. Dia.	Length			
912-6020	TG2616AFCS	1/3"	2.6	F1.6-125	93.8°	10.7	7.5	51.5	36.5	80	0.1	239.00
912-6025	TG0412AFCS	1/3"	4.0	F1.2-125	62.7°	12.2	8.9	51.5	36.5	75	0.1	151.00
912-6030	TG0812AFCS	1/3"	8.0	F1.2-125	33.3°	11.7	8.8	51.5	36.5	70	0.2	151.00
912-6035	HG2616AFCS	1/2"	2.6	F1.6-300	116.5°	145.4	96.2	51.5	36.5	78	—	349.00
912-6040	HG3616AFCS	1/2"	3.6	F1.6-125	92.6°	34.6	25.9	51.5	36.5	70	0.2	192.00
912-6045	HG4514AFCS	1/2"	4.5	F1.4-125	73.5°	27.8	20.9	51.5	36.5	70	0.2	200.00
912-6050	HG0614AFCS	1/2"	6.0	F1.4-125	56.7°	20.6	15.5	51.5	36.5	55	0.2	145.00
912-6055	HG1214AFCS	1/2"	12.0	F1.4-125	29.6°	15.6	11.7	51.5	36.5	55	0.3	132.00

Monitors

Black and White Monitors

UL and DHHS listed. FCC RFI compliance video monitors offer high resolution and solid state circuitry. Flip-open control cover, DC restoration switch, Hi Z-Lo Z termination switch, video input bridging, and a regulated power supply with isolation transformer, all encased in a rugged metal cabinet. Optional rack mounts are available to mount in standard EIA 19" space. **Controls:** On-Off, Brightness, Contrasts, H-Hold, and Impedance. Also features quick start without pre-heating and recessed hand grips for portability. **Specifications. Input Signal Range:** 0.5 to 2.0Vpp. **Horizontal Resolution:** 900 lines, nominal. **MTBF (Less CRT):** 15,000 hours. **Light Output:** 25FL Min. **Geometric Distortion:** 2.0% Max. **Connectors:** 2 BNC Video In, Video Out. AC-3 pin UL approved plug.

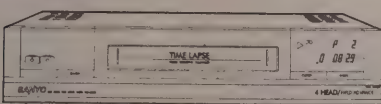
Color Monitors

High resolution CRT with comb filter reproduces (VMC7508) 330 horizontal lines of resolution (VMC7514 450 horizontal line). Metal cabinet construction reduces interference from outside noise. Automatic Degaussing yields minimal magnetic build-up for superior performance. 75 ohm bridge termination for self termination or video loop through operation.



Stock No.	Mfr.'s Type	Screen	Video Bandwidth	Power	Type	EACH
912-0100	VM5509	9"	15 MHz	120 V, 50/60 Hz, +10%, 33W	B/W	199.00
912-9016	VM5512	12"	3 dB 15 MHz	120 VAC, +10%, 60 Hz	B/W	315.00
912-5516	VM5516	16"	—	120 VAC, +10%, 60 Hz	B/W	499.00
912-0001	VMC7509	9"	—	120 VAC, 60 Hz (95 to 135 V)	Color	625.00
912-7514	VMC7514	14"	—	120 VAC, 60 Hz (95 to 135V)	—	699.00

Time Lapse Recorder

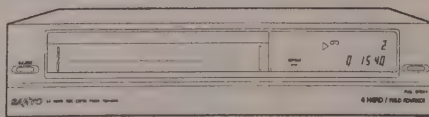


TLS-2000

- ▶ Up to 960 hours of Time Lapse Recording Capability
- ▶ ON-SCREEN Time and Date Display
- ▶ Field Recording and Field Advance Playback
- ▶ B/W 400 Line High Resolution
- ▶ Time Date Search
- ▶ Alarm Search
- ▶ Alarm Scan
- ▶ Audio Activated Recording

912-2000. TLS-2000EACH 1576.00

24-Hour Real-Time Video Cassette Recorder



SRT-500

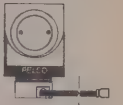
- ▶ 24-Hour Continuous Recording
- ▶ 24-Hour Audio Recording
- ▶ Field Image Recording
- ▶ Auto-Repeat Recording
- ▶ Over 300 Lines of Resolution
- ▶ Built-In Time-Date Generator
- ▶ Alarm Scan

912-0500. SRT-500EACH 1125.00

Pan/Tilts and Accessories, Indoor/Outdoor

Light Duty Pan/Tilt

PT175-24P. Light duty, indoor/outdoor pan/tilt engineered to handle camera/lens combinations weighing up to 20 lbs. (9.08 kg) and is capable of auto/random scan operation when used with the MPTA24DT control.



913-0175. PT175-24PEACH 1077.00

PT270-24P. Measures only 7 3/4" high, 8" wide, and 4 1/2" deep. Ideally suited for indoor operation, use where space is at a minimum, or for discreet enclosure applications.

913-0270. PT270-24PEACH 682.00

Pan/Tilt Control

MPT240T. Control is designed for use with PELCO 24 VAC, pan tilts. An 8-position joystick controls the up, down, left, right movements of a single pan/tilt. Movements can be controlled individually or simultaneously (i.e., left/down, left/up, etc.) by positioning the joystick diagonally between the two desired functions.



913-0024. MPT240TEACH 262.00

Scanner and Lens Control

MPTA24DT. Integrate pan/tilt, scanner and motorized zoom lens functions into one desk top control and are for use with 120 VAC, 230 VAC, and 24 VAC pan/tilts or scanners.



913-0025. MPTA24DTEACH 548.00

Environmental Enclosures

EH3512 Series. Designed for use with 2/3" and 1/2" format cameras and fixed focal length lenses or motorized zoom lenses with or without auto-iris operation.

913-3500. EH3512EACH 103.00

EH3512-2. Same as above except with 24 VAC heater/blower, 40 watts.

913-3505. EH3512-2EACH 265.00

EH4718 Series. Designed to accept CCD cameras with either fixed focal length lenses or motorized zoom lenses (up to 10X). 19" long.

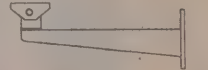
913-4718. EH4718EACH 171.00

EH4718-2. Same as above except with 24 VAC heater/blower, 40 watts. 2". 20"-50" long.

913-4719. EH4718-2EACH 354.00

Enclosure Mounts

EM22. Designed and engineered for use with various PELCO enclosures. The EM22 mounts to a wall or other vertical surface and features a cast aluminum wall arm which minimizes undesired horizontal movement.



913-0022. EM22EACH 85.00

Camera Mounts

CM1700. Light duty, universal mount primarily designed for ceiling or pedestal mounting of CCTV cameras, but can also be used as a wall mount.

913-1700. CM1700EACH 45.00

TB1700. Specifically engineered for attaching the mount to the "T" rail found in most false ceiling installations.

913-1705. TB1700EACH 45.00

Sequential Switcher

VS5004/VS5008. The VS5004 is a low cost desktop, sequential switcher designed to manually or automatically switch four (4) cameras to one (1) monitor and respond automatically to alarm inputs. The VS5008 is an 8-position sequential switcher with dual output and alarm function.

913-5004. VS5004EACH 302.00

913-5008. VS5008EACH 405.00

VS5104/VS5108. Same features as the VS5004/VS5008 except they are homing switchers having one (1) monitor output and no alarm capability.



913-9835. VS5104. 4 PositionEACH 176.00

913-9840. VS5108. 8 PositionEACH 295.00

Computer Filters

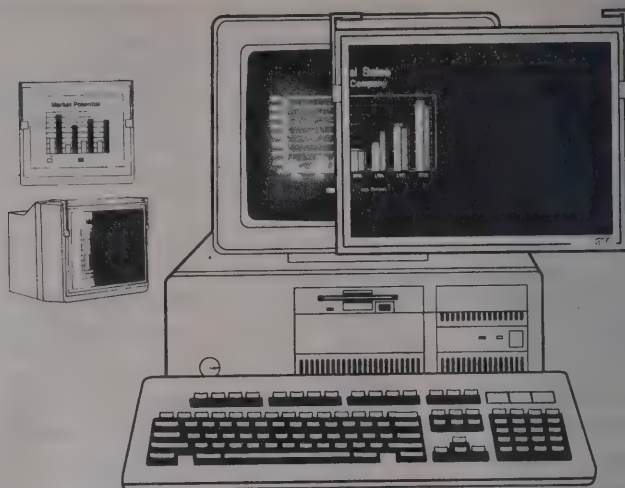
3M Privacy Filters

- Keep On-Screen Data Confidential, Even in Open Office Areas
- Help Prevent Casual Viewing of On-Screen Data
- Ideal for Correspondence, Personnel Information, Financial Records and Other Confidential Data
- Provide Excellent Screen Contrast
- Standard Glare Reduction Feature Plus Optional Radiation Protection
- Two Sizes to Fit Most Popular Computer Monitors

Your business is nobody else's business. That's why 3M created a privacy filter that protects on-screen data. Once your 3M privacy filter is installed, its special microlouver technology allows computer data to be viewed only from directly in front of the monitor. People viewing from the side see a blank, dark screen.

3M Anti-Glare/Radiation Filters

- Reduce Glare and Radiation From Computer Monitors
- Virtually Eliminate Screen Glare to Help Prevent Eye Discomfort or Strain
- Block 99.9 Percent of ELF/VLF E-Field Radiation
- Stop Static Charge and Dust Buildup
- Provide Good Screen Contrast, Even in Brightly Lit Areas
- Two Sizes to Fit Most Popular Computer Monitors



Stock No.	Mfr.'s Type	Description	Monitor Size	EACH
617-8000	PF400L	Privacy Plus Filter	Fits 14" to 15"	181.10
617-8005	PF400S	Privacy Plus Filter	Fits 10" to 13"	181.10
617-8010	PF300L	Privacy/Anti-glare Filter	Fits 14" to 15"	161.90
617-8015	PF300S	Privacy/Anti-glare Filter	Fits 10" to 13"	161.90
617-8020	AF200L	Anti-glare/Radiation Filter	Fits 14" to 15"	95.05
617-8025	AF200S	Anti-glare/Radiation Filter	Fits 10" to 13"	95.05
617-8030	AF100L	Anti-glare Filter	Fits 14" to 15"	53.10
617-8035	AF100S	Anti-glare Filter	Fits 10" to 13"	53.10

— NEW —

Notebook Privacy Filter

617-8037	PF50	Privacy Plus Laptop Filter	Fits up to 1/2"	119.98
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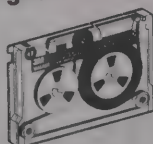
Diskettes

- State-of-the-Art Manufacturing Equipment and Production Processes Ensure Data Integrity and Diskette Life
- Specially Selected Substrates Form a Smoother, More Consistent Oxide Coating That Helps Prevent Errors by Minimizing Debris Generation
- Proprietary Burnishing Process Reduces Head Wear for Greater Reliability and Optimum Performance
- Meets ISO and ANSI Storage and Operating Standards

- 5 1/4" Diskette's 10 Mil Jacket Minimizes Jamming and Bending
- Stringent Testing and Certification Procedures Mean 3M Diskettes Will Perform to the Highest Standards
- Diskettes are Packaged in Compact, Durable Storage Boxes to Provide a Flexible, Affordable Storage Alternative
- Available in 3 1/2" and 5 1/4" Sizes in IBM Formatted and Unformatted Types

Stock No.	Mfr.'s Type	Description	Format	Pkg. Qty.	PER PACK
617-8040	525DSDDRH	5 1/4" Disk, Doubleside, Double Density	No	10	7.56
617-8045	525DSHD-10	5 1/4" Disk, Doubleside, High Density	No	10	11.00
617-8050	525DSHD-2	5 1/4" Disk, Doubleside, High Density	No	2	2.82
617-8055	525DSDDFORMAT	5 1/4" Disk, Doubleside, Double Density	IBM	10	7.78
617-8060	525DSHDFORMAT	5 1/4" Disk, Doubleside, High Density	IBM	10	11.33
617-8065	350DSDD	3 1/2" Disk, Doubleside, Double Density	No	10	10.89
617-8070	350DSHD	3 1/2" Disk, Doubleside, High Density	No	10	11.51
617-8075	350DSDD2PK	3 1/2" Disk, Doubleside, Double Density	No	2	3.05
617-8080	350DSHD2PK	3 1/2" Disk, Doubleside, High Density	No	2	2.89
617-8085	350DSDDFORMAT	3 1/2" Disk, Doubleside, Double Density	IBM	15	11.56
617-8090	350DSHDFORMAT	3 1/2" Disk, Doubleside, High Density	IBM	15	11.96
617-8095	525KITHCR	5 1/4" Drive, Head cleaner, 15 Cleanings	—	1	9.95
617-8100	350KITHCR	3 1/2" Drive, Head cleaner, 15 Cleanings	—	1	9.95

Data Cartridges



For pennies per day, you can secure all that information with the assurance only a world leader like 3M can give you. After all, 3M invented data cartridge tapes, and 3M continues to lead the way in quality and innovation in data cartridge tape technology.

Stock No.	Mfr.'s Type	Description	EACH
617-8105	DC300XL/P	1/4", 450', 310 Oe Low Coercivity Tape	22.69
617-8110	DC600A	1/4", 620', 550 Oe High Coercivity Tape	25.09
617-8115	DC2000	1/4", 205', 550 Oe High Coercivity Tape	17.49
617-8120	DC2060THETAMA	1/4", 307.5', 550 Oe High Coercivity Tape	34.45
617-8125	DC2080	1/4", 205', 550 Oe High Coercivity Tape	22.35
617-8130	DC2080RHOMAT	1/4", 205', 550 Oe High Coercivity Tape	29.50
617-8135	DC2120	1/4", 307.5', 550 Oe High Coercivity Tape	22.75
617-8140	DC2120XIMAT	1/4", 307.5', 550 Oe High Coercivity Tape	23.29
617-8145	DC6150	1/4", 620', 550 Oe High Coercivity Tape	23.09
617-8150	DC6250	1/4", 1020', 550 Oe High Coercivity Tape	29.80
617-8155	3M Magnus 1.00	1.00 Gigabytes, 760', 900 Oe High Coercivity Tape	55.09
617-8160	3M Magnus 1.35	1.35 Gigabytes, 760', 900 Oe High Coercivity Tape	55.05

- Can Be Less Expensive in Two Ways: Cost Per Megabyte, and in Initial Hardware Investment
- Provides More Storage
- Is Versatile Enough to Handle All These Applications: File/Disk Backup; Software and Data; Base Distribution; Data Transfer; Data Migration; Archival Storage; Security; Disk Management; Program Loading; Program Updates

Computer Hook-Up Cables

Meet or exceed original manufacturer's specifications

Double 25-Pin—Fig. A

Stock No.	Mfr.'s Type	Description	Length	EACH	
				1-4	5-9
510-9967	30-9525-2D	Male/Female Each End	25'	45.00	40.50

25 Pin to 25 Pin—Fig. B

Stock No.	Mfr.'s Type	Description	Length	EACH	
				1-9	10-24
510-9901	30-9506MM	Male to Male	6'	9.90	8.91
510-9902	30-9510MM	Male to Male	10'	13.00	11.70
510-9903	30-9525MM	Male to Male	25'	20.00	18.00
510-9904	30-9506MF	Male to Female	6'	9.90	8.91
510-9905	30-9510MF	Male to Female	10'	13.00	11.70
510-9906	30-9525MF	Male to Female	25'	20.00	18.00

*Fully shielded, gold plated pins.

25 Pin Male to 36 Pin Centronics Male—Fig. C

Stock No.	Mfr.'s Type	Length	EACH	
			1-9	10-24
510-9907	30-9506MC	6'	9.90	8.91
510-9908	30-9510MC	10'	13.00	11.70
510-9909	30-9525MC	25'	20.00	18.00

36-Pin Centronics Male to 36 Pin Centronics Male—Fig. D

Stock No.	Mfr.'s Type	Length	EACH	
			1-4	5-9
510-9910	30-9506CC	6'	19.90	17.91
510-9911	30-9510CC	10'	23.00	20.70
510-9912	30-9525CC	25'	28.00	25.92

IBM PC Cable—9-Pin Male to 15-Pin High Density Male—Fig. E

Stock No.	Mfr.'s Type	Length	EACH	
			1-9	10-24
510-9959	30-IBM10	10'	9.90	8.91
510-9960	30-IBM25	25'	15.90	14.31

9-Pin to 9-Pin—Fig. F

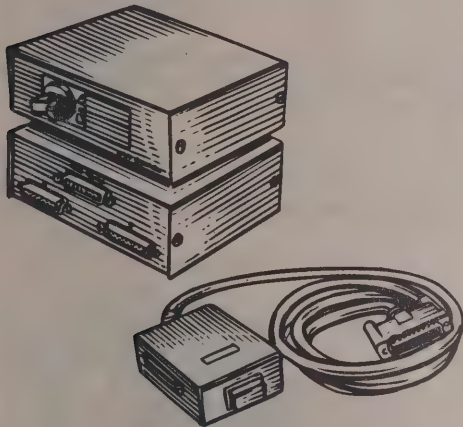
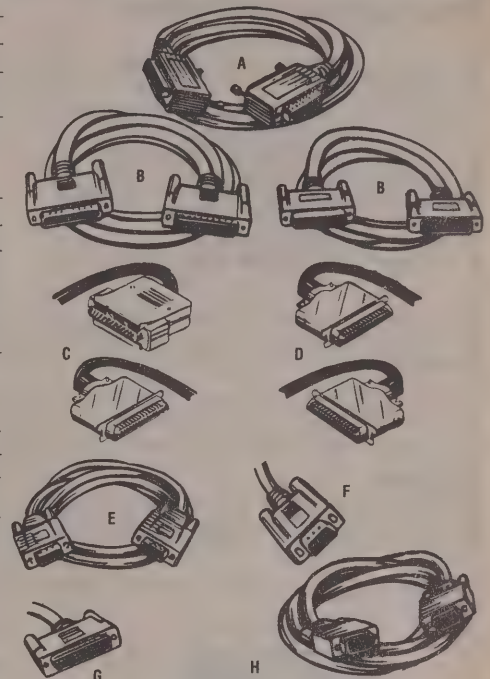
Stock No.	Mfr.'s Type	Description	Length	EACH	
				1-9	10-24
510-9935	30-9506-99	Male to Female	6'	7.50	6.75
510-9931	30-9510-99	Male to Female	10'	11.50	10.35
510-9936	30-9506-88	Male to Male	6'	7.50	6.75
510-9932	30-9510-88	Male to Male	10'	11.50	10.35
510-9933	30-9506-77	Female to Female	6'	5.90	5.31
510-9934	30-9510-77	Female to Female	10'	11.50	10.35

25-Pin Male to 9-Pin Female—Fig. G

Stock No.	Mfr.'s Type	Length	EACH	
			1-9	10-24
510-9937	30-9506-29	6'	8.00	7.20
510-9938	30-9510-29	10'	11.90	10.71

15-Pin High Density to 15-Pin High Density—6' Length—Fig. H

Stock No.	Mfr.'s Type	Length	EACH	
			1-9	10-24
510-9961	30-1506MF	Male to Female	9.50	8.55
510-9962	30-1506MM	Male to Male	9.50	8.55
510-9963	30-1506FF	Female to Female	9.50	8.55



Multiport Data Switches

► Fully Shielded Metal Case

► Current Capacity 2 Amps

► 7×5×2"

Data Switches give you the flexibility to expand your system's capabilities. For computer port expansion or to share peripheral devices.

Stock No.	Mfr.'s Type	In and Out	Switch Position	Pin Configuration	EACH	
					1-4	5-9
510-9945	30-9575-2	RS-232	2 (1 in/2 out)	RS-232 9 pin female	25.90	23.31
510-9913	30-9585-2	RS-232	2 (1 in/2 out)	RS-232 25 pin female	19.90	17.91
510-9914	30-9585-4	RS-232	4 (1 in/4 out)	Pin 1 com; Switch 25	49.90	44.91
510-9946	30-9590-2	RJ-11	2 (1 in/2 out)	4 and 6 conductor teleplug	31.00	27.90
510-9916	30-9595-2	Cent	2 (1 in/2 out)	Centronics 36-pin female	33.00	29.70
510-9917	30-9595-4	Cent	4 (1 in/4 out)	Switches 36 signals	54.00	48.60
510-9950	30-9586-2	BNQ	2 (1 in/2 out)	BNC all female	33.00	29.70

Low profile A/B switch with 6 ft. cord with 25 pin male connector

Stock No.	Mfr.'s Type	Description	EACH	
			1-4	5-9
510-9968	30-9565	2 (1 in/2 out)	37.90	34.11

Gender Adapters and Surge Protectors

3-pin Gender Adapter—Fig. A

Stock No.	Mfr.'s Type	Gender	EACH	
			1-9	10-24
510-9919	30-9507	Male to Male	5.00	4.50
510-9920	30-9508	Female to Female	5.00	4.50

15-pin Gender Adapter—Fig. B

Stock No.	Mfr.'s Type	Gender	EACH	
			1-9	10-24
510-9921	30-9517	Male to Male	8.00	7.20
510-9922	30-9518	Female to Female	8.00	7.20

25-pin Gender Adapter—Fig. C

Stock No.	Mfr.'s Type	Gender	EACH	
			1-9	10-24
510-9923	30-9500	Male to Male	5.70	5.13
510-9924	30-9501	Female to Female	5.70	5.13
510-9925	30-9505	Male to Female	7.50	6.75

Mini Gender Changer—Fig. D

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	10-24
510-9970	30-9530	9-Pin Female to Female	6.00	5.40
510-9971	30-9531	9-Pin Male to Male	6.00	5.40
510-9972	30-9532	15-Pin Female to Female	6.50	5.85
510-9973	30-9533	15-Pin Male to Male	6.50	5.85
510-9974	30-9534	25-Pin Female to Female	7.50	6.75
510-9975	30-9535	25-Pin Male to Male	7.50	6.75

VGA Adapter 9-pin Female to 15-Pin High Density Male—Fig. E

Stock No.	Mfr.'s Type	Gender	EACH	
			1-9	10-24
510-9969	30-9522	Female to High Density Male	8.00	7.20

25-36 Adapter—Fig. F. DB25 Male to 36 Pin Centronic Male

Stock No.	Mfr.'s Type	EACH	
		1-9	10-24
510-9930	30-9519	7.50	6.75

Centronics—Fig. G. 36 Pin Female to Female Adapter

Stock No.	Mfr.'s Type	EACH
510-9929	30-9509	11.00
		9.90

9-25 Pin Gender Adapter—Fig. H. 9-Pin Female to 25-Pin Male

Stock No.	Mfr.'s Type	EACH
510-9955	30-9516	7.00
		6.30

RS-232 Breakout Box—Pocket Size—Fig. I

- 24 Switches
- 20 Jumpers included
- 10 Interface signal powered LEDs

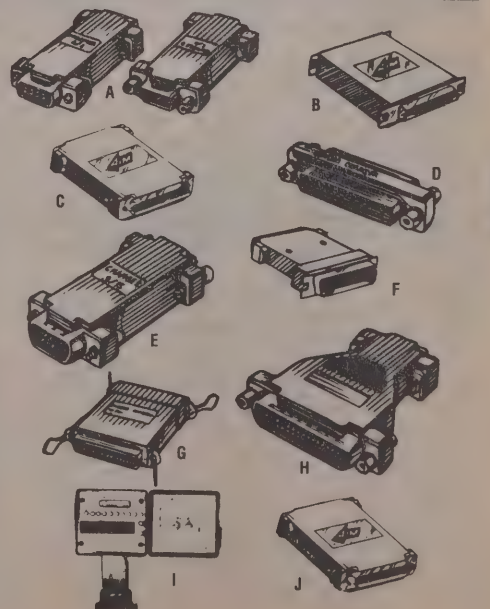
Stock No.	Mfr.'s Type	EACH
510-9956	30-9549	71.90
		64.71

Surge Protector—Fig. J. Female to Male G1 to 2, 3 and 7

Stock No.	Mfr.'s Type	EACH
510-9928	30-9504	12.00
		10.80

Deluxe Surge Protector—Fig. J. Female to Male G1 to 2 through 8 and 20

Stock No.	Mfr.'s Type	EACH
510-9957	30-9514	13.00
		11.70



Dorio Single-Session Terminal

- ▶ 16 Terminal Emulations, Including WYSE®, Digital, ADDS, Televideo
- ▶ Support For Over 30 Operating Systems, Including UNIX®, Pick®, Multiuser DOS, OpenVMS
- ▶ Industry Standard Connectors And Protocols
- ▶ Serial And Centronics® Parallel Printer Ports
- ▶ Mini-DIN Keyboard Connector (PS/2®-Compatible)
- ▶ All Keys Remappable To Eight Levels
- ▶ Supports 25 Country Languages
- ▶ Cartridge Slot For Firmware Enhancements

- ▶ Simple, Windows-Like Setup In Five Languages: English, French, German, Italian, Spanish
- ▶ Programmable Banner
- ▶ Easy-On-The-Eyes Display Features
- ▶ Desktop Productivity Tools, Such As Clock (2 Alarms) And Calculator, Local Copy And Paste, Built-in Character Sets
- ▶ Horizontal And Vertical Scrolling
- ▶ Text Windowing Via Rectangular Area Operations
- ▶ Host Access To Terminal's Unique Serial Number



The Dorio single-session text terminal (VGB-10) brings new meaning to the word VALUE for organizations around the world. That's because it offers quality, reliability, ergonomic design, and plug-and-play compatibility — all at a very low price.

Just what does plug-and-play compatibility mean? It means that the Dorio terminal works in all computing environments where popular ASCII, ANSI, and PCTerm terminals are used today. It means that it emulates 16 popular text terminals and supports more than

30 different operating systems. You can be confident that it will work in your environment — totally independent of platform and application preferences.

What's more, every Dorio terminal is built and backed by a world-leading terminal manufacturer and service organization. It comes with a no-hassle, 30-day money-back guarantee, plus a comprehensive three-year warranty. Your Dorio purchase decision is risk-free!

Dorio Monitors

275-0300. VGB10-AA. North American (USA), 125 V, white characters.....	EACH	399.00
275-0310. VGB10-BA. North American (Canada), 10 A, green characters.....	EACH	399.00
275-0315. VGB10-CA. North American (Mexico), amber characters.....	EACH	399.00

Dorio Keyboard Styles

275-0320. LK411-AA. Traditional Digital VT keyboard with 108 keys.....	EACH	60.00
275-0325. LK412-AA. VT108 keyboard with WPS legends.....	EACH	60.00
275-0330. PCXAL-GA. Enhanced PC style keyboard*	EACH	60.00

*101 keys in North American models and 102 keys on international models.

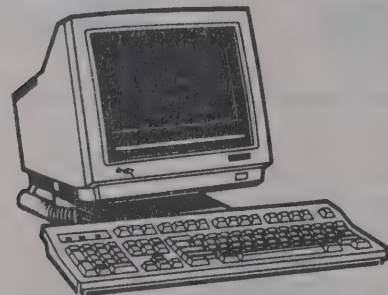
Dorio Multi-Session, Monochrome Text Terminals

- ▶ Split Screen Viewing of Any Two Sessions
- ▶ Session Borders with Session Labeling, Status Indicators
- ▶ ANSI/ASCII/PCTerm Protocols
- ▶ 17 Different Terminal Emulations
- ▶ Support for More than 30 Operating Systems

— NEW —

With Digital's multi-session terminals, it's like having four terminals in one. With either the VT520 or Dorio 20, you can create four independent sessions over a single wire via software, or you can access your applications via the three connectors provided on the terminal. Dorio multi-session terminals utilize the same keyboards as the Dorio single session terminal.

275-4000. VGB20-AA. International white.....	EACH	439.00
275-4010. VGB20-BA. International green.....	EACH	439.00
275-4015. VGB20-CA. International amber.....	EACH	439.00



VT500 Text Terminals

The VT500 family terminals are compatible with Digital's VT420, VT320, VT220, VT100, and 52 other ANSI terminals. Plus, they emulate 17 ASCII terminals, including WYSE 50, 60 and 160 text. VT500 text terminals utilize the same keyboards as the Dorio single session terminals.

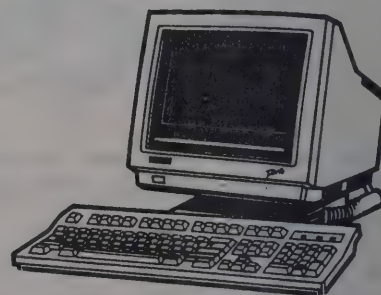
The VT510 features an anti-glare 14-inch flat surface with overscan. It can replace virtually any text terminal, so users have the flexibility to change desktop configurations. Three year warranty.

Color, Multi-Session Text Terminals

These terminals provide all the features of the multi-session products, with the added plus of color display. Each of the four sessions offers sixteen colors per session, with a 4096 color palette. Both support ANSI color protocol and ASCII color emulation. Four independent sessions, each with independent color capabilities. Split screen viewing of any two color sessions.

275-5000. VT510-AA. VT510, white.....	EACH	470.00
275-5010. VT510-BA. VT510, green.....	EACH	470.00
275-5015. VT510-CA. VT510, amber.....	EACH	470.00
275-5020. VT520-GA. Low emission, white.....	EACH	595.00
275-5030. VT520-AA. International, white.....	EACH	570.00
275-5040. VT520-BA. International, green.....	EACH	570.00
275-5050. VT520-CA. International, amber.....	EACH	570.00

— NEW —



DECLaser 3500

— NEW —

- ▶ True 600 DIP Resolution
- ▶ Interface Support Includes Serial, Bi-Directional Parallel, LocalTalk and Network Interface Card (Supporting TCP/IP, IPX/SPX, EtherTalk and LAT)

- ▶ Adobe PostScript Level 2 and PCL5
- ▶ International, Postscript FAX Capable
- ▶ Handles Up to 800 Sheets
- ▶ 12 Pages Per Minute

The DECLaser 3500 offers high performance, flexibility, and quality in a desktop printer.

275-3000. LN14M-CA. DECLaser 3500 (PC/Macintosh version).....	EACH	2623.00
275-3010. LN14N-CA. DECLaser 3500 (Networked version).....	EACH	2748.00
275-3015. LN14X-AA. LN14 toner cartridge.....	EACH	136.25
275-3020. LN14X-AT. LN14 Appletalk card.....	EACH	306.40
275-3025. LN14X-FB. LN14 2 MB programmable font.....	EACH	498.75
275-3030. LN14X-FX. LN14 internal FAX.....	EACH	436.25
275-3035. LN14X-SI. Serial interface.....	EACH	186.25
275-3050. LN14X-TC. Letter paper tray.....	EACH	248.75
275-3070. LN14X-TL. Legal size tray, 250 sheet.....	EACH	118.75



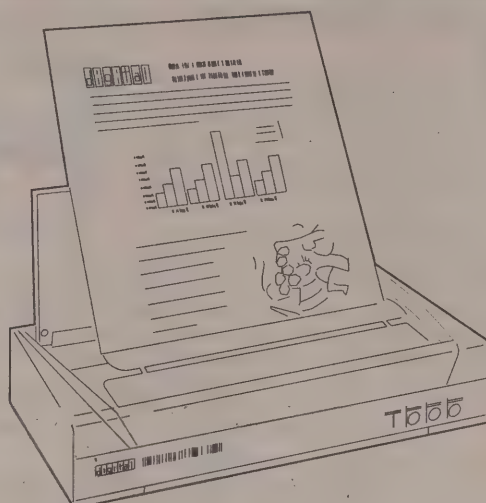
DECwriter 90ip Personal Printer

— NEW —

- ▶ Thermal Inkjet Technology
- ▶ 100 cps Performance at 300 dpi
- ▶ Prints on Plain Paper and Transparencies, with a 15 Sheet Automatic Feeder
- ▶ Resident Fonts — Courier, Letter Gothic, Times Nordic, Linear
- ▶ Ships with MS Windows 3.1 Driver
- ▶ Optional Car Lighter Adapter
- ▶ Small Footprint — 11.6" x 5.1" x 2.5"

Not everyone works at their desk, or in an office, or even in the same place every day. Digital can provide the perfect printing solution for your personal printing needs — the DECwriter 90ip Personal Printer. It prints where you work — at home, on the road, or in the office. A low-cost portable printing option, the DECwriter 90ip runs on AA batteries (and has an AC/DC adapter) with print speeds up to two pages per minute.

Weighing only 2.4 lbs., the DECwriter 90ip is truly portable, but sacrifices nothing in quality and features.



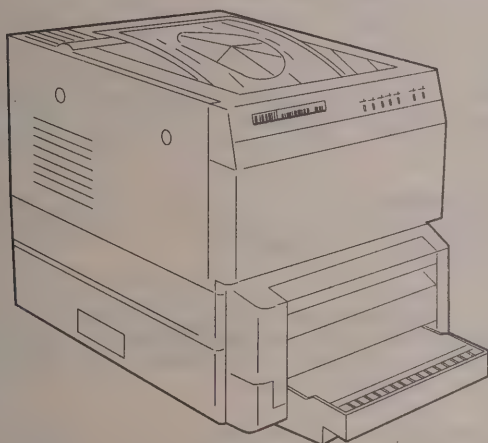
275-1000. LJ90-CA. DECwriter 90ip	EACH 433.50
275-1010. LJ90X-AA. Black print head	EACH 23.50
275-1020. LJ90X-AP. NiCad battery pak	EACH 61.20
275-1030. LJ90X-CA. Cigar lighter adapter	EACH 20.40

DECcolorwriter 1000

— NEW —

- ▶ High-Quality Color Printing for Even the Most Technical Environments

The DECcolorwriter 1000 delivers impressive, high-quality color output — using thermal transfer technology. Technical users in either engineering or scientific fields as well as graphic art professionals can take advantage of this printer's "On Screen Preview" to match the color of the display to the expected printout. 600 x 300 dpi resolution.



275-2000. LF02-CA. DECcolorwriter 1000*	EACH 5355.00
275-2010. LF02X-KA. Black thermal paper ribbon, 1 box of 880 pages	EACH 172.50
275-2015. LF02X-KB. 3-color thermal paper ribbon, 1 box of 342 pages	EACH 215.50
275-2020. LF02X-KC. 3-color laser paper ribbon, 1 box of 214 pages	EACH 164.50
275-2025. LF02X-TA. Lower input tray with perforated letter size tray†	EACH 636.50

*Serial, Parallel and AppleTalk Interfaces.
†100 Sheets.

DECwriter 95

- ▶ A Perfect Companion To Any Personal Computer
- ▶ Quiet Enough For Home Or Office At 43 dBA
- ▶ Versatile Paper Handling — Including Labels And Envelopes
- ▶ Quarter Page Printing — Prints Four Pages Of Text Onto One
- ▶ Simple Setup Through Front LCD Panel
- ▶ Windows 3.1 Printer Driver Included
- ▶ Auto Parking/Loading Features
- ▶ Top, Rear, and Bottom Paper Paths
- ▶ An Affordable Output Solution For PC Users
- ▶ Crisp Text And Superb Color Graphics — 360 x 360 dpi
- ▶ Epson LQ570 (with ESC/P 2) And IBM Proprinter X24e Emulations
- ▶ 13 Resident Fonts For Professional Looking Documents
- ▶ Color Capable — Through Optional Color Kit

The affordable DECwriter 95 provides quality, presentation style output for even the most discriminating PC user. The DECwriter 95 includes state-of-the-art features such as built-in scalable fonts in type sizes from 8 to 40 points, automatic emulation sensing, ultraquiet operation at 43 dB (decibels), easy setup through its top LCD control panel, and added features like Quarter Page Printing (allows you to print four page images onto one page) and Memory Recall to automatically recall the printer setups of the software that you use most often. Optional features of the DECwriter 95 include a Color On Command™ Kit, Serial Interface Card, Memory Expansion Cartridge, Automatic Sheet Feeder, and Desk Stand.

Compatible with the Epson LQ570® and IBM® Proprinter X24e® emulations, the DECwriter 95 comes standard with a Windows™ 3.1 printer driver, allowing seamless printing from all Windows-based software applications.



275-0100. LA95-CA*. DECwriter 95 Dot Matrix Printer (North America, 120 V)	EACH 436.00
275-0110. LA95R-KA. Nylon Ribbon, Black (2 m characters)	EACH 10.00
275-0115. LA95R-KC. Nylon Ribbon, Color (2 m characters/black, cyan, magenta, yellow)	EACH 32.50
275-0120. LA95X-CK. Color On Command Kit	EACH 70.25
275-0125. LA95X-DA. 128K RAM Expansion Cartridge	EACH 102.00
275-0130. LA95X-DS. Desktop Stand	EACH 62.00
275-0135. LA95X-SF. Automatic Sheet Feeder	EACH 151.75
275-0140. LA95X-SI. Serial Interface Kit	EACH 61.20
275-0145. BC19M-06. IBM/Centronic Parallel Cable (6 ft.)	EACH 19.25
275-0150. BC19M-10. IBM/Centronic Parallel Cable (10 ft.)	EACH 32.00
275-0155. BC16E-10. DECconnect Standard Terminal Cable (10 ft.)	EACH 7.65
275-0160. H8575-E. 25-Pin Male MMJ Adapter (for serial interface connection)	EACH 39.55

*Other International Variants Are Available.

Computer Data Transfer Switches

Data Switches

Data switches permit computer users to share printers, modems, etc., providing economy by decreasing the amount of equipment needed. All GC data switches are data-transparent and all lines are switched "straight-through". This permits using an A/B switch to a printer with two computers, or using two printers with one computer, and so forth.

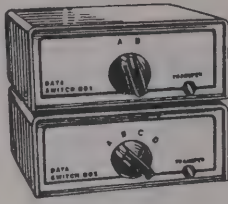
This series of switches is built in sturdy steel cases for excellent shielding characteristics and durability. Switches are sealed and contacts employ precious metals. For use with printers, modems, plotters, etc.

Switch Types. Standard switch types...one printer may be switched between two (A/B) or more (A/B/C/D) computers (or vice versa). X-Switch — Two computers can share two different printers (or any peripherals) and connections are changed with a flip of a knob.

*Centronics is a registered trademark of Centronics Data Computer Corp.

**IBM is a registered trademark of International Business Machines Corp.

*Apple is a registered trademark of Apple Computer, Inc.

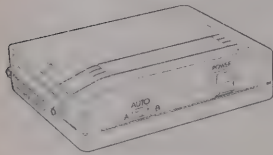


Automatic A/B Data Switch

Types 45-2090 and 45-2091. Automatically switches between two computers sharing a single printer. Requires no external power. Manual override switch is available. DB-25 connectors

796-9985. 45-2090. Serial.....EACH 55.00

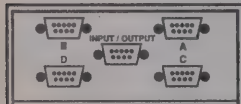
796-4520. 45-2091. Parallel.....EACH 55.00



Centronics A/B/C Switch

Type 45-2022. Permits use of three peripherals with one computer (or vice versa).

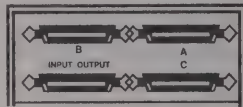
796-2023. 45-2022.....EACH 41.83



DB-9 A/B/C/D Switch

Type 45-2035. One female DB-9 I/O connector to four female DB-9 connectors.

796-2034. 45-2035.....EACH 40.29



Mini Din 8 Pin Switch

Types 45-2070, 45-2074 and 45-2075. These switches have one I/O female Mini Din 8 Pin connector to two (A/B), or three (A/B/C), or four (A/B/C/D) I/O female Mini Din 8 Pin connectors.

796-9987. 45-2070.....EACH 36.19

796-9986. 45-2074.....EACH 42.39

796-2079. 45-2075.....EACH 48.69



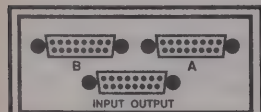
RS-232 DB-25 Switch

Types 64-2001, 45-2002 and 45-2006. One I/O DB-25 female connects to two (A/B), three (A/B/C), or five (A/B/C/D/E) DB-25 female I/O connectors. A/B/C Switch Example: Allows three peripherals to be connected to one computer, or three computers connected to one peripheral.

796-9992. 64-2001. A/B.....EACH 19.80

796-9989. 45-2002. A/B/C.....EACH 41.69

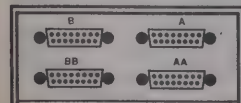
796-9988. 45-2006. A/B/C/D/E.....EACH 79.79



RS-232 A/B/C/D Switch

Type 45-2005. One I/O DB-25 female to four DB-25 females.

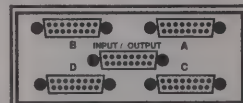
796-2004. 45-2005.....EACH 48.69



RS-232 X-Switch

Type 45-2008. Two I/O DB-25 female connectors to two peripheral DB-25 connectors. Permits either PC to use either of two peripherals.

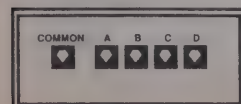
796-2007. 45-2008.....EACH 41.69



RJ-11 A/B/C/D Switch

Type 45-2064. One I/O 4 conductor RJ-11 TELCO jack to four RJ-11 jacks. For switching telephone or data equipment using standard four-conductor telephone style TELCO connectors.

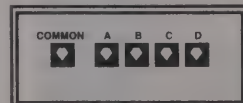
796-2063. 45-2064.....EACH 40.29



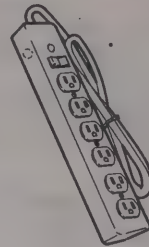
RS-45 A/B/C/D Switch

Type 45-2058. For switching voice and/or data communications lines that are terminated with 8-pin RJ-45 style TELCO connectors. One I/O female to four RJ-45 females.

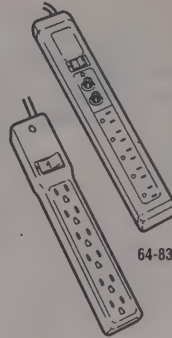
796-2059. 45-2058.....EACH 45.89



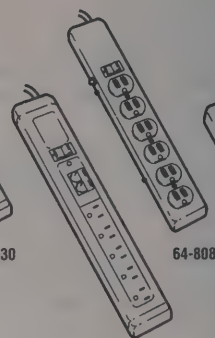
Surge Suppressors



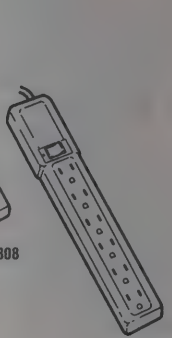
64-631



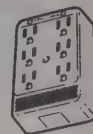
64-830



64-808



64-807



64-806



64-803



64-801



64-802



64-805

Six-Outlet Surge Suppressor (Three Line)

Electrical Ratings: AC 125 V, 15 A, 1875 W. **Surge Dissipation:** 90 joules. **Response Time:** <5 ns. **Surge Voltage:** 6500 V. **Surge Current:** 4000 A. **Surge Indicator:** Fused LED. **3 Line Protection:** Hot, neutral, ground. **EMI/RFI*:** Noise reduction — 100 Hz to 50 MHz.

*Electromagnetic/Radio Frequency Interference.

796-9984. 64-631.....EACH 19.86

Six-Outlet Surge Suppressor

Electrical Ratings: 125 V, 15 A, 1875 W. **Surge Dissipation:** 60 joules. **Current Peak:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Line Protected:** Hot.

796-9983. 64-661.....EACH 6.92

Six Outlet Surge Suppressor with EMI/RFI Filter

Electrical Ratings: 125 V, 15 A, 1875 W. **Maximum Surge Dissipation:** 120 joules. **Maximum Spike Current:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Line Protected:** Hot to neutral.

796-9886. 64-806.....EACH 6.25

Six Outlet Surge Suppressor with 240 Joule Rating

Electrical Ratings: 125 V, 15 A, 1875 W. **Maximum Surge Dissipation:** 240 joules. **Maximum Spike Current:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Lines Protected:** Hot to neutral, neutral to ground, hot to ground.

796-9887. 64-803.....EACH 14.75

Single Outlet Home/Office Surge Suppressor

Electrical Ratings: 125 V, 15 A, 1875 W. **Maximum Surge Dissipation:** 180 joules. **Maximum Spike Current:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Lines Protected:** Hot to neutral, neutral to ground, hot to ground.

796-9885. 64-801.....EACH 4.35

Six Outlet Wall Mount Surge Suppressor/Coax Protection

Electrical Ratings: 125 V, 15 A, 1875 W. **Maximum Surge Dissipation:** 240 joules. **Maximum Spike Current:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Lines Protected:** Hot to neutral, neutral to ground, hot to ground.

796-9888. 64-802.....EACH 14.75

Outlet Strip Surge Suppressor/Coax Protection with EMI/RFI

Electrical Ratings: 125 V, 15 A, 1875 W. **Maximum Surge Dissipation:** 200 joules. **Maximum Spike Current:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Lines Protected:** Hot to neutral, neutral to ground, hot to ground.

796-9889. 64-830.....EACH 14.99

Six-Outlet Wall Mount AC/Telephone Surge Suppressor

Electrical Ratings: 125 V, 15 A, 1875 W. **Maximum Surge Dissipation:** 240 joules. **Maximum Spike Current:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Lines Protected:** Hot to neutral, neutral to ground, hot to ground.

796-9890. 64-805.....EACH 14.75

Five-Outlet Strip AC/Telephone Suppressor with EMI/RFI

Electrical Ratings: 125 V, 15 A, 1875 W. **Maximum Surge Dissipation:** 270 joules. **Maximum Spike Current:** 4500 A. **Clamping Voltage:** 400 V. **Response Time:** <1 ns. **Maximum Surge Voltage:** 6500 V. **Lines Protected:** Hot to neutral, neutral to ground, hot to ground.

796-9891. 64-800.....EACH 14.99

Six-Outlet Power Strip

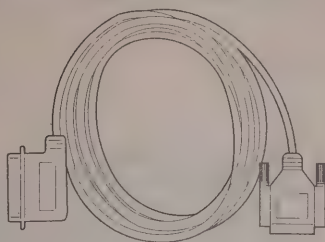
Electrical Ratings: 120 V, 15 A, 1875 W. **Power Cord:** 14 AWG, UL SJT. **Circuit Breaker:** 15 A resettable.

796-9892. 64-808.....EACH 5.59

796-9893. 64-807.....EACH 7.25

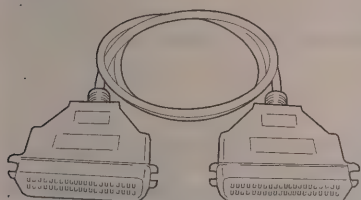
Printer Cables

These cables are designed to connect IBM (and compatible) computers to EPSON (and compatible) parallel printers. Models are available with straight, or connectors with 90 degree angle for those tight spaces. Various lengths are available. 100% Mylar foil shield.



797-0300. Model 45-201. 6' IBM Parallel Printer Cable.....	EACH	12.27
797-0305. Model 45-202. 2' IBM Parallel Printer Cable.....	EACH	11.49
797-0310. Model 45-204. 10' IBM Parallel Printer Cable.....	EACH	18.49

SCSI



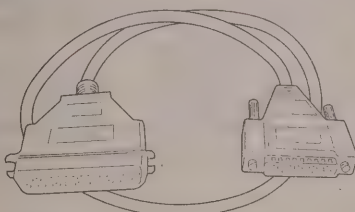
SCSI Peripheral Cable

Used to link SCSI devices, tape drives, disk drives and scanners together. The SCSI port permits high speed communication between the computer and the device. Can also be used to connect the Personal Laserwriter SC and the LaserWriter IISC printers to the SCSI port. Centronics 50-pin male to male.

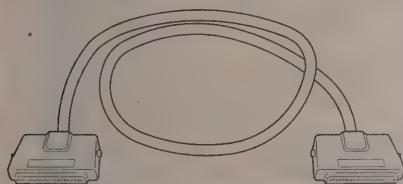
797-0315. Model 45-853. 3' Length.....	EACH	14.74
797-0320. Model 45-854. 3' Length, 50 Wire Cable.....	EACH	26.69
797-0325. Model 45-856. 6' Length.....	EACH	16.99
797-0330. Model 45-855. 6' Length, 50 Wire Cable.....	EACH	31.99

SCSI System Cable

Used to interface SCSI devices with a DB-25 female port directly to the SCSI port on the Macintosh® computer. DB-25 male to 50-position Centronics male.



797-0335. Model 45-862. 2' Length.....	EACH	12.59
797-0340. Model 45-863. 3' Length.....	EACH	12.79
797-0345. Model 45-866. 6' Length.....	EACH	17.23



SCSI-2 Cables

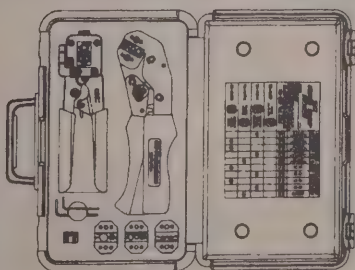
Industry leaders IBM®, Dec, Apple®, Compaq, Hayes® have developed equipment that uses the SCSI-2 standard. These cables comply with or exceed the SCSI-2 specifications. SCSI-2 systems up to 10 MB per second. This high transfer rate requires a quality cable.

796-4589. Model 45-890. 6' Length, Half Pitch DB-50, Male to Male.....	EACH	114.49
797-0375. Model 45-813. 3' Length, Half Pitch DB-50, Male to Male.....	EACH	70.00
797-4596. Model 45-896. 6' Length, Centronics, 50-Pin to Half Pitch.....	EACH	92.59

Professional LAN Communications Installation Kit

► 4 Interchangeable Dies

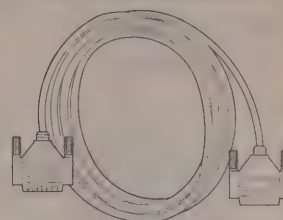
High carbon steel ratchet frame (No. 12-8401) with interlocking handle provides full comfort and maximum crimping force for precision splicing and crimping of coax, insulated terminals, fiber optic connectors and open barrel contacts. Accepts additional 12-8400 series interchangeable dies. Complete kit includes No. 12-8427 professional die for D-subminiature open barrel contacts; No. 12-8466 die for RG58 and RG59 coax hex crimp; Cat. No. 12-8470 die for N type and RG8 coax; and No. 12-8476 die for RG58 and RG59 round coax crimp. A professional grade Tele-crimp tool (No. 12-8208) is packaged in the same convenient storage box for modular phone applications. Complete with user instructions. Tested through 50,000 cycles. Made in U.S.A.



797-0380. Model 12-8300.....	EACH	315.00
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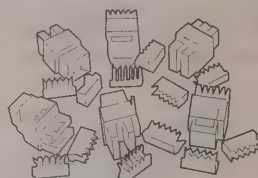
RS-232 DB-25 (25 Line)

Standard DB-25 connectors all cables wired straight through. Shielded with 100% aluminized Mylar foil wrap. Contacts gold flashed.



797-0350. Model 45-379. 6' Male/Female.....	EACH	16.59
797-0355. Model 45-374. 10' Male/Female.....	EACH	19.89
797-0360. Model 45-375-BU. 25' Male/Female.....	EACH	15.52
797-0365. Model 45-376. 6' Male/Male.....	EACH	16.59
797-0370. Model 45-377. 10' Male/Male.....	EACH	19.89

Network Communications



Modular IDC Connectors — Category 5

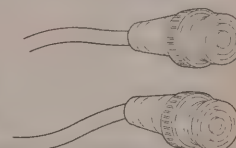
► Category 5 Transmits Up to 100 Megabytes of Information Per Second

Insulation displacement contacts for 22 to 26 AWG wire. Allows for convenient termination of twisted pair cable. 50 microinches of gold plating or modular contacts. Complies with IEEE standards 802.3 (10BaseT) and 802.5 (Token Ring). These connectors are designed to snap into patch panels and wall plates. A variety of colors allows flexibility in wiring configurations. TIA and AT&T wiring schemes are easily accepted by these connectors.

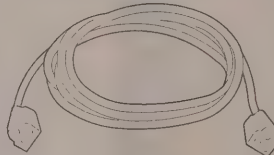
797-0385. Model 45-5550. 8-Conductor, Category 5, Black.....	EACH	11.55
797-0390. Model 45-5554. 8-Conductor, Category 5, White.....	EACH	11.55
797-0395. Model 45-5553. 8-Conductor, Category 5, Red.....	EACH	11.55
797-0400. Model 45-5555. 8-Conductor, Category 5, Yellow.....	EACH	11.55
797-0405. Model 45-5552. 8-Conductor, Category 5, Blue.....	EACH	11.55
797-0410. Model 45-5216. 8-Conductor, Category 5, Green.....	EACH	11.55

BNC Cable Assemblies

This RG-58 coaxial cable is terminated with male BNC connectors. Use these cables to link Ethernet systems.



797-0420. Model 45-5129. 12', RG-58 Male to Male BNC.....	EACH	5.29
797-0525. Model 45-5130. 25', RG-58 Male to Male BNC.....	EACH	5.54
797-0425. Model 45-5131. 50', RG-58 Male to Male BNC.....	EACH	9.09
797-0435. Model 45-5132. 100', RG-58 Male to Male BNC.....	EACH	16.19



Modular Line Cord Assemblies — Category 5

These category 5 assemblies utilize four twisted pairs to meet the electrical requirements for data transmission. Speeds up to 100 megabytes per second. These assemblies are wired per the WECO, AT&T 258 A, and EIA/TIA 568 B. Applications include 10BaseT and Token Ring Networks.

Stranded

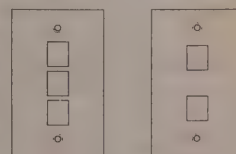
797-0440. Model 45-5281. 3', 4 Pair, Category 5 Assembly.....	EACH	10.11
797-0445. Model 45-5282. 7', 4 Pair, Category 5 Assembly.....	EACH	12.29
797-0450. Model 45-5300. 10', 4 Pair, Category 5 Assembly.....	EACH	14.29
797-0455. Model 45-5301. 14', 4 Pair, Category 5 Assembly.....	EACH	16.79
797-0460. Model 45-5302. 15', 4 Pair, Category 5 Assembly.....	EACH	17.49
797-0465. Model 45-5303. 25', 4 Pair, Category 5 Assembly.....	EACH	23.09

Solid

797-0470. Model 45-5306. 3', 4 Pair, Category 5 Assembly.....	EACH	9.19
797-0475. Model 45-5307. 7', 4 Pair, Category 5 Assembly.....	EACH	11.89
797-0480. Model 45-5308. 14', 4 Pair, Category 5 Assembly.....	EACH	15.79
797-0485. Model 45-5309. 15', 4 Pair, Category 5 Assembly.....	EACH	16.39
797-0490. Model 45-5310. 25', 4 Pair, Category 5 Assembly.....	EACH	22.19
797-0495. Model 45-5312. 50', 4 Pair, Category 5 Assembly.....	EACH	35.19

Network Plates

Wall plates allow custom modular connectors, BNC and "F" connectors to be installed quickly. Use to transmit voice or data in any network. Install or move equipment in minutes without any special tools.



797-0500. Model 45-950. Voice Single Connector Wall Plate.....	EACH	3.28
797-0505. Model 45-938. Dual Connector Wall Plate.....	EACH	3.79
797-0510. Model 45-933. 3-Way Connector Wall Plate.....	EACH	3.79
797-0515. Model 45-934. 4-Way Connector Wall Plate.....	EACH	3.79
797-0520. Model 45-936. 6-Way Connector Wall Plate.....	EACH	3.79

Motorola ISG

28.8 Desktop Modems

LifeStyle

- ▶ True V.34 Technology
- ▶ Fax Error Correction
- ▶ On-Screen Help Utility
- ▶ Caller ID Support
- ▶ Enhanced Access Security
- ▶ Compatibility with all Popular Communications Software

Power Series

- ▶ Software Downloadable Architecture
- ▶ Distinctive Ring
- ▶ Enhanced Password and Callback Security
- ▶ Remote Configuration — Load or Modify Modem Setting from Remote Location

The LifeStyle 28.8 data/fax desktop modems are targeted at home and first time IBM-compatible PCs and Apple Macintosh users. They are ideal for applications such as, information retrieval via on-line services, interactive electronic game-playing and electronic shopping and banking. The Power series modems, support advanced features intended to serve the needs of business and professional users which tend to be more advanced in their computing requirements.

276-2200. 6209541900010. LifeStyle (PC Version).....EACH 325.00
276-2300. 6209541900030. Power (PC Version).....EACH 375.00

14.4 Modems

LifeStyle

- ▶ Cellular Upgradeable
- ▶ Software Downloadable
- ▶ On-Line "Help" Screen
- ▶ Low Power Consumption
- ▶ High Speed Fax Modem

Power Series

- ▶ Low Power Consumption
- ▶ High Speed Fax Modem
- ▶ Direct Connect to Motorola MC MicroTAC Cellular Phones
- ▶ Remote Configuration for Unattended Remote Modems

The LifeStyle 14.4 PCMCIA was designed for wireline operation. This product is upgradeable to cellular by purchasing a Motorola cellular upgrade kit. This allows consumers to purchase a PCMCIA modem today, for typical wireline operation, at the lowest price possible without the worry of obsolescence if they later need cellular capabilities. The Power 14.4 PCMCIA is a wireline/cellular modem. This is an ideal product for the mobile user needing to access critical information wherever they are. Both provide data and fax communications from laptop or palmtop PCs supporting PCMCIA class 2 slots.

276-2000. 6209540700040. LifeStyle.....EACH 229.00
276-2100. 6209540700050. Power.....EACH 339.00

Multi-Tech Modems

Desktop

- ▶ V.32 (9.6 K, 7.2 K, 4.8, K 2.4 K, 0-1.2 K bps) Modulation Speeds
- ▶ V.42 Error Correction, MNP Class 5 (2:1) and V.42 bis (4:1) Data Compression, and Group 3 (9.6 K/4.8 K bps) Fax
- ▶ Automatic Dial, Automatic Answer, Speed Conversion, and Automatic Rate Detection
- ▶ Dial-Up Lines for Async Equipment
- ▶ 5-Year Warranty, Unless Otherwise Specified

277-1050. MT1932ZDX.....EACH 198.00
277-1060. MT2834ZDX.....EACH 349.00
277-1070. MT932BA.....EACH 699.00
277-1080. MT1432BA.....EACH 749.00
277-1090. MT1932BL.....EACH 799.00
277-1100. MT2834BA.....EACH 799.00
277-1110. MT2834BL.....EACH 849.00

Internal

- ▶ V.32 (9.6 K, 7.2 K, and 4.8 K bps), V.22bis (2.4 K bps), and V.22/Bell 212 A (0-1.2 K bps) Compatibility for Datacomm
- ▶ V.42 Error Correction, MNP Class 5 (2:1) and V.42 bis (4:1) Data Compression, and Group 3 (9.6 K/4.8 K bps) Fax
- ▶ Automatic Dial (NO-N9), Automatic Answer, Speed Conversion, Automatic Rate Detection, 8- or 16-bit ISA-Bus Compatibility, Extended Addressing, and Remote Configuration
- ▶ MultiExpress for Windows Datacomm and MultiExpressFax for Windows Fax Software Included
- ▶ Dial-up Lines for Async Equipment
- ▶ 5-Year Warranty, Unless Otherwise Specified

277-1000. MT1932ZPX.....EACH 198.00
277-1010. MT2834ZPX.....EACH 329.00
277-1020. MT932BC.....EACH 349.00
277-1030. MT1432BC.....EACH 399.00
277-1040. MT2834BC.....EACH 449.00

Portable

- ▶ V.32 (14.4 K, 12 K, 9.6 K, 7.2 K, 4.8 K 2.4 K, 0-1.2 K bps) Modulation Speeds
- ▶ V.42 Error Correction, MNP Class 5 (2:1) and V.42 bis (4:1) Data Compression, and V.17/Group 3 (14.4 K/9.6 K/4.8 K bps) Fax
- ▶ Automatic Dial (NO-N9), Automatic Answer, Speed Conversion, Automatic Rate Detection, Remote Configuration, and Flash Memory for Firmware Upgrades
- ▶ Dial-up Lines for Async Equipment
- ▶ Includes Windows or Macintosh Datacomm and Fax Software
- ▶ Remote Configuration
- ▶ 5-Year Warranty

277-1120. MT1432MU.....EACH 699.00
277-1130. MT1432MU-Mac.....EACH 699.00
277-1140. MT1432LT.....EACH 299.00
277-1150. MT2834LT.....EACH 399.00

3Com Network Adapters

EtherLink

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- ▶ Powerful Management
- ▶ Low Price
- ▶ Strong Family Ties
- ▶ Extensive Compatibility
- ▶ Reliability

TokenLink

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- ▶ Full Management
- ▶ Low-Cost IBM Solutions
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- ▶ Reliability
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3Com offers leading adapters for all network environments — Ethernet and Token Ring. For all types of buses — ISA, EISA, MCA, and PCMCIA and for any kind of media — unshielded twisted pair (UTP), shielded twisted pair (STP), coaxial, and fiber wiring. All 3Com Ethernet and Token Ring adapters are SNMP manageable with 3Com Transcend SmartAgent™ software that lets you easily see and control PC network activity. 3Com adapters are designed to work with Novell® NetWare®, and are fully compatible with over 90 other network operating systems and utilities, including MS LAN Manager, MS Windows NT, Banyan® VINES, and IBM LAN Server. TokenLink III adapters come with AutoLink software that lets you complete your adapter installation — including downloading of NetWare client files — in about three minutes. Completely software configurable, TokenLink III adapters also include an on-board universal boot PROM so you can easily download drivers from the most popular network operating systems. LEDs verify insertion into the ring and let you effortlessly see ring speed.

Ethernet ISA/EISA

Stock No.	Mfr.'s Type	Description	EACH
278-0010	3C503-16	EtherLink II*/16 16-Bit ISA (coax)	194.00
278-0015	3C503-16-5PK	EtherLink II*/16 16-Bit ISA Five-Pack (coax)	865.00
278-0020	3C503-16-20PK	EtherLink II*/16 16-Bit ISA Twenty-Pack (coax)	3000.00
278-0025	3C503-16-TP	EtherLink II*/16 TP 16-Bit ISA	205.00
278-0030	3C503-16-TP-5PK	EtherLink II*/16 TP 16-Bit ISA Five-Pack	893.00
278-0035	3C503-16-TP-20PK	EtherLink II*/16 TP 16-Bit ISA Twenty-Pack	3000.00
278-0040	3C509B	EtherLink III 16-Bit ISA (coax)	135.00
278-0045	3C509B-5PK	EtherLink III 16-Bit ISA Five-Pack (coax)	600.00
278-0050	3C509B-20PK	EtherLink III 16-Bit ISA Twenty-Pack (coax)	2210.00
278-0055	3C509B-60PK	EtherLink III 16-Bit ISA Sixty-Pack (coax)	6220.00
278-0060	3C509B-TP	EtherLink III 16-Bit ISA 10BASE-T	132.00
278-0065	3C509B-TP-5PK	EtherLink III 16-Bit ISA 10BASE-T Five-Pack	565.00
278-0070	3C509B-TP-20PK	EtherLink III 16-Bit ISA 10BASE-T Twenty-Pack	2050.00
278-0075	3C509B-TP-60PK	EtherLink III 16-Bit ISA 10BASE-T Sixty-Pack	5720.00
278-0080	3C509B-TPO	EtherLink III 16-Bit ISA 10BASE-T Only	125.00
278-0085	3C509B-TPO-5PK	EtherLink III 16-Bit ISA 10BASE-T Only Five-Pack	530.00
278-0090	3C509B-TPO-20PK	EtherLink III 16-Bit ISA 10BASE-T Only Twenty-Pack	1910.00
278-0095	3C509B-TPO-60PK	EtherLink III 16-Bit ISA 10BASE-T Only Sixty-Pack	5300.00
278-0100	3C509B-COMBO	EtherLink III 16-Bit ISA Combo (coax, 10BASE-T)	150.00
278-0105	3C509B-COMBO-5PK	EtherLink III 16-Bit ISA Combo Five-Pack (coax, 10BASE-T)	655.00
278-0110	3C509B-COMBO-20PK	EtherLink III 16-Bit ISA Combo Twenty-Pack (coax, 10BASE-T)	2415.00
278-0115	3C509B-COMBO-60PK	EtherLink III 16-Bit ISA Combo Sixty-Pack (coax, 10BASE-T)	6800.00
278-0120	3C579	EtherLink III 32-Bit EISA (coax)	277.00
278-0125	3C579-5PK	EtherLink III 32-Bit EISA Five-Pack (coax)	1185.00
278-0130	3C579-TP	EtherLink III 32-Bit EISA 10BASE-T	277.00
278-0135	3C579-TP-5PK	EtherLink III 32-Bit EISA 10BASE-T Five-Pack	1185.00

Ethernet PCMCIA

278-0140	3C589B-TP	EtherLink III PCMCIA 10BASE-T (RJ-45)	189.00
278-0145	3C589B-TP-5PK	EtherLink III PCMCIA 10BASE-T Five-Pack (RJ-45)	888.00
278-0150	3C589B-COMBO	EtherLink III PCMCIA Combo (Coax and 10BASE-T)	248.00
278-0155	3C589B-COMBO-5PK	EtherLink III PCMCIA Combo Five-Pack (Coax and 10BASE-T)	1168.00
278-0160	3C589B-TP-CABLE	EtherLink III PCMCIA 10BASE-T Cable (6 ft./1.8 m)	20.00
278-0165	3C589B-COAX-CABLE	EtherLink III PCMCIA Coax Cable (6 in./15 cm)	85.00
278-0170	3C589-TP-CABLE	EtherLink III PCMCIA 10BASE-T Cable (6 ft./1.8 m)	36.00
278-0175	3C589-COAX-CABLE	EtherLink III PCMCIA Coax Cable (6 in./15 cm)	95.00

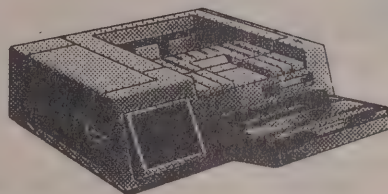
Token Ring ISA/MCA/EISA/PCMCIA

278-0180	3C619B	TokenLink III 16/4 16-Bit ISA	299.00
278-0185	3C619B-10PK	TokenLink III 16/4 16-Bit ISA Ten-Pack	2870.00
278-0190	3C679	TokenLink III 16/4 32-Bit EISA	655.00
278-0195	3C679-5PK	TokenLink III 16/4 32-Bit EISA Five-Pack	3115.00
278-0200	3C689	TokenLink III 16/4 PCMCIA	460.00
278-0210	3C689-5PK	TokenLink III 16/4 PCMCIA Five-Pack	2208.00

OKIDATA® Printers

OKIDATA® OL810E

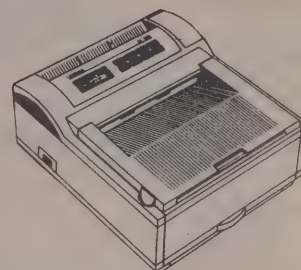
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- ▶ OKI Smoothing Technology™ For Superior Print Quality
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- ▶ Expandable To Dual Bin Paper Trays
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270-0101. OL810EEACH 900.00

OKIDATA® OL400e LED Page Printer

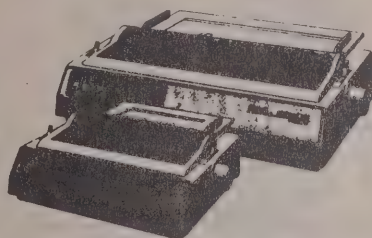
- ▶ Compact Size For A Perfect Fit For Any Office
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- ▶ Speedy, 4-PPM Printing With RISC Microprocessor — Perfect For Productivity
- ▶ Perfectly Compatible With Virtually All Software Applications
- ▶ 5 Year Printhead Warranty



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270-0300. ML320. IBM Narrow CarriageEACH 499.00
270-0301. ML321. IBM Wide CarriageEACH 699.00

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- ▶ OKIDATA Rugged And Reliable
- ▶ Backed By A 2 Year Limited Warranty
- ▶ 360 CPS Utility For High Productivity



Patented OKISmart Paper Handling™ makes conventional printers obsolete. Ensures virtually jam-free performance, excellent output. Come see the next generation of "smart" printers.

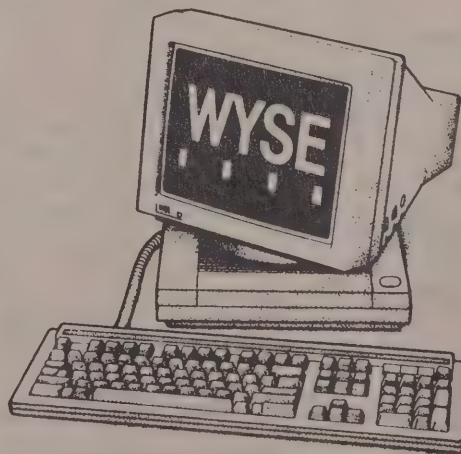
270-0400. ML590 Narrow CarriageEACH 699.00
270-0401. ML591 Wide CarriageEACH 949.00

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- ▶ Up to 80 Hz Flicker-Free Refresh Rate With Overscan
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- ▶ Choice of ASCII, ANSI, EPC, OR IEPC Keyboards
- ▶ Meets the World-Class Ergonomic and Safety Standards
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271-1000. WY-55A. AmberEACH 359.00
271-1020. WY-55G. GreenEACH 359.00
271-1030. WY-55W. WhiteEACH 359.00
271-1040. WY-55ES. White OnlyEACH 379.00



WY-520 And WY-520 ES PCTerm Compatible Terminal

- ▶ Wyse WY-60 Native Mode And Wyse PCTerm
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- ▶ VT420 Compatible
- ▶ Uncompromising Backward Compatibility: WY-85, VT320/100/52
- ▶ Flexibility in Host Connections
- ▶ NVR Savable, Host- or User-Programmable Function Keys
- ▶ Auto-Sensing Power Supply
- ▶ Selectable 85 Hz Refresh Rate
- ▶ DEC PCTerm Supported
- ▶ Covered By DEC Service as Well as All Other Wyse Authorized Service Centers
- ▶ EPA Energy Star™ Compliant

271-0200. WY-520A.....EACH 459.00
271-0210. WY-520ES.....EACH 479.00

WY-850 15" Monitor

- ▶ .28MM Dot Pitch
- ▶ Multi-Scanning 30-60 KHz
- ▶ Up to 1024 x 768 Non-interlaced Resolution

271-0600. WY-850.....EACH 499.00

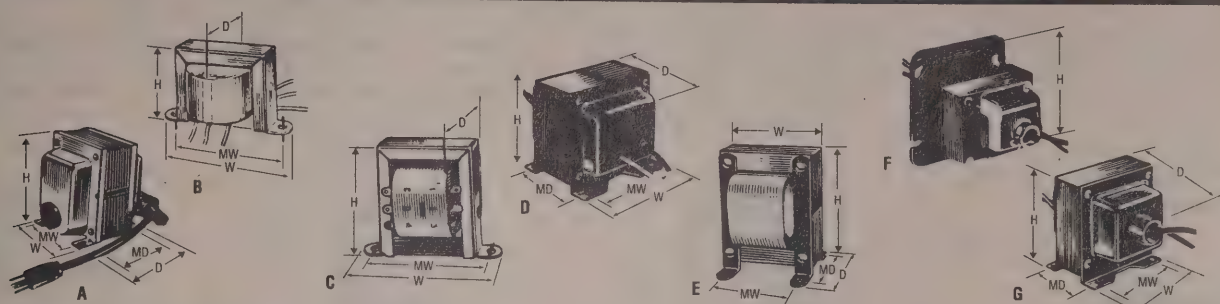
WY-870 17" Monitor

- ▶ .26MM Dot Pitch
- ▶ Multi-Scanning 30-76 KHz
- ▶ Up to 1280 x 1024 Non-Interlaced Resolution
- ▶ Microprocessor Based Digital Design

271-0500. WY-870.....EACH 1149.00

Adapters, Transformers and Variables

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Allied Step-Down Autotransformers

With 3-wire 6 ft. cord and plug, except † types. Female 3-wire outlet on case, except † types which have leads. Frequency: 50/60 Hz. Black enamel finish.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	VA Output	Size- Inches H x W x D	Mtg. Ctrs. MW x MD	Wt. Lbs.	EACH	
									1-49	50-99
705-0092	6K68HF	B †	230.	115	20	1 ¹⁵ / ₁₆ x 3 ¹ / ₄ x 1 ⁷ / ₈	2 ¹³ / ₁₆	1.3	12.85	10.15
705-0093	6K69HF	B †	230	115	50	2 ⁵ / ₁₆ x 3 ¹¹ / ₁₆ x 2 ¹ / ₈	3 ¹ / ₈	1.8	14.20	12.04
705-0188	6K168VCP	A	230	115	100	3 ¹ / ₂ x 2 ⁷ / ₈ x 3 ¹ / ₂	2 ¹ / ₄ x 2 ¹ / ₈	4.0	51.45	45.78
705-0189	6K169VCP	A	230	115	150	3 ⁷ / ₈ x 3 ¹ / ₈ x 3 ⁵ / ₈	2 ¹ / ₂ x 2 ⁵ / ₁₆	4.8	55.73	51.99
705-0190	6K170VCP	A	230	115	250	4 ¹ / ₂ x 3 ³ / ₄ x 4 ¹ / ₄	3 x 2 ¹⁵ / ₁₆	7.8	70.75	63.23
705-0196	6K171VCP	A	230	115	500	4 ¹ / ₂ x 3 ³ / ₄ x 4 ³ / ₄	3 x 3 ⁷ / ₁₆	10.0	73.48	69.45
705-0191	6K172VCP	A	230	115	750	5 ¹ / ₂ x 4 ⁵ / ₈ x 5	3 ¹ / ₂ x 3 ³ / ₈	13.8	94.83	89.23
705-0192	6K173VCP	A	230	115	1000	5 ¹ / ₂ x 4 ⁵ / ₈ x 5 ¹ / ₄	3 ¹ / ₂ x 3 ⁵ / ₈	14.8	110.00	94.01
705-0193	6K174VCP	A	230	115	1500	6 x 4 ¹ / ₂ x 5 ⁵ / ₈	3 ⁷ / ₁₆ x 3 ⁹ / ₁₆	19.0	132.00	123.00
705-0194	6K175VCP	A	230	115	2000	6 x 4 ¹ / ₂ x 6 ³ / ₈	3 ⁷ / ₁₆ x 4 ³ / ₈	25.0	154.77	141.68

Allied Control Transformers

Automation types for high-speed automatic equipment. Adapted to relays, pilot lamps, solenoids, small motors, etc. Also use in high current, low voltage power supplies.

Secondaries have two identical windings for series or parallel operation. Primaries operate from either 115 or 230V, 50/60 Hz.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Parallel	Series	Size-Inches H x W x D	Mtg. Ctrs. MW x MD	Wt. Lbs.	EACH	
									1-49	50-99
705-0101	6K77VFL	C	115/230	6V@2.0A	12V@1.00A	2 ³ / ₈ x 2 ⁷ / ₈ x 1 ³ / ₄	2 ³ / ₈	1.0	12.54	11.55
705-0102	6K78VFL	C	115/230	6V@4.0A	12V@1.00A	2 ³ / ₄ x 3 ¹ / ₈ x 2	2 ¹³ / ₁₆	1.5	15.91	13.94
705-0103	6K79VFL	C	115/230	12V@4.0A	24V@2.00A	3 ¹ / ₈ x 3 ⁵ / ₈ x 2 ³ / ₈	3 ¹ / ₈	2.5	16.45	14.16
705-0104	6K80VBR	E	115/230	12V@8.0A	24V@4.00A	3 ⁷ / ₁₆ x 2 ⁷ / ₈ x 3 ¹ / ₈	2 ¹ / ₄ x 2 ⁵ / ₈	4.5	28.76	24.73
705-0144	6K119VBR	E	115/230	12V@16.0A	24V@8.00A	4 ³ / ₁₆ x 3 ¹ / ₂ x 3 ⁷ / ₈	2 ³ / ₄ x 3	8.0	51.23	44.26
705-0200	6K183VFL	C	115/230	24V@0.5A	48V@0.25A	2 ⁵ / ₁₆ x 2 ⁷ / ₈ x 1 ³ / ₄	2 ³ / ₈	1.0	18.22	15.47
705-0210	6K184VFL	C	115/230	24V@1.0A	48V@0.50A	2 ³ / ₄ x 3 ¹ / ₈ x 2	2 ¹³ / ₁₆	1.5	17.86	15.15
705-0220	6K185VFL	C	115/230	24V@2.0A	48V@1.00A	3 ¹ / ₈ x 3 ⁵ / ₈ x 2 ³ / ₈	3 ¹ / ₈	2.5	23.51	20.07
705-0230	6K186VBR	E	115/230	24V@4.0A	48V@2.00A	3 ⁷ / ₁₆ x 2 ⁷ / ₈ x 3	2 ¹ / ₄ x 2 ¹ / ₄	4.5	35.00	30.75
705-0240	6K187VBR	E	115/230	24V@8.0A	48V@4.00A	4 ³ / ₁₆ x 3 ¹ / ₂ x 3 ⁷ / ₈	2 ³ / ₄ x 3	8.0	53.30	48.40

Allied Control Transformers

For 120V or low voltage 24V line. 50/60 Hz. 240-480V primaries must be series connected for 480V; parallel connected for 240V.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	VA Output	Size-Inches H x W x D	Mtg. Ctrs. MW x MD	EACH	
								1-49	50-99
705-0172	6K147	F	120	24	50	4 x 4 ³ / ₁₆ x 4 ³ / ₁₆	*	36.84	32.37
705-0173	6K148	G	120	24	100	3 ¹ / ₂ x 3 ³ / ₄ x 4 ⁹ / ₁₆	3 ¹ / ₄ x 1 ¹³ / ₁₆	40.53	32.66
705-0174	6K149	G	120	24	150	3 ¹ / ₂ x 3 ³ / ₄ x 5 ⁵ / ₁₆	3 ¹ / ₄ x 2 ⁹ / ₁₆	47.42	43.93
705-0175	6K150	D	120	24	250	3 ³ / ₄ x 4 ¹ / ₂ x 4 ⁷ / ₈	3 ³ / ₄ x 3 ¹ / ₁₆	60.42	56.03
705-0180	6K155	F	480/240	24	50	4 x 4 ³ / ₁₆ x 4 ³ / ₁₆	*	38.14	34.88

* Mounts to standard conduit box.

Allied Interstage Audio Transformer

Maximum DC permissible in primary is 30 mA. Single plate to P-P grid. Turns ratio: 1:1.

Stock No.	Mfr.'s Type	Fig.	Impedance-Ohms		Maximum DC Amps	Size-Inches H x W x D	Mtg. Ctrs. MW x MD	Wt. Lbs.	EACH	
			Primary	Secondary					1-49	50-99
705-0862	6W68HF	B	10K	10K CT	30 mA	1 ⁵ / ₈ x 2 ⁷ / ₈ x 1 ⁵ / ₈	2 ³ / ₈	0.8	14.62	12.65

Allied Isolation Transformers

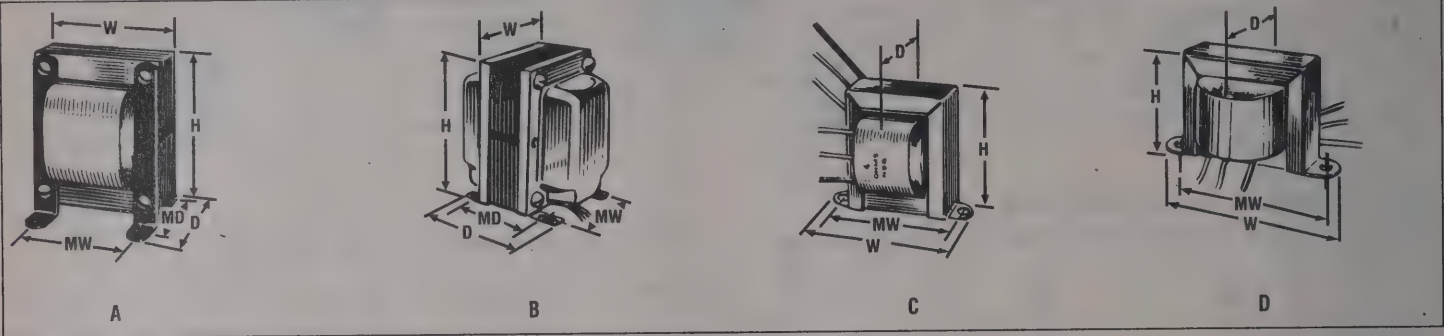
With new 3-wire 6 ft. cord, plug and receptacle, except * types which have leads. Frequency: 50/60 Hz.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	VA Outputs	Size H x W x D	Mtg. Ctrs MW x MD	Wt. Lbs.	EACH	
									1-49	50-99
705-0138	6K112HF*	B	115	115	35	2 ⁵ / ₁₆ x 3 ¹¹ / ₁₆ x 2 ¹ / ₄ "	3 ¹ / ₈ "	1.8	15.69	14.27
705-0165	6K140HF*	B	115/230	115	50	2 ⁵ / ₁₆ x 3 ¹¹ / ₁₆ x 2 ³ / ₈ "	3 ¹ / ₈ "	2.0	18.20	15.58
705-0197	6K180VCP	A	115	115	100	4 ³ / ₈ x 3 ⁵ / ₈ x 4"	2 ³ / ₄ x 2 ³ / ₄ "	6.5	62.36	61.09
705-0198	6K181VCP	A	115	115	150	3 ⁷ / ₈ x 3 ¹ / ₄ x 4 ⁷ / ₁₆ "	2 ¹ / ₂ "	7.3	77.55	73.02
705-0199	6K182VCP	A	115	115	250	4 ⁵ / ₈ x 3 ⁷ / ₈ x 4 ⁵ / ₈ "	2 ¹ / ₂ x 3 ¹ / ₁₆ "	10.0	101.46	91.10



Allied transformers are specially built to Allied Electronics' high standard for quality, stability and long-term performance. Laminated cores of silicon iron electrical grade steel. Insulation is non-corrosive Class A. Temperature rating 105°C continuous operation. Superior permeability at high inductances, with low coil loss. Coils of high

quality film insulated copper magnet wire. PVC leads are fast stripping and provide protection from oil, ozone and abrasion. Cold rolled steel covers provide protection to coils. Finished in semi-gloss enamel for good appearance. Compare prices and specifications and you will find that Allied transformers are your best buy.



Allied's Own Power Transformers

For new equipment or replacement use. All types listed are shielded except those indicated by †. Have 6" flexible color-coded leads for easy installation. Plate windings are center-tapped except *half-wave type. 6.3 volt windings are center-tapped except †

not center-tapped. All have primaries for operation from 110-120 volt, 50/60 Hz AC, except for **60 Hz AC only.

Stock No.	Mfr.'s Type	Fig.	VCT	DCmA	5V (Amps)	6.3V (Amps)	Size H x W x D	Mfg. Size MW x MD	EACH	
									1-49	50-99
705-0034	6K27VF†**	C	125*	15	—	0.6†	2 x 2 1/8 x 1 1/4"	2"	16.85	15.25
705-0001	6K1VF†**	C	250	25	—	1.0†	2 1/8 x 2 1/8 x 1 1/8"	2 1/8"	17.00	15.25
705-0067	6K49VG	B	460	50	—	2.5†	3 1/8 x 2 1/8 x 2 1/16"	2 x 1 5/8"	28.47	25.86
705-0113	6K88VG	B	500	40	—	2.0	2 3/4 x 2 3/8 x 2 3/8"	1 1/4 x 1 1/2"	22.08	19.05
705-0081	6K56VG	B	540	120	3	3.5	3 3/16 x 3 1/4 x 3 1/2"	2 1/2 x 2 1/16"	45.33	40.15
705-0005	6K3VG	B	650	40	2	2.0	3 1/16 x 2 1/8 x 2 1/16"	2 x 1 1/16"	24.85	22.13
705-0013	6K7VG	B	750	150	3	5.0	3 3/16 x 3 1/4 x 4 1/8"	2 1/2 x 3 1/16"	47.96	41.85

Allied's Low Power Transformers

1500 V RMS: Frequency: 50/60 Hz, (**60 Hz. only) lead wire termination.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	Amps	Size H x W x D	Mfg. Ctrs. MW x MD	Wt. Lbs.	EACH	
									1-49	50-99
705-0625	6K215HF	D	117V	12.0	0.150A	1 1/4 x 2 1/16 x 1 1/4"	1 1/4"	0.3	8.51	7.39
705-0630	6K235HF	D	117V	12.0	0.350A	1 1/8 x 2 1/8 x 1 1/2"	2"	0.4	9.21	7.79
705-0635	6K270HF**	D	117V	12.0	0.700A	1 1/8 x 2 3/16 x 1 1/8"	2 1/8"	0.6	9.10	7.95
705-0640	6K212HF	D	117V	12.0	1.200A	2 x 3 1/4 x 1 1/4"	2 1/16"	0.9	11.67	9.90
705-0645	6K240HF	D	117V	12.0	4.000A	2 1/8 x 4 x 2 1/4"	3 1/16"	2.3	18.63	15.87
705-0655	6K220HF	D	115V	24.0 CT	2.000A	2 1/32 x 3 1/4 x 2 1/4"	3 1/8"	2.1	15.87	13.25
705-0670	6K202HF**	D	117V	24.0 CT	0.200A	1 1/8 x 2 1/8 x 1 1/2"	2"	0.4	10.76	9.93
705-1200	6K258HF	D	117V	24.0 CT	0.400A	1 1/8 x 2 1/8 x 2 1/8"	1 1/8"	0.6	10.20	8.79
705-0675	6K207HF	D	117V	24.0 CT	0.700A	2 x 3 1/4 x 1 1/4"	2 1/16"	0.9	12.79	10.85
705-0680	6K222HF	D	115V	24.0 CT	2.000A	2 1/16 x 4 x 2 1/8"	3 1/16"	2.3	15.88	13.69
705-0685	6K204VBR	A	117V	24.0 CT	4.000A	3 3/16 x 3 1/8 x 2 1/16"	2 1/2 x 2 1/8"	4.0	25.79	22.25
705-0690	6K206VBR	A	117V	24.0 CT	6.000A	4 1/16 x 3 1/8 x 3"	2 1/4 x 2 1/4"	5.7	35.05	30.20
705-2010	6K242VBR**	A	117V	24.0 CT	12.000A	4 1/16 x 3 1/8 x 4 1/8"	3 x 3 1/4"	11.5	58.44	50.37
705-2025	6K216HF	D	117V	28.0 CT	1.000A	2 x 3 1/4 x 2 1/8"	2 1/16"	1.4	13.78	11.89
705-2030	6K262VBR	A	117V	28.0 CT	2.000A	3 1/8 x 2 1/8 x 2 1/8"	2 x 2 1/16"	2.9	19.30	16.68
705-2035	6K264VBR	A	117V	28.0 CT	4.000A	3 3/16 x 3 1/8 x 3 1/4"	2 1/2 x 2 1/2"	5.3	27.57	23.75
705-2060	6K271HF	D	117V	36.0 CT	1.000A	2 1/8 x 3 1/4 x 2 1/8"	3 1/8"	2.0	15.97	13.73
705-2065	6K274VBR	A	117V	36.0 CT	4.000A	4 1/16 x 3 1/8 x 3 1/8"	2 1/4 x 2 1/8"	6.0	31.19	26.82

Allied Filament Transformers

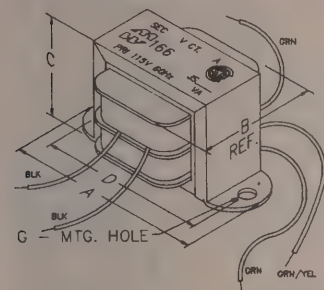
Quality filament transformers provide reliable operation for various applications. Primaries for 117 volts, except * which are 115 V. Frequency: 50/60 Hz. Types with † have an electrostatic shield.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	Insul. rms V	Size H x W x D	Mfg. Ctrs MW x MD	Wt. Lbs.	EACH	
									1-49	50-99
705-0110	6K86HF*	D	2.5 CT	3.0	1500	1 5/8 x 2 13/16 x 1 7/8"	2 3/8"	0.60	12.69	11.02
705-0018	6K11HF*	D	5.0 CT	6.0	2500	2 3/8 x 3 1/16 x 2 3/8"	3 1/8"	1.70	17.34	14.72
705-0145	6K120VBR	A	5.0 CT	15.0	2500	3 1/8 x 2 1/2 x 3"	2 x 2 1/2"	3.50	41.05	37.02
705-0086	6K62VBR	A	5.0 CT	21.0	2500	3 3/8 x 3 1/8 x 3 1/4"	2 1/2 x 2 1/4"	5.00	33.61	30.15
705-0042	6K32HF	D	6.3	0.6	1500	1 3/8 x 2 3/8 x 1 3/8"	2"	0.04	12.31	10.12
705-0016	6K9HF	D	6.3 CT	1.0	1500	1 5/8 x 2 13/16 x 1 3/4"	2 3/8"	0.60	9.15	7.95
705-0045	6K35HF	D	6.3 CT	1.2	2500	1 5/8 x 2 13/16 x 1 7/8"	2 3/8"	0.70	9.15	7.95
705-0017	6K10HF	D	6.3 CT	3.0	2500	2 x 3 1/4 x 2 3/8"	2 13/16"	1.25	9.45	8.01
705-0044	6K34VBR*	A	6.3 CT	10.0	2500	3 1/2 x 2 13/16 x 2 7/8"	2 1/4 x 2 1/8"	3.50	34.54	29.75
705-0159	6K134VBR*	A	12-11-10 CT	11.0	3000	4 1/16 x 3 1/2 x 3 1/8"	2 3/4 x 2 1/2"	6.50	40.87	35.97
705-0290	6K192HF*	D	12.6	1.0	1500	2 x 3 1/4 x 1 3/4"	2 13/16"	1.00	15.04	12.64
705-0121	6K94HF	D	12.6 CT	1.5	1500	2 x 3 1/4 x 2"	2 13/16"	1.00	13.80	11.83
705-0046	6K36HF	D	12.6 CT	2.0	1500	2 x 3 1/4 x 2 1/8"	2 13/16"	1.10	11.57	9.93
705-0136	6K110HF	D	12.6 CT	3.0	1500	2 1/4 x 3 1/16 x 2 1/4"	3 1/8"	1.75	16.80	14.16
705-4030	6K324HF	D	24.0	1.0	2500	2 x 3 1/4 x 2 1/8"	2 13/16"	1.50	10.53	9.06
705-0139	6K113HF*	D	24.0 CT	1.0	1500	2 x 3 1/4 x 2 1/8"	2 13/16"	1.50	13.29	11.19
705-0047	6K37HF	D	25.2	1.0	1500	2 x 3 1/4 x 2 1/8"	2 13/16"	1.50	12.10	10.35
705-4035	6K352HF	D	25.2 CT	1.0	1500	2 x 3 1/4 x 2 1/8"	2 13/16"	1.50	10.95	9.37
705-0123	6K96HF*	D	25.2 CT	2.0	1500	2 5/8 x 4 x 2 3/8"	3 1/16"	2.20	14.65	12.53
705-4040	6K325HF	A	25.2 CT	3.0	1500	2 3/16 x 4 x 2 3/8"	3 1/16"	2.20	17.87	15.36
705-0065	6K48HF†	D	26.5 CT	0.6	3000	2 x 3 1/4 x 2 1/8"	2 13/16"	1.60	12.10	10.36

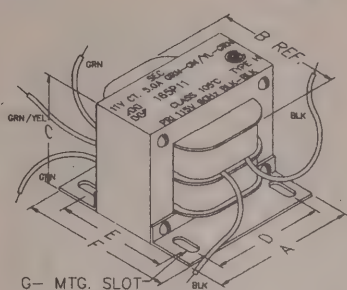
Rectifier Transformers and Machine Tool Control Transformers

Low Voltage Rectifier Transformers

— NEW —



C Style



H Style

- All Primaries 115 Volts, 60 Hz
- Primary and Secondary Leads 6" Long
- Horizontal Channel Bracket Two Hole Mount (C Style) or Open Horizontal Four Hole Mount (H Style)

Stock No.	Mfr.'s Type	Style	Secondary		Dimensions					EACH	
			Volts	Amps	A	B	C	D	G	1-9	10-49
836-6005	166L2	C	2.5 ct	2.50	2.81	1.50	1.69	2.38	.187	15.02	13.76
836-6010	166G2	C	2.5 ct	6.00	3.25	1.63	2.00	2.81	.187	16.75	15.35
836-6015	166G6	C	6.3 ct	0.60	2.38	1.38	1.38	2.00	.187	13.91	12.75
836-6020	166J6	C	6.3 ct	1.00	2.81	1.50	1.69	2.38	.187	15.00	13.75
836-6025	166L6	C	6.3 ct	2.00	2.81	1.63	1.69	2.38	.187	15.09	13.38
836-6030	166N6	C	6.3 ct	4.00	3.25	1.75	2.00	2.81	.187	16.00	15.17
836-6035	166J8	C	8.5 ct	1.00	2.81	1.50	1.69	2.38	.187	15.16	13.90
836-6040	166L8	C	8.5 ct	2.00	3.25	1.63	2.00	2.81	.187	15.53	14.23
836-6045	166G10	C	10.0 ct	0.50	2.38	1.50	1.38	2.00	.187	14.55	13.33
836-6050	166J10	C	10.0 ct	1.00	2.81	1.63	1.69	2.38	.187	15.11	13.85
836-6055	166M10	C	10.0 ct	3.00	3.25	2.00	2.00	2.81	.187	16.18	14.83

Stock No.	Mfr.'s Type	Style	Secondary		Dimensions					EACH	
			Volts	Amps	A	B	C	D	G	1-9	10-49
836-6060	166F12	C	12.6 ct	0.30	2.38	1.38	1.38	2.00	.187	13.95	12.78
836-6065	166G12	C	12.6 ct	0.50	2.81	1.50	1.69	2.38	.187	14.80	13.56
836-6070	166J12	C	12.6 ct	1.00	2.81	1.63	1.69	2.38	.187	15.33	14.05
836-6075	166L12	C	12.6 ct	2.50	3.25	2.00	2.00	2.81	.187	17.00	15.58
836-6080	166N12	C	12.6 ct	4.00	3.69	2.13	2.31	3.13	.187	19.67	18.03
836-6085	166G12	C	12.6 ct	6.00	4.03	2.25	2.63	3.56	.187	24.60	22.55
836-6090	165S12	H	12.6 ct	10.00	3.00	3.25	2.56	2.50	22 x .56	41.91	38.25
836-6095	165V12	H	12.6 ct	20.00	3.75	3.63	3.13	3.13	22 x .56	53.07	48.65
836-6100	166E14	C	14.0 ct	0.15	2.06	1.38	1.19	1.75	.187	16.11	14.76
836-6105	166G14	C	14.0 ct	0.50	2.81	1.50	1.69	2.38	.187	14.84	13.60
836-6110	166J14	C	14.0 ct	1.00	2.81	1.63	1.69	2.38	.187	15.33	14.05
836-6115	166F16	C	16.0 ct	0.25	2.38	1.38	1.38	2.00	.187	14.27	13.05
836-6120	166G16	C	16.0 ct	0.50	2.81	1.50	1.69	2.38	.187	14.89	13.65
836-6125	166J16	C	16.0 ct	1.00	3.25	1.63	2.00	2.81	.187	15.49	14.20
836-6130	166L16	C	16.0 ct	2.20	3.25	2.00	2.00	2.81	.187	16.51	15.13
836-6135	166M16	C	16.0 ct	3.00	3.69	2.13	2.31	3.13	.187	19.65	18.01
836-6140	166K18	C	18.0 ct	1.50	3.25	1.75	2.00	2.81	.187	16.05	14.75
836-6145	166M18	C	18.0 ct	3.00	3.69	2.13	2.31	3.13	.187	22.60	20.71
836-6150	166P18	C	18.0 ct	5.00	4.03	2.50	2.63	3.56	.187	26.25	24.06
836-6155	165S18	H	18.0 ct	10.00	3.75	3.13	3.13	3.13	22 x .56	45.65	41.86
836-6160	166D20	C	20.0 ct	0.10	2.06	1.38	1.19	1.75	.187	16.15	14.80
836-6165	166E20	C	20.0 ct	0.15	2.06	1.38	1.19	1.75	.187	15.62	14.31
836-6170	166G20	C	20.0 ct	0.50	2.81	1.63	1.69	2.38	.187	14.84	13.60
836-6175	166J20	C	20.0 ct	1.00	3.25	1.75	2.00	2.81	.187	15.71	14.40
836-6180	166L20	C	20.0 ct	2.00	3.69	1.88	2.31	3.13	.187	21.38	19.60
836-6185	165T22	H	22.0 ct	12.00	4.50	3.88	3.75	3.75	28 x .56	53.96	49.96
836-6190	166L24	C	24.0 ct	2.00	3.69	2.13	2.31	3.13	.187	19.11	17.51
836-6195	166N24	C	24.0 ct	4.00	4.50	2.50	2.88	4.00	203	26.62	24.40
836-6200	166E25	C	25.0 ct	0.15	2.38	1.38	1.38	2.00	.187	13.98	12.81
836-6205	166F25	C	25.0 ct	0.30	2.81	1.50	1.69	2.38	.187	14.82	13.58
836-6210	166G25	C	25.0 ct	0.50	2.81	1.63	1.69	2.38	.187	15.09	13.83
836-6215	166J25	C	25.0 ct	1.00	3.25	1.75	2.00	2.81	.187	16.02	14.68
836-6220	166K25	C	25.0 ct	1.50	3.69	1.88	2.31	3.13	.187	18.73	17.88
836-6225	166L25	C	25.0 ct	2.00	3.69	2.13	2.31	3.13	.187	19.29	17.68
836-6235	165S25	H	25.0 ct	10.00	3.75	3.63	3.13	3.13	22 x .56	50.91	46.66
836-6240	166G28	C	28.0 ct	0.50	2.81	1.63	1.69	2.38	.187	15.29	14.01
836-6245	166J28	C	28.0 ct	1.00	3.25	2.00	2.00	2.81	.187	16.04	14.76
836-6250	165S30	H	30.0 ct	10.00	4.50	3.88	3.75	3.75	28 x .56	55.60	50.96
836-6255	166J33	C	33.0 ct	1.00	3.25	2.00	2.00	2.81	.187	16.47	15.10
836-6260	166E36	C	36.0 ct	0.15	2.38	1.50	1.38	2.00	.187	18.75	17.18
836-6265	166G36	C	36.0 ct	0.50	2.81	1.63	1.69	2.38	.187	15.36	14.08
836-6270	166J36	C	36.0 ct	1.00	3.69	1.88	2.31	3.13	.187	18.75	17.18

Machine Tool Control Transformers

These control transformers are designed to meet the temporary inrush current of electromagnetic components such as contractors, relays, timers, etc. They feature a high impact, molded integral terminal block, copper wire and vacuum varnish impregnation to seal/bond the unit. These units operate from 50/60 Hz AC power and are listed by both UL and CSA. The molded terminal blocks allow for easy primary or secondary fusing to meet UL 508 requirements (see optional fusing table below).

Primary 240/480 Secondary 120 V

Stock No.	Mfr.'s Type	VA Rating	Overall Dimensions			Mounting Centers		Shipping Weight (Lbs.)	EACH
			A	B	C	D	E		
836-8000	MT25MQMJ	25	3.00	3.00	2.63	2.50	1.75	2.25	24.67
836-8005	MT50MQMJ	50	3.00	3.38	2.63	2.50	2.25	3.50	21.64
836-8010	MT75MQMJ	75	3.00	3.88	2.63	2.50	2.44	4.25	25.79
836-8015	MT100MQMJ	100	3.00	4.25	2.63	2.50	2.63	5.00	28.36
836-8020	MT150MQMJ	150	3.75	4.13	3.13	3.13/3.75	2.63	6.00	31.36
836-8025	MT200MQMJ	200	4.50	4.25	3.75	3.13/3.75	2.63	7.50	38.96
836-8030	MT250MQMJ	250	4.50	4.63	3.75	3.13/3.75	3.00	9.25	45.40
836-8040	MT350MQMJ	350	5.00	5.13	3.75	3.75/4.38	3.56	11.50	54.33
836-8045	MT500MQMJ	500	5.00	5.88	3.75	3.75/4.38	4.00	14.50	67.05
836-8050	MT750MQMJ	750	6.00	5.13	5.00	4.38/5.31	5.00	21.50	91.60
836-8055	MT1000MQMJ	1000	6.00	6.00	5.00	4.38/5.31	5.00	28.70	112.71

Primary 240/480 Secondary 24

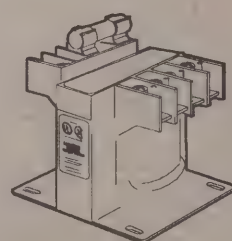
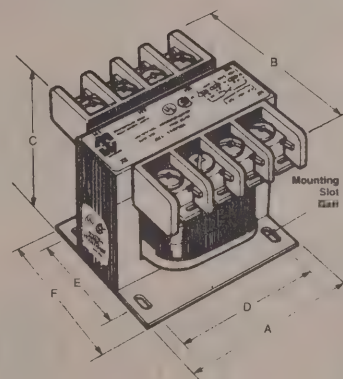
Stock No.	Mfr.'s Type	VA Rating	A	B	C	D	E	Shipping Weight (Lbs.)	EACH
836-8060	MT25QG	25	3.00	3.00	2.63	2.5	1.75	2.25	24.12
836-8065	MT50QG	50	3.00	3.38	2.63	2.5	2.25	3.50	26.15
836-8070	MT75QG	75	3.00	3.88	2.63	2.5	2.44	4.25	32.68
836-8075	MT100QG	100	3.00	4.25	2.63	2.5	2.63	5.00	35.60
836-8080	MT150QG	150	3.75	4.13	3.13	3.13/3.75	2.56	6.00	42.67
836-8085	MT200QG	200	4.50	4.25	3.75	3.13/3.75	2.63	7.50	52.91
836-8090	MT250QG	250	4.50	4.63	3.75	3.13/3.75	3.00	9.25	68.99

Primary 208/230/460 Secondary 115

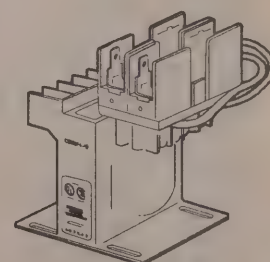
Stock No.	Mfr.'s Type	VA Rating	A	B	C	D	E	Shipping Weight (Lbs.)	EACH
836-9020	MT25MLI	25	3.00	3.00	2.63	2.5	1.75	2.25	29.42
836-9025	MT50MLI	50	3.00	3.63	2.63	2.5	2.25	3.75	33.92
836-9030	MT75MLI	75	3.00	4.13	2.63	2.5	2.44	4.75	36.75
836-9035	MT100MLI	100	3.00	4.50	2.63	2.5	2.88	5.75	38.43
836-9040	MT150MLI	150	3.75	4.13	3.13	3.13/3.75	2.63	6.50	50.17
836-9045	MT200MLI	200	4.50	4.50	4.25	3.13/3.75	2.63	8.75	61.13
836-9050	MT250MLI	250	4.50	4.88	3.75	3.13/3.75	3.00	9.75	68.37
836-9055	MT350MLI	350	5.00	5.25	3.75	3.75/4.38	3.56	12.25	84.45
836-9060	MT500MLI	500	5.00	6.13	3.75	3.75/4.38	4.00	15.75	93.28
836-9065	MT750MLI	750	6.00	5.13	5.00	4.38/5.31	5.00	22.50	129.50
836-9070	MT1000MLI	1000	6.00	6.25	5.00	4.38/5.31	5.00	29.50	154.58

Primary 120/240 Secondary 24

Stock No.	Mfr.'s Type	VA Rating	A	B	C	D	E	Shipping Weight (Lbs.)	EACH
836-9075	MT25PG	25	3.00	3.00	2.63	2.5	1.75	2.25	24.12
836-9080	MT50PG	50	3.00	3.38	2.63	2.5	2.25	3.50	26.32
836-9085	MT75PG	75	3.00	3.88	2.63	2.5	2.44	4.25	32.86
836-9090	MT100PG	100	3.00	4.25	2.63	2.5	2.63	5.00	35.69
836-9095	MT150PG	150	3.75	4.13	3.13	3.13/3.75	2.63	6.00	42.93
836-9100	MT200PG	200	4.50	4.25	3.75	3.13/3.75	2.63	7.50	52.91
836-9105	MT250PG	250	4.50	4.63	3.75	3.13/3.75	3.00	9.25	69.43



Secondary Fuse Kit



Primary Fuse Kit

Optional Fuse Clips (Fuses Not Included)

Stock No.	Mfr.'s Type	Fuse Size	Kit Type
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PC Mount

TRIAD power transformers from MagneTek are offered in a wide selection of plug-in types to meet the needs of PC board and solid state power supply designs. These transformers can satisfy power as well as control and instrumentation applications. The transformers are available in single or dual primary and dual center tapped secondary configurations. **Specifications. Primary:** 115/230 V; 50/60 Hz.

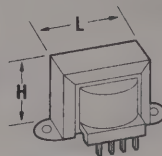


Figure A

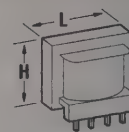


Figure B

Dual Primary, Dual Secondaries

Stock No.	Mfr.'s Type	Section	Fig.	VA	Secondary		Dimensions							Wt. Oz.	EACH	
					Series*	Parallel	H	W	D	L	A	B	MW		1-49	50-Up
967-2072	F-3132P	A	B	1 1/2	15.0 V CT @ 0.1 A	7.5 V @ 0.2 A	1 3/16	—	1 1/8	—	13/64	1	—	4.0	7.40	5.12
967-2041	F-333P	A	B	1 1/2	30.0 V CT @ 0.050 A	15.0 V @ 0.100 A	1 3/16	—	1 1/8	—	13/64	1	—	4.0	8.62	5.97
967-2057	F-367P	A	B	1 1/2	230.0 V CT @ 0.0065 A	115.0 V @ 0.013 A	1 3/16	—	1 1/8	—	13/64	1	—	4.0	9.53	6.60
967-2043	F-348XP	B	A	4 1/2	12.6 V CT @ 0.350 A	6.3 V @ 0.700 A	1 3/8	2 3/8	1 1/4	1 5/8	1/4	1 7/64	2	6.5	7.20	5.06
967-2074	F-3142XP	C	A	4 1/2	15.0 V CT @ 0.3 A	7.5 V @ 0.6 A	1 7/16	2 3/8	1 1/4	1 5/8	1/4	1 7/64	2	6.5	7.31	5.06
967-4044	F-349XP	C	A	4 1/2	16.0 V CT @ 0.280 A	8.0 V @ 0.560 A	1 7/16	2 3/8	1 1/4	1 5/8	1/4	1 7/64	2	6.5	7.31	5.06
967-2044	F-350XP	C	A	4 1/2	24.0 V CT @ 0.180 A	12.0 V @ 0.360 A	1 7/16	2 3/8	1 1/4	1 5/8	1/4	1 7/64	2	6.5	7.31	5.06
967-2048	F-358XP	C	A	4 1/2	20.0 V CT @ 0.225 A	10.0 V @ 0.450 A	1 7/16	2 3/8	1 1/4	1 5/8	1/4	1 7/64	2	6.5	7.31	5.06
967-2075	F-3143XP	C	A	4 1/2	30.0 V CT @ 0.15 A	15.0 V @ 0.3 A	1 7/16	2 3/8	1 1/4	1 5/8	1/4	1 7/64	2	6.5	7.31	5.06
967-2053	F-363XP	C	A	4 1/2	230.0 V CT @ 0.020 A	115.0 V @ 0.040 A	1 7/16	2 3/8	1 1/4	1 5/8	1/4	1 7/64	2	6.5	8.84	6.12
967-2076	F-3152XP	D	A	7 1/2	15.0 V CT @ 0.5 A	7.5 V @ 1.0 A	1 5/8	2 13/16	1 7/16	1 7/8	1/4	1 5/16	2 3/8	11.0	7.89	5.46
967-2077	F-3153XP	D	A	7 1/2	30.0 V CT @ 0.25 A	15.0 V @ 0.5 A	1 5/8	2 13/16	1 7/16	1 7/8	1/4	1 5/16	2 3/8	11.0	7.89	5.46
967-2049	F-359XP	E	A	10	24.0 V CT @ 0.450 A	12.0 V @ 0.900 A	1 5/8	2 13/16	1 7/16	1 7/8	1/4	1 5/16	2 3/8	11.0	8.00	5.54
967-2052	F-362XP	E	A	10	20.0 V CT @ 0.500 A	10.0 V @ 1.0 A	1 5/8	2 13/16	1 7/16	1 7/8	1/4	1 5/16	2 3/8	11.0	8.00	5.54
967-2054	F-365XP	E	A	10	12.6 V CT @ 0.800 A	6.3 V @ 1.6 A	1 5/8	2 13/16	1 7/16	1 7/8	1/4	1 5/16	2 3/8	11.0	8.00	5.54
967-2056	F-366XP	E	A	10	16.0 V CT @ 0.640 A	8.0 V @ 1.28 A	1 5/8	2 13/16	1 7/16	1 7/8	1/4	1 5/16	2 3/8	11.0	8.00	5.54
967-2058	F-371P	F	B	24	12.6 V CT @ 2.0 A	6.3 V @ 4.0 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	11.11	7.69
967-2059	F-372P	F	B	24	16.0 V CT @ 1.5 A	8.0 V @ 3.0 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	11.11	7.69
967-2061	F-373P	F	B	24	20.0 V CT @ 1.2 A	10.0 V @ 2.4 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	11.11	7.69
967-2062	F-374P	F	B	24	24.0 V CT @ 1.0 A	12.0 V @ 2.0 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	11.11	7.69
967-2063	F-375P	F	B	24	28.0 V CT @ 0.8 A	14.0 V @ 1.6 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	11.11	7.69
967-2064	F-376P	F	B	24	34.0 V CT @ 0.7 A	17.0 V @ 1.4 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	11.11	7.69
967-2065	F-377P	F	B	24	40.0 V CT @ 0.6 A	20.0 V @ 1.2 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	11.11	7.69
967-2066	F-378P	F	B	24	56.0 V CT @ 0.42 A	28.0 V @ 0.84 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	23.18	16.05
967-2067	F-379P	F	B	24	120.0 V CT @ 0.2 A	60.0 V @ 0.4 A	1 3/8	—	2 1/4	1 5/8	1/4	2 7/64	—	13.3	23.40	16.20

*CT = Center Tap. Mounting hole size: 3/16".

TRIAD power transformers from MagneTek are offered in a wide selection of plug-in types to meet the needs of PC board and solid state power supply designs. These transformers can satisfy power as well as control and instrumentation applications. The transformers are available in single or dual primary and dual center tapped secondary configurations. **Specifications. Primary:** 115 V, 50/60 Hz.

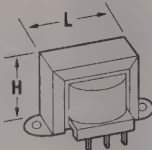


Figure A

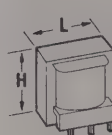


Figure B

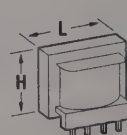


Figure C

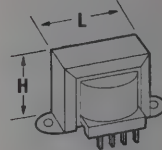


Figure D

Single Primary, Dual Secondaries

Stock No.	Mfr.'s Type	Section	Fig.	VA	Secondary		Dimensions							Wt. Oz.	EACH	
					Series*	Parallel	H	W	D	L	A	B	MW		1-49	50-Up
967-1071	F-131P	A	B	1 1/2	8.0 V CT @ 0.188 A	4.0 V @ 0.376 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	13.11	9.08
967-1077	F-139P	A	B	1 1/2	12.6 V CT @ 0.12 A	6.3 V @ 0.24 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	13.80	9.55
967-1132	F-132P	A	B	1 1/2	15.0 V CT @ 0.100 A	7.5 V @ 0.200 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	6.04	4.18
967-1088	F-150P	A	B	1 1/2	17.0 V CT @ 0.085 A	8.5 V @ 0.170 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	6.04	4.18
967-1076	F-138P	A	B	1 1/2	25.2 V CT @ 0.06 A	12.6 V @ 0.12 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	13.09	9.06
967-1072	F-133P	A	B	1 1/2	30.0 V CT @ 0.050 A	15.0 V @ 0.100 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	6.04	4.18
967-1097	F-160P	A	B	1 1/2	34.0 V CT @ 0.045 A	17.0 V @ 0.090 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	14.62	11.12
967-1075	F-137P	A	B	1 1/2	40.0 V CT @ 0.038 A	20.0 V @ 0.076 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	15.22	10.54
967-1101	F-134P	A	B	1 1/2	54.0 V CT @ 0.028 A	27.0 V @ 0.056 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	14.00	9.69
967-1073	F-135P	A	B	1 1/2	76.0 V CT @ 0.020 A	38.0 V @ 0.040 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	14.64	10.14
967-1074	F-136P	A	B	1 1/2	116.0 V CT @ 0.013 A	58.0 V @ 0.026 A	1 3/16	—	1 5/32	1 25/64	5/16	1	—	3.5	18.91	13.09
967-1078	F-141XP	B	A	4 1/2	8.0 V CT @ 0.562 A	4.0 V @ 1.124 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.47	9.32
967-1087	F-149XP	B	A	4 1/2	12.6 V CT @ 0.35 A	6.3 V @ 0.70 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.47	9.32
967-1079	F-142XP	B	A	4 1/2	15.0 V CT @ 0.300 A	7.5 V @ 0.600 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	10.93	7.57
967-1098	F-161XP	B	A	4 1/2	17.0 V CT @ 0.264 A	8.5 V @ 0.528 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.47	9.32
967-1086	F-148XP	B	A	4 1/2	25.2 V CT @ 0.178 A	12.6 V @ 0.356 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	11.98	8.29
967-1080	F-143XP	B	A	4 1/2	30.0 V CT @ 0.150 A	15.0 V @ 0.300 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	10.93	7.57
967-2000	F-162XP	B	A	4 1/2	34.0 V CT @ 0.132 A	17.0 V @ 0.264 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.47	9.32
967-1084	F-147XP	B	A	4 1/2	40.0 V CT @ 0.112 A	20.0 V @ 0.224 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.47	9.32
967-1081	F-144XP	B	A	4 1/2	54.0 V CT @ 0.084 A	27.0 V @ 0.168 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.47	9.32
967-1082	F-145XP	B	A	4 1/2	76.0 V CT @ 0.060 A	38.0 V @ 0.120 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.29	9.20
967-1083	F-146XP	B	A	4 1/2	116.0 V CT @ 0.033 A	58.0 V @ 0.066 A	1 7/16	2 3/8	1 1/4	1 45/64	13/32	1 3/32	2	7.5	13.47	9.32
967-1089	F-151XP	C	A	7 1/2	8.0 V CT @ 0.940 A	4.0 V @ 1.88 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58
967-1096	F-159XP	C	A	7 1/2	12.6 V CT @ 0.60 A	6.3 V @ 1.2 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58
967-7152	F-152XP	C	A	7 1/2	15.0 V CT @ 0.500 A	7.5 V @ 1.000 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58
967-2001	F-163XP	C	A	7 1/2	17.0 V CT @ 0.441 A	8.5 V @ 0.882 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.87	11.68
967-1095	F-158XP	C	A	7 1/2	25.2 V CT @ 0.30 A	12.6 V @ 0.60 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58
967-1090	F-153XP	C	A	7 1/2	30.0 V CT @ 0.250 A	15.0 V @ 0.500 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	14.71	10.18
967-2002	F-164XP	C	A	7 1/2	34.0 V CT @ 0.220 A	17.0 V @ 0.440 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.87	11.68
967-1094	F-157XP	C	A	7 1/2	40.0 V CT @ 0.188 A	20.0 V @ 0.376 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58
967-1091	F-154XP	C	A	7 1/2	54.0 V CT @ 0.140 A	27.0 V @ 0.280 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58
967-1092	F-155XP	C	A	7 1/2	76.0 V CT @ 0.100 A	38.0 V @ 0.200 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58
967-1093	F-156XP	C	A	7 1/2	116.0 V CT @ 0.065 A	58.0 V @ 0.130 A	1 5/8	2 13/16	1 15/32	1 61/64	13/32	1 5/16	2 3/8	10.5	16.73	11.58

*CT = Center Tap. Mounting hole size: Figure A = 3/16".

Telephone Coupling

Telephone Coupling Transformers

TRIAD telephone coupling transformers from MagneTek are designed for use in work areas where several telephones are connected to a single incoming — outgoing line. The TY Series is adaptable for hybrid, bridging or coupling applications. These coupling transformers provide a correct means of impedance matching and balancing through close coupling and isolation — all parameters must be considered so that existing lines are not degraded. **Specifications.** **Frequency Response:** 300-3,500 Hz ± 0.5 dB. **Longitudinal Balance:** 45 dB min. **Return Loss:** 26 dB min. **Distortion:** 0.5% max. **Impedance Matching:** $\pm 10\%$ over the frequency range. **Power Level:** -45 dBm to +7 dBm. Complies with FCC Rules Part 68.

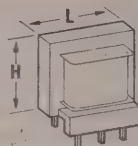


Figure A

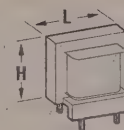


Figure B

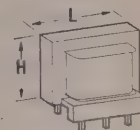


Figure C

Stock No.	Mfr.'s Type	Section	Primary Impedance*	Secondary Impedance*	Fig.	Dimensions					Pin Dimensions		Wt. Oz.	EACH	
						H	D	L	A	B	C	J		1-49	50-Up
967-2542	TY-300P	A	600	600/600	C	23/32	11/16	25/32	3/16	27/64	3/16	0.041	0.51	5.56	3.85
967-2538	TY-301P	B	600	900	B	23/32	11/16	25/32	3/8	27/64	3/16	0.041	0.51	5.56	3.85
967-2550	TY-302P	C	600	600/600	C	27/32	31/32	11/32	13/64	25/32	3/16	0.041	1.06	8.33	5.77
967-2551	TY-303P	D	4000	600	B	23/32	11/16	25/32	3/8	27/64	3/16	0.041	0.51	5.56	3.85
967-2552	TY-304P	E	600 CT	600 CT	A	23/32	11/16	25/32	3/16	27/64	3/16	0.041	0.51	5.56	3.85

*CT = Center Tap.

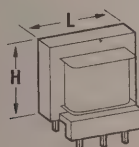


Figure A

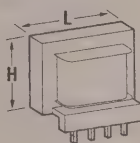


Figure B

Plug-In Printed Circuit Audio Transformers

MagneTek produces a wide assortment of TRIAD audio transformers for use in printed circuit designs. These transformers fill a broad application spectrum in the audio industry. TRIAD audio printed circuit transformers are used in line matching, telephone coupling, pulse trigger, driver, interstage, output, isolation and input applications. **Specifications.** **Frequency Response Ranges:** 200-15,000 Hz. **Impedance Matching:** 10% over frequency range.

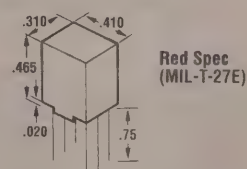
Stock No.	Mfr.'s Type	Section	Output mW	Primary Impedance*	Secondary Impedance*	Fig.	Pri. DC Unbalance	Dimensions						Wt. Oz.	EACH		
								H	D	L	A	B	C		J	1-49	50-Up
967-2537	TY-141P	A	100	10000 CT	10000 CT	A	4 Ma	5/8	19/32	13/16	3/16	27/64	3/16	0.042	0.51	3.89	2.69
967-3338	TY-142P		100	10000 CT	2000 CT	A	4 Ma	5/8	19/32	13/16	3/16	27/64	3/16	0.042	0.51	3.89	2.69
967-2539	TY-144P		100	15000 CT	15000 CT	A	4 Ma	5/8	19/32	13/16	3/16	27/64	3/16	0.042	0.51	3.89	2.69
967-2540	TY-145P		100	600 CT	600 CT	A	15 Ma	5/8	19/32	13/16	3/16	27/64	3/16	0.042	0.51	3.89	2.69
967-2541	TY-146P		1 Watt	600 CT/150†	600 CT/150†	B	—	1 1/8	1 1/8	1 3/8	1 3/8	1 1/32	3/16	0.042	3.00	7.22	5.00

*CT = Center Tap. †Split winding.

Audio Transformers

MIL-T-27E

TRIAD high reliability audio transformers from MagneTek provide the durability and precision required in today's demanding designs. These transformers are available for a wide variety of applications. The line of Red Spec audio transformers is designed and constructed to meet the rigid requirements of MIL-T-27E. These transformers feature an epoxy molded case, gold plated leads and exceptional operation from 300 Hz to 150 kHz. **Specifications.** **Frequency Response Ranges:** 300 Hz to 150 kHz.

Red Spec
(MIL-T-27E)

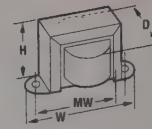
Red Spec Printed Circuit Audio Transformers

Stock No.	Mfr.'s Type	Section	MIL Type No.	Power Level in mW	Matching Impedance		Max. Ma DC Unbalanced In Primary	4DC Resistance		Overall Turns Ratio	EACH	
					Primary*	Secondary*		Primary	Secondary		1-49	50-Up
967-2501	SP-4	A	TF5S21ZZ	10	200000 CT	1000 CT	0.0	5300.0	100.0	14.1:1.0	21.29	14.74
967-2502	SP-5	B	TF5S21ZZ	25	50000 CT	1000 CT	0.0	3800.0	75.0	7.1:1.0	21.14	14.64
967-2506	SP-13	C	TF5S21ZZ	40	25000 CT/20000 CT	1000/800 CT	0.5	1700.0	115.0	5.0:1.0	20.11	13.92
967-2507	SP-20	D	TF5S21ZZ	50	10000 CT	1200 CT	1.0	1050.0	200.0	2.88:1.0	20.84	14.43
967-2516	SP-21		TF5S21ZZ	50	10000 CT	2000 CT	1.0	1050.0	330.0	2.24:1.0	21.21	14.69
967-2518	SP-22		TF5S21ZZ	50	10000	2000 CT/500†	1.0	1050.0	146.0/168.0†	4.48:1.0:1.0	21.69	15.02
967-2519	SP-29		TF5S21ZZ	50	10000 CT	500 CT	1.0	1050.0	80.0	4.47:1.0	20.01	13.85
967-2517	SP-33		TF5S21ZZ	50	1000	50	3.0	145.0	8.0	4.4:1.0	17.25	11.94
967-2515	SP-42		TF5S21ZZ	50	150 CT	12	10.0	18.0	2.7	3.54:1.0	15.51	10.73
967-2514	SP-48		TF5S21ZZ	50	7500 CT	12	1.0	796.0	2.9	25.0:1.0	18.39	12.73
967-2513	SP-49		TF5S21ZZ	50	300	600	7.0	41.0	98.0	1.0:1.42	21.98	15.22
967-2512	SP-50		TF5S21ZZ	50	500 CT	600	3.0	67.0	98.0	1.0:1.1	16.31	11.29
967-2511	SP-51		TF5S21ZZ	50	900 CT	600	4.0	104.0	96.0	1.22:1.0	19.21	13.23
967-2510	SP-52		TF5S21ZZ	50	1500 CT	600	3.0	168.0	92.0	1.58:1.0	21.29	14.74
967-2530	SP-66		TF5S21ZZ	50	10000 CT	10000 CT	1.0	1000.0	1300.0	1.0:1.0	16.93	11.72
967-2531	SP-67		TF5S21ZZ	50	600 CT	600 CT	3.0	72.0	92.0	1.0:1.0	18.64	12.90
967-2532	SP-68		TF5S21ZZ	50	10000	10000 CT/2500†	1.0	1000.0	565.0/650.0†	2.1:1.0	22.33	15.46
967-2533	SP-69		TF5S21ZZ	50	600	600 CT/150†	3.0	72.0	40.0/45.0†	2.0:1.0:1.0	18.56	12.85
967-2534	SP-70		TF5S21ZZ	50	600	600	3.0	72.0	92.0	1.0:1.0	17.48	12.10
967-3335	SP-128	E	TF5S20ZZ	—	0.1 H	—	5.0	15.0	—	—	11.81	8.17
967-2536	SP-310		Shield Only	—	—	—	—	—	—	—	2.76	1.91

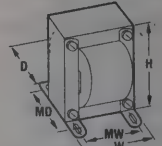
*CT = Center Tap. †Split secondary.

Inductors

TRIAD chokes are manufactured in a wide variety of inductance values and physical configurations. MagneTek produces two styles of TRIAD filter reactors (chokes): smoothing and swinging. Smoothing chokes are power supply filter chokes having a core with an air gap which prevents saturation at maximum direct current. Swinging chokes have cores with little or no air gap, therefore, exhibiting high inductance at low current and low inductance at high current. This inductance, which swings under conditions of varying load current, permits use of a high resistance bleeder resistor. Swinging chokes improve regulation of high voltage power supplies and prevent DC voltage from rising to the maximum peak AC rectifier input by providing a swinging input reactance. **Specifications. Inductance Ranges:** .005 to 50 H. **DC Current Ranges:** 10 Ma to 22.5 A. **Resistance Ranges:** .06 to 3500 Ohms.



Case Type X



Case Type U

Smoothing Filter Chokes

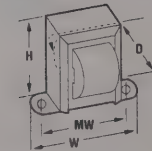
Stock No.	Mfr.'s Type	Section	Current DC Ma	Inductance† Henries	Resistance Ohms	Case Type*	Connections	Lead Holes Used	Dimensions			Mounting Dimensions		Wt. Lbs.	EACH
									H	W	D	MW	MD		
967-0194	C-85X	A	10.0	1.5	70.0	X (1)	Leads	—	1 1/4	2 1/8	1 1/8	1 3/4	—	0.40	7.47
967-1010	C-1X		20.0	15.0	1000.0	X (1)	Leads	—	1 3/16	2 1/16	1 1/4	1 3/4	—	0.21	8.91
967-1009	C-3X		50.0	10.0	500.0	X (1)	Leads	—	1 5/8	2 13/16	1 1/2	2 3/8	—	0.60	9.00
967-1007	C-8X	B	75.0	7.0	240.0	X (1)	Leads	—	1 15/16	3 5/16	1 3/4	2 13/16	—	1.00	10.96
967-1008	C-7X		90.0	10.0	270.0	X (1)	Leads	—	1 15/16	3 5/16	2	2 13/16	—	1.30	11.76
967-1006	C-14X	C	200.0	6.0	150.0	X (1)	Leads	—	2 19/32	4	2 1/4	3 9/16	—	2.30	17.38
967-1004	C-24X		240.0	1.0	50.0	X (1)	Leads	—	1 5/8	2 13/16	1 1/2	2 3/8	—	0.75	8.78
967-1003	C-36X	D	300.0	0.5	30.0	X (1)	Leads	—	1 3/8	2 3/8	1 1/2	2	—	0.50	9.18
967-1005	C-17X	E	300.0	1.5	40.0	X (1)	Leads	—	2 9/32	3 11/16	2	3 1/8	—	1.60	18.36
967-1002	C-40X	F	600.0	0.32	10.0	X (1)	Leads	—	1 15/16	3 5/16	2	2 13/16	—	1.30	10.98
967-1001	C-47U		1.0 A/2.0 A	0.30/0.075†	3.0/0.75	U (2)	Lugs	—	3 1/2	2 7/8	3 9/16	2 1/4	2 11/16	4.60	29.36
967-0198	C-56U		2.0	0.035	0.79	U (2)	Lugs	—	2 1/4	2 5/8	2	2 3/16	1 3/4	2.00	18.04
967-0199	C-49U	G	5.0 A/10.0 A	0.032/0.008†	0.19/0.05	U (2)	Lugs	—	4 1/4	3 1/2	3 5/8	2 3/4	3 1/16	8.00	56.94
967-0197	C-59U		12.5 A	0.01	0.10	U (2)	Lugs	—	3 1/2	4 1/8	3	3 7/16	2 3/8	6.25	18.04
967-0195	C-80U		20.0 A/40.0 A	0.024/0.006†	0.1/0.025	U (7)	Lugs	—	5 5/16	4 9/16	5 1/2	2 3/4	4 1/2	21.25	134.65
967-0196	C-60U		22.5 A	0.005	0.06	U (2)	Lugs	—	3 3/4	4 1/2	4 3/16	3 3/4	3 1/2	12.75	75.22

†Inductance tolerance — 20% + 50%. †Split winding. *Mounting hole sizes: (1) = 3/16; (2) = 13/64 × 3/8; (7) = 9/32 × 1/2.

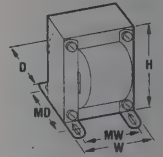
Power Transformers

Chassis Mount — Control

TRIAD control transformers from MagneTek supply secondary voltages that are commonly utilized in various electronic, electro-magnetic and electrical control conditions. These include such applications as use with relays, solenoids, small motors, speed changers, pumps, heating elements, control valves for fluids and gases, fans and blowers, electronic tubes, automatic assembly equipment, recording devices, elevators, door openers, and low voltage lamps. **Specifications. Primary:** 115/230 VAC. 50/60 Hz. **VA Range:** 12 to 192. **Secondary:** 6/12/24 VAC.



Case Type Z



Case Type U

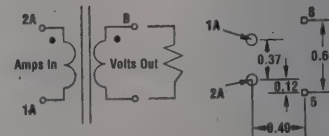
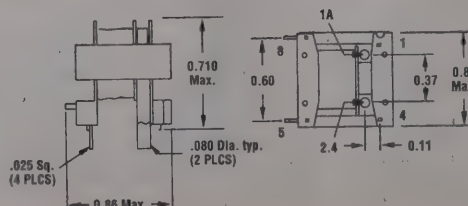
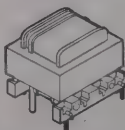
Primary, 115/230 Volts / Secondaries, 6/12/24 Volts

Stock No.	Mfr.'s Type	Section	Secondaries*		VA	Case Type†	Connections	Dimensions			Mounting Dimensions		Wt. Lbs.	EACH
			Series	Parallel				H	W	D	MW	MD		
967-1105	F-105Z	A	12.0 V CT @ 1.0 A	6.0 V CT @ 2.0 A	12	Z	* Lugs	2 3/8	2 7/8	1 3/4	2 3/8	—	1.000	13.64
967-2018	F-211Z		48.0 V CT @ 0.25 A	24.0 V CT @ 0.5 A									0.678	17.82
967-1065	F-106Z	B	12.0 V CT @ 2.0 A	6.0 V CT @ 4.0 A	24	Z	Lugs	2 3/4	3 1/8	2	2 13/16	—	1.500	18.42
967-2019	F-212Z		48.0 V CT @ 0.50 A	24.0 V CT @ 1.0 A									1.050	19.82
967-0107	F-107Z	C	24.0 V CT @ 2.0 A	12.0 V CT @ 4.0 A	48	Z	Lugs	3 1/8	3 5/8	2 3/8	3 1/8	2 1/4	2.500	17.24
967-1213	F-213Z		48.0 V CT @ 1.0 A	24.0 V CT @ 2.0 A									2.250	21.49
967-2058	F-398U	D	24.0 V CT @ 3.0 A	12.0 V CT @ 6.0 A	72	U	Lugs	3 13/32	2 13/16	2 13/16	2 1/4	2 1/4	4.250	35.13
967-1067	F-108U	E	24.0 V CT @ 4.0 A	12.0 V CT @ 8.0 A	96	U	Lugs	3 13/32	2 13/16	3 3/16	2 1/4	2 1/4	4.250	31.53
967-2020	F-214U		48.0 V CT @ 2.0 A	24.0 V CT @ 4.0 A									3.240	31.20
967-9510	F-399U	F	24.0 V CT @ 6.0 A	12.0 V CT @ 12.0 A	144	U	Lugs	3 3/4	3 1/8	3 1/2	2 1/2	2 7/8	5.900	45.71
967-2070	F-400U		48.0 V CT @ 3.0 A	24.0 V CT @ 6.0 A									5.900	43.16
967-1068	F-109U	G	24.0 V CT @ 8.0 A	12.0 V CT @ 16.0 A	192	U	Lugs	4 3/16	3 7/16	3 9/16	2 3/4	3	8.000	58.69
967-2022	F-215U		48.0 V CT @ 4.0 A	24.0 V CT @ 8.0 A				4 3/16	3 7/16	3 7/8	2 3/4	3	6.060	50.80

*CT = Center Tap. †Mounting hole sizes: Z = 3/16; U = 13/64 × 3/8.

Low Frequency CSE187-L

Designed to monitor current in low frequency applications. This MagneTek part may be used to monitor current from .1 to 30 amperes at frequencies from 50 Hz to 400 Hz. **Technical Notes. Turns Ratio:** Primary to sense 1:500. **Suggested Burden Resistor:** 60 ohms. **Typical Output:** 110 mV/Amp. **Primary DCR:** 250 μOhms max. **Sense DCR:** 21 ohms max. Constructed with UL recognized materials (Class B, 130°C).



967-1100 EACH 2.89

Chassis Mount

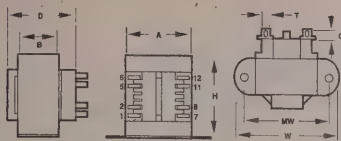
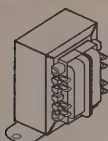


Figure A

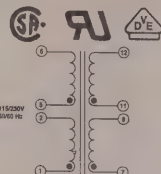


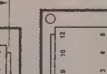
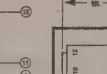
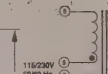
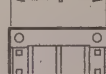
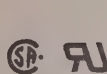
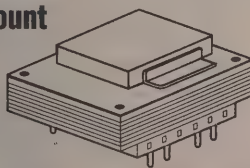
Figure B

MAGNETEK Chassis Mount World Series transformers are designed to meet U.S. and international standards including CSA, IEC, VDE and UL requirements. The transformers consist of a dual bobbin design positioned inside an insulating shroud, and constructed with UL approved high temperature material. This design eliminates the need for electrostatic shielding since there is minimal capacitance between coils when using a dual bobbin configuration. The primary and

secondary are both electrically isolated from each other, and from the core itself. Chassis Mount World Series transformers are available in sizes ranging from 25 VA to 175 VA, and are equipped with convenient "quick connect" terminations. **Technical Notes:** 1. Hi pot tested at 4000 RMS. 2. Both primary and secondary coils may be connected as either series or parallel, but both must be used simultaneously. **Specifications:** Primary: 115/230 V, 50/60 Hz.

Stock No.	Mfr.'s Type	VA Size	Secondary		Dimensions								Terminals	Fig.	Mounting		Lbs.	EACH	
			Series	Parallel	H	W	D	A	B	C					MW	ML		1-9	10-49
967-8000	VPS10-2500	25	10.0 V.C.T. @ 2.50 A	5.0 V @ 5.00 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8001	VPS10-4300	43	10.0 V.C.T. @ 4.30 A	5.0 V @ 8.60 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8002	VPS10-8000	80	10.0 V.C.T. @ 8.00 A	5.0 V @ 16.0 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8003	VPS10-13000	130	10.0 V.C.T. @ 13.0 A	5.0 V @ 26.0 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8004	VPS10-17500	175	10.0 V.C.T. @ 17.5 A	5.0 V @ 35.0 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	A	2 1/2	—	—	5.50	40.80	28.25
967-8005	VPS12-2000	25	12.6 V.C.T. @ 2.00 A	6.3 V @ 4.00 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8006	VPS12-3400	43	12.6 V.C.T. @ 3.40 A	6.3 V @ 6.80 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8007	VPS12-6300	80	12.6 V.C.T. @ 6.30 A	6.3 V @ 12.6 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8008	VPS12-10300	130	12.6 V.C.T. @ 10.3 A	6.3 V @ 20.6 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8009	VPS12-14000	175	12.6 V.C.T. @ 14.0 A	6.3 V @ 28.0 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	5.50	40.80	28.25
967-8010	VPS16-1800	25	16.0 V.C.T. @ 1.80 A	8.0 V @ 3.60 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8011	VPS16-2700	43	16.0 V.C.T. @ 2.70 A	8.0 V @ 5.40 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8012	VPS16-5000	80	16.0 V.C.T. @ 5.00 A	8.0 V @ 10.0 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8013	VPS16-8100	130	16.0 V.C.T. @ 8.10 A	8.0 V @ 16.2 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8014	VPS16-11000	175	16.0 V.C.T. @ 11.0 A	8.0 V @ 22.0 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	5.50	40.80	28.25
967-8015	VPS20-1250	25	20.0 V.C.T. @ 1.25 A	10.0 V @ 2.50 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8016	VPS20-2200	43	20.0 V.C.T. @ 2.20 A	10.0 V @ 4.40 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8017	VPS20-4300	80	20.0 V.C.T. @ 4.30 A	10.0 V @ 8.60 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8018	VPS20-6500	130	20.0 V.C.T. @ 6.50 A	10.0 V @ 13.0 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8019	VPS20-8800	175	20.0 V.C.T. @ 8.80 A	10.0 V @ 17.6 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	A	2 1/2	—	—	5.50	40.80	28.25
967-8020	VPS24-1000	25	24.0 V.C.T. @ 1.00 A	12.0 V @ 2.00 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8021	VPS24-1800	43	24.0 V.C.T. @ 1.80 A	12.0 V @ 3.60 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8022	VPS24-3300	80	24.0 V.C.T. @ 3.30 A	12.0 V @ 6.60 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8023	VPS24-5400	130	24.0 V.C.T. @ 5.40 A	12.0 V @ 10.8 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8024	VPS24-7300	175	24.0 V.C.T. @ 7.30 A	12.0 V @ 14.6 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	5.50	40.80	28.25
967-8025	VPS28-900	25	28.0 V.C.T. @ 0.90 A	14.0 V @ 1.80 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8026	VPS28-1500	43	28.0 V.C.T. @ 1.50 A	14.0 V @ 3.00 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8027	VPS28-2800	80	28.0 V.C.T. @ 2.80 A	14.0 V @ 5.60 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8028	VPS28-4600	130	28.0 V.C.T. @ 4.60 A	14.0 V @ 9.20 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8029	VPS28-6250	175	28.0 V.C.T. @ 6.25 A	14.0 V @ 12.5 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	A	2 1/2	—	—	5.50	40.80	28.25
967-8030	VPS36-700	25	36.0 V.C.T. @ 0.70 A	18.0 V @ 1.40 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8031	VPS36-1200	43	36.0 V.C.T. @ 1.20 A	18.0 V @ 2.40 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8032	VPS36-2200	80	36.0 V.C.T. @ 2.20 A	18.0 V @ 4.40 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8033	VPS36-3600	130	36.0 V.C.T. @ 3.60 A	18.0 V @ 7.20 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8034	VPS36-4800	175	36.0 V.C.T. @ 4.80 A	18.0 V @ 9.60 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	A	2 1/2	—	—	5.50	40.80	28.25
967-8035	VPS230-110	25	230.0 V.C.T. @ 0.11 A	115.0 V @ 0.22 A	2 1/16	2 1/16	1 15/16	2	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.25	15.40	10.66
967-8036	VPS230-190	43	230.0 V.C.T. @ 0.19 A	115.0 V @ 0.38 A	2 1/16	3 1/8	2	2 1/16	1 1/8	5/16	3/16	3/16	A	2 1/2	—	—	1.60	19.64	13.60
967-8037	VPS230-350	80	230.0 V.C.T. @ 0.35 A	115.0 V @ 0.70 A	3	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2	2 1/2	2 1/2	2.80	26.84	18.58
967-8038	VPS230-570	130	230.0 V.C.T. @ 0.57 A	115.0 V @ 1.14 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	4.10	35.53	24.60
967-8039	VPS230-760	175	230.0 V.C.T. @ 0.76 A	115.0 V @ 1.52 A	3 3/4	3 1/2	2 1/2	2 1/2	1 1/2	5/8	3/8	3/8	B	2 1/2	2 1/2	2 1/2	5.50	40.80	28.25

PC Mount



MAGNETEK PC Mount World Series transformers incorporate a dual bobbin construction with an insulating shroud, both made of a high temperature material that exceeds UL flammability requirements. These units are designed with very high isolation between the primary and secondary, and also, between each winding and the core. Since the dual bobbin construction effectively reduces capacitance, electrostatic shielding is not required. PC Mount transformers are available with ratings from 2.5 VA to

56.0 VA and have dimensionally accurate pin placement for through hole PC board mounting. All World Series transformers meet U.S. and international standards including CSA, IEC, VDE and UL requirements, and, therefore, have universal application. **Technical Notes:** 1. Hi pot tested at 4000 RMS. 2. Both primary and secondary coils may be connected as either series or parallel, but both must be used simultaneously. **Specifications:** Primary: 115/230 V, 50/60 Hz. **Variances:** 2.5 to 56.0.

Stock No.	Mfr.'s Type	VA Size	Secondary		Dimensions						Pin Dim.	Mounting			Lbs.	EACH	
			Series	Parallel	H	W	D	A	B	C		ML	MD	MW		1-9	10-49
967-8038	VPP10-250	2.5	10.0 V.C.T. @ 0.25 A	5.0 V @ 0.50 A	1 1/4	1 1/4	1 1/4	200	250	1,000	0.025 SQ	1 1/4	—	—	0.25	9.62	6.66
967-8039	VPP10-500	5.0	10.0 V.C.T. @ 0.50 A	5.0 V @ 1.00 A	1 1/4	1 1/4	1 1/4	200	400	1,000	0.025 SQ	1 1/4	—	—	0.37	10.36	7.17
967-8040	VPP10-1000	10.0	10.0 V.C.T. @ 1.00 A	5.0 V @ 2.00 A	1 1/4	1 1/4	1 1/4	200	400	1,140	0.036 SQ	1 1/4	—	—	0.53	11.60	8.03
967-8041	VPP10-2000	20.0	10.0 V.C.T. @ 2.00 A	5.0 V @ 4.00 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	0.90	14.11	9.77
967-8042	VPP10-3000	30.0	10.0 V.C.T. @ 3.00 A	5.0 V @ 6.00 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	0.90	14.11	9.77
967-8043	VPP10-5600	56.0	10.0 V.C.T. @ 5.60 A	5.0 V @ 11.2 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8044	VPP12-200	2.5	12.6 V.C.T. @ 0.20 A	6.3 V @ 0.40 A	1 1/4	1 1/4	1 1/4	200	250	1,680	0.045 SQ	1 1/4	—	—	0.37	10.36	7.17
967-8045	VPP12-500	5.0	12.6 V.C.T. @ 0.40 A	6.3 V @ 0.80 A	1 1/4	1 1/4	1 1/4	200	400	1,680	0.045 SQ	1 1/4	—	—	0.53	11.60	8.03
967-8046	VPP12-800	10.0	12.6 V.C.T. @ 0.80 A	6.3 V @ 1.60 A	1 1/4	1 1/4	1 1/4	200	400	1,680	0.045 SQ	1 1/4	—	—	0.90	14.11	9.77
967-8047	VPP12-1600	20.0	12.6 V.C.T. @ 1.60 A	6.3 V @ 3.20 A	1 1/4	1 1/4	1 1/4	200	400	1,680	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8048	VPP12-2400	30.0	12.6 V.C.T. @ 2.40 A	6.3 V @ 4.80 A	1 1/4	1 1/4	1 1/4	200	400	1,680	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8049	VPP12-4400	56.0	12.6 V.C.T. @ 4.40 A	6.3 V @ 8.80 A	1 1/4	1 1/4	1 1/4	200	400	1,680	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8050	VPP16-150	2.5	16.0 V.C.T. @ 0.15 A	8.0 V @ 0.30 A	1 1/4	1 1/4	1 1/4	200	250	1,000	0.025 SQ	1 1/4	—	—	0.37	10.36	7.17
967-8051	VPP16-300	5.0	16.0 V.C.T. @ 0.31 A	8.0 V @ 0.62 A	1 1/4	1 1/4	1 1/4	200	400	1,000	0.025 SQ	1 1/4	—	—	0.53	11.60	8.03
967-8052	VPP16-620	10.0	16.0 V.C.T. @ 0.62 A	8.0 V @ 1.25 A	1 1/4	1 1/4	1 1/4	200	400	1,140	0.036 SQ	1 1/2	—	—	0.90	14.11	9.77
967-8053	VPP16-1250	20.0	16.0 V.C.T. @ 1.25 A	8.0 V @ 2.50 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	0.90	14.11	9.77
967-8054	VPP16-1900	30.0	16.0 V.C.T. @ 1.90 A	8.0 V @ 3.80 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	1.15	16.22	11.23
967-8055	VPP16-3500	56.0	16.0 V.C.T. @ 3.50 A	8.0 V @ 7.00 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8056	VPP20-120	2.5	20.0 V.C.T. @ 0.12 A	10.0 V @ 0.24 A	1 1/4	1 1/4	1 1/4	200	250	1,000	0.025 SQ	1 1/4	—	—	0.37	10.36	7.17
967-8057	VPP20-250	5.0	20.0 V.C.T. @ 0.25 A	10.0 V @ 0.50 A	1 1/4	1 1/4	1 1/4	200	400	1,140	0.036 SQ	1 1/4	—	—	0.53	11.60	8.03
967-8058	VPP20-500	10.0	20.0 V.C.T. @ 0.50 A	10.0 V @ 1.00 A	1 1/4	1 1/4	1 1/4	200	400	1,140	0.036 SQ	1 1/4	—	—	0.90	14.11	9.77
967-8059	VPP20-1000	20.0	20.0 V.C.T. @ 1.00 A	10.0 V @ 2.00 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	0.90	14.11	9.77
967-8060	VPP20-1500	30.0	20.0 V.C.T. @ 1.50 A	10.0 V @ 3.00 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	1.15	16.22	11.23
967-8061	VPP20-2800	56.0	20.0 V.C.T. @ 2.80 A	10.0 V @ 5.60 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8062	VPP24-100	2.5	24.0 V.C.T. @ 0.10 A	12.0 V @ 0.20 A	1 1/4	1 1/4	1 1/4	200	250	1,000	0.025 SQ	1 1/4	—	—	0.37	10.36	7.17
967-8063	VPP24-210	5.0	24.0 V.C.T. @ 0.21 A	12.0 V @ 0.42 A	1 1/4	1 1/4	1 1/4	200	400	1,140	0.036 SQ	1 1/4	—	—	0.53	11.60	8.03
967-8064	VPP24-420	10.0	24.0 V.C.T. @ 0.42 A	12.0 V @ 0.84 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	0.90	14.11	9.77
967-8065	VPP24-830	20.0	24.0 V.C.T. @ 0.83 A	12.0 V @ 1.66 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	1.15	16.22	11.23
967-8066	VPP24-1250	30.0	24.0 V.C.T. @ 1.25 A	12.0 V @ 2.50 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8067	VPP24-2330	56.0	24.0 V.C.T. @ 2.33 A	12.0 V @ 4.66 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8068	VPP28-090	2.5	28.0 V.C.T. @ 0.09 A	14.0 V @ 0.18 A	1 1/4	1 1/4	1 1/4	200	250	1,000	0.025 SQ	1 1/4	—	—	0.37	10.36	7.17
967-8069	VPP28-180	5.0	28.0 V.C.T. @ 0.18 A	14.0 V @ 0.36 A	1 1/4	1 1/4	1 1/4	200	400	1,140	0.036 SQ	1 1/4	—	—	0.53	11.60	8.03
967-8070	VPP28-360	10.0	28.0 V.C.T. @ 0.36 A	14.0 V @ 0.72 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/4	—	—	0.90	14.11	9.77
967-8071	VPP28-720	20.0	28.0 V.C.T. @ 0.72 A	14.0 V @ 1.44 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8072	VPP28-1060	30.0	28.0 V.C.T. @ 1.06 A	14.0 V @ 2.12 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8073	VPP28-2000	56.0	28.0 V.C.T. @ 2.00 A	14.0 V @ 4.00 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8074	VPP36-070	2.5	36.0 V.C.T. @ 0.07 A	18.0 V @ 0.14 A	1 1/4	1 1/4	1 1/4	200	250	1,000	0.025 SQ	1 1/4	—	—	0.37	10.36	7.17
967-8075	VPP36-140	5.0	36.0 V.C.T. @ 0.14 A	18.0 V @ 0.28 A	1 1/4	1 1/4	1 1/4	200	400	1,140	0.036 SQ	1 1/4	—	—	0.53	11.60	8.03
967-8076	VPP36-280	10.0	36.0 V.C.T. @ 0.28 A	18.0 V @ 0.56 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.036 SQ	1 1/2	—	—	0.90	14.11	9.77
967-8077	VPP36-560	20.0	36.0 V.C.T. @ 0.56 A	18.0 V @ 1.12 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8078	VPP36-820	30.0	36.0 V.C.T. @ 0.82 A	18.0 V @ 1.64 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23
967-8079	VPP36-1560	56.0	36.0 V.C.T. @ 1.56 A	18.0 V @ 3.12 A	1 1/4	1 1/4	1 1/4	200	400	1,460	0.045 SQ	1 1/4	—	—	1.15	16.22	11.23

Autotransformers and Transformers

Step-up/Step-down Autotransformers

TRIAD autotransformers are single winding transformers in which the primary coil is a fraction of the entire winding for voltage step-up or the secondary coil is a fraction of the entire winding for voltage step-down. (See Technical Notes for an equivalent circuit diagram). In ordinary double wound power transformers, the primary and secondary are isolated and all the power is transferred by induction. In autotransformers, part of the power is transferred conductively through the windings. TRIAD autotransformers come in a variety of configurations, case types and output watts (VA) ratings in excess of 2000 watts. A universal isolation/autotransformer/voltage control model is available with up to a 4000 output watts rating when operated as an autotransformer

Stock No.	Mfr.'s Type	Output Watts (VA)	Primary Voltage	Secondary		Case Type	Connections	Lead Holes Used	Case Dimensions			Mounting Dimensions		Lbs. Wt.	EACH 1-9
				Volts $\pm 5\%$	RMS Amps				H	W	D	MW	MD		
967-9508	N-1X	50	230	115	0.435	X(1)	Leads	—	2 9/32	3 11/16	2 1/8	3 1/8	—	1.5	11.01
967-9512	N-2X	100	230	115	0.87	X(1)	Leads	—	2 5/8	4	2 1/8	3 9/8	—	2.1	16.18
967-9514	N-6U	200	230	115	1.7	U(3)	Leads	—	3 3/8	2 13/16	2 13/16	2 1/4	—	3.6	31.36
967-9516	N-5M	250	230	115	2.17	M(3)	6' Cord, Plug & Socket	—	3 7/8	3 9/32	4 1/4	2 1/2	3	7.0	47.24
967-9518	N-7M	600	230	115	5.22	M(3)	6' Cord, Plug & Socket	—	4 5/8	3 15/16	5	3	3 7/8	12.0	56.04
967-9522	N-7MG Δ	600	230	115	5.22	M(3)	6' Cord, Plug & Socket	—	4 5/8	3 15/16	5	3	3 7/8	12.0	76.02

Δ Has 3-wire plug, cord and socket. Mounting hole sizes: (3)= 3/8 x 3/16", (1)= 3/16".

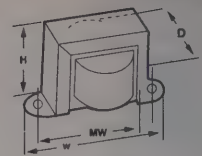
Isolation

Isolation transformers are power transformers for isolating equipment from direct connection to the power line. They are offered in a variety of voltage and case types. TRIAD isolation transformers are also offered in a hospital type (designated with an MD suffix) which are designed and constructed to meet the low leakage current requirements for today's medical equipment. The transformers are constructed with nonconcentrically precision-wound coils. The primary and secondary are precision wound on separate arbors, then assembled on a laminate core side by side separated by insulation. This prevents electrical connection, under normal or overload conditions, between the primary and secondary windings. These hospital type units are offered with a resettable circuit breaker, providing protection from overload and short circuit conditions.

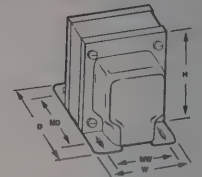
967-9500	N-51X	35	115	115	0.3	X(1)	Leads	—	2 9/32	3 11/16	2 1/8	3 1/8	—	1.7	14.98
967-9502	N-68X	50	115-230 ϕ	115	0.435	X(1)	Leads	—	2 9/32	3 11/16	2 1/8	3 1/8	—	1.7	19.40
967-9504	N-67A	150	115-230 ϕ	115	1.3	A(3)	Leads	2	3 7/8	3 9/32	3 7/8	2 1/2	3	7.0	42.24
967-9506	N-66A	250	115-230 ϕ	115	2.17	A(3)	Leads	2	4 5/8	3 15/16	4 5/8	3	3 7/8	11.0	62.16

ϕ Split winding. Mounting hole sizes: (3)= 3/8 x 3/16", (1)= 3/16".

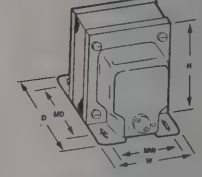
Technical Notes: 1. Leakage current from primary to secondary is rated at less than 50 micro-amps and is typically measured at less than 10 micro-amps. 2. Line cord, plug and receptacle are U.L. listed and verified to meet federal specifications. 3. Connections are by leads, plugs and sockets. 4. Hi-pot tested at 1500 VRMS. 5. All units have static shields, except those marked with an asterisk.



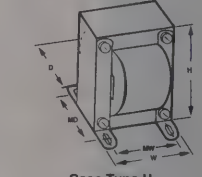
Case Type X



Case Type A



Case Type M



Case Type U

Wall Plug-ins

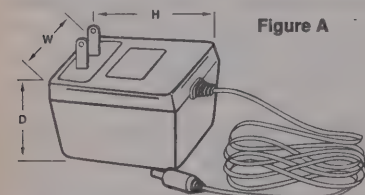


Figure A

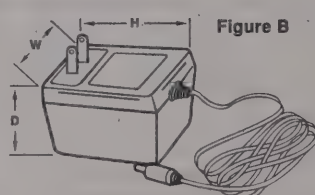


Figure B

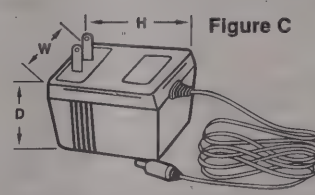


Figure C

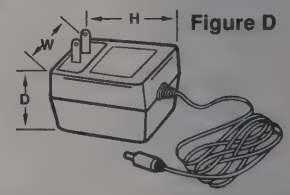


Figure D

(All UL/CSA)

MAGNETEK'S prepackaged wall plug-in power supplies decrease product design time. These plug-in power sources eliminate the need for internal power supply cooling devices, thereby reducing the noise level, size and weight of the end product. In addition, these compact power sources keep heat away from sensitive circuits, and supply a safer lower

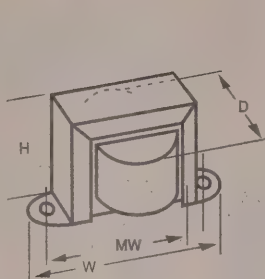
power output to the end product. Wall plug-in power sources are completely enclosed to prevent tampering. And since they carry many required agency listings, their use aids in gaining agency approvals. Offered in a wide range of popular voltages, the plug-in power sources are available in AC-DC unregulated models with generous foot cord lengths.

Stock No.	Mfr.'s Type	Input		Output		Type	Fig.	Case Dimensions			EACH 1-9
		Vac	Watts	Vdc	Idc			H	W	D	
967-8080	WDU6-100	117/120	6.0	6.0	0.1	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8081	WDU6-300	117/120	6.0	6.0	0.3	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8082	WDU6-600	117/120	10.0	6.0	0.6	AC/DC Unreg.	C	2 1/2	2	1 5/8	8.22
967-8083	WDU6-800	117/120	12.0	6.0	0.8	AC/DC Unreg.	C	2 1/2	2	1 5/8	8.22
967-8084	WDU6-1000	117/120	13.0	6.0	1.0	AC/DC Unreg.	B	2 13/16	2 3/16	1 7/8	10.80
967-8085	WDU6-1200	117/120	14.0	6.0	1.2	AC/DC Unreg.	C	2 1/2	2	1 5/8	10.80
967-8086	WDU75-100	117/120	6.0	7.5	0.1	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8087	WDU75-300	117/120	6.0	7.5	0.3	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8088	WDU75-1000	117/120	15.0	7.5	1.0	AC/DC Unreg.	B	2 13/16	2 3/16	1 7/8	10.80
967-8089	WDU9-100	117/120	6.0	9.0	0.1	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8090	WDU9-300	117/120	6.0	9.0	0.3	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8091	WDU9-500	117/120	12.0	9.0	0.5	AC/DC Unreg.	C	2 1/2	2	1 5/8	8.22
967-8092	WDU9-1000	117/120	15.0	9.0	1.0	AC/DC Unreg.	B	2 13/16	2 3/16	1 7/8	10.80
967-8093	WDU9-1200	117/120	20.0	9.0	1.2	AC/DC Unreg.	A	2 3/16	2 3/16	1 7/8	10.80
967-8094	WDU12-100	117/120	6.0	12.0	0.1	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8095	WDU12-300	117/120	10.0	12.0	0.3	AC/DC Unreg.	C	2 1/2	2	1 5/8	8.22
967-8096	WDU12-600	117/120	14.0	12.0	0.6	AC/DC Unreg.	B	2 13/16	2 3/16	1 7/8	10.80
967-8097	WDU12-1200	117/120	24.0	12.0	1.2	AC/DC Unreg.	A	3 5/16	2 3/16	2 3/16	11.09
967-8098	WDU15-200	117/120	10.0	15.0	0.2	AC/DC Unreg.	C	2 1/2	2	1 5/8	6.44
967-8099	WDU15-600	117/120	15.0	15.0	0.6	AC/DC Unreg.	B	2 13/16	2 3/16	1 7/8	11.09
967-8100	WDU15-1000	117/120	24.0	15.0	1.0	AC/DC Unreg.	A	3 5/16	2 3/16	2 3/16	11.84
967-8101	WDU18-100	117/120	6.0	18.0	0.1	AC/DC Unreg.	D	2 3/16	1 11/16	1 7/16	6.44
967-8102	WDU18-250	117/120	12.0	18.0	0.25	AC/DC Unreg.*	C	2 1/2	2	1 5/8	8.22
967-8103	WDU18-600	117/120	18.0	18.0	0.6	AC/DC Unreg.*	A	3 5/16	2 3/16	2 3/16	10.80
967-8104	WDU18-1000	117/120	30.0	18.0	1.0	AC/DC Unreg.*	A	3 5/16	2 3/16	2 3/16	11.84

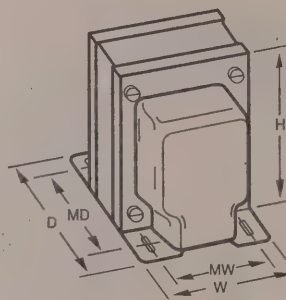
*U.L. only, no CSA. Note: AC/DC, AC-AC available upon request.

Power Transformers

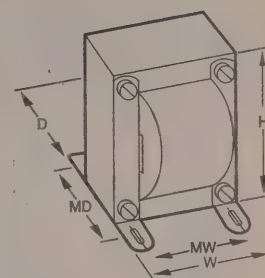
MagneTek offers a full choice of TRIAD power supply transformers for direct use or in transformer, rectifier, or filter circuits. Other available secondary voltages include control, filament and low level signaling in standard values. The transformers are single primary with single and multiple secondaries in standard size and weight configurations.



Case Type X



Case Type A



Case Type U

Single Secondary

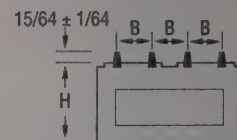
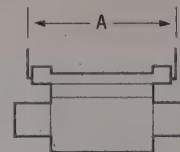
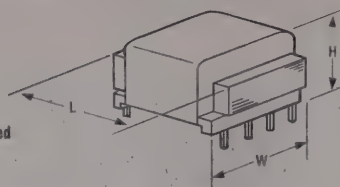
Stock No.	Mfr.'s Type	Secondary		Primary Voltage	Case Type	Connections or Lead Holes Used	Case Dimensions			Mounting Dimensions		Wt. Lbs.	EACH
		Volts	Amps				H	W	D	MW	MD		
967-1013	F-13X	6.3	0.6	115	X (1)	Leads	1 3/8	2 3/8	1 3/8	2	—	0.37	7.91
967-8352	F-313X	6.3	0.6	115/230	X (1)	Leads	1 3/8	2 3/8	1 3/8	2	—	0.37	13.20
967-1014	F-14X#	6.3 CT	1.2	115	X (1)	Leads	1 3/8	2 3/8	1 3/8	2	—	0.7	10.60
967-8354	F-314X	6.3 CT	1.2	115/230	X (1)	Leads	1 3/8	2 3/8	1 3/8	2	—	0.7	13.64
967-8360	F-16X	6.3 CT	3.0	115	X (1)	Leads	1 15/16	3 5/16	1 5/8	2 13/16	—	1.3	12.51
967-8362	F-316X	6.3 CT	3.0	115/230	X (1)	Leads	1 15/16	3 5/16	1 5/8	2 13/16	—	1.3	17.53
967-8366	F-43X#	6.3	4.0	115	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.25	12.40
967-8370	F-18X	6.3 CT	6.0	115	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.3	17.13
967-8372	F-318X	6.3 CT	6.0	115/230	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.3	30.63
967-8376	F-69X	6.3 CT	8.0	115	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.3	23.96
967-8378	F-21A	6.3 CT	10.0	115	A (3)	1-Leads	3 19/32	2 31/32	3 1/8	2 1/4	2	3.8	35.36
967-8380	F-22A	6.3 CT	20.0	115	A (3)	2-Leads	3 19/32	2 31/32	4 1/8	2 1/2	3	7.0	40.80
967-8382	F-113X	12.0	0.15	115	X (1)	Leads	1 3/8	2 3/8	1 3/8	2	—	0.4	8.36
967-8384	F-216X#	12.0	0.35	115	X (1)	Leads	1 3/8	2 3/8	1 3/8	2	—	0.37	9.89
967-8386	F-114X	12.0	0.7	115	X (1)	Leads	1 5/8	2 13/16	1 5/8	2 3/8	—	0.8	9.07
967-8388	F-217X#	12.0	1.2	115	X (1)	Leads	2	3 1/4	1 3/4	2 13/16	—	1.0	11.87
967-8390	F-218X#	12.0	2.0	115	X (1)	Leads	2	3 1/4	1 7/8	2 7/8	—	1.13	12.80
967-1219	F-219X#	12.0	4.0	115	X (1)	Leads	2 9/16	4	2 1/8	3 3/16	—	2.3	19.09
967-8392	F-220U#	12.0	6.0	115	U (3)	Leads	3 19/16	2 13/16	2 1/2	2 1/4	2 1/8	3.5	26.60
967-9300	F-221U#	12.0	8.0	115	U (3)	Leads	3 19/16	3 1/8	2 3/8	2 1/2	2 1/8	4.0	23.13
967-8396	F-70X	12.6 CT	1.0	115	X (1)	Leads	1 15/16	3 5/16	1 3/4	2 13/16	—	1.3	11.22
967-1025	F-25X	12.6 CT	1.5	115	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.3	11.60
967-8398	F-325X	12.6 CT	1.5	115/230	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.3	13.91
967-1044	F-44X#	12.6 CT	2.0	115	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.25	14.10
967-9989	F-344X	12.6 CT	2.0	115/230	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.25	14.36
967-8400	F-26X#	12.6 CT	2.5	115	X (1)	Leads	2 9/32	3 11/16	2	3 1/8	—	1.55	15.47
967-8402	F-326X	12.6 CT	2.5	115/230	X (1)	Leads	2 9/32	3 11/16	2	3 1/8	—	1.55	16.98
967-8404	F-224X#	12.6	3.0	115	X (1)	Leads	2 1/4	3 3/4	2 1/8	3 1/8	—	1.6	16.24
967-8406	F-225X#	12.6	4.0	115	X (1)	Leads	2 5/8	4	2 1/8	3 3/8	—	2.3	18.44
967-8410	F-3181U	12.6 CT	4.0	115/230	U (1)	Leads	3 1/8	2 9/16	2 3/16	2	2	2.3	27.78
967-8412	F-182U	12.6 CT	6.0	115	U (2)	Leads	3 1/8	2 13/16	2 7/16	2 1/4	2 3/8	3.8	26.87
967-8413	F-183U	12.6 CT	8.0	115	U (2)	Leads	3 3/8	3 3/16	2 5/16	2 1/2	2 1/4	5.0	43.98
967-8414	F-112X	14.0 CT	0.25	115	X (1)	Leads	1 3/8	2 3/8	1 3/8	2	—	0.4	10.40
967-8418	F-3112X	14.0 CT	0.25	115/230	X (1)	Leads	1 3/8	2 3/8	1 1/2	2	—	0.3	16.07
967-9250	F-250X	14.0 CT	1.0	115	X (1)	Leads	1 15/16	3 1/4	1 3/4	2 13/16	—	1.2	12.49
967-9251	F-251X	14.0 CT	2.0	115	X (1)	Leads	2 1/4	3 11/16	1 15/16	3 1/8	—	1.5	16.67
967-8420	F-252U	14.0 CT	4.0	115	U (2)	Leads	3	2 1/2	2 7/16	2	2 1/4	3.0	22.93
967-8422	F-253U	14.0 CT	6.0	115	U (2)	Leads	3 3/8	2 13/16	2 7/8	2 1/4	2 3/8	4.0	34.73
967-8432	F-254X	20.0 CT	1.0	115	X (1)	Leads	2 1/4	3 11/16	1 15/16	3 1/8	—	1.5	14.29
967-8434	F-255X	20.0 CT	2.0	115	X (1)	Leads	2 9/16	4	2 1/4	3 3/16	—	2.5	17.71
967-8436	F-256U	20.0 CT	4.0	115	U (2)	Leads	3 3/8	2 13/16	2 7/8	2 3/8	—	4.0	25.27
967-8438	F-257U	20.0 CT	6.0	115	U (2)	Leads	3 3/4	3 1/8	3 1/8	2 1/2	2 5/8	5.7	34.32
967-8440	F-258U	20.0 CT	8.0	115	U (2)	Leads	3 3/4	3 1/8	3 1/2	2 1/2	2 7/8	6.4	45.69
967-8442	F-259U	20.0 CT	10.0	115	U (2)	Leads	4 1/8	3 7/16	3 1/2	2 3/4	2 3/4	7.4	59.53
967-8444	F-115X	24.0 CT	0.085	115	X (1)	Leads	1 3/16	2 1/16	1 3/8	1 3/4	—	0.3	9.67
967-8446	F-3115X	24.0 CT	0.085	115/230	X (1)	Leads	1 3/16	2 1/16	1 3/8	1 3/4	—	0.3	15.98
967-1116	F-116X	24.0 CT	0.2	115	X (1)	Leads	1 3/8	2 3/8	1 1/2	2	—	0.45	10.20
967-8448	F-3116X	24.0 CT	0.2	115/230	X (1)	Leads	1 3/8	2 3/8	1 1/2	2	—	0.45	12.13
967-8450	F-117X	24.0 CT	0.4	115	X (1)	Leads	1 5/8	2 13/16	1 5/8	2 3/8	—	0.8	11.22
967-8452	F-3117X	24.0 CT	0.4	115/230	X (1)	Leads	1 5/8	2 13/16	1 1/2	2 3/8	—	0.75	14.24
967-8454	F-118X	24.0 CT	0.7	115	X (1)	Leads	2	3 1/4	2	2 13/16	—	1.3	12.07
967-8456	F-3118X	24.0 CT	0.7	115/230	X (1)	Leads	2	3 1/4	2	2 13/16	—	1.3	17.58
967-8458	F-45X#	24.0 CT	1.0	115	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.3	10.93
967-1045	F-345X	24.0 CT	1.0	115/230	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.3	13.92
967-8460	F-46X#	24.0	1.0	115	X (1)	Leads	1 15/16	3 5/16	2 1/8	2 13/16	—	1.4	10.89
967-8464	F-229X#	24.0	2.0	115	X (1)	Leads	2 9/16	4	2	3 3/16	—	2.3	16.33
967-8468	F-192X	24.0 CT	2.0	115	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.3	17.20
967-8470	F-193U	24.0 CT	4.0	115	U (2)	Leads	3 19/16	3 1/8	2 13/16	2 1/2	2 1/8	4.0	28.96
967-8474	F-260U	24.0 CT	6.0	115	U (2)	Leads	3 3/4	3 1/8	3 1/2	2 1/2	2 7/8	6.4	39.64
967-8478	F-261U	24.0 CT	8.0	115	U (2)	Leads	4 1/8	3 7/16	3 1/2	2 3/4	2 3/4	7.4	44.11
967-8480	F-401U	24.0 CT	10.0	115	U (3)	Leads	4 1/8	3 7/16	3 3/4	2 3/4	3	8.0	43.11
967-8482	F-226U#	24.0 CT	12.0	115	U (3)	Leads	4 9/16	3 3/4	4 1/8	3	3 1/4	10.4	64.18
967-8486	F-57X	25.2 CT	1.0	115	X (1)	Leads	1 15/16	3 9/16	2	2 13/16	—	1.5	11.87
967-8488	F-357X	25.2 CT	1.0	115/230	X (1)	Leads	1 15/16	3 9/16	2	2 13/16	—	1.5	20.22
967-8490	F-41X#	25.2 CT	2.0	115	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.2	14.58
967-1341	F-341X	25.2 CT	2.0	115/230	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.2	18.51
967-1056	F-56X	25.2 CT	2.8	115	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.5	18.78
967-8492	F-119X	26.8 CT	0.15	115	X (1)	Leads	1 3/8	2 3/8	1 1/2	2	—	0.45	12.93
967-1040	F-40X#	26.8 CT	1.0	115	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.3	12.00
967-8496	F-340X	26.8 CT	1.0	115/230	X (1)	Leads	1 15/16	3 5/16	2	2 13/16	—	1.3	17.53
967-8498	F-55X	26.8 CT	1.7	115	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.3	16.02
967-8500	F-355X	26.8 CT	1.7	115/230	X (1)	Leads	2 19/32	4	2 1/4	3 3/16	—	2.3	22.99

60 cycle operation. ‡ Static Shield. † Tapped primary to produce lower voltages. CT = Center Tap. Mounting hole sizes: (1) = 3/16", (2) = 5/16" x 3/16", (3) = 3/8" x 3/16".

Flat Pack

The Triad Flat Pack power transformer from MagneTek is designed to meet the needs of low clearance PC board and solid state power designs. These units can also be used for control and instrumentation applications. Voltages and currents were chosen for widely used power applications. It is offered in a dual primary and dual secondary configuration. **Specifications. Primary:** 115/230V, 50/60 Hz. **Low Profile:** allows 3/4" card spacing for 2.5VA units, allows 1" card spacing for 6VA units, allows 1 1/4" card spacing for 12VA units.

Class B
UL Recognized



Stock No.	Mfr.'s Type	VA	Secondary Rating		Case Dimensions					Wt. Oz.	EACH 1-9
			Series	Parallel	H	W	L	A	B		
967-9125	FP10-250	2.5	10.0V CT @ 0.25A	5.0V @ 0.5A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8200	FP12-200	2.5	12.6V CT @ 0.2A	6.3V @ 0.4A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8202	FP16-150	2.5	16.0V CT @ 0.15A	8.0V @ 0.3A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8204	FP20-125	2.5	20.0V CT @ 0.125A	10.0V @ 0.25A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8206	FP24-100	2.5	24.0V CT @ 0.1A	12.0V @ 0.2A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8208	FP30-85	2.5	30.0V CT @ 0.08A	15.0V @ 0.16A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8210	FP34-75	2.5	34.0V CT @ 0.075A	17.0V @ 0.15A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8212	FP40-60	2.5	40.0V CT @ 0.06A	20.0V @ 0.12A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8214	FP56-45	2.5	56.0V CT @ 0.045A	28.0V @ 0.09A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8216	FP88-28	2.5	88.0V CT @ 0.028A	44.0V @ 0.056A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8218	FP120-20	2.5	120.0V CT @ 0.02A	60.0V @ 0.04A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8220	FP230-10	2.5	230.0V CT @ 0.01A	115.0V @ 0.02A	0.650	1.562	1.875	1.600	0.375	5	10.75
967-8222	FP10-600	6.0	10.0V CT @ 0.6A	5.0V @ 1.2A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8224	FP12-475	6.0	12.6V CT @ 0.475A	6.3V @ 0.95A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8226	FP16-375	6.0	16.0V CT @ 0.375A	8.0V @ 0.75A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8227	FP20-300	6.0	20.0V CT @ 0.3A	10.0V @ 0.6A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8228	FP24-250	6.0	24.0V CT @ 0.25A	12.0V @ 0.5A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8230	FP30-200	6.0	30.0V CT @ 0.2A	15.0V @ 0.4A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8232	FP34-170	6.0	34.0V CT @ 0.17A	17.0V @ 0.34A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8234	FP40-150	6.0	40.0V CT @ 0.15A	20.0V @ 0.3A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8236	FP56-100	6.0	56.0V CT @ 0.1A	28.0V @ 0.2A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8238	FP88-65	6.0	88.0V CT @ 0.065A	44.0V @ 0.13A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8240	FP120-50	6.0	120.0V CT @ 0.05A	60.0V @ 0.1A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8242	FP230-25	6.0	230.0V CT @ 0.025A	115.0V @ 0.05A	0.875	1.562	1.875	1.600	0.375	7	12.00
967-8246	FP10-1200	12.0	10.0V CT @ 1.2A	5.0V @ 2.4A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8248	FP12-950	12.0	12.6V CT @ 0.95A	6.3V @ 1.9A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8250	FP16-750	12.0	16.0V CT @ 0.75A	8.0V @ 1.5A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8252	FP20-600	12.0	20.0V CT @ 0.6A	10.0V @ 1.2A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8254	FP24-500	12.0	24.0V CT @ 0.5A	12.0V @ 1.0A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8256	FP30-400	12.0	30.0V CT @ 0.4A	15.0V @ 0.8A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8258	FP34-340	12.0	34.0V CT @ 0.34A	17.0V @ 0.68A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8260	FP40-300	12.0	40.0V CT @ 0.3A	20.0V @ 0.6A	1.062	2.000	2.500	2.000	0.500	11	14.00
967-8262	FP56-200	12.0	56.0V								

Power Transformers



Single and Dual Primary Transformers

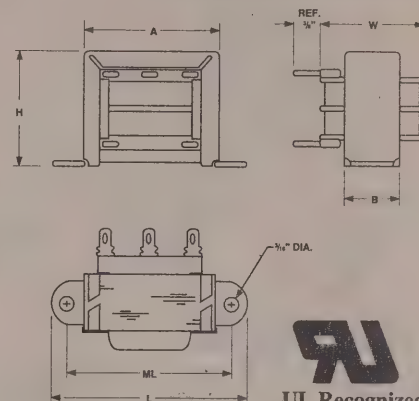
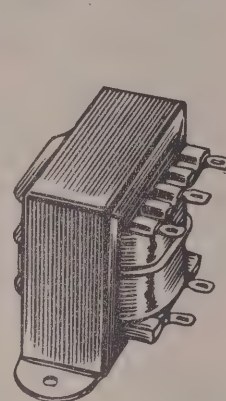
Quick Pack Series small power transformers offer a significant size and weight reduction for a given VA rating. Features quick-connected or solder terminals. Available in 6 sizes for a wide variety of applications. Bobbin wound for small size. Split bobbin non-concentric winding for a higher HiPot testing (2500V rather than 1500V); also eliminates need for electrostatic shielding. Class B insulation for maximum total temperature of 130°C continuous. Available as single 115V or dual 115/230V primary, rated 50/60Hz. UL Recognized.

Size	VA	L	W	H	A	B	ML	Lbs.
F3	2.4	2 1/16	1 1/16	1 3/16	1 5/8	9/16	1 3/4	0.25
F4 & FD4	6	2 3/8	1 1/4	1 3/8	1 11/16	1 11/16	2	0.44
F5 & FD5	12	2 13/16	1 3/8	1 5/8	1 15/16	1 3/16	2 3/8	0.70
F6 & FD6	30	3 1/4	1 11/16	1 15/16	2 5/16	1 1/16	2 13/16	1.10
F7 & FD7	56	3 11/16	1 13/16	2 1/4	2 11/16	1 1/16	3 1/8	1.70
F8 & FD8	100	4 1/32	2 1/4	2 9/16	3 1/16	1 5/16	3 3/16	2.75

Single Primary

Stock No.	Mfr.'s Type	VA	Output Rating	EACH
				1-9
967-7003	F3-10	2.4	10 VCT @ 0.25	7.60
967-7013	F4-10	6	10 VCT @ 0.6 A	8.40
967-7023	F5-10	12	10 VCT @ 1.2 A	9.20
967-7033	F6-10	30	10 VCT @ 3.0 A	12.50
967-7043	F7-10	56	10 VCT @ 5.0 A	17.40
967-7053	F8-10	100	10 VCT @ 10.0 A	23.75
967-7063	F3-12	2.4	12.6 VCT @ 0.2 A	7.60
967-7073	F4-12	6	12.6 VCT @ 0.5 A	8.43
967-7083	F5-12	12	12.6 VCT @ 1.0 A	9.20
967-7093	F6-12	30	12.6 VCT @ 2.5 A	12.50
967-7103	F7-12	56	12.6 VCT @ 4.0 A	17.40
967-7113	F8-12	100	12.6 VCT @ 8.0 A	23.75
967-7123	F3-16	2.4	16 VCT @ 0.15 A	7.60
967-7133	F4-16	6	16 VCT @ 0.4 A	8.40
967-7143	F5-16	12	16 VCT @ 0.8 A	9.20
967-7153	F6-16	30	16 VCT @ 2.0 A	12.50
967-7163	F7-16	56	16 VCT @ 3.5 A	17.40
967-7173	F8-16	100	16 VCT @ 6.25 A	23.75
967-7183	F3-20	2.4	20 VCT @ 0.12 A	7.60
967-7193	F4-20	6	20 VCT @ 0.3 A	8.40
967-7203	F5-20	12	20 VCT @ 0.6 A	9.20
967-7213	F6-20	30	20 VCT @ 1.5 A	12.50
967-7223	F7-20	56	20 VCT @ 2.8 A	17.40
967-7233	F8-20	100	20 VCT @ 5.0 A	23.75
967-7243	F3-24	2.4	24 VCT @ 0.1 A	7.60
967-7253	F4-24	6	24 VCT @ 0.25 A	8.40
967-7263	F5-24	12	24 VCT @ 0.5 A	9.20
967-7273	F6-24	30	24 VCT @ 1.25 A	12.50
967-7283	F7-24	56	24 VCT @ 2.4 A	17.40
967-7293	F8-24	100	24 VCT @ 4.0 A	23.75
967-7303	F3-28	2.4	28 VCT @ 0.085 A	7.60
967-7313	F4-28	6	28 VCT @ 0.2 A	8.40
967-7323	F5-28	12	28 VCT @ 0.42 A	9.20
967-7333	F6-28	30	28 VCT @ 1.1 A	12.50
967-7343	F7-28	56	28 VCT @ 2.0 A	17.40
967-7353	F8-28	100	28 VCT @ 3.6 A	23.75
967-7363	F3-36	2.4	36 VCT @ 0.065 A	7.60
967-7373	F4-36	6	36 VCT @ 0.17 A	8.40
967-7383	F5-36	12	36 VCT @ 0.35 A	9.20
967-7393	F6-36	30	36 VCT @ 0.85 A	12.50
967-7403	F7-36	56	36 VCT @ 1.5 A	17.40
967-7413	F8-36	100	36 VCT @ 2.8 A	23.75
967-7423	F3-48	2.4	48 VCT @ 0.05 A	7.60
967-7433	F4-48	6	48 VCT @ 0.125 A	8.40
967-7443	F5-48	12	48 VCT @ 0.25 A	9.20
967-7453	F6-48	30	48 VCT @ 0.63 A	12.50
967-7463	F7-48	56	48 VCT @ 1.2 A	17.40
967-7473	F8-48	100	48 VCT @ 2.0 A	23.75
967-7483	F3-56	2.4	56 VCT @ 0.045 A	7.60
967-7493	F4-56	6	56 VCT @ 0.11 A	8.40
967-7503	F5-56	12	56 VCT @ 0.22 A	9.20
967-7513	F6-56	30	56 VCT @ 0.54 A	12.50
967-7523	F7-56	56	56 VCT @ 1.0 A	17.40
967-7533	F8-56	100	56 VCT @ 1.8 A	23.75
967-7543	F3-120	2.4	120 VCT @ 0.02 A	7.60
967-7553	F4-120	6	120 VCT @ 0.05 A	8.40
967-7563	F5-120	12	120 VCT @ 0.1 A	9.20
967-7573	F6-120	30	120 VCT @ 0.25 A	12.50
967-7583	F7-120	56	120 VCT @ 0.5 A	17.40
967-7593	F8-120	100	120 VCT @ 0.85 A	23.75

Note: Terminals to be quick-connect (1.87) or solder lug terminals. Dielectric Strength: 2500V.

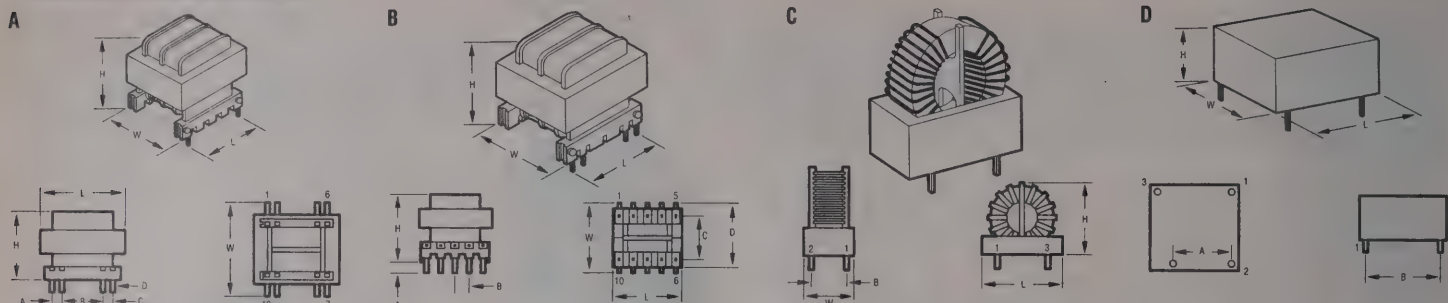


Our formal quality assurance system verifies that your specifications are consistently met or surpassed. We maintain accurate statistical process controls on our product and test all incoming components. Continued inspection of wire, core, insulation and other components, combined with our supplier quality assurance program, virtually eliminates imperfections.

Dual Primary

Stock No.	Mfr.'s Type	VA	Output Rating	EACH
				1-9
967-7015	FD4-10	6	10 VCT @ 0.6 A	10.25
967-7025	FD5-10	12	10 VCT @ 1.2 A	11.35
967-7035	FD6-10	30	10 VCT @ 3.0 A	14.70
967-7045	FD7-10	56	10 VCT @ 5.0 A	18.00
967-7055	FD8-10	100	10 VCT @ 10.0 A	25.00
967-7075	FD4-12	6	12.6 VCT @ 0.5 A	10.25
967-7085	FD5-12	12	12.6 VCT @ 1.0 A	11.35
967-7095	FD6-12	30	12.6 VCT @ 2.5 A	14.70
967-7105	FD7-12	56	12.6 VCT @ 4.0 A	18.00
967-7115	FD8-12	100	12.6 VCT @ 8.0 A	25.00
967-7135	FD4-16	6	16 VCT @ 0.4 A	10.25
967-7145	FD5-16	12	16 VCT @ 0.8 A	11.35
967-7155	FD6-16	30	16 VCT @ 2.0 A	14.75
967-7165	FD7-16	56	16 VCT @ 3.5 A	18.00
967-7175	FD8-16	100	16 VCT @ 6.25 A	25.00
967-7195	FD4-20	6	20 VCT @ 0.3 A	10.25
967-7205	FD5-20	12	20 VCT @ 0.6 A	11.35
967-7215	FD6-20	30	20 VCT @ 1.5 A	14.70
967-7225	FD7-20	56	20 VCT @ 2.8 A	18.00
967-7235	FD8-20	100	20 VCT @ 5.0 A	25.00
967-7255	FD4-24	6	24 VCT @ 0.25 A	10.25
967-7265	FD5-24	12	24 VCT @ 0.5 A	11.35
967-7275	FD6-24	30	24 VCT @ 1.25 A	14.75
967-7285	FD7-24	56	24 VCT @ 2.4 A	18.00
967-7295	FD8-24	100	24 VCT @ 4.0 A	25.00
967-7315	FD4-28	6	28 VCT @ 0.2 A	10.25
967-7325	FD5-28	12	28 VCT @ 0.42 A	11.35
967-7335	FD6-28	30	28 VCT @ 1.1 A	14.70
967-7345	FD7-28	56	28 VCT @ 2.0 A	18.00
967-7355	FD8-28	100	28 VCT @ 3.6 A	25.00
967-7375	FD4-36	6	36 VCT @ 0.17 A	10.25
967-7385	FD5-36	12	36 VCT @ 0.35 A	11.36
967-7395	FD6-36	30	36 VCT @ 0.85 A	14.70
967-7405	FD7-36	56	36 VCT @ 1.5 A	18.00
967-7415	FD8-36	100	36 VCT @ 2.8 A	25.00
967-7435	FD4-48	6	48 VCT @ 0.125 A	10.25
967-7445	FD5-48	12	48 VCT @ 0.25 A	11.35
967-7455	FD6-48	30	48 VCT @ 0.63 A	14.70
967-7465	FD7-48	56	48 VCT @ 1.2 A	18.00
967-7475	FD8-48	100	48 VCT @ 2.0 A	25.00
967-7495	FD4-56	6	56 VCT @ 0.11 A	10.25
967-7505	FD5-56	12	56 VCT @ 0.22 A	11.35
967-7515	FD6-56	30	56 VCT @ 0.54 A	14.70
967-7525	FD7-56	56	56 VCT @ 1.0 A	18.00
967-7535	FD8-56	100	56 VCT @ 1.8 A	25.00
967-7555	FD4-120	6	120 VCT @ 0.05 A	10.25
967-7565	FD5-120	12	120 VCT @ 0.1 A	11.35
967-7575	FD6-120	30	120 VCT @ 0.25 A	14.70
967-7585	FD7-120	56	120 VCT @ 0.5 A	18.00
967-7595	FD8-120	100	120 VCT @ 0.85 A	25.00

Common Mode Inductors



- Hi-Pot Tested at 2,500 VRMS
- DC Resistance at 20°C ±10%

Highly dependable TRIAD common mode EMI suppression inductors manufactured by MagneTek are used in various types of power supplies to eliminate noise common to all lines. These units also provide effective differential mode filtering. Meeting VDE, IEC, UL,

- Inductances are Minimum Measured at 10 Gauss
- Current Ratings for Approximately 40°C Temperature Rise

and CSA requirements, they minimize AC line transmitted interference often created by high frequency switching power supplies. Normally placed close to the input power source, these compact inductors are constructed with UL rated 130°C materials.

E-Core Inductors

Core Inductors																
Stock No.	Mfr.'s Type	Section	Figure	Inductance	Amps R.M.S.	DC Resistance	Leakage	Dimensions						Wt. Lbs.	EACH	
								H	W	L	A	B	C		D	1-9
967-8600	CME375-1	A	A	4.40 mH	5.500	.049 Ohms	45.00 µH	1.180	1.260	1.500	.150	.600	.200	.036 Sq	.054	6.78
967-8602	CME375-2			6.90 mH	4.400	.077 Ohms	70.00 µH									6.78
967-8604	CME375-3			10.90 mH	3.500	.122 Ohms	125.00 µH									6.78
967-8606	CME375-4			17.80 mH	2.700	.196 Ohms	180.00 µH									6.78
967-8608	CME375-5			28.60 mH	2.200	.316 Ohms	300.00 µH									6.78
967-8610	CME375-6			43.60 mH	1.750	.489 Ohms	440.00 µH									6.78
967-8634	CME375-7			70.30 mH	1.380	.785 Ohms	720.00 µH									6.78
967-8636	CME375-8			111.60 mH	1.100	1.240 Ohms	1.10 mH									6.78
967-8638	CME375-9			176.10 mH	.087	1.980 Ohms	1.80 mH									6.78
967-8612	CME2425-1	B	B	2.10 mH	2.500	.050 Ohms	9.00 µH	1.075	1.050	1.050	.125	.200	.610	.800	.154	6.33
967-8614	CME2425-2			3.50 mH	2.000	.080 Ohms	14.00 µH									6.33
967-8616	CME2425-3			5.50 mH	1.600	.127 Ohms	25.00 µH									6.33
967-8618	CME2425-4			9.00 mH	1.280	.202 Ohms	36.00 µH									6.33
967-8620	CME2425-5			13.90 mH	1.000	.319 Ohms	60.00 µH									6.33
967-8622	CME2425-6			22.40 mH	0.800	.500 Ohms	90.00 µH									6.33
967-8624	CME2425-7			36.00 mH	0.630	.820 Ohms	144.00 µH									6.33
967-8626	CME2425-8			54.00 mH	0.500	1.260 Ohms	240.00 µH									6.33
967-8628	CME2425-9			86.90 mH	0.400	2.020 Ohms	360.00 µH									6.33

A CME375-KIT is available which includes each one of the components in section A. A CME2425-KIT is available which includes each one of the components in section B.

Encapsulated Toroidal Inductors

Stock No.	Mfr.'s Type	Section	Figure	Inductance	Amps R.M.S.	DC Resistance	Leakage	Dimensions					Wt. Lbs.	EACH 1-9
								H	W	L	A	B		
967-8630	CMT908-V1	C	C	2.00 mH	7.50	.020 Ohms	25.0 µH	1.50	.800	1.56	.90	.60	.080	4.78
967-8632	CMT908-V2			4.00 mH	5.20	.040 Ohms	45.0 µH							4.78
967-8640	CMT908-V3			8.00 mH	3.20	.120 Ohms	90.0 µH							4.78
967-8642	CMT908-V4			16.00 mH	2.60	.160 Ohms	180.0 µH							4.78
967-8644	CMT908-H1	D	D	2.00 mH	7.50	.020 Ohms	25.0 µH	.44	1.500	1.50	1.08	1.28	.120	4.78
967-8646	CMT908-H2			4.00 mH	5.20	.040 Ohms	45.0 µH							4.78
967-8648	CMT908-H3			8.00 mH	3.20	.120 Ohms	90.0 µH							4.78
967-8650	CMT908-H4			16.00 mH	2.60	.160 Ohms	180.0 µH							4.78

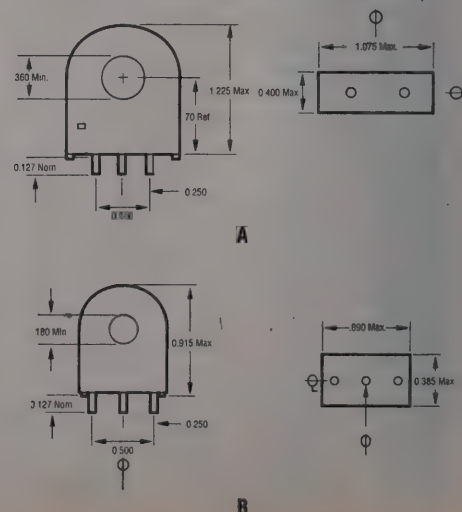
A CMT908-KIT is available which includes one of each of the above listed components.

Current Sense Inductors

- Derate ET Product by 32% for 50 kHz, 52% for 100kHz and 50% for Unidirectional Operation
- Rated Primary Current Renders Approximately 40°C Temperature Rise
- CST-206 Models Have Maximum Recommended Terminating Resistance of 1 Ohm Per Turn

Designed for switching power supply applications, TRIAD current sense inductors from MagneTek are used to detect the current passing through a conductor. These inductors are very reliable and operate effectively over the frequency range of 20-200kHz. They are constructed of UL rated 130°C materials. Both models are available with a center tap option.

Stock No.	Mfr.'s Type	Section	Figure	Turns	REF 20 kHz ET Products	Min. Inductance	DCR Ohms	Pri. Amps	Wt. Lbs.	EACH 1-9
967-8652	CST206-1A	A	A	100	2.0 VmSec	14.0 mH	.400 Max.	110.0 RMS	.030	6.11
967-8654	CST206-1T			100 CT	2.0 VmSec	14.0 mH	.400 Max.	110.0 RMS		6.67
967-8656	CST206-2A			200	4.0 VmSec	56.0 mH	1.350 Max.	80.0 RMS		6.11
967-8658	CST206-2T			200 CT	4.0 VmSec	56.0 mH	1.350 Max.	80.0 RMS		6.67
967-8660	CST206-3A			300	6.0 VmSec	130.0 mH	12.000 Max.	70.0 RMS		6.11
967-8662	CST206-3T			300 CT	6.0 VmSec	130.0 mH	12.000 Max.	70.0 RMS		6.67
967-8664	CST306-1A	B	B	50	500.0 VmSec	3.5 mH	.330 Max.	25.0 RMS	.012	4.11
967-8666	CST306-2A			50 CT	500.0 VmSec	3.5 mH	.330 Max.	25.0 RMS		4.67
967-8668	CST306-3A			100	1.0 VmSec	14.0 mH	1.350 Max.	25.0 RMS		4.11
967-8670	CST306-1T			100 CT	1.0 VmSec	14.0 mH	1.350 Max.	25.0 RMS		4.67
967-8672	CST306-2T			200	2.0 VmSec	55.0 mH	2.750 Max.	35.0 RMS		4.11
967-8674	CST306-3T			200 CT	2.0 VmSec	55.0 mH	2.750 Max.	35.0 RMS		4.67



Rod Core Inductors

► Rated Current 10 Amps per Pin Max

► Rated Current Renders @ 40°C Temp. Rise

TRIAD high current rod core inductors from MagneTek provide cost effective energy storage. By conditioning the output signal, the inductor smooths out the current waveform to provide a more stable current. These low cost inductors are designed to be compatible with automated P. C. B. installation.

Stock No.	Mfr.'s Type	Figure	Inductance	DC Current	DC Resistance	Dim.	Wt. (Oz.)	EACH
967-8688	RC-1	A	5.6 mH	.250A	6.100 Ohms	H: .930 L: .600 A: .150 B: .375	.03	1-9
967-8690	RC-2		3.9 mH	.320A	3.900 Ohms			2.71
967-8692	RC-3		2.5 mH	.400A	2.450 Ohms			2.71
967-8694	RC-4		1.5 mH	.500A	1.530 Ohms			2.71
967-8696	RC-5		960.0 µH	.625A	1.000 Ohms			2.71
967-8698	RC-6		560.0 µH	.800A	.600 Ohms			2.71
967-8700	RC-7		450.0 µH	1.000A	.420 Ohms			2.71
967-8702	RC-8		250.0 µH	1.250A	.210 Ohms			2.71
967-8704	RC-9		200.0 µH	1.600A	.200 Ohms			2.71
967-8706	RC-10		100.0 µH	2.000A	.077 Ohms			2.71
967-8708	RC-11		75.0 µH	2.500A	.070 Ohms			2.71

An RC-KIT is available which includes one of each of the above listed components.

High Current Rod Core Inductors

► Inductance ±15%

► Rated Current 40°C Temp. Rise

Stock No.	Mfr.'s Type	Figure	Inductance	Rated DC Current	Max. DC Resistance	Lead Dia.	Wt. (Lbs.)	EACH
967-8680	FIRCH-1	B	2.54 µH	11.60A	5.50 mOhms	.050"	.03	1-9
967-8682	FIRCH-2		3.05 µH	9.70A	7.31 mOhms	.045"		2.44
967-8684	FIRCH-3		3.60 µH	8.10A	9.95 mOhms	.040"		2.44
967-8686	FIRCH-4		5.00 µH	6.80A	14.10 mOhms	.036"		2.44
967-8782	FIRCH-5		5.90 µH	5.70A	18.50 mOhms	.032"		2.44
967-8784	FIRCH-6		7.22 µH	4.80A	26.10 mOhms	.028"		2.44

A FIRCH-KIT is available which includes one of each of the above listed components.



Figure A

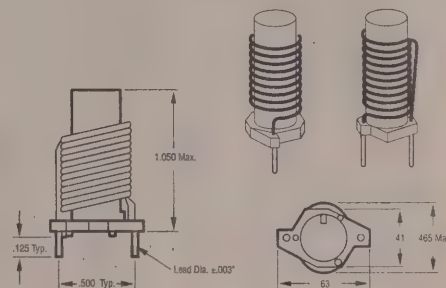
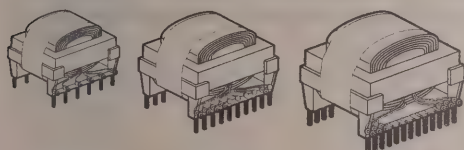


Figure B



High Current DC Filter Inductors

► DC Resistance ±15%

► Inductance ±10%

TRIAD output filter inductors from MagneTek are used in output circuit applications to provide a more constant current source by storing energy. These inductors have exceptional performance characteristics across the entire specification range with their primary storage function being energy storage. As opposed to other output filter inductor designs offering only a single winding, these devices offer design flexibility so that several outputs can be fed through different windings on the same core.

Stock No.	Mfr.'s Type	Section	Figure	Inductance @ No DC	DC Amps	DC Resistance	Inductance @ DC Bias	Wt. (Lbs.)	EACH
967-8710	FIE137-1	A	A	17.9 µH	35.0	2.00 µOhms	9.0 µH	.20	12.67
967-8712	FIE137-2	A	A	29.7 µH	25.0	4.00 µOhms	15.5 µH	.20	12.67
967-8714	FIE168-1	B	B	19.2 µH	70.0	1.00 µOhms	10.2 µH	.54	17.83
967-8716	FIE168-2	B	B	31.2 µH	50.0	2.00 µOhms	16.0 µH	.54	17.83
967-8718	FIE220-1	C	C	11.7 µH	120.0	1.00 µOhms	5.0 µH	1.03	27.78
967-8720	FIE220-2	C	C	46.8 µH	60.0	3.00 µOhms	21.3 µH	1.03	27.78

Toroidal Filter Inductors

► Nominal Inductance Values are Typically 10% Higher Than Minimum Rating

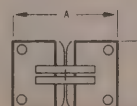
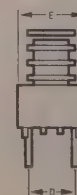
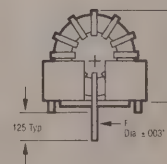
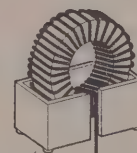
► Operation at Rated Current Yields @ 40°C Rise Over 20°C Ambient

► Biased Inductance Measured at Rated DC Amps

TRIAD toroidal filter inductors from MagneTek are specially designed to minimize transients. These devices store energy, and therefore, condition the output signal by leveling out the current waveform providing a more stable current supply. Generally used in high frequency circuits, our standardized design provides an economical solution for use in differential mode applications or as an output filter inductor.

Stock No.	Mfr.'s Type	Section	Min. Inductance (µH)		Rated DC Amps	Max. DCR (mOhms)	Dimensions		Wt. (Lbs.)	EACH
			No Bias	At Bias			A - E	F		
967-8722	FIT44-1	A	18.85	12.72	2.8	44.8	A: 0.625	F: 0.020	.008	1.96
967-8724	FIT44-2		14.75	9.82	3.4	30.7	B: 0.350	0.022		1.96
967-8726	FIT44-3		12.30	7.75	4.0	23.4	C: 0.700	0.025		1.96
967-8728	FIT44-4		8.06	5.22	4.8	15.9	D: 0.250	0.028		1.96
967-8730	FIT50-1	B	47.40	29.00	2.8	78.9	A: 0.700	F: 0.020	.012	2.31
967-8732	FIT50-2		35.48	23.77	3.4	57.8	B: 0.475	0.022		2.31
967-8734	FIT50-3		27.16	16.13	4.0	40.1	C: 0.750	0.025		2.31
967-8736	FIT50-4		21.65	12.27	4.8	29.2	D: 0.300	0.028		2.31
967-8738	FIT50-5		16.76	10.41	5.7	17.0	E: 0.474	0.032		2.31
967-8740	FIT50-6		12.50	6.75	6.8	11.8		0.036		2.31
967-8742	FIT50-7		8.86	5.47	8.1	8.0		0.040		2.31
967-8744	FIT68-1	C	89.50	57.99	2.8	108.0	A: 0.875	F: 0.020	.026	2.80
967-8746	FIT68-2		71.10	41.59	3.4	86.1	B: 0.475	0.023		2.80
967-8748	FIT68-3		54.81	33.05	4.0	59.9	C: 0.950	0.026		2.80
967-8750	FIT68-4		43.30	26.63	4.8	42.4	D: 0.300	0.028		2.80
967-8752	FIT68-5		33.15	18.79	5.7	28.8	E: 0.474	0.032		2.80
967-8754	FIT68-6		24.31	13.56	6.8	20.2		0.036		2.80
967-8756	FIT68-7		18.64	10.23	8.1	14.8		0.040		2.80
967-8758	FIT80-1	D	132.70	74.04	4.0	95.2	A: 0.975	F: 0.026	.045	3.47
967-8760	FIT80-2		107.50	58.05	4.8	67.9	B: 0.625	0.029		3.47
967-8762	FIT80-3		80.75	45.22	5.7	44.8	C: 1.100	0.032		3.47
967-8764	FIT80-4		65.04	31.60	6.8	32.8	D: 0.450	0.036		3.47
967-8766	FIT80-5		47.79	22.79	8.1	22.5	E: 0.624	0.040		3.47
967-8768	FIT80-6		38.07	18.11	9.7	15.8		0.045		3.47
967-8770	FIT106-1	E	253.00	153.00	4.0	139.0	A: 1.300	F: 0.026	.090	4.31
967-8772	FIT106-2		197.00	113.00	4.8	106.0	B: 0.725	0.029		4.31
967-8774	FIT106-3		154.00	86.00	5.7	74.0	C: 1.400	0.032		4.31
967-8776	FIT106-4		116.00	61.90	6.8	48.5	D: 0.500	0.036		4.31
967-8778	FIT106-5		94.48	49.31	8.1	39.1	E: 0.724	0.040		4.31
967-8780	FIT106-6		70.05	35.30	9.7	21.8		0.045		4.31

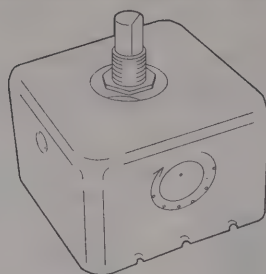
A FIT-KIT is available which includes one of each of the above listed components.



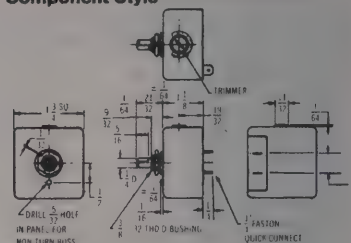
PCA/PCD Series

Ohmitrol Power and Motor Speed Controls are solid state units which provide an infinitely smooth power control over their entire voltage range. An integral internal trimmer allows customization of the control voltage to be set to a specific starting voltage by a simple turn of a screwdriver. The on-off switch is actuated at the counterclockwise end of the control knob rotation. The recommended optional knob is 5150 (sold separately). The PCA series has an AC output that can be used for applications to control heaters (both resistive and infrared) and motors such as universal and shaded pole.

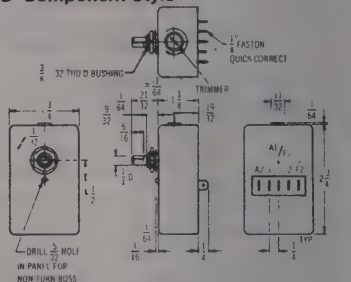
The PCD with a DC output can be used to control shunt and series wound, universal, compound and permanent magnet motors, magnetic clutches, brakes, etc. The PCD models have two DC outputs, one output from an AC source is rectified DC at approximately full line voltage, the other output is variable DC. The DC units have rear terminals which accept quick-connectors. On the PCD models, 500 mA is the minimum for proper operation. For use of either control under full power output conditions, the face of the control must be in contact with a metal panel. For optimum heat dissipation a thermal-conducting compound must be applied to the face of the power control before mounting.



Model PCA-Component Style



Model PCD-Component Style

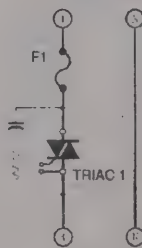


Stock No.	Mfr.'s Type	Input Volts (VAC)	Freq.	Output Range (Nominal)	Load Capacity Rating (Max.)	Trim Range (Min.)	EACH
291-4000	PCA-1000	120	60	0-120 VAC	1 KW, 8.3 Amps AC	10-50 V	81.25
291-4005	PCA-1050	120	60	0-120 VAC	15 Amps	10-50 V	66.38
291-4010	PCA-1020	240	60	0-120 VAC	2 KW, 8.3 Amps AC	20-100 V	56.63
291-4020	PCD-1000	120	60	0-120 VAC, full 120 VDC	6 Amp DC Resistive 3.5 Amp DC-Motor	20-40 V	171.50
291-1235	5150						4.86

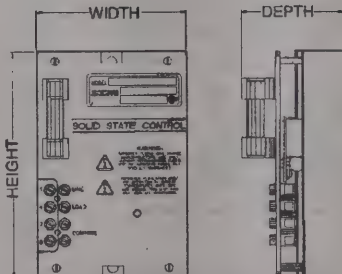
SCA/SCE Series



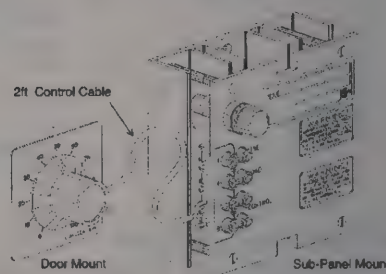
SCE SERIES



POWER CIRCUIT SCHEMATIC



OPEN CHASSIS DIMENSIONS



SCA SERIES

Infinitely variable voltage power controls for AC voltage to constant resistance loads and shaded pole motors. All solid-state construction with short circuit protection. Integral heatsink chassis means no thermal derating. Applications include replacing variable transformers, mercury relays, saturable core reactors, electromechanical contactors, for electric heater controls, light dimming, hot-wire cutting, heat sealing and packaging plastic molding and extruding and food preparation equipment. Power Triacs replace contacts and brushes to control electric power without moving parts. When operated within their stated

ratings for current, voltage, and temperature, they have no known MTBF or life expectancy rating. The power circuit is a power Triac with parallel R-C circuit for dv/dt protection and current-clamping 2 millisecond fuse for short-circuit protection. The R-C network control circuit with variable-resistance potentiometer adjusts firing capacitor into bilateral diode connected to power Triac gate for stable full-range control. **Output Voltage:** 0-95% of input. **Overall Efficiency:** 99%. Manual input control via variable potentiometer.

Stock No.	Mfr.'s Type	Input Volts	Max. Amps	Max. HP*	KVA @ Max. Related Volt	Fuse No.	Open Frame Dimensions (In.)			EACH	
							Height	Width	Depth	1-4	5-9
291-5200	SCE12-5	120	5	0.10	0.6	49C25-10	3.2	2.5	2.50	114.24	101.94
291-5202	SCE12-10	120	10	0.25	1.2	49C25-10	3.2	2.5	2.50	162.22	144.75
291-5204	SCE12-15	120	15	0.33	1.8	49C25-15	3.2	2.5	2.50	226.29	201.92
291-5206	SCA12-15	120	15	0.33	1.8	49C25-15	4.0	4.0	2.60	194.10	173.20
291-5208	SCA12-25	120	25	0.33	3.0	49C25-30	6.0	4.0	2.75	226.19	201.83
291-5210	SCE24-5	240	5	0.20	1.2	49C25-10	3.2	2.5	2.50	141.60	126.35
291-5212	SCE24-10	240	10	0.50	2.4	49C25-10	3.2	2.5	2.50	178.22	159.03
291-5214	SCE24-15	240	15	0.66	3.6	49C25-15	3.2	2.5	2.50	210.31	187.66
291-5216	SCA24-15	240	15	0.66	3.6	49C25-15	4.0	4.0	2.60	210.21	187.57
291-5218	SCA24-25	240	25	0.66	6.0	49C25-30	6.0	4.0	2.75	233.03	207.94

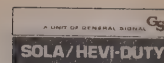
*Shaded pole motors only.

Fuses

Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH	
		1-4	5-9			1-4	5-9
291-5250	49C25-10	18.97	16.92	291-5254	49C25-30	18.97	16.92
291-5252	49C25-15	18.97	16.92	—	—	—	—

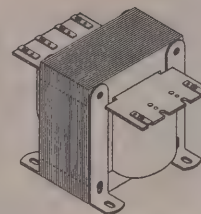
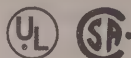
Industrial Control Transformers

— NEW —



SBE Series Industrial Control Transformers

- Cooler Operating Temperature (50° to 55° C)
- 10-20% More VA Capacity
- Superior Voltage Regulation
- UL Listed and CSA Certified
- Rated for 50 or 60 Hz Use
- Epoxy Encapsulated Design
- Quantity Pricing Always Available



SBE transformers are encapsulated to permit more efficient heat dissipation for cooler operation and higher VA capacity. The higher rated capacity provides you the opportunity of meeting high inrush electromagnetic load requirements for either 50 or 60 Hz applications, with smaller transformers and less cost per VA.

120 × 240 Volt Primary, 24 Volt Secondary

Stock No.	Mfr.'s Type	VA	Height (Ins.)	Width (Ins.)	Depth (Ins.)	Mtg. Width	Mtg. Depth	Slot Size	Approx. Wt. (Lbs.)	EACH
										1-9
917-1000	E060E	60	2.81	3.00	3.56	2.50	2.00	.20 × .33	2.5	24.29
917-1010	E095E	95	3.13	3.38	3.56	2.81	2.19	.20 × .33	3.7	30.00
917-1020	E105E	105	3.13	3.38	3.56	2.81	2.38	.20 × .33	4.1	32.14
917-1030	E180E	180	4.13	4.50	4.44	3.75	2.25	.20 × .33	7.0	38.57
917-1040	E225E	225	4.13	4.50	4.69	3.75	2.50	.20 × .33	8.0	49.00
917-1050	E275E	275	4.13	4.50	5.06	3.75	2.88	.20 × .33	9.8	63.21
917-1060	E320E	320	4.94	5.25	4.94	4.38	3.25	.31 × .69	11.8	66.79

240 × 480 Volt Primary, 120 Volt Secondary

917-1070	E060	60	2.81	3.00	3.56	2.50	2.00	.20 × .33	2.5	20.36
917-1080	E095	95	3.13	3.38	3.56	2.81	2.19	.20 × .33	3.7	24.29
917-1090	E105	105	3.13	3.38	3.56	2.81	2.38	.20 × .33	4.1	26.79
917-1100	E180	180	4.13	4.50	4.44	3.75	2.25	.20 × .33	7.0	32.14
917-1110	E225	225	4.13	4.50	4.69	3.75	2.50	.20 × .33	8.0	40.00
917-1120	E275	275	4.13	4.50	5.06	3.75	2.88	.20 × .33	9.8	45.71
917-1130	E320	320	4.94	5.25	4.94	4.38	3.25	.31 × .69	11.8	49.64
917-1140	E380	380	4.94	5.25	5.44	4.38	3.63	.31 × .69	14.2	55.36
917-1150	E550	550	4.94	5.25	5.94	4.38	4.25	.31 × .69	17.6	66.79
917-1160	E850	850	5.88	6.38	6.88	5.31	4.25	.31 × .69	26.5	94.64
917-1170	E1100	1100	5.88	6.38	7.13	5.31	5.00	.31 × .69	33.5	115.71

208/240/277/380/480 Volt Primary, 24 Volt Secondary

917-1180	E060CK	60	3.13	3.38	3.56	2.81	2.19	.20 × .33	3.7	33.57
917-1190	E095CK	95	3.13	3.38	3.56	2.81	2.38	.20 × .33	4.1	36.79
917-1200	E180CK	180	4.13	4.50	4.69	3.75	2.50	.20 × .33	8.0	44.29
917-1210	E275CK	275	4.94	5.25	4.94	4.38	3.25	.31 × .69	11.8	62.50
917-1220	E380CK	380	4.94	5.25	5.94	4.38	4.25	.31 × .69	17.6	75.36
917-1230	E550CK	550	5.88	6.38	6.88	5.31	4.25	.31 × .69	26.5	78.93

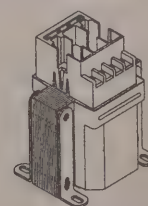
Universal Voltage 240/416/480/600 Volt Primary, 130/120/99 Volt Secondary

917-1240	E180N*	180	4.13	4.50	4.69	3.75	2.50	.20 × .33	8.0	76.43
917-1250	E275N*	275	4.94	5.25	4.94	4.38	3.25	.31 × .69	11.8	92.50
917-1260	E380N*	380	4.94	5.25	5.94	4.38	4.25	.31 × .69	17.6	105.00
917-1270	E550N*	550	5.88	6.38	6.88	5.31	4.25	.31 × .69	26.5	133.21
917-1280	E850N*	850	5.88	6.38	7.13	5.31	5.00	.31 × .69	33.5	158.57

*Universal voltage models are not encapsulated.

SBE-3PB Industrial Control Transformers

- Simplifies Compliance with NEC and UL Specification 508 Fusing Requirements
- Eliminates the Time and Cost of Buying Separate Fuse Blocks
- Saves Panel Space with Molded-in Fuse Holders Mounted on the Top Surface
- Exceeds NEMA, ANSI, NBMTA, JIC and Automotive Electrical Requirements
- Rated for 50 or 60 Hz use
- UL Listed and CSA Certified



120 × 240 Volt Primary, 24 Volt Secondary with 3PB Fuse Block

Stock No.	Mfr.'s Type	VA	Height (Ins.)	Width (Ins.)	Depth (Ins.)	Mtg. Width	Mtg. Depth	Slot Size	Approx. Wt. (Lbs.)	EACH
										1-9
917-1300	E060E-3PB	60	4.38	3.00	3.56	2.50	3.00	.20 × .33	2.5	38.60
917-1310	E095E-3PB	95	4.63	3.38	3.56	2.81	2.19	.20 × .33	3.7	44.45
917-1320	E105E-3PB	105	4.63	3.38	3.56	2.81	2.38	.20 × .33	4.1	46.60
917-1330	E180E-3PB	180	5.56	4.50	4.44	3.75	2.25	.20 × .33	7.0	53.20
917-1340	E225E-3PB	225	5.56	4.50	4.69	3.75	2.50	.20 × .33	8.0	63.00
917-1350	E275E-3PB	275	5.56	4.50	5.06	3.75	2.88	.20 × .33	9.8	78.30
917-1360	E320E-3PB	320	6.44	5.25	4.94	4.38	3.25	.31 × .69	11.8	81.95
917-1370	E380E-3PB	380	6.44	5.25	5.44	4.38	3.63	.31 × .69	14.2	86.70

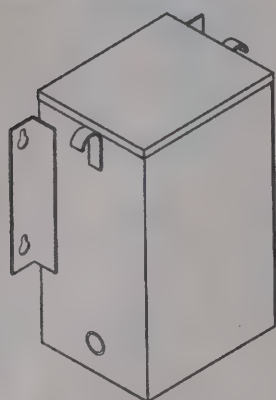
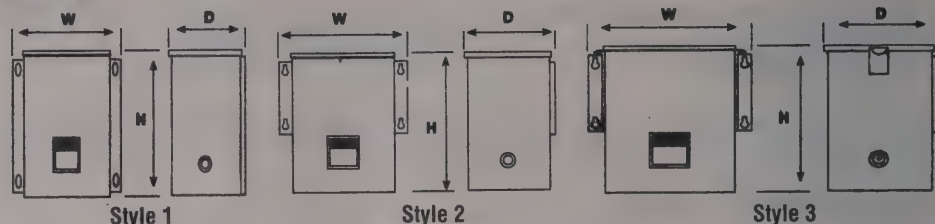
240 × 480 Volt Primary, 120 Volt Secondary with 3PB Fuse Block

917-2000	E060-3PB	60	4.38	3.00	3.56	2.50	2.00	.20 × .33	2.5	34.60
917-2005	E095-3PB	95	4.63	3.38	3.56	2.81	2.19	.20 × .33	3.7	38.70
917-2010	E105-3PB	105	4.63	3.38	3.56	2.81	2.38	.20 × .33	4.1	41.16
917-2015	E180-3PB	180	5.56	4.50	4.44	3.75	2.25	.20 × .33	7.0	46.60
917-2020	E225-3PB	225	5.56	4.50	4.69	3.75	2.50	.20 × .33	8.0	54.65
917-2025	E275-3PB	275	5.56	4.50	5.06	3.75	2.88	.20 × .33	9.8	60.50
917-2030	E320-3PB	320	6.44	5.25	4.94	4.38	3.25	.31 × .69	11.8	64.50
917-2035	E380-3PB	380	6.44	5.25	5.44	4.38	3.63	.31 × .69	14.2	70.30
917-1380	E550-3PB	550	6.44	5.25	5.94	4.38	4.25	.31 × .69	17.6	80.36
917-1390	E850-3PB	850	7.38	6.38	6.88	5.31	4.25	.31 × .69	26.5	108.21
917-1400	E1100-3PB	1100	7.25	6.38	7.13	5.31	5.00	.31 × .69	33.5	129.29

General Purpose Electrical Transformers



Design Styles



Single Phase, 0.5-250 KVA, 240 × 480 Volt Primary, 120/240 Secondary, 60 Hz

Stock No.	Mfr.'s Type	KVA	Height (Ins.)	Width (Ins.)	Depth (Ins.)	Shipping Weight (Lbs.)	Design Style	Elec. Conn.	Primary Amps	Secondary Amps	EACH
917-1410	HS1A50	.050	6.94	6.38	4.06	6.2	1	1	.208/.104	.416/.208	26.79
917-1420	HS1A75	.075	6.94	6.38	4.06	6.9	1	1	.312/.156	.625/.312	30.71
917-1430	HS1A100	.100	6.94	6.38	4.06	7.5	1	1	.417/.208	.833/.417	34.29
917-1440	HS1A150	.150	6.94	6.38	4.06	8.9	1	1	.625/.313	1.25/.625	43.21
917-1450	HS1A250	.250	6.94	6.38	4.06	11.1	1	1	1.04/.512	2.08/1.04	50.71

Single Phase, .500-10 KVA, 240 × 480 Volt Primary, 120/240 Secondary, 60 Hz

917-1455	HS1F500A	.500	9.88	8.75	5.38	22.0	2	1	2.08/1.04	4.16/2.08	68.21
917-1460	HS1F750A	.750	9.88	8.75	5.38	25.0	2	1	3.13/1.56	6.25/3.13	86.07
917-1470	HS1F1AS	1.000	9.88	8.75	5.38	28.6	2	2	4.17/2.08	8.33/4.17	99.29
917-1480	HS1F1.5AS	1.500	10.44	9.88	6.50	38.3	2	2	6.25/3.13	12.5/6.25	128.21
917-1490	HS1F2AS	2.000	10.44	9.88	6.50	46.8	2	2	8.33/4.17	16.7/8.33	150.00
917-1500	HS5F3AS	3.000	12.25	10.63	7.00	61.9	3	3	12.5/6.25	25.0/12.5	175.71
917-1510	HS5F5AS	5.000	17.00	13.50	8.63	104.0	3	3	20.8/10.4	41.6/20.8	268.57
917-1520	HS5F7.5AS	7.500	17.00	13.50	8.63	135.0	3	4	31.3/15.6	62.5/31.3	342.96
917-1530	HS5F10AS	10.000	17.00	13.50	8.63	156.0	3	4	41.7/20.8	83.3/41.7	412.86

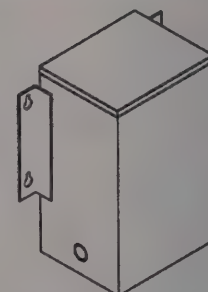
- Free Shielding
- Fast, Easy Installation
- UL-3R Enclosures
- Highly Versatile

Hevi-Duty General Purpose Transformers are the industry's workhorses. Typical applications include shopping centers, apartment buildings, high rise buildings, institutional buildings, hospitals, office buildings, industrial plants, schools and commercial buildings.

Buck-Boost Transformers



- Low Cost
- UL-3R Listed
- Ideal for Low Voltage Lighting and Control Applications
- Compact Size
- Dual Voltage Primary and Dual Voltage Secondary



Hevi-Duty buck-boost transformers are the ideal solution for economically changing line voltage by small amounts. Buck-Boost transformers are small, single phase, dry-type distribution transformers, designed and shipped as insulating/isolating transformers. The most common use is to buck (lower) or boost (raise) the supply voltage a small amount, usually ±5 to 2000%.

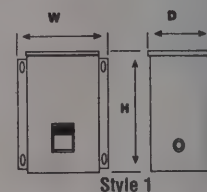
Single Phase, 120 × 240 Volt Primary, 12/24 Volt Secondary, 60 Hz

Stock No.	Mfr.'s Type	KVA	Max. Secondary Amperage		Height (Ins.)	Width (Ins.)	Depth (Ins.)	Shipping Weight (Lbs.)	Design Style	EACH
			12 V	24 V						
917-1600	HS19A50	.050	4.16	2.08	6.94	6.38	4.06	6.2	1	36.79
917-1610	HS19A100	.100	8.33	4.16	6.94	6.38	4.06	7.5	1	45.00
917-1620	HS19A150	.150	12.50	6.25	6.94	6.38	4.06	8.9	1	50.36
917-1630	HS19A250	.250	20.80	10.40	6.94	6.38	4.06	11.1	1	57.14
917-1640	HS19F500A	.500	41.60	20.80	9.88	8.75	5.38	22.0	2	74.64
917-1650	HS19F750A	.750	62.50	31.20	9.88	8.75	5.38	25.0	2	100.71
917-1660	HS19F1A	1.000	83.30	41.60	9.88	8.75	5.38	28.6	2	125.00
917-1670	HS19F1.5A	1.500	125.00	62.50	10.44	9.88	6.50	38.3	2	152.86
917-1680	HS19F2A	2.000	166.60	83.30	10.44	9.88	6.50	46.8	2	198.57
917-1690	HS19F3A	3.000	250.00	125.00	12.25	10.63	7.00	61.9	3	274.29
917-1700	HS19F5A	5.000	416.60	208.30	17.00	13.50	8.63	104.0	3	428.57

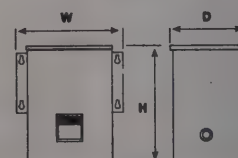
Single Phase, 120 × 240 Volt Primary, 16/32 Volt Secondary, 60 Hz

Stock No.	Mfr.'s Type	KVA	Max. Secondary Amperage		Height (Ins.)	Width (Ins.)	Depth (Ins.)	Shipping Weight (Lbs.)	Design Style	EACH
			16 V	32 V						
917-1710	HS20A50	.050	3.12	1.56	6.94	6.38	4.06	6.2	1	39.64
917-1720	HS20A100	.100	6.25	3.12	6.94	6.38	4.06	7.5	1	51.79
917-1730	HS20A150	.150	9.38	4.69	6.94	6.38	4.06	8.9	1	54.29
917-1740	HS20A250	.250	15.60	7.81	6.94	6.38	4.06	11.1	1	60.00
917-1750	HS20F500A	.500	31.20	15.60	9.88	8.75	5.38	22.0	2	78.93
917-1760	HS20F750A	.750	46.80	23.40	9.88	8.75	5.38	25.0	2	100.71
917-1770	HS20F1A	1.000	62.50	31.20	9.88	8.75	5.38	28.6	2	127.86
917-1780	HS20F1.5A	1.500	93.70	46.80	10.44	9.88	6.50	38.3	2	158.57
917-1790	HS20F2A	2.000	125.00	62.50	10.44	9.88	6.50	46.8	2	201.43
917-1800	HS20F3A	3.000	187.50	93.70	12.25	10.63	7.00	61.9	3	277.14

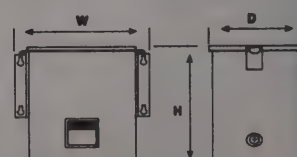
Design Styles



Style 1



Style 2



Style 3

Variable Transformers and Power Supplies



Single Phase Models (Panel or Bench Mounting)

- ▶ Continuous Adjustable Output Voltages from AC Power Lines
- ▶ Without Wave Form Distortion or SCR Generated Noise
- ▶ 50/60 Hz, Except *60 Hz and †60 Hz Only With Overvoltage Output
- ▶ Gold-Plated Commutator Surface

Single Phase Models — 120 Volts Input (All units CSA Approved)

Stock No.	Mfr.'s Type†	Fig.	Input Volts	Output			Dimensions		Wt. Lbs.	EACH
				Volts	Amps	kVA	Size, Inches (A × B × C)	Size, Cm (A × B × C)		
927-3171	171†	A	120	0-120/132	1.75	0.23	2 13/16 × 3 3/32 × 1 7/8	7.14 × 8.02 × 4.76	2	51.00
927-3201	201†	A	120	0-120/132	2.00	0.26	2 13/16 × 3 3/32 × 1 7/8	7.14 × 8.02 × 4.76	2	52.00
927-3225	221-B	A	120	0-120/132	2.50	0.33	2 13/16 × 3 3/32 × 2 1/8	7.14 × 8.02 × 5.40	2	53.00
927-3291	291†	A	120	0-120/132	3.00	0.40	2 13/16 × 3 3/32 × 2 5/16	7.14 × 8.02 × 5.87	2 1/2	59.00
927-5501	501	B	120	0-120/140	5.00	0.70	5 3/32 × 3 3/4 × 3 5/16	13.10 × 9.53 × 8.41	5 1/4	94.00
927-6010	1010	C	120	0-120/140	10.00	1.40	6 3/32 × 5 × 4 5/32	15.23 × 12.50 × 10.39	10 1/4	115.00
927-6011	1010CT	D	120	0-120/140	10.00	1.40	6 7/8 × 5 × 4 7/16	17.46 × 12.70 × 11.27	10 1/4	178.00
927-6125	1210CT*	D	120	0-120	12.00	1.40	6 7/8 × 5 × 4 7/16	17.46 × 12.70 × 11.27	10 1/4	179.00
927-6210	1210*	C	120	0-120	12.00	1.40	6 1/32 × 5 × 4 5/32	12.91 × 12.70 × 10.56	10 1/4	129.00
927-7501	1510	E	120	0-120/140	15.00	2.10	6 13/16 × 6 1/8 × 4 1/4	17.30 × 15.56 × 10.80	15 3/4	221.00
927-6160	2510C*	F**	120	0-120/140	25.00	3.50	8 1/4 × 7 5/8 × 4 3/8	20.96 × 19.37 × 11.11	22 1/4	347.00
927-8001	2510	F	120	0-120/140	25.00	3.50	8 1/4 × 7 5/8 × 4 3/8	20.63 × 19.06 × 10.94	22 1/4	322.00
927-8006	2510CT	F	120	0-120/140	25.00	3.50	7 9/8 × 10 1/16 × 6 1/2	19.06 × 25.16 × 16.25	22 1/4	395.00
927-9800	5011	S	120	0-140	50.00	7.00	15 3/8 × 13 7/8 × 5 9/16	38.44 × 34.69 × 20.16	66	724.00
927-0612	6011	S	120	0-140	60.00	8.40	15 3/8 × 13 7/8 × 5 9/16	38.44 × 34.69 × 20.16	67	906.00
927-0613	6011C	G	120	0-140	60.00	8.40	17 1/16 × 14 1/8 × 9	44.84 × 35.31 × 22.50	67	954.00

Single Phase Models — 240 Volts Input

927-3252	252	A	240	0-240/264	0.80	0.21	2 13/16 × 2 13/16 × 2 1/8	7.14 × 7.14 × 5.39	2 1/2	75.00
927-6120	1020	C	240	0-240/280	3.50	0.98	6 3/32 × 5 × 4 5/32	15.23 × 12.50 × 10.39	10 1/4	155.00
927-6130	1220CT	D	240	0-240	5.00	1.20	6 7/8 × 5 × 4 7/16	17.46 × 12.70 × 11.27	10 1/4	200.00
927-6150	SQ1220*	C	240	0-240	5.00	1.20	5 3/16 × 4 1/4 × 4 5/32	13.18 × 10.80 × 10.56	10 1/4	160.00
927-7507	1520	E	240	0-240/280	9.50	2.70	6 13/16 × 6 1/8 × 4 5/8	17.30 × 15.56 × 11.75	19 1/4	221.00
927-8500	2520	E	240	0-240/280	10.00	2.80	8 1/4 × 7 5/8 × 4 3/8	20.96 × 19.37 × 11.11	21	321.00
927-6165	2520C*	F**	240	0-240/280	10.00	2.80	8 1/4 × 7 5/8 × 4 3/8	20.06 × 19.37 × 11.11	21	347.00
927-9805	5021	S	240	0-240/280	28.00	7.80	15 3/8 × 13 7/8 × 5 9/16	38.44 × 34.69 × 20.16	64	724.00
927-0602	6020	S	240	0-240/280	35.00	9.80	15 3/8 × 13 7/8 × 5 9/16	38.44 × 34.69 × 20.16	64	906.00
927-0603	6020C	G	240	0-240/280	35.00	9.80	17 1/16 × 14 1/8 × 9	44.84 × 35.31 × 22.50	74	954.00

†Type numbers without suffix are open style designed for back-of-panel mounting. **Types with suffix "C" have coil enclosed in a metal enclosure. Types with suffix "CT" have coil and terminals housed in metal enclosures, for panel/conduit mtg. *60 Hz and †60 Hz only with overvoltage output.

Three Phase Models—240 Volts Input

Stock No.	Mfr.'s Type	Fig.	Freq. Hz	Input Voltage	Output			Size (In.) H × W × D	Wt. Lbs.	EACH
					VAC	Amps	kVA			
927-9110	1010-3	T	60	240 VAC	0-240	10.0	4.16	6.125 × 5.000 × 14.594	34 1/2	449.00
927-9115	1510-3	T	60	240 VAC	0-240	15.0	6.22	7.063 × 6.125 × 14.563	55 1/2	806.00
927-9120	2510-3	T	60	240 VAC	0-240	25.0	10.40	8.625 × 7.625 × 14.625	68	1156.00

Three Phase Models—480 Volts Input

927-9700	1020-3	T	50/60	480	0-480	3.5	2.90	6.13 × 5.00 × 14.59	36	531.00
927-9705	1520-3	T	50/60	480	0-480	9.5	7.90	7.06 × 7.25 × 15.69	66	804.00
927Q9710	6020-3Y	T	50/60	480	0-480	35.0	29.10	17.63 × 18.88 × 23.13	240	3240.00

Motor-Driven Models

For applications requiring remote or automatic voltage control, a driving motor can be added to all models of the 501 through 6010 series. Standard motor speeds available are 5, 15, 30 and 60 sec-

onds of travel and are designated by the prefix: "5M, 15M, etc.". Example: 30M1510. Available by special order.

Portable Models

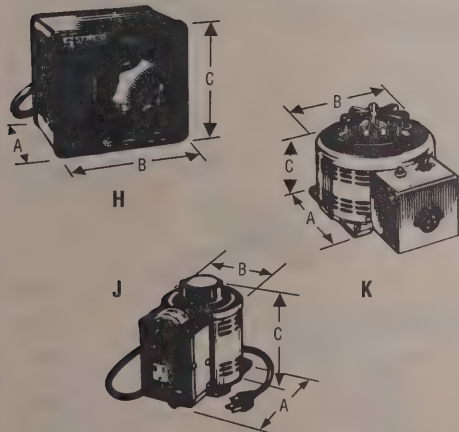
Prefix "3PN" indicates 3-prong cord, plug and receptacle; "V" suffix indicates voltmeter. "A" suffix indicates ammeter. All models are housed in a rugged steel enclosure and supplied with input linecord and plug with matching receptacle, on-off switch, fuse, pilot light. Available for 120 Volt AC or 240 Volt AC input.

Cord and Plug Type — 120 Volts Input

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output			Dimensions		Wt. Lbs.	EACH
				Volts	Amps	kVA	Size, Inches (A × B × C)	Size, Cm. (A × B × C)		
927-2172	3PN171	H	120	0-132	1.75	0.23	4 × 4 × 3 5/16	11.35 × 15.40 × 13.65	2	156.00
927-2302	3PN501	H	120	0-120/140	5.00	0.70	4 15/32 × 6 1/16 × 5 3/8	19.37 × 12.70 × 11.27	7 3/4	167.00
927-2303	3PN1010	J	120	0-120/140	10.00	1.40	7 5/8 × 5 × 4 7/16	19.37 × 12.70 × 11.27	10 1/4	178.00
927-2305	3PN1210	J	120	0-120	12.00	1.40	7 5/8 × 5 × 4 7/16	19.37 × 12.70 × 11.27	2	207.00
927-2339	3PN1510	K	120	0-120/140	15.00	2.10	9 × 6 3/16 × 4 1/2	17.46 × 12.7 × 13.65	7 3/4	326.00
927-2309	3PN2210	K	120	0-140	22.00	3.10	10 3/4 × 7 5/8 × 4 3/8	17.46 × 12.7 × 13.65	10 1/4	473.00
927-8502	3PN1010V	J	120	0-140	10.00	1.40	6 7/8 × 5 × 5 3/8	22.86 × 15.71 × 13.65	10 1/4	300.00
927-8504	3PN1010A	J	120	0-140	10.00	1.40	6 7/8 × 5 × 5 3/8	22.86 × 15.72 × 11.43	10 1/4	315.00
927-8506	3PN1510V	K	120	0-140	15.00	2.10	9 × 6 3/16 × 5 3/8	27.31 × 19.37 × 11.11	18	482.00

Cord and Plug Type — 240 Volts Input

927-2304	3PN1020	J	240	0-280	3.50	0.98	7 5/8 × 5 × 4 7/16	19.37 × 12.7 × 11.27	10 1/4	212.00
927-2342	3PN1520	J	240	0-280	9.50	2.66	9 × 5 3/16 × 5 3/8	22.86 × 13.18 × 13.65	19 1/4	325.00
927-2330	3PN2520	K	240	0-280	10.00	2.80	10 3/4 × 7 5/8 × 4 3/8	27.31 × 19.37 × 11.11	24 1/4	473.00



Fully Enclosed Variable Voltage Controls

All holes have been eliminated to prevent entry of small items. The front panel is recessed to help minimize accidental shut-off or unintentional readjustment. Designed to minimize voltage variation from no-load current conditions, thus reducing the need to readjust the output voltage as the load current changes. Much higher currents, up to 10 times the specified rating, can be drawn for a short period of time for surge current applications. These controls can operate up to 2000 Hz with virtually no loss in output current.

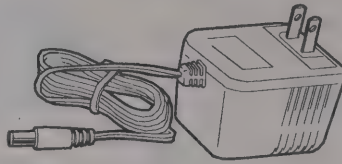
Stock No.	Mfr.'s Type	Fig.	Input Volts	Output			Dimensions		Wt. Lbs.	EACH
				Volts	Amps	kVA	Size, Inches (H × W × D)	Size, Cm. (H × W × D)		
927-4221	L221	N	120V 60 Hz	0-132	1.75	0.23	6 3/32 × 5 × 4 1/4	15.9 × 12.7 × 10.76	3 1/2	160.00
927-4501	L501	P	120V 50/60 Hz	0-140	4.50	0.63	7 3/32 × 5 3/8 × 5 7/8	19.5 × 13.6 × 14.92	7 1/4	455.00
927-4010	L1010	R	120V 50/60 Hz	0-140	10.00	1.40	9 13/32 × 6 1/2 × 6 1/4	23.8 × 16.5 × 15.87	12 1/4	244.00



Domestic Models



Output Terminations: Stancor wall plug-in power sources have output termination compatible with Switchcraft PC-722A or 722A with 6 ft. output cord. Secondary plug size 2.1 x 5.5 mm. Wired Outside-Positive; Inside-Negative for AC-DC models.



Wall Mount Models

AC-DC Unregulated Models 120V, 60 Hz.

Stock No.	Mfr.'s Type	Rated Output		Size	EACH
		Volts	MA		
928-9600	STA-3530A	3.0 DC	400	1	9.46
928-9605	STA-3530	3.0 DC	500	1	9.46
928-9610	STA-3540	4.4 DC	400	1	9.46
928-9615	STA-3560B	6.0 DC	100	1	9.46
928-9620	STA-3560	6.0 DC	200	1	9.46
928-9625	STA-3560A	6.0 DC	300	1	9.46
928-9630	STA-4160	6.0 DC	600	2	11.92
928-9635	STA-4160A	6.0 DC	800	2	11.92
928-9640	STA-4860	6.0 DC	1000	3	14.67
928-9645	STA-4860A	6.0 DC	1200	3	14.67
928-9650	STA-5760	6.0 DC	2000	4	24.47
928-9655	STA-3575	7.5 DC	100	1	9.46
928-9660	STA-3575A	7.5 DC	300	1	9.46
928-9665	STA-4175A	7.5 DC	500	2	11.81
928-9670	STA-4875	7.5 DC	1000	3	16.87
928-9675	STA-5775	7.5 DC	1500	4	24.47
928-9680	STA-3590B	9.0 DC	100	1	9.46
928-9685	STA-3590	9.0 DC	200	1	9.46
928-9690	STA-3590A	9.0 DC	300	1	9.67
928-9695	STA-4190A	9.0 DC	500	2	11.92
928-9700	STA-4190F	9.0 DC	700	2	12.31
928-9705	STA-4890	9.0 DC	1000	3	17.72
928-9710	STA-4890A	9.0 DC	1200	3	18.17
928-9715	STA-3512	12.0 DC	50	1	9.67
928-9720	STA-3512C	12.0 DC	100	1	9.67
928-9725	STA-3512B	12.0 DC	200	1	9.67
928-9730	STA-4112B	12.0 DC	300	2	11.92
928-9735	STA-4112	12.0 DC	400	2	12.21
928-9740	STA-4112C	12.0 DC	500	2	12.21
928-9745	STA-4812D	12.0 DC	600	3	16.43
928-9750	STA-4812A	12.0 DC	1000	3	20.53
928-9755	STA-5712	12.0 DC	1200	4	25.14
928-9760	STA-4812	12.5 DC	800	3	18.85
928-9765	STA-5713	13.5 DC	1300	4	27.22
928-9770	STA-5713A	13.5 DC	1700	4	28.64
928-9775	STA-4814	14.5 DC	800	3	16.77
928-9780	STA-4815	15.0 DC	600	3	16.77
928-9785	STA-5715	15.0 DC	1000	4	25.14
928-9790	STA-3518	18.5 DC	80	1	9.85
928-9795	STA-3524	24.0 DC	50	1	11.00
928-9800	STA-4120	20.0 DC	280	2	13.51

European Models

Output Terminations: Stancor wall plug-in power sources have output termination compatible with Switchcraft PC-722A or 722A with 6 ft. output cord. Secondary plug size 2.1 x 5.5 mm. Wired Outside-Positive; Inside-Negative for AC-DC models.

Wall Mount Models

AC-DC Unregulated Models Input 220V, 50 Hz.

Stock No.	Mfr.'s Type	Rated Output		Size	EACH
		Volts	MA		
928-9790	STAF-3924F	4.5 DC	350	6	13.27
928-9795	STAF-1847F	4.8 DC	500	2	15.09
928-9800	STAF-1848F	5.2 DC	1000	3	18.50
928-9805	STAF-0381F	6.0 DC	500	2	16.15
928-9810	STAF-0797F	6.0 DC	1000	3	18.50
928-9815	STAF-2100F	6.2 DC	300	6	11.82
928-9820	STAF-0834F	6.2 DC	350	2	15.09
928-9825	STAF-2243F	7.5 DC	300	2	15.09
928-9830	STAF-2223F	9.0 DC	200	6	13.27
928-9835	STAF-3309F	9.0 DC	300	2	15.09
928-9840	STAF-1058F	9.0 DC	500	2	16.49
928-9845	STAF-0329F	9.0 DC	1000	3	19.91
928-9850	STAF-3382F	12.0 DC	300	2	16.15
928-9855	STAF-2343F	12.0 DC	500	3	15.09
928-9860	STAF-1454F	12.0 DC	1000	4	28.70
928-9865	STAF-1948F	12.0 DC	1200	4	29.37
928-9870	STAF-0460F	12.6 DC	800	3	19.91
928-9875	STAF-1059F	13.5 DC	1300	4	32.11
928-9880	STAF-0354F	14.5 DC	800	3	19.91

AC-AC Models, Input 220V, 50 Hz.

Stock No.	Mfr.'s Type	Volts	MA	Size	EACH
928-9886	STAF-1433F	2.9 AC	320	6	11.82
928-9887	STAF-2099F	3.0 AC	120	6	11.82
928-9888	STAF-0418F	4.5 AC	120	6	11.82
928-9889	STAF-0437F	9.0 AC	130	6	11.82
928-9890	STAF-2098	24.0 AC	400	3	20.58

AC-DC Regulated Models Input 120V, 60 Hz.

Stock No.	Mfr.'s Type	Rated-Output		Size	EACH
		Volts	MA		
928-9891	STA-4130*	3.0 DC	350	2	14.00
928-9897	STA-4850	5.0 DC	600	9	23.07
928-9892	STA-4190C*	9.0 DC	200	2	15.18
928-9893	STA-4890B	9.0 DC	400	9	20.27
928-9894	STA-4110A	10.0 DC	300	2	15.18
928-9895	STA-300R	12.0 DC	200	2	15.18

AC-AC Models Input 120V, 60 Hz.

Stock No.	Mfr.'s Type	Volts	MA	Size	EACH
928-9896	STA-3545B	4.5 AC	300	1	8.32
928-9897	STA-4190B	9.0 AC	300	2	10.01
928-9898	STA-4190D	9.0 AC	500	2	10.01
928-9899	STA-4110	10.0 AC	700	2	10.73
928-9900	STA-3512E*	12.0 AC	100	1	8.32
928-9901	STA-3512F*	12.0 AC	200	1	8.32
928-9902	STA-4112A	12.0 AC	500	2	10.01
928-9903	STA-4812B*	12.0 AC	850	3	12.94
928-9904	STA-4116	16.0 AC	250	2	10.01
928-9905	STA-4118*	18.0 AC	300	2	10.01
928-9906	STA-4820*	20.0 AC	700	3	13.94
928-9907	STA-4124	24.0 AC	300	2	10.73
928-9924	STA-4824B	24.0 AC	450	3	14.07

Desk Top Models

AC-DC Unregulated Desk Top Models Input 120V, 60 Hz.

Stock No.	Mfr.'s Type	Volts	MA	Size	EACH
928-9908	STA-6690	9.0 DC	3000	7	50.34
928-9909	STA-6612	12.0 DC	2000	7	48.88
928-9910	STA-6612A	12.0 DC	2500	7	51.01
928-9911	STA-6612B	12.0 DC	3000	7	53.78
928-9912	STA-5713AC	13.5 DC	1700	4	32.11
928-9913	STA-6013A	13.5 DC	2100	5	43.31
928-9914	STA-6613	13.5 DC	2400	7	51.01
928-9915	STA-6615	15.0 DC	2000	7	51.73
928-9916	STA-6618	18.0 DC	2000	7	53.78
928-9917	STA-6624	24.0 DC	1500	7	53.78

AC-AC Desk Top Models Input 120V, 60 Hz.

Stock No.	Mfr.'s Type	Volts	MA	Size	EACH
928-9918	STA-5760A*	6.0 AC	3300	4	25.63
928-9919	STA-5790	9.0 AC	3400	4	27.22

* UL listed only/not CSA certified.

Dimensions

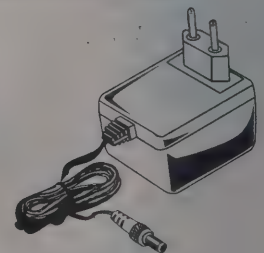
Model Size Chart

	L		W		H	
	mm	inches	mm	inches	mm	inches
1	55.0	2.2	42.8	1.7	37.2	1.5
2	63.0	2.5	51.0	2.0	41.0	1.6
3	70.5	2.8	56.0	2.2	47.0	1.9
4	84.5	3.3	64.5	2.5	55.0	2.2
5	95.2	3.7	72.0	2.8	57.0	2.2



Certified

All European wall plug-in power sources are TUV certified.



Desk Top Models

AC-DC Unregulated Desk Top Models Input 220V, 50 Hz.

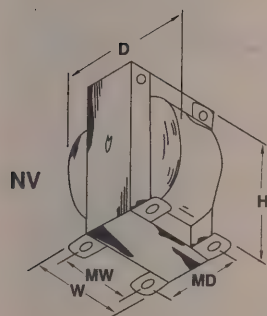
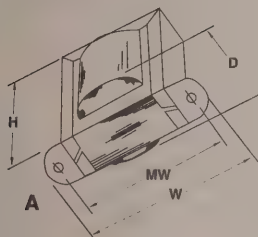
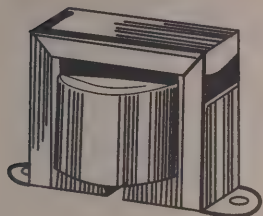
Stock No.	Mfr.'s Type	Rated Output		Size	EACH
		Volts	MA		
928-9920	STAF-2134F	13.5 DC	1700	5	50.28
928-9921	STAF-3775F	13.5 DC	2100	8	54.51
928-9922	STAF-3777F	13.5 DC	2400	8	55.90
928-9923	STAF-3613F	14.0 DC	1400	5	48.88
928-9885	STAF-1972F	15.0 DC	1000	4	30.04

Dimensions

Model Size Chart

	L		W		H	
	mm	inches	mm	inches	mm	inches
1	55.0	2.2	42.8	1.7	37.2	1.5
2	63.0	2.5	51.0	2.0	41.0	1.6
3	70.5	2.8	56.0	2.2	47.0	1.9
4	84.5	3.3	64.5	2.5	55.0	2.2
5	95.2	3.7	72.0	2.8	57.0	2.2

Rectifier, Control and Filament Types



With single secondary: all primaries 50/60 Hz (may be operated from a 400 Hz source with no change in output ranges). Useful in all power and control applications such as relays, pilot lamps, small motors, pumps, speed changers and many other mechanical and electrical devices. Many units are center tapped for most efficient and economical rectification application, enabling the designer broader selection and versatility. All types have lead wire terminations and 117 volt primary except P-8551 which is 115 volts. Twice allowable RMS working voltage plus 1000 volts.

Stock No.	Mfr.'s Type	Style	Secondary RMS		Insulation Test RMS Volts*	Dimensions (Inches)					Wt. Lbs.	EACH			
			Volts	Amps		Case			Mounting			1-9	10-24	25-49	50-99
						H	W	D	MW	MD					
928-3027	P-6465	A	6.3 C.T.	0.600	1500	1 3/8	2 3/8	1 1/2	2	—	0.40	10.09	8.58	7.72	6.95
928-4040	P-8389	A	6.3	1.000	1500	1 3/8	2 7/8	1 5/8	2 3/8	—	0.60	10.52	8.95	8.05	7.25
928-3090	P-8190	A	6.3	1.200	5000	2	3 1/4	1 7/8	2 13/16	—	1.00	17.20	14.62	13.16	11.84
928-3028	P-6466	A	6.3 C.T.	3.000	2500	2	3 1/4	2 1/8	2 13/16	—	1.40	15.14	12.87	11.58	10.43
928-2079	P-6309	NV	6.3 C.T.	20.000	2500	4 9/16	3 3/4	3 3/8	3	2 3/8	6.70	56.51	48.04	43.23	38.91
928-4752	P-8652	A	10.0 C.T.	1.000	1500	2	3 1/4	1 5/8	2 13/16	—	0.90	16.95	14.41	12.97	11.67
928-4045	P-8390	A	12.0	0.150	1500	1 1/4	2 1/8	1 1/4	1 3/4	—	0.25	10.04	8.54	7.68	6.91
928-4047	P-8391	A	12.0	0.350	1500	1 3/8	2 3/8	1 3/8	2	—	0.35	10.57	8.99	8.09	7.28
928-4048	P-8392	A	12.0	0.700	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.60	10.75	9.14	8.22	7.40
928-4049	P-8393	A	12.0	1.200	1500	2	3 1/4	1 5/8	2 13/16	—	0.85	13.37	11.36	10.23	9.21
928-4757	P-8657	A	12.0	2.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.30	15.42	13.11	11.80	10.63
928-4034	P-8384	A	12.6 C.T.	1.000	1500	2	3 1/4	1 3/4	2 13/16	—	0.90	12.83	10.91	9.82	8.83
928-3040	P-8130	A	12.6 C.T.	2.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	14.44	12.27	11.05	9.94
928-4741	P-8641	A	12.6 C.T.	4.000	1500	2 5/8	4	2 3/8	3 3/8	—	2.30	24.92	21.18	19.06	17.16
928-4604	P-8604	A	20.0 C.T.	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	16.34	13.89	12.50	11.25
928-9570	P-8551†	A	24.0	1.000	1500	1 15/16	3 1/4	2 1/8	2 13/16	—	1.40	13.14	11.16	10.05	9.04
928-4050	P-8394	A	24.0 C.T.	0.085	1500	1 1/4	2 1/8	1 1/4	1 3/4	—	0.25	11.43	9.72	8.75	7.88
928-9575	P-8395	A	24.0 C.T.	0.200	1500	1 3/8	2 3/8	1 3/8	2	—	0.35	11.28	9.59	8.63	7.77
928-4052	P-8396	A	24.0 C.T.	0.400	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.60	12.73	10.82	9.73	8.77
928-4053	P-8397	A	24.0 C.T.	0.700	1500	2	3 1/4	1 3/4	2 13/16	—	0.85	13.39	11.38	10.24	9.22
928-4861	P-8661	A	24.0 C.T.	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	13.69	11.63	10.48	9.43
928-4862	P-8662	A	24.0 C.T.	2.000	1500	2 5/8	4	2 3/8	3 3/8	—	2.30	20.01	17.01	15.31	13.78
928-4253	P-8663	NV	24.0 C.T.	4.000	1500	3 13/16	3 3/8	2 13/16	2 1/2	2 1/8	4.00	32.49	27.62	24.85	22.38
928-3031	P-6469	A	25.2	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	15.07	12.81	11.53	10.37
928-3030	P-8180	A	25.2 C.T.	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	13.67	11.62	10.46	9.41
928-4033	P-8388	A	25.2 C.T.	2.800	1500	2 5/8	4	2 1/8	3 3/8	—	2.20	22.31	18.96	17.07	15.36
928-4101	P-8601	A	28.0 C.T.	0.175	1500	1 3/8	2 3/8	1 3/8	2	—	0.35	13.87	11.79	10.62	9.56
928-4867	P-8667	A	28.0 C.T.	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	17.20	14.62	13.16	11.84
928-4111	P-8611	A	36.0 C.T.	0.135	1500	1 3/8	2 3/8	1 3/8	2	—	0.35	13.08	11.12	10.01	9.01
928-4112	P-8612	A	36.0 C.T.	0.300	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.60	13.69	11.63	10.48	9.43
928-4871	P-8671	A	36.0 C.T.	1.000	1500	2 3/8	3 3/4	2 1/4	3 1/8	—	2.00	20.15	17.13	15.41	13.87

* Insulation Test voltage. †60 Hz only.

Control Transformers

Primaries 115/230 Volts 50/60 Hz (may be operated from a 400 Hz source with no change in output ratings). Solder lug termination, dual secondary windings. U.L. Recognized. **Typical applications:** automatic assembly equipment, relays, speed changers, pumps, etc.

Stock No.	Mfr.'s Type	Style	V-A Cap.	Output From Two Secondary Windings*			Dimensions (Inches)					Wt. Lbs.	EACH			
				Individually	-Parallel	Series	Case			Mounting			1-9	10-24	25-49	50-99
							H	W	D	MW	MD					
928-3000	P-6375	S	12	6V @ 1A	6V @ 2A	12V @ 1A	2 3/8	2 1/8	1 5/8	2 3/8	—	1.0	15.62	13.28	11.95	10.76
928-3001	P-6376	S	24	6V @ 2A	6V @ 4A	12V @ 2A	2 3/4	3 1/8	1 7/8	2 13/16	—	1.5	19.95	16.96	15.27	13.73
928-3002	P-6377	S	48	12V @ 2A	12V @ 4A	24V @ 2A	3 1/8	3 3/8	2 1/4	3 1/8	—	2.5	20.56	17.47	15.73	14.15
928-3003	P-6378	NV	96	12V @ 4A	12V @ 8A	24V @ 4A	3 1/16	2 13/16	2 1/8	2 1/4	2 1/4	4.2	35.93	30.94	27.49	24.74
928-3004	P-6379	NV	192	12V @ 8A	12V @ 16A	24V @ 8A	4 3/16	3 7/16	3 3/8	2 3/4	3	8.0	61.61	52.37	47.13	42.43
928-4615	P-8615	S	12	24V @ 0.25A	24V @ 0.5A	48V @ 0.25A	2 3/8	2 1/8	1 5/8	2 3/8	—	1.0	18.95	16.11	14.50	13.05
928-4616	P-8616	S	24	24V @ 0.5A	24V @ 1A	48V @ 0.5A	2 3/4	3 1/8	1 7/8	2 13/16	—	1.5	18.94	16.10	14.49	13.04
928-4617	P-8617	S	48	24V @ 1A	24V @ 2A	48V @ 1A	3 1/8	3 3/8	2 1/4	3 1/8	—	2.5	21.13	17.96	16.16	14.54
928-4618	P-8618	NV	96	24V @ 2A	24V @ 4A	48V @ 2A	3 1/16	2 13/16	2 1/8	2 1/4	2 1/4	4.2	36.75	31.24	28.12	25.31
928-4619	P-8619	NV	192	24V @ 4A	24V @ 8A	48V @ 4A	4 3/16	3 7/16	3 3/8	2 3/4	3	8.0	55.24	49.96	42.26	38.04

* By connecting primaries in series (for 230 volts) but using only 115 volts input, a series of half voltage output ratings becomes available at the full rated current from each secondary.

Filter Chokes

High current chokes. Inductance measured at 1 volt 60 Hz. **Insulation Test RMS volts:** TC-1 and TC-2, 1000; all others, 1500. Type C-2692 has self lead termination; all others have lead terminations.

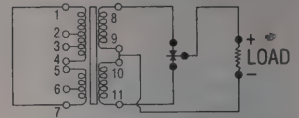
Stock No.	Mfr.'s Type	Style	Inductance Millihenries	DC Amps	DC Res. Ohms	Dimensions (Inches)					Wt. Lbs.	EACH			
						Case			Mounting			1-9	10-24	25-49	50-99
						H	W	D	MW	MD					
928-9005	TC-1	A2	3.0	1.0	0.250	1 1/4	1 1/2	1 1/8	1 1/8	7/16	0.3	8.72	7.41	7.00	6.67
928-9006	TC-2	A2	11.0	1.0	0.750	1 1/4	1 1/2	1 1/8	1 1/8	7/16	0.3	9.53	8.11	7.75	7.30
928-9580	C-2708	A	320	6	10.0	2	3 1/4	1 3/4	2 13/16	—	1.3	14.23	12.10	10.86	8.80
928-0075	C-2690	NV	300 or 75	1.0/2.0	3.0/0.75	3 1/16	2 13/16	3	2 1/4	2 5/8	5.0	33.26	28.28	25.45	22.90
928-0070	C-2685	NH	35	2.0	0.750	2 5/16	2 3/8	2 1/8	2 1/8	2	1.9	21.58	18.34	16.51	14.86
928-0076	C-2691	NV	80 or 20	2.5/5.0	0.60/0.150	3 13/16	3 3/8	3 1/2	2 1/2	3	7.0	41.50	35.27	31.74	28.57
928-0071	C-2686	NH	25	4.0	0.425	2 7/8	3 3/8	2 3/8	2 13/16	2 1/8	3.4	31.49	26.76	24.09	21.68
928-0072	C-2687	NH	10	8.0	0.150	3 1/16	3 3/4	3	3 1/8	2 1/2	5.3	36.07	32.36	29.13	26.22
928-0073	C-2688	NH	10	12.5	0.110	3 1/2	4 1/8	3 1/8	3 1/8	2 3/8	5.9	44.97	38.23	34.40	30.96

1 = Mounting foot depth — 2 1/16" O.A. 2 = Mounting foot depth — 3 1/16" O.A.

Universal Rectifier Transformers

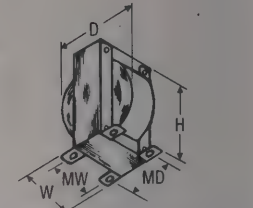
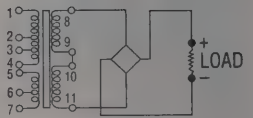
Primaries 117 volts 50/60 Hz.

May also be satisfactorily operated at 400 Cycles. Solder lug termination, rectifiers not included.



Stock No.	Mfr.'s Type	Rectifier Circuit	Range of Applied AC Volts Under Load (Approx.)	Output Resistive or Inductive Load Max. DC		Output Capacitive Load* Max. DC		Case Dimensions (Inches)			Mounting (Inches)		Wt. Lbs.	EACH			
				Volts	Amps	Volts	Amps	H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-8001	RT-201	C.T. Bridge	11.7 to 29.4 11.1 to 28.5	11.2 23.0	2.00 1.25	13.8 ¹ 30.0 ²	2.00 1.25	3 1/8	2 1/2	2 3/8	2	2 1/8	2.5	35.58	30.20	27.17	24.47
928-8002	RT-202	C.T. Bridge	12.0 to 29.8 12.0 to 29.8	11.1 24.3	4.00 2.00	14.7 ³ 33.0 ⁴	4.00 2.00	3 7/16	2 13/16	2 3/4	2 1/4	2 3/8	3.8	47.09	40.03	36.03	32.42
928-8003	RT-204	C.T. Bridge	11.7 to 29.2 11.6 to 29.2	12.0 24.0	8.00 4.00	14.5 ⁴ 32.4 ⁵	8.00 4.00	3 13/16	3 1/8	3 7/8	2 1/2	2 7/8	6.1	57.25	49.82	44.03	39.63
928-8005	RT-206	C.T. Bridge	12.0 to 29.7 12.0 to 29.7	11.5 24.0	12.00 6.00	14.4 ⁶ 32.0 ⁶	12.00 6.00	4 3/16	3 7/16	4	2 3/4	3 1/4	9.1	77.43	65.81	59.23	53.32
928-8006	RT-208	C.T. Bridge	12.1 to 29.2 12.1 to 29.2	11.4 23.7	15.00 8.00	14.8 ⁷ 32.5 ⁷	15.00 8.00	4 9/16	3 3/4	5	2 15/16	3 3/4	12.6	99.30	84.40	75.97	68.38
928-8008	RT-402	C.T. Bridge	23.0 to 58.0 23.0 to 58.0	25.0 51.5	4.00 2.00	33.5 ⁸ 72.5 ⁸	4.00 2.00	3 13/16	3 1/8	4 1/2	2 1/2	3 1/16	6.9	57.37	48.76	43.89	39.51
928-8015	RT-408	C.T. Bridge	25.0 to 54.1 25.0 to 54.1	23.4 46.3	12.00 8.00	32.0 ⁹ 68.8 ⁹	12.00 8.00	5 5/16	4 3/8	6 3/4	3 1/2	5 1/4	26.5	182.44	155.07	139.57	125.62

*MFD Filter Capacitor: 1-100, 2-500, 3-2000, 4-4000, 5-6000, 7-7500, 8-12000, 9-1500, 10-600, 11-2500.



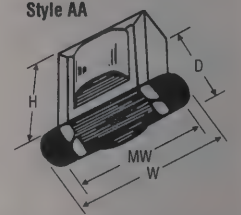
Isolation Transformers

Straight Isolation (Three Conductor Line Cord and Receptacle)

115/115 volts, 50/60 Hz (may be operated from a 400 Hz source with no change in output ratings). Case and core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle for safety. **RMS Test Voltage: 1500.**

Stock No.	Mfr.'s Type	Input/Output Voltage	V-A Cap.	Style	Case Dimensions (Inches)			Mounting (Inches)		Wt. Lbs.	EACH			
					H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-0325	GIS-100	115/115	100	C	3 1/2	2 13/16	3 9/16	2 1/4	2 7/16	4.5	56.42	47.95	43.16	38.85
928-0326	GIS-150	115/115	150	C	3 7/8	3 3/16	4 3/16	2 1/2	2 13/16	7.0	65.35	55.55	49.99	45.00
928-0327	GIS-250	115/115	250	C	4 11/16	3 3/4	4 9/8	3	3 9/16	9.3	78.06	66.35	59.71	53.75
928-0328	GIS-500	115/115	500	C	4 11/16	3 3/4	6	3	4 13/16	16.5	117.84	100.17	90.15	81.14
928-0329	GIS-1000	115/115	1000	C	5 1/2	4 3/8	8 1/8	3 1/2	6 1/2	31.5	228.53	194.25	174.83	157.36

Style AA

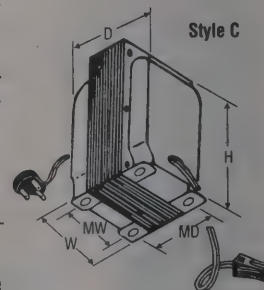


Straight Isolation (Electrostatic Shields Grounded to Core)

Primaries 50/60 Hz. Secondary female receptacle except for P-8622, P-6411, P-6412 and P-6413 lead termination. **RMS Test Voltage: 1500.** #Has switch. §Secondary is two separate 115 volt windings. †Has electrostatic shield on separate leadwire (not grounded).

Stock No.	Mfr.'s Type	Input Voltage	Output Voltage	V-A Cap.	Style	Case Dimensions (Inches)			Mounting (Inches)		Wt. Lbs.	EACH			
						H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-3035	P-6413	115	115	6	AA	1 1/4	2 1/8	1 1/4	1 3/4	—	.25	13.62	11.57	10.42	9.38
928-3033	P-6411	115	115	15	AA	2	3 1/4	1 7/8	2 1/2	2 13/16	1.00	13.82	11.75	10.57	9.51
928-3034	P-6412	115	115	35	AA	2 3/8	3 3/4	2	3 1/8	—	1.70	17.46	14.85	13.36	12.02
928-3032	P-6410	115	115	50	C	3 1/2	2 13/16	3 3/8	2 1/4	1 7/8	3.70	52.99	45.05	40.51	36.49
928-2070	P-6160	105/115/125#	115	100	C	4 11/16	3 3/4	3 3/4	3	2 9/16	7.00	100.86	85.73	77.16	69.46
928-4880	P-8622	115†	115/230§	150	C	3 7/8	3 1/8	4	2 1/2	2 3/4	6.20	49.81	42.34	38.10	34.30
928-2071	P-6161	105/115/125#	115	250	C	4 11/16	3 3/4	5 1/2	3	4 3/16	14.20	117.41	99.80	89.82	80.85

Style C

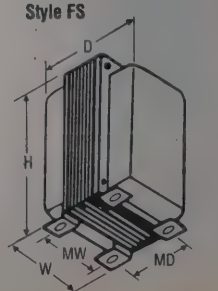


Step-Down Isolation (Electrostatic Shields Grounded to Core)

Primaries 50/60 Hz. Secondary female receptacle for P-6385. *Has primary terminals. #Has switch. †Has electrostatic shield on separate leadwire (not grounded). §Primary is two separate 115 volt windings. **Output Voltage: 115. RMS Test Voltage: 1500.**

Stock No.	Mfr.'s Type	Input/Output Voltage	V-A Cap.	Style	Case Dimensions (Inches)			Mounting (Inches)		Wt. Lbs.	EACH			
					H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-3037	P-6406	115/230†§	50	AA	2 3/8	3 3/4	2 5/16	3 1/8	—	1.8	22.74	19.33	17.40	15.67
928-3006	P-6385	210/230/250#	250	C	4 11/16	3 3/4	5 1/2	3	4 5/16	14.2	121.42	103.20	92.88	83.61

Style FS



Step-Down Auto-Transformers

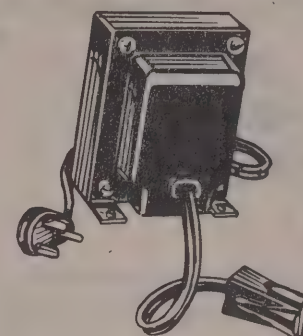
Primaries 230 volts 50/60 Hz, line cord and plug (may be operated from a 400 Hz source with no change in output ratings). Secondaries 115 volts, standard female receptacle except for P-8620 which has leadwires. **RMS Test Voltage: 1500.**

Stock No.	Mfr.'s Type	Input/Output Voltage	V-A Cap.	Style	Case Dimensions (Inches)			Mounting (Inches)		Wt. Lbs.	EACH			
					H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-2075	P-6287	230/115	40	C	3 1/2	2 5/8	2 1/2	2	1 1/2	2.2	46.67	39.67	35.70	32.14
928-4872	P-8620	230/115	50	AA	2 5/16	3 11/16	1 7/8	3 1/8	—	1.5	15.05	12.79	11.51	10.36
928-4873	P-8630	230/115	85	C	3 1/8	2 5/8	2 3/4	2	1 3/4	2.5	47.88	40.70	36.62	32.97
928-4874	P-8631	230/115	125	C	3 1/8	2 5/8	3	2	2	3.0	48.46	41.19	37.07	33.37
928-4875	P-8632	230/115	200	C	3 7/8	3 1/8	3 3/4	2 1/2	2	4.2	56.83	48.30	43.47	39.13
928-4876	P-8634	230/115	400	C	3 7/8	3 1/8	4 1/4	2 1/2	3	7.0	65.89	56.01	50.40	45.37

Auto Transformers

All of these items have Class "A" insulation and are rated to have a maximum operating temperature limit of 105°C. These units may be used with rectifiers but the form factor should be observed for various combinations of rectifier circuits and types of load following the rectifier.

These items are made with our standard N.E.M.A. plugs and receptacles, primarily for use in this country. However, if used overseas where different types of plugs are necessary, an international adapter plug below can be used or our plug can be removed and a foreign plug attached to the end of the line cord.



Step-Down Auto-Transformers. 230/115 volts, 50/60 Hz. May be operated from a 400 Hz source with no change in output rating. Case and core internally connected to third conductor of NEMA standard cord and receptacle for safety. **RMS Test Voltage: 1500.**

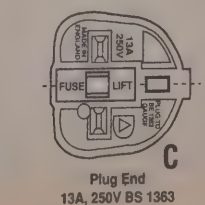
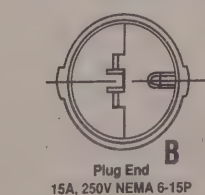
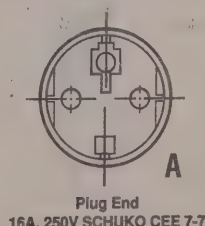
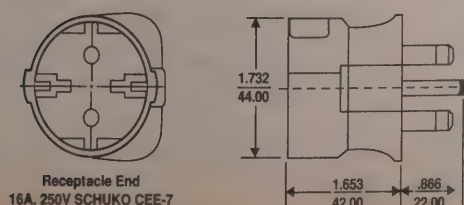
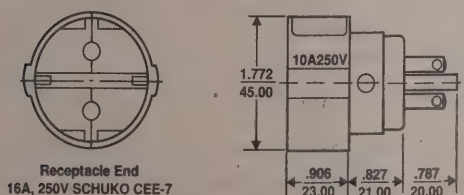
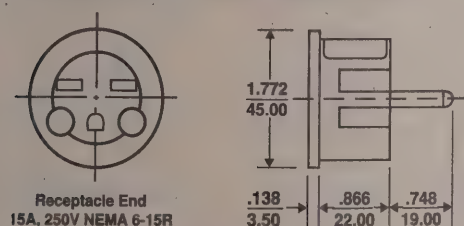
Stock No.	Mfr.'s Type	VA Cap.	Voltage Input/Output	Case Dimensions (Inches)			Mounting (Inches)		Wt. Lbs.	EACH			
				H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-0300	GSD-75	75	230/115	3 ⁷ / ₈	3 ³ / ₁₆	2 ³ / ₄	2 ¹ / ₂	1 ¹ / ₂	3.0	52.77	44.86	40.37	36.34
928-0301	GSD-100	100	230/115	3 ⁷ / ₈	3 ³ / ₁₆	3	2 ¹ / ₂	1 ³ / ₄	3.7	55.39	47.08	42.37	38.14
928-0302	GSD-150	150	230/115	3 ⁷ / ₈	3 ³ / ₁₆	3 ¹ / ₄	2 ¹ / ₂	2	4.4	60.59	51.50	46.35	41.72
928-0303	GSD-250	250	230/115	3 ⁷ / ₈	3 ³ / ₁₆	3 ⁵ / ₈	2 ¹ / ₂	2 ³ / ₈	5.8	70.34	59.79	53.81	48.44
928-0304	GSD-300	300	230/115	3 ⁷ / ₈	3 ³ / ₁₆	3 ⁵ / ₈	2 ¹ / ₂	2 ³ / ₈	5.8	71.88	61.10	54.99	49.50
928-0305	GSD-350	350	230/115	3 ⁷ / ₈	3 ³ / ₁₆	4 ⁵ / ₁₆	2 ¹ / ₂	3	7.3	75.44	64.12	57.72	51.95
928-0306	GSD-500	500	230/115	4 ⁵ / ₈	3 ¹³ / ₁₆	4 ⁷ / ₁₆	3	3 ³ / ₈	10.6	80.75	68.64	61.77	55.60
928-0307	GSD-750	750	230/115	4 ⁵ / ₈	3 ¹³ / ₁₆	5 ³ / ₁₆	3	4 ¹ / ₈	14.4	99.98	84.99	76.48	68.85
928-0308	GSD-1000	1000	230/115	4 ⁵ / ₈	3 ¹³ / ₁₆	6	3	5	17.0	129.74	110.28	99.25	89.33
928-0309	GSD-1500	1500	230/115	5 ¹ / ₂	4 ⁵ / ₈	6	3 ¹ / ₂	4 ³ / ₈	20.0	190.26	161.72	145.99	131.01

Step-Down Isolation (Three Conductor Line Cord and Receptacle). 230/115 volts, 50/60 Hz. Case, core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle. **RMS Test Voltage: 1500.**

928-0350	GISD-100	100	230/115	3 ¹ / ₂	2 ¹³ / ₁₆	3 ⁹ / ₁₆	2 ¹ / ₄	2 ⁷ / ₁₆	4.5	58.62	49.83	44.85	40.36
928-0351	GISD-150	150	230/115	3 ⁷ / ₈	3 ³ / ₁₆	4 ³ / ₁₆	2 ¹ / ₂	2 ¹⁵ / ₁₆	7.0	62.66	53.27	47.94	43.16
928-0352	GISD-250	250	230/115	4 ¹ / ₁₆	3 ³ / ₄	4 ¹ / ₄	3	3 ³ / ₁₆	9.0	82.78	70.36	63.33	57.00
928-0353	GISD-500	500	230/115	4 ¹ / ₁₆	3 ³ / ₄	6	3	4 ¹³ / ₁₆	16.0	124.93	106.19	95.57	86.03
928-0354	GISD-1000	1000	230/115	5 ¹ / ₂	4 ³ / ₈	8 ¹ / ₈	3 ¹ / ₂	6 ¹ / ₂	31.0	227.30	193.21	173.89	156.82

Step-Up Auto-Transformers. Primaries 115 volts 50/60 Hz, line cord and plug (may be operated from a 400 Hz source with no change in output ratings). Secondaries, 230 volts, standard female receptacles. **RMS Test Voltage: 1500.**

928-4700	P-8637	85	115/230	3 ¹ / ₈	2 ⁵ / ₈	2 ³ / ₄	2	1 ³ / ₄	2.5	47.29	40.19	36.18	32.56
928-4720	P-8638	125	115/230	3 ¹ / ₈	2 ⁵ / ₈	3	2	2	3.0	49.30	41.91	37.72	33.95
928-4877	P-8639	300	115/230	3 ⁷ / ₈	3 ¹ / ₈	3 ⁷ / ₈	2 ¹ / ₂	2 ³ / ₈	5.2	60.89	51.75	46.58	41.93
928-4878	P-8640	500	115/230	4 ⁹ / ₁₆	3 ³ / ₄	4 ³ / ₄	3	3 ⁵ / ₁₆	10.3	82.99	70.54	63.49	57.15
928-4879	P-8689	1000	115/230	4 ⁵ / ₈	3 ³ / ₄	6 ¹ / ₈	3	4 ¹⁵ / ₁₆	17.4	107.89	91.71	82.53	74.29



International Adapter Plugs

A new line of grounding adapters, ideal for use on electrical/electronic equipment exported to countries that have standardized on the CEE-7 SCHUKO outlet configuration. The use of these adapters reduces the need for expensive and difficult-to-obtain foreign type power cords and cord sets, as they provide a fast, easy means of connecting equipment to European outlets.

American to European - Fig. A

Allows interface from NEMA 6-15P plugs to CEE-7 SCHUKO grounding outlets.

928-9951. ADT-30100. 1-9 EACH 13.98

European to American - Fig. B

Allows interface from CEE-7 SCHUKO plugs to NEMA 6-15R grounding outlets.

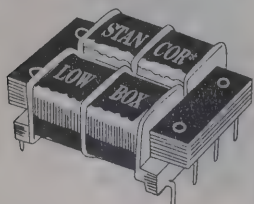
928-9952. ADT-30120. 1-9 EACH 26.63

European to United Kingdom - Fig. C

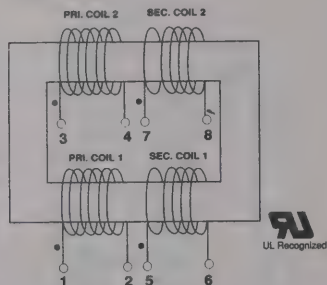
Allows interface from CEE-7 SCHUKO plugs to U.K. 13A, 250V receptacles.

928-9953. ADT-30140. 1-9 EACH 24.34

Low Boy™ Low Profile Transformers



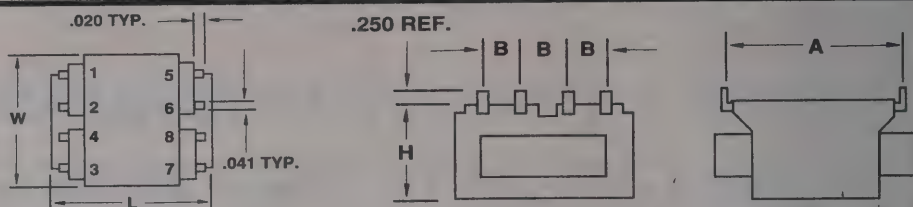
Explanation of Low Boy Interconnections. Because of the toroidal effect, two identical coils are connected in series or parallel, but one of the coils must be connected in reverse in order to get correct polarity and voltage.



The Low-Boy Power Transformer is designed to surpass competitive market offerings in cost, size and versatility to the designer. Applicable to low clearance, stacked printed circuit board and solid state power designs, the Low-Boy will allow closer board stack spacing at lower power levels (down to 200mA at 10 volts). Semi-toroidal construction reduces radiated magnetic fields and results in balanced windings. Non-concentric winding provides isolation by design, eliminating the need for an electrostatic shield. Allow 3/4" card spacing for 2 and 3, VA units; 1" for 4, 5, and 6VA; 1 1/4" for 12VA units. Dual Primaries — 115/230V, 50/60 Hz. Allows standard hi Pot — 2000 volts. Precision spaced p.c. terminals.

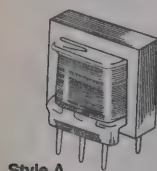
U.L. Recognized Unit (File Card E-58100)

Output Watts	Dimensions (Inches)				
	H	W	L	A	B
2, 3	0.625	1.562	1.875	1.600	.375
4, 5, 6	0.875	1.562	1.875	1.600	.375
12	1.062	2.000	2.500	2.000	.500

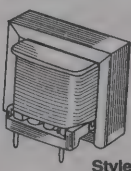


Stock No.	Mfr.'s Type	V.A. or Watts	Secondary		Wt. Oz.	EACH			
			Series	Parallel		1-9	10-24	25-49	50-99
928-5100	LB210	2	10V C.T. @ 200MA	5V @ 400MA	4.5	13.18	11.20	10.08	9.07
928-5101	LB310	3	10V C.T. @ 300MA	5V @ 600MA	4.5	13.28	11.29	10.16	9.15
928-5102	LB215	2	15V C.T. @ 150MA	7.5V @ 300MA	4.5	13.18	11.20	10.08	9.07
928-5103	LB240	2	40V C.T. @ 60MA	20V @ 120MA	4.5	13.18	11.20	10.08	9.07
928-5104	LB256	2	56V C.T. @ 45MA	28V @ 90MA	4.5	13.18	11.20	10.08	9.07
928-5105	LB288	2	88V C.T. @ 28MA	44V @ 56MA	4.5	13.18	11.20	10.08	9.07
928-5106	LB2120	2	120V C.T. @ 20MA	60V @ 40MA	4.5	13.18	11.20	10.08	9.07
928-5107	LB2230	2	230V C.T. @ 10MA	115V @ 20MA	4.5	13.18	11.20	10.08	9.07
928-5108	LB315	3	15V C.T. @ 225MA	7.5V @ 450MA	4.5	13.28	11.29	10.16	9.15
928-5109	LB410	4	10V C.T. @ 400MA	5V @ 800MA	5.5	13.58	11.54	10.38	9.35
928-5110	LB510	5	10V C.T. @ 500MA	5V @ 1A	5.5	13.68	11.63	10.47	9.42
928-5111	LB412	4	120V C.T. @ 333MA	60V @ 667MA	5.5	13.58	11.54	10.38	9.35
928-5112	LB512	5	12V C.T. @ 417MA	6V @ 833MA	5.5	13.68	11.63	10.47	9.42
928-5113	LB420	4	20V C.T. @ 200MA	10V @ 400MA	5.5	13.58	11.54	10.38	9.35
928-5114	LB520	5	20V C.T. @ 250MA	10V @ 500MA	5.5	13.68	11.63	10.47	9.42
928-5115	LB424	4	24V C.T. @ 167MA	12V @ 333MA	5.5	13.58	11.54	10.38	9.35
928-5116	LB524	5	24V C.T. @ 208MA	12V @ 417MA	5.5	13.68	11.63	10.47	9.42
928-5117	LB4120	4	120V C.T. @ 33MA	60V @ 66MA	5.5	13.58	11.54	10.38	9.35
928-5118	LB5120	5	120V C.T. @ 41.7MA	60V @ 83.3MA	5.5	13.68	11.63	10.47	9.42
928-5119	LB610	6	10V C.T. @ 600MA	5V @ 1.2A	5.5	13.89	11.81	10.63	9.57
928-5120	LB1210	12	10V C.T. @ 1200MA	5V @ 2.4A	11.5	14.33	12.18	10.96	9.87
928-5121	LB612	6	12.6V C.T. @ 450MA	6.3V @ 900MA	5.5	13.89	11.81	10.63	9.57
928-5122	LB1212	12	12.6V C.T. @ 900MA	6.3V @ 1.8A	11.5	14.33	12.18	10.96	9.87
928-5123	LB616	6	16V C.T. @ 350MA	8V @ 700MA	5.5	13.89	11.81	10.63	9.57
928-5124	LB1216	12	16V C.T. @ 700MA	8V @ 1.4A	11.5	14.33	12.18	10.96	9.87
928-5125	LB620	6	20V C.T. @ 300MA	10V @ 600MA	5.5	13.89	11.81	10.63	9.57
928-5126	LB1220	12	20V C.T. @ 600MA	10V @ 1.2A	11.5	14.33	12.18	10.96	9.87
928-5127	LB624	6	24V C.T. @ 250MA	12V @ 500MA	5.5	13.89	11.81	10.63	9.57
928-5128	LB1224	12	24V C.T. @ 500MA	12V @ 1A	11.5	14.33	12.18	10.96	9.87
928-5129	LB634	6	34V C.T. @ 170MA	17V @ 340MA	5.5	13.89	11.81	10.63	9.57
928-5130	LB1234	12	34V C.T. @ 340MA	17V @ 680MA	11.5	14.33	12.18	10.96	9.87
928-5131	LB640	6	40V C.T. @ 150MA	20V @ 300MA	5.5	13.89	11.81	10.63	9.57
928-5132	LB1240	12	40V C.T. @ 300MA	20V @ 600MA	11.5	14.33	12.18	10.96	9.87
928-5133	LB656	6	56V C.T. @ 100MA	28V @ 200MA	5.5	13.89	11.81	10.63	9.57
928-5134	LB1256	12	56V C.T. @ 200MA	28V @ 400MA	11.5	14.33	12.18	10.96	9.87
928-5135	LB688	6	88V C.T. @ 65MA	44V @ 130MA	5.5	13.89	11.81	10.63	9.57
928-5136	LB1288	12	88V C.T. @ 130MA	44V @ 260MA	11.5	14.33	12.18	10.96	9.87
928-5137	LB6120	6	120V C.T. @ 50MA	60V @ 100MA	5.5	13.89	11.81	10.63	9.57
928-5138	LB12120	12	120V C.T. @ 100MA	60V @ 200MA	11.5	14.33	12.18	10.96	9.87
928-5139	LB6230	6	230V C.T. @ 25MA	115V @ 50MA	5.5	13.89	11.81	10.63	9.57
928-5140	LB12230	12	230V C.T. @ 50MA	115V @ 100MA	11.5	14.33	12.18	10.96	9.87

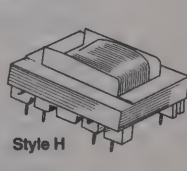
Telephone Coupling Transformers



Style A



Style F



Style H



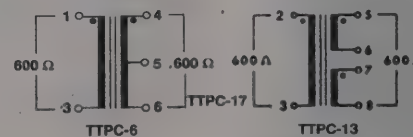
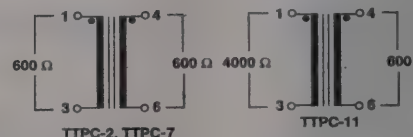
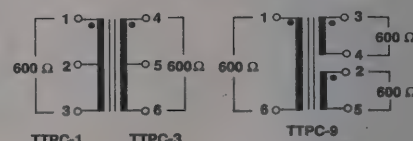
Style K

Stancor's TTPC series transformers are designed to meet the high performance requirements of today's phone interconnect and instrumentation applications. Stancor has the broadest range of units for general use in impedance matching, circuit isolation, line balancing or bridging, and hybrid applications. TTPC transformers are ideal for use in voice and data interconnect networks such as modem terminal connection to telephone lines. Stancor's units will handle 1500 volts dielectric withstand and meet FCC Part 68 requirements. See below for the highest quality and broadest selection of styles.

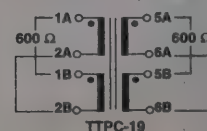
Stock No.	Mfr.'s Type	Impedance		DC Curr. mA	Insertion Losses dB	Style	Dimensions H x W x D	EACH			
		Primary	Secondary					1-9	10-24	25-49	50-99
928-9010	TTPC-1	600 C.T.	600 C.T.	0	1.4	A	.74 x .781 x .65	14.02	11.92	10.72	9.65
928-9012	TTPC-2	600	600	0	1.2	B†	.49 x .781 x .65	13.06	11.10	10.00	9.00
928-9014	TTPC-3	600 C.T.	600 C.T.	0	1.2	F	.49 x .781 x .65	13.06	11.10	10.00	9.00
928-9018	TTPC-5	4000	600	0	1.5	H†	.49 x .781 x .65	12.14	10.32	9.28	8.36
928-9020	TTPC-6	600	600 C.T.	90	1.8	A	.75 x .815 x .65	12.23	10.40	9.36	8.42
928-9022	TTPC-7	600	600	0	1.2	A	.74 x .781 x .65	11.00	9.36	8.42	7.58
928-9024	TTPC-8	600 C.T.	600 C.T.	0	1.2	A	.74 x .781 x .65	9.85	8.37	7.54	6.78
928-9025	TTPC-9	600	600/600	0	1.2	A	.859 x 1.04 x .958	14.83	12.60	11.34	10.21
928-9030	TTPC-11	4000	600	0	1.2	A	.74 x .781 x .65	11.58	9.85	8.86	7.98
928-9500	TTPC-13	600	600 C.T. Split	90	1.8	H	.583 x .815 x .925	9.35	7.95	7.15	6.44
928-9036	TTPC-14	600	600 C.T. Split	80	1.1	H	.66 x 1.65 x 1.37	24.75	21.03	18.93	17.04
928-9038	TTPC-15	600	600	80	1.1	H	.66 x 1.65 x 1.37	17.31	14.72	13.24	11.93
928-9046	TTPC-19	600 C.T.	600 C.T.	80	1.9	H	.60 x 1.27 x 1.65	22.59	19.19	17.28	15.55
928-9505	PCT-77	600 C.T.	600 C.T.	3	2.0	K	.465 x .310 x .410	22.19	18.86	16.97	15.28
928-9050	PCT-27*	600	600 C.T./150 Split	3	2.0	K	.465 x .310 x .410	22.19	18.86	16.97	15.28
928-9054	PCT-78*	600	600	3	2.0	K	.465 x .310 x .410	22.19	18.86	16.97	15.28

*1000 volt dielectric strength. † Not Shown.

REPRESENTATIVE SCHEMATICS FOR TELEPHONE COUPLING TRANSFORMERS



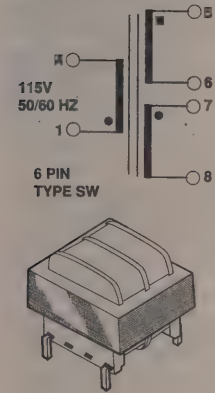
NECESSARY EXTERNAL CONNECTIONS; SHORT 2A-2B, 6A-6B



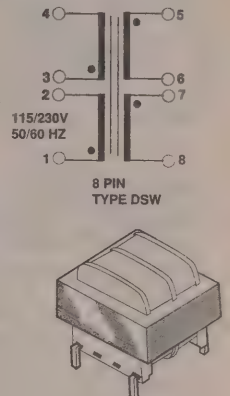
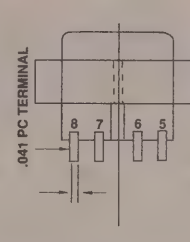
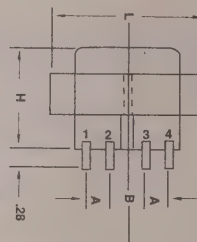
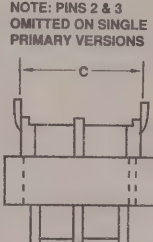
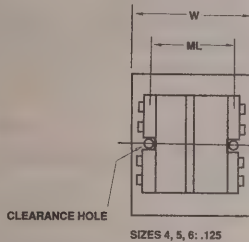
Side Winder

Side Winder applications include electronic game systems, computer peripherals, medical electronics, and switching power supplies. Split bobbin winding and low capacitive coupling design

eliminates electrostatic shielding requirement and expense. High isolation, 2,500 V rms. Hi-Pot testing. PC pins, precision spaced, insert directly into PC boards. Class B insulation, 130° C.



Size	Dimensions — Inches								WL Lbs.
	VA	H	W	L	ML	A	B	C	
2	1.1	15/16	1 1/8	1 3/8	—	.250	.250	1.200	.17
3	2.5	13/16	1 1/8	1 3/8	—	.250	.250	1.200	.25
4	6.0	15/16	1 1/8	1 3/8	1 1/16	.250	.350	1.280	.44
5	12.0	17/16	1 7/8	1 7/8	1 1/4	.300	.400	1.410	.70
6	20.0	17/16	1 7/8	2 1/4	1 1/2	.300	.400	1.600	.80



"Side Winder" Single 115 V, 50/60 Hz, 6 Pin

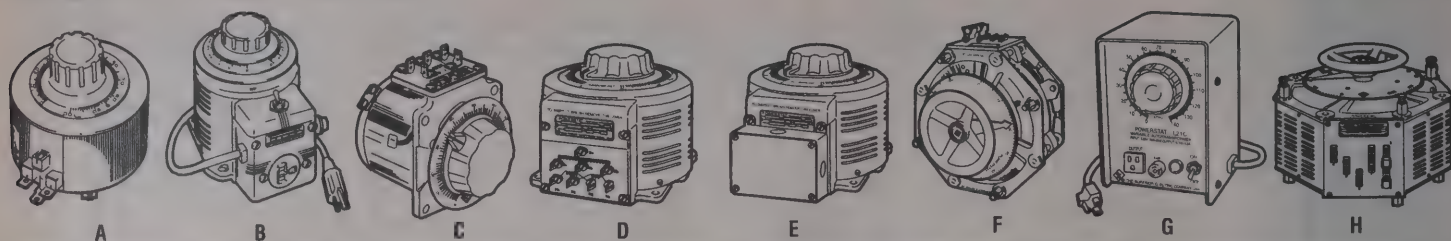
Note: First digit after "SW" in Mfr.'s Type indicates Size Code listed above.

Stock No.	Mfr.'s Type	Secondary RMS Rating			EACH	
		Individual	Series	Parallel	1-9	10-24
928-0100	SW-210	5V @ 0.11A	10V C.T. @ 0.11A	5V @ 0.22A	10.09	8.58
928-0101	SW-310	5V @ 0.25A	10V C.T. @ 0.25A	5V @ 0.5A	10.23	8.69
928-0102	SW-410	5V @ 0.6A	10V C.T. @ 0.6A	5V @ 1.2A	10.78	9.17
928-0103	SW-510	5V @ 1.2A	10V C.T. @ 1.2A	5V @ 2.4A	11.29	9.60
928-0104	SW-610	5V @ 2A	10V C.T. @ 2A	5V @ 4A	13.45	11.43
928-0105	SW-212	6.3V @ 0.09A	12.6V C.T. @ 0.09A	6.3V @ 0.18A	10.09	8.58
928-0106	SW-312	6.3V @ 0.2A	12.6V C.T. @ 0.2A	6.3V @ 0.4V	10.23	8.69
928-0107	SW-412	6.3V @ 0.5A	12.6V C.T. @ 0.5A	6.3V @ 1.0A	10.78	9.17
928-0108	SW-512	6.3V @ 1.0A	12.6V C.T. @ 1.0A	6.3V @ 2.0A	11.29	9.60
928-0109	SW-612	6.3V @ 1.6A	12.6V C.T. @ 1.6A	6.3V @ 3.2A	13.45	11.43
928-0110	SW-216	8V @ 0.07A	16V C.T. @ 0.07A	8V @ 0.14A	10.09	8.58
928-0111	SW-316	8V @ 0.15A	16V C.T. @ 0.15A	8V @ 0.3A	10.23	8.69
928-0112	SW-416	8V @ 0.4A	16V C.T. @ 0.4A	8V @ 0.8A	10.78	9.17
928-0113	SW-516	8V @ 0.8A	16V C.T. @ 0.8A	8V @ 1.6A	11.29	9.60
928-0114	SW-616	8V @ 1.25A	16V C.T. @ 1.25A	8V @ 2.5A	13.45	11.43
928-0115	SW-220	10V @ 0.055A	20V C.T. @ 0.055A	10V @ 0.11A	10.09	8.58
928-0116	SW-320	10V @ 0.12A	20V C.T. @ 0.12A	10V @ 0.24A	10.23	8.69
928-0117	SW-420	10V @ 0.3A	20V C.T. @ 0.3A	10V @ 0.6A	10.78	9.17
928-0118	SW-520	10V @ 0.6A	20V C.T. @ 0.6A	10V @ 1.2A	11.29	9.60
928-0119	SW-620	10V @ 1A	20V C.T. @ 1A	10V @ 2A	13.45	11.43
928-0120	SW-224	12V @ 0.045A	24V C.T. @ 0.045A	12V @ 0.09A	10.09	8.58
928-0121	SW-324	12V @ 0.1A	24V C.T. @ 0.1A	12V @ 0.24A	10.23	8.69
928-0122	SW-424	12V @ 0.25A	24V C.T. @ 0.25A	12V @ 0.5A	10.78	9.17
928-0123	SW-524	12V @ 0.5A	24V C.T. @ 0.5A	12V @ 1.0A	11.29	9.60
928-0124	SW-624	12V @ 0.8A	24V C.T. @ 0.8A	12V @ 1.6A	13.45	11.43
928-0125	SW-228	14V @ 0.04A	28V C.T. @ 0.04A	14V @ 0.08A	10.09	8.58
928-0126	SW-328	14V @ 0.085A	28V C.T. @ 0.085A	14V @ 0.17A	10.23	8.69
928-0127	SW-428	14V @ 0.2A	28V C.T. @ 0.2A	14V @ 0.4A	10.78	9.17
928-0128	SW-528	14V @ 0.42A	28V C.T. @ 0.42A	14V @ 0.84A	11.29	9.60
928-0129	SW-628	14V @ 0.7A	28V C.T. @ 0.7A	14V @ 1.4A	13.45	11.43
928-0130	SW-232	16V @ 0.035A	32V C.T. @ 0.035A	16V @ 0.07A	10.09	8.58
928-0131	SW-332	16V @ 0.075A	32V C.T. @ 0.075A	16V @ 0.15A	10.23	8.69
928-0132	SW-432	16V @ 0.188A	32V C.T. @ 0.188A	16V @ 0.376A	10.78	9.17
928-0133	SW-532	16V @ 0.375A	32V C.T. @ 0.375A	16V @ 0.750A	11.29	9.60
928-0134	SW-632	16V @ 0.625A	32V C.T. @ 0.625A	16V @ 1.25A	13.45	11.43
928-0135	SW-236	18V @ 0.03A	36V C.T. @ 0.03A	18V @ 0.06A	10.09	8.58
928-0136	SW-336	18V @ 0.065A	36V C.T. @ 0.065A	18V @ 0.13A	10.23	8.69
928-0137	SW-436	18V @ 0.17A	36V C.T. @ 0.17A	18V @ 0.34A	10.78	9.17
928-0138	SW-536	18V @ 0.35A	36V C.T. @ 0.35A	18V @ 0.7A	11.29	9.60
928-0139	SW-636	18V @ 0.55A	36V C.T. @ 0.55A	18V @ 1.1A	13.45	11.43
928-0140	SW-248	24V @ 0.023A	48V C.T. @ 0.023A	24V @ 0.46A	10.09	8.58
928-0141	SW-348	24V @ 0.05A	48V C.T. @ 0.05A	24V @ 0.1A	10.23	8.69
928-0142	SW-448	24V @ 0.125A	48V C.T. @ 0.125A	24V @ 0.25A	10.78	9.17
928-0143	SW-548	24V @ 0.25A	48V C.T. @ 0.25A	24V @ 0.5A	11.29	9.60
928-0144	SW-648	24V @ 0.4A	48V C.T. @ 0.4A	24V @ 0.8A	13.45	11.43
928-0145	SW-256	28V @ 0.02A	56V C.T. @ 0.02A	28V @ 0.04A	10.09	8.58
928-0146	SW-356	28V @ 0.045A	56V C.T. @ 0.045A	28V @ 0.09A	10.23	8.69
928-0147	SW-456	28V @ 0.11A	56V C.T. @ 0.11A	28V @ 0.22A	10.78	9.17
928-0148	SW-556	28V @ 0.22A	56V C.T. @ 0.22A	28V @ 0.44A	11.29	9.60
928-0149	SW-656	28V @ 0.35A	56V C.T. @ 0.35A	28V @ 0.7A	13.45	11.43
928-0150	SW-2120	60V @ 0.01A	120V C.T. @ 0.01A	60V @ 0.02A	10.09	8.58
928-0151	SW-3120	60V @ 0.02A	120V C.T. @ 0.02A	60V @ 0.04A	10.23	8.69
928-0152	SW-4120	60V @ 0.05A	120V C.T. @ 0.05A	60V @ 0.1A	10.78	9.17
928-0153	SW-5120	60V @ 0.1A	120V C.T. @ 0.1A	60V @ 0.2A	11.29	9.60
928-0154	SW-6120	60V @ 0.16A	120V C.T. @ 0.16A	60V @ 0.32A	13.45	11.43

"Side Winder" Dual 115/230 V, 50/60 Hz, 8 Pin

Note: First digit after "DSW" in Mfr.'s Type indicates Size Code listed above.

Stock No.	Mfr.'s Type	Secondary RMS Rating			EACH	
		Individual	Series	Parallel	1-9	10-24
928-0200	DSW-210	5V @ 0.11A	10V C.T. @ 0.11A	5V @ 0.22A	10.78	9.17
928-0201	DSW-310	5V @ 0.25A	10V C.T. @ 0.25A	5V @ 0.5A	11.10	9.43
928-0202	DSW-410	5V @ 0.6A	10V C.T. @ 0.6A	5V @ 1.2A	11.63	9.89
928-0203	DSW-510	5V @ 1.2A	10V C.T. @ 1.2A	5V @ 2.4A	12.52	10.64
928-0204	DSW-610	5V @ 2A	10V C.T. @ 2A	5V @ 4A	15.06	12.80
928-0205	DSW-212	6.3V @ 0.09A	12.6V C.T. @ 0.09A	6.3V @ 0.18A	10.78	9.17
928-0206	DSW-312	6.3V @ 0.2A	12.6V C.T. @ 0.2A	6.3V @ 0.4V	11.10	9.43
928-0207	DSW-412	6.3V @ 0.5A	12.6V C.T. @ 0.5A	6.3V @ 1.0A	11.63	9.89
928-0208	DSW-512	6.3V @ 1.0A	12.6V C.T. @ 1.0A	6.3V @ 2.0A	12.52	10.64
928-0209	DSW-612	6.3V @ 1.6A	12.6V C.T. @ 1.6A	6.3V @ 3.2A	15.06	12.80
928-0210	DSW-216	8V @ 0.07A	16V C.T. @ 0.07A	8V @ 0.14A	10.78	9.17
928-0211	DSW-316	8V @ 0.15A	16V C.T. @ 0.15A	8V @ 0.3A	11.10	9.43
928-0212	DSW-416	8V @ 0.4A	16V C.T. @ 0.4A	8V @ 0.8A	11.63	9.89
928-0213	DSW-516	8V @ 0.8A	16V C.T. @ 0.8A	8V @ 1.6A	12.52	10.64
928-0214	DSW-616	8V @ 1.25A	16V C.T. @ 1.25A	8V @ 2.5A	15.06	12.80
928-0215	DSW-220	10V @ 0.055A	20V C.T. @ 0.055A	10V @ 0.11A	10.78	9.17
928-0216	DSW-320	10V @ 0.12A	20V C.T. @ 0.12A	10V @ 0.2A	11.10	9.43
928-0217	DSW-420	10V @ 0.3A	20V C.T. @ 0.3A	10V @ 0.6A	11.63	9.89
928-0218	DSW-520	10V @ 0.6A	20V C.T. @ 0.6A	10V @ 1.2A	12.52	10.64
928-0219	DSW-620	10V @ 1A	20V C.T. @ 1A	10V @ 2A	15.06	12.80
928-0220	DSW-224	12V @ 0.045A	24V C.T. @ 0.035A	12V @ 0.09A	10.78	9.17
928-0221	DSW-324	12V @ 0.1A	24V C.T. @ 0.1A	12V @ 0.24A	11.10	9.43
928-0222	DSW-424	12V @ 0.25A	24V C.T. @ 0.25A	12V @ 0.5A	11.63	9.89
928-0223	DSW-524	12V @ 0.5A	24V C.T. @ 0.5A	12V @ 1.0A	12.52	10.64
928-0224	DSW-624	12V @ 0.8A	24V C.T. @ 0.8A	12V @ 1.6A	15.06	12.80
928-0225	DSW-228	14V @ 0.04A	28V C.T. @ 0.04A	14V @ 0.08A	10.78	9.17
928-0226	DSW-328	14V @ 0.085A	28V C.T. @ 0.085A	14V @ 0.17A	11.10	9.43
928-0227	DSW-428	14V @ 0.2A	28V C.T. @ 0.2A	14V @ 0.4A	11.63	9.89
928-0228	DSW-528	14V @ 0.42A	28V C.T. @ 0.42A	14V @ 0.84A	12.52	10.64
928-0229	DSW-628	14V @ 0.7A	28V C.T. @ 0.7A	14V @ 1.4A	15.06	12.80
928-0230	DSW-232	16V @ 0.035A	32V C.T. @ 0.035A	16V @ 0.07A	10.78	9.17
928-0231	DSW-332	16V @ 0.075A	32V C.T. @ 0.075A	16V @ 0.15A	11.10	9.43
928-0232	DSW-432	16V @ 0.188A	32V C.T. @ 0.188A	16V @ 0.376A	11.63	9.89
928-0233	DSW-532	16V @ 0.375A	32V C.T. @ 0.375A	16V @ 0.750A	12.52	10.64
928-0234	DSW-632	16V @ 0.625A	32V C.T. @ 0.625A	16V @ 1.25A	15.06	12.80
928-0235	DSW-236	18V @ 0.03A	36V C.T. @ 0.03A	18V @ 0.06A	10.78	9.17
928-0236	DSW-336	18V @ 0.065A	36V C.T. @ 0.065A	18V @ 0.13A	11.10	9.43
928-0237	DSW-436	18V @ 0.17A	36V C.T. @ 0.17A	18V @ 0.34A	11.63	9.89
928-0238	DSW-536	18V @ 0.35A	36V C.T. @ 0.35A	18V @ 0.7A	12.52	10.64
928-0239	DSW-636	18V @ 0.55A	36V C.T. @ 0.55A	18V @ 1.1A	15.06	12.80
928-0240	DSW-248	24V @ 0.023A	48V C.T. @ 0.023A	24V @ 0.046A	10.78	9.17
928-0241	DSW-348	24V @ 0.04A	48V C.T. @ 0.05A	24V @ 0.1A	11.10	9.43
928-0242	DSW-448	24V @ 0.125A	48V C.T. @ 0.125A	24V @ 0.25A	11.63	9.89
928-0243	DSW-548	24V @ 0.25A	48V C.T. @ 0.25A	24V @ 0.5A	12.52	10.64
928-0244	DSW-648	24V @ 0.4A	48V C.T. @ 0.4A	24V @ 0.8A	15.06	12.80
928-0245	DSW-256	28V @ 0.02A	56V C.T. @ 0.02A	28V @ 0.4A	10.78	9.17
928-0246	DSW-356	28V @ 0.045A	56V C.T. @ 0.045A	28V @ 0.09A	11.10	9.43
928-0247	DSW-456	28V @ 0.11A	56V C.T. @ 0.11A	28V @ 0.22A	11.63	9.89
928-0248	DSW-556	28V @ 0.22A	56V C.T. @ 0.22A	28V @ 0.44A	12.52	10.64
928-0249	DSW-656	28V @ 0.35A	56V C.T. @ 0.35A	28V @ 0.7A	15.06	12.80
928-0250	DSW-2120	60V @ 0.01A	120V C.T. @ 0.01A	60V @ 0.02A	10.78	9.17
928-0251	DSW-3120	60V @ 0.02A	120V C.T. @ 0.025A	60V @ 0.04A	11.10	9.43
928-0252	DSW-4120	60V @ 0.05A	120V C.T. @ 0.05A	60V @ 0.1A	11.63	9.89
928-0253	DSW-5120	60V @ 0.1A	120V C.T. @ 0.1A	60V @ 0.2A	12.52	10.64
928-0254	DSW-6120	60V @ 0.16A	120V C.T. @ 0.16A	60V @ 0.32A	15.06	12.80

POWERSTAT® Variable Transformers


POWERSTAT® Variable Transformers with patented POWERKOTE® Coils provide a simple rugged method of controlling electrical voltage current and power. They take in utility line voltage and provide continuously adjustable output voltage. Most frame sizes are available with a boost option to allow operation up to 17% above input nominal. Open construction models have letter U suffix in the style

number and have the shaft extending from the end of the assembly for panel mounting. All plug-in models have input cord-plug sets, output receptacles, switches and fuses and are connected for clockwise knob rotation. Other models, including motorized are also available. Call Allied for details.

120 Volt Single Phase Input

Stock No.	Mfr.'s Type	Figure	Hertz	Output Volts	Constant Current Load		Constant Impedance Load		NEMA Enclosure Type I*	Motor Version Available*	EACH
					Max. Amp	Max. KVA	Max. Amp	Max. KVA			
645-0011	10C	A	50/60 60	0-120 0-132	2.25 2.25	0.27 0.30	3 —	.36 —	N/A	No	52.00
645-9300	L10C	G	60	0-132	1.75	0.23	—	—	N/A	No	158.00
645-0021	21	C	50/60	0-120 0-140	5.00 5.00	0.60 0.70	7 —	.84 —	PBA10-NO1-1	Yes	93.00
645-9302	L21C	G	50/60	0-140	4.50	0.63	—	—	N/A	No	207.00
645-9304	116CT	E	50/60	0-120	10.00	1.20	13	1.6	N/A	No	177.00
645-0116	116CU	C		0-140	10.00	1.40	—	—	PBA10-NO1-1	Yes	114.00
645-0115	3PN116C	B							N/A	No	177.00
645-9306	L116C	G	50/60	0-140	10.00	1.40	—	—	N/A	No	242.00
645-1117	117CT	E	60	0-120	12.00	1.40	15	1.8	N/A	No	177.00
645-0117	117CU	C							PBA10-NO1-1	Yes	128.00
645-0118	3PN117C	B							N/A	No	207.00
645-9308	126T	E	50/60	0-120	15.00	1.80	20	2.4	N/A	No	280.00
645-0126	126U	C		0-140	15.00	2.10	—	—	PBA30-NO1-1	Yes	220.00
645-0125	126	D					—	—	N/A	No	247.00
645-9310	136BT	E	50/60	0-120	22.00	2.60	28	3.4	N/A	No	393.00
645-0136	136BU	C		0-140	22.00	3.10	—	—	PBA30-NO1-1	Yes	319.00
645-0135	136B	D					—	—	N/A	No	345.00
645-9312	146T	E	50/60	0-120	30.00	3.60	35	5.8	N/A	No	610.00
645-9314	146U	D		0-140	30.00	4.20	—	—	PBA40-NO1-1	Yes	504.00
645-0146	146	D					—	—	N/A	No	565.00
645-9316	1156DT	E	50/60	0-120	50.00	6.00	55	6.6	N/A	No	832.00
645-9318	1156DU	H	50/60	0-140	50.00	7.00	—	—	PBA50-NO1-1	Yes	724.00
645-9320	1156D	F					—	—	N/A	No	761.00

240 Volt Single Phase Input

645-0012	12	A	50/60	0-240 0-264	0.7 0.5	0.27 0.30	3 —	.36 —	N/A	No	71.00
645-0022	22	C	50/60	0-240 0-280	2.25 2.25	1.20 1.40	7 —	.78 —	PBA10-NO1-1	Yes	124.00
645-9322	216CT	E	50/60	0-240	3.5	0.84	5	1.2	N/A	No	193.00
645-9324	216CU	C	50/60	0-280	3.5	0.98	—	—	PBA10-NO1-1	Yes	154.00
645-9326	3PN216C	B	60	0-280	3.5	0.98	—	—	N/A	No	211.00
645-9328	217CT	E	60	0-240	5.0	1.20	—	—	N/A	No	198.00
645-9330	217CU	C	60	0-240	5.0	1.20	7	1.7	PBA10-NO1-1	Yes	158.00
645-9332	3PN217C	B	50/60	0-240	5.0	1.20	—	—	N/A	No	243.00
645-9334	226T	E	50/60	0-240	7.5	1.80	10	2.4	N/A	No	280.00
645-0226	226U	C	50/60	0-240	7.5	2.10	—	—	PBA10-NO1-1	Yes	220.00
645-0225	226	D	50/60	0-240	7.5	2.10	—	—	N/A	No	233.00
645-9998	3PN226	B	50/60	0-280	7.5	2.10	—	—	N/A	No	325.00
645-9336	236BT	E	50/60	0-240	10.0	2.40	13	3.1	N/A	No	393.00
645-0236	236BU	C	50/60	0-280	10.0	2.80	—	—	PBA30-NO1-1	Yes	319.00
645-9236	236B	D	50/60	0-280	10.0	2.80	—	—	N/A	No	345.00
645-9337	3PN236B	B	50/60	0-240	10.0	2.80	19	4.6	N/A	No	473.00
645-9338	246T	E	50/60	0-240	10.0	3.60	—	—	N/A	No	610.00
645-9340	246U	C	50/60	0-280	15.0	4.20	—	—	PBA30-NO1-1	Yes	504.00
645-0246	246	D	50/60	0-280	15.0	4.20	—	—	N/A	No	565.00
645-9342	1256DT	E	50/60	0-240	28.0	6.70	28	6.7	N/A	No	832.00
645-9344	1256DU	H	50/60	0-280	28.0	7.80	—	—	PBA40-NO1-1	Yes	724.00
645-1256	1256D	F	50/60	0-280	28.0	7.80	—	—	N/A	No	761.00
645-9346	1296DT	E	50/60	0-240	35.0	8.40	39	9.4	N/A	No	1041.00
645-9348	1296DU	H	50/60	0-280	35.0	9.60	—	—	PBA50-NO1-1	Yes	906.00
645-9350	1296D	F	50/60	0-280	35.0	9.60	—	—	N/A	No	953.00

*Call your local Allied office, 1-800-433-5700, for NEMA 1 Enclosures and Motor Drive Options.

Power Supplies and Power Cords

Foreign Power Supplies and Power Cords

- Four Convenient Power Sizes
- IEC Input Port For Foreign Cords
- Operates On 50 Hz and 60 Hz Input With Safety*
- Isolated Output Receptacle
- Convenient On-Off Switch
- Circuit Breaker
- Voltage Selector
- Power For Photographic/TV Crews Abroad
- Power For International Trade Shows
- Conversion for U.S. Appliances in Foreign Use

*Note: Unit does not change frequency. Use only for equipment that can be operated on 50 Hz only, 60 Hz only or 50/60 Hz.

Universal Voltage Converters — Converts 100/120/220/240 V to isolated 120 V with optional foreign power IEC input cords to suit your use location.

Foreign Power Supplies

Stock No.	Mfr.'s Type	VA Output Maximum	Dimensions (In.)			Wt. (Lbs.)	EACH
			H	W	L		
704-7510	75-100	100	4	7 ³ / ₈	5 ⁷ / ₈	8	214.58
704-7525	75-250	250	4	7 ³ / ₈	5 ⁷ / ₈	14	229.79
704-0500	75-500	500	5 ³ / ₈	8 ¹ / ₂	7 ¹ / ₂	26	277.20
704-1000	75-1000	1000	7 ⁵ / ₈	10	8	35	439.66

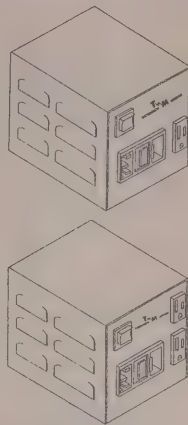


Fig. A



Fig. C



Fig. B

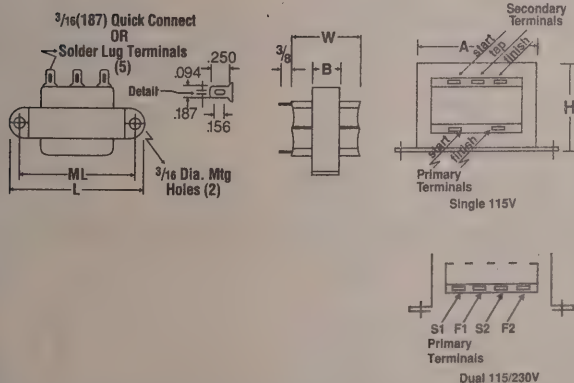
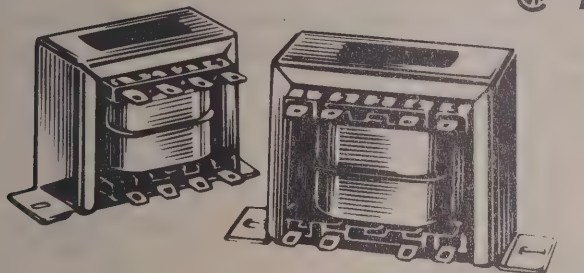


Fig. D

Power Cords Matched To Country Of Use

Stock No.	Mfr.'s Type	Fig.	Country of Use	EACH
704-7533	75C-3300	A	"Schuko" European (10 A Version of above both useable Brazil/Argentina)	48.77
704-7520	75C-2004	B	United Kingdom BS1363 (will not mate with BS546-Standard Prior to 1954)	37.99
704-7541	75C-4100	C	Australia/New Zealand	37.99
704-7537	75C-37030	D	North American Nema 5-15 (Japan, Vietnam and Phillipines)	14.77

Condensed For Power Series



Dimensions are for reference only. Should not be used for specification purposes.

The CFP Series include a grain oriented core for high saturation density, lower core loss, and less steel and copper use; split bobbin for non-concentric winding (lower capacitance, high isolation, better insulation) no cross-overs of primary and secondary leads; bobbin wound for reduced size. **Specifications. Primary Ratings:** Single 115 V (to 120 V) or dual 115/230 V, 50/60 Hz. **2500 V RMS Hipot:** Class S (130°C) rated. **Special Terminal:** Solder or quick-connect.

VA Size	L	W	H	A	B	ML	Wt. (Lbs.)
6	2 ³ / ₈	1 ⁵ / ₁₆	1 ³ / ₈	1 ¹¹ / ₁₆	1 ¹ / ₁₆	2	0.5
12	2 ⁷ / ₈	1 ¹ / ₂	1 ⁵ / ₈	1 ¹⁵ / ₁₆	3 ¹ / ₃₂	2 ³ / ₈	0.7
30	3 ¹ / ₄	1 ²³ / ₃₂	1 ¹⁵ / ₁₆	2 ⁵ / ₁₆	1 ¹ / ₁₆	2 ¹³ / ₁₆	0.1
56	3 ³ / ₄	1 ²⁷ / ₃₂	2 ¹ / ₄	2 ¹¹ / ₁₆	1 ¹ / ₁₆	3 ¹ / ₈	1.7
100	4	2 ¹ / ₄	2 ⁹ / ₁₆	3 ¹ / ₁₆	1 ⁵ / ₁₆	3 ⁹ / ₁₆	2.8

115 V/230 V PRI. All Sizes Are Available With Single, 115 V Primary.

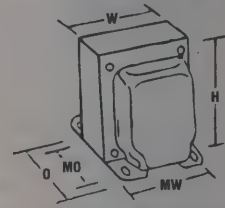
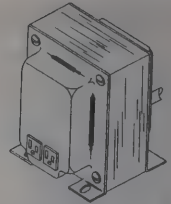
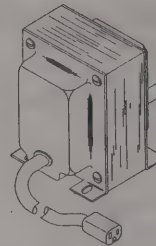
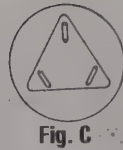
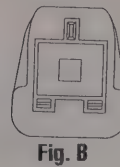
Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings	EACH
				1-9
704-9300	CFP-300	6	10.0 V C.T. @ 0.6 A	15.68
704-9400	CFP-400	12	10.0 V C.T. @ 1.2 A	17.16
704-9500	CFP-500	30	10.0 V C.T. @ 3.0 A	21.92
704-9600	CFP-600	56	10.0 V C.T. @ 5.0 A	25.82
704-9700	CFP-700	100	10.0 V C.T. @ 10.0 A	35.11
704-9302	CFP-302	6	12.6 V C.T. @ 0.5 A	15.68
704-9402	CFP-402	12	12.6 V C.T. @ 1.0 A	17.16
704-9502	CFP-502	30	12.6 V C.T. @ 2.5 A	21.92
704-9602	CFP-602	56	12.6 V C.T. @ 4.0 A	25.82
704-9702	CFP-702	100	12.6 V C.T. @ 8.0 A	35.11
704-9304	CFP-304	6	16.0 V C.T. @ 0.4 A	15.68
704-9404	CFP-404	12	16.0 V C.T. @ 0.8 A	17.16
704-9504	CFP-504	30	16.0 V C.T. @ 2.0 A	21.92
704-9604	CFP-604	56	16.0 V C.T. @ 3.5 A	25.82
704-9704	CFP-704	100	16.0 V C.T. @ 6.25 A	35.11
704-9306	CFP-306	6	20.0 V C.T. @ 0.3 A	15.68
704-9406	CFP-406	12	20.0 V C.T. @ 0.6 A	17.16
704-9506	CFP-506	30	20.0 V C.T. @ 1.5 A	21.92
704-9606	CFP-606	56	20.0 V C.T. @ 2.8 A	25.82
704-9706	CFP-706	100	20.0 V C.T. @ 5.0 A	35.11
704-9308	CFP-308	6	24.0 V C.T. @ 0.25 A	15.68
704-9408	CFP-408	12	24.0 V C.T. @ 0.5 A	17.16
704-9508	CFP-508	30	24.0 V C.T. @ 0.125 A	21.92
704-9608	CFP-608	56	24.0 V C.T. @ 2.4 A	25.82
704-9708	CFP-708	100	24.0 V C.T. @ 4.0 A	35.11
704-9310	CFP-310	6	28.0 V C.T. @ 0.2 A	15.68
704-9410	CFP-410	12	28.0 V C.T. @ 0.42 A	17.16
704-9510	CFP-510	30	28.0 V C.T. @ 1.1 A	21.92
704-9610	CFP-610	56	28.0 V C.T. @ 2.0 A	25.82
704-9710	CFP-710	100	28.0 V C.T. @ 3.6 A	35.11
704-9312	CFP-312	6	36.0 V C.T. @ 0.17 A	15.68
704-9412	CFP-412	12	36.0 V C.T. @ 0.35 A	17.16
704-9512	CFP-512	30	36.0 V C.T. @ 0.85 A	21.92
704-9612	CFP-612	56	36.0 V C.T. @ 1.5 A	25.82
704-9712	CFP-712	100	36.0 V C.T. @ 2.8 A	35.11
704-9314	CFP-314	6	48.0 V C.T. @ 0.125 A	15.68
704-9414	CFP-414	12	48.0 V C.T. @ 0.25 A	17.16
704-9514	CFP-514	30	48.0 V C.T. @ 0.63 A	21.92
704-9614	CFP-614	56	48.0 V C.T. @ 1.2 A	25.82
704-9714	CFP-714	100	48.0 V C.T. @ 2.0 A	35.11
704-9316	CFP-316	6	56.0 V C.T. @ 0.11 A	15.68
704-9416	CFP-416	12	56.0 V C.T. @ 0.22 A	17.16
704-9516	CFP-516	30	56.0 V C.T. @ 0.54 A	21.92
704-9616	CFP-616	56	56.0 V C.T. @ 1.0 A	25.82
704-9716	CFP-716	100	56.0 V C.T. @ 1.8 A	35.11
704-9318	CFP-318	6	120.0 V C.T. @ 0.05 A	15.68
704-9418	CFP-418	12	120.0 V C.T. @ 0.1 A	17.16
704-9518	CFP-518	30	120.0 V C.T. @ 0.25 A	21.92
704-9618	CFP-618	56	120.0 V C.T. @ 0.5 A	25.82
704-9718	CFP-718	100	120.0 V C.T. @ 0.85 A	35.11

New International Series

— **NEW** —

- Primary: 230 VAC 50/60 Hz
- Secondary: 115 VAC
- Output Termination: Nema 5-15R (All Units Have 4" Line Cord Except 2500 VA Which Have Two 15 A Receptacles)

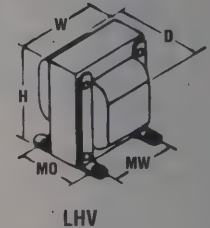
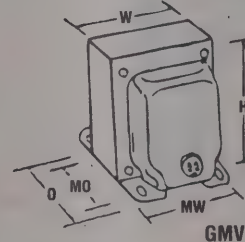
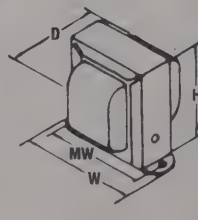
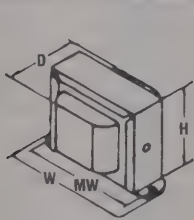
European (Schuko) — Fig. A. Plug Abbreviation: CEE77; Plug Rating: 16 A 250 V. United Kingdom — Fig. B. Plug Abbreviation: BS 1363 with fuse (UK1-13P); Plug Rating: 13 A 250 V. Australia — Fig. C. Plug Abbreviation: AU2-15P; Plug Rating: 15 A 250 V. North America — Fig. D. Plug Abbreviation: 5-15P; Plug Rating: 15 A 125 V.



VA Size	Dimensions			Mounting		Lbs.	European (Schuko) — Fig. A				United Kingdom — Fig. B				Australia — Fig. C				North America — Fig. D			
	H	W	D	MW	MD		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type	EACH		Stock No.	Mfr.'s Type*	EACH	
									1-9	10-49			1-9	10-49			1-9	10-49			1-9	10-49
100	3 1/4	3 1/4	3	2 1/2	1 1/4	4.3	704-0116	TSD-100-EU	56.38	44.54	704-0152	TSD-100-UK	61.58	48.65	704-0100	TSD-100-AU	81.42	64.32	704-0134	TSD-100-NA	55.19	43.60
200	3 1/4	3 1/4	3 1/4	2 1/2	2	4.7	704-0118	TSD-200-EU	63.72	50.34	704-0154	TSD-200-UK	66.22	52.32	704-0102	TSD-200-AU	86.16	66.06	704-0136	TSD-200-NA	60.81	48.04
350	3 1/4	3 1/4	4	2 1/2	2 1/4	6.6	704-0120	TSD-350-EU	65.21	51.52	704-0156	TSD-350-UK	73.99	58.45	704-0104	TSD-350-AU	94.13	74.36	704-0138	TSD-350-NA	69.38	54.81
500	4 1/4	3 1/4	4 1/4	3	3 1/4	10.0	704-0122	TSD-500-EU	88.42	69.85	704-0158	TSD-500-UK	98.50	77.82	704-0106	TSD-500-AU	115.64	91.36	704-0140	TSD-500-NA	91.33	72.15
750	4 1/4	3 1/4	5 1/4	3	4 1/4	13.0	704-0124	TSD-750-EU	104.51	82.56	704-0160	TSD-750-UK	115.52	91.26	704-0107	TSD-750-AU	136.59	107.90	704-0142	TSD-750-NA	107.07	84.59
1000	5 1/2	4 1/4	5 1/4	3 1/2	3 1/4	16.4	704-0126	TSD-1000-EU	125.43	99.09	704-0162	TSD-1000-UK	138.10	109.10	704-0108	TSD-1000-AU	159.13	125.71	704-0144	TSD-1000-NA	164.93	130.30
1500	5 1/2	4 1/4	5 1/4	3 1/2	3 1/4	16.7	704-0128	TSD-1500-EU	202.42	159.91	704-0164	TSD-1500-UK	217.71	171.99	704-0110	TSD-1500-AU	223.86	176.85	704-0146	TSD-1500-NA	211.25	166.89
2000	5 1/2	4 1/4	6 1/4	3 1/2	4 1/4	21.3	704-0130	TSD-2000-EU	232.94	184.02	704-0168	TSD-2000-UK	250.23	197.68	704-0112	TSD-2000-AU	259.87	205.30	704-0148	TSD-2000-NA	218.57	172.67
2500	6 1/4	5 1/4	7 1/4	4 1/4	6	38.0	704-0132	TSD-2500-EU	494.42	390.59	704-0170	TSD-2500-UK	496.97	392.60	704-0114	TSD-2500-AU	530.22	418.87	704-0150	TSD-2500-NA	474.17	374.59

*Please Note: These units will require separate adapters to be purchased for the specific country.

Isolation Transformers/Autoformer



Straight Isolation: 50/60 Hz primary (three conductor line and receptacle).

Stock No.	Mfr.'s Type	Input Volts	Output Volts	VA Cap.	Insul. Test RMS	Style	Size (Inches) H x W x D	Mounting MW x MD	EACH
									1-9
704-9080	23V364	115	115	100	1500	GMV	3 1/2 x 2 1/8 x 3 9/16	2 1/4 x 2 1/8	52.47
704-2365	23V365	115	115	150	1500	GMV	3 1/8 x 3 1/8 x 4 1/8	2 1/2 x 2 1/8	60.74
704-2366	23V366	115	115	250	1500	GMV	4 1/8 x 3 1/4 x 4 1/8	3 x 3 1/8	76.90
704-2367	23V367	115	115	500	1500	GMV	4 1/16 x 3 1/4 x 6	3 x 4 1/8	116.53
704-2368	23V368	115	115	1000	1500	GMV	5 1/2 x 4 1/8 x 8 1/8	3 1/2 x 6 1/2	225.10

Isolation and Step-Down Isolation Transformers: Shielded leads for permanent installation, 2 separate 115 V primary windings, and an electrostatic shield on separate leadwire (not grounded).

704-9090	23V80	115/230	115	35	1500	BAH	2 1/4 x 3 1/16 x 2 1/4	3 1/8	24.05
704-9095	23V551	115/230	115	50	1500	BAH	2 1/4 x 3 1/16 x 2 3/8	3 1/8	21.46

Step-Down Autoformers: 50/60 Hz primary (three conductor line/receptacle except 23V393 with leads).

704-5090	23V393	230	115	50	1500	BAH	2 3/8 x 3 3/4 x 2	3 1/8 x —	14.16
704-5095	23V338	230	115	85	1500	GMV	3 1/8 x 2 3/8 x 2 3/4	2 x 1 3/4	43.65
704-5105	23V292	230	115	250	1500	GMV	3 1/8 x 3 1/8 x 3 5/8	2 1/2 x 2 3/8	69.30
704-5110	23V340	230	115	400	1500	GMV	3 1/8 x 3 1/8 x 4 1/2	2 1/2 x 3 1/8	60.06
704-5115	23V289	230	115	500	1500	GMV	4 1/8 x 3 1/8 x 4 1/4	3 x 3 1/8	79.54
704-5127	23V294	230	115	1000	1500	GMV	5 1/2 x 4 1/8 x 5 1/8	3 1/2 x 3 3/4	127.80
704-5130	23V296	230	115	1500	1500	GMV	5 1/2 x 4 1/8 x 5 7/8	3 1/2 x 4 1/4	187.41

Step-Up Autoformers: 50/60 Hz primary (three conductor line/receptacle except 23V398 with line cord/line cord).

704-5135	23V398	115	230	125	1500	GMV	3 1/8 x 2 3/8 x 3	2 x 2	44.91
704-5140	23V399	115	230	300	1500	GMV	3 1/8 x 3 1/8 x 3 1/8	2 1/2 x 2 3/8	55.51

Control Transformers: Primaries 115/230 volts 50/60 Hz. Solder lug termination with dual secondary windings. insulation test volts RMS @ 1500 V.

Stock No.	Mfr.'s Type	Secondary Each Winding	Output of Two Secondaries		Style	Size (Inches) H x W x D	Mounting MW x MD	EACH
			In Parallel	In Series				1-9
704-9880	23V50	6.0 V @ 1.00 A	6.0 V @ 2.0 A	12 V @ 1.00 A	BHV	2 3/8 x 2 7/8 x 1 11/16	2 3/8 x —	14.75
704-9885	23V51	6.0 V @ 2.00 A	6.0 V @ 4.0 A	12 V @ 2.00 A	BHV	2 3/8 x 3 1/8 x 1 15/16	2 3/8 x —	18.78
704-9890	23V52	12.0 V @ 2.00 A	12.0 V @ 4.0 A	24 V @ 2.00 A	BHV	3 1/8 x 3 1/8 x 2 5/16	3 1/8 x —	13.96
704-9895	23V53	12.0 V @ 4.00 A	12.0 V @ 8.0 A	24 V @ 4.00 A	LHV	3 1/2 x 2 7/8 x 3 1/16	2 1/4 x 2 3/8	33.90
704-5045	23V54	12.0 V @ 8.00 A	12.0 V @ 16.0 A	24 V @ 8.00 A	LHV	4 1/16 x 3 1/2 x 3 3/8	2 3/4 x 3	57.28
704-5050	23V388	24.0 V @ 0.25 A	24.0 V @ 0.5 A	48 V @ 0.25 A	BHV	2 3/8 x 2 7/8 x 1 1/4	2 3/8 x —	17.83
704-5055	23V389	24.0 V @ 0.50 A	24.0 V @ 1.0 A	48 V @ 0.50 A	BHV	2 3/8 x 3 1/8 x 2	2 3/8 x —	17.52
704-5060	23V390	24.0 V @ 1.00 A	24.0 V @ 2.0 A	48 V @ 1.00 A	BHV	3 1/8 x 3 1/8 x 2 3/8	3 1/8 x —	19.72
704-5065	23V391	24.0 V @ 2.00 A	24.0 V @ 4.0 A	48 V @ 2.00 A	LHV	3 7/16 x 2 7/8 x 3 1/8	2 1/4 x 2 1/4	34.32
704-5070	23V392	24.0 V @ 4.00 A	24.0 V @ 8.0 A	48 V @ 4.00 A	LHV	4 1/16 x 3 1/2 x 3 3/4	2 3/4 x 3	48.90

Mini-ISO-Mites

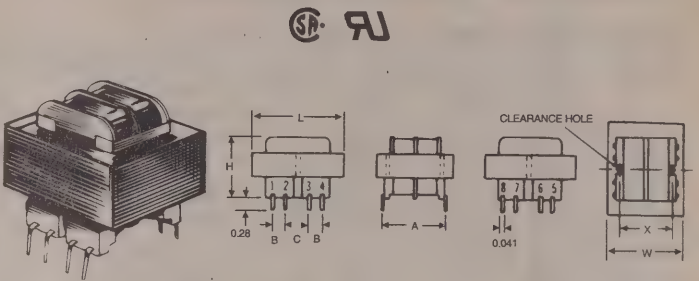
The Mini-ISO-Mites are low voltage, plug-in, power transformers. 8-pin dual 115/230 V primaries and secondaries are wound non-concentrically meaning, side by side. This construction results in smaller units and eliminates the need for costly electro-static shielding. Highly isolated units with 2500 HIPOT standard and are built to MIL-T-27 specifications.

VA Size	H	L	W	X	A	B	C	Wt.
1.1	0.9375	1.375	1.1250	—	1.200	.250	.250	0.17
2.4	1.1875	1.375	1.1250	—	1.200	.250	.250	0.25
6.0	1.3125	1.625	1.3125	1.0625	1.280	.250	.350	0.44
12.0	1.4375	1.875	1.5625	1.2500	1.410	.300	.400	0.70
20.0	1.5000	2.250	1.8750	1.5000	1.600	.300	.400	0.80
36.0	1.5625	2.625	2.1875	—	1.850	.400	.400	1.10

*36 VA Size has 4 mounting holes on 2 5/16 x 1 1/4 centers.

115 V/230 V PRI. All Sizes Are Available With Single, 115 V Primary.

Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings		EACH		
			Series	Parallel	1-9	10-24	25-49
704-0420	MIM 420	2.4	10.0 V.C.T. @ 0.250 A	5.0 V @ 0.50 A	10.58	8.21	7.58
704-0520	MIM 520	6.0	10.0 V.C.T. @ 0.600 A	5.0 V @ 1.20 A	16.23	13.65	11.74
704-0620	MIM 620	12.0	10.0 V.C.T. @ 1.200 A	5.0 V @ 2.40 A	19.24	14.67	12.70
704-0721	MIM 721	20.0	10.0 V.C.T. @ 2.000 A	5.0 V @ 4.00 A	21.74	16.53	14.11
704-0821	MIM 821	36.0	10.0 V.C.T. @ 3.600 A	5.0 V @ 7.20 A	26.28	22.06	19.00
704-0422	MIM 422	2.4	12.6 V.C.T. @ 0.200 A	6.3 V @ 0.40 A	15.86	13.56	11.47
704-0522	MIM 522	6.0	12.6 V.C.T. @ 0.500 A	6.3 V @ 1.00 A	15.90	13.87	11.74
704-0622	MIM 622	12.0	12.6 V.C.T. @ 1.000 A	6.3 V @ 2.00 A	17.56	15.00	12.70
704-0723	MIM 723	20.0	12.6 V.C.T. @ 1.600 A	6.3 V @ 3.20 A	19.51	16.67	14.11
704-0823	MIM 823	36.0	12.6 V.C.T. @ 2.850 A	6.3 V @ 5.70 A	26.28	22.46	19.00
704-0424	MIM 424	2.4	16.0 V.C.T. @ 0.150 A	8.0 V @ 0.30 A	15.08	13.56	11.47
704-0524	MIM 524	6.0	16.0 V.C.T. @ 0.400 A	8.0 V @ 0.80 A	15.90	13.87	11.74
704-0624	MIM 624	12.0	16.0 V.C.T. @ 0.800 A	8.0 V @ 1.60 A	16.98	15.00	12.70
704-0725	MIM 725	20.0	16.0 V.C.T. @ 1.250 A	8.0 V @ 2.50 A	18.34	16.67	14.11
704-0825	MIM 825	36.0	16.0 V.C.T. @ 2.250 A	8.0 V @ 4.50 A	25.21	22.46	19.00
704-0426	MIM 426	2.4	20.0 V.C.T. @ 0.120 A	10.0 V @ 0.24 A	15.22	13.56	11.47
704-0526	MIM 526	6.0	20.0 V.C.T. @ 0.300 A	10.0 V @ 0.60 A	15.57	13.87	11.47
704-0626	MIM 626	12.0	20.0 V.C.T. @ 0.600 A	10.0 V @ 1.20 A	17.18	15.00	12.70
704-0727	MIM 727	20.0	20.0 V.C.T. @ 1.000 A	10.0 V @ 2.00 A	18.71	16.67	14.11
704-0827	MIM 827	36.0	20.0 V.C.T. @ 1.800 A	10.0 V @ 3.60 A	25.21	22.46	19.00
704-0428	MIM 428	2.4	24.0 V.C.T. @ 0.100 A	12.0 V @ 0.20 A	15.22	13.56	11.47
704-0528	MIM 528	6.0	24.0 V.C.T. @ 0.250 A	12.0 V @ 0.50 A	15.57	13.87	11.74
704-0628	MIM 628	12.0	24.0 V.C.T. @ 0.500 A	12.0 V @ 1.00 A	17.18	15.00	12.70
704-0729	MIM 729	20.0	24.0 V.C.T. @ 0.800 A	12.0 V @ 1.60 A	19.10	16.67	14.11
704-0829	MIM 829	36.0	24.0 V.C.T. @ 1.500 A	12.0 V @ 3.00 A	25.21	22.46	19.00

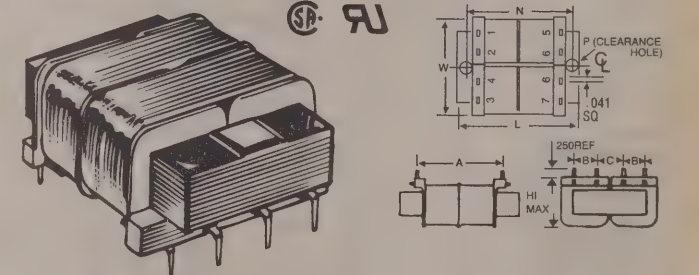


Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings		EACH		
			Series	Parallel	1-9	10-24	25-49
704-0430	MIM 430	2.4	28.0 V.C.T. @ 0.085 A	14.0 V @ 0.17 A	15.86	13.56	11.47
704-0530	MIM 530	6.0	28.0 V.C.T. @ 0.200 A	14.0 V @ 0.40 A	16.23	13.86	11.74
704-0630	MIM 630	12.0	28.0 V.C.T. @ 0.420 A	14.0 V @ 0.84 A	17.56	15.00	12.70
704-0731	MIM 731	20.0	28.0 V.C.T. @ 0.700 A	14.0 V @ 1.40 A	19.51	16.67	14.11
704-0831	MIM 831	36.0	28.0 V.C.T. @ 1.300 A	14.0 V @ 2.60 A	26.28	24.46	19.00
704-0432	MIM 432	2.4	36.0 V.C.T. @ 0.065 A	18.0 V @ 0.13 A	15.86	13.56	11.47
704-0532	MIM 532	6.0	36.0 V.C.T. @ 0.170 A	18.0 V @ 0.34 A	16.23	13.87	11.74
704-0632	MIM 632	12.0	36.0 V.C.T. @ 0.350 A	18.0 V @ 0.70 A	17.56	15.00	12.70
704-0733	MIM 733	20.0	36.0 V.C.T. @ 0.550 A	18.0 V @ 1.10 A	19.51	16.67	14.10
704-0833	MIM 833	36.0	36.0 V.C.T. @ 1.000 A	18.0 V @ 2.00 A	26.28	22.46	19.00
704-0434	MIM 434	2.4	48.0 V.C.T. @ 0.050 A	24.0 V @ 0.10 A	15.86	13.56	11.47
704-0534	MIM 534	6.0	48.0 V.C.T. @ 0.125 A	24.0 V @ 0.25 A	16.23	13.87	11.74
704-0634	MIM 634	12.0	48.0 V.C.T. @ 0.250 A	24.0 V @ 0.50 A	17.56	15.00	12.70
704-0735	MIM 735	20.0	48.0 V.C.T. @ 0.400 A	24.0 V @ 0.80 A	19.51	16.67	14.11
704-0835	MIM 835	36.0	48.0 V.C.T. @ 0.750 A	24.0 V @ 1.50 A	26.28	22.46	19.00
704-0436	MIM 436	2.4	56.0 V.C.T. @ 0.045 A	28.0 V @ 0.09 A	15.86	13.56	11.47
704-0536	MIM 536	6.0	56.0 V.C.T. @ 0.110 A	28.0 V @ 0.22 A	16.23	13.86	11.74
704-0636	MIM 636	12.0	56.0 V.C.T. @ 0.220 A	28.0 V @ 0.44 A	17.56	15.00	12.70
704-0737	MIM 737	20.0	56.0 V.C.T. @ 0.350 A	28.0 V @ 0.70 A	19.51	16.67	14.11
704-0837	MIM 837	36.0	56.0 V.C.T. @ 0.650 A	28.0 V @ 1.30 A	26.28	22.46	19.00
704-0438	MIM 438	2.4	120.0 V.C.T. @ 0.020 A	60.0 V @ 0.04 A	15.86	13.56	11.47
704-0538	MIM 538	6.0	120.0 V.C.T. @ 0.050 A	60.0 V @ 0.10 A	16.23	13.87	11.74
704-0638	MIM 638	12.0	120.0 V.C.T. @ 0.100 A	60.0 V @ 0.20 A	17.56	15.00	12.70
704-0739	MIM 739	20.0	120.0 V.C.T. @ 0.160 A	60.0 V @ 0.32 A	19.51	16.67	14.11
704-0839	MIM 839	36.0	120.0 V.C.T. @ 0.300 A	60.0 V @ 0.60 A	26.28	22.46	19.00

Flat Compact Series

Use where space is critical. For single or dual output DC supplies and isolated control circuits and reference supplies. Incorporates non-concentric windings which means the secondary is located next to the primary instead of being wound directly over it. Dual primaries for 115/230 VAC, 50/60 Hz, 1500 V (RMS) HIPOT. Hum-bucking (semitoroidal) construction diminishes radiated magnetic field and balanced windings.

VA Size	L	W	H	A	B	C	N	P	Oz.
2.4	1.875	1.562	0.650	1.60	.375	.375	—	—	5
6.0	1.875	1.562	0.850	1.60	.375	.375	—	—	7
12.0	2.500	2.000	1.065	2.00	.500	.500	—	—	11
24.0	2.875	2.250	1.250	1.90	.600	.530	2.41	Clearance Hole for #4 Screw	15
48.0	3.125	2.500	1.375	2.18	.600	.660	2.62	Clearance Hole for #6 Screw	21



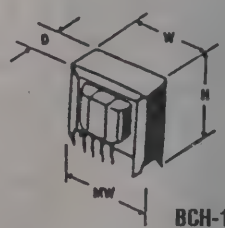
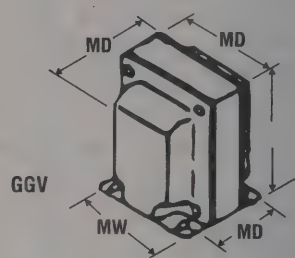
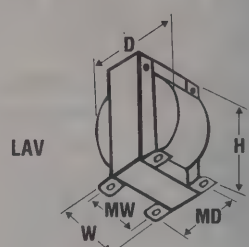
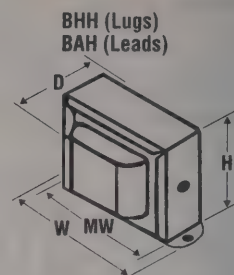
Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings		EACH		
			Series	Parallel	1-9	10-24	25-49
704-0200	PFC200	2.4	10.0 V.C.T. @ 0.250 A	5.0 V @ 0.500 A	18.65	16.62	14.06
704-0202	PFC202	6.0	10.0 V.C.T. @ 0.600 A	5.0 V @ 1.200 A	18.11	16.43	13.90
704-0204	PFC204	12.0	10.0 V.C.T. @ 1.200 A	5.0 V @ 2.400 A	19.57	17.43	14.75
704-0206	PFC206	24.0	10.0 V.C.T. @ 2.400 A	5.0 V @ 4.800 A	25.71	22.90	19.38
704-0208	PFC208	48.0	10.0 V.C.T. @ 4.800 A	5.0 V @ 9.600 A	27.98	24.93	21.09
704-0210	PFC210	2.4	12.6 V.C.T. @ 0.200 A	6.3 V @ 0.400 A	18.65	16.62	14.06
704-0212	PFC212	6.0	12.6 V.C.T. @ 0.450 A	6.3 V @ 0.900 A	18.11	16.43	13.90
704-0214	PFC214	12.0	12.6 V.C.T. @ 0.900 A	6.3 V @ 1.800 A	19.57	17.43	14.75
704-0216	PFC216	24.0	12.6 V.C.T. @ 1.800 A	6.3 V @ 3.600 A	25.71	22.90	19.38
704-0218	PFC218	48.0	12.6 V.C.T. @ 3.600 A	6.3 V @ 7.200 A	27.98	24.93	21.09
704-0220	PFC220	2.4	16.0 V.C.T. @ 0.150 A	8.0 V @ 0.300 A	16.65	16.62	14.06
704-0222	PFC222	6.0	16.0 V.C.T. @ 0.350 A	8.0 V @ 0.700 A	18.44	16.43	13.90
704-0224	PFC224	12.0	16.0 V.C.T. @ 0.700 A	8.0 V @ 1.400 A	18.44	16.43	13.90
704-0226	PFC226	24.0	16.0 V.C.T. @ 1.500 A	8.0 V @ 3.000 A	26.80	22.90	19.38
704-0228	PFC228	48.0	16.0 V.C.T. @ 3.000 A	8.0 V @ 6.000 A	29.17	24.93	21.09
704-0230	PFC230	2.4	20.0 V.C.T. @ 0.125 A	10.0 V @ 0.250 A	19.45	16.62	14.06
704-0232	PFC232	6.0	20.0 V.C.T. @ 0.300 A	10.0 V @ 0.600 A	19.43	16.43	13.90
704-0234	PFC234	12.0	20.0 V.C.T. @ 0.600 A	10.0 V @ 1.200 A	20.40	17.43	14.75
704-0236	PFC236	24.0	20.0 V.C.T. @ 1.200 A	10.0 V @ 2.400 A	26.80	22.90	19.38
704-0238	PFC238	48.0	20.0 V.C.T. @ 2.400 A	10.0 V @ 4.800 A	29.17	24.93	21.09
704-0240	PFC240	2.4	24.0 V.C.T. @ 0.100 A	12.0 V @ 0.200 A	19.45	16.62	14.06
704-0242	PFC242	6.0	24.0 V.C.T. @ 0.250 A	12.0 V @ 0.500 A	19.23	16.43	13.90
704-0244	PFC244	12.0	24.0 V.C.T. @ 0.500 A	12.0 V @ 1.000 A	20.40	17.43	14.75
704-0246	PFC246	24.0	24.0 V.C.T. @ 1.000 A	12.0 V @ 2.000 A	26.80	22.90	19.38
704-0248	PFC248	48.0	24.0 V.C.T. @ 2.000 A	12.0 V @ 4.000 A	29.17	24.93	21.09
704-0190	PFC190	2.4	30.0 V.C.T. @ 0.085 A	15.0 V @ 0.170 A	19.45	16.62	14.06
704-0192	PFC192	6.0	30.0 V.C.T. @ 0.200 A	15.0 V @ 0.400 A	19.50	16.66	14.10

Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings		EACH		
			Series	Parallel	1-9	10-24	25-49
704-0294	PFC294	12.0	30.0 V.C.T. @ 0.400 A	15.0 V @ 0.800 A	20.40	17.43	14.75
704-0296	PFC296	24.0	30.0 V.C.T. @ 0.800 A	15.0 V @ 1.600 A	26.80	22.90	19.38
704-0298	PFC298	48.0	30.0 V.C.T. @ 1.600 A	15.0 V @ 3.200 A	29.17	24.93	21.09
704-0250	PFC250	2.4	34.0 V.C.T. @ 0.075 A	17.0 V @ 0.150 A	19.45	16.62	14.06
704-0252	PFC252	6.0	34.0 V.C.T. @ 0.170 A	17.0 V @ 0.340 A	19.23	16.43	13.90
704-0254	PFC254	12.0	34.0 V.C.T. @ 0.340 A	17.0 V @ 0.680 A	20.40	17.43	14.75
704-0256	PFC256	24.0	34.0 V.C.T. @ 0.700 A	17.0 V @ 1.400 A	26.80	22.90	19.38
704-0258	PFC258	48.0	34.0 V.C.T. @ 1.400 A	17.0 V @ 2.800 A	29.17	24.93	21.09
704-0260	PFC260	2.4	40.0 V.C.T. @ 0.060 A	20.0 V @ 0.120 A	19.45	16.62	14.06
704-0262	PFC262	6.0	40.0 V.C.T. @ 0.150 A	20.0 V @ 0.300 A	19.23	16.43	13.90
704-0264	PFC264	12.0	40.0 V.C.T. @ 0.300 A	20.0 V @ 0.600 A	20.40	17.43	14.75
704-0266	PFC266	24.0	40.0 V.C.T. @ 0.600 A	20.0 V @ 1.200 A	26.80	22.90	19.38
704-0268	PFC268	48.0	40.0 V.C.T. @ 1.200 A	20.0 V @ 2.400 A	29.17	24.93	21.09
704-0270	PFC270	2.4	56.0 V.C.T. @ 0.045 A	28.0 V @ 0.090 A	19.66	16.62	14.06
704-0272	PFC272	6.0	56.0 V.C.T. @ 0.100 A	28.0 V @ 0.200 A	19.23	16.43	13.90
704-0274	PFC274	12.0	56.0 V.C.T. @ 0.200 A	28.0 V @ 0.400 A	20.40	17.43	14.75
704-0276	PFC276	24.0	56.0 V.C.T. @ 0.425 A	28.0 V @ 0.850 A	26.80	22.90	19.38
704-0278	PFC278	48.0	56.0 V.C.T. @ 0.850 A	28.0 V @ 1.700 A	29.17	24.93	21.09
704-0280	PFC280	2.4	88.0 V.C.T. @ 0.028 A	44.0 V @ 0.056 A	19.45	16.62	14.06
704-0282	PFC282	6.0	88.0 V.C.T. @ 0.065 A	44.0 V @ 0.130 A	19.23	16.43	13.90
704-0284	PFC284	12.0	88.0 V.C.T. @ 0.130 A	44.0 V @ 0.260 A	20.40	17.43	14.75
704-0290	PFC290	2.4	120.0 V.C.T. @ 0.020 A	60.0 V @ 0.040 A	19.66	16.62	14.06
704-0292	PFC292	6.0	120.0 V.C.T. @ 0.050 A	60.0 V @ 0.100 A	18.94	16.43	13.90
704-0324	PFC324	12.0	120.0 V.C.T. @ 0.100 A	60.0 V @ 0.200 A	20.40	17.43	14.75
704-0300	PFC300	2.4	230.0 V.C.T. @ 0.010 A	115.0 V @ 0.020 A	19.45	16.62	14.06
704-0302	PFC302	6.0	230.0 V.C.T. @ 0.025 A	115.0 V @ 0.050 A	18.94	16.43	13.90
704-0334	PFC334	12.0	230.0 V.C.T. @ 0.050 A	115.0 V @ 0.100 A	20.40	17.43	14.75

Filament/Low Power and Audio Transformers

Filament/Low Power Transformers — With Color Coded Leads

Stock No.	Mfr.'s Type	Secondary		Primary Volts	Fig.	Size (In.)			MW	MD	EACH
		Volts	Amps			H	W	D			
704-6000	21F13	5.0 C.T.	10.000	117	LAV	3 1/8	2 9/16	3 1/8	2	2 5/8	42.56
704-2005	26F73	6.3 C.T.	0.300	117	BAH	1 1/4	2 1/8	1 3/8	1 3/4	—	11.11
704-2007	21F162	6.3 C.T.	0.600	117	BAH	1 3/8	2 3/8	1 7/16	2	—	10.09
704-2009	21F143	6.3 C.T.	1.000	117	BAH	1 5/8	2 7/8	1 5/8	2 3/8	—	10.53
704-2012	26F60	6.3	1.200	117	BAH	2	3 1/4	2 1/4	2 13/16	—	17.21
704-2011	21F09	6.3 C.T.	1.200	117	BAH	1 5/8	2 7/8	1 5/8	2 3/8	—	11.11
704-2013	21F10	6.3 C.T.	3.000	117	BAH	2	3 1/4	2 1/8	2 13/16	—	15.15
704-6010	21F204	6.3 C.T.	5.000	115	BAH	2 3/8	3 3/4	2 1/4	3 1/8	—	22.35
704-2022	21F25	6.3 C.T.	20.000	107/117	LAV	4 9/16	3 13/16	3 3/8	3	2 3/8	55.34
704-6015	21F45	7.5 C.T.	4.000	117	LAV	3 1/8	2 9/16	2 11/16	2	2 1/8	32.47
704-6020	21F205	10.0 C.T.	1.000	117	BAH	2	3 1/4	1 5/8	2 13/16	—	16.96
704-6030	21F207	10.0 C.T.	4.000	117	BAH	2 5/8	4	2 1/4	3 9/16	—	23.67
704-6040	21F209	10.0 C.T.	8.000	117	LAV	3 7/16	2 13/16	3 1/8	2 1/4	2 1/2	30.92
704-9810	23V252	12.0	0.150	117	BAH	1 1/4	2 1/16	1 1/4	1 3/4	—	10.04
704-9815	23V253	12.0	0.350	117	BAH	1 3/8	2 3/8	1 7/16	2	—	10.58
704-9820	23V254	12.0	0.700	117	BAH	1 5/8	2 13/16	1 5/8	2 3/8	—	10.75
704-9825	23V255	12.0	1.200	117	BAH	2	3 1/4	1 3/4	2 13/16	—	13.37
704-9830	23V415	12.0	2.000	117	BAH	2	3 1/4	2 1/8	2 13/16	—	15.28
704-6047	23V416	12.0	4.000	117	BAH	2 5/8	4	2 1/4	3 9/16	—	21.33
704-6045	23V417	12.0	6.000	117	LAV	3 7/16	2 13/16	2 5/8	2 1/4	2 1/8	31.32
704-6050	23V418	12.0	8.000	117	LAV	3 13/16	3 1/8	2 3/4	2 1/2	2 1/8	33.20
704-2028	26F72	12.6 C.T.	1.000	117	BAH	2	3 1/4	1 3/4	2 13/16	—	12.71
704-2029	21F149	12.6 C.T.	1.500	117	BAH	2	3 1/4	2	2 13/16	—	21.08
704-2030	26F67	12.6 C.T.	2.000	117	BAH	2	3 1/4	2 1/8	2 13/16	—	14.44
704-2033	21F150	12.6 C.T.	3.000	117	BAH	2 1/4	3 11/16	2 1/4	3 1/8	—	19.02
704-2034	21F193	12.6 C.T.	4.000	117	BAH	2 5/8	4	2 3/8	3 9/16	—	24.69
704-6055	21F194	12.6 C.T.	6.000	117	GGV	3 1/2	2 13/16	3 3/8	2 1/4	2 1/8	46.40
704-6060	21F196	12.6 C.T.	10.000	117	GGV	4 1/4	3 1/16	3 7/8	2 3/4	2 11/16	62.44
704-6065	23V470	14.0 C.T.	1.000	115	BAH	2	3 1/4	1 3/4	2 13/16	—	14.64
704-6070	23V526	14.0 C.T.	4.000	115	LAV	3	2 1/2	2 5/8	2	2 1/4	24.76
704-6075	23V545	18.0 C.T.	2.000	115	BAH	2 1/4	3 11/16	2 1/4	3 1/8	—	19.04
704-2036	26F68	24.0	1.000	117	BAH	2	3 1/4	2 1/8	2 13/16	—	13.14
704-9840	23V256	24.0 C.T.	0.085	117	BAH	1 1/4	2 1/16	1 1/2	1 3/4	—	11.44
704-9845	23V257	24.0 C.T.	0.200	117	BAH	1 3/8	2 3/8	1 1/2	2	—	11.29
704-9850	23V258	24.0 C.T.	0.400	117	BAH	1 5/8	2 13/16	1 5/8	2 3/8	—	12.74
704-9855	23V259	24.0 C.T.	0.700	117	BAH	2	3 1/4	1 3/4	2 13/16	—	13.40
704-6085	23V404	24.0 C.T.	0.700	230	BAH	2	3 1/4	1 3/4	2 13/16	—	17.69
704-2035	21F84	24.0 C.T.	1.000	115	BAH	2	3 1/4	2 1/8	2 13/16	—	13.70
704-2037	21F181	24.0 C.T.	1.000	115/230	BAH	2	3 5/16	2 1/8	2 13/16	—	15.05
704-9860	23V478	24.0 C.T.	2.000	115	BAH	2 5/8	4	2 3/8	3 9/16	—	19.83
704-6090	23V419	24.0 C.T.	4.000	117	LAV	3 13/16	3 1/8	2 13/16	2 1/2	2 1/8	32.19
704-6095	23V420	24.0 C.T.	6.000	117	LAV	4 3/16	3 7/16	3	2 3/4	2 1/4	43.78
704-9421	23V421	24.0 C.T.	8.000	117	LAV	4 3/16	3 7/16	3 7/16	2 3/4	2 3/4	55.37
704-6100	23V422	24.0 C.T.	12.000	117	LAV	4 9/16	3 3/4	4 5/8	3	3 1/4	77.90
704-2039	21F51	25.2	1.000	117	BAH	2	3 1/4	2 1/8	2 13/16	—	15.18
704-2040	21F142	25.2 C.T.	1.000	117	BAH	2	3 1/4	2 1/8	2 13/16	—	13.68
704-2041	21F83	25.2 C.T.	2.000	115	BAH	2 5/8	4	2 1/4	3 9/16	—	18.15
704-6105	21F180	25.2 C.T.	2.000	115/230	BAH	2 5/8	4	2 1/4	3 9/16	—	20.34
704-2042	21F114	25.2 C.T.	3.000	117	BAH	2 5/8	4	2 3/8	3 9/16	—	22.32
704-6110	21F197	25.2 C.T.	5.000	117	GGV	4 1/4	3 7/16	3 7/8	2 3/4	2 11/16	57.56
704-2044	21F27	26.5 C.T.	0.600	117	BAH	2	3 1/4	2 1/8	2 13/16	—	15.05



Audio Transformer: Output — Single Plate to Voice Coil and/or Line 25 Volt Line to Voice Coil (Speaker). Lug Termination.

Stock No.	Mfr.'s Type	Impedance in Ohms		Audio Watts	Overall Turns Ratio	Pri. Ohms	Sec. Ohms	Freq. Response +3 dB	RMS Test Volts	Style	Size (In.) H x W x D	MW	EACH
		Primary	Secondary										
704-9135	24S24	125/250/500/1000/2000	4/8	5/2.5/1.25/0.63/0.31	15.8:1	120	.60	30-20000	1000	BHH	1 3/8 x 2 3/8 x 1 3/8	2	22.93

Audio Transformer: 70.7 Volt Line to Voice Coil (Speaker). Lug Termination.

704-9155	24S74	1000/2000/4000/8000/16000	4/8	5/2.5/1.25/0.62/0.31	44.7:1	860	.60	50-20000	1000	BHH	1 3/8 x 2 3/8 x 1 1/2	2	28.16
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Filter Chokes: Swinging, Smoothing, and High Current. Listed in order of M.A.D.C., with leads.

Stock No.	Mfr.'s Type	Inductance Henries	DCMA	DC Res. Ohms	RMS Test Volts	Style	Size (In.) H x W x D	MW x MD	EACH
704-9105	TR-153	3.0 mH	1.00 A	0.250	1000	BCH-1	1 1/4 x 1 1/2 x 1	1 1/4 x 7/16	8.09
704-9125	20C02	10.0 mH	8.00 A	0.150	1500	LAH	3 1/4 x 3 3/4 x 3 3/16	3 1/8 x 2 1/2	37.17
704-9803	20C03	10.0 mH	12.00 A	0.110	1500	LAH	3 7/16 x 4 1/8 x 3	3 7/16 x 2 3/8	45.00

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Heat Shrinkable Tubing

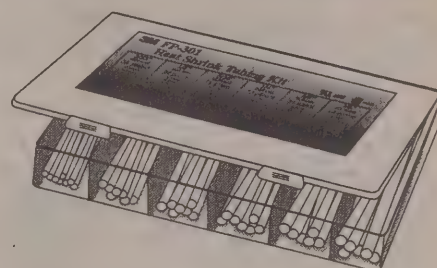


FP-301 Multi-Purpose Flexible Polyolefin Heat Shrink Tubing

FP-301 offers an excellent balance of physical, electrical and chemical properties for protecting a wide variety of electronic, electrical, and mechanical applications, such as cable splices, wire marking, harness covering, strain relief, and component packaging. Meets UL/CSA requirements for flame retardance (except Clear), 2:1 shrink ratio, rated for -55°C to +135°C (+275°F) and 600 V continuous operation. Meets MIL-I-23053/5 Class 1 or 2 requirements. **Minimum Shrink Temperature:** 121°C. **Colors Available:** 1-Black, 4-Clear (available in all put-ups), 2-Red, 3-White, 5-Yellow, 6-Blue, 7-Green (available in selected sizes of 4-foot lengths and in color assortments). Insert the color number where N appears in the stock number. UL E39100, CSA LR38227.



3M FP-301 Heat Shrink Tubing Kit



Kit contains over 66 feet of tubing; total of 133 pieces of 6 inch lengths. Seven different colors: Black, red, white, yellow, blue, green, and clear. Kit contains the following sizes: 3/32" (5 of each color), 1/8" (4 of each color), 3/16" (3 of each color), 1/4" (3 of each color), 3/8" (2 of each color), 1/2" (2 of each color).

617-8800. FP301 Tubing Kit. EACH 53.14

FP-301VW Highly Flame Retardant Flexible Polyolefin Heat Shrink Tubing

FP-301VW offers the same physical, electrical, and chemical properties as FP-301 with an additional level of flame retardant to meet the requirements of UL VW-1, CSA OFT, and MIL-I-23053/5 Class 3. Black only. Comes printed with UL/CSA information. UL E39100, CSA LR38227.

Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	48" Lengths			6" Lengths		
				Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
FP-301VW 3/32"	.046	.023	.016	100'	617-0720	17.84	20'	617-0750	7.77
FP-301VW 1/8"	.063	.031	.017	100'	617-0722	18.20	19'	617-0752	7.77
FP-301VW 3/32"	.093	.046	.020	100'	617-0724	20.65	18'	617-0754	7.77
FP-301VW 1/4"	.125	.062	.020	100'	617-0726	21.94	17'	617-0756	7.77
FP-301VW 3/8"	.187	.093	.020	100'	617-0728	26.52	15'	617-0758	7.77
FP-301VW 1/2"	.250	.125	.025	48'	617-0730	16.75	13'	617-0760	7.77
FP-301VW 3/4"	.375	.187	.025	48'	617-0732	18.67	12'	617-0762	7.77
FP-301VW 1"	.500	.250	.025	48'	617-0734	20.19	10'	617-0764	7.77
FP-301VW 1 1/2"	.750	.375	.030	48'	617-0736	27.12	7'	617-0766	7.77
FP-301VW 2"	1.000	.500	.035	20'	617-0738	15.79	5'	617-0768	7.77
FP-301VW 2 1/2"	1.500	.750	.040	20'	617-0740	29.42	3'	617-0770	7.77
FP-301VW 3"	2.000	1.000	.045	20'	617-0742	40.64	2'	617-0772	7.77
FP-301VW 3 1/2"	3.000	1.500	.050	8'	617-0744	32.79	1.5'	617-0774	7.77
FP-301VW 4"	4.000	2.000	.055	8'	617-0746	42.60	1'	617-0776	7.77

Assortment Packs

FP-301 Size Assortments. 6" pieces. Black Only.

Stock No.	Mfr.'s Type	Sizes	Description	PER PACK
617-0250	3/32-3/8 AST	3/32"-3/8"	6 pcs. each of 5 sizes	7.55
617-0252	1/4-3/4 AST	1/4"-3/4"	4 pcs. each of 4 sizes	7.55
617-0254	1-4 AST	1"-4"	2 pcs. each of 5 sizes	18.12

FP-301VW Size Assortments. 6" pieces. Black Only.

617-0280	3/32-3/8 AST	3/32"-3/8"	6 pcs. each of 5 sizes	7.77
617-0282	1/4-3/4 AST	1/4"-3/4"	4 pcs. each of 4 sizes	7.77
617-0284	1-4 AST	1"-4"	2 pcs. each of 5 sizes	18.64

FP-301 Color Assortments. 6" pieces. 7 colors per pack. Colors: black, clear, white, red, yellow, blue, green.

Stock No.	Mfr.'s Type	Description	PER PACK	Stock No.	Mfr.'s Type	Description	PER PACK
617-0260	3/32" Color AST	5 pcs. per color	7.55	617-0266	1/4" Color AST	3 pcs. per color	7.55
617-0262	1/8" Color AST	4 pcs. per color	7.55	617-0268	3/8" Color AST	2 pcs. per color	7.55
617-0264	3/16" Color AST	3 pcs. per color	7.55	617-0270	1/2" Color AST	2 pcs. per color	7.55

VFP-876 Very Flexible Low Shrink Temperature Polyolefin Heat Shrink Tubing

VFP-876 offers the same physical, electrical, and chemical properties as FP-301 with two additional features: 100°C shrink temperature (versus 121°C) to minimize damage on temperature sensitive components, and extra flexibility for insulating flexible wire bundles. Meets MIL-R-46846 Type V. Black only. UL E39100, CSA LR38227.

Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	48" Lengths			6" Lengths		
				Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
VFP-876 3/32"	.046	.023	.016	100'	617-0780	22.87	20'	617-0810	7.27
VFP-876 1/8"	.063	.031	.017	100'	617-0782	24.44	19'	617-0812	7.27
VFP-876 3/32"	.093	.046	.020	100'	617-0784	24.92	18'	617-0814	7.27
VFP-876 1/4"	.125	.062	.020	100'	617-0786	26.85	17'	617-0816	7.27
VFP-876 3/8"	.187	.093	.020	100'	617-0788	32.55	15'	617-0818	7.27
VFP-876 1/2"	.250	.125	.025	48'	617-0790	20.00	13'	617-0820	7.27
VFP-876 3/4"	.375	.187	.025	48'	617-0792	22.29	12'	617-0822	7.27
VFP-876 1"	.500	.250	.025	48'	617-0794	26.59	10'	617-0824	7.27
VFP-876 1 1/2"	.750	.375	.030	48'	617-0796	33.52	7'	617-0826	7.27
VFP-876 2"	1.000	.500	.035	20'	617-0798	20.69	5'	617-0828	7.27
VFP-876 2 1/2"	1.500	.750	.040	20'	617-0800	34.67	3'	617-0830	7.27
VFP-876 3"	2.000	1.000	.045	20'	617-0802	46.74	2'	617-0832	7.27

SR-350 Semi-Rigid Polyolefin Heat Shrink Tubing

SR-350 offers superior cut through and abrasion resistance as well as excellent physical, electrical, and chemical properties. Used for strain relief and insulating mechanically weak or susceptible points such as solder joints, wire splices and terminations. Printed easily, 2:1 shrink ratio, UL recognized for flame retardance and 600V, -55°C to +135°C continuous operating temperature, meets MIL-I-23053/6. Black only. UL E39100.

Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	48" Lengths			6" Lengths		
				Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
SR-350 3/32"	.046	.023	.020	100'	617-0840	33.25	20'	617-0860	8.69
SR-350 1/8"	.063	.031	.020	100'	617-0842	34.42	19'	617-0862	8.69
SR-350 3/32"	.093	.046	.020	100'	617-0844	39.07	18'	617-0864	8.69
SR-350 1/4"	.125	.062	.020	100'	617-0846	40.75	17'	617-0866	8.69
SR-350 3/8"	.187	.093	.020	100'	617-0848	46.59	15'	617-0868	8.69
SR-350 1/2"	.250	.125	.020	48'	617-0850	28.44	13'	617-0870	8.69
SR-350 3/4"	.375	.187	.020	48'	617-0852	28.15	12'	617-0872	8.69

EPS-200 Adhesive Lined, 2:1, Flexible Polyolefin Heat Shrink Tubing

EPS-200 features one step environmental protection of electronic, electrical, automotive and marine wiring. As the flame retardant, flexible polyolefin outer wall shrinks to a skin-tight fit, the hot melt adhesive is pushed into voids and crevices. Upon cooling the adhesive solidifies and bonds to form a permanent moisture proof barrier. 2:1 shrink ratio, jacket meets UL 224 all tubing flame test, -55°C to +100°C continuous operating temperature, meets MIL-I-23053/6 Class 2. Black only.

Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	48" Lengths			6" Lengths		
				Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
EPS-200 1/8"	.125	.062	.027	100'	617-0875	64.45	14'	617-0885	12.75
EPS-200 3/32"	.187	.093	.027	48'	617-0876	33.69	12'	617-0886	12.75
EPS-200 1/4"	.250	.125	.030	48'	617-0877	42.65	10'	617-0887	12.75
EPS-200 3/8"	.375	.187	.031	48'	617-0878	42.45	8'	617-0888	12.75
EPS-200 1/2"	.500	.250	.032	48'	617-0879	54.55	7'	617-0889	12.75
EPS-200 3/4"	.750	.375	.037	20'	617-0880	31.09	6'	617-0890	12.75
EPS-200 1"	1.000	.500	.046	20'	617-0881	45.69	4'	617-0891	12.75
EPS-200 1 1/2"	1.500	.750	.049	20'	617-0882	79.92	3'	617-0892	12.75
EPS-200 2"	2.000	1.000	.060	8'	617-0883	51.15	1'	617-0893	12.75

MW Adhesive Lined, 2.5:1, Semi-Rigid Polyolefin Heat Shrink Tubing

MW encapsulates and seals in one step in the same way as EPS-200. Semi-rigid outer wall gives superior abrasion and cut-through resistance. 2.5:1 shrink ratio, -55°C to +100°C continuous operating temperature, meets MIL-I-23053/6 Class 1. Black only.

Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	48" Lengths			6" Lengths		
				Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
MW 1/8"	.125	.023	.038	100'	617-0900	82.80	14'	617-0910	15.94
MW 3/32"	.187	.060	.043	48'	617-0901	48.95	12'	617-0911	15.94
MW 1/4"	.250	.080	.047	48'	617-0902	60.74	10'	617-0912	15.94
MW 3/8"	.375	.130	.050	48'	617-0903	68.87	8'	617-0913	15.94
MW 1/2"	.500	.195	.055	48'	617-0904	77.65	7'	617-0914	15.94
MW 3/4"	.750	.313	.065	20'	617-0905	52.57	6'	617-0915	15.94
MW 1"	1.000	.400	.075	20'	617-0906	66.54	4'	617-0916	15.94

EPS-300 Adhesive Lined, 3:1, Flexible Polyolefin Heat Shrink Tubing

The meltable inner wall of EPS-300 forms a moisture proof barrier in one step in the same way as EPS-200, making it the product of choice for outdoor, automotive, or marine applications. The 3:1 shrink ratio helps to seal uneven surfaces such as connectors and components. Jacket meets UL 224 all tubing flame test, -55°C to +110°C continuous operating temperature, meets MIL-I-23053/6 Class 3. Black only.

Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	48" Lengths			6" Lengths		
				Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
EPS-300 3/8"	.187	.062	.040	48"	617-0920	60.49	12"	617-0930	21.40
EPS-300 1/2"	.250	.080	.040	48"	617-0921	74.90	10"	617-0931	21.40
EPS-300 3/4"	.375	.120	.055	48"	617-0922	84.74	8"	617-0932	21.40
EPS-300 1"	.500	.160	.070	48"	617-0923	99.02	7"	617-0933	21.40
EPS-300 1 1/4"	.750	.250	.085	20"	617-0924	58.05	6"	617-0934	21.40
EPS-300 1 1/2"	1.000	.320	.100	20"	617-0925	85.84	4"	617-0935	21.40
EPS-300 1 3/4"	1.500	.510	.100	20"	617-0926	135.45	2"	617-0936	21.40

EPS-400 Adhesive Lined, 4:1, Semi-Rigid Polyolefin Heat Shrink Tubing

EPS-400 provides one step environmental protection in the same way as EPS-200, but a thicker meltable makes it ideal for sealing multiple wire bundles. The 4:1 shrink ratio helps seal uneven surfaces such as in-line components. A heavy outer wall provides tough mechanical protection. -55°C to +110°C continuous operating temperature. Black only.

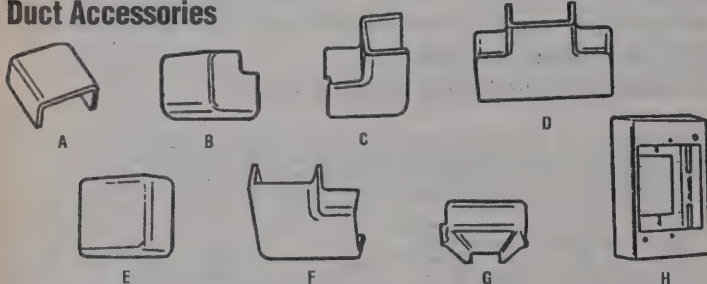
Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Melt Wall (In.)	Recovered Outer Wall	48" Lengths			6" Lengths		
					Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
EPS-400 .300	.300	.060	.033	.028	48"	617-0970	97.87	12"	617-0975	25.57
EPS-400 .350	.350	.080	.038	.033	48"	617-0971	103.50	10"	617-0976	25.57
EPS-400 .450	.450	.105	.043	.053	48"	617-0972	121.40	8"	617-0977	25.57
EPS-400 .700	.700	.175	.060	.055	20"	617-0973	71.20	7"	617-0978	25.57

Communications Wire and Cable Duct



This duct has an easily installed one-piece design with a unique top-opening hinge that can be opened and closed thousands of times with no stress cracking or discoloration. The modern symmetrical design means fewer components and hides the self-locking latch. Constructed of 94V-0 UL Listed material, with strong foam-backed acrylic adhesive. 3M wiring duct is available in three sizes and has numerous accessories. Brown and grey are also available from 3M.

Duct Accessories



3M duct accessories are constructed of 94V-0 UL Listed materials, snap into place and eliminate special cuts to speed installation.

Joint Covers — Fig. A

Stock No.	Mfr.'s Type	For Duct Number	EACH	
			1-24	25-49
617-1120	801I-JCSP Ivory	801-6I-SP	1.25	1.15
617-1122	801A-JCSP Ash	801-6A-SP	1.25	1.15
617-1126	802I-JCSP Ivory	802-6I-SP	1.36	1.26
617-1128	802A-JCSP Ash	802-6A-SP	1.36	1.26
617-1132	803I-JCSP Ivory	803-6I-SP	1.50	1.38
617-1134	803A-JCSP Ash	803-6A-SP	1.50	1.38

Outside Corners — Fig. B

Stock No.	Mfr.'s Type	For Duct Number	EACH	
			1-24	25-49
617-1140	801I-OCSP Ivory	801-6I-SP	1.25	1.15
617-1142	801A-OCSP Ash	801-6A-SP	1.25	1.15
617-1146	802I-OCSP Ivory	802-6I-SP	1.36	1.26
617-1148	802A-OCSP Ash	802-6A-SP	1.36	1.26
617-1152	803I-OCSP Ivory	803-6I-SP	1.50	1.38
617-1156	803A-OCSP Ash	803-6A-SP	1.50	1.38

Inside Corners — Fig. C

Stock No.	Mfr.'s Type	For Duct Number	EACH	
			1-24	25-49
617-1160	801I-ICSP Ivory	801-6I-SP	1.25	1.15
617-1162	801A-ICSP Ash	801-6A-SP	1.25	1.15
617-1166	802I-ICSP Ivory	802-6I-SP	1.36	1.26
617-1168	802A-ICSP Ash	802-6A-SP	1.36	1.26
617-1172	803I-ICSP Ivory	803-6I-SP	1.50	1.38
617-1176	803A-ICSP Ash	803-6A-SP	1.50	1.38

Heat Shrinkable Tubing and Wire and Cable Duct

Kynar* Modified Polyvinylidene Fluoride (PVDF) Heat Shrink Tubing

Kynar is an excellent insulation for extremes in temperature or environment. Kynar is flame retardant and is rated for continuous operation from -55°C to +175°C. PVDF fluoropolymer makes it resistant to corrosive chemicals, solvents and oils, as well as mechanically tough for cut-through and abrasion resistance. Rigidity and transparency make it a good choice for strain relief and identification. 2:1 shrink ratio, UL recognized for VW-1, meets MIL-I-23053/8. Clear only. UL E39100. *Kynar — Pennwalt Chemical.

Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	48" Lengths			6" Lengths		
				Length	Stock No.	PER BOX	Length	Stock No.	PER PACK
KYNAR 3/8"	.046	.023	.010	100'	617-0960	62.09	15'	617-0940	11.84
KYNAR 1/2"	.063	.031	.010	100'	617-0962	64.54	14'	617-0941	11.84
KYNAR 3/4"	.093	.046	.010	100'	617-0963	68.15	13'	617-0942	11.84
KYNAR 1"	.125	.062	.010	100'	617-0964	73.70	12'	617-0943	11.84
KYNAR 1 1/4"	.187	.093	.010	48'	617-0965	57.54	9'	617-0944	11.84
KYNAR 1 1/2"	.250	.125	.012	48'	617-0966	70.97	7'	617-0945	11.84
KYNAR 1 3/4"	.375	.187	.012	48'	617-0967	85.45	6'	617-0946	11.84
KYNAR 2"	.500	.250	.012	20'	617-0968	53.42	4'	617-0947	11.84
KYNAR 3"	.750	.375	.017	20'	617-0969	102.75	2'	617-0948	11.84

NST Modified Polychloroprene (Neoprene*) Flexible Heat Shrink Tubing

NST is particularly useful for fabrication and repair of flexible rubber harnesses, wire bundles, and for hydraulic couplings. Its superior cut-through and abrasion resistance allow use in heavy duty applications such as drop lines, drag lines, and industrial equipment cable. Excellent oil resistance make it ideal for automotive, aircraft, and construction equipments. Maintains its flexibility and resistance to vibration at temperatures down to -70°C and up to +121°C. 2:1 shrink ratio, meets MIL-I-23053/1 Class 1 and 2, and MIL-R-46846 Type 1 Class 1. Black only. *Neoprene — E.I. Du Pont.

Stock No.	Mfr.'s Type	Min. Supplied ID (In.)	Max. Recovered ID (In.)	Recovered Wall Thickness (In.)	Spool Length	PER SPOOL
617-0950	1/4"	.250	.125	.035	100'	143.50
617-0951	3/8"	.375	.187	.040	100'	172.80
617-0952	1/2"	.500	.250	.048	100'	190.79
617-0953	3/4"	.750	.250	.085	100'	237.91
617-0954	1"	1.000	.500	.070	100'	327.43
617-0955	1 1/2"	1.500	.510	.100	50'	275.68

Stock No.	Mfr.'s Type	Dimensions W x H x L	PER PKG./5
617-1100	801-6I-SP Ivory	3/4" x 1/2" x 6"	35.75
617-1102	801-6A-SP Ash	3/4" x 1/2" x 6"	35.75
617-1104	802-6I-SP Ivory	1 1/4" x 3/4" x 6"	47.85
617-1106	802-6A-SP Ash	1 1/4" x 3/4" x 6"	47.85
617-1108	803-6I-SP Ivory	1 3/4" x 1 1/4" x 6"	61.50
617-1110	803-6A-SP Ash	1 3/4" x 1 1/4" x 6"	61.50

Tees — Fig. D

Stock No.	Mfr.'s Type	For Duct Number	EACH	
			1-24	25-49
617-1180	801I-TSP	801-6I-SP	1.25	1.15
617-1182	801A-TSP	801-6A-SP	1.25	1.15
617-1186	802I-TSP	802-6I-SP	1.36	1.26
617-1188	802A-TSP	802-6A-SP	1.36	1.26
617-1192	803I-TSP	803-6I-SP	1.50	1.38
617-1194	803A-TSP	803-6A-SP	1.50	1.38

End Caps — Fig. E

Stock No.	Mfr.'s Type	For Duct Number	EACH	
			1-24	25-49
617-1200	801I-ECSP	801-6I-SP	1.25	1.15
617-1202	801A-ECSP	801-6A-SP	1.25	1.15
617-1206	802I-ECSP	802-6I-SP	1.36	1.26
617-1208	802A-ECSP	802-6A-SP	1.36	1.26
617-1212	803I-ECSP	803-6I-SP	1.50	1.38
617-1216	803A-ECSP	803-6A-SP	1.50	1.38

Elbows — Fig. F

Stock No.	Mfr.'s Type	For Duct Number	EACH	
			1-24	25-49
617-1220	801I-LSP	801-6I-SP	1.25	1.15
617-1222	801A-LSP	801-6A-SP	1.25	1.15
617-1226	802I-LSP	802-6I-SP	1.36	1.26
617-1228	802A-LSP	802-6A-SP	1.36	1.26
617-1232	803I-LSP	803-6I-SP	1.50	1.38
617-1236	803A-LSP	803-6A-SP	1.50	1.38

Reducers — Fig. G

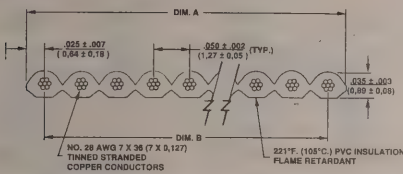
Stock No.	Mfr.'s Type	To Reduce Number	EACH	
			1-24	25-49
617-1246	802I-RISP Ivory	803 to 802	1.25	1.15
617-1248	802A-RISP Ash	803 to 802	1.25	1.15
617-1252	803I-RISP Ivory	802 to 801	1.50	1.38
617-1254	803A-RISP Ash	802 to 801	1.50	1.38

Junction Boxes — Fig. H

Stock No.	Mfr.'s Type	Profile	EACH	
			1-24	25-49
617-1262	800I-HB Ivory	High	6.52	6.01
617-1264	800A-HB Ash	High	6.52	6.01
617-1266	800I-LB Ivory	Low	6.52	6.01
617-1268	800A-LB Ash	Low	6.52	6.01

Scotchflex Flat Cable

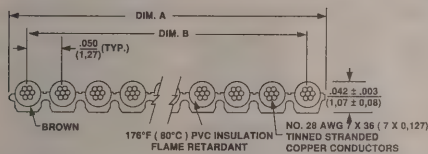
Flat Cable



Easily zippable gray flat cable is on .050" (1.27 mm) spacing with #1 conductor colored red, 28 AWG, 7/36" stranded tinned copper wire; flame retardant PVC insulator. **Voltage Rating:** 300 V. **Insulation Material:** $>1 \times 10^{10}$ ohms (3 m). **Nominal Thickness:** .035".

Stock No.	Mfr.'s Type	No. of Conductors	Width (In.)	PER SPOOL/ 100'
617-4212	3365/9	9	.45	19.00
617-4213	3365/10	10	.50	21.10
617-4214	3365/14	14	.70	29.52
617-4215	3365/16	16	.80	33.72
617-4216	3365/20	20	1.00	42.18
617-4217	3365/25	25	1.05	52.72
617-4217	3365/26	26	1.30	54.82
617-4218	3365/34	34	1.70	71.68
617-4219	3365/37	37	1.85	78.02
617-4220	3365/40	40	2.00	84.34
617-4221	3365/50	50	2.50	106.48
617-4222	3365/60	60	3.00	126.50

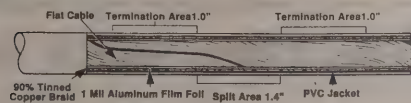
Color-Coded Flat Cable



Easily zippable on .050" (1.27 mm) spacing with a 10 color repeat allowing for wire identification. 28 AWG, 7/36" stranded tinned copper wire; flame retardant PVC insulator. **Voltage Rating:** 300 V. **Insulation Material:** $>1 \times 10^{10}$ ohms/10' (3 m). **Nominal Thickness:** .042".

Stock No.	Mfr.'s Type	No. of Conductors	Width (In.)	PER SPOOL/ 100'
617-4223	3302/9	9	.45	29.36
617-4224	3302/10	10	.50	32.64
617-4225	3302/14	14	.70	45.70
617-4226	3302/16	16	.80	52.24
617-4227	3302/20	20	1.00	65.28
617-4228	3302/25	25	1.05	81.60
617-4228	3302/26	26	1.30	84.86
617-4229	3302/34	34	1.70	110.94
617-4230	3302/37	37	1.80	120.76
617-4231	3302/40	40	2.00	130.54
617-4232	3302/50	50	2.50	163.18
617-4233	3302/60	60	3.00	195.82

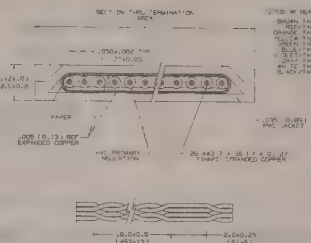
Round, Jacketed, Flat Cable with Shield



The inner 3365 Series gray flat cable has repeating areas of split and unsplit lengths to accommodate discrete or flat cable terminations. The flat cable is folded, wrapped with an aluminum/polyester film foil and then enclosed in a round, tinned copper braid for complete EMI/ESD protection. The outer jacket is flexible PVC. Combines the flexibility of round cable with the labor/cost efficiency of flat cable.

Stock No.	Mfr.'s Type	No. of Conductors	Width (In.)	PER SPOOL/ 100'
617-4248	3659/9	9	.45	101.14
617-4249	3659/10	10	.50	105.88
617-4250	3659/15	15	.70	119.68
617-4251	3659/20	20	1.00	128.86
617-4253	3659/25	25	1.42	142.42
617-4254	3659/26	26	1.47	147.28
617-4255	3659/34	34	1.70	165.70
617-4257	3659/37	37	1.85	174.90
617-4258	3659/40	40	2.00	179.50
617-4259	3659/50	50	2.50	207.12

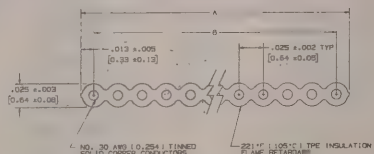
.050" Shielded/Jacketed Flat Cable



Meets external wiring requirements of National Electrical Code, Article 725 (CL2). CSA Certified AWM for external wiring. Flat jacket and expanded copper mesh shield provides durability, superior EMI and ESD protection. Provided better signal integrity and grounding than aluminum/mylar shielded cables. Jacket imprinted for flat section identification. **Jacket Material:** Polyvinyl chloride (PVC). **Color:** Black. **Primary Material:** PVC. **Conductors:** 28 AWG 7 x 36 (7 x 0.127) tinned stranded copper. **Shielding:** Expanded copper.

Stock No.	Mfr.'s Type	No. of Conductors	Width (In.)	PER SPOOL/ 100'
617-1720	1785/20	20	1.27	242.44
617-1726	1785/26	26	1.62	315.16
617-1734	1785/34	34	1.98	412.14
617-1740	1785/40	40	2.28	484.88
617-1750	1785/50	50	2.78	606.10
617-1760	1785/60	60	3.40	727.30

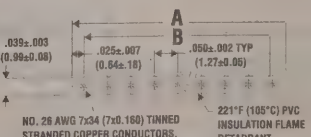
.025" Round Conductor Flat Cable



Close spacing permits higher signal density. TPE insulation provides excellent transmission properties at low cost. 30 AWG conductors on .025 inch spacing allows for mass termination. **Insulation Material:** Thermoplastic Elastomer (TPE). **Color:** Gray. **Marking:** Blue edge. **Conductors:** 30 AWG (0.025) tinned solid copper.

Stock No.	Mfr.'s Type	No. of Conductors	Dimensions (In.)	PER SPOOL/ 100'
617-1700	3749/20	20	.500 ± .006	49.86
617-1702	3749/25	25	.650 ± .006	64.92
617-1704	3749/34	34	.850 ± .009	84.90
617-1706	3749/36	36	.900 ± .009	89.78
617-1708	3749/40	40	1.000 ± .009	99.88
617-1710	3749/50	50	1.250 ± .009	124.86
617-1712	3749/60	60	1.500 ± .012	149.84
617-1714	3749/68	68	1.700 ± .012	169.58
617-1716	3749/80	80	2.000 ± .015	199.50

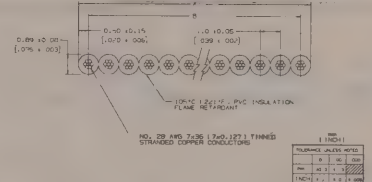
.050" Round Conductor Flat Cable



Zippable gray flat cable is on .05" spacing #1 conductor marked red, 28 AWG, 7 x 34 tin stranded copper. **Insulation Material:** Polyvinyl chloride (PVC). **Voltage Rating:** 300V. **Insulation Resistance:** $>1 \times 10^{10}$ ohms/10' [3m].

Stock No.	Mfr.'s Type	No. of Conductors	Width (In.)	PER SPOOL/ 100'
617-6000	3801/9	9	.45	23.74
617-6001	3801/10	10	.50	26.36
617-6002	3801/14	14	.70	36.92
617-6003	3801/16	16	.80	42.18
617-6004	3801/20	20	1.00	52.74
617-6005	3801/24	24	1.20	63.28
617-6005	3801/25	25	1.25	65.92
617-6007	3801/26	26	1.30	68.56
617-6008	3801/34	34	1.70	89.66
617-6009	3801/37	37	1.85	97.56
617-6010	3801/40	40	2.00	105.48
617-6011	3801/50	50	2.50	131.84
617-6012	3801/60	60	3.00	158.20

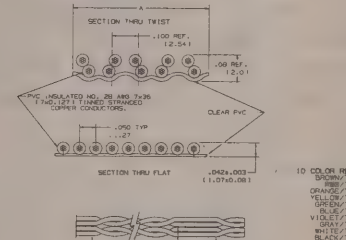
1.0mm Round Conductor Flat Cable



Close spacing permits high signal density. 28 AWG wire on 1 mm centers permits mass termination to 2 mm connectors. Zippable for branching or discrete termination. Stranded wire provides flexibility and extended product life. **Insulation Material:** Polyvinyl chloride (PVC). **Color:** Gray. **Marking:** Red edge. **Conductors:** 28 AWG, 7 x 36 (7 x 0.127) tin stranded copper.

Stock No.	Mfr.'s Type	No. of Conductors	Dimensions (In.)	PER SPOOL/ 100 m
617-1722	3625/10	10	10.00 ± .20	81.74
617-1724	3625/14	14	14.00 ± .20	114.42
617-1728	3625/16	16	16.00 ± .20	130.78
617-1730	3625/20	20	20.00 ± .22	163.46
617-1732	3625/26	26	26.00 ± .22	212.50
617-1736	3625/30	30	30.00 ± .25	245.20
617-1738	3625/34	34	34.00 ± .25	277.88
617-1742	3625/40	40	40.00 ± .25	330.23
617-1744	3625/44	44	44.00 ± .25	359.62
617-1746	3625/50	50	50.00 ± .25	408.66

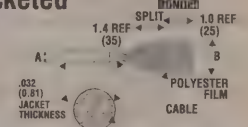
.050" Twisted Pair Flat Cable



Can be mass terminated to broad line of IDC connectors: Provides reduced crosstalk in balanced drive applications. 28 AWG stranded wire provides flexibility. 10 color repeat. **Insulation Material:** Polyvinyl chloride (PVC). **Color:** 10 color repeat with tan common, clear carrier. **Conductors:** 28 AWG 7 x 36 (7 x 0.127) tinned stranded copper.

Stock No.	Mfr.'s Type	No. of Conductors	Width (In.)	PER SPOOL/ 100'
617-1762	1700/10	10	.50	28.00
617-1764	1700/14	14	.70	39.20
617-1766	1700/16	16	.80	44.80
617-1768	1700/20	20	1.00	56.00
617-1770	1700/26	26	1.30	72.80
617-1772	1700/34	34	1.70	95.20
617-1774	1700/36	36	1.80	100.80
617-1776	1700/40	40	2.00	112.00
617-1778	1700/50	50	2.50	140.00
617-1780	1700/60	60	3.00	168.00
617-1782	1700/64	64	3.20	179.20

.050" Round Jacketed Flat Cable



Round construction permits easier routing and improved air flow. 28 AWG wire on .05" centers. **Jacket Material:** Polyvinyl Chloride (PVC). **Voltage Rating:** 150V. **Insulation Resistance:** $>1 \times 10^{10}$ ohms/10' [3m]. **Jacket Color:** Black.

Stock No.	Mfr.'s Type	No. of Conductors	Width (In.)	PER SPOOL/ 100'
617-6013	3759/9	9	.21	89.00
617-6014	3759/10	10	.21	93.16
617-6015	3759/14	14	.25	101.26
617-6016	3759/16	16	.25	109.36
617-6017	3759/20	20	.27	113.42
617-6018	3759/24	24	.32	121.50
617-6019	3759/25	25	.32	125.32
617-6020	3759/26	26	.32	129.62
617-6021	3759/34	34	.36	145.82
617-6022	3759/37	37	.38	153.92
617-6023	3759/40	40	.38	157.94
617-6024	3759/50	50	.46	182.28
617-6025	3759/60	60	.50	204.34

80°C • PVC • 300V • UL 1007 • CSA TR-64 Hook-Up Wire
Conductor: Stranded tinned copper. **Color-coded polyvinylchloride insulation:** Nominal Insulation Thickness: .016" (.41 mm).


Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100'			1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3050	0-9	24	7/32	.057"	UL 1007	300	696-910N	0.3	11.88	696-920N	2.8	76.39
3051	0-9	22	7/30	.065"	UL 1007	300	696-912N	0.4	13.36	696-921N	3.8	89.61
3053	0-9	20	10/30	.071"	UL 1007	300	696-914N	0.5	16.34	696-922N	5.0	107.15
3055	0-9	18	16/30	.080"	UL 1007	300	696-916N	0.7	17.40	696-923N	7.2	120.95
3057	0-9	16	26/30	.095"	UL 1007	300	696-918N	1.1	24.60	696-924N	10.8	180.36

80°C • Semi-Rigid PVC • 300V • UL 1061 • CSA AWM SR-PVC Hook-Up Wire
Conductor: Stranded, tinned copper. **Insulation:** color-coded semi-rigid polyvinylchloride. **Insulation Thickness:** .009" (.23 mm).


Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100'			1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3250	0-9	24	7/32	.042"	UL 1061	300	696-831N	0.4	21.73	696-836N	2.8	86.63
3251	0-9	22	7/30	.048"	UL 1061	300	696-832N	0.5	23.56	696-837N	3.6	93.21

80°C • PVC • 1000V • MIL-W-76B Type MW Hook-Up Wire
Solid or stranded tinned copper conductor. **Color coded polyvinylchloride insulation.** **Nominal Insulation Thickness:** .016" (.40 mm).


Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100'			1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1550	0-9	24	7/32	.059"	MW-C24(7)U	1000	696-812N	0.4	12.08	696-100N	2.8	76.20
1551	0-9	22	7/30	.064"	MW-C22(7)U	1000	696-106N	0.5	13.26	696-101N	3.6	69.37
1553	0-9	20	10/30	.068"	MW-C20(10)U	1000	696-107N	0.6	15.84	696-102N	4.8	100.93
1555	0-9	18	16/30	.078"	MW-C18(16)U	1000	696-108N	0.8	18.02	696-103N	7.3	115.57
1557	0-9	16	26/30	.095"	MW-C16(26)U	1000	696-109N	1.2	26.12	696-104N	11.2	135.28
1559	0-9	14	41/30	.101"	MW-C14(41)U	1000	696-110N	1.7	36.01	696Q001N	16.1	294.87
1560	0-9	12	65/30	.125"	MW-C12(65)U	1000	696-810N	2.6	55.41	696Q811N	24.9	423.50
1561/24	0-9	24	Solid	.055"	MW-C24(1)U	1000	696-925N	0.3	11.67	696-926N	2.5	190.48
1561	0-9	22	Solid	.060"	MW-C22(1)U	1000	696-112N	0.4	11.67	696-111N	3.3	71.25
1563	0-9	20	Solid	.066"	MW-C20(1)U	1000	696-002N	0.6	13.46	696-003N	4.6	86.09
1565	0-9	18	Solid	.074"	MW-C18(1)U	1000	696-004N	0.8	28.05	696-005N	6.9	140.02

105°C • PVC • 600 V • UL 1015 • CSA TEW-105 Hook-Up Wire
Conductor: Stranded tinned copper. **Color-coded polyvinylchloride insulation.** **Nominal Insulation Thickness:** .032" (.81 mm).


Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100'			1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3071*	0-9	22	7/30	.095"	UL 1015	600	696-250N	0.6	13.46	696-450N	6.0	94.99
3073*	0-9	20	10/30	.102"	UL 1015	600	696-251N	0.8	16.83	696-451N	7.5	118.74
3075*	0-9	18	16/30	.112"	UL 1015	600	696-252N	1.0	20.79	696-452N	9.9	142.49
3077*	0-9	16	26/30	.125"	UL 1015	600	696-253N	1.4	25.14	696-453N	13.8	205.82
3079	0-9	14	41/30	.142"	UL 1015	600	696-254N	2.5	35.83	696Q454N	20.1	300.93

*Also MIL-W-76B type HW.

105°C • Irradiated PVC • 1000 V • MIL-W-16878D Type C UL 1430, CSA REW XL-PVC Hook-Up Wire
Conductor: Stranded, tinned copper. **Irradiated color-coded PVC insulation.** **Insulation Thickness:** .016" (.41 mm).


Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100'			1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
7130	0-9	24	7/32	.056"	UL 1430	300	696-820N	0.3	39.36	696-825N	2.8	157.22
7131	0-9	22	7/30	.062"	UL 1430	300	696-821N	0.4	47.72	696-826N	3.6	190.48
7132	0-9	20	7/28	.070"	UL 1430	300	696-822N	0.5	55.86	696-827N	4.8	221.81
7133	0-9	18	7/26	.080"	UL 1430	300	696-823N	0.8	52.50	696Q828N	7.3	261.49
7134	0-9	16	19/29	.091"	UL 1430	300	696-824N	1.8	75.79	696Q829N	11.2	378.88

Color Ordering Information

To order correct color, insert number of color desired where N appears in stock number. All listed types are available in 10 solid and nine striped colors. Non-stocked and striped colors available by special order.

 0 - Violet (Purple)
1 - White

 2 - Black
3 - Red

 4 - Green
5 - Yellow

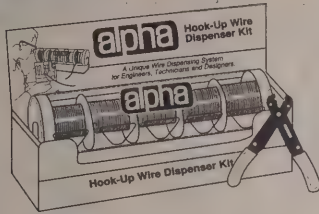
 6 - Blue
7 - Orange

 8 - Slate (Gray)
9 - Brown

Hook-Up Wire



Hook-Up Wire Dispenser Kits



- Convenient, Wire Dispensing System
- Five Assorted Hook Up Wire Colors
- Includes Cut and Strip Tool

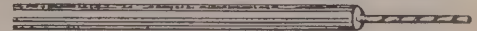
Each kit contains five spools of hook-up wire in a unique, rack mounted, transparent dispensing tube. The tube and rack system can be mounted on a bench or wall or used as a tote for portability. Uses standard Alpha hook-up wire spools when refills are required. Includes a cut and strip tool. Available in military or UL/CSA applications. Come with a 100' colors white, black, red, green and blue 22 AWG.

MIL Spec Hook-Up Wire Kits
MIL-W-76B Type MW. Reorder spool #1551 cut and strip tool AT-210, 22 AWG.
708-9891. HU-Kit-10 **EACH 52.00**

UL/CSA Hook-Up Wire Kits
UL/CSA. Reorder spool #3051 cut and strip tool AT-210, 22 AWG.
708-9892. HU-Kit-20 **EACH 52.00**

105°C • PVC • MIL-W-16878D • Type B Hook-Up Wire

Conductor: Stranded tinned copper; color coded polyvinylchloride insulation. **Insulation Thickness:** .010" (.25 mm).



Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100'			1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1859/19	0-9	14	19/27	.091"	B-14	600	696-813N	2.0	57.27	696-814N	14.0	285.43
1858/19	0-9	16	19/29	.077"	B-16	600	696-200N	1.1	22.96	696-282N	9.0	171.19
1857/19	0-9	18	19/30	.068"	B-18	600	696-815N	0.8	36.50	696-816N	7.0	182.50
1857	0-9	18	7/26	.068"	B-18	600	696-201N	0.8	18.02	696-281N	7.0	130.61
1856	0-9	20	7/28	.058"	B-20	600	696-202N	0.6	16.93	696-280N	4.6	80.76
1855/19	0-9	22	19/34	.050"	B-22	600	696-817N	0.4	27.34	696-818N	3.0	135.71
1855	0-9	22	7/30	.050"	B-22	600	696-204N	0.4	13.46	696-279N	3.0	84.12
1854	0-9	24	7/32	.043"	B-24	600	696-205N	0.3	12.46	696-278N	2.2	54.61
1853	0-9	26	7/34	.038"	B-26	600	696-277N	0.3	12.26	696-260N	1.5	83.12
1852	0-9	28	7/36	.034"	B-28	600	696-346N	0.2	12.26	696-259N	1.3	77.18
1851	0-9	30	7/38	.032"	B-30	600	696-348N	0.1	20.34	696-258N	0.9	101.57

UL 1180, MIL-W-16878D Type EE Heavy Wall Teflon®



Conductor: Stranded silver plated copper. **Insulation:** Color coded, extruded Teflon TFE. **Temperature Range:** -60°C to +200°C (UL 200°C). **Voltage Range:** 1000 volts MIL, 300 volts UL. **Flammability:** Passes UL VW1 flame test. Use for 80°C and 105°C also. *Trademark of Dupont.

Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	100'			1000'		
		AWG	Strand			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
5874	1-6	24	19/36	.055"	EE-24	696-231N	0.5	74.89	696Q236N	3.5	373.80
5875	1-6	22	19/34	.062"	EE-22	696-232N	0.7	81.65	696Q237N	5.0	407.98
5876	1-6	20	19/32	.070"	EE-20	696-233N	0.9	77.37	696Q238N	6.5	515.05
5877	1-6	18	19/30	.080"	EE-18	696-234N	1.1	97.15	696Q239N	9.0	647.52

MIL-W-16878D, Type E Teflon® 200°C UL 1213 (105°C)

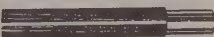


Conductor: Stranded silver plated copper. **Insulation:** Color coded, extruded Teflon TFE. **Temperature Range:** -60°C to +200°C (UL 105°C). **Voltage Range:** 600 volts (UL Voltage not specified). **Flammability:** Passes UL VW1 flame test.

Mfr.'s Type	Stocked Colors	Conductor*		Nominal O.D.	Type	100'			1000'		
		AWG	Strand			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
5852	1-6	28	7/36	.036"	E-28	696-210N	0.3	45.66	696-220N	1.6	227.48
5854	1-6	24	19/36	.045"	E-24	696-211N	0.5	71.73	696Q221N	2.6	358.73
5855	1-6	22	19/34	.051"	E-22	696-212N	0.6	84.57	696Q222N	3.7	421.94
5855/7	1-6	22	7/30	.050"	E-22	696-213N	0.4	66.99	696Q223N	3.6	335.43
5856	1-6	20	19/32	.059"	E-20	696-214N	0.8	79.41	696Q224N	5.5	527.87
5857	1-6	18	19/30	.070"	E-18	696-215N	0.9	87.71	696Q225N	6.0	701.73
5858	1-6	16	19/29	.077"	E-16	696-216N	1.2	107.73	696Q226N	6.0	860.52

*AWG 18 10 must be surfaced marked to comply with U.L. Please specify when ordering.

Kynar® Insulation for Wire Wrap UL 1422, UL 1423



Solid silver-plated, oxygen-free high conductivity (OFHC) copper conductor, extruded kynar (polyvinylidene fluoride) insulation. Extremely tough, high cut-through resistance. Self-extinguishing, will not support combustion. Excellent ultra-violet and weathering resistance. Temperature rating through 125°C continuous (U.L. rated at 105°C). **Nominal Wall Thickness:** .005". **Colors Available:** 1 — White, 2 — Black, 3 — Red, 6 — Blue. *Trademark of Pennwalt.

Stock No.	Mfr.'s Type	AWG	Nominal Thickness	Nominal O.D.	PER 1000'
708Q950N	5951	30	.0050"	.020"	225.48
708Q951N	5952	28	.0055"	.023"	245.84
708Q952N	5953	26	.0055"	.026"	251.38
708Q953N	5954	24	.0050"	.030"	310.86

Tefzel® Insulation for Wire Wrap (UL 1516, UL 1523)



Solid silver-plated, oxygen-free high conductivity (OFHC) copper conductor. Color-coded Tefzel Insulation. High cut-through and abrasion resistance. Long flex life. **Temperature Range:** -70°C to +150°C (U.L. 105°C). **Colors Available:** 1 — White, 2 — Black, 3 — Red, 6 — Blue. *Trademark of Dupont. OFHC is a registered trademark of AMAX, Inc.

Mfr.'s Type	AWG	Nominal Thickness	Nominal O.D.	UL Style	100'		1000'	
					Stock No.	EACH	Stock No.	EACH
1805	30	.0050"	.019"	1516	708-770N	77.84	708Q771N	518.74
1806	28	.0055"	.024"	1523	708-772N	84.00	708Q773N	559.04
1807	26	.0055"	.027"	1523	708-774N	90.18	708Q775N	601.26
1808	24	.0050"	.030"	1516	708-776N	84.84	708Q777N	677.80

Color Ordering Information

To order correct color, insert number of color desired where N appears in stock number. All listed types are available in 10 solid and nine striped colors. Non-stocked and striped colors available by special order.

0 — Violet (Purple)
 1 — White

2 — Black
 3 — Red

4 — Green
 5 — Yellow

6 — Blue
 7 — Orange

8 — Slate (Gray)
 9 — Brown

Letter "Q" In Stock Number Indicates Direct Factory Shipment To You

ALLIED ► 1065

Flat Cable — 100' Coils



See Table Below For Cut Lengths

Gray Flat Cable

0.050" Centers UL2651. 28 AWG, 7/32 stranded tinned copper conductors, gray PVC insulation with red stripe on the leading edge. Rated: 105°C, 300 volts.

Stock No.	Mfr.'s Type	Number of Cond.	Overall Width	PER 100' COIL	
				1-4	5-9
943-4041	3580/9	9	0.45"	42.74	38.85
943-1311	3580/10	10	0.50"	47.74	43.40
943-1312	3580/14	14	0.70"	66.73	60.66
943-4042	3580/15	15	0.75"	71.26	64.78
943-1314	3580/16	16	0.80"	76.23	69.30
943-1315	3580/20	20	1.00"	94.84	86.22
943-1316	3580/24	24	1.20"	114.44	104.04
943-1317	3580/25	25	1.25"	120.05	109.14
943-1318	3580/26	26	1.30"	124.01	112.74
943-1319	3580/34	34	1.70"	162.10	147.36
943-4043	3580/37	37	1.85"	177.75	161.59
943-1320	3580/40	40	2.00"	190.62	173.29
943-1321	3580/50	50	2.50"	238.25	216.59
943-4044	3580/60	60	3.00"	290.66	264.24
943-4045	3580/64	64	3.20"	310.47	282.24

Flat Cable Cut Lengths

Order flat cable lengths per the information below. Lengths from 1 to 99 feet may be ordered. Price is per foot. For 100 foot lengths, order from the cables above. Available in gray.

Stock No.*	Mfr.'s Type	Number of Cond.	Code	PER FOOT†
942-09XX	3580/9	9	0-9	.43
942-10XX	3580/10	10	0-10	.49
942-12XX	3580/14	14	0-14	.68
942-08XX	3580/15	15	0-15	.73
942-13XX	3580/16	16	0-16	.77
942-14XX	3580/20	20	0-20	.96
942-15XX	3580/24	24	0-24	1.16
942-16XX	3580/25	25	0-25	1.22
942-17XX	3580/26	26	0-26	1.26
942-18XX	3580/34	34	0-34	1.65
942-11XX	3580/37	37	0-37	1.81
942-19XX	3580/40	40	0-40	1.94
942-20XX	3580/50	50	0-50	2.43
942-35XX	3580/60	60	0-60	2.96
942-36XX	3580/64	64	0-64	3.16
942-37XX	3583/9	9	1-9	.59
942-21XX	3583/10	10	1-10	.66
942-22XX	3583/14	14	1-14	.92
942-38XX	3583/15	15	1-15	.99
942-23XX	3583/16	16	1-16	1.05
942-24XX	3583/20	20	1-20	1.32
942-25XX	3583/24	24	1-24	1.58
942-26XX	3583/25	25	1-25	1.64
942-27XX	3583/26	26	1-26	1.71
942-28XX	3583/34	34	1-34	2.24
942-39XX	3583/37	37	1-37	2.43
942-29XX	3583/40	40	1-40	2.63
942-30XX	3583/50	50	1-50	3.29
942-40XX	3583/60	60	1-60	3.95
942-41XX	3583/64	64	1-64	4.21

Jacketed Shielded Cable (2 drain wires)

Stock No.	Mfr.'s Type	Number of Cond.	Code	PER FOOT
942-31XX	3590/9	9	9-9	3.25
942-32XX	3590/15	15	9-15	4.31
942-33XX	3590/25	25	9-25	5.81
942-34XX	3590/37	37	9-37	8.19

*Insert footage where XX appears in the stock number.
†Contact the closest sales office for quantity pricing.

Round-to-Flat Cable 0.050" Centers — UL 2651/20381

- Description**
- Mass Terminated Round Cable
 - Flat Cable on 0.50" Centers
 - Supershield™ Aluminum/Polyester Tape Plus 90% Tinned Copper Braid
- Application**
- Specially Designed for Routing in Cramped Spaces Where the Mass Termination Capabilities of Flat Cable is Required and the Flexibility of Round Cable is Needed

Stock No.	Mfr.'s Type	No. of Cond.	Nom. Dia.	PER 100' COIL	
				1-4	5-9
943-5151	3585/25	25	.34"	188.58	171.43
943-5152	3585/26	26	.39"	196.13	178.30
943-5153	3585/40	40	.40"	274.07	249.16
943-5154	3585/50	50	.46"	319.12	290.11

Thermally-Bonded Color-Coded Flat Cable

0.050" Centers UL20029. 28 AWG, 7/32 stranded tinned copper conductors, color coded PVC insulation, colors repeat every 10 conductors. Rated: 105°C, 300 volts.

Stock No.	Mfr.'s Type	Number of Cond.	Overall Width	PER 100' COIL	
				1-4	5-9
943-4046	3583/9	9	0.45"	57.08	51.89
943-1322	3583/10	10	0.50"	63.44	57.68
943-1323	3583/14	14	0.70"	88.80	80.73
943-4047	3583/15	15	0.75"	95.61	86.92
943-1324	3583/16	16	0.80"	101.45	92.23
943-1325	3583/20	20	1.00"	126.83	115.30
943-1326	3583/24	24	1.20"	152.22	133.39
943-1327	3583/25	25	1.25"	158.53	144.12
943-1328	3583/26	26	1.30"	164.87	149.88
943-1329	3583/34	34	1.70"	215.59	195.99
943-4048	3583/37	37	1.85"	234.68	213.35
943-1330	3583/40	40	2.00"	253.67	230.61
943-1331	3583/50	50	2.50"	317.08	288.25
943-4049	3583/60	60	3.00"	380.48	345.89
943-4050	3583/64	64	3.20"	405.84	368.94

Shielded Jacketed Gray Flat Cable

0.050" Centers UL2912. Suggested for FCC Docket 20780 application. 28 AWG, 7/32 stranded tinned copper conductors. Gray PVC insulation with red stripe on the leading edge. Overall aluminum/mylar/aluminum shield with two drain wires. Gray PVC jacket .030" minimum average thickness.

Stock No.	Mfr.'s Type	Number of Cond.	Overall Width	PER 100' COIL	
				1-4	5-9
943-1332	3590/9	9	0.52"	313.87	285.34
943-1333	3590/15	15	0.82"	415.63	377.85
943-1334	3590/25	25	1.32"	560.25	509.31
943-1335	3590/37	37	1.95"	789.52	717.75

Color-Coded Twist-To-Flat Cable 0.050" Centers — UL 20184

Description

- 28 AWG 7/36 Stranded Tinned Copper Conductors, PVC Insulation
- 10 Standard Color Repeat With Tan as the Common Color in Each Pair
- Overall Cable Thickness .037" Males With all 0.50" IDCs
- High Stability .007" Laminated Film is Needed to Increase Dimensional Stability
- Twisted Length 18", Flat Length 2"
- UL Recognized. Style 20184 (Internal Use Only)

Application

- Ideal for Situations Where Reduced Crosstalk is Necessary Such as High Speed Data Transmission in Computers, Cash Registers, and Communications Equipment

Stock No.	Mfr.'s Type	No. of Cond.	Nom. Dia.	PER 100' COIL	
				1-4	5-9
943-5171	3586/26	26	1.30"	177.17	161.07
943-5172	3586/40	40	2.00"	272.79	247.99
943-5173	3586/50	50	2.50"	340.72	309.75
943-9174	3586/60	60	3.00"	408.88	371.77

Flat Cable — 100' Coils Gray Flat Cable 0.025" Centers — UL 2678

Description

- 30 AWG, Solid Copper Conductors on 0.025" Centers
- Gray PVC Insulation With Red Strips on Leading Edge
- UL Recognized Style 2678
- Resists Acids, Alkalis, Oil, Moisture, Solvents, Ozone and Fungus
- Passes UL VW-1 Flame Test

Application

- Easy Termination to 0.025" IDC Connectors
- Low Cost Alternative to Fluorocarbon Transmission Cables
- For New Generation of Surface Mounted Connectors With Reduced Contact Spacing

Stock No.	Mfr.'s Type	No. of Cond.	Nom. Dia.	PER 100' COIL	
				1-4	5-9
943-5051	3582/26	26	.65"	78.01	70.92
943-5052	3582/40	40	1.00"	120.01	109.10
943-5053	3582/50	50	1.25"	150.04	136.40
943-5054	3582/60	60	1.50"	180.01	163.65

Coaxial Cable, Crimp Kits, and Multiconductor Flat (Oval)



Coaxial Cable



Polyethylene Dielectric Flexible RG-Type

Mfr.'s Type	RG Type	Ohms	Inner Conductor			Shield		Jacket		PER 100'		PER 500'		PER 1000'	
			Mat.'l	Strand	AWG	Mat.'l	% Coverage	Mat.'l	O.D. (In.)	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9804C*	6/U	75	C	Solid	18	A/M plus TC Braid	100	Black V	.270	708-9102	65.57	708-9122	163.89	708-9142	327.79
9843*	6/U	75	C	Solid	18	A/M plus 4 TC DW	100	Black V	.242	708-9808	53.98	—	—	708-9809	269.89
9008†	8/U	52	C	7/21	13	C	96	Black V	.405	708-9818	93.00	708-9819	354.21	708Q9820	706.43
9008A†	8A/U	52	C	7/21	13	C	96	Black NCV	.405	708-9821	137.90	708Q9822	509.18	708Q9823	938.40
9847	11/U	75	C	Solid	14	C	81	Black PE	.405	708-9990	92.88	—	—	708Q9991	742.99
9011	11/U	75	TC	7/26	18	C	96	Black V	.405	—	—	708Q9831	403.10	708Q9832	760.00
9011A	11A/U	75	TC	7/26	18	C	96	Black NCV	.405	708-9833	120.93	708Q9834	498.58	708Q9835	958.80
9848	58/U	50	C	Solid	18	TC	93	Black V	.195	708-9992	72.77	—	—	708Q9993	362.75
9058X*	58/U	53	C	Solid	20	TC	81	Black V	.195	708-9850	46.23	708-9851	120.36	708-9852	234.60
9058AC*	58A/U	50	TC	19/0.0071	20	TC	95	Black V	.195	708-9853	36.41	708-9854	116.75	708-9855	233.50
9058C†	58C/U	50	TC	19/0.0071	20	TC	95	Black NCV	.195	708-9856	69.34	708-9857	157.32	708-9858	518.63
9803C*	59/U	75	C	7/30	22	C	95	Black V	.242	708-9101	81.29	708-9121	203.22	708Q9141	406.25
9830*	59/U	75	CW	Solid	22	C	80	Black V	.242	708-9994	52.00	708Q9995	129.81	708Q9996	259.39
9840	59/U	80	CW	Solid	22	C	80	Black V	.242	708-9997	62.93	708Q9998	157.35	708Q9999	278.46
9059C*	59/U	75	CW	Solid	22	C	95	Black V	.242	708-9859	37.60	708-9860	108.12	708-9861	211.73
9059B†	59B/U	75	CW	Solid	23	C	95	Black NCV	.242	708-9862	82.38	708-9863	184.03	708-9864	368.06
9062AC**	62A/U	93	CW	Solid	22	C	95	Black V	.242	708-9870	30.27	708-9871	122.71	708Q9872	175.95
9174	174/U	50	CW	7/34	26	TC	88	Black V	.100	708-9974	48.30	708-9975	120.75	708-9976	219.55
9213†	213/U	50	C	7/0196	13	C	96	Black NCV	.412	708-9960	142.05	708-9961	568.16	708Q9962	1017.96
9214†	214/U	50	SC	7/0296	13	2X, SC	99	Black NCV	.432	708Q9965	662.44	708-9966	2534.80	708Q9967	5067.71
9223†	223/U	50	SC	Solid	19	2X, SC	99	Black NCV	.216	708-9970	235.52	708-9971	935.97	708Q9972	1871.94

*CL2 Rated. *UL1354, †MIL-C-17D, ‡JAN-C-17A, **UL1478. Material Codes: C — bare copper; TC — tinned copper; SC — silver covered copper; V — polyvinylchloride, type 1; NCV — non-contaminating polyvinylchloride, type 2; 2X — double shield; CW — copper covered steel (copperweld); A/M — Aluminum/Mylar Tape; O — Cellular (foam) polyethylene; ±100% Sweep Test 5-300 MHz. Note: Type 9059 available in 6 colors, White, Black, Red, Green, Blue and Gray. Type 9062A available in 8 colors, White, Black, Red, Green, Yellow, Blue, Orange and Gray.

TFE Teflon® Dielectric Cable

Mfr.'s Type	RG Type	Ohms	Inner Conductor			Dielectric		Shield		Jacket		PER 100'	
			Mat.'l	Strand	AWG	Mat.'l	O.D. (In.)	Mat.'l	% Coverage	Mat.'l	O.D. (In.)	Stock No.	EACH
9178B†	178B/U	50	SCW	7/38	30	TFE	.036	SC	96	Nat'l FEP	.071	708-9930	132.84
9179B†	179B/U	75	SCW	7/38	30	TFE	.057	SC	93	Nat'l FEP	.100	708-9935	161.49
9180B†	180B/U	95	SCW	7/38	30	TFE	.102	SC	93	Nat'l FEP	.140	708Q9940	271.63
9187A	187A/U	75	SCW	7/38	30	TFE	.060	SC	94	Nat'l TFE	.105	708-9945	180.05
9188A	188A/U	50	SCW	7/0067	25	TFE	.060	SC	94	Nat'l TFE	.106	708-9950	174.38
9196A	196A/U	53	SCW	7/38	30	TFE	.034	SC	95	Nat'l TFE	.076	708-9955	127.40

†MIL-C-17D. Material Codes: SCW — silver-coated copperweld; TFE — tetrafluoroethylene (teflon); SC — silver coated copper; FEP — fluorinated ethylene-propylene. Teflon is a registered trademark of Dupont.

Coaxial and Data Systems



BNC Crimp Connector and Tool Kit

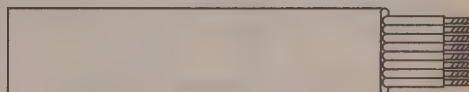
AT-Kit-1

This kit includes all the tools necessary to complete the connectorization process of Alpha RG-58 and RG-59/62 coaxial cables. Tools are packed in a carrying case for protection and portability. **Kit Contains:** 5 CMC-3001 RG-58 connectors, 5 CMC-3002 RG-59/62 connectors, 1AT-140/3 coaxial cable stripper, 1 AT-330 coax ratchet crimp tool, 1 Alpha BNC crimp connector selection guide.

943-0030. AT-Kit-1EACH 255.82

Multiconductor, Stranded, Unshielded Flat (Oval)

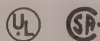
- For use with Appletalk
- Jacket is Silver Satin
- Temperature Rating: 150 V 60°C



Stock No.	Mfr.'s Type	Description	Std. Length (Feet)	Weight Lbs. (1000')	Conductor		Insulation Material Thickness Diameter Inches (mm)	Thickness x Width Inches (mm)	PER BOX/328'
					No. of Cond.	AWG Stranding Material			
708-3313	1604	Modular Telephone (Silver Satin)	328' Box 1000'	6	4	26 7/34 Bare Copper	Polypropylene 0.010 (0.25) 0.037 (0.95)	0.100 (2.5) x 0.200 (5.0)	34.62
708-3314	1606			8	6			0.100 (2.5) x 2.750 (7.0)	41.56
708-3315	1608			12	8			0.100 (2.5) x 3.350 (8.5)	55.41

Color Code: Blue, Orange, Black, Red, Yellow, Brown and Slate. *Box of 328 ft. stocked, box of 1000' also available.

IBM Coax 3270 and Arcnet (RG62A/U)



- Arcnet = 2.5 MBPS
- IBM = 4 to 16 MBPS



Stock No.	Mfr.'s Type	Description	Std. Length, Ft. (Weight, Lbs./1000')	Conductor	Dielectric Material Diameter In. (mm)	Shield Material DCR Ohms/1000' (Ohms/Km)	Jacket Material Nom. O.D. In. (mm)	Nom. Imp. Ohms	Vel. Of Prop. %	Nominal Capacitance pF/ft (pF/m)	Nominal Attenuation		Put Up Feet	EACH
											dB/100' (dB/100 m)	@ MHz		
708-9870	9062AC	RG62 A/U	100	22 Solid Copper Coated Steel	Semi-Solid Polyethylene 0.146 (3.71)	95% Bare Copper Braid 2.9 (9.5)	Black (Also available in 7 other colors)* 0.242 (6.15)	93	84	13.5 (44.3)	0.25 (0.82) 0.85 (2.78) 1.9 (6.23) 2.7 (8.86) 5.3 (17.4) 8.7 (28.5)	1 10 50 100 400 1000	100'	30.27
708-9871	CM: 300 V 60°C AWM: 30 V 60°C	Non-Plenum NEC CM UL AWM 1478 CXC FT1	500 Box 500 1000 Box 1000 2000 (33)										500'	122.71
708-9872													1000'	175.95
708-3301													328'	81.82
708-8838	9162 30 V 125°C	RG62 A/U Type Plenum NEC CL2P CXC FT4 FT6	1000 (32)	22 Solid Copper Coated Steel 52 (171)	Semi-Solid Teflon 0.146 (3.71)	95% Bare Copper Braid 3.8 (12.5)	Natural Fluorocopolymer 0.204 (5.18)	93	85	12.9 (42.3)	0.3 (0.98) 0.9 (2.95) 2.0 (6.56) 2.9 (9.51) 5.5 (18.0) 9.0 (29.5)	1 10 50 100 400 1000	1000'	912.29

*9062AC Other Available Colors: White, Red, Green, Yellow, Blue, Orange, Gray (1000 Ft. Only)

Plenum Rated Coaxial Cables NEC725-38(B)3 CL2P



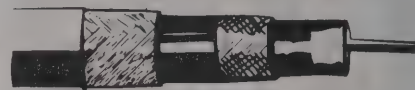
Mfr.'s Type	RG Type	Imp. Ohms	Inner Conductor			Shield		Jacket		PER 500' SPOOL		PER 1000' SPOOL	
			Mat.'l	Strand	AWG	Mat.'l	% Coverage	Mat.'l	O.D. (In.)	Stock No.	EACH	Stock No.	EACH
9105	11/U	75	C	Solid	14	A/M + TC Braid	100	Black FP	.375	708Q8824	1389.65	708Q8832	2779.30
9158	58 C/U	53	TC	19/0.0071	20	TC Braid	95	Black FP	.188	708Q8825	477.79	708Q8833	954.72
9158S	58/U	53	C	Solid	20	TC Braid	95	Black FP	.178	708Q8826	407.35	708Q8834	814.69
9102	59/U	75	CW	Solid	20	A/M/A + TC Braid	100	Black FP	.218	708Q8827	487.97	708Q8835	975.94
9159	59 B/U	75	CW	Solid	23	C Braid	97	Black FP	.215	708Q8828	549.49	708Q8836	1098.99
9101	Dual 59 B/U	75	CW	Solid	23	C Braid	95	Black FP	.230 x .435	708Q8829	1156.27	708Q8837	2311.32
9162	62 A/U	93	CW	Solid	22	C Braid	95	Natural FP	.225	708Q8830	456.14	708Q8838	912.29
9162F	62 A/U	93	CW	Solid	22	C Braid	95	Natural FP	.225	708Q8831	339.46	708Q8839	178.91

Material Code: C — Bare Copper; TC — Tinned Copper; CW — Copper Coated Steel; FP — Fluoropolymer; A/M — Aluminum Tape; A/M/A — Aluminum Tape/Mylar Aluminum Tape.

LAN Trunk Cables — Coaxial — IEEE 802.3



Material Code: C — Bare Copper; TC — Tinned Copper; CW — Copper Coated Steel; FEP — Fluorinated Ethylene-Propylene; A/M — Aluminum Polyester Tape; A/M/A — Aluminum/Polyester/Aluminum Tape.



Mfr.'s Type	RG Type	Imp. Ohms	Inner Conductor			Shield		Jacket		PER 100' SPOOL		PER 500' SPOOL		PER 1000' SPOOL	
			Mat.'l	Strand	AWG	Mat.'l	% Coverage	Mat.'l	O.D. (In.)	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9804C†	6/U	71	C	Solid	18	A/M + TC Braid	100	Black V	.270	708-9102	65.57	708-9122	163.89	708Q9142	327.79
9104	6/U Plenum	75	TC	Solid	18	A/M/A + TC Braid	100	Black FEP	.249	—	—	708Q9123	730.93	708Q9143	1463.90
9858	58C/U	50	TC	19/0.0071	20	TC Braid	95	Black V	.195	708-9104	81.52	708Q9124	271.63	708Q9144	543.25
9859	58C/U Plenum	50	TC	19/0.0071	20	A/M/A + TC Braid	95	Black FEP	.165	—	—	708Q9125	385.97	708Q9145	740.52
9851C*	Ethernet	50	TC	Solid	.0855	A/M + TC Braid + A/M/A + TC Braid	100	Yellow V	.405	—	—	—	—	708Q9147	1202.78
9851F‡	Ethernet Plenum	50	C	Solid	.0855	A/M/A + TC Braid + A/M/A + TC Braid	100	Orange V	.375	—	—	708Q9128	1346.40	708Q9148	2423.52
9861C*	59C/U DEC Thinware Ethernet	50	TC	19/32	20	A/M/A + TC Braid	95	Gray PVC	.182	—	—	—	—	708Q9149	327.62
9888C**	Appletalk™	78	TC	7/30	22	TC Braid	85	Beige PVC	.185	—	—	—	—	708Q9150	401.68
9825C†	11/U†	75	CW	Solid	14	A/M/A + TC Braid	96	Blue V	.405	—	—	—	—	708Q9151	807.84

*Allen Bradley's data twinax highway 11 cable. †UL Type CL2; CSA PCC FT4. **UL Type CM, PCC FT4. ‡UL Type CL2. §UL Type CL2P, CSA PCC FT6.

Coaxial Cables



IEEE Spec Grade "Thin" Coaxial Cable IEEE 802.3 10Base2 10 MBPS

Stock No.	Mfr.'s Type	Description	Std. Length, Ft. (Weight, Lbs./1000')	Conductor	Dielectric Material Diameter In. (mm)	Shield Material DCR Ohms/1000' (Ohms/Km)	Jacket Material Nom. O.D. In. (mm)	Nom. Imp. Ohms	Vel. Of Prop. %	Nominal Capacitance pF/Ft. (pF/m)	Nominal Attenuation		EACH
				AWG Stranding Material DCR Ohms/1000' (Ohms/Km)							dB/100' (dB/100 m) Max.	@ MHz	
708-3232*	9871C 300 V 60°C	Ethernet "Thinnet" Non-Plenum NEC CM CXC FT4	Box/1000' (28)	20 19/0.0075 Tinned Copper 12.0 (39.4)	Polyethylene 0.119 (3.02)	Alum/Polyester/Alum + 95% TC Braid 3.0 (9.8)	Black PVC 0.200 (5.08)	50	66	30.5 (100.0)	6 dB/607 Ft. (6 dB/185 m) 8.5 dB/607 Ft. (8.5 dB/185 m)	5 5 10 10	336.60
708Q3233†	9871F 300 V 125°C	Ethernet "Thinnet" Plenum NEC CMP CXC FT6	Coil/1000' (32)	20 19/0.0075 Tinned Copper 12.0 (39.4)	FEP Teflon 0.112 (2.84)	Alum/Polyester/Alum + 95% TC Braid 3.0 (9.8)	Gray Fluoropolymer 0.182 (4.62)	50	78	30.5 (100.0)	6 dB/607 Ft. (6 dB/185 m) 8.5 dB/607 Ft. (8.5 dB/185 m)	5 5 10 10	852.72

Commercial Grade Thin-Net Coaxial Cable 10 MBPS

Alpha offers economical commercial grade LAN cable alternatives. These cables are designed around the IEEE specifications, but utilize cellular (foam) dielectric to reduce size and material while still offering equivalent electrical and environmental performance. Because a cellular dielectric is used, the diameter must be reduced to achieve the same

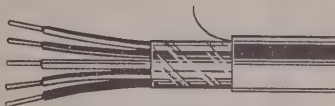
electrical performance. This has an added benefit of reducing the cost of materials. However, it does not strictly meet the diameter (4.9 mm ±0.3 mm diameter for PVC or 4.7 mm ±0.3 mm for fluoropolymer jacket) required by the IEEE 802.3, 10Base2 specification. Therefore, we call it commercial grade.

708Q3234*	9861C CL2: 150 V 60°C AWM: 30 V 60°C	DEC ThinWire DEC P/N: 17-01248-00 Non-Plenum NEC CL2 UL AWM 1354 CXC FT4	Box/1000' (23)	20 19/0.0076 Tinned Copper 10.0 (32.8)	Cellular Polyethylene 0.101 (2.57)	Alum/Polyester/Alum + 95% TC Braid 6.2 (20.3)	Gray PVC 0.180 (4.57)	50	78	25.4 (83.3)	6 dB/607 Ft. (6 dB/185 m) 8.5 dB/607 Ft. (8.5 dB/185 m)	5 5 10 10	327.62
708Q3235†	9861F 150 V 125°C	DEC ThinWire DEC P/N: 17-01246-00 Plenum NEC CL2P CXC FT4 FT6	Coil/1000' (23)	20 19/0.0076 Tinned Copper 10.0 (32.8)	Cellular FEP Teflon 0.101 (2.57)	Alum/Polyester/Alum + 95% TC Braid 6.2 (20.3)	Gray Tint Fluoropolymer 0.166 (4.22)	50	78	27.0 (88.6)	6 dB/607 Ft. (6 dB/185 m) 8.5 dB/607 Ft. (8.5 dB/185 m)	5 5 10 10	816.82
708Q3236*	9881C 300 V 60°C	Ethernet "Thinnet" Non-Plenum NEC CM CXC FT4	Box/1000' (20)	20 19/32 Tinned Copper 10.0 (32.8)	Cellular Polyethylene 0.102 (2.59)	Alum/Polyester/Alum + 95% TC Braid 3.5 (11.5)	Black PVC 0.180 (4.57)	50	78	25.5 (83.6)	6 dB/607 Ft. (6 dB/185 m) 8.5 dB/607 Ft. (8.5 dB/185 m)	5 5 10 10	327.62
708Q3237†	9881F 300 V 125°C	Ethernet "Thinnet" Plenum NEC CL2P CXC FT4 FT6	Coil/1000' (20)	20 19/32 Tinned Copper 10.0 (32.8)	Cellular FEP Teflon 0.099 (2.51)	Alum/Polyester/Alum + 95% TC Braid 3.5 (11.5)	Gray Plenum-PVC 0.155 (3.94)	50	78	25.0 (82.0)	6 dB/607 Ft. (6 dB/185 m) 8.5 dB/607 Ft. (8.5 dB/185 m)	5 5 10 10	637.30

*Stocked in boxes of 1000. †Stocked in coils of 1000. Other put ups also available.

PVC Plenum Rated Multi Conductor Foil Shielded NEC Article 800, 725

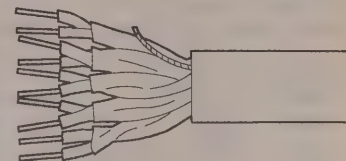
PVC Plenum rated cables provide an economic alternative as compared to Fluorocopolymer based products. The flexible construction allows for ease of installation and meets UL Type CMP or CL2P and CSA FT6 requirements. Bare copper with PVC Plenum insulation and jacket.



Stock No.	Mfr.'s Type	Conductors	AWG	Strand	Nom. O.D.	PER SPOOL/1000'
708-8601	58401	2	24	7/32	0.114	156.00
708Q8602	57003	3	24	7/32	0.121	240.00
708Q8603	57004	4	24	7/32	0.131	312.00
708Q8604	57006	6	24	7/32	0.147	300.00
708Q8605	57008	8	24	7/32	0.164	432.00
708Q8606	57010	10	24	7/32	0.180	472.00
708Q8607	57015	15	24	7/32	0.212	828.00
708-8608	58411	2	22	7/30	0.126	179.00
708Q8609	58813	3	22	7/30	0.134	240.00
708Q8610	58114	4	22	7/30	0.145	244.00
708Q8612	58421	2	20	7/28	0.144	236.00
708Q8614	58124	4	20	7/28	0.168	336.00
708Q8616	58431	2	18	7/26	0.161	266.00
708Q8617	58133	3	18	7/26	0.176	339.00
708Q8618	58134	4	18	7/26	0.192	412.00

PVC Plenum Rated Multi Pair Cable Foil Shielded NEC Article 800, 725

Meets UL Type CMP or CL2P and CSA FT6 requirements. All part numbers have overall foil shield, bare copper, and PVC plenum insulation and jacket except for part numbers (noted with *) which have individual shields, tinned copper, FEP insulation and PVC plenum jacket.



Stock No.	Mfr.'s Type	No. of Pairs	AWG	Strand	Nom. O.D.	PER SPOOL/1000'
708Q8630	57602	2	24	7/32	0.157	304.00
708Q8631	57603	3	24	7/32	0.167	386.00
708Q8632	57604	4	24	7/32	0.182	560.00
708Q8633	57605	5	24	7/32	0.201	572.00
708Q8634	57606	6	24	7/32	0.220	604.00
708Q8635	58412	2	22	7/30	0.177	356.00
708Q8636	58414	4	22	7/30	0.206	588.00
708Q8637	58416	6	22	7/30	0.249	768.00
708Q8638	57628	8	22	7/30	0.271	920.00
708Q8639	57632	2	20	7/28	0.196	588.00
708Q8640	57634	4	20	7/28	0.230	604.00
708Q8641	57636	6	20	7/28	0.279	930.00
708Q8642	57642*	2	22	7/30	0.194	528.00
708Q8643	57643*	3	22	7/30	0.207	606.00
708Q8644	57646*	6	22	7/30	0.263	1064.00

PVC Plenum Multi Pair Cable — Low Capacitance Foil Shielded, NEC Article 800, 725

► Low Capacitance: 12.5 pF/ft.

Meets UL Type CMP or CL2 and CSA FT6 requirements. Foil shield, tinned copper, FEP insulation and PVC plenum jacket.

Multi Pair Foil Shielded Low Capacitance Cable

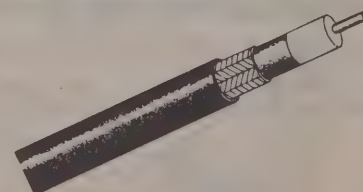
Stock No.	Mfr.'s Type	No. of Pairs	AWG	Strand	Nom. O.D.	PER SPOOL/1000'
708Q8620	58902	2	24	7/32	0.180	506.00
708Q8621	58903	3	24	7/32	0.193	678.00
708Q8622	58904	4	24	7/32	0.212	842.00
708Q8623	58906	6	24	7/32	0.259	1192.00
708Q8624	58909	9	24	7/32	0.312	1726.00
708Q8625	58912	12 1/2	24	7/32	0.425	2428.00

Note: Other Alpha PVC Plenum Rated Multi Conductor and Multi Pair cables are available upon request.

Plenum Rated Coaxial Cable, UL CL2P and CSA CXC FT6

Stock No.	Mfr.'s Type	RG/U	AWG	Conductor	Insulation	Nom. O.D.	Ohms	PER SPOOL/1000'
708Q8651	9859-EL	RG 58C/U	20	Str. T.C.	Foam FEP	0.158	50	502.00
708Q8653	9102-EL	RG 59/U	20	Sol. BCW	Foam FEP	0.165	75	490.00
708Q8654	9162-EL*	RG 62/U	22	Sol. BCW	Foam FEP	0.204	93	512.00
708Q8655	9104-EL	RG 6/U	18	Sol. B.C.	Foam FEP	0.227	75	936.00

*Braid shielded only.



CATV Coaxial Cable

Coaxial cable consisting of solid copper covered steel conductor, foam Polyethylene dielectric, aluminum/mylar/aluminum tape, aluminum braid, with an overall polyvinylchloride jacket. UL Types CL2, CATV. Temperature: -20°C to 75°C.

Stock No.	Mfr.'s Type	AWG	RG Type	Ohms	Nominal Capacitance	Velocity of Propagation	Outer Shield Nominal Coverage	PER SPOOL/1000'
708-8660	9831	18 Solid	6/U	75	16.2 pF/ft.	82%	61%	187.10
708-8661	9832	18 Solid	6/U	75	18.0 pF/ft.	78%	40%	159.12
708-8662	9833	22 Solid	59/U	80	17.0 pF/ft.	78%	40%	155.90
708-8663	9834	20 Solid	59/U	75	17.3 pF/ft.	75%	65%	166.92

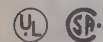


Multiconductor 80°C PVC — 150 Volts UL2576 (Unshielded)



- ▶ Conductor: 7/30 Stranded Tinned Copper
- ▶ Insulation: Color-Coded Polyvinylchloride; Conductors Twisted
- ▶ Temperature Range: -20° to +80°C — AWM, 75°C — CM
- ▶ Nominal Insulation Thickness: .010"
- ▶ Jacket Thickness: .032", Gray PVC Jacket
- ▶ Cable Styles: UL Type CM, AWM 2576 CSA PCC FT4

Mfr.'s Type	Conductor		Nominal O.D.	100'		500'		1000'	
	No. of Cond.	AWG		Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
1172C	2	22	.164" (4.17 mm)	708-5397	17.22	708-2079	52.45	708-5400	104.88
1173C	3	22	.169" (4.29 mm)	708-5398	41.55	708-2082	83.15	708-5402	166.24
1174C	4	22	.194" (4.93 mm)	708-5399	27.32	708-2085	87.07	708-5403	174.13
1175C	5	22	.199" (5.05 mm)	708-2087	54.35	708-2088	135.66	708-5404	271.08
1176C	6	22	.209" (5.31 mm)	708-5401	73.07	708-5410	178.66	708Q5411	364.47
1177C	7	22	.214" (5.44 mm)	708-7019	87.92	708-7020	219.46	708Q7021	423.79
1178C	8	22	.224" (5.69 mm)	708-7022	90.03	708-7023	215.20	708Q7024	429.32
1179C	9	22	.249" (6.32 mm)	708-7025	92.94	708-7026	298.70	708Q7027	597.19
1180C	10	22	.259" (6.58 mm)	708-5405	95.45	708-2121	346.68	708Q5412	693.11
1181C	12	22	.279" (7.09 mm)	708-5406	102.78	708Q2128	395.76	708Q5413	791.30
1181/15C	15	22	.304" (7.72 mm)	708-5407	162.14	708Q5414	606.78	708Q5415	1213.33
1181/20C	20	22	.324" (8.23 mm)	708-5408	210.10	708Q5416	685.11	708Q5417	1370.21
1181/25C	25	22	.364" (9.25 mm)	708-5409	236.80	708Q5418	770.75	708Q5419	1541.49
1181/40C	40	22	.439" (11.15 mm)	708-5420	400.98	708Q5421	1519.80	708Q5422	3043.86



Multiconductor 80°C PVC — 300 Volts UL2509 (Unshielded)

- ▶ Conductor: Tinned Copper; Color-Coded PVC Insulation .016", Gray PVC Jacket
- ▶ Temperature Range: -20°C to +80°C — AWM, 75°C — CM
- ▶ Cable Styles: UL Type CM, AWM 2509 CSA PCC FT4

Mfr.'s Type	Conductor		Nominal O.D.	100'		500'		1000'	
	No. of Cond.	AWG		Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
1895C	2*	20	.180" (4.57 mm)	708-0902	42.72	708-0903	85.41	708-0904	160.84
1896C	3*	20	.190" (4.83 mm)	708-0905	64.40	708-0906	160.77	708-0907	321.32
1896/4C	4*	20	.215" (5.46 mm)	708-7028	64.85	708-7029	162.14	708-7030	324.28
1896/6C	6*	20	.255" (6.48 mm)	708-8185	100.02	708Q8186	333.76	708Q8187	666.37
1896/8C	8*	20	.270" (6.86 mm)	708-8188	114.65	708Q8189	457.88	708Q8190	915.78
1896/12C	12*	20	.350" (8.89 mm)	708-8191	149.37	708Q8192	596.99	708Q8193	1193.91
1897C	2**	18	.200" (5.08 mm)	708-6250	28.36	708-2221	125.17	708-2222	250.35
1898C	3**	18	.210" (5.33 mm)	708-7031	65.87	708-7032	219.59	708-7033	439.17
1898/4C	4**	18	.240" (6.10 mm)	708-2365	58.45	708-2367	227.56	708Q2368	453.15
1898/6C	6**	18	.290" (7.37 mm)	708-8195	115.93	708Q8196	422.28	708Q8197	838.24
1898/7C	7**	18	.290" (7.37 mm)	708-8204	102.90	708Q8205	358.16	708Q8206	716.33
1898/8C	8**	18	.315" (8.00 mm)	708-8198	142.41	708Q8199	581.91	708Q8200	1160.21
1898/12C	12**	18	.385" (9.78 mm)	708-7034	164.24	708Q7035	753.92	708Q7036	1505.87
1898/15C	15**	18	.445" (11.30 mm)	708-6256	215.69	708Q6257	760.10	708Q6258	1490.65
1899C	2***	16	.225" (5.72 mm)	708-2283	80.15	708-2284	200.31	708Q2285	400.55
1899/3C	3***	16	.245" (6.22 mm)	708-8201	142.27	708Q8202	526.59	708Q8203	1136.81

Strand: *7/28, **16/30, ***19/29.

Multi-Pair 80°C PVC 150 Volts UL2576 and *UL2464 (Unshielded)

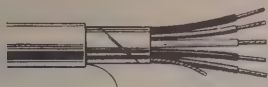


- ▶ Conductor: Stranded Tinned Copper; Color-Coded Polyvinylchloride Insulation, .010"; Conductors Twisted into Pairs; Gray PVC Jacket
- ▶ Temperature Range: -20°C to +80°C — AWM, 75°C — CM
- ▶ Cable Styles: UL Type CM, AWM 2576, 2464 CSA PCC FT4

Mfr.'s Type	Conductor		Nominal O.D.	1000'	
	No. of Pairs	AWG		Stock No.	EACH
1317C	2+	22	.239" (6.07 mm)	708Q7003	307.84
1318C	3+	22	.252" (6.40 mm)	708Q7006	463.59
1319C	4+	22	.274" (6.96 mm)	708Q8150	591.48
1320C	5+	22	.304" (7.72 mm)	708Q8153	738.99
1323C	9+	22	.370" (9.25 mm)	708Q8212	1194.38
1325C	12+	22	.410" (10.46 mm)	708Q8215	1646.32
1131C*	1**	18	.222" (5.64 mm)	708Q8156	290.97
1132C*	2**	18	.347" (8.82 mm)	708Q8159	559.51
1133C*	3**	18	.356" (9.04 mm)	708Q8162	961.90
1134C*	4**	18	.412" (10.46 mm)	708Q8165	1068.78
1135C*	5**	18	.469" (11.91 mm)	708Q8168	1420.25

*UL2464 — Nominal Insulation thickness .016", 300 volts. Strand: †7/30, **16/30.





Foil Shielded Multiconductor 150 Volts — AWM, 300 Volts — CM



UL 2576, NEC type CM, CSA PCC FT4. Conductor: Stranded tinned copper. Insulation: Color coded PVC. Shield: Aluminum/polyester tape (100% coverage). Drain Wire: Tinned copper. Jacket: Gray PVC. Operating Temperature Range: +80°C — AWM, 75°C — CM.

Multiconductor, Foil Shielded — 24 AWG

Mfr.'s Type	No. of Cond.	Nom. Jacket Thickness	Nom. O.D.	100'			500'			1000'		
				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1212C	2	.032	0.16	708-0100	2.0	49.76	708-0101	6.0	124.17	708-0102	11.0	248.33
1213C	3	.032	0.17	708-0103	2.0	65.61	708-0104	7.0	163.89	708-0105	13.0	327.28
1214C	4	.032	0.18	708-0106	2.0	69.65	708-0107	9.0	173.93	708-0108	16.0	347.84
1215C	5	.032	0.18	708-0109	2.0	79.61	708-0110	10.0	208.45	708-0111	18.0	418.89
1216C	6	.032	0.20	708-0112	3.0	79.15	708-0113	11.0	230.70	708-0114	20.0	461.39
1217C	7	.032	0.20	708-0115	3.0	81.44	708-0116	12.0	251.96	708-0117	22.0	503.90
1218C	8	.032	0.21	708-0118	3.0	84.15	708-0119	14.0	280.46	708-0120	27.0	560.69
1219C	9	.032	0.22	708-0121	3.0	90.70	708-0122	16.0	301.72	708-0123	30.0	603.19
1219/10C	10	.032	0.23	708-0124	4.0	97.04	708-0125	17.0	322.97	708-0126	32.0	645.72
1219/12C	12	.032	0.27	708-0127	4.0	99.53	708-0128	20.0	397.37	708-0129	38.0	794.76
1219/15C	15	.032	0.28	708-0130	5.0	125.99	708-0131	24.0	503.90	708-0132	48.0	1007.62
1219/20C	20	.032	0.30	708-0133	7.0	175.73	708-0134	32.0	702.68	708-0135	62.0	1405.21
1219/25C	25	.032	0.33	708-0136	8.0	208.53	708-0137	39.0	833.89	708-0138	75.0	1667.58

Multiconductor, Foil Shielded — 22 AWG

1292C	2	.032	0.17	708-0139	2.0	51.35	708-0140	8.0	127.81	708-0141	14.0	255.57
1293C	3	.032	0.18	708-0142	2.0	69.65	708-0143	9.0	173.93	708-0144	15.0	327.90
1294C	4	.032	0.19	708-0145	3.0	79.15	708-0146	11.0	209.45	708-0147	21.0	418.89
1295C	5	.032	0.20	708-0148	3.0	81.64	708-0149	13.0	237.70	708-0150	24.0	475.42
1296C	6	.032	0.22	708-0151	3.0	84.15	708-0152	14.0	266.20	708-0153	27.0	532.17
1297C	7	.032	0.22	708-0154	3.0	87.31	708-0155	15.0	291.09	708-0156	30.0	581.95
1298C	8	.032	0.23	708-0157	4.0	97.04	708-0158	19.0	322.97	708-0159	36.0	645.72
1299C	9	.032	0.25	708-0160	4.0	99.53	708-0161	20.0	351.25	708-0162	39.0	702.49
1299/10C	10	.032	0.26	708-0163	5.0	102.00	708-0164	22.0	408.27	708-0165	43.0	816.04
1299/12C	12	.032	0.28	708-0166	6.0	114.44	708-0167	26.0	457.78	708-0168	51.0	915.53
1299/15C	15	.032	0.31	708-0169	7.0	177.09	708-0170	32.0	741.62	708-0171	63.0	1415.84
1299/20C	20	.032	0.33	708-0172	9.0	237.03	708-0173	42.0	947.44	708-0174	82.0	1894.65
1299/25C	25	.032	0.36	708-0175	11.0	286.56	708-0176	51.0	1146.03	708-0177	100.0	2292.02

Multiconductor Foil Shield 300 Volts

UL2092, 2093, 2094, NEC type CM, CSA PCC FT4

Conductor: Stranded tinned copper. Insulation: Color coded polyethylene .016". Shield: Aluminum/polyester tape (100% coverage). Jacket: Gray polyvinylchloride. Operating Temperature Range: +60°C.

Mfr.'s Type	No. of Cond.*	Cond.		Cond. Color Code**	Nom. O.D.	100'			500'			1000'		
		AWG	Strand			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
2460C†	2	22	Solid	1,2	.135"	708-6352	2.0	30.60	708-6353	8.0	70.26	708-6354	15.0	138.52
2461C†	2	22	7/30	1,2	.135"	708-6356	2.0	25.93	708-6357	8.0	78.17	708-6358	15.0	155.35
2401C	2	22	7/30	1,3	.170"	708-8004	3.0	36.31	708-8005	11.0	92.02	708-8006	22.0	183.05
2402C	2	22	7/30	1,2	.170"	708-6350	2.0	39.98	708-6349	9.0	92.02	708-6348	17.0	183.05
2403C	3	22	7/30	1,2,3	.185"	708-8007	3.0	42.84	708-8008	11.0	99.94	708-8009	21.0	199.86
2404C	4	22	7/30	1,2,3,4	.210"	708-8010	3.0	62.28	708-8011	13.0	209.02	708-8012	24.0	418.06
2411C	2	20	10/30	1,3	.186"	708-8013	3.0	31.86	708-8014	13.0	113.79	708-8015	25.0	227.56
2412C	2	20	10/30	1,2	.186"	708-8016	3.0	31.86	708-8017	11.0	113.79	708-8018	20.0	227.56
2413C	3	20	10/30	1,2,3	.205"	708-8019	4.0	40.80	708-8020	15.0	124.66	708-8021	29.0	249.33
2414C	4	20	10/30	1,2,3,4	.225"	708-8022	5.0	99.23	708-8023	20.0	380.05	708-8024	38.0	738.99
2421C	2	18	16/30	1,3	.210"	708-8025	4.0	43.86	708-8026	18.0	126.64	708-8027	35.0	253.29
2422C	2	18	16/30	1,2	.210"	708-8028	4.0	66.89	708-8029	16.0	204.39	708-8030	30.0	396.94
2423C	3	18	16/30	1,2,3,4	.230"	708-8035	5.0	62.02	708-8036	20.0	195.84	708-8037	38.0	338.37
2424C	4	18	16/30	1,2,3,4	.255"	708-8031	5.0	124.99	708-8032	24.0	569.61	708-8033	47.0	1135.83
2432C	2	16	26/30	1,2	.245"	708-8034	5.0	87.39	708-8035	21.0	349.35	708-8036	40.0	694.50
2433C	3	16	26/30	1,2,3	.270"	708-6362	6.0	94.78	708-6363	26.0	378.64	708-6364	51.0	757.27

*2 cond. — UL2092, 3 cond. — UL2093, 4 cond. — UL2094, except for 2460C and 2461C. †Types 2460 and 2461 have polypropylene insulation and are rated 105°C, 200 V.

**Color Codes: 1-Black; 2-Red; 3-Natural; 4-Green.

Data, Communications and Control Cables

Multiconductor, Braided Shield, PE

Each conductor stranded, tinned copper. Color-coded polyethylene insulation .015". Cabled with fillers where necessary. Mylar wrap, braided tinned copper shield. Gray PVC jacket. -20°C to +80°C, 600 V. Passes UL VW-1 Flame Test.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	Number of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1712	2	20	26/34	.245" (6.22 mm)	708-8120	5.0	133.13	708Q8121	17.8	532.56	708Q8122	35.0	1065.12
1713	3	20	26/34	.250" (6.35 mm)	708-8123	5.6	128.01	708Q8124	22.5	511.37	708Q8125	44.0	1022.73
1715	4	20	26/34	.260" (6.60 mm)	708-8126	5.8	132.99	708Q8127	26.8	531.75	708Q8128	52.5	1063.45
1716	5	20	26/34	.275" (6.99 mm)	708-6040	7.0	161.53	708Q6041	30.7	645.46	708Q6042	60.5	1290.91

Multiconductor, Braided Shield, UL 1108, UL 2095

Each conductor stranded tinned copper. Color-coded polyvinylchloride insulation. Braided copper shield. Gray polyvinylchloride jacket. Nom. jacket thickness: .020". Temp. Range: -20°C to +80°C, 300 V. UL 1108 — 1 Conductor, UL 2095 — multiconductor. (Part Numbers are UL Type CM, CSA PCC FT4).

1735	1	22	7/30	.125" (3.18 mm)	708-8130	2.0	88.68	708Q8131	7.0	254.16	708Q8132	13.0	442.86
1736C	2	22	7/30	.185" (4.60 mm)	708-7037	2.0	74.30	708Q7038	10.0	247.68	708Q7039	19.0	495.31
1737C	3	22	7/30	.200" (5.08 mm)	708-7040	3.0	71.93	708Q7041	12.0	239.74	708Q7042	23.0	479.28
1738C	4	22	7/30	.210" (5.33 mm)	708-7043	3.0	115.22	708Q7044	15.0	460.61	708Q7045	29.0	921.02
1745	1	18	16/30	.145" (3.68 mm)	708-8133	3.0	95.90	708Q8134	14.0	389.64	708Q8135	26.0	765.53
1746C	2	18	16/30	.235" (5.97 mm)	708-7046	4.0	147.88	708Q7047	17.0	626.83	708Q7048	32.0	1253.42
1747C	3	18	16/30	.245" (6.22 mm)	708-8136	4.0	220.67	708Q8137	20.0	882.16	708Q8138	38.0	1822.45

Multiconductor, Braided Shield, MIL-W-16878D, Type B/N

Conductor: Stranded, tinned copper. Color-coded polyvinylchloride insulation; conductors cabled; braided tinned copper shield. 90% coverage. Clear nylon jacket .003" and gray PVC jacket (.3221 — .016"; .3232 — .019"). -55°C to +105°C, 600 V.

3221	2	22	19/34	.168" (4.27 mm)	708-7208	3.0	81.00	708Q7209	13.0	352.00	708Q7210	26.0	702.00
3232	3	20	19/32	.196" (4.98 mm)	708-7211	4.0	113.00	708Q7212	17.0	533.00	708Q7213	32.0	1061.60

Transceiver Cables

► Related Products: Subminiature D Connectors



Ethernet Transceiver Cables

Stock No.*	Mfr.'s Type	Description	Std. Length, Ft. (Weight, lbs.)	Conductor		Insulation Material Thickness Diameter Inches (mm)	Shield Material DCR Ohms/1000' (Ohms/Km)	Jacket Material Nom. O.D. Inches (mm)	Data Pairs			Nominal Attenuation		PER COIL/1000'
				No. of Pairs	AWG Stranding Material DCR Ohms/K* (Ohms/Km)				Nom. Imp. Ohms	Vel. of Prop. %	Nominal Capacitance pF/Ft. (pF/m)	dB/100' (dB/100 m) Max.	@ MHz	
708-9181	9852C CL2: 30 V 75°C AWM: 30 V 80°C	Ethernet Non-Plenum NEC CL2 UL AWM 2919 PCC FT4	1000 (87)	4 Pairs: 3 and 1 and a Central Drain Wire	22, 7/30 Tinned Copper 16.4 (53.8) 20, 7/28 Tinned Copper 10.2 (33.5) 22, 7/28 Tinned Copper	(3) Polypropylene 0.017 (0.43) 0.064 (1.63) AND (1) Semi-rigid PVC 0.010 (0.25) 0.060 (1.52)	Individual Alum/Polyester + Overall Alum/Polyester/Alum + 95% TC Braid 3.0 (9.8)	Gray PVC 0.340 (8.64)	78	65	20.0 (65.6)	3.8 dB/164 Ft. (3.8 dB/50 m)	5-10	1025.51

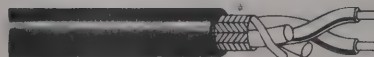
IEEE 802.3 Transceiver Cables

708-9182	9853C 30 V 75°C	IEEE 802.3 Non-Plenum NEC CL2 PCC FT4	1000 (93)	4 and a Central Drain Wire	20 7/28 Tinned Copper 10.2 (33.5) 22 7/28 Tinned Copper	(3) Cellular Polypropylene 0.018 (0.46) 0.074 (1.88) AND (1) Semi-rigid PVC 0.010 (0.25) 0.058 (1.47)	Individual Alum/Polyester + Overall Alum/Polyester/Alum + 95% T C Braid 3.0 (9.8)	Gray PVC 0.395 (10.03)	78	65	17.0 (55.8)	3.0 dB/164 Ft. (3 dB/50 m)	5-10	1202.78
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Color Code: *Pair 1 — Power (PVC), Black and Red; Pair 2 — Data (FPP), Green and Blue; Pair 3 — Data (FPP), Yellow and Orange; Pair 4 — Data (FPP), White and Brown.

Twinaxial Type Cable — 78 Ohm

► For Use With Appletalk and Arcnet



Stock No.	Mfr.'s Type	Description	Std. Length, Ft. (Weight, lbs.)	Conductor		Insulation Material Thickness Diameter Inches (mm)	Shield Material DCR Ohms/1000' (Ohms/Km)	Jacket Material Nom. O.D. Inches (mm)	Nom. Imp. Ohms	Vel. of Prop. %	Nominal Capacitance pF/Ft. (pF/m)	Nominal Attenuation		PER COIL/1000'
				No. of Cond.	AWG Stranding Material Ohms/1000' (Ohms/Km)							dB/100' (dB/100 m)	@ MHz	
708-3310	9888C CM: 300 V 60°C AWM: 30 V 60°C	Twinax Type Non-Plenum NEC CM UL AWM 2726 PCC FT4	1000 (19)	2 Cond.	22 7/30 Tinned Copper 16.4 (53.8)	Solid Polyethylene 0.058 (1.47)	85% Tinned Copper Braid 5 (16.4)	Gray PVC 0.185 (4.70)	78	66	19.7 (64.6)	0.8 (2.6) 2.5 (8.2) 4.5 (14.8) 9.5 (31.2) 20.0 (65.6) 32.0 (105.0)	1 10 50 100 400 1000	401.68

Twinaxial Cable — 100 Ohm

► Ohm UL2498. 9818C is UL Type CL2, CSA PCC FT1

Mfr.'s Type	Inner Conductor			Dielectric	Shield		Jacket		PER 100'		PER 500'		PER 1000'	
	Mat.'l	Strand	AWG		Mat.'l	% Coverage	Mat.'l	O.D. (In.)	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9817	1st cond. — C 2nd cond. — TC	7/34	20	PE	TC Braid	85	Black V	.330	708-9915	74.26	708Q9916	297.02	708Q9917	534.64
9818C	1st cond. — C 2nd cond. — TC	7/34	20	PE	TC Braid	95	Black V	.330	—	—	708Q9919	269.28	708Q9920	545.29

Data Cable — Twisted Pair, Shielded

► 9814C is UL Type CM; 9815C, 9819C, 9820C and 9823C are CL2 Related



Mfr.'s Type	No. of Type	Ohms	UL Style	Conductor		AWG Dielectric	Shield		Jacket		PER 100'		PER 500'		PER 1000'	
				Mat.'l	Strand		Mat.'l	% Coverage	Mat.'l	O.D. (In.)	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9814C	1	78	2582	TC	7/28	PE	A/M plus TC Braid and Drain	100	Blue PVC	.242	708-9900	63.65	708Q9901	254.59	708Q9902	509.18
9815C	1	78	2092	TC	7/28	PE	TC Braid	93	Blue PVC	.242	—	—	708Q9910	254.59	708Q9911	509.18
9819C	2	100	2919	TC	Solid	PE	A/M plus TC Braid	100	Black PVC	.290	708-9912	63.65	708Q9913	297.02	708Q9914	551.62
9820C	1	124	2704	C	Solid	FPE	A/M/A plus TC Braid	100	Black PVC	.440	708-9903	169.73	708Q9904	634.36	708Q9905	1230.53
9823C	1	150	2668	TC	19/34	FPE	A/M/A	100	Black PVC	.350	708-9926	112.44	708Q9927	392.50	708Q9928	742.56

Material Code: PE — Polyethylene; C — bare copper; TC — tinned copper; V — polyvinylchloride, type 1.

Microphone Cables

Shielded Microphone Cable

60°C PE/PVC. **Type 1703.** Stranded tinned copper conductor. White polyethylene insulation. Braided tinned copper shield. Gray-polyvinylchloride jacket. **Suggested Working Voltage:** 3500 V. Type 1703 is for high impedance microphones. **Type 1710.** Stranded tinned copper conductor. Color-coded polyethylene insulation;

Conductor 1 — White; Conductor 2 — Black. Cabled with fillers. Wrap over conductors. Braided tinned copper shield. Black polyvinylchloride jacket. **Suggested Working Voltage:** 1000 V. Type 1710 is for low impedance applications.

Mr.'s Type	No. of Cond.	Conductor		Nom. Ins. Thick	Nom. Cap. pF/ft.†	Nom. O.D.	PER 100'			PER 500'			PER 1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1703	1	24	10/34	.020"	35	.145"	708-7049	2.0	82.38	708Q7050	8.0	205.98	708Q7051	14.0	412.00
1710	2	22	16/34	.025"	31	.230"	708-7052	4.0	89.15	708Q7053	16.0	355.88	708Q7054	31.0	711.80

† Between one conductor and remaining conductors connected to shield.

Types 1448/20 and 1448/18. Conductors: Stranded tinned copper, color-coded rubber insulation, protective wrap over conductors. Braided tinned copper shield, overall cotton separator tape, black rubber* or neoprene**

jacket. Low impedance applications.

1448/20*	2	20	26/34	—	68	.260"	—	—	—	—	—	—	708Q3608	48.0	846.60
1448/18**	2	18	41/34	—	78	.290"	—	—	—	—	—	—	708Q3611	71.0	1036.32

Precision Video Coaxial Cable

Indoor, 75 Ohms (100% Sweep Test at 5 to 300 MHz)

Mr.'s Type	RG	Conductor			Dielectric		Shield		Jacket*		PER 1000'	
		AWG	Strand	Mat'l.	Mat'l.	Dia.	Mat'l.	Coverage	Mat'l.	Dia.	Stock No.	EACH
9807*	Video Cable	20	Solid	BC	PE	.200"	Double TC Braid	99%	PE	.304"	708Q9908	913.90
9808	Video Cable	20	Solid	BC	PE	.200"	Double TC Braid	98%	Clear PE	.304"	708Q9895	1211.94
9810	Video Cable	23	7/32	BC Compacted	PC	.146"	A/M Plus TC Braid	100%	Black NCV	.220"	708Q9897	737.22

Extra Flexible, 75 Ohms

9259*	59 B/U	24	7/32	BC	PE	.142"	BC	95%	PVC	.240"	708Q9982	848.64
9813*	Video Coax	20	7/30	BC	PE	.193"	BC	Inner @ 96%	PVC	.303"	708Q9983	1473.96

* Jacket Colors: Black.

Audio/Video Multiconductor Cable

NEC Type CM, CSA PCC FT4

Conductor: Stranded Tinned Copper. **Insulation:** Color-coded, Type 2464C — Polypropylene; Type 2465C — PVC. **Shield:** .015" Aluminum foil/mylar over conductors 2 and 3 with a stranded tinned copper drain wire for grounding. **Conductors:** 1 and 4 are paired. **Jacket:** Polyvinylchloride. **Operating Temperature Range:** +80°C, 75°C — CM.

Mr.'s Type	No. of Cond.	Conductor		Nom. O.D.	PER 100'			PER 500'			PER 1000'		
		AWG GA	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
2464C	4	22	7/30	.160" (4.10 mm)	708-6046	2.3	57.12	708-6047	11.0	168.20	708Q6048	21.5	336.40
2465C	4	20	7/28	.233" (5.92 mm)	708-6043	3.8	58.14	708-6044	18.8	247.35	708Q6045	35.5	492.72

Portable Cord —
300 V, 600 V, 60°C

Each conductor stranded bare copper; color coded PVC or rubber insulation; cabled with fillers, separator.



Rubber Jacket, 300 V, 60°C

Mr.'s Type	U.L. Type	No. of Cond.	AWG	Strand	Nom. O.D.	PER 100'		PER 250'	
						Stock No.	EACH	Stock No.	EACH
1951/3	SV	3	18	41/34	.260"	663-6053	94.23	663-6054	200.59
1952/3	SJ	3	18	16/30	.330"	663-6060	77.83	663-6061	165.97

Neoprene Jacket, 300 V, 60°C

Mr.'s Type	U.L. Type	No. of Cond.	AWG	Strand	Nom. O.D.	PER 100'		PER 250'	
						Stock No.	EACH	Stock No.	EACH
1932	SJO	2	18	16/30	.305"	—	—	663-6031	155.86
1932/3	SJO	3	18	16/30	.330"	—	—	663-6034	193.41

Neoprene Jacket, 600 V, 60°C

1934	SO	2	18	16/30	.390"	—	—	663-6037	251.63
1934/3	SO	3	18	41/34	.405"	663-6039	135.39	663-6040	287.42

Plastic Jacket, 300 V, 60°C

1941/3	SJT	3	18	—	.328"	663-6042	19.71	663-6043	167.73
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Multiconductor Telephone Cable,
Unshielded Flat (Oval)

Silver satin, 26 AWG stranded 7/34 bare copper, 150 V 80°C insulation material polypropylene. **Jacket Material:** Silver PVC. **Standard Length:** 328'. Also available in 1000'.

Stock No.	Mr.'s Type	No. of Conductors	Jacket Thickness × Width	PER 328'
708-3313	1604	4	0.100" × 0.200"	34.82
708-3314	1606	6	0.100" × 0.275"	41.56
708-3315	1608	8	0.100" × 0.335"	55.41

Multiconductor, Foil Shielded

Choose Xtra•Guard 1 For

- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- UL Recognized and UL Listed
- Flexible Cable Routing Requirements

Xtra•Guard 1 Use Examples

- EIA RS 232C Interface
- High Technology Applications in Controlled Environments

- Medical Electronics
- Point-Of-Sale Equipment
- Computer Peripherals
- Industrial Process Controls

Conductor: Stranded tin coated copper. **Conductor Styles:** 24 and 22 AWG — UL 1061, CSA AWM SR-PVC; 20, 18 and 16 AWG — UL 1007, CSA AWM PVC. **Insulation:** Color coded, 80°C premium polyvinylchloride. **Shield:** Aluminum/polyester (25% overlap, typical), foil facing in plus stranded, tinned copper drain wire equal in size to insulated conductors of cable. Nylon rip cord for ease of jacket stripping. **Cable Styles:** UL type CM, AWM 2464, CSA PCC FT4. **Operating Temperature Range:** -20°C to +80°C AWM (75°C — CM). **Jacket:** Premium polyvinylchloride in gray or black; stocked in gray. **Cable Style:** UL 2464.

300 Volt UL Type CM, AWM 2464 CSA PCC FT4

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Insulation Thickness	100'			500'		
						Stock No.	Wt. Lb.	EACH	Stock No.	Wt. Lb.	EACH
5092C	2	24	7/32	0.16"	.010"	708-1062	1.3	99.96	708Q1063	6.5	499.60
5093C	3	24	7/32	0.18"	.010"	708-1065	1.6	124.44	708Q1066	8.0	591.60
5094C	4	24	7/32	0.19"	.010"	708-1068	1.9	124.44	708Q1069	9.5	612.00
5096C	6	24	7/32	0.21"	.010"	708-1071	2.4	146.88	708Q1072	12.0	693.60
5098C	8	24	7/32	0.23"	.010"	708-1074	2.9	173.40	708Q1075	14.5	846.60
5100C	10	24	7/32	0.25"	.010"	708-1077	3.4	197.88	708Q1078	17.0	928.20
5190/15C	15	24	7/32	0.28"	.010"	708Q1080	4.7	283.56	708Q1081	23.5	1336.20
5100/25C	25	24	7/32	0.34"	.010"	708Q1086	7.0	420.24	708Q1087	5.0	2040.00
5192C	2	22	7/30	0.17"	.010"	708-1089	1.7	102.00	708Q1090	8.5	489.60
5193C	3	22	7/30	0.19"	.010"	708-1092	2.1	120.36	708Q1093	10.5	591.60
5194C	4	22	7/30	0.21"	.010"	708-1095	2.5	136.68	708Q1096	12.5	652.80

Multiconductor, Multipair SUPRASHIELD™

Choose Xtra•Guard 1 For

- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- UL Recognized and UL Listed
- Flexible Cable Routing Requirements

Xtra•Guard 1 Use Examples

- EIA RS 232C Interface
- High Technology Applications in Controlled Environments

- Medical Electronics
- Point-Of-Sale Equipment
- Computer Peripherals
- Industrial Process Controls

Conductor: Stranded tin coated copper. **Insulation:** Color coded, 80°C premium polyvinylchloride 24 and 22 AWG — UL Style 1061, CSA AWM SR-PVC; 20, 18 and 16 AWG — UL Style 1007, CSA AWM PVC. **SupraShield™:** Aluminum/polyester/aluminum foil with drain wire plus overall braid of tinned copper. **Jacket:** Premium polyvinylchloride. **Cable Styles:** UL type CM, AWM 2464, CSA PCC FT4. **Operating Temperature Range:** -20°C to +80°C — AWM (+75°C — CM). **Specifications:** FCC Docket 20780; CM rated. **Jacket Colors:** Gray or black; stocked in gray. **Cable Style:** UL 2464.

Multiconductor — 300 Volt UL Type CM, AWM 2464 CSA PCC FT4

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Insulation Thickness	100'		500'	
						Stock No.	EACH	Stock No.	EACH
5112C	2	24	7/32	.18"	.032"	708-1200	140.76	708Q1201	673.20
5113C	3	24	7/32	.20"	.032"	708-1203	171.36	708Q1204	754.80
5114C	4	24	7/32	.21"	.032"	708-1206	181.56	708Q1207	846.60
5116C	6	24	7/32	.23"	.032"	708-1209	195.84	708Q1210	948.60
5118C	8	24	7/32	.25"	.032"	708Q1212	232.56	708Q1213	1101.60
5120C	10	24	7/32	.27"	.032"	708Q1215	263.16	708Q1216	1244.40
5120/15C	15	24	7/32	.31"	.032"	708Q1218	357.00	708Q1219	1713.60
5120/25C	25	24	7/32	.36"	.032"	708Q1224	522.24	708Q1225	2519.40
5102C	2	22	7/30	.20"	.032"	708-9761	150.96	708Q6500	714.00
5103C	3	22	7/30	.21"	.032"	708-9762	169.32	708Q6502	816.00
5104C	4	22	7/30	.23"	.032"	708-9763	179.52	708Q6504	887.40
5106C	6	22	7/30	.26"	.032"	708-9764	218.28	708Q6506	1060.80
5108C	8	22	7/30	.28"	.032"	708Q9765	255.00	708Q6508	1193.40
5110C	10	22	7/30	.30"	.032"	708Q9766	297.84	708Q6510	1397.40
5110/15C	15	22	7/30	.34"	.032"	708Q9767	420.24	708Q6512	1989.00
5110/25C	25	22	7/30	.40"	.032"	708Q9769	638.52	708Q6516	3039.60
5152C	2	20	7/28	.23"	.032"	708-1227	175.44	708Q1228	846.60
5153C	3	20	7/28	.26"	.032"	708-1230	199.92	708Q1231	969.00
5154C	4	20	7/28	.28"	.032"	708-1233	218.28	708Q1234	1030.20
5156C	6	20	7/28	.32"	.032"	708Q1236	285.60	708Q1237	1366.80
5158C	8	20	7/28	.35"	.032"	708Q1239	314.16	708Q1240	1530.00
5160C	10	20	7/28	.37"	.032"	708Q1242	391.68	708Q1243	1866.60
5160/15C	15	20	7/28	.43"	.032"	708Q1245	552.84	708Q1246	2590.80
5160/20C	20	20	7/28	.48"	.032"	708Q1248	691.56	708Q1249	3274.20
5162C	2	18	16/30	.25"	.032"	708-1254	197.88	708Q1255	928.20
5163C	3	18	16/30	.28"	.032"	708Q6415	220.32	708Q6416	1060.80
5164C	4	18	16/30	.31"	.032"	708Q1260	259.08	708Q1261	1244.40
5166C	6	18	16/30	.35"	.032"	708Q1263	340.68	708Q1264	1632.00
5170C	10	18	16/30	.41"	.032"	708Q1269	495.72	708Q1270	2366.40
5170/25C	25	18	16/30	.62"	.032"	708Q0304	1128.12	708Q0305	5344.80
5172C	2	16	19/29	.28"	.032"	708Q1272	224.40	708Q1273	1091.40
5176C	6	16	19/29	.39"	.032"	708Q1281	432.48	708Q1282	2070.60
5178C	8	16	19/29	.43"	.032"	708Q1284	574.28	708Q1285	2743.80

Multipair — 300 Volt UL Type CM, AWM 2464 CSA PCC FT4

5271C	1	24	7/32	.18"	—	708-0280	140.76	708Q0281	632.40
5273C	3	24	7/32	.25"	—	708-0283	220.32	708Q0284	1081.20
5275C	5	24	7/32	.30"	—	—	—	708Q0287	1438.20
5279/15C	15	24	7/32	.43"	—	708Q0289	650.76	708Q0290	3141.60
5121C	1	22	7/30	.20"	—	708-0292	142.80	708Q0293	693.60
5122C	2	22	7/30	.25"	—	708-0295	195.84	708Q0296	938.40
5123C	3	22	7/30	.28"	—	708Q0298	246.84	708Q0299	1203.60
5124C	4	22	7/30	.31"	—	708Q0301	283.56	708Q0302	1356.60

300 Volt UL Type CM, AWM 2464 CSA PCC FT4 (Continued)

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Insulation Thickness	100'			500'		
						Stock No.	Wt. Lb.	EACH	Stock No.	Wt. Lb.	EACH
5196C	6	22	7/30	0.23"	.010"	708-1098	3.2	171.36	708Q1099	16.0	826.20
5198C	8	22	7/30	0.26"	.010"	708-1101	3.9	195.84	708Q1102	19.5	928.20
5199/10C	10	22	7/30	0.28"	.010"	708Q1104	4.6	236.64	708Q1105	23.0	1101.60
5199/15C	15	22	7/30	0.32"	.010"	708Q1107	6.3	306.00	708Q1108	31.5	1509.60
5199/20C	20	22	7/30	0.35"	.010"	708Q1110	8.0	410.04	708Q1111	40.0	1958.40
5199/25C	25	22	7/30	0.38"	.010"	708Q1113	9.6	475.32	708Q1114	48.0	2305.20
5462C	2	20	7/28	0.21"	.010"	708-1116	2.4	118.32	708Q1117	12.0	571.20
5463C	3	20	7/28	0.24"	.017"	708-1119	3.0	136.68	708Q1120	15.0	663.00
5464C	4	20	7/28	0.26"	.017"	708-1122	3.6	157.08	708Q1123	18.0	754.80
5466C	6	20	7/28	0.29"	.017"	708-1125	4.8	195.84	708Q1126	24.0	928.20
5468C	8	20	7/28	0.32"	.017"	708-1128	5.9	228.48	708Q1129	29.5	1122.00
5470C	10	20	7/28	0.35"	.017"	708-1131	7.1	285.60	708Q1132	30.5	1377.00
5470/15C	15	20	7/28	0.41"	.017"	708Q1134	9.8	385.56	708Q1135	49.0	1927.80
5470/20C	20	20	7/28	0.46"	.017"	708Q1137	12.5	493.68	708Q1138	62.5	2356.20
5382C	2	18	16/30	0.23"	.017"	708-1143	3.1	128.52	708Q1144	15.5	622.20
5383C	3	18	16/30	0.26"	.017"	708-1146	4.0	159.12	708Q1147	20.0	785.40
5384C	4	18	16/30	0.29"	.017"	708-1149	4.9	179.52	708Q1150	24.5	887.40
5386C	6	18	16/30	0.33"	.017"	708-1152	6.5	238.68	708Q1153	32.5	1162.80
5388C	8	18	16/30	0.36"	.017"	708Q1155	8.1	310.08	708Q1156	40.5	1509.60
5390C	10	18	16/30	0.39"	.017"	708Q1158	9.7	354.96	708Q1159	48.5	1744.20
5390/15C	15	18	16/30	0.45"	—	708Q0255	—	507.96	708Q0256	—	2468.40
5390/20C	20	18	16/30	0.51"	—	708Q0258	—	660.96	708Q0259	—	3192.60
5390/25C	25	18	16/30	0.56"	—	708Q0261	—	848.64	708Q0262	—	4080.00
5362C	2	16	19/29	0.25"	—	708-0264	—	159.12	708Q0265	—	785.40
5363C	3	16	19/29	0.27"	—	708-0267	—	201.96	708Q0268	—	948.60
5364C	4	16	19/29	0.29"	—	708Q0270	—	238.68	708Q0271	—	1162.80
5366C	6	16	19/29	0.35"	—	708Q0273	—	328.44	708Q0274	—	1581.00
5368C	8	16	19/29	0.38"	—	708Q0276	—	432.48	708Q0277	—	2040.00

600 Volt UL AWM 2501 CSA AWM I A/B II A/B FT4

5430/2	2	18	16/30	0.35"	—	708-0245	—	150.96	708Q0246	—	724.20
5430/3	3	18	16/30	0.37"	—	708Q0248	—	218.28	708Q0249	—	1030.20

Multiconductor, Unshielded

Choose Xtra•Guard 1 For

- Unsurpassed Flame and Moisture Resistance
- Fast, Easy Stripping of Insulation and Jacket
- UL Recognized and UL Listed
- Flexible Cable Routing Requirements

Xtra•Guard 1 Use Examples

- EIA RS 232C Interface
- High Technology Applications in Controlled Environments
- Medical Electronics
- Point-Of-Sale Equipment
- Computer Peripherals
- Industrial Process Controls

Conductor: Stranded tin coated copper. **Conductor Styles:** 24 and 22 AWG — UL Style 1061, CSA AWM SR-PVC; 20, 18 and 16 AWG — UL Style 1007, CSA AWM-PVC. **Insulation:** Color coded, 80°C premium polyvinylchloride. **Core Wrap:** Clear polyester (25% overlap, typical). Nylon rip cord for ease of jacket stripping. **Cable Styles:** 24 and 22 AWG — UL type CM, AWM 2464, CSA-PCC FT4. **Operating Temperature Range:** -20°C to 80°C — AWM, 75°C — GM. Passes UL vertical tray flame test. **Jacket:** Premium polyvinyl

- ▶ UL Listed Under Subject 13
- ▶ Complies With NEC Article 725 — Type PLTC, NEC300 and NEC340
- ▶ ULVW-1 — 300 Volt Rated Cables Pass UL Vertical Flame Test
- ▶ CSA Certified — 300 Volt
- ▶ IEEE383 — Both 300 Volt PLTC and 600 Volt Tray Cables Pass IEEE 70,000 BTU — Vertical Flame Test

105°C 300V PVC

- ▶ Stranded Bare Copper Conductors
- ▶ Extruded PVC Insulation
- ▶ Paired Construction Color-Coded — One Black, One White; Triple Constructions Color-Coded Black, White and Red
- ▶ All Pairs and Triples Twisted To Minimize Magnetic Noise
- ▶ Each Conductor (Multi-Pairs and Multi-Triples) Printed with a Pair or Triple Number at 1" (25.4 mm) Intervals for Easy Identification
- ▶ When Shielded, Aluminum Polyester Shield Tape and Tinned Copper Drain Wire Provided for Maximum Electrostatic Noise and Cross Talk Rejection
- ▶ Nylon Rip Cord Under Jacket to Simplify Stripping
- ▶ Extruded Black PVC Jacket Meets IEEE 383, 70,000 BTU Flame Test
- ▶ Temperature Range: -20°C to +105°C (UL) Static Conditions
- ▶ Voltage Rating: 300 Volts (UL)
- ▶ An Economical, General Purpose, Flame Retardant Construction with Excellent Chemical and Abrasion Resistance
- ▶ UL Listed Under Subject 13
- ▶ Complies With NEC Article 725, Type PLTC
- ▶ Available in Long Continuous Lengths
- ▶ Multi-Pair (-Triple) Constructions Include No. 22 AWG Communications Wire Color Coded Orange

Single Pair Shielded (Fig. A)

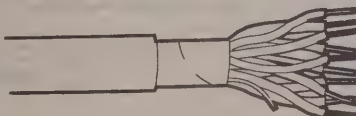
Stock No.	Mfr.'s Type	AWG	No. of Strands	Nom. Ins. Thickness		Nom. Jacket Thickness		Nom. O.D.		PER SPOOL 1000'
				In.	mm	In.	mm	In.	mm	
708-1350	5610B2201E	22	7/30	0.013	0.33	0.035	0.89	0.191	4.85	204.00
708-1351	5610B2001E	20	7/28	0.013	0.33	0.035	0.89	0.207	5.26	204.00
708-1352	5610B1801E	18	7/26	0.016	0.41	0.035	0.89	0.239	6.07	257.04
708Q1353	5610B1601E	16	7/0192	0.016	0.41	0.035	0.89	0.257	6.53	408.00
708Q1354	5610B1401E	14	19/0147	0.020	0.51	0.040	1.20	0.309	7.85	693.60
708Q1355	5610B1201E	12	19/0185	0.020	0.51	0.040	1.20	0.347	8.81	1489.20

Multi-Pair Overall Shielded

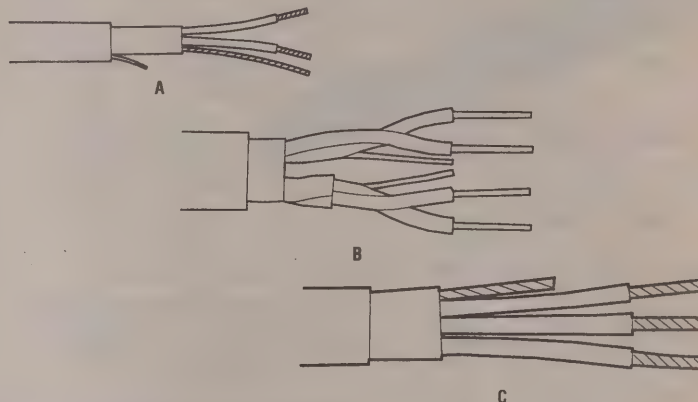
Stock No.	Mfr.'s Type	No. of Pairs	AWG	No. of Strands	Nom. Ins. Thickness		Nom. Jacket Thickness		Nom. O.D.		PER SPOOL 1000'
					In.	mm	In.	mm	In.	mm	
708Q1356	5610B2004E	4	20	7/28	0.013	0.33	0.050	1.27	0.38	9.6	1407.60
708Q1357	5610B2008E	8	20	7/28	0.013	0.33	0.050	1.27	0.47	11.9	1591.20
708Q1358	5610B2016E	16	20	7/28	0.013	0.33	0.060	1.52	0.63	16.0	3570.00
708Q1359	5610B2020E	20	20	7/28	0.013	0.33	0.060	1.52	0.68	17.3	4630.80
708Q1360	5610B1802E	2	18	7/26	0.016	0.41	0.040	1.02	0.33	8.4	1081.20
708Q1361	5610B1804E	4	18	7/26	0.016	0.41	0.050	1.27	0.44	11.2	1958.40
708Q1362	5610B1808E	8	18	7/26	0.016	0.41	0.050	1.27	0.56	14.2	2958.00
708Q1363	5610B1820E	20	18	7/26	0.016	0.41	0.060	1.52	0.82	20.8	7099.20
708Q1364	5610B1602E	2	16	7/0192	0.016	0.41	0.050	1.27	0.38	9.6	1142.40
708Q1365	5610B1608E	8	16	7/0192	0.016	0.41	0.060	1.52	0.64	16.2	4161.60

90°C 600V PVC/Nylon

- ▶ Standard Bare Copper Conductors
- ▶ Extruded PVC Insulation with Nylon
- ▶ Paired Constructions Color-Coded — One Black, One White; Triple Constructions Color-Coded Black, White and Red
- ▶ All Pairs and Triples Twisted To Minimize Magnetic Noise
- ▶ Each Conductor (Multi-Pairs and Multi-Triples) Printed with a Pair or Triple Number At 1" (25.4 mm) Intervals for Easy Identification; Numbers Are Printed Alternately and Inverted
- ▶ Nylon Jacketing of Each Conductor Provides Increased Dielectric Strength
- ▶ When Shielded, Aluminum Polyester Shield Tape and Tinned Copper Drain Wire Provided For Maximum Electrostatic Noise and Cross Talk Rejection
- ▶ Nylon Rip Cord Under Jacket to Simplify Stripping
- ▶ Extruded Black PVC Jacket Exceeds Test Criteria Established By Underwriters Laboratories Tray Fire Test, Based On IEEE Standard 383, 70,000 BTU Flame Test
- ▶ Temperature Range: -20°C to +90°C (UL +90°C) — Static Conditions
- ▶ Voltage Rating: 600 Volts (UL)
- ▶ PVC/Nylon Construction Results in a 600 Volt Small Diameter Cable that Saves Space
- ▶ Nylon Permits a Slipping Action Between Conductors that Relieves Stresses Developed When Cable is Flexed
- ▶ Listed as Tray Cable Under UL Subject 1277 and NEC Article 340 (Article 725 Class 1)
- ▶ Available in Long Continuous Lengths
- ▶ Multi-Pair Constructions Include No. 22 AWG Wire Color Coded Orange
- ▶ Commonly Utilized For In-Plant Process Control



American manufacturers are automating to meet world-wide competition. However, the vital functions of measurement and control of manufacturing and process operations is dependent on the electronic circuitry and instrumentation cable used in these control networks. Alpha's instrumentation cable provides you with minimal interference and maximum durability in full compliance with all industry standards.



Multi-Pair Individually and Overall Shielded (Fig. B)

Stock No.	Mfr.'s Type	No. of Pairs	AWG	No. of Strands	Nom. Ins. Thickness		Nom. Jacket Thickness		Nom. O.D.		PER SPOOL 1000'
					In.	mm	In.	mm	In.	mm	
708Q1366	5620B2002E	2	20	7/28	0.013	0.33	0.040	1.02	0.36	9.2	877.20
708Q1367	5620B2004E	4	20	7/28	0.013	0.33	0.050	1.27	0.40	10.2	1489.20
708Q1368	5620B2008E	8	20	7/28	0.013	0.33	0.050	1.27	0.51	13.0	2590.80
708Q1369	5620B2012E	12	20	7/28	0.013	0.33	0.060	1.52	0.61	15.5	4161.60
708Q1370	5620B2016E	16	20	7/28	0.013	0.33	0.060	1.52	0.68	17.3	4508.40
708Q1371	5620B2020E	20	20	7/28	0.013	0.33	0.060	1.52	0.74	18.8	4549.20
708Q1372	5620B1804E	4	18	7/26	0.016	0.41	0.050	1.27	0.46	11.7	1754.40
708Q1373	5620B1808E	8	18	7/26	0.016	0.41	0.060	1.52	0.62	15.7	4120.80
708Q1374	5620B1812E	12	18	7/26	0.016	0.41	0.060	1.52	0.73	18.5	5242.80
708Q1375	5620B1820E	20	18	7/26	0.016	0.41	0.070	1.79	0.91	23.1	6487.20
708Q1376	5620B1824E	24	18	7/26	0.016	0.41	0.070	1.79	0.98	24.9	9649.20
708Q1377	5620B1602E	2	16	7/0192	0.016	0.41	0.050	1.02	0.40	10.2	1305.60
708Q1378	5620B1604E	4	16	7/0192	0.016	0.41	0.050	1.02	0.51	13.0	2611.20
708Q1379	5620B1612E	12	16	7/0192	0.016	0.41	0.070	1.79	0.82	20.8	7874.40

Single Triad Shielded (Fig. C)

Stock No.	Mfr.'s Type	AWG	No. of Strands	Nom. Ins. Thickness		Nom. Jacket Thickness		Nom. O.D.		PER SPOOL 1000'
				In.	mm	In.	mm	In.	mm	
708Q1380	5640B2201E	22	7/30	0.013	0.33	0.035	0.89	0.230	5.80	346.80
708Q1381	5640B1801E	18	7/26	0.016	0.41	0.035	0.89	0.290	7.40	530.40
708Q1382	5640B1601E	16	7/0192	0.020	0.51	0.035	0.89	0.340	8.60	326.40

Multi-Triad Individual And Overall Shielded

Stock No.	Mfr.'s Type	No. of Trips	AWG	No. of Strands	Nom. Ins. Thickness		Nom. Jacket Thickness		Nom. O.D.		PER SPOOL 1000'
					In.	mm	In.	mm	In.	mm	
708Q1383	5650B2008E	8	20	7/28	0.013	0.33	0.050	1.27	0.59	15.0	2937.60

Single Triad Shielded

Stock No.	Mfr.'s Type	AWG	No. of Strands	Nom. Ins. Thickness		Nom. Jacket Thickness		Nom. O.D.		PER SPOOL 1000'
				In.	mm	In.	mm	In.	mm	
708Q1386	5646B1601	16	7/0192	0.021	0.53	0.045	1.14	0.31	7.9	632.40

Single Pair Shielded

708-1384	5616B1801	18	7/26	0.021	0.53	0.045	1.14	0.27	7.0	316.20
708Q1385	5616B1601	16	7/0192	0.021	0.53	0.045	1.14	0.29	7.5	408.00

Multipair Overall Shielded

Stock No.	Mfr.'s Type	No. of Pairs	AWG	No. of Strands	Nom. Ins. Thickness		Nom. Jacket Thickness		Nom. O.D.		PER SPOOL 1000'
					In.	mm	In.	mm	In.	mm	
708Q1388	5616B1812	12	18	7/26	0.021	0.53	0.060	1.52	0.74	18.8	4365.60
708Q1389	5616B1602	2	16	7/0192	0.021	0.53	0.045	1.14	0.40	10.2	1958.40
708Q1390	5616B1608	8	16	7/0192	0.021	0.53	0.060	1.52	0.70	17.8	3855.60
708Q1391	5616B1624	24	16	7/0192	0.021	0.53	0.080	2.03	1.08	27.4	13178.40

Twisted Pair, Solid Conductor, Level 5, 100 Mbps



300 V, 60°C. Application: EIA/TIA 568 — 10 Mbps, IEEE 802.3 (10BaseT); ICEA-S-80-576 — 4-16 Mbps, IEEE 802.5, 4 Mbps Arcnet, 20 Mbps Arcnet Plus; ICEA-S-80-576 — 100 Mbps, ANSI X3T9.5-TDPD1 (Standard Pending); NEMA Low Loss. Standard Length: 1000' Conductor. No. of Pairs*: 4. AWG: 24. Strand: Solid. Material: BC. DCR Ohms/1000' (Ohms/Km): 28.4 (98.2). Max. Nominal Capacitance pF/ft. (pF/m): 17 (55.8) at 1 KHz, max.; 17 (55.8) at 1 MHz, max.

Stock No.	Mfr.'s Type	Application	Weight Lbs./1000'	Insulation Material Thick./Dia. in. (mm)	Jacket Material Nom. O. D. in. (mm)	Nominal Impedance		Vel. of Prop. %	Nominal Attenuation		Worst Near End Cross-Talk		PER COIL/1000'
						Ohms	@ MHz		dB/100' (dB/100 m) Max.	@ MHz	dB/1000'	@ MHz	
708Q9873	9504C	Non-Plenum NEC MP PCC FT4	20	Flame Retardant Polyethylene 0.009 (0.23) 0.038 (0.97)	Black PVC 0.200 (5.08)	125 115 107 102 100 99 100	0.064 0.128 0.256 0.512 0.772 1 1-100	66	0.55 (1.80) 0.63 (2.07) 1 1.30 (4.26) 1.80 (5.90) 2.00 (6.56) 2.50 (7.62) 2.80 (9.18) 3.20 (10.50) 3.60 (11.80) 5.20 (17.10) 6.70 (22.00)	0.772 1 4 8 10 16 20 25 31.25 62.50 100	64 62 53 48 47 44 42 41 40 35 32	0.772 1 4 8 10 16 20 25 31.25 62.50 100	281.52
708Q9875	9504CS	Non-Plenum NEC MP PCC FT4 Foil Shielded											336.60
708Q9874	9504F	Plenum NEC MPP PCC FT4 FT6	19	FEP Teflon 0.007 (0.18) 0.034 (0.86)	Gray Plenum-PVC 0.170 (4.31)	125 115 107 102 100 99 100	0.064 0.128 0.256 0.512 0.772 1 1-100	73	0.55 (1.80) 0.63 (2.07) 1 1.30 (4.26) 1.80 (5.90) 2.00 (6.56) 2.50 (7.62) 2.80 (9.18) 3.20 (10.50) 3.60 (11.80) 5.20 (17.10) 6.70 (22.00)	0.772 1 4 8 10 16 20 25 31.25 62.50 100	64 62 53 48 47 44 42 41 40 35 32	0.772 1 4 8 10 16 20 25 31.25 62.50 100	467.16
708Q9876	9504FS	Plenum NEC MPP PCC FT4 FT6 Foil Shielded											754.80

*Color Code: Pr.1: Blue/White, White/Blue, Pr. 2: Orange/White, White/Orange, Pr. 3: Green/White, White/Green, Pr. 4: Brown/White, White/Brown.

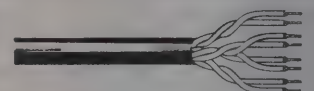
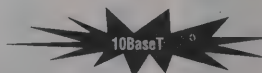
Unshielded Twisted Pair (UTP), Solid Conductor, Level 3, 10 Mbps



Stock No.	Mfr.'s Type	Application	Std. Length, Ft. (Weight, Lbs./1000')	Conductor		Insulation Material Thickness Diameter in. (mm)	Jacket Material Nom. O. D. in. (mm)	Nominal Impedance		Vel. of Prop. %	Nominal Capacitance pF/ft. (pF/m) Max.	Nominal Attenuation		Worst Near End Cross-Talk		PER BOX/1000'
				No. of Pairs*	AWG Stranding Material DCR Ohms/1000' (Ohms/Km)			Ohms	@ MHz			dB/100' (dB/100 m) Max.	@ MHz	dB/1000'	@ MHz	
708-3239	9304C 300 V 60°C	EIA/TIA 568 Ethernet IEE 802.3 10BaseT Non-Plenum NEC MP PCC FT4	1000' Box 1000' (23)	4	24 SOLID Bare Copper 28.4 (98.2) Max.	Semi Rigid PVC 0.009 (0.23) 0.038 (0.97)	Black PVC 0.200 (5.08)	125 115 107 102 100 100	0.064 0.128 0.256 0.512 0.772 1-16	64	22.5 (73.8) @ 1 KHz 18 (59.0) @ 1 MHz	0.024 (0.078) 0.077 (0.25) 0.25 (0.82) 0.38 (1.35) 0.54 (1.77) 0.66 (2.16) 0.76 (2.49) 1.63 (5.35) 2.43 (7.97) 2.80 (9.18) 3.70 (12.1)	0.002 0.008 0.064 0.256 0.512 0.772 1 4 8 10 16	65 54 53 46 39 38 37 37 37 37 37	0.150 0.772 1 4 8 10 16	230.52
708-3255	9304F 300 V 60°C	EIA/TIA 568 Ethernet IEE 802.3 10BaseT Non-Plenum NEC MPP PCC FT4 FT6	1000' Box 1000' (18)	4	24 SOLID Bare Copper 28.4 (98.2) Max.	Semi Rigid PVC 0.009 (0.23) 0.038 (0.97)	Gray Fluoropolymer 0.170 (4.32)	125 115 107 102 100 100	0.064 0.128 0.256 0.512 0.772 1-16	62	22.5 (73.8) @ 1 KHz 18 (59.0) @ 1 MHz	0.024 (0.078) 0.077 (0.25) 0.25 (0.82) 0.38 (1.35) 0.54 (1.77) 0.67 (2.21) 0.78 (2.56) 1.67 (5.48) 2.49 (8.17) 2.87 (9.41) 3.79 (12.4)	0.002 0.008 0.064 0.256 0.512 0.772 1 4 8 10 16	65 54 53 44 39 38 37 37 37 37 37	0.150 0.772 1 4 8 10 16	306.00

*Color Code: Pr.1: Blue/White, White/Blue, Pr. 2: Orange/White, White/Orange, Pr. 3: Green/White, White/Green, Pr. 4: Brown/White, White/Brown. Stocked in boxes. Coils of 1000' also available.

Unshielded Twisted Pair (UTP), Stranded Conductor, Level 3, 10 Mbps



Stock No.	Mfr.'s Type	Application	Std. Length, Ft. (Weight, Lbs./1000')	Conductor		Insulation Material Thickness Diameter in. (mm)	Jacket Material Nom. O. D. in. (mm)	Nominal Impedance		Vel. of Prop. %	Nominal Capacitance pF/ft. (pF/m) Max.	Nominal Attenuation		Worst Near End Cross-Talk		PER BOX/1000'
				No. of Pairs*	AWG Stranding Material DCR Ohms/1000' (Ohms/Km)			Ohms	@ MHz			dB/100' (dB/100 m) Max.	@ MHz	dB/1000'	@ MHz	
708-3256	9314C 300 V 60°C	IEEE 802.3 10BaseT Non-Plenum NEC MP PCC FT4	328' Box 328' (23)	4	24 7/32 Bare Copper 26 (85.3) Max.	Polyethylene 0.007 (0.18) 0.038 (0.97)	Black PVC 0.200 (5.08)	125 115 107 102 100 100	0.064 0.128 0.256 0.512 0.772 1-16	67	22.5 (73.8) @ 1 KHz 18 (59.0) @ 1 MHz	0.08 (0.26) 0.15 (0.49) 0.28 (0.92) 0.40 (1.31) 0.56 (1.84) 0.67 (2.21) 0.78 (2.56) 1.60 (5.25) 2.60 (8.53) 3.00 (9.84) 4.00 (13.1)	0.002 0.008 0.064 0.256 0.512 0.772 1 4 8 10 16	50 43 41 32 28 26 23 23 23 23 23	0.150 0.772 1 4 8 10 16	75.58

*Color Code: Pr. 1: Blue/White, White/Blue, Pr. 2: Orange/White, White/Orange, Pr. 3: Green/White, White/Green, Pr. 4: Brown/White, White/Brown. Stocked in boxes. Coils of 1000' also available.

Tinned Copper Flat Braid

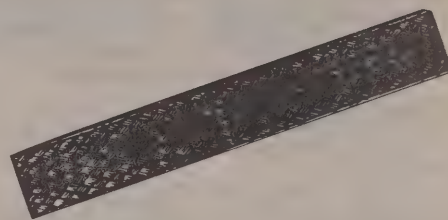
- Flexible Ground Strips
- Connect Moving Parts

- Retrofit Applications
- Bonding Straps

Woven tinned copper braid rolled to specific width. Meets requirements of Fed. Spec. QQ-W-343E Type S and ASTM-B-33. *Values shown are for bare cable in free air at 30°C and intended as a reference guide only. Actual values will depend on permissible temp. rise, permissible voltage drop and other conditions of service.

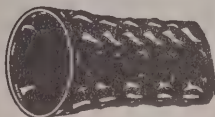
Mfr.'s Type	Nom. Flat Width (In.)	Nom. Thick (In.)	Braid Construction Total No. of Indiv. Ends	Approx. AWG Equiv.	Nom. Circular Mil. Area (CM)	Current Carrying Capacity (Amps)*	Stock No.	PER 100'
1229†	1/8	.020	72	18	1800	16	708-8068	86.68
1230†	9/16	.020	120	15	3000	25	708-8071	94.29
1231†	1/4	.030	168	14	4200	32	708-8074	128.05
1232	3/8	.030	288	12	7200	46	708-8077	205.02
1233/2†	1/2	.030	384	10	9600	53	708-8080	259.79
1233	5/8	.030	384	10	9600	53	708Q8083	274.83
1234	3/4	.040	832	7	20800	85	708Q8086	618.51
1235	1	.045	832	7	20800	85	708Q8090	661.96

†Meets QQ-B-575B.



Tinned Copper Oval Braid

- Woven Tinned Copper Braid Manufactured in Tubular Configuration Provides 90% Coverage
- Each Strand Meets Requirements of Fed. Spec. QQ-W-343E and ASTM-B-33
- Appl. Shielding, Cable/Harness Assembly



Stock No.	Mfr.'s Type	Nom. I.D. When Rounded		Braid Construction		Approx. AWG Equiv.	Nom. Circular Mil Area CM	Approx. Current Carrying Capacity (Amps)	PER 100'
		In.	mm	AWG of Indiv. Ends	Total No. of Indiv. Ends				
696-8000	2132	1/16	1.59	34	32	19	1192	11	59.60
696-8001	2138	11/64	4.37	34	120	14	4770	32	150.46
696-8002	2140	3/16	4.76	34	144	13	5724	38	161.56
696-8003	2142	1/4	6.35	34	168	12	6678	41	195.56
696-8004	2144	3/8	9.53	34	192	11	7632	46	218.00
696Q8005	2146	1/2	12.70	34	336	9	13356	62	413.56
696Q8006	2148	5/8	15.88	34	384	8	14264	64	450.04
696Q8007	2150	11/16	17.46	34	480	7	19080	81	553.18
696Q8008	2152	29/32	19.84	34	528	7	20988	85	606.60

Standard Put-Up: 2132, 2138 — 100, 500, 1000 Ft.; 2140-2144 — 100, 500 Ft.; 2146-2152 — 100 Ft.

Tinned Copper Tubular Braid

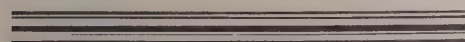
- Each Strand Soft Drawn Tinned Copper Wire Meets Fed. Spec QQ-W-343E and ASTM-B-33
- Shield Coverage is 95% When Placed Over Mandrel of Equivalent Diameter to That of Braid Interior

Stock No.	Mfr.'s Type	Nom. I.D. When Rounded		Braid Construction		Approx. AWG Equiv.	Nom. Circular Mil Area CM	Approx. Current Carrying Capacity (Amps)	PER 100'
		In.	mm	AWG of Indiv. Ends	Total No. of Indiv. Ends				
696-8010	2160	1/32	0.79	36	24	22	600	7.0	45.78
696-8012	2162	1/16	1.59	36	48	19	1200	11.0	96.32
696-8014	2163	5/64	1.98	36	72	18	1800	16.0	111.72
696-8016	2164	7/64	2.78	36	96	16	2400	19.0	147.52
696-8018	2166	1/8	3.18	36	120	15	3000	25.0	153.86
696Q8020	2167	5/32	3.97	36	240	12	6000	40.0	254.76
696-8022	2168	11/64	4.37	36	168	14	4200	32.0	196.02
696Q8024	2170	13/64	5.16	34	192	11	7630	46.0	272.82
696Q8026	2171	1/4	6.35	36	384	10	9600	53.0	369.70
696Q8028	2171/1	9/32	7.14	30	120	9	12060	60.0	384.76
696Q8030	2172	3/8	9.53	36	384	10	9600	53.0	380.22
696Q8032	2173	7/16	11.11	30	240	6	24120	90.0	627.22
696Q8034	2174	1/2	12.70	36	528	9	13200	62.0	521.18
696Q8036	2175	9/16	14.29	30	480	3	48240	145.0	962.14
696Q8038	2175/1	21/32	16.67	30	768	1	77180	190.0	1474.94
696Q8040	2176	25/32	19.84	36	846	7	21600	88.0	705.40

Standard Put-Up: 2160-2168 — 100 Ft., 250 Ft.; 2170-2176 — 100 Ft. only

Tinned Copper Bus Bar

- MIL-W-3861* Type S
- QQ-W-343 Type S
- ASTM-B-33



Electrolytic, soft drawn and annealed, solid tin-plated copper. MIL-W-3861 Type S, QQ-W-343 Type S, ASTM-B-33. *No longer a current military specification.

Mfr.'s Type	Cond AWG	Nom. Circular Mil. Area, CM	Nom. O.D.		100'		1000'	
			In.	mm	Stock No.	EACH	Stock No.	EACH
286	14	4110	.065	1.65	708-8052	35.97	708-8053	279.44
295	16	2580	.051	1.30	708-8054	23.50	708-8055	190.70
296	18	1620	.040	1.07	708-8056	16.59	708-8057	121.97
297	20	1020	.033	.83	708-8058	12.69	708-8059	85.09
298	22	640	.025	.63	708-8060	10.61	708-8061	61.20
299	24	404	.020	.50	708-8062	10.14	708-8063	61.63
299/1	26	253	.016	.41	708-8064	9.55	708-8065	46.35
299/2	28	159	.013	.33	708-8066	9.10	708-8067	41.29

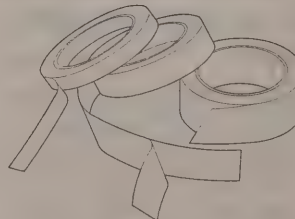
Test Lead Wire

- Conductor: Stranded Tinned Copper
- Insulation: Color Coded Rubber
- Temperature Range: -30°C to +90°C
- Colors Available: 2 — Black; 3 — Red; Insert 2 or 3 Where N Appears in Stock Number

Mfr.'s Type	Conductor		Nom. Ins. Thick.	Voltage Breakdown	Sugg. Working Voltage	Nominal O.D.	100'		500'		1000'	
	AWG	Strand					Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
1632	20	41/36	.040	6000	1500 V	.125" (3.18 mm)	696-790N	42.10	696-791N	149.18	696Q792N	279.36
1635	20	41/36	.047	12000	3000 V	.140" (3.56 mm)	696-787N	43.70	696-788N	164.28	696Q789N	290.34
1636	18	65/36	.045	20000	5000 V	.140" (3.56 mm)	696-796N	43.24	696-797N	194.86	696Q798N	299.50
1638	18	65/36	.090	29000	10000 V	.230" (5.84 mm)	696-784N	57.42	696-785N	226.74	696Q786N	453.48

Copper Shielding Tape

- UL Standard 510
- MIL-Standard 202C
- ASTM-D-1000
- Highly Conductive Pressure Sensitive Adhesive
- Oxidation Resistant Conductive Particles in Adhesive Produce Very Low Resistance Through Tape
- UL Recognized



Provides a low impedance connection between metal connector backshell and the braided cable shield in molded cables. An effective EMI/RFI shielded cable assembly can be achieved without soldering the tape to the braid or backshell (a tin-plated backshell is recommended). Provides electrical contact to surfaces that cannot be soldered such as conductive plastic. EMI/RFI shielding of cables by wrapping the tape around the cable. (Recommend 40-50% overlap). Provides electrical continuity in seams of EMI/RFI shielded rooms. Draining of static charges. Bus bar application. **Specifications. Tensile Strength:** 21 lbs./in. **Adhesion:** 40 oz./in. **Thickness:** .003 in. **Flammability:** Flame retardant per UL Standard 510. **Electrical Resistance Through Tape:** .003 ohms/in. **Shielding Effectiveness:** 50 dB.

Stock No.	Mfr.'s Type	Width		Length	EACH
		In.	mm		
708-8092	CST-5	1/2	12.7	36 yards	64.59
708-8093	CST-10	1	25.4	36 yards	134.84
708-9084	CST-15	1 1/2	38.1	36 yards	198.90
708Q8095	CST-20	2	50.8	36 yards	262.51

FIT® 221 — Irradiated Polyolefin

► UL Subject 224†, CSA Standard 198† MIL-I-23053/5A, AMS 3636 (Colors), AMS 3637 (Clear)

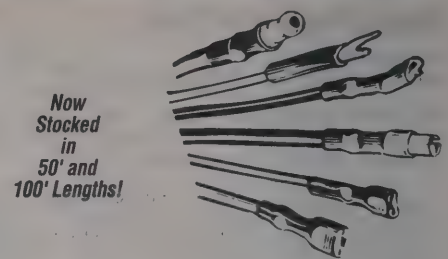
FIT-221 is the most widely used general purpose heat-shrinkable tubing. It is flexible, flame-retardant, self-extinguishing and fungus-proof. The tubing shrinks a minimum of 50% of supplied diameter at 121°C longitudinal shrinkage, ±3% (UL224). **Operating Temperature:** -55°C to +135°C. **Tensile Strength:** 1800 psi nominal. **Colors Available:** 1-Black, 2-Red, 3-White, 4-Clear*, 5-Yellow, 6-Green, and 7-Blue. Insert the color number where N appears in the stock number. †UL and CSA require surface marking for identification. Material from stock is unmarked. If marking is required please specify when ordering.

50'-100' FIT 221 Spools

FIT 221 is now available in 50' or 100' spools where noted. These shorter length spools are perfect for on-site installation needs. The spool is easily stored on any rack. Preprinted instructions are located right on the spool. The spool is packaged in a clear bag. Available in black, clear, and colors.

Size (")	Min. Supplied ID (")	Max. Recovered ID (")	Wall Thickness (")	6-Inch Lengths			4-Foot Lengths			Spooled Lengths			New Spooled Lengths		
				Stock No.	No. of Lengths	PER BOX	Stock No.	No. of Lengths	PER BOX	Stock No.	Put Up Length	PER SPOOL	Stock No.	Put Up Length	PER SPOOL
3/64	.046	.023	.016	708-900N	40	11.60	708-901N	25	31.46	708Q902N	1000'	314.60	—	—	—
1/16	.063	.031	.017	708-903N	36	11.60	708-904N	25	32.12	708Q905N	1000'	321.14	708-751N	100'	32.12
3/32	.093	.046	.020	708-906N	32	11.60	708-907N	25	36.44	708-908N	500'	182.16	708-752N	100'	36.44
1/8	.125	.062	.020	708-909N	28	11.60	708-710N	25	38.54	708-711N	500'	192.60	708-753N	100'	38.54
3/16	.187	.093	.020	708-712N	24	11.60	708-713N	25	46.80	708-714N	500'	234.06	708-754N	100'	47.30
1/4	.250	.125	.025	708-715N	20	11.60	708-716N	25	59.24	708-717N	250'	148.10	708-755N	100'	59.24
3/8	.375	.187	.025	708-718N	16	11.60	708-719N	25	65.98	708-720N	200'	131.94	708-756N	50'	33.56
1/2	.500	.250	.025	708-721N	14	11.60	708-722N	5	14.84	708-723N	150'	106.06	708-757N	50'	36.36
3/4	.750	.375	.030	708-724N	12	11.60	708-725N	5	19.94	708-726N	250'	249.42	—	—	—
1	1.000	.500	.035	708-727N	8	11.60	708-728N	5	27.86	708-729N	250'	348.46	—	—	—
1 1/2	1.500	.750	.040	708-730N	5	11.60	708-731N	5	51.92	708Q732N	125'	324.48	—	—	—
2	2.000	1.000	.045	708-734N	3	11.60	708-735N	5	71.72	708Q736N	125'	448.26	—	—	—

** No UL recognition, CSA Certification on clear.



Now
Stocked
in
50' and
100' Lengths!



Preprinted
Instructions
Are Located
on the
Spool!

FIT® 221V — Highly Flame Retardant Polyolefin



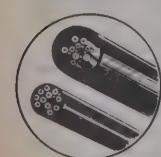
A radiation cross-linked polyolefin heat-shrinkable tubing designed for a wide range of applications requiring a highly flame retardant material. **Typical Applications:** for use where UL recognition with VW-1 is needed; harness bundling; electrical insulation; cable jacketing; lightweight harmless jackets; terminal insulation; wire strain relief; general purpose component packaging. **Specifications. Color:** Black. **Operating Temperature:** -40°C to +125°C. **Shrinkage Ratio:** 2:1 at 121°C. **Tensile Strength:** 1800 psi, nom. **Longitudinal Shrinkage:** ±3% (UL224). **Dielectric Strength:** 500 V/mil. **Volume Resistivity:** 1014 ohm/cm. CSA Standard 198. Fit-221V is surface marked in accordance with UL and CSA requirements.

Size (")	Min. Supplied ID (")	Max. Recovered ID (")	6-Inch Lengths			4-Foot Lengths		
			Stock No.	Total Fl.	EACH	Stock No.	Total Fl.	EACH
3/64	.046	.023	708-4400	20	11.60	708-4415	100	31.46
1/16	.063	.031	708-4402	18	11.60	708-4418	100	32.12
3/32	.093	.046	708-4404	16	11.60	708-4421	100	36.44
1/8	.125	.062	708-4406	14	11.60	708-4424	100	38.54
3/16	.187	.093	708-4408	12	11.60	708-4427	100	46.80
1/4	.250	.125	708-4430	10	11.60	708-4442	100	59.24
3/8	.375	.187	708-4432	8	11.60	708-4445	100	65.98
1/2	.500	.250	708-4434	7	11.60	708-4448	20	14.84
3/4	.750	.375	708-4436	6	11.60	708-4451	20	19.94
1	1.000	.500	708-4438	4	11.60	708-4454	20	27.86

- Flame Retardant: Passes UL VW-1 Flame Test
- UL Recognized and CSA Certified

FIT® 105 — Flexible Irradiated Polyvinylchloride

UL Recognized/CSA Certified†, MIL-I-23053/2C*



FIT 105 features high mechanical strength and excellent flexibility. It will not cold flow or melt and will not split — even over sharp edges. It is flame-retardant, self-extinguishing, and does not support fungus growth (MIL-I-7444). The tubing shrinks to 50% of supplied diameter at 175°C, longitudinal shrinkage 10% nominal. **Operating Temperature:** -35°C to +105°C. Tensile strength 2600 psi nominal. Stocked in black; gray also available. 2" available by special order. †UL, CSA require that FIT 105 be surface marked for identification. Material from stock is unmarked. If marking is required please specify when ordering. *MIL-I-23053/2C is inactive for new design and is no longer used by the Department of Defense except for replacement purposes.

black; gray also available. 2" available by special order. †UL, CSA require that FIT 105 be surface marked for identification. Material from stock is unmarked. If marking is required please specify when ordering. *MIL-I-23053/2C is inactive for new design and is no longer used by the Department of Defense except for replacement purposes.

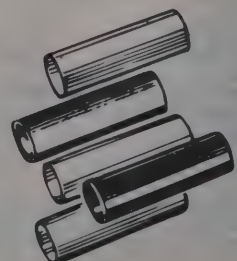
Size (")	Min. Supplied ID (")	Max. Recovered ID (")	Wall Thickness (")	25' Coil			100' Coil		
				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3/64	.046	.023	.020	708-3804	.1	11.00	708-3808	.1	39.20
1/16	.062	.031	.020	708-3810	.1	11.80	708-3813	.3	42.20
3/32	.093	.046	.020	708-3817	.1	13.40	708-3820	.5	47.60
1/8	.125	.062	.025	708-3823	.2	14.00	708-3827	1.1	50.40
3/16	.197	.093	.025	708-3830	.3	17.20	708-3833	1.4	61.40
1/4	.250	.125	.025	708-3837	.4	21.60	708-3840	1.4	77.60
3/8	.375	.187	.030	708-3843	.5	24.00	708-3847	2.0	86.20
1/2	.500	.250	.030	708-3850	.8	27.00	708-3853	4.5	97.20
3/4	.750	.375	.035	708-3857	1.3	36.40	708-3860	5.0	130.20
1	1.000	.500	.040	708-3863	2.2	50.80	708-3865	8.3	182.40
1 1/2	1.500	.750	.045	708-3867	3.9	95.60	708Q3870	15.4	343.80

FIT® 300 — Surface Irradiated Polyolefin

MIL-I-23053/4B, Class 1 AMS-3634

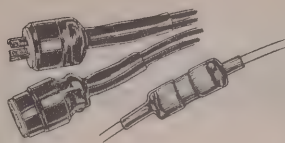
When heated, the outer jacket shrinks and the inner wall melts and flows. The result is semi-rigid tubing with an inner wall that seals and provides tough mechanical protection. The tubing shrinks to 15% to 40% of the supplied diameter depending on the size at 135°C. Longitudinal shrinkage is 10% nominal. Non-flame retardant. Does not support fungus growth. **Operating Temperature:** -55°C to +110°C. **Tensile Strength:** 2500 psi nominal. All sizes available in black, but only one additional color is available for each size (see right). For 6" lengths, insert "5" where N appears in the stock number. For 4" lengths, insert "7" where N appears in the stock number.

Stock No.	Size (")	Min. Supplied ID (")	Max. Recovered ID (")	Wall Thickness (")	Color	6-Inch Lengths		4-Foot Lengths	
						No. of Lengths	PER BOX	No. of Lengths	PER BOX
708-780N	1/8	.125	.023	.038	Black	14	14.80	25	137.80
708-781N	3/16	.187	.060	.043	Black	12	14.80	25	168.20
708-782N	1/4	.250	.080	.047	Black	10	14.80	25	209.40
708-783N	3/8	.375	.135	.050	Black	8	14.80	25	233.20
708-784N	1/2	.500	.195	.055	Black	6	14.80	5	55.20
708-785N	3/4	.750	.313	.065	Black	4	14.80	5	85.00



FIT® 621 High Shrink Ratio Tubing

Adhesive-lined, polyolefin shrink tubing that shrinks up to 1/6 of the supplied diameter at 120°C. Superior moisture protection. Excellent for field repair of indoor-outdoor cables rated to 1000V. Suitable for direct burial. Conforms to odd shapes and sizes. **Operating Temperature:** -40°C to +125°C. **Color:** Black. **Package:** 3-6" lengths.

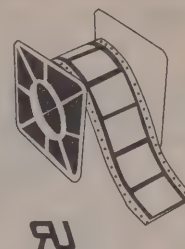


Shrinks to 1/6 Original Size

Stock No.	Mfr.'s Type	Min. Supplied I.D.	Max. Recovered I.D.	PER PKG.
708-0010	FIT621-2	2.00" (50.80 mm)	.375" (9.50 mm)	36.00
708-0011	FIT621-3	3.00" (76.20 mm)	.750" (19.05 mm)	79.50
708-0015	FIT621-4	4.00" (101.60 mm)	.900" (22.86 mm)	126.00
708-0017	FIT621-5/8	0.60" (15.24 mm)	.150" (3.81 mm)	33.60
708-0019	FIT621-1 1/4	1.25" (31.75 mm)	.220" (5.59 mm)	35.10
708-0021	FIT621-2 1/2	2.50" (63.50 mm)	.500" (12.70 mm)	57.90

Heat Shrinkable Identification System FIT®-PRINT

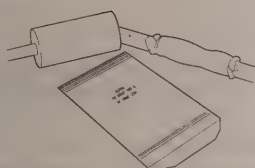
Polyolefin tubing with a shrink ratio of 3:1 at 125°C. Smear-resistant, permanent identification. The sleeves feed directly into standard typewriters or dot matrix printers. For best results use a ribbon with a high carbon content and for write-on convenience a standard ball point pen may also be used. Flame retardant. 250 markers per spool.



Stock No.	Mfr.'s Type	Wire Gauge	Min. Supplied I.D.	Max. Recovered I.D.	Width	EACH
708-302N	FIT Print-1/8	22-16	0.125" (3.20 mm)	.042" (1.0 mm)	0.235	96.80
708-303N	FIT Print-1/4	16-8	0.250" (6.40 mm)	.083" (2.1 mm)	0.420	110.66
708Q304N	FIT Print-1/2	8-2	0.500" (12.70 mm)	.166" (4.2 mm)	0.840	250.32
708Q305N	FIT Print-1	2-400 mcm	1.000" (25.40 mm)	.333" (8.4 mm)	1.630	289.16

Colors available: 1-white, 5-yellow. Insert the color number where "N" appears in the stock number.

FIT® WRAP



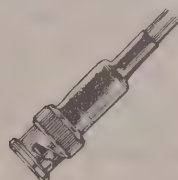
Alpha's new and innovative FIT® WRAP sleeves redefine the FIT® shrinkable tubing concept! FIT® WRAP permanently repairs damaged or split cables without cutting or disconnecting them from equipment. A fast and easy solution that eliminates costly downtime!

Meets MIL-I-23053/15A requirements. Oxygen Index (min.): 27.5. Resists de-icing and hydraulic fluid, JP-4, diesel and lubricating oils and 5% NaCl. Non-corrosive, outer wall self-extinguishing. **Operating Temperature:** -55°C to +110°C. **Shrinkage Ratio:** 3:1 at +121°C, depending on size. **Physical Properties. Tensile Strength:** 1200 psi. **Ultimate Elongation:** 200%. **Specific Gravity:** 1.4. **Low Temperature Flexibility:** no cracking after four hours exposure at -55°C.

Stock No.	Mfr.'s Type	Min. Recovered Diameter Range	Max. Recovered Diameter Range	Flat Length	PER PACK/5
708-2510	FIT WRAP 80-6	.25" (6.35 mm)	1.20" (30.48 mm)	6	140.00
708-2511	FIT WRAP 80-8	.25" (6.35 mm)	1.20" (30.48 mm)	8	160.00
708Q2512	FIT WRAP 80-16	.25" (6.35 mm)	1.20" (30.48 mm)	16	290.00
708-2513	FIT WRAP 110-6	.31" (7.87 mm)	1.70" (43.18 mm)	6	160.00
708-2514	FIT WRAP 110-8	.31" (7.87 mm)	1.70" (43.18 mm)	8	185.00
708Q2515	FIT WRAP 110-16	.31" (7.87 mm)	1.70" (43.18 mm)	16	310.00
708-2516	FIT WRAP 180-6	.47" (11.94 mm)	2.05" (52.07 mm)	6	170.00
708-2517	FIT WRAP 180-8	.47" (11.94 mm)	2.05" (52.07 mm)	8	190.00
708Q2518	FIT WRAP 180-16	.47" (11.94 mm)	2.05" (52.07 mm)	16	330.00

FIT® 321...High Shrink Ratio (3:1) Polyolefin

- ▶ 3:1 Shrink Ratio
- ▶ Flame Retarded Outer Wall
- ▶ Water Resistant (0.5% Maximum Absorption)



When heated, inner wall melts and fills all crevices and interstices of the covered object while outer wall shrinks. Upon cooling, the entire mass becomes a tough molding that provides excellent environmental protection. **Specifications. Operating Temperature:** -55°C to +110°C. **Shrink Ratio:** 3:1 at 125°C. **Tensile Strength:** 2500 psi, nominal. **Ultimate Elongation:** 400% nominal. **Longitudinal Shrinkage:** 15%, nominal. MIL-I-23053C/4B Class 3.

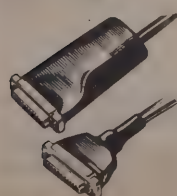
6" Lengths

Stock No.	Size	Min. Supplied I.D. (")	Max. Recovered I.D. (")	Total Ft.	EACH
708-4490	1/8"	0.120	0.040	14.0	48.50
708-4492	1/4"	0.240	0.080	10.0	48.50
708-4494	1/2"	0.470	0.160	7.0	48.50
708-4496	1"	0.940	0.320	4.0	48.50
708-4498	1 1/2"	1.570	0.510	2.5	48.50

Assortments

5 lengths each per size. 4 sizes, 1/8" through 1". Total of 20 lengths. **Color:** Black. 708-9628. FIT 321-MS/1.....EACH 46.60

FIT® 421...High Shrink Ratio (4:1) Polyolefin



Stands up to your toughest tests. FIT 421 is a tough, irradiated polyolefin with a 4:1 shrinkage ratio that solves the problem of covering and protecting the connections between cables and bulky connectors. **Applications:** Insulation and protection for connector-to-cable terminations; harmless jacket sleeving repair; coverage of irregular shapes not possible with 2:1 shrink ratio material. **Specifications. Operating Temperature:** -55°C to +135°C. **Shrinkage Ratio:** 4:1 at 121°C. **Tensile Strength:** 1800 psi. **Longitudinal Shrinkage:** 50% maximum. MIL-I-23053/5A Class 1 overexpanded. AMS 3636D. Non-corrosive; self-extinguishing. **Color:** Black.

FIT® 350 Irradiated Kynar®

UL Subject 224† CSA Standard 198† MIL-I-23053/8A AMS 3632 FIT-350 is transparent, thin-wall, high temperature, flame-retardant tubing which is excellent for installations requiring high resistance to abrasion and cut-through. Allows easy inspection of covered components. The tubing shrinks to 50% of supplied diameter at 175°C, longitudinal shrinkage 5% nominal. Semi-rigid, chemical resistant and self-extinguishing. Does not support fungus growth. **Operating Temperature:** -55°C to +175°C. **Tensile Strength:** 8000 psi, nominal. 4' lengths are available by special order.



*TM Pennwalt. †UL and CSA require FIT-350 to be surface marked for identification. Material from stock is unmarked. If marking is required, please specify when ordering.

6" Lengths

Stock No.	Size	Min. Supplied I.D. (")	Max. Recovered I.D. (")	Wall Thickness (")	No. of Lengths	PER BOX
708-4309	1/16"	.063	.031	.010	28	17.40
708-4315	3/32"	.093	.046	.010	24	17.40
708-4321	1/8"	.125	.062	.010	20	17.40
708-4327	3/16"	.187	.093	.010	16	17.40
708-4333	1/4"	.250	.125	.012	12	17.40

Assortment Kits

FIT 350 MS/1. Five 6" lengths each of five different sizes: 3/64" through 3/16". 25 Lengths Total. 708-9614.....EACH 15.18
FIT 350 MS/2. Five 6" lengths each of five different sizes: 1/4" through 1". 25 Lengths Total. 708-9615.....EACH 90.60

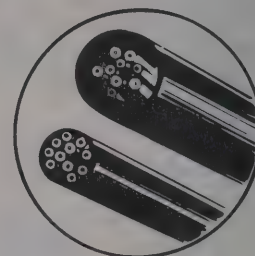
4' Lengths

Stock No.	Size	Min. Supplied I.D. (")	Max. Recovered I.D. (")	Total Ft.	EACH
708Q4460	1"	1.000	0.275	20	214.00
708Q4465	1 1/2"	1.500	0.375	20	251.80
708Q4470	2"	2.000	0.550	20	289.60
708Q4475	3"	3.000	0.810	8	132.80
708Q4480	4"	4.000	1.050	8	201.60

FIT® FLEX

FIT® FLEX provides strain relief, terminal insulation, cable jacketing and wire harnessing protection in applications where flexibility and durability are mandatory. Most flexible heat shrink tubing product in the industry. Passes the UL VW-1 flame test. **Operating Temperature:** -75°C to +200°C (UL). **Shrink Ratio:** approximately 1.7:1 at 125°C. Non-corrosive. **Water Absorption:** 0.4%. 1 year shelf life. Stocked in gray.

Mfr.'s Type	Minimum Supplied		Maximum Recovered		Nom. Recovered Wall Thickness		25' Spool		100' Spool	
	Inches	mm	Inches	mm	Inches	mm	Stock No.	EACH	Stock No.	EACH
FIT-FLEX-2	.112	2.84	.070	1.77	.040	1.02	708Q5071	254.40	708Q5072	1017.50
FIT-FLEX-3	.190	4.82	.116	2.94	.040	1.02	708Q5073	330.62	708Q5074	1322.50
FIT-FLEX-5	.305	7.74	.184	4.67	.040	1.02	708Q5075	446.80	708Q5076	1787.50
FIT-FLEX-6	.391	9.93	.240	6.09	.060	1.52	708Q5077	504.38	708Q5078	2017.50
FIT-FLEX-9	.588	14.93	.357	9.06	.060	1.52	708Q5079	664.30	—	—
FIT-FLEX-12	.825	20.95	.475	12.06	.080	2.03	708Q5081	896.80	—	—
FIT-FLEX-20	1.217	30.91	.790	20.06	.080	2.03	708Q5083	1712.50	—	—



FIT® 100

► Flame Retardant, Low Shrink Temperature PVC

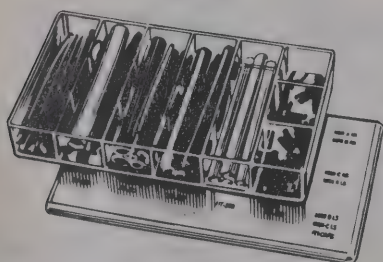
► Non-Irradiated

Passes UL VW-1 and CSA OFT flame test. Low shrink temperature (100°C) speeds production time. UL Recognized, CSA Certified. Resistant to most chemicals, greases, oils, lubricants chlorinated cleansers, gasoline and salt water. **Operating Temperature:** -20°C to +105°C. **Shrinkage Ratio:** 2:1 at 100°C. **Tensile Strength:** 3000 psi. **Chemical Properties:**

Flammability — self extinguishing does not support combustion; Fungus resistant — does not support growth. UL Standard 224, VW-1. CSA Standard 198, OFT ASTM P3150 Type 1. MIL-I-23053/2 Class 2. Stocked in black.

Stock No.	Mfr.'s Type	Minimum Supplied I.D.		Maximum Recovered I.D.		Nom. Recovered Wall Thickness		Standard Put-Up Spools	EACH
		Inches	mm	Inches	mm	Inches	mm		
708-5090	FIT100 3/64	.460	1.17	.023	0.58	.020	0.50	1000	129.00
708-5091	FIT100 1/16	.620	1.58	.031	0.78	.020	0.50	1000	131.60
708-5092	FIT100 3/32	.930	2.36	.046	1.17	.025	0.63	1000	149.40
708-5093	FIT100 1/8	.125	3.18	.063	1.58	.025	0.63	1000	158.00
708-5094	FIT100 3/16	.187	4.75	.093	2.36	.025	0.63	1000	191.80
708Q5095	FIT100 1/4	.250	6.35	.125	3.18	.025	0.63	1000	252.80
708-5096	FIT100 3/8	.375	9.53	.187	4.75	.028	0.76	500	140.60
708-5097	FIT100 1/2	.500	12.70	.250	6.35	.028	0.76	250	76.00
708-5098	FIT100 3/4	.750	19.10	.375	9.53	.033	0.88	250	102.00
708-5099	FIT100 1	1.000	25.40	.500	12.70	.038	1.02	250	162.74

Fit® Kits



FIT KIT-1. Contents: 18 lengths, 9 sizes of FIT-105; 19 lengths, 9 sizes of FIT-221; 12 lengths, 8 sizes of FIT-295; 10 lengths, 5 sizes of FIT-300; 14 lengths, 7 sizes of FIT-350; 4 FIT caps in 4 sizes; 36 assorted FIT markers. Total of 73 lengths plus FIT caps and markers.

708-3775. FIT Kit-1EACH 65.20

FIT KIT-2. Contents: FIT Kit-1 plus a second plastic compartmented box containing: 16 lengths of 6" and 24 lengths of 1" in 2 sizes of FIT-321; 22 lengths, 6 sizes of FIT-400; 17 lengths, 5 sizes of FIT-500; 8 lengths, 5 sizes of FIT-600; 2 lengths, 2 sizes of FIT-700; 10 1" lengths of FIT-750. Total of 138 6" lengths and 34 1" lengths plus 4 caps and 36 markers.

708-9601. FIT Kit-2EACH 117.20

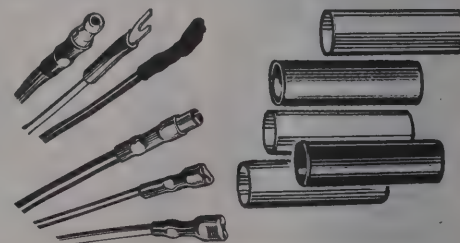
FIT KIT-7. Electronic Applications. Contents: 18 lengths, 9 sizes of FIT-105; 19 lengths, 9 sizes of FIT-221; 12 lengths, 8 sizes of FIT-295; 10 lengths, 5 sizes of FIT-300; 14 lengths, 7 sizes of FIT-350; 4 FIT Caps in 4 sizes; 35 Assorted FIT Markers. Total of 73 6" lengths plus caps and markers.

708-9705. FIT Kit-7EACH 88.40

Fit Kits provide the designer, engineer or technician with a complete sampler selection of the most popular types, sizes and colors of shrink tubing. The tubing is in 6" lengths in a clear plastic box. Each type has its own compartment. Assortments for most FIT types are also available from stock.

Small Quantity Packaged Assortments — 6" Lengths

FIT® Heat Shrink Tubing



FIT 221 Assortments

FIT 221-MS/1. Six 6" lengths each of 5 different sizes, 3/64" through 3/16". 30 lengths total.

708-3801. FIT 221-MS/1EACH 20.40

FIT 221-MS/2. Four 6" lengths each of 4 different sizes, 1/4" through 3/4". 16 lengths total.

708-3902. FIT 221-MS/2EACH 34.60

FIT 105 Assortments

FIT 105-MS/1. Contains ten 6" lengths each of six sizes from 3/64" through 1/4". Weight: 1/2 lb. 60 lengths total.

708-3801. FIT 105-MS/1EACH 20.00

FIT 105-MS/2. Contains ten 6" lengths each of four sizes from 3/8" through 1". Weight: 1/2 lb. 40 lengths total.

708-3802. FIT105-MS/2EACH 31.60

FIT® Gun

Durable, efficient and multi-functional. 3-position rocker switch (off-low-high). Ceramic encapsulated heating element. No cool down cycle. **Electrical Properties:** 120 V, 11.6 A. UL listed. CSA certified. Comes with a free concentrator nozzle attachment and slip on hook attachment.

FIT® Gun-1. Low: 300°C. **High:** 566°C. **Cord Length:** 6.5'. **New Weight:** 1.6 lbs.

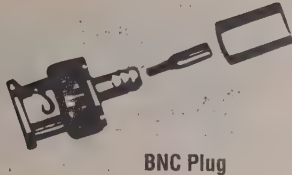
708-4019. FIT® Gun-1EACH 129.58



FIT® Gun-3. Low: 400°C. **High:** 585°C. **Cord Length:** 6'. **New Weight:** 1.5 lbs.

708-3999. FIT® Gun-3EACH 62.96

Alpha BNC Connectors



BNC Plug

Alpha BNC connectors provide highly reliable, quick connect/disconnect coaxial connections. A quick coupling device for plug and jack connectors is accomplished by rotation of a cam operating device designed to bring the two halves together. Alpha's hex terminations insure high conductivity, low resistance and high pullout values.

Stock No.	Mfr.'s Type	Cable	Description	EACH
943-3001	CMC-3005	Ethernet IEEE 802.3 (10Base2) "Thin" Coaxial Cable	3 Piece BNC Plug Crimp Type	2.85

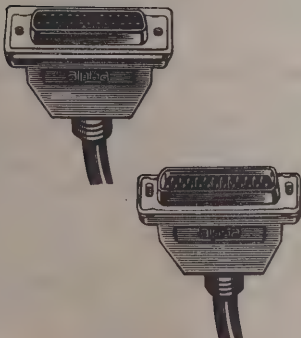
Stock No.	Mfr.'s Type	Cable RG/U	Description	EACH
943-0031	CMC-3001	58	3 Piece BNC Plug Crimp Type	3.50
943-0032	CMC-3002	59, 62	3 Piece BNC Plug Crimp Type	3.50

IEEE-488 Interface Bus Cables

Construction. 6 twisted pairs conductors #26 AWG (7/34) tinned copper +.010" semi-rigid PVC insulation. 10 single conductors #26 AWG (7/34) tinned copper +.010" semi-rigid PVC insulation. 1 single conductor #24 AWG (7/32) tinned copper +.010" semi-rigid PVC insulation. **Drain Wire:** #24 AWG (7/32) tinned copper. **Shield:** Braided tinned copper (90% coverage). **Jacket:** Gray PVC 0.035" (0.89 mm) nominal wall thickness. **Nominal O.D.:** 0.350" (8.89 mm). **Shield:** Braided tinned copper, 90% coverage, min. (P/N 5910 only). **Jacket:** Gray PVC, 0.035" (0.89 mm) nominal wall thickness (P/N 5900 only). **Nominal O.D.:** 0.440" (11.23 mm), (P/N 5910 only). **Characteristics.** **Temperature Rating:** 80°C. **Voltage Rating:** 300 Volt. **D.C. Resistance:** #24 AWG — 23.9 ohms/ft. (78.4 ohms/km); #26 AWG — 38.4 ohms/ft. (126.0 ohms/km). **Capacitance. Conductor to Conductor, Nominal:** Single Conductors — 35 pF/ft. (114.8 pF/m); Pairs — 38 pF/ft. (124.7 pF/m). **Characteristic Impedance, Nominal:** Single Conductors — 70 ohms; Pairs — 75 ohms.

Single Shield

Stock No.	Mfr.'s Type	Length	EACH
943-3901	5900/1	3.3'	129.21
943-3902	5900/2	6.6'	136.82
943-3903	5900/3	9.9'	142.51
943-3904	5900/4	13.1'	148.23
943-3905	5900/8	26.2'	174.83
943-3906	5900/12	39.4'	199.53
943Q3907	5900/16	52.5'	224.24



Coaxial Connectors and Tools



AT-140/3



AT-330

Three-Cut Coaxial Strip Tool

Easily strips single or double shielded coaxial cable in a single motion. Cassettes will last for more than 2000 strips. Adjustable blade depth.

Stock No.	Mfr.'s Type	For RG/U Cable	EACH
943-0033	AT-140/3	6, 58, 59, 62	54.98
943-0034	AT-141/3	Replacement cassette	15.71

Ratchet Crimp Tool

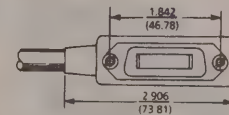
Full ratchet action for crimping Alpha's crimp-type BNC connectors.

943-0035. AT-330. Coax Ratchet Crimp Tool.....EACH 222.16

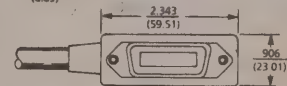
Connectorization Kit

Includes 5 CMC-3001 and 5 CMC-3002 BNC connectors, 1 AT-140/3 Multi-Blade Coax Strip Tool, 1 AT-330 Coax Ratchet Crimp Tool and 1 Alpha BNC Crimp Connector selection guide in a carrying case.

943-0030. AT-KIT-1EACH 255.82



Metric Jackscrews (2)



Connector Dimensional Layout

RS-232-C Pre-Terminated Assemblies

Construction. 25 cabled conductors: #22 AWG (0.36 mm²), 7/30 (7 × 0.25 mm), tinned copper. 0.009" (0.23 mm) color coded SR-PVC insulation. Aluminum/polyester foil shield with stranded tinned copper drain wire. Gray PVC jacket. **Wall Thickness:** 0.032" (0.81 mm). **O.D.:** 0.380" (9.65 mm), nominal. UL 2464. Alpha P/N 5199/25. **Characteristics.** **Temperature Rating:** 80°C. **Voltage Rating:** 300 Volt. **Cord Configuration.** Male connector, each end, fully pinned. Male connector to a female connector, fully pinned. **Connectors.** **Current Rating:** 4.0 amps/contact (with #22 AWG conductor). **Dielectric Withstand Voltage:** 1000 Volts, minimum. **Insulation Resistance:** 5000 M-ohms. **Contacts:** Gold over nickel plated beryllium copper. **No. of Positions:** 25 (pins or sockets). **Electrical Specifications.** **Capacitance:** 35 pF/ft. (115 pF/m), nominal. **Impedance:** 50 ohms, nominal. **Shielding:** Pin-to-pin shielded. **Applications.** General purpose EIA RS-232-C extensions. Modem control and error detection.

Male-To-Male Assemblies

Stock No.	Mfr.'s Type	Length Feet	EACH
708-0805	DCA512A-6	6	72.13
708-0806	DCA512A-10	10	78.50
708-0807	DCA512A-15	15	84.86
708-0808	DCA512A-25	25	99.72
708-0809	DCA512A-50	50	135.78

Male-To-Female Assemblies

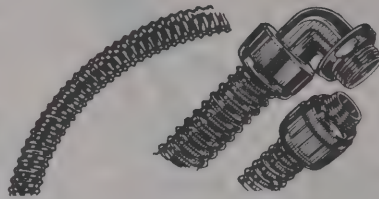
Stock No.	Mfr.'s Type	Length Feet	EACH
708-0810	DCA522A-6	6	74.26
708-0811	DCA522A-10	10	80.62
708-0812	DCA522A-15	15	86.99
708-0813	DCA522A-25	25	101.84
708-0814	DCA522A-50	50	137.90

Cable Only

Mfr.'s Type	100'		500'		1000'	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
5199/25	708Q0800	475.32	708Q0801	1958.40	708Q0802	2958.00

Flexible, Non-Metallic Electrical Tubing

- ▶ Available In Small 25' Coils
- ▶ UL Recognized, CSA Certified (Except For 1/4" Size)
- ▶ Fusion Of PVC Construction To Rigid PVC Core Forms Integral Extra-Flexible Tubing
- ▶ Smooth Inside Facilitates Easy Wire Pulling and Installation
- ▶ Uses Nylon Straight or Right-Angle Alpha Connectors Fittings To Insure Liquid Tight Integrity

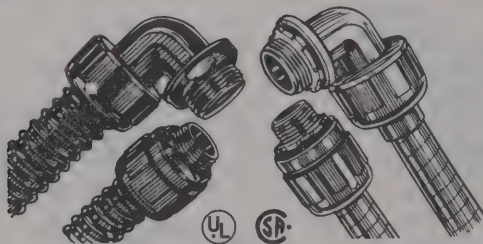


UL Rated: 70°C. Color: Black.

Stock No.	Mfr.'s Type	Max. I.D.	Min. O.D.	PER 25' COIL*
708-0061	FNT-1/4	0.405" (10.3 mm)	0.560" (14.2 mm)	31.20
708-0062	FNT-3/8	0.504" (12.8 mm)	0.690" (17.5 mm)	33.00
708-0063	FNT-1/2	0.642" (16.3 mm)	0.820" (20.8 mm)	40.40
708-0064	FNT-3/4	0.840" (21.3 mm)	1.030" (26.1 mm)	44.60
708-0065	FNT-1	1.066" (27.1 mm)	1.290" (32.8 mm)	69.40
708-0066	FNT-1 1/4	1.410" (35.8 mm)	1.630" (42.2 mm)	89.20
708-0067	FNT-1 1/2	1.600" (40.6 mm)	1.865" (47.4 mm)	237.00
708-0068	FNT-2	2.045" (51.9 mm)	2.340" (59.4 mm)	327.00

*100' Coils available. Contact the nearest Allied sales office for assistance.

Connectors



- ▶ UL Listed, CSA Certified
- ▶ Molded Of 6/6 Nylon. ASTM D-4066-82
- ▶ Flammability Classification 94V-2
- ▶ Temperature Rating: 125°C
- ▶ Liquid-Tight, Non-Metallic

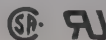
Straight

Stock No.	Mfr.'s Type	Trade Sizes	Thread Size	EACH
708-0077	SLC-3/8 Black	3/8"	1/2 NPT	2.76
708-0079	SLC-1/2 Black	1/2"	1/2 NPT	2.80
708-0081	SLC-3/4 Black	3/4"	3/4 NPT	3.90
708-0083	SLC-1 Black	1"	1 NPT	6.90
708-0031	SLC-1 1/4 Black	1 1/4"	1 1/4 NPT	2.76

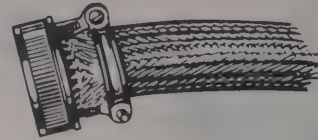
Right Angle

Stock No.	Mfr.'s Type	Trade Sizes	Thread Size	EACH
708-0085	RLC-3/8 Black	3/8"	1/2 NPT	3.60
708-0087	RLC-1/2 Black	1/2"	1/2 NPT	3.78
708-0089	RLC-3/4 Black	3/4"	3/4 NPT	6.12
708-0091	RLC-1 Black	1"	1 NPT	11.88

Zipper Tubing



Expandable Braided Polyester Sleeving



Lightweight, expandable woven polyester sleeving. High flexibility; high resistance. Open weave for wide range of expansion of the sleeving diameter for easy installation and gripping action. An ideal protective sleeve for wire bundles, harnesses, wire and cable, pneumatic hoses, flat cable, hydraulic lines, and highly polished or threaded machine parts. **Specifications. Operating Temperature:** -70°C to +125°C (UL). Rot-Free, Fungus Proof Per MIL-STD-810B-Method 508. Not affected by most chemical environments and common solvents.

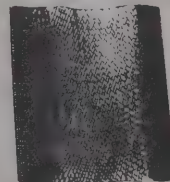
Flame Retardant GRP-120

Stock No.	Mfr.'s Type	Size	Min. Supplied I.D.	Max. Expanded I.D.	Put Up Length	EACH
708-4800	GRP-120-1/8	1/8	0.093"	0.250"	100' spool	49.45
708-4802	GRP-120-1/4	1/4	0.125"	0.437"	100' spool	71.28
708-4804	GRP-120-1/2	1/2	0.250"	0.750"	100' spool	127.42
708-4806	GRP-120-3/4	3/4	0.500"	1.250"	100' spool	190.01
708-4808	GRP-120-1 1/4	1 1/4	0.750"	1.750"	50' spool	124.30

General Purpose GRP-110

Stock No.	Mfr.'s Type	Size	Min. Supplied I.D.	Max. Expanded I.D.	Put Up Length	EACH
708-4790	GRP-110-1/8	1/8	0.093"	0.250"	100' spool	34.31
708-4791	GRP-110-1/4	1/4	0.125"	0.437"	100' spool	47.00
708-4792	GRP-110-1/2	1/2	0.250"	0.750"	100' spool	94.90
708-4793	GRP-110-3/4	3/4	0.500"	1.250"	100' spool	141.54
708-4794	GRP-110-1 1/4	1 1/4	0.750"	1.750"	50' spool	90.45
708-4795	GRP-110-1 3/4	1 3/4	1.250"	2.750"	50' spool	148.10

Expandable Polyester Webbed Sleeving



Highly flexible and expandable sleeving. Velcro type enclosure can be easily opened for breakouts or access to assemblies. Passes UL VW-1 Flame Test. **Operating Temperature:** -70°C to +125°C. Color: Black.

Stock No.	Mfr.'s Type	Min. Supplied I.D.	Max. Recovered I.D.	PER 25' COIL*
708-0040	ZIP-GRP-7/8	0.750" (19.05 mm)	1.000" (25.4 mm)	143.21
708-0041	ZIP-GRP-1 1/2	1.000" (25.40 mm)	2.000" (50.8 mm)	155.51
708-0042	ZIP-GRP-2	1.500" (38.10 mm)	2.125" (53.9 mm)	173.77

*50' Coils are also available from Alpha.

UL Standard 224*, UL VW-1, CSA 184-N-90

Saves time and labor in making prototype cables. Adds extra jacketing protection to existing cable assemblies without need to disconnect or tape wrap. Ideal for cable repairs or modification — no need to disturb or disconnect existing connections. Zipper tubing is manufactured from the highest quality, high-temperature, stabilized PVC. **Temperature Range:** -36°C to 105°C. *ZIP-60 CSA Certified Only.

ZIP-41/ZIP 60 LOC-TRAC®. Wall Thickness: .020".

Stock No.	Mfr.'s Type	Diameter (Inches)	PER 100' COIL	
			1-4	5-9
708-9284	ZIP-41-1/2	1/2	259.28	235.71
708-9294	ZIP-41-3/4	3/4	279.32	253.92
708-9304	ZIP-41-1	1	300.86	273.51
708-9314	ZIP-41-1 1/4	1 1/4	315.51	286.82
708-9324	ZIP-41-1 1/2	1 1/2	335.54	305.04
708-9334	ZIP-41-1 3/4	1 3/4	355.82	323.47
708-9344	ZIP-41-2	2	375.32	341.20

Spiral Wrap Tubing

Wire harnessing, cabling and bundling work is simplified with the use of Alpha's SW series spiral wrap tubing. SW tubing clings tightly to the wire and cable being bundled, yet is flexible and simple to apply. All types maintain flexibility, even when bent around sharp edges or subjected to repeated handling. Breakouts or tapoff connections may be made through the openings of the wrap.

Federal Spec. LP390, MIL-I-631D, MIL-P-26692

Clear (natural) polyethylene with an operating temperature of -20°C to +80°C.

Mfr.'s Type	Nom. O.D. "	25' Put-Up		100' Put-Up	
		Stock No.	PER COIL	Stock No.	PER COIL
SW1	.125	708-7501	3.57	708-7502	12.24
SW2	.250	708-7503	6.45	708-7504	20.50
SW3	.375	708-7506	9.02	708-7507	33.95
SW4	.500	708-7505	10.81	708-7508	38.19

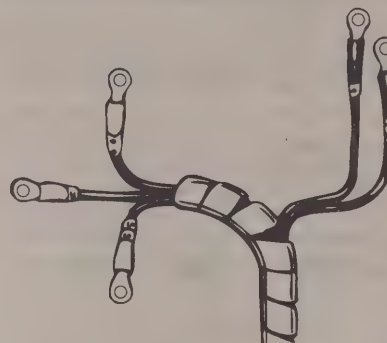
Black, ultra-violet resistant polyethylene with an operating temperature of -20°C to +80°C.

SW40	.125	708-7428	3.77	708-7429	12.69
SW41	.250	708-7430	7.57	708-7435	26.05
SW42	.375	708-7431	10.69	708-7436	37.19
SW43	.500	708-7432	14.02	708-7437	48.33

Federal Spec. LP410A, MIL-M-22096A, MIL-M-20693A

Natural color Nylon with an operating temperature of -40°C to +120°C.

SW20	.125	708-7440	9.57	708-7442	32.74
SW21	.250	708-7444	16.69	708-7446	37.92
SW22	.375	708-7448	37.43	708Q7450	129.64
SW23	.500	708-7452	48.33	708Q7454	168.18



MIL-I-22129C, MIL-T-47287A Type 1, AMS 3653C, 3651C, 3654, 3655

Clear natural teflon with an operating temperature of -70°C to +250°C.

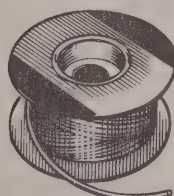
Mfr.'s Type	Nom. O.D. "	25' Put-Up		100' Put-Up	
		Stock No.	PER COIL	Stock No.	PER COIL
SW30	.125	708-7418	78.62	708Q7419	273.12
SW31	.250	708-7420	136.33	708Q7425	474.26
SW32	.375	708Q7421	220.10	708Q7426	765.43
SW33	.500	708Q7422	296.31	708Q7427	1030.53

TFT Teflon Tubing

AMS 3655 (TFT-200)

AMS 3653 (TFT-250)

Exceptional toughness and flexibility throughout its temperature range. Superior dielectric strength at high frequencies. Excellent heat and chemical resistance. Self-extinguishing, non-corrosive, does not support fungus growth. **Operating Temperature:** -65°C to +260°C. Natural color.



TFT-200 Thin-Wall Teflon Tubing

Stock No.	Mfr.'s Type Size	Nom. I.D. "	Nom. Wall "	PER 100' COIL	
				1-4	5-9
708-4930	TFT-200-30	.012	.009	26.50	24.09
708-4926	TFT-200-26	.018	.010	20.93	19.03
708-4924	TFT-200-24	.022	.010	22.73	20.66
708-4922	TFT-200-22	.027	.010	26.72	24.29
708-4920	TFT-200-20	.034	.012	32.29	29.36
708-4918	TFT-200-18	.042	.012	45.21	41.11
708-4916	TFT-200-16	.053	.012	45.21	41.11
708-4914	TFT-200-14	.066	.012	49.67	45.16

TFT-250 Standard-Wall Teflon Tubing

708-5024	TFT-250-24	.022	.012	27.83	25.30
708-5022	TFT-250-22	.027	.012	30.95	28.13
708-5020	TFT-250-20	.034	.016	42.53	38.76

PVC-105 All Purpose Tubing*

U.L. recognized, CSA certified ASTM D-876, D-922, MIL-1-1631D Passes UL VW-1 Flame Test

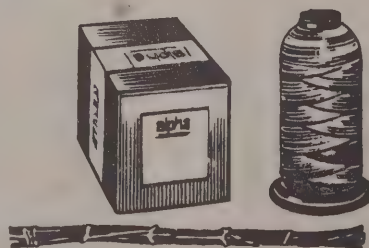
Superior thermal, mechanical and electrical properties with economical cost. Compounded with highest quality, non-migratory resinous type plasticizers—stabilizers and modifiers added. Flexible, resistant to heat, oil, abrasion, fungus and chemical corrosion. **Operating Temperature:** -20°C to +105°C. Furnished in black and clear in 100' lengths. Other colors and lengths available by special order. *U.L. requires that PVC-105 be surface marked for identification. Material from stock is unmarked. If U.L. or CSA marking is required please specify when ordering.



Clear Stock No.	Black Stock No.	Mfr.'s Type Size	I.D.	Wall Thk.	Put Up	PER COIL
708-0470	708-0504	PVC-105-24	.022	.013	1000'	35.86
708-0472	708-0506	PVC-105-22	.027	.012	1000'	35.86
708-0474	708-0508	PVC-105-20	.034	.016	1000'	38.76
708-0476	708-0510	PVC-105-18	.042	.016	1000'	41.88
708-0478	708-0512	PVC-105-16	.053	.016	1000'	45.00
708-0480	708-0514	PVC-105-14	.066	.016	500'	23.83
708-0482	708-0516	PVC-105-12	.085	.016	500'	25.40
708-0484	708-0518	PVC-105-10	.106	.016	500'	29.85
708-0486	708-0520	PVC-105-8	.133	.020	500'	38.76
708-0488	708-0522	PVC-105-6	.166	.020	500'	44.76
708-0490	708-0524	PVC-105-4	.208	.020	250'	25.40
708-0492	708-0526	PVC-105-2	.263	.020	250'	29.85
708-0494	708-0528	PVC-105-1/16	.312	.025	250'	44.11
708-0496	708-0530	PVC-105-3/16	.375	.025	250'	52.35
708-0498	708-0532	PVC-105-1/2A	.500	.030	100'	28.07
708-0500	708-0534	PVC-105-5/8	.625	.035	100'	40.53
708-0502	708-0536	PVC-105-3/4	.750	.035	50'	34.76

Twisted Lacing Cord and Flat Braid Lacing Tape

Nylon and Dacron Flat Braided Lacing Tape. All types are nylon. All types are designation MIL-T-43435 with variations for type, size, and finish. **LC-132** has a finish of synthetic rubber-like resin with non-mercuric fungicidal properties. Melting point is above 190°F. Softens at 140°F but doesn't flow. **LC-134** and **LC-136** have a finish of micro-Crystalline wax with a melting point above 130°F, compounded with a fungicide containing neither copper nor mercury. Soft, pliable and easy to tie. Also meets MIL-T-713 Type P, Class 2. **LC-140** has a finish of a special continuous coating of fungistatic synthetic rubber. Knots tied with this finish will not slip. Extremely pliable and soft. **LC-143** has a thermoplastic synthetic resin with a melting point above 350°F for use where a "wax free" type is specified. Dry, non-flaking finish. Available in white and black: Insert 1 (white) or 2 (black) where X appears in Stock Number, table below.



Stock No.	Mfr.'s Type	Standard Put-Up	Tensile Strength	Nominal Width	Nominal Thickness	PER SPOOL	
						Black	White
708-942X	LC-132	500 yds. on spool	50	.090"	.014"	51.57	44.84
708-943X	LC-134	500 yds. on spool	30	.062"	.010"	48.74	42.37
708-944X	LC-136	500 yds. on spool	50	.090"	.012"	54.96	47.78
708-945X	LC-140	500 yds. on spool	50	.090"	.014"	49.33	42.84
708-946X	LC-143	500 yds. on spool	50	.090"	.014"	49.33	42.84

PVC Spiral Wrap



UL recognized CSA certified. **Operating Temperature:** -20°C to +105°C.

Stock No.	Mfr.'s Type	Nom. O.D. "	PER 100' COIL
708-0052	SW-51 BLACK	.250" (6.35 mm)	51.90
708-0054	SW-52 GRAY	.375" (9.52 mm)	85.31
708-0056	SW-52 BLACK	.375" (9.52 mm)	85.31
708-0058	SW-53 GRAY	.500" (12.7 mm)	113.16
708-0060	SW-53 BLACK	.500" (12.7 mm)	113.16

Alpha's pre-terminated FDDI fiber optic cable assemblies can be precisely manufactured to your customized specifications — delivered fast and on time!

Save Installation Time

Sensitive tolerances make installing fiber optic connections more critical and difficult than electrical connector termination procedures. Factory-mounted connectorized assemblies save aggravation.

Lowest Loss Means Highest Reliability

Each and every assembly is 100% rigorously pre-tested as it leaves the factory to insure the tightest tolerances within the less than or equal to .5 dB/km loss range. A test inspection is included with each assembly shipped with 100% traceability. Alpha's quality

FDDI 62.5 μ m multi-mode jumper assemblies are 100% guaranteed and backed by knowledgeable people to assist you.

Manufactured to Meet or Exceed Industry Standards

State-of-the-art equipment and tools are utilized in Alpha's manufacturing process. Each connector style is terminated, crimped and polished using installation procedures and the exact tool specified by each connector manufacturer. This ensures error-free field installation.

Precise epoxy-secured fiber in the connector will prevent pistoning in the environment in which it is installed. Ceramic ferrules, the "heart" of the connector, allow a high degree of precision as compared to metal.

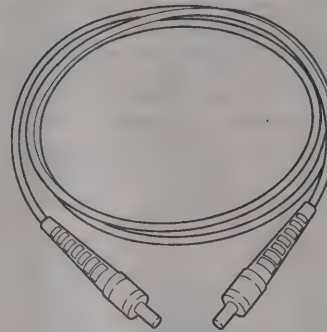
Simplex Cable Assemblies — FDDI 62.5/125 μ m

ST to ST Simplex

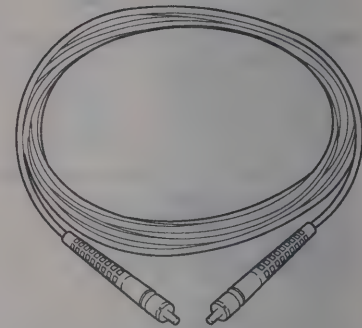
Stock No.	Mfr.'s Type	Connector		Fiber		EACH
		A	B	Ft.	m	
943-7002	FCA800-1M	ST	ST	3.28	1.0	36.92
943-7004	FCA800-3M	ST	ST	9.84	3.0	39.00
943-7006	FCA800-10	ST	ST	10.00	3.1	40.02
943-7008	FCA800-4.5M	ST	ST	14.76	4.5	44.20
943-7010	FCA800-20	ST	ST	20.00	6.1	45.56
943-7012	FCA800-25	ST	ST	25.00	7.6	46.38
943-7014	FCA800-10M	ST	ST	32.80	10.0	48.16
943-7016	FCA800-50	ST	ST	50.00	15.2	51.68
943-7018	FCA800-100	ST	ST	100.00	30.5	73.84

SMA to SMA Simplex

Stock No.	Mfr.'s Type	Connector		Fiber		EACH
		A	B	Ft.	m	
943-7020	FCA811-1M	SMA	SMA	3.28	1.0	39.20
943-7022	FCA811-3M	SMA	SMA	9.84	3.0	41.70
943-7024	FCA811-10	SMA	SMA	10.00	3.1	42.74
943-7026	FCA811-4.5M	SMA	SMA	14.76	4.5	43.78
943-7028	FCA811-20	SMA	SMA	20.00	6.1	46.70
943-7030	FCA811-25	SMA	SMA	25.00	7.6	48.88
943-7032	FCA811-10M	SMA	SMA	32.80	10.0	52.52
943-7034	FCA811-50	SMA	SMA	50.00	15.2	61.36
943-7036	FCA811-100	SMA	SMA	100.00	30.5	83.72

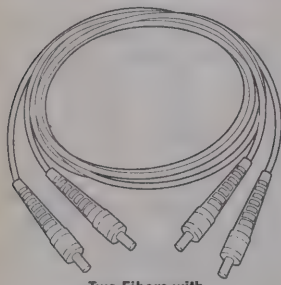


One Fiber with
ST to ST Style Connections

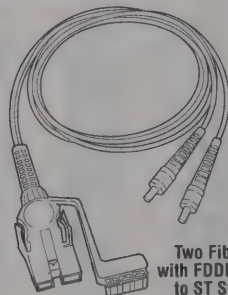


One Fiber with
SMA to SMA Style Connections

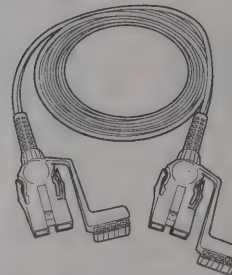
Tight Buffer Duplex Cable Assemblies — FDDI 62.5/125 μ m



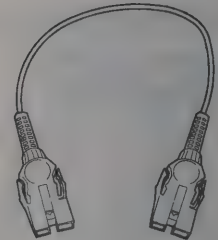
Two Fibers with
ST to ST Style Connections



Two Fibers
with FDDI Style
to ST Style
Connections



Two Fibers with FDDI Style
to FDDI Style Connections



Two Fibers Dual Lan
with FDDI Style Connections

ST to ST Duplex

Stock No.	Mfr.'s Type	Connector		Fiber		EACH
		A	B	Ft.	m	
943-7102	FCA822-1M	ST	ST	3.28	1.0	71.76
943-7104	FCA822-3M	ST	ST	9.84	3.0	63.94
943-7106	FCA822-10	ST	ST	10.00	3.1	74.98
943-7108	FCA822-4.5M	ST	ST	14.76	4.5	82.58
943-7110	FCA822-20	ST	ST	20.00	6.1	106.60
943-7112	FCA822-25	ST	ST	25.00	7.6	111.80
943-7114	FCA822-10M	ST	ST	32.80	10.0	125.12
943-7116	FCA822-50	ST	ST	50.00	15.2	133.54
943-7118	FCA822-100	ST	ST	100.00	30.5	158.92

FDDI to ST Duplex

Stock No.	Mfr.'s Type	Connector		Fiber		EACH
		A	B	Ft.	m	
943-7120	FCA833-1M	FDDI	ST	3.28	1.0	101.30
943-7122	FCA833-3M	FDDI	ST	9.84	3.0	106.28
943-7124	FCA833-10	FDDI	ST	10.00	3.1	107.32
943-7126	FCA833-4.5M	FDDI	ST	14.76	4.5	110.44
943-7128	FCA833-20	FDDI	ST	20.00	6.1	115.96
943-7130	FCA833-25	FDDI	ST	25.00	7.6	120.96
943-7132	FCA833-10M	FDDI	ST	32.80	10.0	128.86
943-7134	FCA833-50	FDDI	ST	50.00	15.2	139.36
943-7136	FCA833-100	FDDI	ST	100.00	30.5	185.74

FDDI to FDDI Duplex

Stock No.	Mfr.'s Type	Connector		Fiber		EACH
		A	B	Ft.	m	
943-7140	FCA844-1M	FDDI	FDDI	3.28	1.0	113.88
943-7142	FCA844-3M	FDDI	FDDI	9.84	3.0	118.76
943-7144	FCA844-10	FDDI	FDDI	10.00	3.1	119.80
943-7146	FCA844-4.5M	FDDI	FDDI	14.76	4.5	121.88
943-7148	FCA844-20	FDDI	FDDI	20.00	6.1	124.28
943-7150	FCA844-25	FDDI	FDDI	25.00	7.6	127.82
943-7152	FCA844-10M	FDDI	FDDI	32.80	10.0	130.94
943-7154	FCA844-50	FDDI	FDDI	50.00	15.2	149.56
943-7156	FCA844-100	FDDI	FDDI	100.00	30.5	195.94

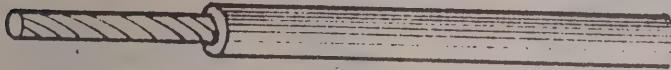
FDDI to FDDI Dual LAN Duplex

Stock No.	Mfr.'s Type	Connector		Fiber		EACH
		A	B	Ft.	m	
943-7160	FCA855-1M	FDDI	FDDI	3.28	1.0	113.88
943-7162	FCA855-3M	FDDI	FDDI	9.84	3.0	114.82
943-7164	FCA855-10	FDDI	FDDI	10.00	3.1	115.44
943-7166	FCA855-4.5M	FDDI	FDDI	14.76	4.5	116.38
943-7168	FCA855-20	FDDI	FDDI	20.00	6.1	120.54
943-7170	FCA855-25	FDDI	FDDI	25.00	7.6	124.60
943-7172	FCA855-10M	FDDI	FDDI	32.80	10.0	127.82
943-7174	FCA855-50	FDDI	FDDI	50.00	15.2	148.62
943-7176	FCA855-100	FDDI	FDDI	100.00	30.5	200.62

Hook-Up Wire and Kits



PVC Insulated Hook-up Wire



All hook-up wire has either tinned copper conductor insulated with extruded PVC or stranded silver-coated conductor insulated with extruded TFE Teflon®. PVC is flame and ozone resistant, as well as being inert to most chemicals, oils, and solvents. Teflon® is a fluorinated thermoplastic with outstanding thermal, physical, and electrical properties.

UL Style 1007 300V, 80°C Passes VW-1 Vertical Wire Flame Test

Rated 80°C, 300V. Rated 600V peak for electronic circuits, and internal wiring of electronic and electrical equipment.

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
9930	30 (7 x 38)	0.016"	0.044"	0-7, 9	214-001X	10.80	214-002X	72.00

Dual Rated UL Style 1007, 300V 80°C and 1569 300V, 105°C CSA Type TR-64, 90°C and CSA Type TRSR-64, 105°C

Rated 105°C, 300V. Rated 600V peak for electronic circuits, and internal wiring of electronic and electrical equipment.

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
9928	28 (7 x 36)	0.016"	0.047"	0-7, 9	214-003X	10.20	214-010X	66.00
9926	26 (7 x 34)	0.016"	0.051"	0-9	214-004X	10.80	214-011X	68.00
9923	24 (7 x 32)	0.016"	0.056"	0-9	214-005X	11.20	214-012X	72.00
9921	22 (7 x 30)	0.016"	0.062"	0-9	214-006X	12.60	214-013X	84.00
9919	20 (7 x 28)	0.016"	0.069"	0-9	214-007X	15.40	214-014X	101.00
9918	18 (16 x 30)	0.016"	0.079"	0-9	214-008X	16.40	214-015X	114.00
9916	16 (26 x 30)	0.016"	0.092"	0-9	214-009X	23.20	214-016X	170.00

UL Style 1015 600V, 105°C CSA Type TEW Passes VW-1 Vertical Wire Flame Test

Rated -10°C to 105°C, 600V. Rated 2500V peak for electronic circuits, and internal wiring of electronic and electrical equipment.

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
9924	24 (7 x 32)	0.031"	0.088"	0-9	214-017X	12.80	214-025X	89.00
9920	22 (7 x 30)	0.031"	0.093"	1-7, 9	214-018X	13.60	214-026X	96.00
9919	20 (10 x 30)	0.031"	0.100"	1-7, 9	214-019X	17.00	214-027X	120.00
9918	18 (16 x 30)	0.031"	0.110"	1-7, 9	214-020X	21.00	214-028X	144.00
9917	16 (26 x 30)	0.031"	0.123"	1-7, 9	214-021X	25.40	214-029X	204.00
9916	14 (41 x 30)	0.031"	0.138"	1-7, 9	214-022X	36.20	—	—
9912	12 (65 x 30)	0.031"	0.158"	1-7, 9	214-023X	59.00	—	—
9910	10 (65 x 28)	0.031"	0.180"	1-3, 5	214-024X	85.00	—	—

UL Style 1028 600V, 105°C CSA Type TEW Passes VW-1 Vertical Wire Flame Test

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
9908	8 (84 x 27)	0.045"	0.250"	1-3, 5	214-030X	146.00	—	—

UL Style 1061 300V, 80°C CSA Type AWM (CSA S-R PVC)

Solid conductors suitable for wire wrap applications.

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
9978	30 Solid	0.010"	0.030"	0-9	214-031X	9.68	214-043X	65.00
9987	30 (7 x 38)	0.010"	0.032"	0-3, 8	214-032X	10.80	214-044X	72.00
9977	28 Solid	0.010"	0.033"	0-9	214-033X	7.98	214-045X	53.00
9986	28 (7 x 36)	0.010"	0.035"	0-9	214-034X	10.20	214-046X	66.00
9976	26 Solid	0.010"	0.036"	0-9	214-035X	6.94	214-047X	44.20
9985	26 (7 x 34)	0.010"	0.039"	0-9	214-036X	10.80	214-048X	68.00
9975	24 Solid	0.010"	0.040"	0-9	214-037X	7.34	214-049X	47.00
9984	24 (7 x 32)	0.010"	0.044"	0-9	214-038X	11.20	214-050X	72.00
9983	22 (7 x 30)	0.010"	0.050"	0-9	214-039X	12.40	214-051X	77.00
9982	20 (7 x 28)	0.010"	0.057"	0-9	214-040X	15.40	214-052X	91.00
9981	18 (19 x 30)	0.010"	0.066"	0-9	214-041X	16.20	214-053X	115.00
9980	16 (19 x 28)	0.010"	0.078"	0-9	214-042X	20.60	214-054X	152.00

(Type B) MIL-W-16878/1-PVC 600V-105°C

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
8597	28 (7 x 36)	0.010"	0.035"	0-9	214-055X	12.40	214-062X	78.00
8505	26 (7 x 34)	0.010"	0.039"	0-9	214-056X	12.60	214-063X	86.00
8504	24 (7 x 32)	0.010"	0.044"	0-9	214-057X	12.80	214-064X	79.00
8503	22 (7 x 30)	0.010"	0.050"	0-9	214-058X	13.80	214-065X	85.00
8502	20 (7 x 28)	0.010"	0.058"	0-9	214-059X	17.20	214-066X	103.00
8501	18 (7 x 26)	0.010"	0.068"	0-9	214-060X	18.40	214-067X	132.00
8500	16 (19 x 29)	0.010"	0.077"	0-9	214-061X	23.40	214-068X	173.00

Type MW MIL-W-76C-PVC 1000V-80°C

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
8525	24 (7 x 32)	0.017"	0.058"	0-9	214-070X	12.20	214-079X	77.00
8530	24 Solid	0.017"	0.059"	0-9	214-071X	11.80	214-080X	72.00
8524	24 (7 x 30)	0.017"	0.064"	0-9	214-072X	13.60	214-081X	90.00
8529	20 Solid	0.017"	0.066"	0-9	214-073X	13.60	214-082X	87.00
8523	20 (10 x 30)	0.017"	0.070"	0-9	214-074X	16.00	214-083X	102.00
8522	18 (16 x 30)	0.017"	0.080"	0-9	214-075X	18.20	214-084X	130.00
8521	16 (26 x 30)	0.019"	0.098"	0-9	214-076X	26.40	214-085X	190.00
8520	14 (41 x 30)	0.018"	0.111"	0-9	214-077X	36.40	214-086X	298.00
8527	12 (65 x 30)	0.018"	0.128"	0-9	214-078X	56.00	214-087X	428.00

†Color Code: 0-Violet, 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Orange, 8-Slate, 9-Brown. Other colors available upon request. See stock Colors column for other colors stocked.

High Temperature Teflon Insulated Hook-Up Wire

All hook-up wire has either tinned copper conductor insulated with extruded PVC or stranded silver-coated conductor insulated with extruded TFE Teflon®. PVC is flame and ozone resistant, as well as being inert to most chemicals, oils, and solvents. Teflon® is a fluorinated thermoplastic with outstanding thermal, physical, and electrical properties.

UL Style 1180 300V-200°C (Type EE) — MIL-W-16878/5 Teflon — 1000V-200°C Passes VW-1 Vertical Wire Flame Test

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
83023	24 (19x36)	0.015"	0.054"	0-9	214-088X	23.00	214-095X	206.00
83025	22 (7 x 30)	0.015"	0.060"	0-7, 9	214-089X	22.40	214-096X	200.00
83026	22 (19 x 34)	0.015"	0.060"	0-9	214-090X	25.80	214-097X	234.00
83027	20 (19 x 32)	0.015"	0.068"	0-9	214-091X	32.00	214-098X	296.00
83028	20 (7 x 28)	0.015"	0.068"	0-9	214-092X	27.60	214-099X	252.00
83029	18 (19 x 30)	0.015"	0.077"	0-9	214-093X	39.40	214-100X	370.00
83030	16 (19 x 29)	0.015"	0.088"	0-9	214-094X	47.00	214-101X	446.00

UL Style 1371 105°C (Type E) — MIL-W-16878/4 Teflon — 600V-200°C Passes VW-1 Vertical Wire Flame Test

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
83009	18 (19 x 30)	0.011"	0.069"	0-9	214-102X	34.40	214-104X	320.00
83010	16 (19 x 29)	0.012"	0.077"	0-9	214-103X	41.40	214-105X	390.00

UL Style 1213 105°C (Type E) — MIL-W-16878/4 Teflon — 600V-200°C Passes VW-1 Vertical Wire Flame Test

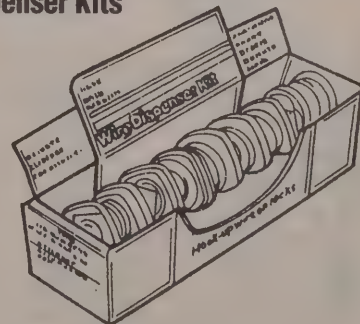
Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
83000	30 (7 x 38)	0.010"	0.032"	0-9	214-106X	14.20	214-115X	118.00
83001	28 (7 x 36)	0.010"	0.035"	0-9	214-107X	14.40	214-116X	120.00
83002	26 (7 x 34)	0.010"	0.037"	0-9	214-108X	15.40	214-117X	129.00
83003	24 (19 x 36)	0.010"	0.044"	0-9	214-109X	19.60	214-118X	171.00
83004	24 (7 x 32)	0.010"	0.044"	0-9	214-110X	16.40	214-119X	139.00
83005	22 (7 x 30)	0.010"	0.050"	0-9	214-111X	19.80	214-120X	174.00
83006	22 (19 x 34)	0.010"	0.048"	0-9	214-112X	22.80	214-121X	204.00
83007	22 (19 x 32)	0.010"	0.056"	0-9	214-113X	27.20	214-122X	248.00
83008	20 (7 x 28)	0.010"	0.058"	0-9	214-114X	24.80	214-123X	224.00

UL Style 1371 105°C (Type ET) — MIL-W-16878/6 Teflon — 250V-200°C Passes VW-1 Vertical Wire Flame Test

Mfr.'s Type	AWG (Stranding)	Insulation Thickness	Nominal O.D.	Stock Colors†	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
83041	32 (7 x 40)	0.006"	0.022"	0, 2, 6	214-124X	13.80	214-132X	114.00
83043	30 (7 x 38)	0.006"	0.024"	0-4, 8	214-125X	14.00	214-133X	116.00
83045	28 (7 x 36)	0.006"	0.027"	1-4, 6, 9	214-126X	14.20	214-134X	118.00
83046	26 (7 x 34)	0.006"	0.031"	1-3, 5-9	214-127X	15.20	214-135X	128.00
83047	24 (7 x 32)	0.006"	0.036"	1-3, 6, 8	214-128X	16.20	214-136X	138.00
83048	24 (19 x 36)	0.006"	0.036"	0, 2-4, 7-9	214-129X	19.20	214-137X	168.00
83049	22 (7 x 30)	0.006"	0.042"	0-9	214-130X	19.40	214-138X	170.00
83050	22 (19 x 34)	0.006"	0.042"	0-4, 6-9	214-131X	22.20	214-139X	198.00

†Color Code: 0-Violet, 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Orange, 8-Slate, 9-Brown. Other colors available upon request. See stock Colors column for other colors stocked.

Hook-Up Wire Dispenser Kits



Ideal for R and D labs, engineers and technicians. Choose kits containing five 100' spools or eight 25' spools of popular hook-up wire; each spool a different color. Spools come in portable dispenser rack, convenient for field work, for work bench or wall mount use. Passes VW-1 Vertical Wire Flame Test.

Kits of Five 100-Foot Spools

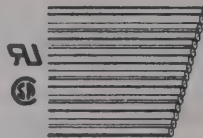
Stock No.	Mfr.'s Type	Wire	Colors	EACH
214-3780	9531	22AWG, (7 x 30) Stranded, Tinned PVC (8524-100)	Red, Green, White, Light Blue, Black	67.00
214-3782	8825	20AWG, (7 x 28) Stranded, Tinned PVC (8502-100)	Red, Green, White, Yellow, Black	85.00

Kits of Eight 25-Foot Spools

214-3784	8824	20AWG, (10 x 30) Stranded, Tinned PVC (8523-25)	Brown, White, Black, Orange, Green, Red, Light Blue, Yellow	61.00
214-3786	8816	18AWG, (16 x 30) Stranded, Tinned PVC (8522-25)	Brown, White, Black, Orange, Green, Red, Light Blue, Yellow	64.00

Standard Flat Cable

All flat cable types on this page are 28AWG (7 x 36) stranded and feature 0.050" conductor spacing. PVC insulated, except where noted, and rated 300 V, 105°C. **Voltage Rating:** 300 Vrms. **Dielectric Withstanding Voltage:** 2000 Vrms. All will terminate to any standard IDC flat cable connector. See Product Index for complete selection. Passes VW-1 vertical wire flame test. UL recognized.



9L280XX Series 0.050" Pitch Unshielded

Tinned copper conductors. Gray PVC insulation with red polarity stripe. CSA certified T1.

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3002	9L28016	16	0.80"	27.80
214-3004	9L28020	20	1.00"	34.60
214-3006	9L28025	25	1.25"	43.40
214-3008	9L28026	26	1.30"	45.00
214-3010	9L28034	34	1.70"	59.00
214-3012	9L28037	37	1.85"	64.00
214-3014	9L28040	40	2.00"	70.00
214-3016	9L28060	60	3.00"	104.00

9L283XX Series 0.050" Pitch Beldfoil® Shielded, PVC Jacketed

Tinned copper conductors with overall Beldfoil® aluminum-polyester shield. Two 28 AWG drain wires. Black PVC jacket.

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3018	9L28309	9	0.55"	118.00
214-3020	9L28310	10	0.60"	131.00
214-3022	9L28315	15	0.85"	196.00
214-3024	9L28320	20	1.10"	262.00
214-3026	9L28325	25	1.35"	326.00
214-3028	9L28326	26	1.40"	340.00
214-3030	9L28334	34	1.80"	444.00
214-3032	9L28337	37	1.95"	482.00
214-3034	9L28340	40	2.10"	522.00
214-3036	9L28350	50	2.60"	652.00
214-3038	9L28364	64	3.30"	834.00

Rainbow Flat Cable

8R280XX Series High-Temperature 0.050" Pitch FEP Insulated

Silver-plated copper conductors. FEP pre-insulated color-coded conductors laminated to clear FEP film. For high-temperature applications. Rated 150 Vrms, 150°C. Characteristic Impedance: 170 ohms.



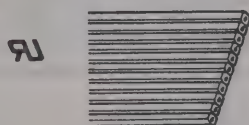
Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3040	8R28014	14	0.70"	612.00
214-3042	8R28016	16	0.80"	700.00
214-3044	8R28024	24	1.20"	1050.00
214-3046	8R28034	34	1.70"	1486.00
214-3048	8R28050	50	2.50"	2084.00

9R280XX Series 0.050" Pitch PVC Insulated

Tinned copper conductors. PVC pre-insulated color-coded conductors laminated to clear PVC film. Characteristic Impedance: 150 ohms.

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3050	9R28010	10	0.50"	42.40
214-3052	9R28014	14	0.70"	60.00
214-3054	9R28016	16	0.80"	67.00
214-3056	9R28020	20	1.00"	85.00
214-3058	9R28024	24	1.20"	102.00
214-3060	9R28025	25	1.25"	107.00
214-3062	9R28026	26	1.30"	110.00
214-3064	9R28034	34	1.70"	144.00
214-3066	9R28036	36	1.80"	153.00
214-3068	9R28037	37	1.85"	154.00
214-3070	9R28040	40	2.00"	170.00
214-3072	9R28050	50	2.50"	214.00
214-3074	9R28060	60	3.00"	256.00
214-3076	9R28064	64	3.20"	272.00

Ribbon Coaxial Flat Cable



All ribbon coaxial flat cable features solid copper conductors, coated with an alkyl baked enamel; 0.100" center conductor spacing. Polypropylene insulated, Beldfoil® aluminum-polyester shielded with tinned copper drain wire and PVC jacket. 105°C rating; UL recognized 20115, 30 V, 60°C.

50-OHM 28AWG Solid Conductor — 0.028" Thick Black PVC Jacketed

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3120	9K50004	4	0.40"	102.00
214-3122	9K50006	6	0.60"	153.00
214-3124	9K50009	9	0.90"	230.00
214-3126	9K50010	10	1.00"	256.00
214-3128	9K50020	20	2.00"	516.30

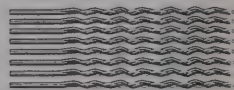
75-OHM 30AWG Solid Conductor — 0.025" Thick Grey PVC Jacketed

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3130	9K75005	5	0.50"	148.00
214-3132	9K75007	7	0.70"	210.00
214-3134	9K75009	9	0.90"	268.00
214-3136	9K75013	13	1.30"	366.00
214-3138	9K75020	20	2.00"	592.00
214-3140	9K75025	25	2.50"	742.00

93-OHM 30AWG Solid Conductor — 0.015" Thick Red PVC Jacketed

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3142	9K93004	4	0.40"	153.00
214-3144	9K93005	5	0.50"	181.00
214-3146	9K93006	6	0.60"	230.00
214-3148	9K93007	7	0.70"	268.00
214-3150	9K93009	9	0.90"	344.00
214-3152	9K93010	10	1.00"	382.00
214-3154	9K93013	13	1.30"	496.00
214-3156	9K93017	17	1.70"	648.00
214-3158	9K93020	20	2.00"	762.00
214-3160	9K93025	25	2.50"	952.00

.050 Pitch PVC Vari-Twist® Flat Cable



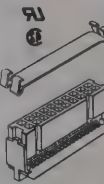
214-2693
105°C 300V VW-1
and/or
214-2697
80°C 300V VW-1

Tinned copper (.050 conductor spacing in flat section). PVC preinsulated twisted pairs laminated to a Clear PVC substrate. Standard twist length is 18 inches followed by a 2-inch flat section. Each adjacent pair is twisted in an opposite direction. 28 Gauge, Stranded 7 x 36. Passed VW-1 vertical wire flame test.

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3161	9V28010	5	0.50"	38.35
214-3162	9V28014	7	0.70"	55.08
214-3163	9V28016	8	0.80"	62.22
214-3164	9V28020	10	1.00"	77.52
214-3165	9V28026	13	1.30"	98.94
214-3166	9V28034	17	1.70"	130.56
214-3167	9V28036	18	1.80"	137.70
214-3168	9V28040	20	2.00"	153.00
214-3169	9V28050	25	2.50"	190.74
214-3170	9V28060	30	3.00"	230.52
214-3171	9V28064	32	3.20"	244.80

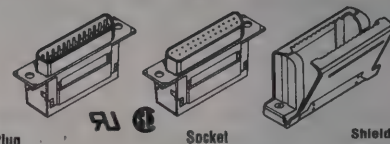
Standard-Profile Socket Connectors

MIL-C-83503 compatible. 0.100" (2.54mm) grid contact/terminal spacing. Insulated stainless steel strain relief strap. Gas-tight termination and daisy-chainable. Pre-assembled cover for easy termination. Temperature Range: -55° to +125°C. Current Rating: 1 A max. per contact. UL Voltage Rating: 125 VDC. Phosphor-bronze contacts with selective gold plating. UL recognized, CSA certified.



Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	EACH
214-3176	9SAJ010	10	0.690"	2.62
214-3178	9SAJ014	14	0.890"	3.10
214-3180	9SAJ016	16	0.990"	3.36
214-3182	9SAJ020	20	1.190"	3.70
214-3184	9SAJ026	26	1.490"	4.74
214-3186	9SAJ034	34	1.890"	6.00
214-3188	9SAJ040	40	2.190"	7.24
214-3190	9SAJ050	50	2.690"	8.68

D-Subminiature Connectors with Metal Face and EMI/RFI Shield



Accepts standard 0.050" conductor center space flat cable without special cable preparation. No special alignment tools required. Accepts jacketed and shielded cable without need for a backshell. Temperature Range: -55° to +125°C. Current Rating: 1 A DC per contact. UL Voltage Rating: 125 VDC. Phosphor-bronze contacts with selective gold plating. UL recognized, CSA certified. Order type DSO0001 locator plate separately below.

Plugs

Stock No.	Mfr.'s Type	No. of Contacts	Width	EACH
214-3254	9DMJ009	9	1.224" (31.09)	7.64
214-3256	9DMJ015	15	1.552" (39.42)	9.30
214-3258	9DMJ025	25	2.092" (53.14)	11.00
214-3260	9DMJ037	37	2.734" (69.44)	16.20

Sockets

Stock No.	Mfr.'s Type	No. of Contacts	Width	EACH
214-3262	9DMP009	9	1.224" (31.09)	7.02
214-3264	9DMP015	15	1.552" (39.42)	8.26
214-3266	9DMP025	25	2.092" (53.14)	9.30
214-3268	9DMP037	37	2.734" (69.44)	14.00

Shields

Stock No.	Mfr.'s Type	No. of Contacts	Width	EACH
214-3270	9DMS009	9	0.984" (24.99)	5.47
214-3272	9DMS015	15	1.312" (33.32)	5.47
214-3274	9DMS025	25	1.852" (47.04)	5.47
214-3276	9DMS037	37	2.500" (63.50)	5.47

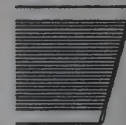
Locator Plate

Type DSO0001 locator plate designed for use with 9DSP Series and 9DMJ Series D-subminiature connectors, listed above.

214-3000, Type DSO0001, 1-4.....EACH 125.00

.050 Pitch Peelable Ground Plane Cable

Tinned copper (.050 conductor spacing). Gray PVC insulation. Expanded copper mesh ground plane. 28 AWG drain wire (in contact with copper mesh). Black polarity stripe indicates drain wire. 28 Gauge, stranded 7 x 36. Passes VW-1 vertical wire flame test.

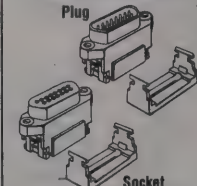


214-2682
105°C 300V VW-1

Stock No.	Mfr.'s Type	No. of Conductors	Nominal Width	100' Spool
214-3192	9GP1020	20	1.25"	220.32
214-3193	9GP1026	26	1.55"	285.60
214-3194	9GP1034	34	1.95"	373.32
214-3195	9GP1040	40	2.25"	438.60
214-3196	9GP1050	50	2.75"	548.76
214-3197	9GP1060	60	3.25"	656.88

Note: One conductor designated as "ground".

D-Subminiature All-Plastic Connectors



Accept standard 0.050" centered conductors without special cable preparation. No need for special alignment tools. Accept jacketed and shielded cable without need for a backshell. Temperature Range: -55° to +125°C. Current Rating: 1 A max. per contact. UL Voltage Rating: 125 VDC. Phosphor-bronze contacts with selective gold plating. UL recognized, CSA certified. Order type DSO0001 locator plate separately above.

Plugs

Stock No.	Mfr.'s Type	No. of Contacts	Width	EACH
214-3234	9DSP009	9	0.984" (24.99)	6.40
214-3236	9DSP015	15	1.312" (33.32)	7.44
214-3238	9DSP025	25	1.852" (47.04)	8.48
214-3240	9DSP037	37	2.500" (63.50)	12.40

Sockets

Stock No.	Mfr.'s Type	No. of Contacts	Width	EACH
214-3242	9DSJ009	9	0.640" (16.26)	7.64
214-3244	9DSJ015	15	0.966" (24.54)	8.48
214-3246	9DSJ025	25	1.510" (38.35)	9.92
214-3248	9DSJ037	37	2.162" (54.91)	14.60

Portable Cordage

Available in 2, 3, 4, and 5-conductor cordage. **Variety of Jacket Materials:** Rubber, PVC, Hypalon® and Neoprene. Hypalon® and Neoprene materials are recommended for outdoor applications.

SPT-1 2-Conductor PVC Parallel Lamp Cord 300 V, Rated 60°C — Fig. A

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3300	19122	18 (41 × 34)	0.110" × 0.207" Brown	45.90
214-3301	19122	18 (41 × 34)	0.110" × 0.207" Black	45.90
214-3302	8888	18 (41 × 34)	.110" Brown and Ivory	45.70
214-3303	8888	18 (41 × 34)	.110" Brown and Ivory	45.70

SPT-2 2-Conductor PVC Parallel Lamp Cord 300 V, Rated 60°C — Fig. A

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3304	19123	18 (41 × 34)	0.144" × 0.277" Brown	52.53
214-3305	19123	18 (41 × 34)	0.144" × 0.277" Black	52.53
214-3306	19126	16 (65 × 34)	0.115" × 0.299" Brown	68.85
214-3307	19126	16 (65 × 34)	0.115" × 0.299" Black	68.85

Heavy-Armored Poly-Thermaleze® High Temperature Magnet Wire

Dual polyester film coated magnet wire, rated for use to 180°C. Has exceptional ability to resist chemical solvents and abuse in intricate windings. Complies with J-W-1177/14 specifications. One Pound spools. MW35-C (heavy).



Stock No.	Mfr.'s Type	AWG	Approx. Length (Ft.)	EACH
214-3550	8073	14	80	26.72
214-3552	8074	16	126	28.15
214-3554	8075	18	199	28.97
214-3556	8076	20	315	29.38
214-3558	8077	22	501	29.38
214-3560	8078	24	793	30.60
214-3562	8079	26	1260	32.03
214-3564	8080	28	1990	34.27
214-3566	8081	30	3140	39.57
214-3568	8083	34	7860	49.58
214-3570	8085	38	19300	72.42

Single Beldsol® Solderable Magnet Wire

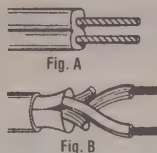
Dual film insulated magnet wire combines excellent dielectric characteristics of polyurethane with toughness and solvent resistance of a nylon overcoat. May be soldered without insulation removal at 750°F. Rated by IEEE tests for 270°F usage. Complies with J-W-1177/9 specifications. Half-pound spools. MW 28-C (single).

Stock No.	Mfr.'s Type	AWG	Approx. Length (Ft.)	EACH
214-3572	8049	18	100	17.34
214-3574	8050	20	160	17.34
214-3576	8051	22	254	17.34
214-3578	8052	24	404	17.75
214-3580	8053	26	645	18.16
214-3582	8054	28	1020	18.77
214-3584	8055	30	1615	20.40
214-3586	8056	32	2515	22.64
214-3588	8057	34	4060	23.87

Shielding And Bonding Cable

Tinned copper braided wire provides approximately 90% shield coverage when applied over recommended diameter. Conforms to QQ-B-575B specifications.

Mfr.'s Type	Tubular I.D. (In.)	Stranding	Circular Area (CMA)	50' Spool		250' Spool	
				Stock No.	EACH	Stock No.	EACH
8660	0.12500	96 × 34	3800	214-3420	29.38	214-3422	138.72
8668	0.17188	120 × 34	4800	214-3424	37.33	214-3426	164.22
8663	0.21875	168 × 34	6700	214-3428	47.12	214-3430	206.08
8661	0.20313	192 × 34	7600	214-3432	43.66	214-3434	204.00
8669	0.50000	336 × 34	13,300	214-3436	88.74	214-3438	404.00
8662	0.78125	576 × 34	22,900	214-3440	123.42	214-3442	585.48
8670	0.75000*	480 × 30	48,000	214-3444	224.40	214-3446	958.80



SP-1 Rubber Parallel Lamp Cord 300 V, Rated 60°C

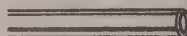
Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3308	8462	18 (41 × 34)	0.123" Brown	59.16
214-3310	19115	18 (41 × 34)	0.123" × 0.227" Black	58.65
214-3311	19115	18 (41 × 84)	0.123" × 0.227" Brown Black	58.65

HPN-2-Conductor Hypalon® Heater Cord 300 V, Rated 90°C

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3344	19328	18 (41 × 34)	0.154" × 0.286" Black	73.44
214-3346	19326	16 (65 × 34)	0.164" × 0.312" Black	88.74

Bus Bar Wire

Solid tinned copper. Made in accordance with Federal specification QQ-W-343-D.



Mfr.'s Type	AWG	Nominal O.D. (In.)	Circular Area (CMA)	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
8025	30	0.0101	102	214-3510	7.85	214-3512	37.74
8024	28	0.0128	164	214-3514	8.85	214-3516	39.37
8023	26	0.0162	262	214-3518	9.08	214-3520	45.70
8022	24	0.0206	424	214-3522	9.32	214-3524	48.55
8021	22	0.0255	650	214-3526	9.53	214-3528	62.22
8020	20	0.0321	1029	214-3530	5.34	214-3532	82.62
8019	18	0.0402	1616	214-3534	15.30	214-3536	118.32
8013	16	0.0512	2621	214-3538	21.62	214-3540	181.56
8012	14	0.0652	4251	214-3542	32.84	214-3544	267.24
8011	12	0.0824	6790	214-3546	48.14	—	—

Duplex Primary Wire

Bare copper conductors parallel, PVC insulated and jacketed. Passes VW-1 Vertical Wire Flame Test. Rated 300 V, 75°C.



Mfr.'s Type	AWG Stranding	Nominal O.D. (In.)	100' Spool		500' Spool	
			Stock No.	EACH	Stock No.	EACH
8677	16 (19 × 29)	0.146 × 0.248	214-3448	65.28	214-3450	103.02
8675	14 (19 × 27)	0.161 × 0.278	214-3452	79.00	214-3454	143.82
8673	12 (19 × 25)	0.186 × 0.328	214-3456	96.07	214-3458	180.34
8678	10 (19 × 23)	0.225 × 0.400	214-3460	113.33	214-3462	256.71

SVT-2-Conductor PVC Jacket 300 V, Rated 60°C — Fig. B

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3312	19140	18 (41 × 34)	0.243" Black	65.79

SJO-2-Conductor Neoprene Jacket 300 V, Rated 60°C

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3314	19227	18 (16 × 30)	0.298" Black	109.65
214-3316	19228	16 (26 × 30)	0.323" Black	140.25

SJ-3-Conductor Rubber Jacket 300 V, Rated 60°C — Fig. C

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3348	19129	18 (16 × 30)	0.328" Black	116.79
214-3350	19130	18 (26 × 30)	0.353" Black	148.41
214-3352	19125	18 (41 × 34)	0.328" Black	126.48
214-3354	19124	16 (65 × 34)	0.353" Black	162.18

SJT-3-Conductor PVC Jacket 300 V, Rated 60°C — Fig. C

Stock No.	Mfr.'s Type	AWG (Stranding)	Nom. O.D. and Color	250' Spool EACH
214-3324	19348	18 (41 × 34)	0.328" Black	106.59
214-3326	19352	18 (41 × 34)	0.428" Black	106.59
214-3328	19362	18 (41 × 34)	0.340" Black	139.74
214-3330	19349	16 (65 × 34)	0.353" Black	130.05
214-3332	19353	16 (65 × 34)	0.353" Black	130.05
214-3334	19354	14 (41 × 30)	0.380" Black	150.45
214-3336	19364	14 (41 × 30)	0.402" Black	189.21

Belflex™ Premium PVC Jacket and Portable Cordage

- Remains Flexible in Cold Temperatures
- Exceptional Oil Resistance
- Excellent Retractile Properties



Belden® Belflex™ is a premium PVC jacket compound (Class 43) that is superior to standard PVC for flexibility and durability. Belflex cordage and cords offer a superior feel and appearance and are ideal for any number of applications where resiliency, ruggedness, and appearance are key considerations. It's a breakthrough jacketing compound that is an outstanding value. Twelve standard Belflex portable cordage products are now offered. Each features a matte black finish, as opposed to the normal glossy appearance of PVC, and is available in 250 ft. lengths. Custom power cords are also available using the new Belflex cordage. **Insulation Thickness:** .030" (.76 mm) except for 19502 and 19505 which are .045" (1.14 mm).

UL and CSA Approved For Outdoor Use. These Belflex jacketed cordage items have a UL and CSA temperature rating of 105°C and are suitable for outdoor use. Belflex also passes the VW-1 Vertical Wire Flame Test. These constructions are approved as water and oil resistant.

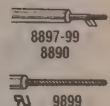
Fig. A. SJTOW-A-2-Conductor: 300 V 150°C Belflex Matte Black Premium PVC. IEC Color Code: Light Blue, Brown. **Fig. B. STOW-A-2-Conductor:** 300 V 150°C Belflex Matte Black Premium PVC. IEC Color Code: Light Blue, Brown. **Fig. C. SJTOW-A-3-Conductor:** 300 V 150°C Belflex Matte Black Premium PVC. IEC Color Code: Light Blue, Brown, Green/Yellow. **Fig. D. STOW-A-3-Conductor:** 300 V 150°C Belflex Matte Black Premium PVC. IEC Color Code: Light Blue, Brown, Green/Yellow.

Stock No.	Mfr.'s Type	Fig.	Std. Unit Lbs.	Jacket Thickness		Nom. O.D.		PER COIL/ 250'
				In.	mm	In.	mm	
216-3550	19506*	A	9.9	.030	.76	.290	7.34	89.76
216-3552	19507†	A	13.5	.030	.76	.319	8.10	114.24
216-3554	19508‡	A	14.7	.030	.76	.340	8.64	126.48
216-3556	19509†	B	16.3	.060	1.52	.360	9.14	131.07
216-3558	19510†	B	18.6	.060	1.52	.386	9.80	160.14
216-3560	19502‡	B	33.6	.080	2.03	.524	13.31	224.91
216-3562	19509†	C	14.0	.030	.76	.315	8.00	89.76
216-3564	19510†	C	18.3	.030	.76	.340	8.64	142.29
216-3566	19511‡	C	23.6	.030	.76	.380	9.65	156.06
216-3568	19503*	D	19.2	.060	1.52	.380	9.65	150.45
216-3570	19504†	D	22.6	.060	1.52	.405	10.29	179.01
216-3572	19505‡	D	41.2	.080	2.03	.558	14.17	256.02

AWG Stranding: *18 (42 × 34); †16 (65 × 34); ‡14 (41 × 30).

Test Prod Wire

Stranded tinned-copper conductors, separator wrapping, red or black rubber insulated. Type 8899 is PVC insulated and UL recognized. Working voltages listed in table below are AC rms values and for intermittent-duty only. Type 8897 is manufactured per MIL-W-13169B specs; 8890 is miniature type wire.



Mfr.'s Type	Color	AWG Stranding	Nominal O.D. (In.)	Working Voltage	25' Spool		100' Spool		500' Spool	
					Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8898	Red	18 (65 × 36)	0.229	10000	214-3460	19.38	214-3462	49.98	214-3464	206.04
8898	Black	18 (65 × 36)	0.229	10000	214-3466	19.38	214-3468	49.98	214-3470	206.04
8899	Red	18 (65 × 36)	0.114	5000	214-3472	11.83	214-3474	36.31	214-3476	133.62
8899	Black	18 (65 × 36)	0.114	5000	214-3478	11.83	214-3480	36.31	214-3482	133.62
8897	Red	18 (65 × 36)	0.114	5000	—	—	—	—	214-3484	198.86
8897	Black	18 (65 × 36)	0.114	5000	—	—	—	—	214-3486	198.86
8899	Red	18 (65 × 36)	0.114	5000	—	—	214-3488	30.60	—	—
8899	Black	18 (65 × 36)	0.114	5000	—	—	214-3490	30.60	—	—
8890	Red	24 (45 × 40)	0.066	1000	214-3492	9.71	214-3494	24.07	214-3496	103.02
8890	Black	24 (45 × 40)	0.066	1000	214-3498	9.71	214-3500	24.07	214-3502	103.02

High-Temperature Control and Instrumentation Cables

One Triplet overall Beldfoil® shielded. Kapton aluminum 100% shielded coverage. Tinned copper conductors. Clear Tefzel jacket. 300 V 150°C.



Mfr.'s Type	AWG/Stranding	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
85240	20 (7 × 28)	.193	216-3790	151.04	216-3791	756.04	216-3792	1512.11
85241	16 (19 × 29)	.225	216-3793	189.37	216-3794	946.95	216-3795	1893.92

High-Temperature Unshielded

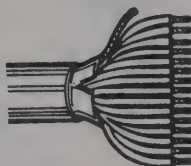


Tinned copper conductors. Clear Tefzel jacket. 300 V 150°C. 16 gauge stranded conductors (19 × 29).

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
85102	2	.215	216-3800	149.70	216-3801	748.56	216-3802	1497.14
85103	3	.228	216-3803	186.88	216-3804	934.50	216-3805	1869.03
85105	5	.273	216-3806	258.35	216-3807	1291.81	216-3808	2583.64
85107	7	.308	216-3809	360.35	216-3810	1801.79	216-3811	3606.60
85109	9	.359	216-3812	449.55	216-3813	2247.77	216-3814	4495.57

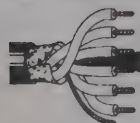
Direct Burial Cables — Multi-Conductor Cables

Tinned copper, polypropylene insulated, conductors cabled. Beldfoil® aluminum-polyester shield overall. 22 AWG solid tinned copper drain wire. Black high density polyethylene jacket. **Suggested Working Voltage: 350 V**



Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH
9803	3	.205	216-3773	159.12	216-3776	318.24
9890	10	.310	216-3774	615.84	216-3777	1228.41
9894	15	.390	216-3775	801.96	216-3778	1603.93

Shielded Data Cables



These cables provide interconnections for communication systems including PC keyboard interconnects, computer and computer peripherals, instrumentation equipment, and medical electronics. These rounded shielded data cables are UL 2464 rated (300 V, 80°C). Passes the UL VW-1 Vertical Wire Flame Test. Featuring 26 AWG stranded (7 × 34) tinned copper conductors and drain wire, these cables are shielded with Belden's aluminum-polyester-aluminum laminate Duofoil shield design. The multiconductors are PVC insulated with a black PVC jacket.

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH
1211A	4	.193	216-3780	223.83	216-3784	447.60
1212A	6	.217	216-3781	264.14	216-3785	528.28
1213A	8	.234	216-3782	443.41	216-3786	886.83
1214A	16	.301	216-3783	576.01	216-3787	1152.03

High-Temperature Overall Braid Shield, Type E MIL-W-16878/4

Stranded silver-coated copper conductors insulated with extruded TFE Teflon. **Temperature Rating: -65°C to 200°C. Voltage: 600 V.**



26 Gauge Stranded (7 × 34)

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83303	1	.079	216-3820	71.91	216-3821	359.33	216-3822	718.65
83317	2	.112	216-3823	94.25	216-3824	471.24	216-3825	942.48
83332	3	.126	216-3826	109.57	216-3827	547.82	216-3828	1095.64
83347	4	.135	216-3829	111.81	216-3830	591.46	216-3831	1118.29

24 Gauge Stranded (19 × 36)

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83304	1	.079	216-3840	76.58	216-3841	382.68	216-3842	765.78
83333	3	.137	216-3846	135.01	216-3847	675.06	216-3848	1350.11
83348	4	.135	216-3849	140.33	216-3850	701.72	216-3851	1403.44

22 Gauge Stranded (19 × 34)

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83305	1	.088	216-3860	77.05	216-3861	385.23	216-3862	770.49
83319	2	.142	216-3863	114.51	216-3864	572.55	216-3865	1145.11
83334	3	.150	216-3866	152.20	216-3867	761.04	216-3868	1522.11
83349	4	.163	216-3869	160.61	216-3870	803.22	216-3871	1606.45

20 Gauge Stranded (19 × 29)

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83306	1	.096	216-3880	84.82	216-3881	424.12	216-3882	848.23
83320	2	.158	216-3883	126.05	216-3884	630.28	216-3885	1260.58
83335	3	.167	216-3886	172.01	216-3887	860.00	216-3888	1720.03
83350	4	.182	216-3889	186.88	216-3890	934.50	216-3891	1869.03

18 Gauge Stranded (19 × 30)

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83307	1	.111	216-3900	93.35	216-3901	466.77	216-3902	933.57
83321	2	.180	216-3903	153.16	216-3904	765.75	216-3905	1531.53
83336	3	.191	216-3906	172.01	216-3907	1015.51	216-3908	2031.04
83351	4	.209	216-3909	223.85	216-3910	1119.67	216-3911	2239.49

16 Gauge Stranded (19 × 29)

Mfr.'s Type	No. of Conductors	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83308	1	.123	216-3920	104.18	216-3921	520.91	216-3922	1041.83
83322	2	.200	216-3923	177.42	216-3924	887.11	216-3925	1774.23
83337	3	.212	216-3926	220.32	216-3927	1101.54	216-3928	2203.10
83352	4	.232	216-3929	278.70	216-3930	1393.59	216-3931	2787.19

Paired Control and Instrumentation Cables

Tinned copper, clear Tefzel insulated, pairs cabled together. Overall Beldfoil® aluminum-Kapton shielded drain wire. 150°C, 300 V.



20 Gauge Stranded (7 × 28)

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
85230	1	.182	216-3750	128.09	216-3753	640.46	216-3756	1280.92
85164	4	.344	216-3751	382.03	216-3754	1910.24	216-3757	3820.47
85168	8	.439	216-3752	544.21	216-3755	2721.12	216-3758	5442.23

16 Gauge Stranded (19 × 29)

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
85231	1	.380	216-3760	154.73	216-3761	773.75	216-3762	1547.52

Coaxial, Triaxial, and Microwave Cable



Low Triboelectric Noise Coaxial Cable



Mfr.'s Type	AWG (Stranding)	Nominal O.D. (In.)	Nom. Imp. (Ohms)	Shield Coverage (%)	RG/U	100' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9239	26 (7 x 34)	0.101	50	88.0	RG-174/U	216-0260	49.16	216-0262	182.58	216-0264	365.16
9223	22 (7 x 30)	0.195	50	100.0	RG-58/U	216-0266	76.50	216-0268	291.72	216-0270	579.36
9224	22 (Solid)	0.242	73	93.0	RG-59/U	—	—	216-0274	306.00	216-0276	611.98

High Temperature MIL-C-17 Teflon Coaxial Cable

Silver-coated, copper-covered steel conductor. TFE Teflon-Insulation. 200°C. Passes VW-1 vertical wire flame test.

Mfr.'s Type	AWG (Stranding)	Nominal O.D. (In.)	Nom. Imp. (Ohms)	Shield Coverage (%)	RG/U	100' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83241	18 (Solid)	.187	50	96.0	RG-141A/U†	216-0280	220.32	216-0282	973.08	216-0284	1946.16
83242	18 (Solid)	.195	50	96.0	RG-142B/U††	216-0286	216.24	216-0288	974.10	216-0290	1948.20
84142	18 (Solid)	.195	50	98.0	RG-142††	216-0292	228.40	216-0294	1053.66	216-0296	2107.32
83265	30 (7 x 38)	.071	50	95.0	RG-178B/U††	216-0322	50.59	216-0324	229.50	—	—
83264	30 (7 x 38)	.100	75	95.0	RG-179††	216-0334	74.46	216-0336	311.10	216-0338	622.20
83266	30 (7 x 38)	.141	95	95.0	RG-180††	216-0340	158.10	216-0342	696.66	216-0344	1393.32
83267	30 (7 x 38)	.113	75	95.0	RG-187A/U†	216-0328	102.00	216-0330	446.76	216-0332	893.52
83269	26 (7 x .0067)	.108	50	96.5	RG-188/U†	216-0316	89.76	216-0318	403.92	216-0320	807.84
84303	18 (Solid)	.170	50	95.0	RG-303*	216-0298	164.22	216-0300	729.30	216-0302	1532.04
84316	26 (7 x .0067)	.098	50	95.0	RG-316††	216-0304	104.04	216-0306	461.04	216-0308	922.08
83284	26 (7 x .0067)	.096	50	95.0	RG-316/U††	216-0310	87.72	216-0312	387.60	216-0314	775.20

*MIL-C-17G, 17/111. †MIL-C-17D. ††MIL-C-17G QPL.

Conformable® Coax Cable For Microwave and High Frequency Video Applications

- Low VSWR Up To 20 GHz (50 Ohm Cables)
 - Exceptional Phase Stability
 - Patented Copper Foil Tape and Tin-Filled Composite Shield Provides Unmatched and Electrical Stability and Shielding Performance
 - Longest Flex Life Of Any Hand-Formable Product On The Market
 - Retention Of Shape After Bending, No Buckling When Reforming Or Flexed
 - Reduced Equipment Spec Drawing Requirements and Shortened Design Time
 - Reduced Labor, Purchasing, Manufacturing, and Packaging Expenses
- Microwave Applications
- 1671A — RG-405 Type 50 Ohm With .085" O.D.
 - 1673A — RG-402 Type 50 Ohm With .138" O.D.
- High Frequency Video Applications
- 1672 — 75 Ohm With .087" O.D. For High Frequency Video Applications

50 Ohm Microwave Cables

Silver coated copper covered steel conductor, TFE Teflon insulation, and patented copper foil tape and tin-filled braid composite shield. -70° C to 200° C. Nominal Impedance: 50 ohms. Nominal Vel. of Prop.: 69.5%. Nominal Capacitance: 29.5 pF/ft. (96.8 pF/m). Copper-tin composite shield. 100% shield coverage.

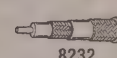
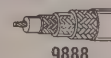
Mfr.'s Type	AWG Stranding	Nominal O.D. (In.)	Nominal Attenuation			50' Coil		100' Coil		500' Coil	
			MHz	dB/100'	dB/100 m	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
1671A	24 (solid)	.085	50	4.5	14.8	216-3501	150.96	216-3502	255.00	216-3503	1020.00
			100	6.5	21.3						
			200	9.2	30.2						
			400	13.0	42.7						
			700	17.0	55.8						
			900	20.7	67.9						
			1,000	22.0	72.2						
			4,000	50.0	164.0						
			7,000	70.0	229.7						
			10,000	83.0	272.2						
			15,000	105.0	344.4						
			18,000	120.0	393.6						
			20,000	126.0	413.3						
1673A	19 (solid)	.138	50	2.3	7.5	216-3504	130.56	216-3505	238.68	216-3506	1091.40
			100	3.3	10.8						
			200	4.7	15.4						
			400	6.9	22.6						
			700	9.3	30.5						
			900	10.8	35.4						
			1,000	12.0	39.4						
			4,000	26.0	85.3						
			7,000	37.0	121.4						
			10,000	45.0	147.6						
			15,000	58.0	190.2						
			18,000	65.0	213.2						
			20,000	70.0	229.6						

75 Ohm High Frequency Video Cables

Silver coated copper covered steel conductor, TFE Teflon insulation, and patented copper foil tape and tin-filled braid composite shield. -70° C to 200° C. Nominal Impedance: 75 ohms. Nominal Vel. of Prop.: 69.5%. Nominal Capacitance: 19.5 pF/ft. (64.0 pF/m).

Mfr.'s Type	AWG (Stranding)	Nominal O.D. (In.)	Nominal Attenuation			50' Coil	100' Coil	200' Coil	500' Coil
			MHz	dB/100'	dB/100 m				
1672A	29 (solid)	.087	1	1.6	5.1	216-3507	150.96	216-3508	244.80
			10	2.3	7.4				
			50	5.0	16.4				
			100	7.2	23.5				
			200	10.3	33.8				
			400	14.9	49.0				
			500	16.9	53.3				
			700	20.3	66.6				
			900	23.3	76.5				
			1,000	24.7	81.0				
			1,500	31.0	101.7				
			2,000	36.3	119.1				

Brilliance® Triaxial Broadcast and Computer Cable



Mfr.'s Type	AWG (Stranding)	Nominal O.D. (In.)	Nom. Imp. (Ohms)	Shield Coverage (%)	RG/U	500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH
9888	11 (7 x 19)	.480	50	80.0	RG-8/U	216-0386	893.52	216-0388	1782.96
9232*	15 (19 x 27)	.520	75	82.0	RG-11/U	216-0390	1379.04	216-0392	2754.00
8232	20 (Solid)	.315	75	96.0	RG-59/U	216-0394	442.68	216-0396	881.28

*UL Recognized; Contact your local Allied Branch for details.

Brilliance® Precision Video Coaxial Cable



Mfr.'s Type	AWG (Stranding)	Nominal O.D. (In.)	Nominal Imp. (Ohms)	Shield Coverage (%)	RG/U	500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH
9141	20 (Solid)	.305	75	98.0	—	—	—	216-0224	826.20
9231	20 (Solid)	.305	75	98.0	216-0226	479.40	—	216-0228	956.76
8281	20 (Solid)	.305	75	98.0	216-0230	389.64	—	216-0232	777.24
8281B†	20 (Solid)	.305	75	98.0	—	—	—	216-0236	838.44
8281F	22 (7 x 29)	.305	75	98.0	—	—	—	216-0238	867.00
8279	23 (7 x 32)	.220	75	95.0	216-0240	238.68	—	216-0244	473.28
8279A*	23 (7 x 32)	.220	75	95.0	—	—	—	216-0246	534.48
9209	23 (Solid)	.220	75	100.0	216-0248	236.64	—	216-0250	469.20

*UL Recognized; †NEC CM; ††NEC CL2; Plenum version available — Contact your local Allied Branch for details.

Broadcast and MATV Coaxial Cable



Mfr.'s Type	AWG (Stranding)	Nominal O.D. (In.)	Nom. Imp. (Ohms)	Shield Coverage (%)	RG/U	500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH
9248*†	18 (Solid)	.270	75	100.0	RG-6/U	216-0170	155.04	216-0172	310.08
9114†	18 (Solid)	.275	75	100.0	RG-6/U	216-0174	88.39	216-0176	176.46
9290†	18 (Solid)	.288	75	98.0	RG-6/U	216-0178	316.20	216-0180	628.32
8213	14 (Solid)	.405	75	97.0	RG-11/U	216-0162	361.08	216-0164	722.16
9292	14 (Solid)	.405	75	100.0	RG-11/U	—	—	216-0166	628.28
9011	14 (Solid)	.405	75	100.0	RG-11/U	—	—	216-0168	553.00
8212	20 (Solid)	.242	75	95.0	RG-59/U	216-0182	183.60	216-0184	367.20
9240	20 (Solid)	.241	75	80.0	RG-59/U	216-0186	143.82	216-0188	287.64
9274†	20 (Solid)	.240	75	95.0	RG-59/U	216-0190	153.00	216-0192	303.96
9275†	20 (Solid)	.242	75	100.0	RG-59/U	216-0194	69.95	216-0196	139.90
9100†	20 (Solid)	.242	75	100.0	RG-59/U	—	—	216-0198	144.31
9659†	22 (7 x 30)	.242	75	95.0	RG-59/U	216-0200	226.44	216-0202	446.76
9204	23 (Solid)	.241	75	95.0	RG-59††	216-0204	275.40	216-0206	550.80

Broadcast Coaxial Cable



8700



9273



9221

Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Nom. Imp. (Ohms)	Shield Coverage	RG/U	100' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8214*†	11 (7×19)	0.405"	50.0	97.0%	RG-8/U	216-0012	102.00	216-0014	450.84	216-0016	899.64
8237*†	23 (7×21)	0.405"	52.0	97.0%	RG-8/U	216-0058	103.02	216-0060	391.68	216-0062	779.28
9251*†	23 (7×21)	0.405"	52.0	97.0%	RG-8/U	216-0052	135.66	216-0054	505.92	216-0056	1009.80
8238†	18 (7×26)	0.405"	75.0	97.0%	RG-11/U	216-0076	113.22	216-0078	424.32	216-0080	848.64
8240*†	20 (Solid)	0.193"	53.5	95.0%	RG-58/U	216-0064	37.13	216-0066	128.52	216-0068	257.04
9201	20 (Solid)	0.193"	53.5	78.0%	RG-58/U	216-0070	29.99	216-0072	109.14	216-0074	218.28
8219*†	20 (19×32)	0.198"	50.0	96.0%	RG-58A/U	216-0032	44.68	216-0034	151.98	216-0036	303.96
8259	20 (19×33)	0.193"	50.0	96.0%	RG-58A/U	216-0042	39.58	216-0044	126.48	216-0046	252.96
8262	20 (19×33)	0.195"	50.0	96.0%	RG-58C/U††	—	—	216-0038	170.34	216-0040	340.68
8263*†	23 (Solid)	0.241"	75.0	95.0%	RG-59B/U	—	—	216-0082	199.92	216-0084	399.84
8267*†	13 (7×21)	0.405"	50.0	97.0%	RG-213/U††	—	—	216-0018	532.44	216-0020	1181.16
8268*†	13 (7×0.0296)	0.425"	50.0	98.0%	RG-214/U††	—	—	216-0022	2613.24	216-0024	5224.44
9273*†	19 (Solid)	0.212"	50.0	97.0%	RG-223/U††	216-0026	261.12	216-0028	1034.28	216-0030	2066.52
8700	28 (Solid)	0.054"	32.0	91.0%	—	216-0010	137.70	—	—	—	—
8218*†	27 (7×35)	0.150"	75.0	93.0%	—	216-0086	42.23	216-0088	150.96	216-0090	301.92
9221*	30 (7×38)	0.097"	75.0	89.0%	—	216-0092	44.27	216-0094	159.12	—	—
9203**	20 (19×33)	0.195"	50.0	96.0%	RG-58**	—	—	216-0048	224.40	216-0050	444.72

*UL: Recognized; **I.E.C.Q. Certified MIL-C17G M17/28-RG058; †NEC CL2; ††NEC CL2X; # Plenum version available — Contact your local Allied Branch for details; ††MIL-C-17G QPL.

Brilliance® Low Loss VHF-UHF Coaxial Cable



Duobond II Tinned Copper Braid, 100% Shielded Coverage

Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Nom. Imp. (Ohms)	Shield Coverage	RG/U	100' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9913†	10 (Solid)	0.405"	50	100.0%	RG-8/U	216-0212	105.06	216-0214	446.76	216-0216	891.48
9914*†	10 (Solid)	0.403"	50	100.0%	RG-8/U	216-0218	97.92	216-0220	412.08	216-0222	820.08

*UL: Recognized; †NEC CL2.

Twinaxial Broadcast and Computer Cable



9272



9463



9250



9207, 9815



9271, 9182

Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Nom. Imp. (Ohms)	Shield Coverage	RG/U	100' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9272*•	20 (7×28)	.244"	78	93.0%	—	216-0350	61.20	216-0352	201.96	216-0354	403.92
9463*•	20 (7×28)	.243"	78	100.0%	—	—	—	—	—	216-0360	391.68
9250	18 (7×.0152)	.420"	95	95.0%	RG-22B/U	—	—	216-0358	1054.68	216-0362	2105.28
9207††	20 (7×28)	.330"	100	86.0%	—	216-0364	104.04	216-0366	228.48	216-0368	452.88
9815	20 (7×28)	.330"	100	96.0%	—	—	—	216-0372	291.72	216-0373	583.44
9271*•	25 (7×33)	.240"	124	100.0%	—	216-0374	37.54	216-0376	142.80	216-0380	285.60
9182*†	22 (19×34)	.350"	150	100.0%	—	—	—	216-0382	381.48	216-0384	756.84

*UL: Recognized; •NEC CM; †NEC CL2; ††NEC CL2X; †† Plenum version available — Contact your local Allied Branch for details.

Brilliance® Triaxial Broadcast Cable



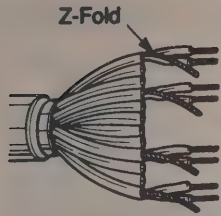
9222



9192

Mfr.'s Type	AWG (Stranding)	Nom. O.D.	Nom. Imp. (Ohms)	Shield Coverage	RG/U	100' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9192*†	15 (19×27)	.520"	75	82.0%	RG-11/U	—	—	216-0383	711.96	216-0385	1421.88
9222	20 (7×28)	.240"	50	96.0%	RG-58A/U	216-0379	106.08	216-0381	432.48	—	—

*UL: Recognized; †NEC CL2X; — Contact your local Allied Branch for details.



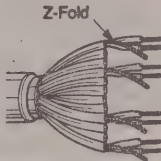
High-Flex, Low Capacitance Multi-Pair Audio Snake Cable

Maintains high flexibility in cold weather. Each pair is individually shielded and PVC-jacketed for ease of termination. Eliminates need for overall crosstalk shield and allows for longer cable runs. 22AWG, 7x30 stranded tinned copper, high-density polyethylene-insulated twisted pairs. Each pair is Beldfoil® shielded with Belden Z-Fold™. **Nominal capacitance:** 19pF/ft. between conductors. **Nominal impedance:** 70 ohms. Black PVC outer jacket. Rated 150V, 60°C.

Mfr.'s Type	No. of Pairs	Nom. O.D.	100' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH
1219A	9	0.667"	216-0838	212.16	216-0840	2084.88
1220A	12	0.760"	—	—	216-0844	2429.64
1222A	16	0.852"	216-0846	350.88	216-0848	3274.20
1225A	20	0.960"	216-0850	479.40	216-0852	4410.48
1427A	24	1.088"	—	—	216-0854	5830.32
1221A	28	1.140"	216-0856	642.60	216-0858	6018.00
1226A	32	1.183"	216-0860	744.60	216-0862	6876.84
1428A	52	1.496"	—	—	216-0864	9375.84

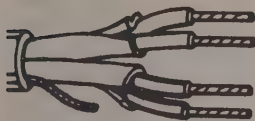
CM Rated Multi-Pair Audio Snake Cable

Multi-channel snake cable meets NEC requirements for in-wall installation. 24 AWG, 7 x 32 stranded tinned copper, polyethylene insulated, twisted pairs. Each pair is individually shielded with Beldfoil® aluminum-polyester shield and a Z-Fold™ for greater interference elimination. Black outer PVC jacket with nylon ripcord. **Nominal impedance:** 50 ohms. **Nominal capacitance between conductors:** 31 pF/ft. Rated 300V, 60°C.



Mfr.'s Type	No. of Pairs	Nom. O.D.	500' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH
1408A	4	0.337"	216-0870	440.64	216-0872	881.28
1409A	6	0.400"	216-0874	610.98	216-0876	1221.96
1410A	8	0.434"	216-0878	834.36	216-0880	1668.72
1411A	12	0.542"	216-0882	1013.88	216-0884	2027.76
1412A	16	0.612"	216-0886	1578.96	216-0888	3157.92
1413A	20	0.687"	216-0890	2003.28	216-0892	4008.56
1414A	24	0.783"	216-0894	2076.72	216-0896	4153.44
1415A	26	0.799"	216-0898	2404.14	216-0900	4808.28
1416A	32	0.869"	216-0902	2732.58	216-0904	5465.16

Individually Shielded Paired Audio and Computer Cable—Polypropylene Insulated



Type 8723 tinned copper conductors, polypropylene insulated. Black and red under a Beldfoil® aluminum-polyester shield, green and white under a Beldfoil® aluminum-polyester shield. Stranded tinned common drain wire. Chrome PVC jacket. Pairs cabled on common axis to reduce diameter. 60°C. NEC Type CM.

22 AWG Stranded Conductors (7 x 30) 2919; NEC Type CM

Mfr.'s Type	No. Pairs	Nom. O.D.	Cap. pF/ft.	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8723	2	0.165"	35	216-1456	16.69	216-1458	83.46	216-1460	166.93

Shielded Twisted Pair Audio, Broadcast and Instrumentation Cable

Beldfoil® 100% shielded twisted pair cable featuring Brilliance® state-of-the-art technology provides a sharp, clean sound through improved signal integrity. Solid or stranded tinned copper pairs. Durable PVC jacket.

Mfr.'s Type	AWG (Stranding)	Nom. O.D.	UL	Work Volt	Insulation††	100' Spool		250' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8450	22 Solid	.118"	—	200	PP	—	—	—	—	216-0970	76.50	216-0972	149.94
8451*	22 (7 x 30)	.135"	—	200	PP	216-0974	28.15	—	—	216-0976	85.68	216-0978	169.32
8761*	22 (7 x 30)	.175"	2092	300	PE	—	—	—	—	216-0984	69.42	216-0986	138.84
9462*	22 (7 x 30)	.178"	2464	300	PVC	216-0988	15.54	—	—	216-0990	77.74	216-0992	155.49
9461†	22 (7 x 30)	.180"	2092	300	PE	—	—	—	—	216-0994	103.96	216-0996	207.92
9685†	22 (7 x 30)	.199"	—	300	PVC	—	—	—	—	—	—	216-0998	280.05
8762*	20 (7 x 28)	.204"	2092	300	PE	216-0998	17.50	216-1000	43.78	216-1002	87.58	216-1004	175.15
9464†	20 (7 x 28)	.204"	2092	300	PE	—	—	—	—	216-1006	100.47	216-1008	200.96
9154*	20 (7 x 28)	.198"	2464	300	PVC	—	—	—	—	216-1010	89.41	216-1012	178.85
8760*	18 (16 x 30)	.222"	2092	300	PE	—	—	216-1014	43.88	216-1016	87.76	216-1018	175.52
9460†	18 (16 x 30)	.222"	2092	300	PE	—	—	—	—	216-1020	110.16	216-1022	220.34
8719**	16 (19 x 29)	.310"	2106	600	PE	—	—	—	—	216-1024	133.05	216-1026	266.10
8720**	14 (19 x 27)	.340"	2106	600	PE	—	—	—	—	216-1028	170.30	216-1030	340.60
8718**	12 (19 x 25)	.400"	2106	600	PE	—	—	—	—	216-1032	338.40	216-1034	676.79

† Shield bonded to jacket for automatic stripping; †† PP = Polypropylene, PE = Polyethylene, PVC = Polyvinyl Chloride; * NEC Type CM; ** NEC Type CL2

Audio, Communication and Instrumentation Cable

Tinned 25AWG, 7 x 33 stranded conductors, polyethylene insulated, Beldfoil® aluminum-polyester shields and chrome PVC jacket. Pairs cabled on common axis to reduce diameter. Rated 400V, 80°C. **Nominal capacitance between conductors:** 25pF/ft.



Mfr.'s Type	No. of Conductors	Nom. O.D.	100' Spool		500' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8434	4	0.013"	216-1036	29.07	216-1038	145.33	216-1040	290.66

Bundled Coaxial Composite Cable

► Developed to SMPTE Standards

Cable Delivers sharp, clean images from low loss video signals and offers wide bandwidth capabilities. 26AWG, 7 x 34 stranded bare copper conductors. Feature Duobond® II shields, crush-resistant Datalene®, color-coded PVC inner jackets, black PVC outer jacket. Suited for video equipment in SMPTE stranded RGB systems, RGB telecommunication systems with separate inputs, CAD/CAM applications and other graphic enhancing systems.



Bundled Coaxial Composite Cable NEC CM Rated/UL Recognized

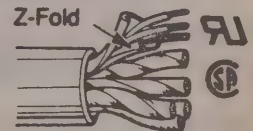
Mfr.'s Type	No. of Conductors	Nom. O.D.	Ohms	Shield Coverage	Stock No.	500' Spool	Stock No.	1000' Spool
1164B	3-Coaxial	0.388"	75	100%	216-1080	799.68	216-1082	1599.36
1167B	4-Coaxial	0.435"	75	100%	216-1084	1082.22	216-1086	2164.44
1418B	5-Coaxial	0.477"	75	100%	216-1088	1229.10	216-1090	2458.20

High-Flex Bundled Coaxial Composite Cable

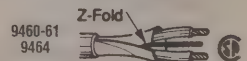
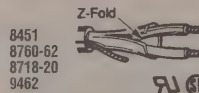
1406B	3-Coaxial	0.388"	75	100%	—	—	216-1092	1884.96
1407B	4-Coaxial	0.435"	75	100%	—	—	216-1094	2533.68
1417B	5-Coaxial	0.477"	75	100%	—	—	216-1096	2945.76

Audio Multi-Pair Individually Shielded Snake Cable

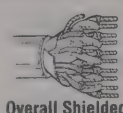
Tinned copper 22 AWG, 7 x 30 stranded conductors. Twisted pairs, individually Beldfoil® shielded with a Z-Fold™ for greater interference elimination and overall chrome PVC jacket. **Nominal impedance:** 50 ohms. **Nominal capacitance between conductors:** 30pF/ft. All rated 30V, 80°C; UL recognized, CSA certified and NEC type CM rated.



Mfr.'s Type	No. of Pairs	Nom. O.D.	100' Spool		500' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8777	3	0.273"	216-1450	32.58	216-1452	162.89	216-1454	325.81
8778	6	0.362"	216-0912	61.26	216-0914	306.27	216-0916	612.53
8779	9	0.430"	216-0918	142.72	216-0920	713.63	216-0922	1427.27
8775	11	0.475"	216-0924	159.18	216-0926	795.91	216-0928	1591.81
9768	12	0.475"	216-0930	239.52	216-0932	1179.28	216-0934	2395.29
8776	15	0.565"	216-0936	218.57	216-0938	1092.56	216-0940	2185.80
9769	17	0.595"	216-0942	379.77	216-0944	1898.83	216-0946	3797.66
8769	19	0.595"	216-0948	278.22	216-0950	1397.28	216-0952	2782.34
8773	27	0.707"	216-0954	572.18	216-0956	2860.98	216-0958	5721.96
9767	37	0.827"	216-0960	615.04	216-0962	3075.26	216-0964	6150.52



Paired Beldfoil® Shielded Tray Cable — UL Subject 13 and 444



Overall Shielded



Individually Shielded

Tinned copper stranded conductors, PVC insulated pairs, except types 9328-9333, 9368, 9388-9391 which are twisted pairs. All with Beldfoil® shield and tinned copper drain wire. Chrome sun-resistant PVC jacket. Multi-pairs are numbered at one-inch intervals; conductor pairs are color-coded black and red. Meets UL Subject 13 (NEC Article 725 Type CL3) for use as tray cable; 300V, 105°C. Meets UL Subject 444 (NEC Article 800 Type CM) for use as communication cable. Meets CSA, PCC and FAS90.

Overall Shielded

Mfr.'s Type	No. of Pairs	AWG (Stranding)	Nom. Impd. (Ohms)	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
9512	2	22 (7 × 30)	.310"	216-2020	204.00	216-2040	410.04
9513	3	22 (7 × 30)	.326"	216-2021	248.88	216-2041	501.84
9514	4	22 (7 × 30)	.353"	216-2022	338.64	216-2042	675.24
9516	6	22 (7 × 30)	.425"	216-2023	491.64	216-2043	981.24
9520	9	22 (7 × 30)	.488"	216-2024	687.68	216-2044	1389.24
9521	11	22 (7 × 30)	.536"	216-2025	795.60	216-2045	1593.24
9524	15	22 (7 × 30)	.594"	216-2026	1022.04	216-2046	2042.04
9526	19	22 (7 × 30)	.631"	216-2027	1232.16	216-2047	2458.20
9552	2	18 (16 × 30)	.377"	216-2028	369.24	216-2048	740.52
9553	3	18 (16 × 30)	.420"	216-2029	577.32	216-2049	1152.60
9554	4	18 (16 × 30)	.458"	216-2030	652.80	216-2050	1303.56
9556	6	18 (16 × 30)	.509"	216-2031	993.48	216-2051	1989.00
9559	9	18 (16 × 30)	.591"	216-2032	1501.44	216-2052	3000.84
9563	11	18 (16 × 30)	.682"	216-2033	1664.64	216-2053	3325.20
9565	15	18 (16 × 30)	.755"	216-2034	2193.00	216-2054	4379.88

Individually Shielded

Mfr.'s Type	No. of Pairs	AWG (Stranding)	Nom. Impd. (Ohms)	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
9328	2	22 (7 × 30)	.315"	216-2075	257.04	216-2090	514.08
9329	3	22 (7 × 30)	.331"	216-2076	328.44	216-2091	656.80
9330	4	22 (7 × 30)	.360"	216-2077	416.16	216-2092	830.28
9331	6	22 (7 × 30)	.437"	216-2078	652.80	216-2093	1303.56
9332	9	22 (7 × 30)	.500"	216-2079	977.16	216-2094	1950.24
9333	11	22 (7 × 30)	.551"	216-2080	1146.48	216-2095	2292.96
9368	2	18 (16 × 30)	.380"	216-2081	481.44	216-2096	956.76
9369	3	18 (16 × 30)	.423"	216-2082	581.40	216-2097	1164.84
9388	4	18 (16 × 30)	.461"	216-2083	760.92	216-2098	1519.80
9389	6	18 (16 × 30)	.538"	216-2084	1158.72	216-2099	2313.36
9390	9	18 (16 × 30)	.650"	216-2085	1640.16	216-2100	3280.32
9391	11	18 (16 × 30)	.727"	216-2086	1921.68	216-2101	3843.36



Multi-Conductor Beldfoil® Shielded Tray Cable — UL Subject 13

Bare copper stranded conductors cabled, PVC insulated Beldfoil® shield with tinned copper drain wire. Sunlight-resistant PVC jacket. Dual-rated, power limited 300V, 105°C tray cable meets UL Subject 13 (NEC Article 725 Type CL3) and NEC Article 725 Class 2 and 3 requirements.

Mfr.'s Type	No. of Cond.	AWG (Stranding)	Nominal O.D.	1000' Spool	
				Stock No.	EACH
1033A	2	20 (7 × 28)	.216"	216-2660	194.82
1032A	2	18 (7 × 26)	.236"	216-2662	222.36
1030A	2	16 (7 × 24)	.264"	216-2664	240.72
1036A	3	18 (7 × 26)	.248"	216-2666	234.60
1031A	3	16 (7 × 24)	.289"	216-2668	316.20

Multi-Conductor Unshielded Sound and Control Cable



Mfr.'s Type	AWG (Stranding)	Nominal O.D.	Volts/Temp. °C	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
8795*	22 (Solid)	.160"	300V/60°C	216-2196	69.48	216-2197	138.96
8442†	22 (7 × 30)	.170"	150V/80°C	216-2198	41.84	216-2199	83.70

*UL listed and UL recognized †CSA certified.

Audio Speaker Wire and Zip Cord



Parallel



Cabled



Cabled

Two-Conductor Speaker Wire-Parallel

Mfr.'s Type	AWG (Stranding)	Nominal O.D.	Volts/Temp. °C	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8782	24 (7 × 32)	.058 × .115"	300/76	216-2118	16.73	—	—	216-2116	90.78
9712	22 (7 × 30)	.065 × .130"	300/75	216-2120	18.97	216-2122	69.36	216-2124	137.70
8649	20 (7 × 28)	.073 × .146"	300/75	216-2126	29.17	216-2128	117.30	216-2130	234.60
9708	18 (16 × 30)	.110 × .207"	300/75	—	—	216-2132	160.14	—	—
9716	16 (16 × 30)	.115 × .230"	300/75	—	—	—	—	—	—

Two-Conductor Speaker Wire — Cabled

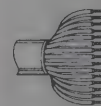
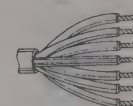
Mfr.'s Type	AWG (Stranding)	Nominal O.D.	Volts/Temp. °C	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9151*	22 (7 × 30)	.108"	90/90	—	—	—	—	216-2140	119.34
9152*	20 (10 × 30)	.125"	90/90	—	—	—	—	216-2142	143.82
8460†	18 (7 × 26)	.180"	300/80	—	—	216-2146	121.38	216-2148	242.76
8470†	16 (19 × 29)	.205"	300/80	—	—	216-2150	134.64	216-2152	269.28
9497*	16 (19 × 29)	.206"	300/80	—	—	216-2154	143.82	216-2156	287.64

Three-Conductor Speaker Wire — Cabled

Mfr.'s Type	AWG (Stranding)	Nominal O.D.	Volts/Temp. °C	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9498	16 (19 × 29)	.236"	300/80	—	—	216-2160	293.76	216-2162	585.48

*UL listed †UL recognized.

Multi-Conductor Unshielded Control, Audio and Computer Cable



Tinned copper stranded, conductors cabled, PVC insulated, chrome PVC jacket except type 9794 which has bare copper solid conductors cabled, polyethylene insulated, PVC jacket. All are NEC type CM except types 8620-23, 8627-29, 9620-23, 9721. Working Voltage: 600V; 80°C.

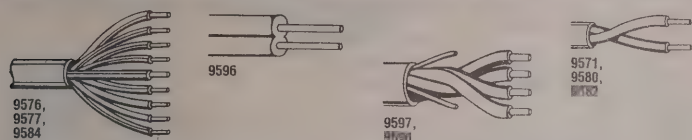
Control, Audio, and Computer Cable—For EIA RS-232 Applications

Mfr.'s Type	No. Cond.	AWG (Stranding)	Nom. O.D.	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8443	3	22 (7 × 30)	.172"	216-2202	10.95	216-2224	54.81	216-2254	109.63
8444	4	22 (7 × 30)	.185"	216-2204	13.77	216-2226	68.85	216-2256	137.72
8445	5	22 (7 × 30)	.194"	216-2206	17.89	216-2228	89.49	216-2258	179.01
9430	7	22 (7 × 30)	.214"	—	—	216-2230	110.59	216-2260	221.18
9421	8	22 (7 × 30)	.229"	216-2208	24.36	216-2232	121.85	216-2262	243.70
9423	9	22 (7 × 30)	.244"	216-2210	27.95	216-2234	139.78	216-2264	279.58
8456	10	22 (7 × 30)	.264"	216-2212	32.84	216-2236	164.30	216-2266	328.58
8457	12*	22 (7 × 30)	.272"	216-2214	38.01	216-2238	190.05	216-2268	380.09
8458	15	22 (7 × 30)	.315"	216-2216	66.61	216-2240	333.09	216-2270	666.18
9431	20	22 (7 × 30)	.345"	216-2271	92.09	216-2272	460.39	216-2273	920.77
8459	25	22 (7 × 30)	.387"	216-2278	114.99	216-2275	574.95	216-2276	1149.91
9432	30	22 (7 × 30)	.400"	216-2278	191.17	216-2279	955.78	216-2280	1911.56
9433	40	22 (7 × 30)	.455"	216-2281	270.50	216-2282	1352.52	216-2283	2705.04
9434	50	22 (7 × 30)	.500"	216-2284	299.15	216-2285	1495.73	216-2286	2991.46

Control and Audio Cable

9794	4	22 Solid	.190"	—	—	216-2344	84.33	216-2402	168.67
8446	6	22 (7 × 30)	.236"	216-2290	42.84	216-2346	214.28	216-2406	428.56
9444	4	22 (7 × 28)	.217"	216-2292	19.56	216-2348	97.84	216-2408	195.70
9445	5	22 (7 × 28)	.239"	216-2294	28.42	216-2350	142.15	216-2410	284.31
9439	7	22 (7 × 28)	.260"	216-2296	35.33	216-2352	176.60	216-2412	353.23
9455	9	22 (7 × 28)	.317"	216-2298	47.98	216-2354	239.97	216-2414	479.95
9457	12	22 (7 × 28)	.338"	216-2300	67.36	216-2356	336.80	216-2416	673.60
9458	15	22 (7 × 28)	.389"	216-2302	84.60	216-2358	423.03	216-2418	846.06
8489	4	18 (16 × 30)	.264"	216-2304	27.81	216-2360	139.05	216-2420	278.09
8465	5	18 (16 × 30)	.290"	216-2306	36.74	216-2362	183.62	216-2422	367.34
8467	7	18 (16 × 30)	.324"	216-2308	52.71	216-2364	263.57	216-2424	527.14
8469	9	18 (16 × 30)	.379"	216-2310	72.81	216-2366	364.06	216-2426	728.10
8466	12	18 (16 × 30)	.424"	216-2312	72.81	216-2368	508.39	216-2428	1016.78
8468	15	18 (16 × 30)	.505"	216-2314	135.68	216-2370	678.34	—	—
8620	4	16 (19 × 29)	.375"	216-2320	54.92	216-2376	274.54	216-2434	549.09
9620	5	16 (19 × 29)	.405"	216-2322	78.42	216-2378	392.03	216-2436	784.05
8621	7	16 (19 × 29)	.450"	216-2324	105.90	216-2380	529.50	216-2438	1059.03
9721	8	16 (19 × 29)	.495"	216-2326	189.03	216-2382	945.17	216-2440	1890.35
9621	9	16 (19 × 29)	.520"	216-2328	167.18	216-2384	835.91	216-2442	1671.82
8622	12	16 (19 × 29)	.610"	216-2330	226.79	216-2386	1134.00	216-2444	2267.99
8623	15	16 (19 × 29)	.670"	216-2332	378.91	216-2388	1894.59	216-2446	3789.18
9622	25	16 (19 × 29)	.850"	216-2333	559.90	216-2339	2799.45	—	—
8627	4	14 (19 × 27)	.476"	216-2336	117.26	216-2394	525.18	216-2452	1050.36
9623	5	14 (19 × 27)	.557"	216-2338	171.20	216-2396	856.07	216-2454	1712.13
8628	7	14 (19 × 27)	.605"	216-2340	264.14	216-2398	1320.70	216-2456	2641.39
8629	12	14 (19 × 27)	.800"	216-2342	433.01	216-2400	2165.09	216-2458	4331.50

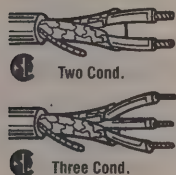
Multi-Conductor Unshielded Fire Alarm and Tray Cable



Types 9576, 9577 and 9584 have tinned copper solid conductors cabled, PVC insulated. Black PVC jacket. Type 9596 has one solid conductor tinned copper; one conductor bare; parallel. Red PVC jacket. Types 9571 and 9580 have bare copper solid conductors cabled, PVC insulated. Red PVC jacket. Types 9571, 9580 and 9582 have solid bare copper conductors, PVC insulated. Red PVC jacket. All are NEC Type FPLP; power limited fire protective signaling circuit cable for use in accordance with NEC Article 760 power limited circuits. Suitable for use as a power limited circuit cable in accordance with NEC Article 725 Class 2 or 3 circuits, when marked as suitable for appropriate tray cable installations. 300 V, 105°C. Component Recognized UL 2464, 300 V, 80°C.

Mfr.'s Type	No. of Cond.	AWG	Nominal O. D. (In.)	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
9576	6	22	.234	216-2550	177.15	216-2568	354.31
9577	9	22	.267	216-2552	248.23	216-2570	496.45
9584	12	22	.302	216-2554	318.24	216-2572	636.48
9596	2	19	.101 x .191	216-2556	89.64	216-2574	179.28
9571	6	19	.248	216-2558	196.25	216-2576	392.50
9580	9	19	.294	216-2560	290.66	216-2578	581.32
9582	12	18	.228	216-2562	248.23	216-2580	496.45
	2	14	.306	216-2564	224.73	216-2582	496.45
	2	12	.340			216-2584	632.24

Multi-Conductor Beldfoil® Shield Tray Cable — UL Subject 13 and 444



Tinned copper conductors cabled, PVC insulated. Beldfoil® tape shield with tinned copper drain wire. Sunlight-resistant PVC jacket. Tri-rated cable meets UL Subject 13, 300 V, 105°C; CSA PCC and/or FAS90. Also meets Article 725 of NEC, Class 2 and 3 requirements. Types 9341 and 9342 feature same construction with PVC insulated nylon overcoat and are UL listed under Subject 1277 for use as Tray Cable in accordance with NEC Articles 318, 340 and 501, Class I 600 V, 90°C. Suitable for outdoor use and direct burial. All are NEC Type CM except Types 9341, 9342, which are NEC Type TC, and Types 9364, 9366, 9367, which are NEC Type CL3.

Mfr.'s Type	No. of Cond.	AWG (Stranding)	Nominal O. D. (In.)	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
9322	2	22 (7 x 30)	.200	216-2696	137.70	216-2722	277.44
9320	2	20 (7 x 28)	.216	216-2698	224.40	216-2724	444.72
9318	2	18 (7 x 26)	.232	216-2700	236.64	216-2726	471.24
9341	2	18 (7 x 26)	.215	216-2702	324.36	216-2728	591.60
9342	2	16 (7 x 24)	.276	216-2704	456.96	216-2730	915.96
9316	2	16 (7 x 24)	.256	216-2706	255.00	216-2732	510.00
9314	2	14 (41 x 30)	.326	216-2708	471.24	216-2734	940.44
9312	2	12 (65 x 30)	.426	216-2710	575.28	216-2736	1148.52
9363	3	22 (7 x 30)	.210	216-2712	144.84	216-2738	289.68
9364	3	20 (7 x 28)	.227	216-2714	238.68	216-2740	477.36
9365	3	18 (7 x 26)	.244	216-2716	287.64	216-2742	596.16
9366	3	16 (7 x 24)	.270	216-2718	359.04	216-2744	720.12
9367	3	14 (41 x 30)	.345	216-2720	518.16	216-2746	1034.28

DataTray™ Cables for UL-1277 Tray Applications

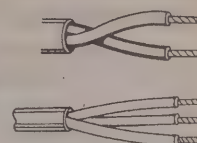
Belden® DataTray™ cables provide excellent performance for a variety of data transmission applications in industrial environments where UL-1277 is desirable. This includes control systems such as PLCs and DCSs, as well as intercom systems, RS-232, RS-422 and RS-485 interfaces. The Belden® DataTray™ series of cables utilizes one pair of 18 AWG tinned copper conductors, with tight lay lengths to minimize 60 Hz interference. These cables feature low-attenuation FRPO insulation, and a 100% coverage tinned copper braid shield. The jacket is dark blue "sun resistant" PVC. DataTray™ cables are available in 78, 100 and 124 ohm impedance. AWG Stranding: 18 AWG (7 x 26) .046" tinned copper, 6.92 Ω/m; 22.7 Ω/km. Nom. Vel. of Prop.: 64.5%.

Stock No.	Mfr.'s Type	Insulation and Nom. Core O.D.		Nom. O.D.	No. of Shields and Material Nom. D.C.R.	Nom. Imp. (Ohms)	Nom. Attenuation			PER COIL/250'
		In.	mm				MHz	dB/100'	dB/100 m	
216-3590	3072F*	FR Polyolefin	.315	8.00	Beldfoil® +55% tinned copper braid 100% shield coverage 3.17 Ω/m' 10.4 Ω/km	78	1	0.7	2.3	233.58
							10	2.0	6.6	
							50	3.8	12.5	
							100	5.5	18.0	
216-3592	3073F†	FR Polyolefin	.192	4.88	Beldfoil® +55% tinned copper braid 100% shield coverage 2.92 Ω/m' 9.58 Ω/km	100	1	0.6	1.8	337.62
							10	1.6	5.2	
							50	3.0	9.8	
							100	4.3	14.2	
216-3594	3074F‡	FR Polyolefin	.246	6.24	Beldfoil® +55% tinned copper braid 100% shield coverage 2.78 Ω/m' 9.12 Ω/km	124	1	0.5	1.5	396.27
							10	1.2	3.9	
							50	2.4	7.9	
							100	3.5	11.4	

Nominal Capacitance: *22.5 pF/ft. (73.8 pF/m); †17.5 pF/ft. (57.5 pF/m); ‡14.0 pF/ft. (45.9 pF/m).

Multi-Conductor Unshielded Tray Cable — UL Subject 13 and 444

Tinned copper stranded conductors cabled, PVC insulated. Chrome sunlight resistant PVC jacket. Tri-rated cable meets UL Subject 13, 300 V, 105°C; Appliance Wiring Material style 2464, 300 V, 80°C; CSA Appliance Wiring Material standards. Also meets Article 725 of NEC, Class 2 and 3 requirements. All are NEC Type CL3 except types 9491 and 9493 which are NEC Type CM.



Mfr.'s Type	No. of Cond.	AWG (Stranding)	Nominal O. D. (In.)	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
9407	2	22 (7 x 30)	.198	216-2500	96.90	216-2522	202.98
9408	2	22 (7 x 28)	.214	216-2502	153.00	216-2524	308.04
9409	2	18 (7 x 26)	.226	216-2504	185.64	216-2526	373.32
9410	2	16 (7 x 24)	.254	216-2506	226.44	216-2528	448.80
9411	2	14 (41 x 30)	.324	216-2508	389.64	216-2530	775.20
9412	2	12 (65 x 30)	.424	216-2510	461.04	216-2532	924.12
9491	3	22 (7 x 30)	.208	216-2512	120.36	216-2534	240.72
9492	3	20 (7 x 28)	.225	216-2514	196.86	216-2536	393.72
9493	3	18 (7 x 26)	.242	216-2516	238.68	216-2538	475.32
9494	3	16 (7 x 24)	.268	216-2518	322.32	216-2540	640.56
9495	3	14 (41 x 30)	.342	216-2520	491.64	216-2542	981.24

Multi-Conductor Overall Foil/Braid Shielded Computer Cable — Datalene® Insulated



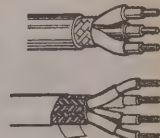
Low capacitance cables for EIA RS-232, EIA RS-423 and CAD/CAM applications. Tinned copper, Datalene® insulated, multi-conductor cable with overall Beldfoil® aluminum-polyester plus 85% tinned copper braid shield. 24 AWG stranded tinned copper drain wire. Chrome PVC jacket. Rated 30 V, 80°C. UL recognized. Datalene insulation features low dielectric constant and a dissipation factor for high-speed, low-distortion data handling. Physical properties include good crush resistance and light weight.

24 AWG Stranded Conductors (7 x 32) 2919, NEC Type CM

Mfr.'s Type	No. of Cond.	Nominal O. D. (In.)	100' Spool		500' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9925	3	.215	216-2950	20.26	216-2961	101.33	216-2979	202.65
9927	4	.230	216-2951	25.81	216-2962	129.11	216-2980	258.24
9929	5	.246	216-2952	32.44	216-2963	162.67	216-2981	324.34
9931	6	.265	216-2953	34.62	216-2964	173.67	216-2982	346.15
9932	7	.285	216-2954	36.11	216-2965	180.56	216-2983	361.12
9933	8	.260	216-2955	39.00	216-2966	195.15	216-2984	390.31
9934	9	.300	216-2956	44.41	216-2967	222.14	216-2985	444.27
9935	10	.306	216-2957	46.31	216-2968	231.54	216-2986	463.10
9936	15	.360	216-2958	71.56	216-2969	357.86	216-2987	715.71
9937	25	.445	216-2959	113.85	216-2970	569.24	216-2988	1138.48
9938	37	.500	216-2960	191.35	216-2971	956.84	216-2989	1913.68

Multi-Conductor Braid Shielded Communication and Instrumentation Cable — MIL-W-16878D Type B Conductors

Stranded tinned copper conductors, PVC insulated. Clear nylon jacket, tinned copper braid shield. White PVC jacket. Nominal nylon thickness .003" except types 9951-54 which are .004" thick. Working Voltage: 600 V, 105°C.



Mfr.'s Type	No. of Cond.	AWG (Stranding)	Nominal O. D. (In.)	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9961	1	20 (19 x 32)	.109	216-3002	45.90	216-3024	225.95	216-3046	451.90
9951	1	16 (19 x 29)	.143	216-3004	60.47	216-3026	302.33	216-3048	604.66
9966	2	22 (19 x 34)	.176	216-3006	42.84	216-3028	324.60	216-3050	649.62
9962	2	20 (19 x 32)	.192	216-3008	77.21	216-3030	386.13	216-3052	772.26
9952	2	16 (19 x 29)	.250	216-3010	85.70	216-3032	428.56	216-3054	857.13
9967	3	22 (19 x 34)	.184	216-3012	94.62	216-3034	473.12	216-3056	946.23
9963	3	20 (19 x 32)	.210	216-3014	87.39	216-3036	473.05	216-3058	874.10
9953	3	16 (19 x 29)	.264	216-3016	117.10	216-3038	585.56	216-3060	1171.12
9968	4	22 (19 x 34)	.200	216-3018	100.98	216-3040	504.94	216-3062	1009.88
9964	4	20 (19 x 32)	.226	216-3020	121.56	216-3042	607.84	216-3064	1215.68
9965	4	16 (19 x 29)	.291	—	—	—	—	216-3066	428.56
9954	4	16 (19 x 29)	.291	216-3640	168.46	216-3641	842.28	216-3642	1684.55

Plenum-Overall Foil/Braid Shield Control and Instrumentation Cable

Tinned copper, Teflon® insulated, conductors cabled. Beldfoil® aluminum-polyester shield with 85% tinned copper braid shield. Teflon jacket. Red tint. Listed for use in an air plenum non-conduit. Beldfoil® 100% shield coverage 200°C.

Mfr.'s Type	No. of Cond.	Nominal O. D. (In.)	100' Spool		500' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
83752*	2	.267	216-3668	198.10	216-3650	990.44	216-3651	1980.88
83753*	3	.284	216-3689	259.47	216-3652	1297.34	216-3653	2594.66
83754*	4	.311	216-3670	266.08	216-3654	1330.30	216-3655	2660.59
83756*	6	.376	216-3671	335.40	216-3656	1676.94	216-3658	3353.88
83802†	2	.303	216-3672	187.76	216-3660	938.81	216-3660	1877.60
83803†	3	.323	216-3673	239.07	216-3662	1195.30	216-3662	2390.59
83804†	4	.359	216-3674	352.08	216-3664	1760.34	216-3664	3520.67
83806†	6	.430	216-3675	402.51	216-3666	2102.48	216-3667	4024.96

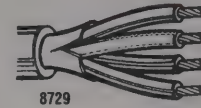
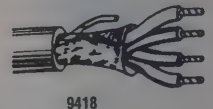
*14 AWG Stranded Conductors (7 x 22) NES FPLP. †12 AWG Stranded Conductors (7 x 20) NES FPLP.

Multi-Conductor Shielded Broadcast, Audio and Instrumentation Cable

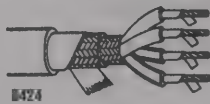
Tinned copper stranded conductors cabled. Polyethylene insulated except type 9770 which is polypropylene and has a paper wrap, and type 9418 which is S-R PVC insulated. All have Beldfoil® aluminum-polyester shield with stranded tinned copper drain wire except type 8729 which has 3 solid tinned copper-coated steel drain wires. All have PVC jackets. NEC type CM except type 8729, which is NEC type CL3. All UL recognized except type 9770.

Mfr.'s Type	No. Cond.	AWG (Stranding)	Nom. O.D.	Cap. pF/ft.	500' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
9770	3	22 (7 x 30)	.145"	32	216-2776	83.44	216-2790	166.87
8771*	3	22 (7 x 30)	.183"	23	216-2778	79.66	216-2792	159.43
8729**	4	22 (19 x 34)	.262"	22	216-2780	270.50	216-2794	541.01
8772*	3	22 (7 x 28)	.208"	27	216-2782	86.64	216-2796	173.28
8770*	3	18 (16 x 30)	.236"	24	216-2784	119.54	216-2798	239.11
9418†	4	18 (19 x 30)	.245"	70	216-2786	144.55	216-2800	289.07
8618††	3	16 (19 x 29)	.318"	26	216-2788	203.84	216-2802	407.65

*-2093; 300V, 60°C ** -2904; 300V, 60°C † -2464; 300V, 80°C †† -2107; 600V, 60°C.



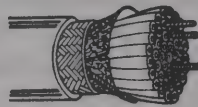
Multi-Conductor Braid Shielded Professional Music Cable



Type 8404 is tinned copper stranded conductors cabled, polyethylene insulated. Rayon braid, tinned copper braid shield. Chrome PVC jacket. UL recognized 2094; 300V, 60°C. **Type 8424** is tinned copper stranded conductors cabled, cotton wrap, rubber insulated. Rayon braid, tinned copper braid shield. Black EPDM rubber jacket. **Working voltage:** 600V RMS; 60°C. **Type 8407** is tinned copper stranded conductors cabled, paper wrap, rubber insulated. Rayon braid, tinned copper braid shield. Black neoprene jacket. **Working voltage:** 600Vrms, 60°C. All types passed the VW-1 Vertical Wire Flame Test.

Mfr.'s Type	No. Cond.	AWG (Stranding)	Nom. O.D.	Cap. pF/ft.	100' Spool		500' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8404	4	20 (26 x 34)	.252"	23	216-3070	109.14	216-3072	540.60	216-3074	932.28
8424	4	20 (26 x 34)	.294"	27	216-3076	112.20	216-3078	512.04	216-3080	1022.04
8407	4	16 (65 x 34)	.416"	30	216-3082	214.20	—	—	—	—

Multi-Conductor Overall Foil/Braid Shielded Computer Cable



For EIA RS-232 and CAD/CAM applications. Tinned copper, SR-PVC insulated, multi-conductor cable with overall Beldfoil® aluminum-polyester plus 65% tinned copper braid shield. Chrome PVC jacket. Rated 300V, 80°C. UL recognized, CSA certified.

24AWG Stranded Conductors (7 x 32) 2464 Type T2 NEC Type CM

Mfr.'s Type	No. Cond.	Nom. O.D.	Cap. pF/ft.	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9608	3	.190"	35	216-2855	50.78	216-2870	253.94	216-2885	507.88
9609	4	.200"	35	216-2856	56.65	216-2871	283.23	216-2886	566.47
9610	5	.215"	35	216-2857	69.58	216-2872	347.94	216-2887	695.88
9611	6	.225"	30	216-2858	46.21	216-2873	230.99	216-2888	462.00
9612	7	.225"	30	216-2859	50.33	216-2874	251.63	216-2889	503.27
9613	8	.240"	30	216-2860	83.58	216-2875	417.96	216-2890	835.91
9614	9	.253"	30	216-2861	59.49	216-2876	297.43	216-2891	594.88
9615	10	.270"	30	216-2862	92.86	216-2877	464.63	216-2892	929.26
9616	15	.300"	30	216-2863	93.70	216-2878	464.63	216-2893	937.03
9617	25	.370"	30	216-2864	243.98	216-2879	1219.92	216-2894	2439.84
9618	37	.411"	30	216-2865	363.85	216-2880	1819.27	216-2895	3638.54
9619	50	.485"	30	216-2866	454.86	216-2881	2274.36	216-2896	4548.71

22AWG Stranded Conductors (7 x 30) 2464 Type T2 NEC Type CM

Mfr.'s Type	No. Cond.	Nom. O.D.	Cap. pF/ft.	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9939	3	.202"	37	216-2901	52.61	216-2920	263.08	216-2935	526.16
9940	4	.215"	37	216-2902	59.18	216-2921	295.96	216-2936	591.93
9941	5	.230"	37	216-2903	49.23	216-2922	245.15	216-2937	492.31
9942	6	.245"	35	216-2904	52.06	216-2923	260.30	216-2938	520.63
9943	7	.245"	35	216-2905	64.93	216-2924	324.73	216-2939	649.43
9944	8	.260"	35	216-2906	53.69	216-2925	268.53	216-2940	537.07
9945	9	.280"	35	216-2907	77.54	216-2926	387.72	216-2941	775.44
9946	10	.300"	35	216-2908	70.87	216-2927	354.39	216-2942	708.59
9947	15	.340"	35	216-2909	128.56	216-2928	642.84	216-2943	1285.69
9948	25	.410"	35	216-2910	236.33	216-2929	1181.73	216-2944	2363.46
9949	37	.460"	35	216-2911	350.27	216-2930	1751.38	216-2945	3502.76
9950	50	.555"	35	216-2912	403.33	216-2931	2016.58	216-2946	4033.16

Multi-Conductor Beldfoil® Shielded Fire Alarm and Tray Cable

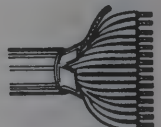


Solid bare copper conductors cabled with Beldfoil® aluminum-polyester shield. Stranded tinned copper drain wire. Red PVC jacket. NEC Type FPLR; power limited fire protective signaling circuit cable for use in accordance with NEC Article 760 power limited circuits. Suitable for use as a power limited circuit cable in accordance with NEC Article 725 Class 2 or 3 circuits, when marked as suitable for appropriate tray cable installations. 300V, 105°C. UL recognized 2464, 300V, 80°C.

Mfr.'s Type	No. of Cond.	AWG	Nominal O.D.	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
9574	2	18	.231"	216-2750	104.88	216-2760	209.75
9578	4	18	.263"	216-2752	194.19	216-2762	388.21
9575	2	16	.253"	216-2754	157.00	216-2764	314.00
9579	4	16	.301"	216-2756	253.41	216-2766	506.84
9581	2	14	.309"	216-2758	224.73	216-2768	449.47

Multi-Conductor Shielded Broadcast, Audio and Instrumentation Cable

Tinned copper stranded conductors cabled, S-R PVC insulated. Beldfoil® aluminum-polyester shield with stranded tinned copper drain wire. Chrome PVC jacket. UL recognized 2464; 300V, 80°C. CSA Type T2; NEC Type CM.



24AWG Stranded Conductors (7 x 32) 2464 Type T2 NEC Type CM

For EIA RS-232 Applications

Mfr.'s Type	No. of Cond.	Nom. O.D.	Cap. pF/ft.	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9533	3	.168"	33	216-2810	14.36	216-2825	71.89	216-2840	143.78
9534	4	.190"	33	216-2811	14.79	216-2826	73.89	216-2841	147.80
9535	5	.195"	33	216-2812	19.20	216-2827	95.98	216-2842	191.96
9536	6	.215"	33	216-2813	22.11	216-2828	110.59	216-2843	221.20
9537	7	.215"	33	216-2814	25.79	216-2829	128.93	216-2844	257.88
9538	8	.230"	33	216-2815	27.30	216-2830	136.52	216-2845	273.05
9539	9	.250"	30	216-2816	29.25	216-2831	145.31	216-2846	292.62
9540	10	.250"	30	216-2817	30.36	216-2832	151.88	216-2847	303.74
9541	15	.290"	30	216-2818	42.96	216-2833	214.26	216-2848	429.62
9542	20	.320"	30	216-2819	84.54	216-2834	422.71	216-2849	845.42
9543	25	.360"	30	216-2820	78.40	216-2835	391.97	216-2850	784.36
9544	30	.380"	30	216-2821	202.61	216-2836	1013.06	216-2851	2026.13
9545	40	.430"	30	216-2822	274.95	216-2837	1374.80	216-2852	2749.59
9546	50	.490"	30	216-2823	344.96	216-2838	1724.86	216-2853	3449.72

Paired Overall Foil/Braid Shield

Tinned copper, 28 AWG (7 x 36), polyolefin insulated, twisted pairs. Polypropylene buffer layer. Overall Beldfoil®, aluminum-polyester shield. Overall tinned copper braid shield (95% coverage). Light gray PVC jacket. Color coded: Modified Western Electric Standard.

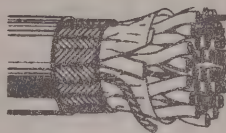


Mfr.'s Type	No. of Pairs	Nom. O.D.	Cap. pF/ft.	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
1401A	25	.420"	14	216-3610	640.72	216-3611	1281.45
1402A	25	.415"	14	216-3612	567.53	216-3613	1135.06
1403A	34	.480"	14	216-3614	920.77	216-3615	1841.55

Low Capacitance Cables For EIA RS-232 and EIA RS-422 Applications

Overall Foil/Braid Shield

Tinned copper, DataLine insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. 24 AWG stranded (7 × 32) tinned copper drain wire. Overall tinned copper braid shield (65% coverage). Chrome PVC jacket. Beldfoil 100% shield coverage. NEC CM CSA PCC FT 1. UL Recognized 2919.



Mfr.'s Type	No. of Pairs	Nom. O.D. (In.)	100' Coils		500' Coils		1000' Coils	
			Stock No.	PER COIL	Stock No.	PER COIL	Stock No.	PER COIL
8102	2	.268	216-3980	38.27	216-3981	191.37	216-3982	382.77
8103	3	.279	216-3983	45.29	216-3984	226.50	216-3985	453.02
8104	4	.298	216-3986	54.51	216-3987	272.54	216-3988	545.09
8105	5	.312	216-3989	69.22	216-3990	346.13	216-3991	692.27
8106	6	.337	216-3992	93.29	216-3993	466.51	216-3994	933.01
8107	7	.337	216-3995	104.04	216-3996	520.24	216-3997	1040.50
8108	8	.366	216-3998	109.85	216-3999	549.29	216-4000	1098.60
8110	10	.427	216-4001	116.69	216-4002	583.44	216-4003	1166.88
8112	12 1/2	.440	216-4004	152.06	216-4005	760.39	216-4006	1520.80
8115	15	.495	216-4007	207.16	216-4008	1035.83	216-4009	2071.66
8118	18	.537	216-4010	265.83	216-4011	1328.16	216-4012	2658.36
8125	25	.637	216-4013	388.89	216-4014	1944.50	216-4015	3888.89

Computer Cables For EIA RS-232 and CAD/CAM Applications

Overall Foil/Braid Shield — 22 Gauge

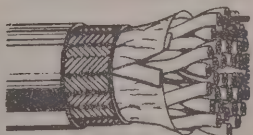


Tinned copper, S-R PVC insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield 65% tinned copper braid shield. Chrome PVC jacket. 22 AWG stranded (7 × 30) conductors. 300 V 80°C. Beldfoil 100% shield coverage. NEC CM CSA PCC FT 4. UL Recognized 2464. CSA Type T2.

Mfr.'s Type	No. of Pairs	Nom. O.D. (In.)	100' Coils		500' Coils		1000' Coils	
			Stock No.	PER COIL	Stock No.	PER COIL	Stock No.	PER COIL
8302	2	.260	216-4020	59.81	216-4021	299.15	216-4022	598.29
8303	3	.296	216-4023	57.81	216-4024	289.07	216-4025	578.14
8304	4	.320	216-4026	65.48	216-4027	327.42	216-4028	654.84
8305	5	.322	216-4029	74.22	216-4030	371.10	216-4031	742.21
8306	6	.348	216-4032	84.48	216-4033	422.40	216-4034	844.83
8307	7	.348	216-4035	91.49	216-4036	457.47	216-4037	914.94
8308	8	.384	216-4038	106.69	216-4039	533.52	216-4040	1067.06
8310	10	.440	216-4041	129.23	216-4042	646.25	216-4043	1292.50
8312	12 1/2	.455	216-4044	239.09	216-4045	1195.52	216-4046	2391.04
8315	15	.502	216-4047	285.36	216-4048	1426.78	216-4049	2853.55
8318	18	.535	216-4050	330.54	216-4051	1652.71	216-4052	3305.45
8325	25	.620	216-4053	454.02	216-4054	2270.11	216-4055	4540.22

Overall Foil/Braid Shield — 24 Gauge

Tinned copper, S-R PVC insulated multi-paired cable with overall Beldfoil® aluminum-polyester shield plus 65% tinned copper braid shield. Chrome PVC jacket. 24 AWG stranded (7 × 32) conductors. 300 V 80°C. NEC CM CSA PCC FT 4. UL Recognized 2464. CSA Type T2.

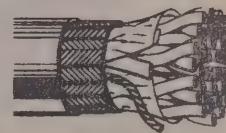


Mfr.'s Type	No. of Pairs	Nom. O.D. (In.)	100' Coils		500' Coils		1000' Coils	
			Stock No.	PER COIL	Stock No.	PER COIL	Stock No.	PER COIL
8332	2	.250	216-4060	35.37	216-4061	176.93	216-4062	353.86
8333	3	.265	216-4063	41.55	216-4064	207.48	216-4065	415.69
8334	4	.288	216-4066	71.91	216-4067	359.61	216-4068	719.22
8335	5	.295	216-4069	89.74	216-4070	448.72	216-4071	897.44
8336	6	.310	216-4072	102.67	216-4073	513.43	216-4074	1026.85
8337	7	.321	216-4075	101.18	216-4076	506.00	216-4077	1012.00
8340	10	.385	216-4078	161.45	216-4079	807.27	216-4080	1614.54
8342	12 1/2	.405	216-4081	133.48	216-4082	667.45	216-4083	1334.91
8245	15	.445	216-4084	217.04	216-4085	1085.20	216-4086	2170.40
8348	18	.480	216-4087	283.87	216-4088	1419.35	216-4089	2838.70
8355	25	.550	216-4090	328.42	216-4091	1642.12	216-4092	3284.24

Low Capacitance Computer Cables For EIA RS-422 Applications

Overall Foil/Braid Shield — 24 Gauge

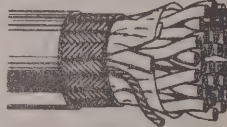
Tinned copper, polyethylene insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. 24 AWG stranded (7 × 32) tinned copper drain wire. Overall tinned copper braid shield (65% coverage). Chrome PVC jacket. 300 V 80°C. NEC CM CSA PCC FT 1. Beldfoil® 100% shield coverage. UL Recognized 2919.



Mfr.'s Type	No. of Pairs	Nom. O.D. (In.)	100' Coils		500' Coils		1000' Coils	
			Stock No.	PER COIL	Stock No.	PER COIL	Stock No.	PER COIL
9829	2	.291	216-4100	48.10	216-4101	240.60	216-4102	481.20
9830	3	.305	216-4103	59.32	216-4104	296.62	216-4105	593.25
9831	4	.330	216-4106	72.77	216-4107	363.92	216-4108	727.85
9832	5	.338	216-4109	110.53	216-4110	552.68	216-4111	1105.35
9839	6	.364	216-4112	143.21	216-4113	716.04	216-4114	1432.08
9833	7	.364	216-4115	145.53	216-4116	727.71	216-4117	1455.42
9834	9	.419	216-4118	103.73	216-4119	518.73	216-4120	1037.48
9835	10	.451	216-4121	169.30	216-4122	846.52	216-4123	1693.04
9836	12	.464	216-4124	263.71	216-4125	1318.57	216-4126	2637.15
9837	18	.567	216-4127	369.36	216-4128	1846.85	216-4129	3693.71
9838	25	.670	216-4130	419.42	216-4131	2097.20	216-4132	4194.40

Low Capacitance Computer Cables For EIA RS-422 Applications

Overall Foil/Braid Shield — 28 Gauge



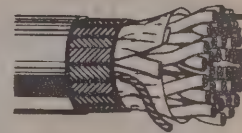
Tinned copper, polyethylene insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. 28 AWG stranded (7 × 36) tinned copper drain wire. Overall tinned copper braid shield (90% coverage). Chrome PVC jacket 30 V 60°C. NEC CL2 CSA FT1. Beldfoil 100% shield coverage. UL Recognized 2960.

Mfr.'s Type	No. of Pairs	Nom. O.D. (In.)	100' Coils		500' Coils		1000' Coils	
			Stock No.	PER COIL	Stock No.	PER COIL	Stock No.	PER COIL
9804	2	.214	216-4135	52.18	216-4136	260.96	216-4137	521.91
9805	3	.222	216-4138	90.17	216-4139	450.84	216-4140	901.68
9806	4	.237	216-4141	79.23	216-4142	396.25	216-4143	792.50
9807	5	.240	216-4144	123.05	216-4145	615.26	216-4146	1230.53
9808	7	.256	216-4147	162.93	216-4148	814.69	216-4149	1629.39
9809	9	.290	216-4150	199.63	216-4151	998.21	216-4152	1996.43
9812	12	.319	216-4153	264.55	216-4154	1322.82	216-4155	2645.64
9813	13	.336	216-4156	292.35	216-4157	1461.78	216-4158	2923.56
9819	18	.365	216-4159	339.23	216-4160	1696.22	216-4161	3392.44
9825	25	.429	216-4162	294.47	216-4163	1472.39	216-4164	2944.78
9814	31	.462	216-4165	670.83	216-4166	3354.25	216-4167	6708.50

Low Capacitance Cables For EIA RS-232 and EIA RS 485 Applications

Overall Foil/Braid Shield — 28 Gauge

Tinned copper, DataLine insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. 28 AWG stranded (7 × 36) tinned copper drain wire. Overall tinned copper braid shield (65% coverage). Chrome PVC jacket. Beldfoil 100% shield coverage. NEC CL2 CSA FT1. 30 V 600°C. UL Recognized 2919.



Mfr.'s Type	No. of Pairs	Nom. O.D. (In.)	100' Coils		500' Coils		1000' Coils	
			Stock No.	PER COIL	Stock No.	PER COIL	Stock No.	PER COIL
8132	2	.235	216-4170	32.64	216-4171	163.20	216-4172	326.42
8133	3	.270	216-4173	51.94	216-4174	259.71	216-4175	519.42
8134	4	.290	216-4176	50.20	216-4177	251.04	216-4178	502.08
8135	5	.300	216-4179	72.93	216-4180	364.67	216-4181	729.34
8138	8	.330	216-4182	98.00	216-4183	490.09	216-4184	980.18
8142	12 1/2	.415	216-4185	161.45	216-4186	807.27	216-4187	1614.54
8148	18	.465	216-4188	227.01	216-4189	1135.06	216-4190	2270.11
8155	25	.565	216-4191	300.61	216-4192	1503.15	216-4193	3006.31

Computer Cables

Polyethylene Insulated 20 AWG

Tinned copper, polyethylene insulated, twisted pairs. Each pair individually shielded with Beldfoil® aluminum-polyester shield and 20 AWG stranded (19 × 30) tinned copper drain wire. Overall chrome PVC jacket. 30 V 80°C. NEC CM CSA FT 1. UL recognized 2919.



Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9773	3	.402	216-4260	63.00	216-4261	315.00	216-4262	630.01
9774	6	.560	216-4263	142.31	216-4264	711.61	216-4265	1423.25
9775	9	.655	216-4265	223.97	216-4267	1119.88	216-4268	2239.76
9776	12	.735	216-4269	414.98	216-4270	2074.92	216-4271	4149.85
9777	15	.719	216-4272	474.81	216-4273	2374.07	216-4274	4748.14



Polyethylene Insulated 24 AWG

Tinned copper, polyethylene insulated, twisted pairs. Each pair individually shielded with Beldfoil® aluminum-polyester shield and 24 AWG stranded (7 × 32) tinned copper drain wire. Overall chrome PVC jacket. 30 V 80°C. NEC CM CSA FT 1.

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9990	3	.253	216-4280	61.26	216-4281	306.33	216-4282	612.67
9991	6	.328	216-4283	91.00	216-4284	455.08	216-4285	910.17
9992	9	.381	216-4286	117.69	216-4287	588.50	216-4288	1177.02
9993	12	.426	216-4289	170.79	216-4290	853.94	216-4291	1711.97
9995	25	.636	216-4292	412.00	216-4293	2060.07	216-4294	4120.15

Computer Cables For EIA RS-422 and CAD/CAM Applications

Paired Individually Shielded Pairs With Overall Foil/Braid Shield

Tinned copper, Datalene insulated, twisted pairs. Each pair individually shielded with Beldfoil® aluminum-polyester shield and 24 AWG stranded (7 × 32) tinned copper drain wire. Overall Beldfoil® aluminum-polyester shield plus 65% tinned copper braid shield. Chrome PVC jacket. Beldfoil® 100% shield coverage. 60°C. UL recognized 2493.



Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8162	2	.343	216-4220	60.73	216-4221	303.67	216-4222	607.37
8163	3	.359	216-4223	82.86	216-4224	414.32	216-4225	828.67
8164	4	.388	216-4226	107.30	216-4227	536.52	216-4228	1073.06
8165	5	.413	216-4229	178.85	216-4230	894.25	216-4231	1788.51
8166	6	.446	216-4232	156.20	216-4233	781.10	216-4234	1562.21
8167	7	.446	216-4235	236.33	216-4236	1181.73	216-4237	2363.46
8168	8	.479	216-4238	259.04	216-4239	1295.25	216-4240	2590.47
8170	10	.584	216-4241	283.87	216-4242	1419.35	216-4243	2838.70
8175	15	.665	216-4244	420.71	216-4245	2103.57	216-4246	4207.13
8178	18	.686	216-4247	475.87	216-4248	2379.37	216-4249	4758.75
8185	25	.822	216-4250	574.10	216-4251	2870.52	216-4252	5741.05

Plenum-Paired Cables, Overall Foil

Computer, Control, and Instrumentation Cables For Low Capacitance Applications

Tinned copper, foamed Teflon insulated, twisted pairs. Overall aluminum-polyester shield. 24 AWG stranded (7 × 32) tinned copper drain wire. Grey fluorocopolymer jacket. 300 V RMS. NEC CMP, CSA PCC FT 4 FT 6 Beldfoil® 100% shielded coverage, non-conduit.

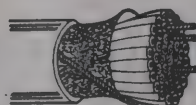


Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH
88102	2	.227	216-3940	668.30	216-3941	1336.61
88103	3	.241	216-3942	716.20	216-3943	1432.41
88104	4	.261	216-3944	790.83	216-3945	1581.65
88105	5	.269	216-3946	865.45	216-3947	1730.90
88106	6	.295	216-3948	1148.36	216-3949	2296.73
88107	7 1/2	.295	216-3950	1586.10	216-3951	3172.22
88109	9	.358	216-3952	1965.93	216-3953	3931.86
88112	12 1/2	.403	216-3954	2291.54	216-3955	4589.02
88118	18 1/2	.484	216-3956	3915.15	216-3957	7830.30
88125	25	.583	216-3958	4785.05	216-3959	9570.11

Low Capacitance Cables For EIA RS-232 and EIA RS-422 Applications

Overall Beldfoil® Shield

Tinned copper, Datalene insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shielded. 24 AWG stranded (7 × 32) tinned copper drain wire. Chrome PVC jacket. Beldfoil® 100% shielded coverage. NEC CM CSA PCC FT 1. 300 V 80°C. UL recognized 2919.



Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH
1419A	2	.244	216-3960	72.66	216-3961	145.32
1420A	3	.257	216-3962	107.75	216-3963	214.28
1421A	4	.276	216-3964	117.75	216-3965	235.50
1422A	5	.290	216-3966	140.03	216-3967	280.05
1423A	6	.315	216-3968	150.63	216-3969	301.27
1424A	12 1/2	.418	216-3970	293.84	216-3971	587.68
1425A	15	.473	216-3972	393.56	216-3973	787.11

Computer Cables For EIA RS-422 Applications

Paired Individually Shielded

Tinned copper, Datalene insulated, twisted pairs. Each pair individually shielded with Beldfoil® aluminum-polyester shield and a 24 AWG stranded (7 × 32) tinned copper drain wire. Overall chrome PVC jacket. Beldfoil® 100% shield coverage. 300 V 60°C. NEC CM CSA PCC FT 1. UL recognized 2493.



Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	100' Coil		500' Coil		1000' Coil	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9734	12	.575	216-4200	309.90	216-4201	1544.52	216-4202	3089.05
9735	15	.639	216-4203	382.09	216-4204	1910.50	216-4205	3821.00
9736	17	.671	216-4206	406.69	216-4207	2033.50	216-4208	4067.11
9737	19	.671	216-4209	483.30	216-4210	2416.50	216-4211	4833.00
9738	27	.797	216-4212	641.36	216-4213	3206.70	216-4214	6413.60

Shielded and Unshielded Paired Audio Cable



Paired Beldfoil® Shielded Sound, Broadcast, Instrumentation, and Computer Cable

Tinned copper conductors, PVC insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield with tinned copper drain wire. Chrome PVC jacket. UL recognized 2464 300 V, 80°C; except Type 8751 300 Vrms, 60°C. NEC Type CM.

24 AWG (7 × 32) Stranded Conductors 2464; T2; NEC Type CM for EIA RS-232 applications.

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	Cap. (pF/ft.)	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9501	1	0.156	40	216-1180	10.87	216-1193	53.59	216-1206	108.81
9502	2	0.222	30	216-1181	16.63	216-1194	83.23	216-1207	166.46
9503	3	0.232	30	216-1182	20.83	216-1195	104.18	216-1208	208.35
9504	4	0.265	30	216-1183	25.34	216-1196	126.75	216-1209	253.49
9505	5	0.295	30	216-1184	35.07	216-1197	175.34	216-1210	350.68
9506	6	0.295	30	216-1185	42.51	216-1198	212.65	216-1211	425.30
9507	7	0.300	30	216-1186	55.10	216-1199	275.50	216-1212	551.00
9508	8	0.330	30	216-1187	61.61	216-1200	308.12	216-1213	616.24
9509	9	0.340	30	216-1188	62.93	216-1201	315.32	216-1214	629.42
9510	10	0.380	30	216-1189	69.50	216-1202	347.55	216-1215	695.11
9515	15	0.425	30	216-1190	108.98	216-1203	544.92	216-1216	1089.87
9525	25	0.515	30	216-1191	189.74	216-1204	948.74	216-1217	1897.49
9550	50	0.700	30	216-1192	528.91	216-1205	2644.57	216-1218	5289.15

22 AWG Solid Conductors 2464; NEC Type CM

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	Cap. (pF/ft.)	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9302	2	0.244	35	216-1220	20.32	216-1227	101.65	216-1234	203.31
9305	4	0.265	35	216-1221	30.44	216-1228	152.25	216-1235	304.51
9306	6	0.321	35	216-1222	44.55	216-1229	222.83	216-1236	445.68
9309	9	0.373	35	216-1223	68.32	216-1230	341.86	216-1237	683.34
9315	15	0.455	35	216-1224	158.14	216-1231	780.75	216-1238	1516.50
9319	19	0.495	35	216-1225	192.00	216-1232	960.02	216-1239	1920.05
9327	27	0.615	35	216-1226	253.94	216-1233	1269.78	216-1240	2539.56

Paired Overall Braid Shielded Communication and Instrumentation Cable



Tinned copper conductors, PVC insulated, except Type 8208 which is rubber insulated, twisted pair. Tinned copper braid shield. Black PVC jacket except Type 8208, which is chrome. Types 8437 and 8441 have tinned copper drain wire; Type 8437 is polyester taped. Type 8208 has separator. No. of pairs: 1.

22 AWG Solid Conductors 2095; 300 V, 80°C. NEC Type CM

Mfr.'s Type	Nominal O.D. (In.)	Cap. (pF/ft.)	100' Spool		500' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8437	0.200	48	—	—	216-1270	230.52	216-1272	454.92

22 AWG (16 × 34) Stranded Conductors 2095; 300 V, 80°C. NEC Type CM

8441	0.210	49	216-1274	55.08	216-1276	228.48	216-1278	450.84
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18 AWG (16 × 30) Stranded Conductors 300 V, 60°C. NEC Type CM

8208	0.257	46	216-1280	49.63	216-1282	248.23	216-1284	496.45
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Paired Unshielded Stranded Sound and Control Cable

Tinned stranded copper conductors, PVC Insulated, twisted pairs. Chrome PVC jacket.

22 AWG (7 × 30) Stranded Conductors 2576; NEC Type CM

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	Work Voltage	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9744	2	0.244	150	—	—	216-3705	95.61	216-3715	191.23
9745	3	0.257	150	—	—	216-3706	133.35	216-3716	266.71
9746	4	0.281	150	—	—	216-3707	171.95	216-3717	343.92
8747	6	0.320	150	216-3698	67.89	216-3708	339.46	216-3718	678.91
8748	9	0.389	150	216-3699	66.61	216-3709	333.11	216-3719	666.20
9747	12	0.425	150	216-3700	142.56	216-3710	712.86	216-3720	1425.72
8749	15	0.440	150	216-3701	177.56	216-3711	887.89	216-3721	1775.78
9748	19	0.505	150	216-3702	219.16	216-3712	1095.81	216-3722	2191.61
9749	23	0.555	150	216-3703	287.05	216-3713	1435.26	216-3723	2870.52
8750	27	0.575	150	—	—	216-3714	1512.70	216-3724	3045.40

20 AWG (7 × 36) Stranded Conductors 2576; NEC Type CM

8205	1	0.180	300	216-3725	10.28	216-3730	51.43	216-3735	102.88
9750	3	0.299	300	216-3726	50.49	216-3731	252.47	216-3736	504.94
9751	6	0.366	300	216-3727	94.82	216-3732	474.18	216-3738	948.36
9752	9	0.429	300	216-3728	143.24	216-3733	719.22	216-3739	1438.44
9755	15	0.545	300	216-3729	224.46	216-3734	1122.33	216-3740	2244.65

18 AWG (7 × 26) Stranded Conductors

8461	1	0.234	350	216-3741	13.83	216-3742	69.16	216-3743	138.31
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Paired Overall Spiral Shielded Sound, Broadcast and Audio Cable

Tinned copper conductors, PVC insulated, twisted pair. Tinned copper spiral wrapped shield. Chrome PVC jacket. No. of pairs: 1.

22 AWG (7 × 30) Stranded Conductors 2095; 300 V, 80°C. NEC Type CM

Mfr.'s Type	Nominal O.D. (In.)	Cap. (pF/ft.)	100' Spool		500' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
8737	0.180	48	216-1286	39.98	216-1290	159.12	216-1292	318.24

20 AWG (7 × 28) Stranded Conductors 2095; 300 V, 80°C. NEC Type CM

8759	0.208	47	—	—	216-1296	206.04	216-1298	410.04
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18 AWG (7 × 26) Stranded Conductors 60°C; NEC Type CM

8790	0.241	53	216-1300	60.18	216-1302	232.56	216-1304	459.00
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16 AWG (19 × 29) Stranded Conductors 60°C; NEC Type CM

8780	0.280	57	216-1306	75.48	216-1308	297.84	216-1310	593.64
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Paired Unshielded High-Temperature Control and Instrumentation Cable

Tinned copper conductors, Tefzel® Insulated, conductors cabled. Clear Tefzel® jacket. 150°C, 300 V RMS.

20 AWG Stranded Conductors (7 × 28) Stranded Conductors

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	Work Voltage	100' Spool		500' Spool	
				Stock No.	EACH	Stock No.	EACH
85220	1	0.185	300	216-1820	120.65	216-1822	603.31

16 AWG Stranded Conductors (19 × 29) Stranded Conductors

85221	1	0.215	300	216-1824	158.14	216-1826	1581.53
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Paired Beldfoil® Shielded Computer Cable

Tinned copper conductors, polyethylene insulated, except Type 9414 which is S-R PVC insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. Stranded tinned copper drain wire. Chrome PVC jacket, except Type 9414 which has fawn-beige colored PVC jacket.

24 AWG (7 × 32) Stranded Conductors- 2919, 30 V, 80°C; NEC Type CM Low Capacitance Cable for EIA RS-232 Applications

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	Cap. (pF/ft.)	100' Spool		500' Spool	
				Stock No.	EACH	Stock No.	EACH
9680	3	0.276	15.5	216-1245	145.66	216-1250	291.29
9681	4	0.307	15.5	216-1246	180.07	216-1251	360.37
9682	6	0.342	15.5	216-1247	230.85	216-1252	462.73
9683	9	0.397	15.5	216-1248	379.77	216-1253	759.53
9684	12 1/2*	0.445	15.5	216-1249	421.59	216-1254	843.19

*25 Conductors.

22 AWG (7 × 30) Stranded Conductors- 2464, 300 V, 80°C; NEC Type CM

9414	1	0.180	50	216-1256	97.12	216-1258	194.25
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Paired Unshielded Solid Sound and Control Cable

Tinned solid copper conductors, except Type 8486, which is bare solid copper, PVC Insulated, twisted pairs. Chrome PVC jacket. UL recognized; NEC Type CM.

24 AWG Solid Conductors 2576; NEC Type CM

Mfr.'s Type	No. of Pairs	Nominal O.D. (In.)	Work Voltage	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9562	2	0.199	150	—	—	216-3684	68.16	216-3688	136.31
9566	6	0.289	150	—	—	216-3685	172.62	216-3689	345.25
9570	10	0.310	150	—	—	216-3686	310.81	216-3690	621.30
9585	25	0.480	150	—	—	216-3687	659.14	216-3691	1318.31

22 AWG Solid Conductors 2576, * 2464; NEC Type CM

8741	2	0.230	300	—	—	216-1640	85.13	216-1641	170.28
8742	3	0.242	300	216-1642	27.78	216-1643	138.96	216-1644	277.93
8757	4	0.264	300	—	—	216-1646	183.52	216-1648	367.04
9160	8	0.323	300	—	—	216-1650	393.56	216-1651	787.11
8740	1	0.156	150	—	—	216-1652	43.33	—	—
8743	6	0.293	150	—	—	216-1654	283.23	216-1656	566.47
8744*	9	0.350	150	—	—	216-1658	989.40	216-1660	844.40
8746	27	0.467	150	—	—	216-1662	1247.50	216-1664	2495.00

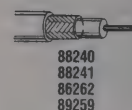
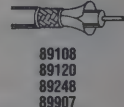
19 AWG Solid Conductors NEC Type CM

8486	1	0.182	350	—	—	216-1666	53.04	216-1668	106.08
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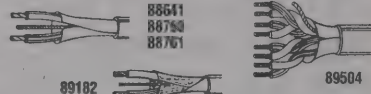
Plenum Coaxial Cable For Computer, Instrumentation, And Broadcast Uses

All are single solid conductor except **Type 89259**, which is single 7 x 30 stranded, **Type 89907** (thinner, 10 base 2), which is single 19 x 32 stranded and **Type 89555** which is dual solid conductor. All are NEC type CL2P; **Types 89108** and **89120** are also NEC type CATVP NEC article 725, class 2 circuits, UL listed. All are 200°C.

Mfr.'s Type	RG/U	AWG	Nominal O.D.	Nominal Impedance (Ohms)	Nom. Cap. (pF/ft.)	100' Spool		500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
89120	6/U	18	0.236"	75.0	16.5	—	—	216-0402	667.08	216-0404	1334.16
89248	6/U	18	0.230"	75.0	16.3	—	—	216-0406	720.12	216-0408	1440.24
89907	—	20	0.165"	50.0	25.4	—	—	216-0410	236.64	216-0412	473.28
88240	58/U	20	0.165"	53.5	28.5	216-0414	124.44	216-0416	420.24	216-0418	840.48
89108	59/U	20	0.216"	75.0	16.3	216-0420	118.32	216-0422	524.28	216-0424	1048.56
88281	—	20	0.278"	75.0	19.0	—	—	216-0426	1249.50	216-0428	2499.00
89259	59/U	22	0.198"	75.0	17.3	216-0430	151.98	216-0432	674.22	216-0434	1348.44
86262	62/U	22	0.204"	93.0	12.5	—	—	216-0436	386.58	216-0438	773.16
89269	62/U	22	0.200"	93.0	12.8	—	—	216-0440	320.28	216-0442	640.56
88241	59/U	23	0.197"	75.0	21.0	216-0444	147.90	216-0446	495.72	216-0448	991.44
89555	59/U	23	0.212" x 0.424"	75.0	19.5	—	—	216-0450	1133.22	216-0452	2266.44



Paired Shielded Plenum Cable for Instrumentation, Computers and P.O.S.



Tinned copper conductors, Teflon insulated and jacketed. Beldfoil® shield overall. 200°C. Non-conduct. All are NEC Article 800, Type CMP and rated 300Vrms except **Type 89182**, which is Duofoil® individually shielded computer, control, instrumentation cable for low capacitance applications-NEC Article 725 and 800, Type CL2P and rated 150Vrms. All are UL listed and CSA PCC FT4/FT6 rated.

Mfr.'s Type	No. Pairs	AWG (Stranding)	Nom. O.D.	Stock No.	100' Spool		500' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
88641	1	24 (7 x 32)	0.108"	216-0640	42.25	216-0642	211.28	216-0644	422.59	
88760*	1	18 (19 x 30)	0.157"	216-0646	37.56	216-0648	187.82	216-0650	375.67	
88761	1	22 (7 x 30)	0.118"	216-0652	34.74	216-0654	173.71	216-0656	347.51	
89182	1	22 (19 x 34)	0.308"	216-0658	200.94	216-0660	900.66	216-0662	1801.32	
89503	3	24 (7 x 32)	0.177"	216-0664	93.78	216-0668	468.79	216-0670	937.85	
89504	4	24 (7 x 32)	0.194"	216-0672	100.67	216-0674	503.45	216-0676	1006.90	
89505*	5	24 (7 x 32)	0.199"	216-0678	136.11	216-0680	680.54	216-0682	1361.11	

* Sound, Broadcast, and Instrumentation cable.

Multi-Conductor Shielded Plenum Control and Instrumentation Cable

Tinned copper conductors. Teflon insulation, 0.007" thickness. Beldfoil® aluminum-polyester shield with 85% tinned copper braid shield overall. Red tint Teflon Jacket. NEC Article 800, Type CMP. 200°C. Non-conduct. UL listed.

Mfr.'s Type	No. Conductors	AWG (Stranding)	Nom. O.D.	Stock No.	500' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
83503	3	24 (7 x 32)	0.137"	216-0510	393.19	216-0512	831.75	
83504	4	24 (7 x 32)	0.146"	216-0514	480.05	216-0516	960.13	
83506	6	24 (7 x 32)	0.167"	216-0518	618.18	216-0520	1236.36	
83509	9	24 (7 x 32)	0.180"	216-0522	739.58	216-0524	1479.18	
83552	2	22 (7 x 30)	0.143"	216-0534	382.05	216-0536	764.10	
83553	3	22 (7 x 30)	0.150"	216-0538	247.27	216-0540	494.54	
83554	4	22 (7 x 30)	0.161"	216-0542	462.24	216-0544	924.49	
83556	6	22 (7 x 30)	0.185"	216-0546	578.03	216-0548	1156.17	
83559	9	22 (7 x 30)	0.211"	216-0550	785.26	216-0552	1570.51	
83602	2	20 (7 x 28)	0.159"	216-0562	341.92	216-0564	683.85	
83604	4	20 (7 x 28)	0.180"	216-0566	542.09	216-0568	1084.16	
83606	6	20 (7 x 28)	0.209"	216-0570	765.49	216-0572	1531.00	
83652	2	18 (19 x 30)	0.182"	216-0574	548.11	216-0576	1096.23	
83653	3	18 (19 x 30)	0.191"	216-0578	643.70	216-0580	1287.42	
83654	4	18 (19 x 30)	0.207"	216-0582	628.95	216-0584	1257.90	
83656	6	18 (19 x 30)	0.243"	216-0586	847.62	216-0588	1695.26	
83659	9	18 (19 x 30)	0.281"	216-0590	1151.27	216-0592	2302.57	
83702	2	16 (19 x 29)	0.200"	216-0594	668.65	216-0596	1337.51	
83703	3	16 (19 x 29)	0.211"	216-0598	707.55	216-0600	1415.11	
83704	4	16 (19 x 29)	0.228"	216-0602	810.08	216-0604	1620.17	
83706	6	16 (19 x 29)	0.270"	216-0606	877.71	216-0608	1755.42	
83709	9	16 (19 x 29)	0.313"	216-0610	1248.60	216-0612	2497.20	

Paired Shielded Plenum Cable for Computers and Instrumentation



Tinned copper, twisted pairs each individually shielded with Beldfoil® overall. 300V RMS. Non-conduct. NEC Article 800, Type CMP and CSA Pcc FT4/FT6 rated, UL listed.

Stock No.	Mfr.'s Type	No. Pairs	AWG (Stranding)	Nom. O.D.	1000'
					EACH
216-0810	82723†	2	22 (7 x 30)	0.137"	365.22
216-0812	82777	3	22 (7 x 30)	0.234"	650.31
216-0814	82778	6	22 (7 x 30)	0.308"	1526.82
216-0816	82729	2	24 (7 x 32)	0.274"	881.22
216-3630	88777	3	22 (7 x 30)	0.226"	856.51
216-3631	87777	3	22 (7 x 30)	0.226"	822.02
216-3632	88778	6	22 (7 x 30)	0.306"	1994.86
216-3633	88723†	2	22 (7 x 30)	0.137"	494.27
216-3634	87723†	2	22 (7 x 30)	0.137"	417.79

† Pairs cabled on common axis to reduce diameter.

Paired Unshielded Plenum Sound, Audio, and Control Cable



Tinned copper conductors, twisted pairs Halar® insulation, 0.010" thickness except **Type 82740** which is 0.007" thick. Natural Flammarrest® jacket, 0.015" thickness except **Type 82743** which is 0.022" thick and **Type 82740** which is 0.010" thick. Listed for use in an air plenum non-conduct. NEC Article 800, Type CMP and CSA PCC FT4/FT6 rated, UL listed.

Stock No.	Mfr.'s Type	No. Pairs	AWG (Stranding)	Nom. O.D.	1000'
					EACH
216-0772	82442	1	22 (7 x 30)	0.114"	178.21
216-0774	82741	2	22 (7 x 30)	0.181"	563.14
216-0776	82742	3	22 (7 x 30)	0.193"	808.19
216-3626	88757*	4	22 (7 x 30)	0.202"	1421.27
216-0778	82757	4	22 (7 x 30)	0.212"	1100.36
216-0780	82743	6	22 (7 x 30)	0.239"	1418.43
216-3628	87740*	1	18 (19 x 30)	0.142"	326.46
216-0782	82740	1	18 (19 x 30)	0.152"	294.54

* Teflon® insulated. Overall tape wrap.

Paired Shielded Plenum Cable for Instrumentation, Computers and P.O.S.

Tinned copper conductors. Overall Beldfoil® 100% shield coverage. Halar™ insulated, twisted pairs. Natural Flammarrest® jacket, 0.015" thickness except **Type 82761** which is 0.022" thick. Listed for use in an air plenum non-conduct. NEC Article 800, Type CMP and CSA PCC FT4/FT6 rated, UL listed.

Stock No.	Mfr.'s Type	No. Pairs	AWG (Stranding)	Nom. O.D.	1000'
					EACH
216-0786	82502	3	24 (7 x 32)	0.164"	347.51
216-0788	82503	3	24 (7 x 32)	0.171"	550.80
216-0790	82504	4	24 (7 x 32)	0.195"	650.31
216-0792	82505	5	24 (7 x 32)	0.196"	794.05
216-0794	82506	6	24 (7 x 32)	0.209"	1208.74
216-0796	82509	9	24 (7 x 32)	0.246"	1745.95
216-0798	82512	12 1/2	24 (7 x 32)	0.278"	1953.30
216-0800	82641	1	24 (7 x 32)	0.108"	332.23
216-0802	82760	1	18 (19 x 30)	0.157"	320.48
216-0804	82761	1	22 (7 x 30)	0.118"	230.91

Local Area Network (LAN) Cable

AppleTalk® Non-Plenum LAN Twinaxial Cable

300V, 60°C UL Recognized 2092/CSA Certified PCC FT1 NEC CM.
AWG (Stranding): 22 (7 × 30) Stranded Tinned Copper. Shields: 1 Tinned Copper Braid.

Mfr.'s Type	Nom. O.D.	Nom. Ohms	Cap. pF/ft.	500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
9999	.185"	78	19.7	216-1840	197.88	216-1842	395.76

IBM Non-Plenum Office Cable/ Meets IEEE 802.5 Specs/ CSA Certified PCC FT1, NEC CL2

Mfr.'s Type	AWG Stranding	Shields	Nom. O.D.	Nom. Ohms	Cap. pF/ft.	500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH
1215A Type 6 4716743	2 Pair 26 (7 × 34)	2 Beldfoil® Shielded Pairs Tinned Copper Braid Overall	.325"	150	8.5	216-1936	94.50	216-1938	412.08

Non-Plenum Trunk Cable Meets/ IEEE 802.3 10 Base 2, NEC CL2. 30V 60°C UL Recognized 1354/ CSA Certified CXC FT1

Mfr.'s Type	AWG Stranding	Shields	Nom. O.D.	Nom. Ohms	Cap. pF/ft.	500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH
9907 Ethernet™ (Thinnet- 10 Base 2)	20 (19 × 32) Tinned Copper	Duobond® II plus 95% Tinned Copper Braid Shield	.182"	50	25.4	216-2918	132.60	216-1920	263.08

IBM Non-Plenum Cabling System - Types 1, 2, and 3 IBM Non-Plenum Media Cable/Meets IEEE 802.5 Specs./CSA Certified PCC FT1, NEC CM.

Mfr.'s Type	AWG Stranding	Shields	Nom. O.D.	Nom. Ohms	Cap. pF/ft.	500' Spool		1000' Spool	
						Stock No.	EACH	Stock No.	EACH
9688 Type 1 4716748	2 Pair 22 Solid	2 Beldfoil® Shielded Pairs Tinned Copper Braid Overall	.296" × .431"	150	8.5	216-1924	216.24	216-1926	432.48
9689 Type 2 4716739	6 Pair; 2 Data and 4 Voice 22 Solid	Beldfoil® Over Each Data Pair, Tinned Copper Braid Overall	.430"	Data 150 Voice 105	8.5	216-1928	317.22	216-1930	634.44
1154A Type 3	4 Pair 24 Solid	Unshielded	.185"	105 256KHz to 23MHz	15.0	216-1932	83.64	216-1934	167.28

Datatwist™ High Performance Twisted Pair Data Cable

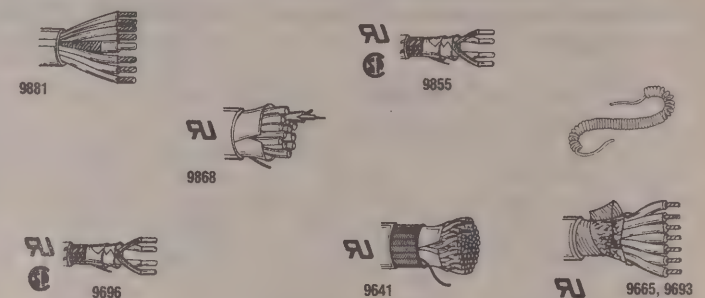
For data speeds up to 20 Mbs. in any computer application which supports twisted pair cabling. Type 1455A cable CSA certified FT4 and compatible with DEC 17-01313-01 system. Type 1456A cable CSA certified FT1 and compatible with DEC 17-01286-01 system. Types 1457A and 1458A cable CSA certified FT4, FT6. Meets IEEE 802.3 10 Base T, IEEE 802.5 specs. Meets and exceeds EIA/TA 568 commercial building wiring standard. Larger pair sizes available; contact your local Allied branch.

No. Of Pairs: 4. Nominal Ohms: 100.

Stock No.	Mfr.'s Type	Jacket	Shielding	Nom. O. D.	Cap. pF/ft.	Atten. (db/100 ft. @ 1KHz)	NEC Type	1000' Spool
								EACH
216-1970	1455A	Polyolefin Insulated PVC Jacket	Unshielded	0.186"	14	0.50	CM	185.64
216-1972	1457A	FEP Insul. Plenum Flammarrest® Jacket	Unshielded	0.173"	13	0.50	CMP	320.00
216-1974*	1456A	Polyolefin Insulated PVC Jacket	Beldfoil® Overall*	0.231"	16	0.75	CM	240.00
216-1976*	1458A	FEP Insul. Plenum Flammarrest® Jacket	Unshielded Overall*	0.214"	16	0.75	CMP	570.00

*24 AWG Solid Bare Copper; * With Drain Wire

Special Application Computer Cable



Multi-Conductor Plus Coaxial Computer Cable/30V 60°C, AWM 2704, NEC CM AWG (Stranding): 7-Conductor 26 (7 × 34), 1 Coaxial 22 Solid. Shields: Bare Copper Braid On Coaxial.

Mfr.'s Type	Nom. O.D.	Nom. Ohms	Cap. pF/ft.	100' Spool		500' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9881	.310"	75 (Coax)	17.3 (Coax)	—	—	216-1866	495.72	216-1658	989.40

NCR P.O.S. Cable/150V 60°C UL Recognized 2582/CSA Certified PCC FT1, NEC CM AWG (Stranding): 2 Pairs 22 Solid Tinned Copper. Shields: Overall Beldfoil® With Solid Tinned Copper Braid.

9855	.270"	100	15.5	216-1870	33.95	216-1872	169.73	216-1874	339.46
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IBM P.O.S. Cable/30V 80°C UL Recognized 2919/CSA Certified PCC FT1, NEC CM AWG (Stranding): 2 Pairs 22 Solid Bare Copper. Shields: Overall Beldfoil® With Solid Tinned Copper Braid.

9696	.315"	100	16.0	216-1876	54.73	216-1878	273.69	216-1880	547.37
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Synchronous EIA Interface Cable/30V 60°C UL Recognized 2464 NEC CM

AWG (Stranding): 14-Conductor 28 (7 × 36) Tinned Copper. Shields: Individual Beldfoil® Over Each Conductor, Overall Beldfoil® Shield.

9868	.394"	65	—	216-1882	105.43	216-1884	527.22	216-1886	1054.44
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IEEE 488 Interface Copper Computer Cable/300V 80°C UL Recognized 2464 NEC CM

AWG (Stranding): 23-Conductor, 6 Twist Pairs. 26 (7 × 34); 10-Conductor 26 (7 × 34); 1-Conductor 24 (7 × 32). Shields: Overall Tinned Copper Braid Shield.

9641	.350"	—	38	216-1888	173.97	216-1890	869.86	216-1892	1739.71
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Keyboard Retractable Cable

Mfr.'s Type	AWG (Stranding)	Shields	Retracted Length	Extended Length	Nom. O.D.	Jacket Material	Stock No.	EACH
9665 300V 80°C UL Recognized 2464	7 Conductor 26 (10 × 36) Tinned Copper	Overall Beldfoil® With Tinned Copper Shield	14.5"	6'	.250"	Black PVC	214-3600	15.10
9693 30V 60°C ULRecogn- ized, 20197	7 Conductor 26 (7 × 34) Tinned Copper	Overall Beldfoil® With Tinned Copper Shield	14.5"	6'	.200"	Black Poly- urethane	214-3601	17.14

Telephone and Computer Network Data Cable/ UL Recognized NEC Article 800



Unshielded Nominal Ohms: 600.

Stock No.	Mfr.'s Type	No. Pairs	AWG	Nom. O.D.	Cap. pF/ft.	Atten. (db/100 ft. @ 1KHz)	NEC Type	1000' Spool
								EACH
216-1940	1227A	2	24 Solid	0.120"	17.5	0.046	CM	69.36
216-1941	1228A	3	Bare	0.150"	17.5	0.046	CM	78.54
216-1942	1229A	4	Copper	0.190"	17.5	0.046	CMR	104.04
216-1943	1230A	6	SR-PVC	0.230"	17.5	0.046	CMR	155.04
216-1944	1231A	12	Insulated/ Jacketed	0.300"	18.8	0.049	CMR	303.96
216-1945	1232A	25	Insulated/ Jacketed	0.380"	18.9	0.049	CMR	514.08
216-1956	1243A	2	24 Solid	0.110"	16.2	0.044	CMP	169.32
216-1958	1245A	4	Bare Copper	0.150"	16.2	0.044	CMP	242.00
216-1959	1246A	6	SR-PVC	0.190"	16.2	0.044	CMP	330.48
216-1960	1247A	25	PVDF Jacket	0.340"	22.4	0.049	CMP	1340.28
216-1955	1242A	4**	22 Solid Bare Copper Polyethylene Insulated PVC Jacket	0.140"	18.5	0.033	CMX	77.52

** Conductors

To order correct color, insert number of color desired where N appears in stock numbers below. 0. Violet, 1. White, 2. Black, 3. Red, 4. Green, 5. Yellow, 6. Blue, 7. Orange, 8. Slate, 9 Brown. Stocked in colors 1-6.

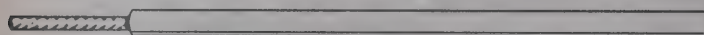
Hook-Up Wire

UL Style 1007 CSA-TR64 VW-1, M76B-MW, 1/64" Wall PVC 80°C 300V

Semi-rigid PVC stranded tinned copper. Colors 0-9.

Mr.'s Type	Nominal O.D.	AWG (Stranding)	Stock No.	1000' Spool
792407	.056	24 (7/32)	293-100N	36.01
792207	.062	22 (7/30)	293-101N	37.30
791816	.077	18 (16/30)	293-102N	62.12

UL Style 1335 MTW Machine Tool Wire, 1/32" Wall PVC

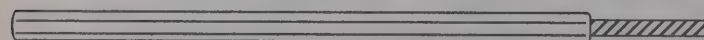


Stranded bare copper conductor. UL listed.

461816	.107	18 (16/30)	293-103N	64.97
461626	.120	16 (26/30)	293-104N	82.82
461419	.136	14 (19/27)	293-105N	114.95
461219	.154	12 (19/25)	293-106N	161.26
461019	.179	10 (19/0.0234)	293-107N	259.79

High Temperature Hook-Up Wire

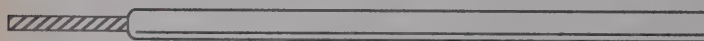
MIL-W-16878E/4 Type Teflon TFE Teflon 200°C, 600V



Stranded silver plated copper. Specify colors 0 through 9 when ordering, see chart above.

Mr.'s Type	Nominal O.D.	AWG (Stranding)	Stock No.	100' Spool	Stock No.	1000' Spool
12807	.036	28 (7/36)	293-108N	14.99	293-117N	99.14
12607	.039	26 (7/34)	293-109N	19.79	293-118N	131.38
12407	.044	24 (7/32)	293-110N	17.44	293-119N	115.46
12207	.050	22 (7/30)	293-111N	21.83	293-120N	143.31
12219	.052	22 (19/34)	293-112N	25.50	293-121N	169.93
12019	.060	20 (19/32)	293-113N	38.15	293-122N	254.29
11819	.070	18 (19/30)	293-114N	39.68	293-123N	264.59
11619	.077	16 (19/29)	293-115N	47.12	293-124N	313.85
11419	.094	14 (19/27)	293-116N	74.05	293Q125N	493.68

MIL-W-16878E/1 Type B, 0.010" Wall PVC 105°C 600V



Stranded tinned copper.

173007	.032	30 (7/38)	293-126N	6.32	293-139N	43.86
172807	.034	28 (7/36)	293-127N	6.12	293-140N	42.94
172607	.038	26 (7/34)	293-128N	6.63	293-141N	46.21
172619	.038	26 (19/38)	293-129N	7.65	293-142N	53.14
172407	.044	24 (7/32)	293-130N	5.30	293-143N	37.23
172419	.044	24 (19/36)	293-131N	6.12	293-144N	42.84
172207	.051	22 (7/30)	293-132N	5.10	293-145N	38.35
172219	.051	22 (19/34)	293-133N	6.32	293-146N	44.06
172007	.058	20 (7/28)	293-134N	6.94	293-147N	48.65
172019	.058	20 (19/32)	293-135N	7.96	293-148N	56.00
171819	.068	18 (19/30)	293-136N	10.61	293-149N	73.95
171619	.077	16 (19/29)	293-137N	13.97	293-150N	97.41
171419	.091	14 (19/27)	293-138N	18.26	293-151N	128.10

MIL-W-76C Type MW .016" Wall PVC 80°C 1000V



Stranded tinned copper conductors with 0.016" wall color-coded PVC. Temperature range: - 40°C to + 80°C. Colors 0, 2, 9.

302407	.058	24 (7/32)	—	—	293-156N	42.64
302207	.065	22 (7/30)	—	—	293-157N	43.86
302010	.072	20 (10/30)	—	—	293-158N	55.69
301816	.080	18 (16/30)	—	—	293-159N	73.64

Hook-Up Wire

Add color code when ordering: Black, Red, Green, White

UL Style 1015 CSA-TEW VW-1, 1/32" Wall PVC 105°C 600V



Stranded tinned copper.

Mr.'s Type	Nominal O.D.	AWG (Stranding)	Stock No.	100' Spool	Stock No.	1000' Spool
781441	.141	14 (41/30)	293-160N	18.97	293-163N	155.14
781265	.160	12 (65/30)	293-161N	34.78	293-164N	282.95
781000	.194	10 (105/30)	293-162N	43.66	293-165N	355.88

UL Style 1028 CSA-TEW VW-1, 1/64" Wall PVC 105°C 600V

Stranded tinned copper.

788133	.255	8 (133/29)	293-166N	71.91	293Q167N	586.19
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UL Style 1283 CSA-TEW VW-1, 1/16" Wall PVC 105°C 600V

Stranded tinned copper.

786133	.335	6 (133/27)	293-168N	103.94	293Q172N	846.29
784133	.390	4 (133/25)	293-169N	203.80	293Q173N	1551.93
782133	.460	2 (133/23)	293Q170N	319.06	293Q174N	2506.85
782665	.470	2 (665/30)	293Q171N	332.32	293Q175N	2707.59

UL Style 1284 CSA-TEW VW-1, 1/64" Wall PVC 105°C 600V

Stranded tinned copper.

781836	.535	1 (836/30)	293Q176N	390.49	293Q179N	3341.83
780001	.580	1/0 (1045/30)	293Q177N	552.64	293Q180N	4502.79
780002	.640	2/0 (1330/30)	293Q178N	666.57	293Q181N	5075.83

UL Style 1015 CSA-TEW VW-1, 1/32" Wall PVC 105°C 600V

Stranded tinned copper.

Mr.'s Type	Nominal O.D.	AWG (Stranding)	Stock No.	500' Spool	Stock No.	1000' Spool
782407	.088	24 (7/32)	293-182N	26.52	293-187N	41.11
782207	.095	22 (7/30)	293-183N	26.01	293-188N	42.23
782010	.100	20 (10/30)	293-184N	34.68	293-189N	53.65
781816	.110	18 (16/30)	293-185N	43.86	293-190N	70.79
781626	.124	16 (26/30)	293-186N	67.85	293-191N	107.20

Bonded tinned copper.

782407F	.088	24 (7/32)	293-192N	30.60	293-196N	48.60
782207F	.095	22 (7/30)	293-193N	35.00	293-197N	54.67
782010F	.100	20 (10/30)	293-194N	37.23	293-198N	60.49
781816F	.110	18 (16/30)	293-195N	51.82	293-199N	80.99

UL Style 1015 CSA-TEW VW-1, 1/32" Wall PVC 105°C 600V

Solid tinned copper conductor.

782201	.093	22 (1/22)	293-200N	26.25	293-204N	40.80
782001	.098	20 (1/20)	293-201N	32.13	293-205N	50.69
781801	.104	18 (1/18)	293-202N	39.27	293-206N	61.61
781601	.115	16 (1/16)	293-203N	55.08	293-207N	86.39
781401	.130	14 (1/14)	—	—	293-208N	142.90

UL Style 1061 CSA-SRPVC VW-1, .009" Wall 80°C 300V

Stranded tinned copper.

422607	.037	26 (7/34)	293-209N	29.58	293-213N	46.72
422407	.047	24 (7/32)	293-210N	23.97	293-214N	37.64
422207	.049	22 (7/30)	293-211N	24.99	293-215N	38.76
421816	.067	18 (16/30)	293-212N	41.31	293-216N	64.87

Magnet Wire



SP—Single Polyurethane Class A, Type T-1

Specification: MIL-W-583B. Readily solderable, adaptable to automatic soldering and winding operations. Round bar copper single conductor covered with Polyurethane film. Proved to have physical and electrical properties equal or superior to those of the oleoresinous and polyvinyl acetal films. 105°C. **Weight:** 1 lb. (gross).

Stock No.	Mr.'s Type	Size (AWG)	Nom. O.D.	Fl. Per Lb.	PER LB.
293-0100	12SP	12	.0825	50	18.56
293-0102	13SP	13	.0738	62	18.56
293-0104	14SP	14	.0657	79	18.56
293-0106	15SP	15	.0588	100	19.70
293-0108	16SP	16	.0522	127	19.28
293-0110	17SP	17	.0469	160	20.90
293-0112	18SP	18	.0416	203	20.30
293-0114	19SP	19	.0374	256	20.20
293-0116	20SP	20	.0332	319	20.71
293-0118	21SP	21	.0299	402	20.81
293-0120	22SP	22	.0266	507	20.81
293-0122	23SP	23	.0238	639	20.91
293-0124	24SP	24	.0212	806	21.83
293-0126	25SP	25	.0191	1012	22.13
293-0128	26SP	26	.0169	1276	24.89
293-0130	27SP	27	.0153	1605	27.03
293-0132	28SP	28	.0135	2020	29.07
293-0134	29SP	29	.0122	2538	31.42
293-0136	30SP	30	.0108	3205	35.70
293-0138	31SP	31	.0097	4032	41.11
293-0140	32SP	32	.0087	5086	45.70

Also available, but not stocked by Allied, in AWG 33-44 with minimums.

HPT—Heavy Poly-thermaleze Class F, Type T-2

Rated at 155°C usage. Dual polyester film insulation has exceptional resistance to solvents and abuse. **Weight:** 1 lb. (gross).

Stock No.	Mr.'s Type	Size (AWG)	Nom. O.D.	Fl. Per Lb.	PER LB.
293-0150	12HPT	12	.0842"	49	18.70
293-0152	13HPT	13	.0753"	61	17.85
293-0154	14HPT	14	.0673"	78	19.99
293-0156	15HPT	15	.0602"	99	20.20
293-0158	16HPT	16	.0539"	125	20.71
293-0160	17HPT	17	.0482"	158	20.71
293-0162	18HPT	18	.0432"	200	15.54
293-0164	19HPT	19	.0386"	250	21.52
293-0166	20HPT	20	.0346"	316	20.70
293-0168	21HPT	21	.0310"	398	21.83
293-0170	22HPT	22	.0277"	502	21.83
293-0172	23HPT	23	.0249"	628	22.03
293-0174	24HPT	24	.0224"	793	22.24
293-0176	25HPT	25	.0201"	995	24.58
293-0178	26HPT	26	.0180"	1252	26.83
293-0180	27HPT	27	.0161"	1577	28.97
293-0182	28HPT	28	.0144"	1984	31.72
293-0184	29HPT	29	.0130"	2494	34.50
293-0186	30HPT	30	.0116"	3145	37.80
293-0188	31HPT	31	.0105"	3937	43.66
293-0190	32HPT	32	.0095"	4953	49.16

Also available, but not stocked by Allied, in AWG 33-44 with minimums.

Corona Resistant High Voltage Wire UL Style 3239

- High dielectric strength
- Flame retardant

- Radiation resistant
- Abrasion resistant

Stranded, tinned copper conductor. Silicone rubber insulation rated for 150°C (UL) and 10 KVDC through 40 KVDC. **Color:** Natural.

Mr.'s Type	AWG	Strand	Voltage DC	Nom. O.D.	Stock No.	PER SPOOL/1000'	Stock No.	PER SPOOL/1000'
392240	22	7/30 TC	10 KV	.111"	293-0200	97.90	293Q0201	404.50
392245	22	7/30 TC	15 KV	.121"	293-0202	142.60	293Q0203	438.30
392250	22	7/30 TC	20 KV	.131"	293-0204	148.82	293Q0205	463.49
392262	22	7/30 TC	25 KV*	.131"	293-0206	156.20	293Q0207	577.52
392275	22	7/30 TC	30 KV*	.181"	293-0208	171.77	293Q0209	741.54
392297	22	7/30 TC	40 KV	.225"	293-0210	217.16	293Q0211	889.44
392040	20	10/30 TC	10 KV	.118"	293-0212	149.12	293Q0213	430.10

*392262—.062" wall thickness. 392275—.075" wall thickness. Special constructions are available upon request.

Lacing Tapes and Twine

Designed to meet and exceed MIL-T-713, Type P and MIL-T-43435 Types I and II also AMS 3815, AMS 3816, AMS 3817.

Finishes and Coatings

W — Wax, MIL Spec "B". A microcrystalline fungicidal wax which exceeds military specifications, provides excellent knot retention and is suitable for either lacing or spot ties.

G — Synthetic Rubber, MIL Spec "C"

A special continuous coating of fungicidal synthetic elastomer (rubber) which exceeds MIL Spec requirements, ties easily and exhibits outstanding knot holding characteristics.

A — Synthetic Resin, MIL Spec "E"

A synthetic rubber-like resin formulated with fungicidal ingredients. Handling characteristics are excellent, knot retention is outstanding; meets or exceeds MIL Spec requirements.



Operational Temperature Ranges: -67°F to +250°F on all items.

Nylon Lacing Tape MIL-T-43435 Type-I

Flat braided high tenacity nylon yarn impregnated with microcrystalline fungicidal wax or impregnations to meet military specifications.

Stock No.	Mr.'s Type	MIL Spec.		Finish	Tensile Strength	Width	Color	PER 500 YD. SPOOL
		Size	Finish					
293-0400	805032W	3	E	A	50 Lbs.	.090"	Natural	25.40
293-0405	805032B	3	E	A	50 Lbs.	.090"	Black	25.91
293-0410	802534W	4	B	W	25 Lbs.	.062"	Natural	20.20
293-0415	802534B	4	B	W	25 Lbs.	.062"	Black	27.54
293-0420	805036W	3	B	W	50 Lbs.	.090"	Natural	26.52
293-0425	805036B	3	B	W	50 Lbs.	.090"	Black	29.20
293-0430	805040W	3	C	G	50 Lbs.	.090"	Natural	18.55
293-0435	805040B	3	C	G	50 Lbs.	.090"	Black	29.78

Polyester Lacing Tape MIL-T-43435 Type-II

Flat braided polyester yarn impregnated with special finishes to military specifications.

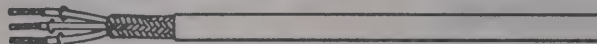
293-0440	805058W	3	E	A	50 Lbs.	.090'	Natural	24.68
293-0445	805058B	3	E	A	50 Lbs.	.090'	Black	30.50
293-0450	805062W	3	B	W	50 Lbs.	.090'	Natural	24.90
293-0455	805062B	3	B	W	50 Lbs.	.090'	Black	30.50

Nylon Lacing Twine MIL-T-713D Type P

Round twisted nylon fiber impregnated with microcrystalline fungicidal wax.

Stock No.	Mr.'s Type	MIL Spec.		Finish	Tensile Strength	Length Per Spool	PER 1 LB. SPOOL
		Class	Finish				
293-0470	807013W	1	B	W	70 Lbs.	550 yds.	34.27
293-0475	807013B	1	B	W	70 Lbs.	550 yds.	39.10
293-0480	804814W	2	B	W	48 Lbs.	750 yds.	25.00
293-0485	804814B	2	B	W	48 Lbs.	750 yds.	39.88
293-0490	803215W	3	B	W	32 Lbs.	1100 yds.	27.10
293-0495	803215B	3	B	W	32 Lbs.	1100 yds.	39.88

Multi-Conductor, Type B, Nylon, Shielded and Jacketed with White PVC Jacket



Stranded tinned copper conductors with .010 PVC insulation color coded. .003" nylon jacket on each conductor, 90% coverage braided tinned copper shield and white PVC jacket overall.

Mfr.'s Type	No. of Conductors	AWG Size	Stranding	Nom. O.D.	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
262202	2	22	19/34	.168"	293-3032	50.80	293Q3050	436.56
262203	3	22	19/34	.178"	293-3034	75.52	293Q3052	634.03
262204	4	22	19/34	.184"	293-3036	80.68	293Q3054	677.59
262002	2	20	19/32	.186"	293-3038	60.40	293Q3056	547.13
262003	3	20	19/32	.196"	293-3040	74.26	293Q3058	634.03
262004	4	20	19/32	.203"	293-3042	89.06	293Q3060	817.02
261802	2	18	19/30	.210"	293-3044	67.52	293Q3062	607.82
261803	3	18	19/30	.227"	293-3046	87.41	293Q3064	797.13
261804	4	18	19/30	.238"	293-3048	107.81	293Q3066	973.69

Multi-Conductor Shielded Cable



OSHA

VW-1



For sound, broadcast and instrumentation cable applications. **Temperature Range:** -20°C to +80°C. **Jacket:** Chrome polyvinylchloride. **Voltage Rating:** 300V. NEC type CL2.

22 AWG Stranded Tinned Copper Drain Wire. Number of Strands: 7/30.

Mfr.'s Type	No. of Conductors	Jacket Thickness	Nom. O.D.	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
1012203	3	.035"	.184"	293-3092	37.27	293-3108	260.10
1012204	4	.035"	.197"	293-3094	42.09	293-3110	293.76
1012205	5	.035"	.212"	293-3096	44.37	293-3112	227.60
1012206	6	.035"	.222"	293-3098	45.19	293-3114	315.89
1012207	7	.035"	.222"	293-3100	47.53	293-3116	331.91
1012208	8	.035"	.243"	293-3102	44.00	293Q3118	345.50
1012209	9	.035"	.258"	293-3104	52.53	293Q3120	367.81
1012210	10	.035"	.278"	293-3106	55.90	293Q3122	348.00

24 AWG Stranded Tinned Copper Drain Wire. Number of Strands: 7/32.

Mfr.'s Type	No. of Conductors	Jacket Thickness	Nom. O.D.	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
1012404	4	.035"	.180"	293-3124	23.46	293-3148	160.10
1012405	5	.035"	.190"	293-3126	32.54	293-3150	226.54
1012406	6	.035"	.205"	293-3128	36.52	293-3152	255.31
1012407	7	.035"	.205"	293-3130	41.31	293-3154	288.76
1012408	8	.035"	.220"	293-3132	43.96	293Q3156	367.70
1012409	9	.035"	.240"	293-3134	45.70	293-3158	313.60
1012410	10	.035"	.250"	293-3136	43.30	293Q3160	346.39
1012415	15	.035"	.280"	293-3138	64.40	293Q3162	515.10
1012420	20	.035"	.310"	293-3140	101.39	293Q3164	708.29
1012425	25	.040"	.370"	293-3142	109.24	293Q3166	763.88
1012430	30	.040"	.390"	293-3144	153.00	293Q3168	1096.91
1012440	40	.040"	.440"	293-3146	212.77	293Q3170	1299.80

Foil Shielded, Multi-Conductor Cable



OSHA

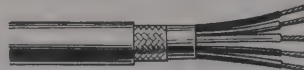
Stranded tinned copper conductors, insulated with color-coded polyethylene. Provide 100% effective shielding and is suitable for audio and data work where cross talk must be at a minimum. Shielded with mylar-backed foil and drain wire. **Temperature Range:** -20°C to +60°C. **Operating Voltage:** 400V. NEC type CL2.

Mfr.'s Type	No. of Conductors	AWG Size	Stranding	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
972203	3	22	7/30	293-3068	34.48	293-3080	201.76
972204	4	22	7/30	293-3070	44.40	293-3082	310.20
971802	2	18	16/30	293-3072	43.25	293-3084	301.00
971803	3	18	16/30	293-3074	51.00	293-3086	355.78
971402	2	14	19/27	293-3076	65.89	293Q3088	460.84
971403	3	14	19/27	293-3078	105.57	293Q3090	737.15

Multi-Conductor Overall Alumylar™ Shield and 65% Braided Tinned Copper Shield



OSHA



VW-1

22 AWG, 7/30 stranded tinned copper conductors with color-coded semi-rigid PVC insulation. Conductors are cable with two overall shields. **Shields:** primary shield — overall Alumylar™ shield (100% coverage); secondary shield — braided tinned copper (65% coverage). Jacket chrome PVC. **Temperature Range:** -20°C to +80°C. **Voltage Rating:** 300 volts. Computer applications for EIA RS-232 and CAD/CAM application. Recognized under the components program of Underwriters' Laboratories, Inc. UL Style 2464. Passes VW-1 Vertical Flame Test. CSA S-R PVC approval. OSHA Acceptable. NEC type CL2. 24 and 28 AWG sizes available, contact your local Allied branch for ordering.

Mfr.'s Type	No. of Conductors	Jacket Thickness	Nom. O.D.	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
1312203	3	.032"	.202"	293-3000	68.03	293Q3016	476.03
1312204	4	.032"	.215"	293-3002	80.99	293Q3018	566.51
1312205	5	.032"	.230"	293-3004	85.88	293Q3020	600.17
1312206	6	.032"	.245"	293-3006	87.90	293Q3022	631.79
1312207	7	.032"	.245"	293-3008	98.53	293Q3024	688.60
1312208	8	.032"	.260"	293-3010	106.69	293Q3026	745.52
1312209	9	.032"	.280"	293-3012	114.75	293Q3028	802.43
1312210	10	.032"	.300"	293-3014	122.60	293Q3030	857.11

Multi-Conductor Unshielded Control and Audio Cable

OSHA



VW-1

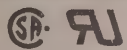
Designed for control and processing systems; communications, instrumentation and audio systems. Stranded tinned copper. **Jacket:** Overall grey polyvinylchloride. **Temperature Range:** -10°C to +80°C, (except 18 AWG — -10°C to +60°C). **Voltage Rating:** 150V for 16 AWG, 22 AWG; 300V for 12 AWG, 18 AWG and 20 AWG. NEC type CL2.

Mfr.'s Type	No. of Conductors	AWG Size	Stranding	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
832202	2	22	7/30	293-3172	11.40	293-3250	89.45
832203	3	22	7/30	293-3174	14.99	293-3252	104.95
832204	4	22	7/30	293-3176	21.01	293-3254	130.60
832205	5	22	7/30	293-3178	25.70	293-3256	163.20
832206	6	22	7/30	293-3180	29.48	293-3258	220.83
832207	7	22	7/30	293-3182	36.92	293-3260	258.57
832208	8	22	7/30	293-3184	41.40	293-3262	295.09
832209	9	22	7/30	293-3186	51.20	293Q3264	357.61
832210	10	22	7/30	293-3188	53.35	293Q3266	372.81
832212	12	22	7/30	293-3190	57.40	293Q3268	450.33
832215	15	22	7/30	293-3192	78.50	293Q3270	616.08
832220	20	22	7/30	293-3194	119.90	293Q3272	855.27
832224	24	22	7/30	293-3196	146.60	293Q3274	1024.18
832225	25	22	7/30	293-3198	149.50	293Q3276	1066.41
832230	30	22	7/30	293-3200	218.48	293Q3278	1527.45
832240	40	22	7/30	293-3202	305.65	293Q3280	2158.52
832250	50	22	7/30	293Q3204	353.60	293Q3282	2724.32
832260	60	22	7/30	293Q3206	533.46	293Q3284	3732.18
831802	2	18	16/30	293-3208	22.90	293-3286	179.93
831803	3	18	16/30	293-3210	36.72	293-3288	256.94
831804	4	18	16/30	293-3212	42.60	293-3290	333.95
831805	5	18	16/30	293-3214	62.53	293Q3292	437.38
831806	6	18	16/30	293-3216	73.70	293Q3294	525.71
831807	7	18	16/30	293-3218	86.20	293Q3296	614.04
831808	8	18	16/30	293-3220	111.89	293Q3298	782.94
831812	12	18	16/30	293-3222	183.40	293Q3300	1281.83
831815	15	18	16/30	293-3224	222.16	293Q3302	1553.26
831820	20	18	16/30	293-3226	271.30	293Q3304	1934.63
831825	25	18	16/30	293Q3228	416.87	293Q3306	2914.75
831602	2	16	26/30	293-3230	36.01	293-3308	252.04
831603	3	16	26/30	293-3232	66.20	293-3310	463.18
831604	4	16	26/30	293-3234	96.39	293Q3312	674.32
831605	5	16	26/30	293-3236	114.50	293Q3314	898.31
831607	7	16	26/30	293-3238	189.72	293Q3316	1327.02
831610	10	16	26/30	293-3240	256.94	293Q3318	1797.75
831612	12	16	26/30	293-3242	301.00	293Q3320	2104.67
831615	15	16	26/30	293Q3244	459.20	293Q3322	3216.37
831202	2	12	65/30	293-3246	96.90	293Q3324	691.56
831203	3	12	65/30	293-3248	187.78	293Q3326	1312.13

Multi Pair, Braid, High Temperature, Coaxial and Twinaxial Cable



Multi-Pair Alumylar™ Shielded Cable



Designed for use in instrumentation and computer applications. 24 AWG stranded tinned copper. **Number of Strands:** 7/32. **Temperature Range:** -20°C to +80°C. **Jacket:** Chrome polyvinylchloride. **Voltage Rating:** 300V. UL recognized, CSA certified, OSHA acceptable and passes VW-1 vertical flame test. NEC Type CL2.

Mfr.'s Type	No. of Pairs	Nom. Jacket Thickness	Nom. O.D.	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
1022402	2	.032"	.222"	293-3502	25.70	293-3528	179.50
1022403	3	.032"	.232"	293-3504	30.50	293-3530	213.40
1022404	4	.032"	.265"	293-3506	36.60	293-3532	256.10
1022405	5	.035"	.295"	293-3508	52.40	293Q3534	366.70
1022406	6	.035"	.295"	293-3510	62.10	293Q3536	434.60
1022407	7	.035"	.300"	293-3512	79.90	293Q3538	569.87
1022408	8	.035"	.330"	293-3514	96.00	293Q3540	671.20
1022409	9	.035"	.340"	293-3516	101.80	293Q3542	712.00
1022410	10	.040"	.380"	293-3518	109.00	293Q3544	777.65
1022415	15	.040"	.425"	293-3520	174.80	293Q3546	1222.20
1022419	19	.040"	.450"	293-3522	217.87	293Q3548	1493.80
1022425	25	.045"	.515"	293-3524	219.30	293Q3550	2037.00
1022450	50	.050"	.700"	293Q3526	543.70	293Q3552	2182.40



Multi-Paired Individually Alumylar™ Shielded Cable



22 AWG stranded tinned copper conductors, insulated with color-coded PVC. **Shield:** Alumylar™ shield over each pair with stranded tinned copper drain wire. **Jacket:** PVC. **Temperature Range:** 105°C. **Voltage Rating:** 300 volts. Suitable as tray cable for Class II and III circuits. UL subject

13, Power-Limited Circuit Cable. UL 70,000 BTU Flame and Tray Test. Meets NEC Article 725, 105°C, 300V. Recognized under the components program of Underwriters' Laboratories, Inc. UL Style 2464, 80°C-300V. Passes VW-1 Vertical Flame Test. CSA TR-64 Approval. OSHA Acceptable. **Color Code:** Pairs are color-coded black and red. On multi-paired cable, each pair is numbered.

Mfr.'s Type	No. of Pairs	Jacket Thickness	Nom. O.D.	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
1132202	2	.043"	.316"	293-3554	69.67	293Q3566	487.66
1132203	3	.043"	.331"	293-3556	89.66	293Q3568	626.89
1132204	4	.043"	.360"	293-3558	119.54	293Q3570	835.89
1132206	6	.053"	.431"	293-3560	188.09	293Q3572	1314.78
1132209	9	.053"	.500"	293-3562	275.50	293Q3574	1926.37
1132215	15	.053"	.606"	293Q3564	564.37	293Q3576	3946.38

Tinned Copper Tubular Braid Per Mil-Spec QQ-B-575

Tubular braid offers shielding of 95% or more when placed over equivalent diameter mandrel to I.D. of tubular braid. May also be used as protective cover.

Stock No.	Mfr.'s Type	I.D.	AWG	Cir. MIL	Amps	PER 100' SPOOL
293-3580	92160	1/32"	22	600	7.5	24.68
293-3581	92162	1/16"	19	1200	12.0	30.50
293-3582	92164	7/64"	16	2400	19.0	50.80
293-3583	92166	1/8"	15	3000	22.0	39.50
293-3584	92168	11/64"	14	4200	30.0	50.69
293-3586	92170	13/64"	11	7632	42.0	82.01
293-3587	92171	1/4"	10	9600	48.0	93.74
293-3588	92174	1/2"	9	13200	61.0	148.90
293-3589	92176	25/32"	7	21600	84.0	212.06

Tinned Copper Oval Braid

Conductors are soft-drawn tinned copper strands woven into a tubular braid. **Applications:** commercial braid for shielding, bonding and high current use. Individual strands conform to QQ-W-343 Type S, Class S, 1T and ASTM-B-33.

Stock No.	Mfr.'s Type	Approx. AWG	Stranding	Thickness	PER 100' SPOOL
293-3590	92132	19	32/34	.09375"	37.94
293-3591	92138	13	120/34	.250"	49.67
293-3592	92140	13	144/34	.250"	56.00
293-3593	92142	12	168/34	.3125"	63.04
293-3594	92144	11	192/34	.375"	73.34

High Temperature Cable

MIL-W-16878E Shielded Teflon Tape Wrapped Cable



Conductors are stranded silver plated copper, "Type E" extruded, color-coded TFE teflon (.010" wall thickness). Braided silver plated copper shield, 90% coverage. White TFE teflon jacket, wrapped and sintered. -65°C to +200°C; 600 volts.

Mfr.'s Type	No. of Conductors	AWG Size	Stranding	Nom. O.D.	100' Spool		1000' Spool	
					Stock No.	EACH	Stock No.	EACH
62401	1	24	19/36	.095"	293-3602	72.62	293Q3642	637.72
62402	2	24	19/36	.140"	293-3604	106.90	293Q3644	958.70
62403	3	24	19/36	.147"	293-3606	125.26	293Q3646	1125.98
62404	4	24	19/36	.159"	293-3608	137.70	293Q3648	1239.61
62201	1	22	19/34	.102"	293-3610	74.26	293Q3650	643.11
62202	2	22	19/34	.154"	293-3612	116.28	293Q3652	1039.48
62203	3	22	19/34	.162"	293-3614	140.76	293Q3654	1266.94
62204	4	22	19/34	.176"	293-3616	158.81	293Q3656	1420.66
62001	1	20	19/32	.110"	293-3618	79.87	293Q3658	706.96
62002	2	20	19/32	.170"	293-3620	126.38	293Q3660	1144.13
62003	3	20	19/32	.175"	293-3622	159.63	293Q3662	1436.26
62004	4	20	19/32	.213"	293-3624	184.01	293Q3664	1650.77
61801	1	18	19/30	.120"	293-3626	87.52	293Q3666	775.20
61802	2	18	19/30	.190"	293-3628	155.04	293Q3668	1389.85
61803	3	18	19/30	.219"	293-3630	165.40	293Q3670	1695.55
61804	4	18	19/30	.237"	293-3632	219.40	293Q3672	1963.81
61601	1	16	19/29	.130"	293-3634	96.49	293Q3674	862.10
61602	2	16	19/29	.230"	293-3636	173.90	293Q3676	1586.81
61603	3	16	19/29	.240"	293-3638	223.99	293Q3678	1992.37
61604	4	16	19/29	.270"	293-3640	294.78	293Q3680	2654.96

Coaxial Cable for Industrial and Military Applications



Mfr.'s Type	RG/U No.	Jacket O.D.	Nom. Impedance	100' Spool		1000' Spool	
				Stock No.	EACH	Stock No.	EACH
6008	8	.405"	52.0	293-3702	89.05	293Q3720	620.16
6058C	58C	.192"	50.0	293-3704	39.20	293-3722	278.97
6059B	59B	.242"	75.0	293-3706	45.90	293-3724	320.08
6062A	62A	.242"	93.0	293-3708	34.07	293-3726	234.19
6108A	108A	.235"	78.0	293-3710	64.26	293Q3728	449.11
6174	174	.100"	50.0	293-3712	33.76	293-3730	183.00
6213	213	.405"	50.0	293-3714	118.73	293Q3732	861.80
6214	214	.425"	50.0	293Q3716	639.03	293Q3734	4469.54
6220	220	1.120"	50.0	293Q3718	2397.00	293Q3736	16830.00

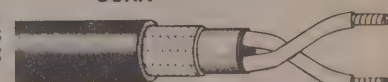
High Temperature Teflon Dielectric Jacket Coaxial Cable

6142B	142B	.195"	50.0	293-3740	330.90	293Q3758	2313.67
6178B	178B	.075"	50.0	293-3742	68.65	293Q3760	479.30
6179B	179B	.105"	75.0	293-3744	99.04	293Q3762	691.56
6180B	180B	.145"	95.0	293-3746	167.38	293Q3764	1169.74
6187A	187A	.110"	75.0	293-3748	110.26	293Q3766	770.71
6188A	188A	.100"	50.0	293-3750	113.32	293Q3768	790.09
6196A	196A	.080"	50.0	293-3752	99.65	293Q3770	624.95
6316	316	.102"	50.0	293-3754	105.06	293Q3772	731.65
6400	400	.195"	50.0	293-3756	434.52	293Q3774	3038.58

Low Loss Coaxial Cable with Foam Cellular Polyethylene Dielectric

6008F	8	.405"	50.0	293-3776	103.22	293Q3782	720.63
6058F	58	.195"	50.0	293-3778	26.83	293-3784	222.46
6059F	59	.242"	75.0	293-3780	40.90	293-3786	340.37

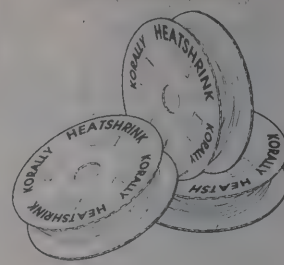
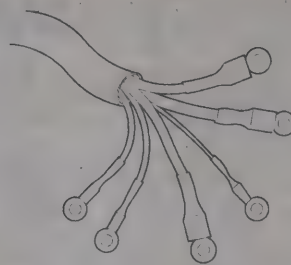
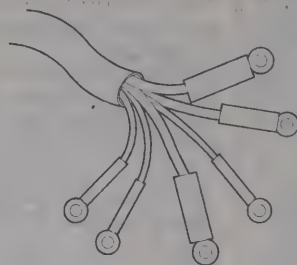
Twinaxial Low-Loss Transmission Line
Designed for use with IBM Systems 34, 36 and AS400 transmission line. Has braided tinned copper shield, black PVC jacket, and twinaxial conductors — 1 tinned, 1 bare copper. **Capacitance:** 15.5 pF/ft. VW-1 UL2498.



Mfr.'s Type	Jacket O.D.	Nom. Impedance	100' Spool		1000' Spool	
			Stock No.	EACH	Stock No.	EACH
6207X	.330"	100	293-3790	87.70	293Q3792	624.75

HIX Irradiated Flexible Polyolefin

HIX is the most popular, general purpose heat-shrinkable tubing used for insulating, jacketing, bundling, and identification. It is mechanically tough, will not cold flow, never melts, and will not split when shrunk over sharp or irregularly shaped objects. **Applicable Specifications:** MIL-I-23053B/5, Classes 1, 2; AMS 3636B, AMS 3637B. **Operating Temperature Range:** -55°C to 135°C (-67°F to 275°F). **Shrink Ratio:** 2 to 1 (50%). **Shrink Temperature:** 121°C (250°F).



4 Foot Lengths

Black		Black*		Clear		Red		Yellow		Blue		White		Size	Inside Diameter		Recovered Nom. Wall Thickness (Inches)	Quantity Per Box	PER BOX
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		Expanded As Supplied (Inches, Min.)	Recovered After Heating (Inches, Max.)			
205-0401	73001	205-0413	73013	205-0425	73025	205-0437	73037	205-0449	73049	205-0461	73061	205-0473	73073	HIX-3/64	.046	.023	.016	100'	29.65
205-0402	73002	205-0414	73014	205-0426	73026	205-0438	73038	205-0450	73050	205-0462	73062	205-0474	73074	HIX-1/16	.063	.031	.017	100'	31.60
205-0403	73003	205-0415	73015	205-0427	73027	205-0439	73039	205-0451	73051	205-0463	73063	205-0475	73075	HIX-3/32	.093	.046	.020	100'	35.80
205-0404	73004	205-0416	73016	205-0428	73028	205-0440	73040	205-0452	73052	205-0464	73064	205-0476	73076	HIX-1/8	.125	.062	.020	100'	37.95
205-0405	73005	205-0417	73017	205-0429	73029	205-0441	73041	205-0453	73053	205-0465	73065	205-0477	73077	HIX-3/16	.187	.093	.020	100'	43.90
205-0406	73006	205-0418	73018	205-0430	73030	205-0442	73042	205-0454	73054	205-0466	73066	205-0478	73078	HIX-1/4	.250	.125	.025	100'	54.90
205-0407	73007	205-0419	73019	205-0431	73031	205-0443	73043	205-0455	73055	205-0467	73067	205-0479	73079	HIX-3/8	.375	.187	.025	100'	62.30
205-0408	73008	205-0420	73020	205-0432	73032	205-0444	73044	205-0456	73056	205-0468	73068	205-0480	73080	HIX-1/2	.500	.250	.025	100'	68.60
205-0409	73009	205-0421	73021	205-0433	73033	205-0445	73045	205-0457	73057	205-0469	73069	205-0481	73081	HIX-3/4	.750	.375	.030	52'	58.60
205-0410	73010	205-0422	73022	205-0434	73034	205-0446	73046	205-0458	73058	205-0470	73070	205-0482	73082	HIX-1	1.000	.500	.035	20'	27.40
205-0411	73011	205-0423	73023	205-0435	73035	205-0447	73047	205-0459	73059	205-0471	73071	205-0483	73083	HIX-1 1/4	1.500	.750	.040	16'	37.10
205-0412	73012	205-0424	73024	205-0436	73036	205-0448	73048	205-0460	73060	205-0472	73072	205-0484	73084	HIX-2	2.000	1.000	.045	12'	38.50

Spools

Black		Black*		Clear		Red		Yellow		Blue		White		Size	Inside Diameter		Recovered Nom. Wall Thickness (Inches)	Quantity Per Spool	PER SPOOL
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		Expanded As Supplied (Inches, Min.)	Recovered After Heating (Inches, Max.)			
205-0485	73085	205-0497	73097	205-0509	73109	205-0521	73121	205-0533	73133	205-0545	73145	205-0557	73157	HIX-3/64	.046	.023	.016	500'	148.25
205-0486	73086	205-0498	73098	205-0510	73110	205-0522	73122	205-0534	73134	205-0546	73146	205-0558	73158	HIX-1/16	.063	.031	.017	500'	158.00
205-0487	73087	205-0499	73099	205-0511	73111	205-0523	73123	205-0535	73135	205-0547	73147	205-0559	73159	HIX-3/32	.093	.046	.020	500'	179.00
205-0488	73088	205-0500	73100	205-0512	73112	205-0524	73124	205-0536	73136	205-0548	73148	205-0560	73160	HIX-1/8	.125	.062	.020	250'	94.90
205-0489	73089	205-0501	73101	205-0513	73113	205-0525	73125	205-0537	73137	205-0549	73149	205-0561	73161	HIX-3/16	.187	.093	.020	250'	109.75
205-0490	73090	205-0502	73102	205-0514	73114	205-0526	73126	205-0538	73138	205-0550	73150	205-0562	73162	HIX-1/4	.250	.125	.025	100'	54.90
205-0491	73091	205-0503	73103	205-0515	73115	205-0527	73127	205-0539	73139	205-0551	73151	205-0563	73163	HIX-3/8	.375	.187	.025	100'	62.30
205-0492	73092	205-0504	73104	205-0516	73116	205-0528	73128	205-0540	73140	205-0552	73152	205-0564	73164	HIX-1/2	.500	.250	.025	100'	68.60
205-0493	73093	205-0505	73105	205-0517	73117	205-0529	73129	205-0541	73141	205-0553	73153	205-0565	73165	HIX-3/4	.750	.375	.030	50'	56.35
205-0494	73094	205-0506	73106	205-0518	73118	205-0530	73130	205-0542	73142	205-0554	73154	205-0566	73166	HIX-1	1.000	.500	.035	50'	62.85
205-0495	73095	205-0507	73107	205-0519	73119	205-0531	73131	205-0543	73143	205-0555	73155	205-0567	73167	HIX-1 1/2	1.500	.750	.040	25'	57.95
205-0496	73096	205-0508	73108	205-0520	73120	205-0532	73132	205-0544	73144	205-0556	73156	205-0568	73168	HIX-2	2.000	1.000	.045	25'	80.20

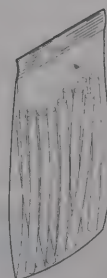
Mini Spools

Black		Black*		Clear		Red		Yellow		Blue		White		Green		Size	Quantity Per Spool	PER SPOOL
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			
205-0569	73169	205-0632	73232	205-0578	73178	205-0596	73196	205-0605	73205	205-0614	73214	205-0587	73187	205-0623	73223	HIX-1/16	70'	21.95
205-0570	73170	205-0633	73233	205-0579	73179	205-0597	73197	205-0606	73206	205-0615	73215	205-0588	73188	205-0624	73224	HIX-3/32	65'	21.95
205-0571	73171	205-0634	73234	205-0580	73180	205-0598	73198	205-0607	73207	205-0616	73216	205-0589	73189	205-0625	73225	HIX-1/8	60'	21.95
205-0572	73172	205-0635	73235	205-0581	73181	205-0601	73201	205-0608	73208	205-0617	73217	205-0590	73190	205-0626	73226	HIX-3/16	50'	21.95
205-0573	73173	205-0636	73236	205-0582	73182	205-0600	73200	205-0609	73209	205-0618	73218	205-0591	73191	205-0627	73227	HIX-1/4	40'	21.95
205-0574	73174	205-0637	73237	205-0583	73183	205-0601	73201	205-0610	73210	205-0619	73219	205-0592	73192	205-0628	73228	HIX-3/8	35'	21.95
205-0575	73175	205-0638	73238	205-0584	73184	205-0602	73202	205-0611	73211	205-0620	73220	205-0593	73193	205-0629	73229	HIX-1/2	32'	21.95
205-0576	73176	205-0639	73239	205-0585	73185	205-0603	73203	205-0612	73212	205-0621	73221	205-0594	73194	205-0630	73230	HIX-3/4	24'	21.95
205-0577	73177	205-0640	73240	205-0586	73186	205-0604	73204	205-0613	73213	205-0622	73222	205-0595	73195	205-0631	73231	HIX-1	16'	21.95

*UL, CSA Printed.

HIX — Color Assortments

6" pieces of 10 standard colors plus Clear, 11 pieces per pack. Great for wire identification and color coding. Packaged in resealable plastic bags.



Stock No.	Mfr.'s Type	Size	EACH
205-0641	73241	1/16	3.50
205-0642	73242	3/32	4.00
205-0643	73243	1/8	4.30
205-0644	73244	3/16	4.80
205-0645	73245	1/4	5.80
205-0646	73246	3/8	6.40

ICO-FLEX Expandable Sleeving

- Lightweight
- Flexible
- Easy To Install
- Abrasion Resistant
- Removable For Repair
- Flame Retardant

ICO-FLEX is a lightweight, self-fitting, polyester, monofilament sleeving, designed to encapsulate and protect cable bundles and wire assemblies. ICO-FLEX expandable sleeving adjusts to irregular surfaces and contours providing abrasion resistance and protection with a minimum of bulk and weight. Sleeving is marked with Flame Retardant Identification tracers.



Black		White		Size	Size Range (Inches)	Quantity Per Spool	PER SPOOL
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type				
205-0647	73247	205-0654	73254	XPF-1/8	3/32-1/8	100'	24.50
205-0648	73248	205-0655	73255	XPF-1/4	1/8-1/4	100'	36.00
205-0649	73249	205-0656	73256	XPF-1/2	1/4-1/2	100'	70.50
205-0650	73250	205-0657	73257	XPF-3/4	1/2-3/4	100'	103.55
205-0651	73251	205-0658	73258	XPF-1 1/4	3/4-1 1/2	50'	65.00
205-0652	73252	205-0659	73259	XPF-1 3/4	1 1/4-2 1/2	50'	105.00
205-0653	73253	205-0660	73260	XPF-2	1 1/2-3	50'	148.00

Hook-Up, Speaker Wires, Flat Braid and bus Bar

Olympic

Teflon and Hook-Up Wire

Type E Extruded Teflon Wire

Mfr.'s Type	AWG	Strand	Nom. O.D.	500'			1000'		
				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
302*	28	7/36	.036"	876-126N	1.0	49.98	876-127N	1.6	99.96
303*	26	7/34	.040"	876-128N	1.0	45.90	876-129N	2.0	91.80
304*	26	19/38	.041"	876-130N	1.0	53.04	876-131N	2.0	106.08
305*	24	19/36	.045"	876-132N	2.0	59.16	876-133N	2.8	118.32
306*	24	7/32	.044"	876-134N	3.0	51.00	876-135N	2.8	102.00
307*	22	19/34	.051"	876-136N	3.0	68.34	876-137N	3.7	136.68
308*	22	7/30	.050"	876-138N	2.0	60.18	876-139N	3.7	120.36
309*	20	19/32	.059"	876-140N	3.0	85.68	876-141N	5.5	171.36
310*	20	7/28	.058"	876-142N	3.0	77.52	876-143N	5.5	155.04
311*	18	19/30	.070"	876-144N	3.0	117.30	876Q145N	6.0	234.60
312*	16	19/29	.077"	876Q146N	4.0	163.20	876Q147N	8.0	326.40
313	14	19/27	.094"	876Q148N	8.0	209.10	876Q149N	16.1	418.20
314	12	19/25	.113"	876Q150N	12.0	316.26	876Q151N	23.5	632.40
315	10	37/26	.134"	876Q152N	18.0	453.90	876Q153N	35.0	907.80

100' Lengths Available as Non-Cancelable, Non-Returnable. *UL 1213 only supplied if specified when ordering.

UL 1007/UL 1569 Hook-Up Wire

350	24	7/32	.057"	876-100N	3.0	17.34	876-101N	2.8	34.68
351	22	7/30	.065"	876-102N	2.0	20.91	876-103N	3.8	41.82
353	20	10/30	.071"	876-104N	3.0	27.54	876-105N	5.0	55.08
355	18	16/30	.080"	876-106N	4.0	32.64	876-107N	7.2	65.28
357	16	26/30	.095"	876-108N	6.0	52.02	876-109N	10.8	104.04

UL 1015

361	22	7/30	.095"	876-110N	3.0	20.40	876-111N	6.0	40.80
362	20	10/30	.102"	876-112N	4.0	28.56	876-113N	7.5	57.12
363	18	16/30	.112"	876-114N	5.0	33.66	876-115N	9.9	67.32
364	16	26/30	.125"	876-116N	7.0	48.96	876-117N	13.8	97.92
365	14	41/30	.142"	876-118N	10.0	70.38	876-119N	20.0	140.76
366	12	65/30	.158"	876-120N	16.0	116.28	876Q121N	31.2	232.56
367	10	105/30	.183"	876Q122N	22.0	175.00	876Q123N	44.0	346.80
368	8	133/29	.250"	876Q124N	37.0	294.78	876Q125N	73.8	589.56



THHN/TFFN Wire

Stranded bare copper conductor, color coded, PVC insulation, nylon sheath. 600 V, 90°C. Gas and oil resistant. Stocked Colors: 1-4 and 6.

Substitute color number for "N" in stock number. 0 — Violet; 1 — White; 2 — Black; 3 — Red; 4 — Green; 5 — Yellow; 6 — Blue; 7 — Orange; 8 — Slate; 9 — Brown.

Stock No.	AWG	Strand	Ins. Thickness	Nylon Sheath	O.D.	Amp Impacity	Wt. Lbs.	PER 500'
876-154N	16	26	.015"	.004"	.100	10	3.0	44.80
876-155N	14	19	.015"	.004"	.110	15	4.0	50.00
876-156N	12	19	.015"	.004"	.130	20	6.0	73.00
876-157N	10	19	.020"	.004"	.170	30	10.0	115.00
876Q158N	6	19	.030"	.005"	.220	50	16.0	183.60

Conductor Speaker Wire

UL 1007 2-Conductor Speaker Wire

300 V. Tinned copper, vinyl insulated.

Mfr.'s Type	AWG	Strand	Nom. O.D.	Color Code	500'			1000'		
					Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
2370	18	16/30	.180"	Black/White	876-1600	9	83.64	876-1601	18.0	161.16
2372	16	19/29	.204"	Black/White	876-1604	13	117.30	876-1605	25.0	228.48
2373	16	19/29	.206"	Orange/Black	876-1608	13	122.40	876-1609	25.8	242.76

UL 1007 3-Conductor Speaker Wire

300 V. Tinned copper, vinyl insulated.

Mfr.'s Type	AWG	Strand	Nom. O.D.	Color Code	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
2375	16	19/29	.220"	Orange/Black Orange w/Black stripe	876-1612	19	175.44	876Q1613	37.4	442.28

Tinned Copper Flat Braid and Bus Bar

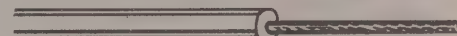
Flat Braid. Woven braid of tinned copper strands rolled flat. Use where top flexibility and low-volt/high current capacity are needed. Often used for grounding and as bonding straps or in connections to moving parts.

Mfr.'s Type	Nom. Flat Width	Nom. Thick	AWG Indiv. Ends	Total No. Of Indiv. Ends	Current Cap	100'		500'		1000'	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
701	1/2"	.020"	36	16	6	876-4139	26.00	876-4140	80.00	876-4141	144.00
702	3/4"	.020"	36	24	7	876-4142	28.00	876-4143	88.00	876-4144	156.00
703	3/2"	.020"	36	48	11	876-4145	36.00	876-4146	110.00	876-4147	166.00
704	1 1/2"	.020"	36	72	16	876-4148	42.00	876-4149	115.00	876-4150	190.00
705	3/4"	.020"	36	120	25	876-4151	48.96	876-4152	175.00	876Q4153	264.00
706	1 1/4"	.030"	36	168	32	876-4154	56.00	846-4155	205.00	876Q4156	313.00
707	3/4"	.030"	36	288	46	876-4157	101.85	876Q4158	366.66	876Q4159	534.00
708	1 1/2"	.030"	36	384	53	876-4160	94.00	876Q4161	346.29	876Q4162	509.00
709	3/4"	.030"	36	384	53	876-4163	98.00	876Q4164	336.00	876Q4165	450.00
710	3/4"	.040"	36	832	85	876-4166	190.00	876Q4167	765.00	876Q4168	1387.20
711	1"	.045"	36	832	85	876-4169	195.00	876Q4170	700.00	876Q4171	1034.00

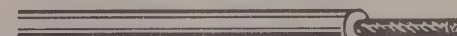
Substitute color number for "N" in stock number.

- 0 — VIOLET
- 1 — WHITE
- 2 — BLACK
- 3 — RED
- 4 — GREEN
- 5 — YELLOW
- 6 — BLUE
- 7 — ORANGE
- 8 — SLATE
- 9 — BROWN

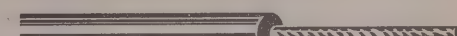
Other colors available by special order.



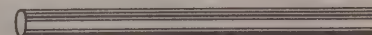
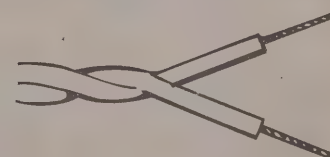
Type E. Single conductor stranded silver plated copper, extruded TFE Teflon insulation. -65°C to +200°C. Voltage Rating: 600 V. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.



U.L. Style 1007. CSA Style TR-64 MIL-W-76B. 300 V, 80°C. Stranded tinned copper, color coded, medium wall polyvinylchloride insulation. -40°C to +105°C. Resistant to acids, alkalis, oil, flame, moisture, and fungus.



U.L. Style 1015. CSA Style TEW. 600 V, 105°C. Stranded tinned copper, color coded, polyvinylchloride insulation. -55°C to +105°C. Resistant to acids, alkalis, oil, flame, moisture, and fungus.



Bus Bar. Pure electrolytic, soft-drawn solid copper properly annealed and tinned. Used for coil windings, antennas, component leads, bus bar, ground wire, and point-to-point wiring. MIL-W-3861, QQ-W-343-Type S. ASTM-B-33 specs

Stock No.	Mfr.'s Type	Conductor Size (AWG)	Nom. O.D.	PER 1000'
876-4172	749	32	.008"	9.36
876-4173	750	30	.010"	10.87
876-4174	751	28	.013"	12.42
876-4175	752	26	.016"	19.48
876-4176	753	24	.020"	24.48
876-4177	754	22	.025"	30.56
876-4178	755	20	.033"	42.84
876-4179	756	18	.040"	63.74
876-4180	757	16	.051"	91.80
876-4181	758	14	.065"	140.76
876-4182	759	12	.082"	147.88

Letter "Q" In Stock Number Indicates Direct Factory Shipment To You

ALLIED ► 1105

17

High Temperature Lead Wire

Type TGGT — UL Style 5251, CSA Type C3; 250°C, 600 Volts

► UL Listed and CSA

Flexible, stranded, 10% nickel-plated copper conductor. Teflon® (TFE) tape wrapped, ceramic tape insulation. Teflon impregnated glass braid jacket (tan), optional colors available on request. The ceramic tape insulation combines high dielectric strength with excellent flexibility and ease of stripping to achieve a lead wire of superior resistance to high temperatures, abrasion, chemicals and moisture. For internal wiring of heating equipment and heat producing appliances in domestic, industrial and cooking applications. **Nominal Thicknesses.** TFE Tape: All sizes .015". Insulation: 24-8 AWG .010", 6-4/0 AWG .015". Jacket: 24-08 AWG .005", 6-2 AWG .0075", 1-4/0 AWG .010".

Mfr.'s Type	Conductor AWG	Conductor Stranding	Nom. O.D.	Nom. Bend Radius	PER 500' SPOOL		PER 1000' SPOOL	
					Stock No.	EACH	Stock No.	EACH
530	24	7 × 32	.085"	.51"	876Q3000	221.34	876Q3034	442.68
531	22	7 × 30	.090"	.54"	876Q3002	233.58	876Q3036	467.16
532	20	10 × 30	.100"	.60"	876Q3004	261.12	876Q3038	512.00
533	18	16 × 30	.110"	.66"	876Q3006	273.36	876Q3040	536.00
534	16	26 × 30	.120"	.72"	876Q3008	319.26	876Q3042	626.00
535	14	41 × 30	.140"	1.12"	876Q3010	383.52	876Q3044	752.00
536	12	65 × 30	.160"	1.28"	876Q3012	476.34	876Q3046	934.00
537	10	105 × 30	.185"	1.48"	876Q3014	661.98	876Q3048	1298.00
538	8	133 × 29	.230"	2.30"	876Q3016	1275.00	876Q3050	2250.00
539	6	133 × 27	.285"	2.85"	876Q3018	1688.10	876Q3052	3310.00
540	4	133 × 25	.340"	4.08"	876Q3020	2212.38	876Q3054	4338.00
541	2	133 × 23	.410"	4.92"	876Q3022	3291.54	876Q3056	6454.00
542	1	259 × 25	.470"	5.64"	876Q3024	5840.00	876Q3058	11680.00
543	1/0	259 × 24	.515"	6.18"	876Q3026	6590.00	876Q3060	13180.00
544	2/0	259 × 23	.570"	6.84"	876Q3028	8750.00	876Q3062	17500.00
545	3/0	259 × 22	.625"	7.50"	876Q3030	10700.00	876Q3064	21400.00
546	4/0	259 × 21	.690"	8.28"	876Q3032	11800.00	876Q3066	23600.00

Type MG — UL Style 5107; 450°C, 600 Volts

► UL Listed, CSA Applied For

Flexible, stranded, 27% nickel-plated copper conductor. Glass reinforced mica tapes insulation. Glass braid jacket impregnated with high temperature finisher (tan), optional colors available on request. Superior resistance to high temperature and the effects of radiation, insulating materials retain their integrity after exposure to 10¹² Roentgens of radiation. For wiring in ovens and other high temperature equipment where temperatures do not exceed 450°C. **Nominal Thicknesses.** Insulation: 24-8 AWG .025", 10-4 AWG .030", 2-4/0 AWG .035". Jacket: 22-12 AWG .007", 10-4 AWG .015", 2-4/0 AWG .020".

Mfr.'s Type	Conductor AWG	Conductor Stranding	Nom. O.D.	Nom. Bend Radius	PER 500' SPOOL		PER 1000' SPOOL	
					Stock No.	EACH	Stock No.	EACH
500	22	7 × 30	.10"	.60"	876Q3070	325.00	876Q3100	650.00
501	20	10 × 30	.11"	.66"	876Q3072	343.00	876Q3102	686.00
502	18	16 × 30	.12"	.72"	876Q3074	379.00	876Q3104	758.00
503	16	26 × 30	.13"	.78"	876Q3076	463.00	876Q3106	926.00
504	14	41 × 30	.14"	1.12"	876Q3078	646.00	876Q3108	1292.00
505	12	65 × 30	.15"	1.20"	876Q3080	783.00	876Q3110	1566.00
507	8	133 × 29	.26"	2.60"	876Q3082	1879.00	876Q3112	3758.00
508	6	133 × 27	.31"	3.10"	876Q3084	2808.00	876Q3114	5616.00
509	4	133 × 25	.36"	4.32"	876Q3086	4360.00	876Q3116	8720.00
510	2	133 × 23	.45"	5.40"	876Q3088	6029.00	876Q3118	12058.00
511	1	259 × 25	.50"	6.00"	876Q3090	11400.00	876Q3120	22800.00
512	1/0	259 × 24	.54"	6.48"	876Q3092	12500.00	876Q3122	25000.00
513	2/0	259 × 23	.60"	7.20"	876Q3094	15000.00	876Q3124	30000.00
514	3/0	259 × 22	.66"	7.92"	876Q3096	18100.00	876Q3126	36200.00
515	4/0	259 × 21	.72"	8.64"	876Q3098	20300.00	876Q3128	40600.00

Retractable Cords

Unshielded Neoprene Jacket Power Cords

- Retracted Lengths 1, 2 and 4 Feet
► Extended Lengths 5, 10 and 20 Feet



Long-lasting service is assured with this quality multiconductor power cord. Each conductor is stranded copper, with rubber insulation, and a rugged weather and oil resistant neoprene jacket overall. Used on electric tools, portable drills, soldering irons; electrical appliances, household appliances, etc., to eliminate loose hanging wires and to prevent wires from tangling and twisting. **Suggested Operating Temperature:** -20°C to +60°C. **Conductor Color Code:** 1 — Black; 2 — White; 3 — Green; 4 — Red.

No. of Cond.	Cond. Size	Cond. Strand	UL Type	Amp Rating	Nom. O.D. Cord	Nom. O.D. Cord	PER 1' LENGTHS			PER 2' LENGTHS			PER 4' LENGTHS		
							Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH	Stock No.	Mfr.'s Type	EACH
2	18	41/34	SVO	7.0†	7/8"	.260"	876-3210	6310	16.80	—	—	—	—	—	—
3	18	41/34	SJO	7.0†	13/16"	.360"	876-3210	6311	29.80	—	—	—	—	—	—
3	16	65/34	SJO	10.0†	7/16"	.390"	876-3214	6312	29.40	—	—	—	—	—	—
2	18	41/34	SVO	7.0†	7/8"	.260"	—	—	—	876-3220	6313	29.70	876-3250	6314	57.20
3	18	41/34	SVO	7.0†	1"	.275"	—	—	—	876-3222	6315	38.00	876-3252	6316	69.00
2	18	41/34	SJO	7.0†	13/16"	.320"	—	—	—	876-3224	6350	30.70	876-3254	6351	62.86
3	18	41/34	SJO	7.0†	13/16"	.250"	—	—	—	876-3226	6317	44.20	876-3256	6318	78.60
4*	18	41/34	SJO	4.6†	17/16"	.385"	—	—	—	876-3228	6319	49.80	876-3258	6320	89.64
2	16	65/34	SJP	10.0†	13/8"	.360"	—	—	—	876-3230	6352	41.20	876-3260	6353	74.40
3	16	65/34	SJO	10.0†	17/16"	.360"	—	—	—	876-3232	6321	53.20	876-3262	6322	100.40
4*	16	65/34	SJO	8.0†	1 1/2"	.425"	—	—	—	876-3234	6354	62.86	876-3264	6355	119.30
3	16	65/34	SO	10.0†	1 13/16"	.470"	—	—	—	876-3236	6356	68.50	876-3268	6357	129.20
4*	16	65/34	SO	8.0†	1 7/8"	.500"	—	—	—	876-3238	6358	78.50	876-3270	6359	146.30
3	14	41/30	SO	15.0†	2 1/8"	.560"	—	—	—	876-3240	6360	88.72	876-3272	6361	165.60
4*	14	41/30	SO	12.0†	2 1/4"	.605"	—	—	—	876-3242	6362	91.50	876-3274	6363	172.40

* If all four conductors normally carry current, amp rating is as shown. If one lead is used as a ground, amp rating is the same as 2 and 3 conductor cords. † Voltage Rating: 300. ‡ Voltage Rating: 600.

Thermocouple Wire and Extension Wire

A thermocouple is made by the joining together of two dissimilar metal conductors. When the temperature changes at the joint between the two conductors, a voltage is generated. By transmitting that voltage to a special meter, those temperature changes may be monitored and, if desired, recorded. This process is most useful in process instrumentation where monitoring is essential.



ISA Standards

Wire Type	Calibration Temperature	Standard Limits of Error	Wire Type	Calibration Temperature	Standard Limits of Error
J	0° to 530°F	±4°F	E	0° to 600°F	±3%
	530° to 1400°F	±3/4%		600° to 1400°F	±1/2%
K	0° to 530°F	±4°F	JX	400°F	±4°F
	530° to 2300°F	±3/4%	KX	400°F	±4°F
T	-150° to -75°F	±2%	TX	200°F	±1 1/2°F
	-75° to 200°F	±1 1/2°F	EX	400°F	±3%
	200° to 700°F	±3/4%	—	—	—

ISA/ANSI Color Code

Type		Positive Wires		Negative Wires		Overall Jacket		
Grade	Extension					Grade	Tracer	Extension
J	JX	Iron	White	Constantan	Red	Brown	Black	Black
K	KX	Chromel	Yellow	Alumel	Red	Brown	Yellow	Yellow
T	TX	Copper	Blue	Constantan	Red	Brown	Blue	Blue
E	EX	Chromel	Purple	Constantan	Red	Brown	Purple	Purple
—	RX, SX	Copper	Black	Alloy #11	Red	—	—	Green

Duplex Extension Wire

Solid or stranded alloy wire matched and calibrated to standard limits of error per ASA C96.1. Interconnection of thermocouples to temperature recording apparatus.

Mfr.'s Type	ANSI Type	Cond. AWG	Cond. Strand	Cond. Insul./ Jacket Mat'l.	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
						Stock No.	EACH	Stock No.	EACH
1011	JX	20	ONE	PVC	.084" × .142"	876Q3130	265.00	876Q3152	530.00
1012	EX	16	ONE	PVC	.121" × .201"	876Q3132	278.00	876Q3154	556.00
1014	JX	16	ONE	*	.081" × .142"	876Q3134	510.00	876Q3156	1020.00
1015	JX	16	ONE	FEP	.091" × .161"	876Q3136	588.00	876Q3158	1176.00
1016	JX	20	ONE	PVC	.100" × .163"	876-3138	138.00	876Q3160	276.00
1021	KX	16	ONE	PVC	.121" × .201"	876Q3140	428.40	876Q3162	530.00
1023	KX	16	ONE	*	.081" × .142"	876Q3142	574.00	876Q3164	1148.00
1024	KX	20	ONE	PVC	.100" × .163"	876Q3144	222.00	876Q3166	444.00
1024F	KX	20	7/28	PVC	.090" × .154"	876Q3146	397.00	876Q3168	794.00
1030	TX	16	ONE	PVC	.121" × .201"	876Q3148	272.00	876Q3170	544.00
1031	TX	20	ONE	PVC	.100" × .163"	876-3150	135.00	876Q3172	270.00

Duplex Thermocouple Wire Grade

Solid or stranded alloy wire matched and calibrated to standard limits of error per ASA C96.1. For primary thermocouple fabrication and interconnection of thermocouples to temperature recording apparatus.

Mfr.'s Type	ANSI Type	Cond. AWG	Cond. Strand	Cond. Insul./ Jacket Mat'l.	Nom. O.D.	Nom. O.D.	PER 500' SPOOL	PER 1000' SPOOL	PER 1000' SPOOL
1102	J	20	ONE	*	.064" × .109"	876Q3180	303.00	876Q3194	606.00
1102F	J	20	7/28	*	.090" × .154"	876Q3182	385.00	876Q3194	770.00
1105	J	20	ONE	FEP	.072" × .124"	876Q3184	348.00	876Q3198	696.00
1112	K	20	ONE	*	.065" × .109"	876Q3186	407.00	876Q3200	814.00
1112F	K	20	7/28	*	.090" × .154"	876Q3188	574.00	876Q3202	1148.00
1115	K	20	ONE	FEP	.072" × .124"	876Q3190	460.00	876Q3204	920.00
1125	T	20	ONE	FEP	.072" × .124"	876Q3192	356.00	876Q3206	712.00

* Silicone varnish impregnated glass braid.

Coaxial Cable

Polyethylene Dielectric Flexible RG-Type



Mfr.'s Type	RG Type	Impedance Ohms	Inner Conductor			Shield		Jacket		100' SPOOL		500' SPOOL		1000' SPOOL	
			Mat.'l	Strand	AWG	Mat.'l Inner	Mat.'l Outer	Mat.'l	O.D. (In.)	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
6246R*	6U	75.0	C	Solid	18	F	TC	Black V	.270	876-9700	40.74	876Q9730	124.26	876Q9760	277.04
5237	8U	52.0	C	7/21	13	C	—	Black V	.415	876-9701	93.71	876Q9731	320.83	876Q9761	630.00
5254	8A/U	52.0	C	7/21	13	C	—	Black NCV	.415	876-9702	126.30	876Q9732	458.33	876Q9762	865.73
5238	11/U	75.0	TC	7/26	18	C	—	Black V	.415	876-9703	71.30	876Q9733	249.54	876Q9763	484.81
5240R*	58/U	53.5	C	Solid	20	TC	—	Black V	.200	876-9704	32.60	876Q9734	117.13	876Q9764	226.11
5259	58A/U	50.0	TC	19/32	20	TC	—	Black V	.199	876-9705	30.56	876Q9735	117.13	876Q9765	222.04
5262	58C/U	50.0	TC	19/32	20	TC	—	Black NCV	.199	876-9706	30.56	876Q9736	117.13	876Q9766	222.04
6244R*	59/U	73.0	CW	Solid	22	C	—	Black V	.242	876-9707	36.57	876Q9737	112.04	876Q9767	213.84
6244TF	59/U	75.0	C	Solid	20	C	—	Teflon	.220	876-9708	90.00	876Q9738	340.00	876Q9768	650.00
5263	59B/U	75.0	CW	Solid	23	C	—	Black NCV	.242	876-9709	32.60	876Q9739	117.13	876Q9769	224.07
6555T	Dual 59B/U	75.0	CW	Solid	23	C	—	Teflon	.230 x .430	876-9710	176.00	876Q9740	880.00	876Q9770	1680.00
6269R*	62A/U†	93.0	CW	Solid	22	C	—	Black V	.242	876-9711	32.60	876Q9741	117.13	876Q9771	199.63
6269TF	62A/U	93.0	C	Solid	22	C	—	Teflon	.222	876-9713	76.67	876Q9743	310.00	876Q9773	600.00
5216	174/U	50.0	CW	7/34	26	C	—	Black V	.105	876-9714	21.67	876Q9744	82.00	876Q9774	164.00
5267	213/U	50.0	C	7/21	13	C	—	Black NCV	.405	876-9715	101.85	876Q9745	387.03	876Q9775	753.64
5268	214/U	50.0	SC	7/21	13	SC	SC	Black NCV	.425	876-9716	387.03	876Q9746	1833.30	876Q9776	3666.60
6273	223/U	50.0	SC	Solid	19	SC	SC	Black NCV	.212	876-9717	138.52	876Q9747	499.07	876Q9777	967.58

*Type CL2. †UL 1478. **Material Code:** C — bare copper; TC — tinned copper; SC — silver covered copper; V — polyvinylchloride, Type 1; NVC — non contaminating polyvinylchloride, Type 2; 2X — double shield; CW — copper covered steel (copperweld); AM — Aluminum/Mylar Tape; O — Cellular (foam) polyethylene.

Fire Alarm Economy Grade Cable

- ▶ Power Limited
- ▶ 60°C-300 Volts
- ▶ Fire-Protective Signaling Cable Riser Rated

Unshielded

Solid bare copper, vinyl insulated, conductors cabled, red vinyl jacket. UL Classified FPLR, Article 760.

Stock No.	Mfr.'s Type	Number of Conductors	AWG Size	Insul. Thickness	Jacket Thickness	Nom. O.D.	PER 1000'
876-5142	3106L	2	18	.010"	.020"	.180"	124.44
876-5144	3109L	4	18	.010"	.020"	.200"	210.12
876Q5146	3109/6	6	18	.010"	.024"	.254"	326.40
876Q5148	3109/8	8	18	.010"	.025"	.268"	448.80
876Q5150	3112L	2	16	.013"	.020"	.206"	177.48
876Q5152	3115L	4	16	.013"	.023"	.271"	324.36
876Q5154	3118L	2	14	.013"	.020"	.230"	273.36
876Q5156	3119L	4	14	.013"	.025"	.267"	507.96
876Q5158	3122L	2	12	.015"	.025"	.272"	493.68

Shielded

Solid bare copper, vinyl insulated, with aluminum mylar shield and #22-7 tinned copper drain wire, red vinyl jacket.

Stock No.	Mfr.'s Type	Number of Conductors	AWG Size	Insul. Thickness	Jacket Thickness	Nom. O.D.	PER 1000'
876-5160	3108L	2	18	.010"	.020"	.180"	157.08
876Q5164	3110/6	6	18	.010"	.024"	.254"	354.96
876Q5166	3110/8	8	18	.010"	.025"	.268"	479.40
876Q5168	3114L	2	16	.013"	.020"	.206"	222.36
876Q5170	3116L	4	16	.013"	.023"	.271"	377.40
876Q5172	3120L	2	14	.013"	.020"	.230"	369.24
876Q5174	3124L	2	12	.013"	.025"	.272"	516.12

Color Code: Black, Red, White, Green, Orange, Blue, Brown, Yellow.

Plenum Cable Fire Alarm



- ▶ UL Classified FPLP NEC 760

Unshielded

Solid soft bare copper, insulated with extruded insulation, cabled, with a TFE binder tape, overall Red jacket.

Shielded

Solid soft bare copper, insulated with extruded insulation, cabled, aluminum mylar shield and tinned copper drain wire, overall Red jacket. **Color Code:** Black, White, Red, Green, Brown, Blue, Orange, Yellow.

Lamp Cord/Speaker Cable

Speaker Cable

For use in High Definition Speaker Systems, provides a cable with low capacitance and allows it to be used with all amplifiers as opposed to other specialized high capacitance speaker wires, which cause high frequency oscillation in amplifiers.



Stock No.	Mfr.'s Type	Number of Conductors	Conductor		Nom. O.D.	PER 500'
			AWG	Stranding		
876Q5112	2391	2	10	413 x 36	.240" x .485"	459.00
876Q5114	2392	2	12	259 x 36	.200" x .415"	390.00
876Q5116	2393	2	14	168 x 65	.200" x .415"	358.00
876Q5118	2394	2	16	105 x 36	.160" x .335"	177.00

Lamp Cord

Stranded bare copper conductors. UL Class II 60°C type VW-1 flame retardant PVC, rip type construction for easy separation of conductors, one conductor ribbed for polarity i.d., surface printed with manufacturer's UL identifying code and wire gage. **Applications:** For use with fans, lamps, hanging fixtures, radios, TV sets, stereo and HiFi, small appliances and other applications. **Packaging:** All SPT-1 and SPT-2 wires available on bulk reels.

Stock No.	Mfr.'s Type	Current Rating	Conductor		UL Type	Nom. O.D.	Avail. Colors*	PER 250'
			AWG	Stranding				
876Q5120	2395	10	18	41 x 34	SPT-1	.105" x .210"	1-4	39.00
876Q5122	2396	10	18	41 x 34	SPT-2	.145" x .300"	1-3	47.45
876Q5124	2397	13	16	65 x 34	SPT-2	.155" x .310"	1-4	58.00
876-5126	2398	4	24	7 x 32	—	.050" x .120"	4	11.45

Available Colors: 1=Brown, 2=White, 3=Black, 4=Clear.

Unshielded

Mfr.'s Type	No. of Cond.	Cond. AWG	Cond. Strand	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
					Stock No.	EACH	Stock No.	EACH
3752-760	2	18	1	.139"	876-3810	102.00	876-3832	192.00
3754-760	4	18	1	.164"	876-3812	187.68	876Q3834	306.00
3757-760	4	16	1	.160"	876Q3814	224.40	876Q3836	406.00
3758-760	2	16	1	.189"	876-3816	155.04	876Q3838	252.00
3784-760	2	14	1	.186"	876-3818	173.40	876Q3840	314.16
3122T	2	12	1	.230"	876Q3820	308.00	876Q3842	616.00

Shielded

Mfr.'s Type	No. of Cond.	Cond. AWG	Cond. Strand	Nom. O.D.	PER 500' SPOOL	PER 1000' SPOOL
3762-760	2	18	1	.146"	876-3822	876Q3844
3774-760	4	18	1	.171"	876-3824	876Q3846
3782-760	2	16	1	.167"	876-3826	876Q3848
3783-760	4	16	1	.196"	876Q3828	876Q3850
3760-760	2	14	1	.193"	876Q3830	876Q3852

Single Pair Cable — Type CM

2875



Aluminum Mylar Shield. 22 AWG, Strand Conductors, Tinned copper. Vinyl insulated, stranded tinned copper drain wire, chrome vinyl jacket. **Temperature Rating:** -20°C to +80°C. 300 V. UL 2464.

Mfr.'s Type	No. of Conductors	Nom. O.D.	500'		1000'		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2970	2	.178"	876-4000	87.72	876-4001	19	157.08

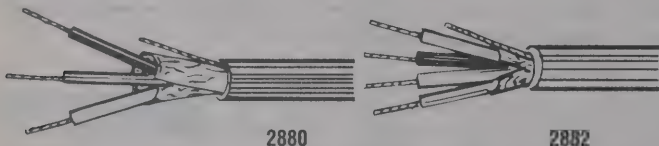
Polypropylene insulated, 24 AWG, stranded tinned copper drain wire. Black or gray vinyl jacket. **Temperature Rating:** -55°C to +105°C. 200 V.

2875	2	.135"	876-4002	74.00	876-4003	15	144.84
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Polyethylene insulated, 22 AWG, stranded tinned copper drain wire. Chrome vinyl jacket. **Temperature Rating:** -20°C to +60°C. 350 V. UL 2092.

2877	2	.175"	876-4004	95.00	876-4005	16	173.40
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Multi-Conductor Cable — Type CM



Aluminum Mylar Shield. 22 AWG, Strand Conductors, Tinned Copper. Conductors Cabled.

Polypropylene insulated, stranded tinned copper drain wire. Brown vinyl jacket. **Temperature Rating:** -20°C to +80°C. 200 V.

Mfr.'s Type	No. of Conductors	Nom. O.D.	500'		1000'		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2879	3	.145"	876-4008	110.00	876-4009	18	212.00

Polyethylene insulated, 22 AWG, stranded tinned copper drain wire. Gray vinyl jacket. **Temperature Rating:** -20°C to +80°C. 350 V. UL 2093.

2880	3	.183"	876-4010	110.00	876-4011	21	195.84
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Polyethylene insulated, 22 AWG, stranded tinned copper drain wire. Gray vinyl jacket. **Temperature Rating:** -20°C to +60°C. 350 V. UL 2094.

2882	4	.215"	876-4012	150.00	876-4013	30	275.40
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Shielded Multi-Conductor Cable

► 22 Gauge (7 × 30)

► CSA Certified, AWM T2 FT1



Tinned copper, vinyl insulated, conductors cabled, aluminum mylar shield with 24 AWG stranded tinned copper drain wire, chrome vinyl jacket. **Temperature Rating:** -20°C to +80°C. UL 2464.

Stock No.	Mfr.'s Type	No. of Conductors	Nom. Wall Thickness	Nom. Jacket Thickness	Nom. O.D.	Nom. Cap. pF/ft.	PER 1000'
876Q5101	2005SHD	5	.010"	.035"	.212"	35	232.56
876Q5102	2006SHD	6	.010"	.035"	.227"	35	281.52
876Q5103	2007SHD	7	.010"	.035"	.230"	35	312.12
876Q5104	2008SHD	8	.010"	.035"	.242"	35	324.36
876Q5105	2009SHD	9	.010"	.035"	.259"	35	367.20
876Q5106	2010SHD	10	.010"	.035"	.260"	35	422.28
876Q5107	2012SHD	12	.010"	.035"	.286"	35	491.64
876Q5108	2015SHD	15	.010"	.035"	.301"	35	544.68
876Q5109	2020SHD	20	.010"	.035"	.335"	35	846.60
876Q5110	2025SHD	25	.010"	.040"	.370"	35	997.56

Sound/Broadcast Audio and Instrumentation Cables — Type CM



20 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated, 20 AWG stranded tinned copper drain wire with chrome vinyl jacket. 300 V. **Temperature Rating:** -20°C to +60°C.

Mfr.'s Type	No. of Cond.	Strand	Nom. O.D.	500'		1000'		
				Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2881*†	2	7/28	.204"	876-4101	102.00	876-4102	24	181.56
2883*†	2	10/30	.186"	876-4104	127.50	876-4105	20	220.00
2884*	3	7/28	.208"	876-4107	132.60	876-4108	29	246.84
2887*	4	10/30	.225"	876-4110	185.00	876Q4111	38	328.00

*2 Cond. UL 2092, 3 Cond. UL 2093, 4 Cond. UL 2094. †Twisted pair.

18 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated, 20 AWG drain wire with chrome vinyl jacket. 300 V. **Temperature Rating:** -20°C to +60°C.

2886*†	2	16/30	.222"	876-4113	104.04	876-4114	30	197.88
2888*	3	16/30	.236"	876-4116	180.00	876-4117	42	328.00

*2 Cond. UL 2092, 3 Cond. UL 2093. †Twisted pair.

18 Gauge, Stranded Conductors UL 2464

Cabled conductor, tinned copper, vinyl-insulated, aluminum mylar shield overall, 20 AWG stranded tinned copper drain wire with chrome vinyl jacket. 300 V. **Temperature Rating:** -20°C to +80°C.

2890	4	16/30	.245"	876-4119	210.12	876Q4120	46	391.68
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16 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated, twisted pair, aluminum mylar shield, 18 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600 V. **Temperature Rating:** -20°C to +60°C.

2891*	2	19/29	.304"	876-4122	180.00	876Q4123	49	313.40
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*2 Cond. UL 2106.

16 Gauge, Cabled Conductors

Cabled conductor, tinned copper, vinyl-insulated, aluminum mylar shield overall, 18 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600 V. **Temperature Rating:** -20°C to +60°C.

2892*	3	19/29	.318"	876-4125	250.00	876Q4126	68	430.00
2892/4*	4	19/29	.385"	876-4128	320.00	876Q4129	85	570.00

*3 Cond. UL 2107, 4 Cond. UL 2108.

14 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated, twisted pair, aluminum mylar shield, 16 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600 V. **Temperature Rating:** -20°C to +60°C.

2893	2	19/27	.340"	876-4131	246.00	876Q4132	73	403.40
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12 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated, twisted pair, aluminum mylar shield, 18 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600 V. **Temperature Rating:** -20°C to +60°C.

2894	2	19/25	.400"	876-4134	367.00	876Q4135	103	664.00
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UL 2095 Braided Shield Cable — Type CL2

Stranded tinned copper twisted conductors, 18 AWG, 16/30, color coded vinyl insulation, 75% braided tinned copper shield. -20°C to +80°C. Gray vinyl jacket.



Mfr.'s Type	No. of Conductors	Nom. O.D.	500'		1000'		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
3062	3	.245"	876-5022	267.00	876Q5023	38	488.43

Braided Shield Control Cable — Type CL2

Stranded tinned copper conductor. Color coded polyethylene insulation, cabled with filters where necessary. Mylar wrap, braided tinned copper shield, gray vinyl jacket overall. 20 AWG, 26/34 strand. -20°C to +80°C.

Mfr.'s Type	No. of Conductors	Nom. O.D.	500'		1000'		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
3007	4	.260"	876-5025	300.00	876Q5026	53	539.00

Telephone Cables and Shielded Cables

Olympic

Nylon Shielded Cables MIL-W-16878 Type B

► Passes the VW-1 Vertical Flame Test



Stranded tinned copper, vinyl insulated, clear nylon jacket, conductors cabled, 90% tinned copper braid shield, white vinyl jacket overall. **Nominal Nylon Thickness:** .003". **Temperature Rating:** -55°C to +105°C. **Suggested Operating Voltage:** 600 V. **Color Code:** 1 — White; 2 — White, Black; 3 — White, Black, Red; 4 — White, Black, Red, Green.

Mfr.'s Type	No. of Cond.	Cond. Size	Cond. Strand	Nom. Wall Thick.	Nom. Jacket Thick.	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
							Stock No.	EACH	Stock No.	EACH
2928	1	22	19/34	.010"	.010"	.100"	876Q3740	169.00	876Q3772	338.00
2929	2	22	19/34	.010"	.016"	.168"	876Q3742	267.00	876Q3774	534.00
2930	3	22	19/34	.010"	.017"	.178"	876Q3744	368.00	876Q3776	736.00
2931	4	22	19/34	.010"	.019"	.194"	876Q3746	399.00	876Q3778	798.00
2932	1	20	19/32	.010"	.010"	.106"	876-3748	191.00	876Q3780	382.00
2933	2	20	19/32	.010"	.019"	.186"	876Q3750	316.00	876Q3782	632.00
2934	3	20	19/32	.010"	.019"	.196"	876Q3752	382.00	876Q3784	764.00
2935	4	20	19/32	.010"	.021"	.218"	876Q3754	476.00	876Q3786	952.00
2936	1	18	19/30	.010"	.012"	.120"	876-3756	155.00	876Q3788	310.00
2937	2	18	19/30	.010"	.021"	.210"	876Q3758	300.00	876Q3790	600.00
2938	3	18	19/30	.010"	.022"	.227"	876Q3760	389.00	876Q3792	778.00
2939	4	18	19/30	.010"	.023"	.250"	876Q3762	526.00	876Q3794	1052.00
2940	1	16	19/29	.010"	.016"	.137"	876Q3764	216.00	876Q3796	432.00
2941	2	16	19/29	.010"	.023"	.236"	876Q3766	367.00	876Q3798	734.00
2942	3	16	19/29	.010"	.023"	.240"	876Q3768	497.00	876Q3800	994.00
2943	4	16	19/29	.010"	.025"	.274"	876Q3770	623.00	876Q3802	1246.00



Teflon® Shielded Cables MIL-W-16878 Type E

► Passes the VW-1 Vertical Flame Test

Stranded silver plated copper conductors, insulated with Type E extruded TFE TEFLON, color coded, cabled, braided silver plated copper shield (90% coverage), white TFE TEFLON tape wrapped jacket. **Temperature Rating:** -65°C to +200°C. **Suggested Operating Voltage:** 600 V. **Color Code:** 1 — White; 2 — White, Black; 3 — White, Black, Red; 4 — White, Black, Red, Green.

Mfr.'s Type	No. of Cond.	Cond. Size	Cond. Strand	Nom. Wall Thick.	Nom. Jacket Thick.	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
							Stock No.	EACH	Stock No.	EACH
3416	1	22	19/34	.010"	.010"	.089"	876Q3860	340.00	876Q3892	632.00
3417	2	22	19/34	.010"	.010"	.144"	876Q3862	510.00	876Q3894	890.00
3418	3	22	19/34	.010"	.012"	.156"	876Q3864	860.00	876Q3896	1680.00
3419	4	22	19/34	.010"	.012"	.166"	876Q3866	1020.00	876Q3898	1880.00
3420	1	20	19/32	.010"	.010"	.100"	876Q3868	380.00	876Q3900	708.00
3421	2	20	19/32	.010"	.012"	.162"	876Q3870	740.00	876Q3902	1210.00
3422	3	20	19/32	.010"	.012"	.175"	876Q3872	850.00	876Q3904	1500.00
3423	4	20	19/32	.010"	.012"	.185"	876Q3874	974.00	876Q3906	1760.00
3424	1	18	19/30	.010"	.010"	.113"	876Q3876	425.00	876Q3908	806.00
3425	2	18	19/30	.010"	.012"	.188"	876Q3878	720.00	876Q3910	1238.00
3426	3	18	19/30	.010"	.012"	.196"	876Q3880	910.00	876Q3912	1722.00
3427	4	18	19/30	.010"	.012"	.215"	876Q3882	1025.00	876Q3914	1930.00
3428	1	16	19/29	.011"	.012"	.123"	876Q3884	465.00	876Q3916	850.00
3429	2	16	19/29	.011"	.012"	.200"	876Q3886	750.00	876Q3918	1470.00
3430	3	16	19/29	.011"	.012"	.218"	876Q3888	1170.00	876Q3920	2000.00
3431	4	16	19/29	.011"	.012"	.235"	876Q3890	1750.00	876Q3922	3362.00



Telephone Station Type CM

Solid bare copper, polyethylene insulation. Conductors twisted. Rose gray vinyl jacket .022". Solid in knockout cartons.

Stock No.	Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Color Code	PER 500'
876-1620	2380	2	22	Solid	.160"	Red, Green	51.00
876-1625	2382	4	22	Solid	.190"	Green, Red, Yellow, Black	46.00

Type CM Inside Telephone Cables

Solid bare copper, vinyl insulated, twisted pairs. Gray vinyl jacket with nylon rip cord.

Mfr.'s Type	No. of Pairs	AWG	Nom. O.D.	500'			1000'		
				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3079	3	24	.190"	876-1630	8	51.00	876-1631	15	91.80
3078	4	24	.220"	876-1632	9	63.00	876-1633	18	110.16
3080	6	24	.270"	876-1635	20	91.80	876-1636	39	153.00
3083	25	24	.460"	876Q1640	55	236.64	876Q1641	110	456.96

Computer Cables — Type CM



For your Computer requirements. U.L. style 2464 (300 V) CSA S-R PVC. Available in both single conductors and twisted pairs. Both are 24 gauge (7 x 32), tinned copper, vinyl insulated, overall aluminum mylar shield, 24 AWG stranded tinned copper drain wire, and chrome vinyl jacket. Passes the VW-1 (FR-1) vertical flame test.

Multi-Conductor Cable

Mfr.'s Type	No. of Cond.	Nom. O.D.	500'		1000'		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2823	3	.168"	876-7001	95.00	876-7002	18	179.52
2824	4	.180"	876-7004	106.00	876-7005	22	208.08
2825	5	.190"	876-7007	130.00	876Q7008	25	255.00
2826	6	.205"	876-7010	150.00	876Q7011	28	275.40
2827	7	.205"	876-7013	129.15	876Q7014	30	314.00
2828	8	.220"	876-7016	188.70	876Q7017	34	310.00
2829	9	.240"	876-7019	207.00	876Q7020	38	401.00
2830	10	.250"	876-7022	234.60	876Q7023	40	418.20
2835	15	.280"	876Q7025	259.00	876Q7026	56	563.04
2840	20	.310"	876Q7028	409.00	876Q7029	70	750.00
2845	25	.370"	876Q7031	434.00	876Q7032	89	792.00

Multi-Pair Cables

Mfr.'s Type	No. of Pairs	Nom. O.D.	500'		1000'		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2945	2	.222"	876-7037	126.00	876Q7038	24	242.76
2946	3	.232"	876-7040	146.88	876Q7041	29	279.48
2947	4	.265"	876-7043	178.00	876Q7044	35	320.00
2948	5	.280"	876-7046	230.00	876Q7047	47	358.00
2949	6	.295"	876Q7049	297.84	876Q7050	50	569.16
2950	7	.300"	876Q7052	373.32	876Q7053	55	687.48
2951	8	.330"	876Q7055	397.80	876Q7056	65	769.08
2952	9	.340"	876Q7058	438.60	876Q7059	70	809.88
2953	10	.380"	876Q7061	503.88	876Q7062	79	871.08
2954	15	.425"	876Q7064	675.24	876Q7065	105	1303.56
2956	25	.515"	876Q7034	1009.80	876Q7035	166	1949.20

Overall Foil Shielded Pairs

- Plenum Cable
- UL Classified CL2P
- NEC 725-38(b)3 Class 2



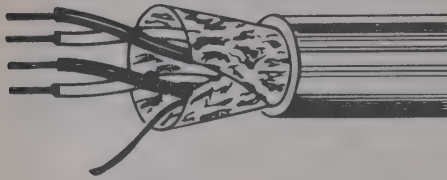
Stranded tinned copper conductors, insulated, twisted pairs, with overall aluminum mylar shield, opaque jacket.

Stock No.	Mfr.'s Type	No. of Pairs	Conductor		Nom. O.D.	Nom. Cap pF/ft.	PER 1000'
			AWG	Stranding			
876Q5179	3170T	2	22	7	.130"	28.6	512.04
876Q5181	3171T	3	22	7	.140"	28.6	954.72
876Q5183	3172T	4	22	7	.160"	28.6	793.56
876Q5185	3173T	6	22	7	.090"	28.6	1144.44
876Q5187	3180T	2	18	16	.260"	36.0	762.96
876Q5189	3181T	3	18	16	.270"	36.0	840.48
876Q5191	3182T	4	18	7	.384"	36.0	1326.00



Multi-Paired Overall Shielded Cables Type CL2

ULAWM Style 2448 and UL 2919. Passes VW-1 (FR-1) vertical flame test. **Temperature Rating:** -20°C to +60°C. Twisted pairs of polyethylene insulated 24 AWG, seven strand tinned conductors, cabled with overall aluminum/mylar shield with 22 (7) AWG tinned copper drain wire. Jacketed with flame retardant gray PVC, .032" nominal wall thickness. Nominal mutual capacitance 12.5 pF/FT.



Mfr.'s Type	No. of Pairs	Nom. O.D.	Nom. Capacitance pF/FT	500'		1000'	
				Stock No.	EACH	Stock No.	EACH
9600	2	.264"	12.5	876Q9600	108.12	876Q9610	216.24
9601	3	.278"	12.5	876Q9601	142.82	876Q9611	285.60
9602	4	.300"	12.5	876Q9602	207.06	876Q9612	414.12
9604	6	.353"	12.5	876Q9604	246.84	876Q9614	493.68
9607	9	.409"	12.5	876Q9607	418.20	876Q9617	836.40
9609	12 + 1 Single	.456"	12.5	876Q9609	430.44	876Q9619	860.88

Overall Shielded Paired Cable

- UL Subject 13
- UL Listed, 300 V and UL 2464 AWM
- CSA Certified, CSA TR-64 Appliance Wiring Material



Tinned copper, vinyl insulation, conductors cabled, overall aluminum mylar shield and drain wire, chrome vinyl jacket. **Color Code:** conductor pairs are color coded black and red. Multipairs are numbered at one inch intervals. Meets Article 725 of the NEC. Also marked as Tray Cable suitable for class 2 and 3 circuits. Passes the UL 70,000 BTU Flame and Tray Cable test which is comparable to the IEEE 383 Flame Test, Sunlight Resistant. Passes the VW1 vertical flame test.

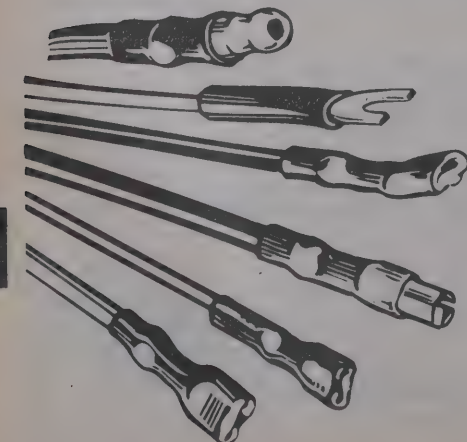
22 AWG (7 × 30)

Mfr.'s Type	No. of Pairs	Insulation Thickness	Jacket Thickness	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
					Stock No.	EACH	Stock No.	EACH
3170	2	.016"	.043"	.310"	876-3650	183.00	876Q3670	366.00
3171	3	.016"	.043"	.326"	876Q3652	227.00	876Q3672	454.00
3172	4	.016"	.043"	.353"	876Q3654	266.00	876Q3674	532.00
3173	6	.016"	.053"	.425"	876Q3656	403.00	876Q3676	806.00
3174	9	.016"	.053"	.488"	876Q3658	550.00	876Q3678	1100.00
3175	11	.016"	.053"	.536"	876Q3660	655.00	876Q3680	1310.00
3176	15	.016"	.053"	.594"	876Q3662	857.00	876Q3682	1714.00
3177	19	.016"	.063"	.741"	876Q3664	1100.00	876Q3684	2200.00
3178	27	.016"	.063"	.761"	876Q3666	1540.00	876Q3686	3080.00
3179	51	.016"	.075"	.950"	876Q3668	2730.00	876Q3688	5460.00

18 AWG (16 × 30)

Mfr.'s Type	No. of Pairs	Insulation Thickness	Jacket Thickness	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
					Stock No.	EACH	Stock No.	EACH
3181	3	.016"	.053"	.416"	876Q3690	412.00	876Q3702	824.00
3182	4	.016"	.053"	.451"	876Q3692	478.00	876Q3704	956.00
3183	6	.016"	.053"	.516"	876Q3694	612.00	876Q3706	1224.00
3184	9	.016"	.053"	.596"	876Q3696	916.00	876Q3708	1832.00
3185	11	.016"	.063"	.676"	876Q3698	1215.00	876Q3710	2430.00
3186	15	.016"	.063"	.751"	876Q3700	1744.00	876Q3712	3488.00

FP Heat-Shrinkable Tubing



FP221 Irradiated Polyolefin (M23053/5)

FP221 is a general purpose heat-shrinkable tubing. Its features are flexibility, flame retardant, self extinguishing and fungus proof. This tubing has a max. shrink rate of 50% of supplied diameter. **Operating Temperature:** -55°C to +135°C. **Colors Available:** 1 Black, 2 Red, 3 White, 4 Clear. Insert the color number where N appears in the stock number.

Size	Min. Supplied ID (")	Max. Recovered ID (")	Wall Thickness (")	4' Lengths			100' Lengths	
				Stock No.	No. of Lengths	PER BOX	Stock No.	PER SPOOL
3/64"	.046	.023	.016	876-200N	25	17.54	876-220N	17.54
1/16"	.063	.031	.017	876-201N	25	17.95	876-221N	17.95
3/32"	.093	.046	.020	876-202N	25	18.77	876-222N	18.77
1/8"	.125	.062	.020	876-203N	25	20.40	876-223N	20.40
3/16"	.187	.093	.020	876-204N	25	24.89	876-224N	24.89
1/4"	.250	.125	.025	876-205N	25	30.60	876-225N	30.60
3/8"	.375	.187	.025	876-206N	25	35.29	876-226N	35.29
1/2"	.500	.250	.025	876-207N	5	11.07	876-227N	44.27
3/4"	.750	.375	.030	876-208N	5	15.20	876-228N	52.43
1"	1.000	.500	.035	876-209N	5	21.87	876-229N	84.05
1 1/2"	1.500	.750	.040	876-210N	5	44.44	876Q230N	181.56
2"	2.000	1.000	.045	876-211N	5	66.67	876Q231N	183.60
3"	3.000	1.500	.050	876-212N	2	60.22	876Q232N	816.00
4"	4.000	2.000	.055	876-213N	2	96.00	876Q233N	1224.00

Shielded Pairs Audio/Control Cable Type CM

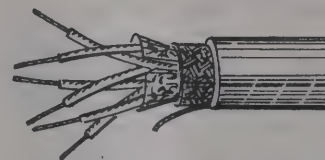
Tinned copper conductors, polypropylene insulation. Individually shielded pairs with a 24 AWG common drain wire. Aluminum mylar shield. 22 AWG, 7/30 stranded conductors. Pairs cabled on common axis to reduce diameter. Chrome vinyl jacket. 400 V.



Mfr.'s Type	No. of Pairs	Nom. O.D.	500'		1000'		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2976	2	.165"	876-5049	110.00	876-5050	22	212.16



Multi-Pair Computer Cable



- Suitable for RS-422 Type Application
- 24 Gage, Stranded Conductors (7 × 32)
- UL Classified CM

Tinned copper, polyethylene insulated twisted pairs, 100% foil and 90% T.C. braid shield and drain wire with chrome PVC jacket. 30 V. **Temperature Range:** -20°C to +80°C. **Nominal Impedance:** 100. **Nominal Velocity of Propagation:** 66%. **Nominal Capacitance:** 15.5 pF/ft. between conductors; 27.5 pF/ft. between one conductor and other conductor connected to shield.

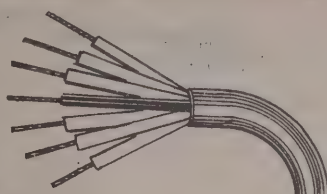
Mfr.'s Type	No. of Pairs	Nominal Wall Thickness	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
				Stock No.	EACH	Stock No.	EACH
3929	2	.010"	.300"	876Q3720	217.00	876Q3726	434.00
3930	3	.010"	.310"	876Q3722	384.00	876Q3728	768.00
3931	4	.010"	.330"	876Q3724	449.00	876Q3730	898.00

Unshielded Audio Cable

Applications

- Unbalanced Intercom Systems
- Low Voltage Relay Control Cable
- Electronic Computer Cable
- Interconnecting Cables
- PA Systems
- Remote Control Circuits
- Telephone and Telemetering Connecting Cable

UL
2464



Temperature Rating: -20°C to +80°C. Stranded 7/30 tinned copper. Vinyl insulation conductors twisted 22 AWG. Gray vinyl jacket overall. **Suggested Working Voltage:** 200.

Mfr.'s Type	No. of Cond.	Nominal Wall Thickness	Nominal Jacket Thickness	Nominal O.D.	PER 500' SPOOL		PER 1000' SPOOL	
					Stock No.	EACH	Stock No.	EACH
2002	2	.010"	.032"	.164"	876-3290	56.00	876-3324	112.00
2003	3	.010"	.032"	.169"	876-3292	73.00	876-3326	146.00
2004	4	.010"	.032"	.194"	876-3294	86.00	876-3328	172.00
2005	5	.010"	.032"	.199"	876-3296	114.00	876Q3330	228.00
2006	6	.010"	.032"	.209"	876-3298	138.00	876Q3332	276.00
2007	7	.010"	.032"	.214"	876-3300	153.00	876Q3334	306.00
2008	8	.010"	.032"	.224"	876-3302	159.00	876Q3336	318.00
2009	9	.010"	.032"	.249"	876-3304	180.00	876Q3338	360.00
2010	10	.010"	.032"	.259"	876Q3306	207.00	876Q3340	414.00
2012	12	.010"	.032"	.279"	876Q3308	241.00	876Q3342	482.00
2015	15	.010"	.032"	.304"	876Q3310	267.00	876Q3344	534.00
2020	20	.010"	.032"	.324"	876Q3312	415.00	876Q3346	830.00
2025	25	.010"	.032"	.364"	876Q3314	489.00	876Q3348	978.00
2030	30	.010"	.032"	.379"	876Q3316	740.00	876Q3350	1480.00
2040	40	.010"	.032"	.439"	876Q3318	856.80	876Q3352	1680.00
2050	50	.010"	.035"	.500"	876Q3320	1342.00	876Q3354	2684.00
2060	60	.010"	.035"	.530"	876Q3322	1720.00	876Q3356	3440.00

Control and Tray Cables



- Unshielded/Vinyl Jacket
- Direct Burial
- UL Subject 1277, NEC ART. 340 Class 1, Div. 11, IPCEA S-61-402, IEEE 383 Flame Test
- Sunlight Resistant and Flame Retardant
- Suitable for Outdoor Use

Stranded bare copper, .015 PVC insulation and .005 clear nylon fillers where necessary, and covered with binder tape, black PVC jacket. **Temperature Rating:** -40° to +90°C. **Voltage Rating:** 600 V.

16 AWG Stranded Bare Copper

Mfr.'s Type	No. of Cond.	Nominal Jacket Thickness	Nominal O.D.	PER 500' SPOOL		PER 1000' SPOOL	
				Stock No.	EACH	Stock No.	EACH
8300	2*	.045"	.200" x .315"	876-3510	133.00	876Q3540	266.00
8302	3	.045"	.315"	876Q3512	200.00	876Q3542	400.00
8303	4	.045"	.340"	876Q3514	233.00	876Q3544	466.00
8304	5	.045"	.370"	876Q3516	334.00	876Q3546	668.00
8306	7	.045"	.400"	876Q3518	417.00	876Q3548	834.00
8307	8	.045"	.430"	876Q3520	458.00	876Q3550	916.00
8308	9	.045"	.460"	876Q3522	541.00	876Q3552	1082.00
8309	10	.045"	.500"	876Q3524	567.00	876Q3554	1134.00
8310	12	.045"	.515"	876Q3526	691.00	876Q3556	1382.00
8315	16	.060"	.605"	876Q3528	892.00	876Q3558	1784.00
8321	19	.060"	.635"	876Q3530	991.00	876Q3560	1982.00
8340	20	.060"	.665"	876Q3532	1034.00	876Q3562	2068.00
8345	25	.060"	.735"	876Q3534	1250.00	876Q3564	2500.00
8349	30	.060"	.775"	876Q3536	1670.00	876Q3566	3340.00
8350	37	.060"	.880"	876Q3538	2010.00	876Q3568	4020.00

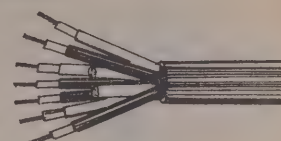
14 AWG Stranded Bare Copper

Mfr.'s Type	No. of Cond.	Nominal Jacket Thickness	Nominal O.D.	PER 500' SPOOL		PER 1000' SPOOL	
				Stock No.	EACH	Stock No.	EACH
8400	2*	.045"	.240" x .325"	876-3570	158.00	876Q3600	316.00
8402	3	.045"	.345"	876Q3572	225.00	876Q3602	450.00
8403	4	.045"	.375"	876Q3574	317.00	876Q3604	634.00
8404	5	.045"	.410"	876Q3576	383.00	876Q3606	766.00
8406	7	.045"	.445"	876Q3578	450.00	876Q3608	900.00
8408	9	.045"	.515"	876Q3580	758.00	876Q3610	1516.00
8409	10	.060"	.595"	876Q3582	791.00	876Q3612	1582.00
8410	12	.060"	.610"	876Q3584	859.00	876Q3614	1718.00
8413	15	.060"	.675"	876Q3586	1150.00	876Q3616	2300.00
8415	16	.060"	.675"	876Q3588	1200.00	876Q3618	2400.00
8421	19	.060"	.710"	876Q3590	1292.00	876Q3620	2584.00
8440	20	.060"	.745"	876Q3592	1393.00	876Q3622	2786.00
8445	25	.060"	.825"	876Q3594	1834.00	876Q3624	3668.00
8449	30	.080"	.915"	876Q3596	2170.00	876Q3626	4340.00
8450	37	.080"	.985"	876Q3598	2750.00	876Q3628	5500.00

*Flat.

Unshielded Audio Cable — Vinyl Control

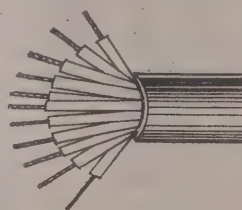
- UL Classified CM/CL2
- Passes VW-1 Vertical Flame Test



Temperature Rating: -20°C to +80°C. Stranded 16/30 tinned copper. Vinyl insulated conductors cabled 18 AWG. Chrome vinyl jacket.

Mfr.'s Type	No. of Cond.	Nominal Wall Thickness	Nominal Jacket Thickness	Nom. O.D.	UL Style No.	PER 500' SPOOL		PER 1000' SPOOL	
						Stock No.	EACH	Stock No.	EACH
2202†	2	.018"	.032"	.224"	2598	876-3360	80.00	876-3386	160.00
2203†	3	.016"	.020"	.210"	2509	876-3362	120.00	876Q3388	240.00
2204†	4	.017"	.032"	.254"	2598	876-3364	160.00	876Q3390	320.00
2205†	5	.017"	.033"	.286"	2598	876Q3366	212.00	876Q3392	424.00
2206†	6	.017"	.020"	.290"	2509	876Q3368	268.00	876Q3394	536.00
2207†	7	.017"	.037"	.324"	2598	876Q3370	290.00	876Q3396	580.00
2208†	8	.017"	.025"	.315"	2509	876Q3372	319.00	876Q3398	638.00
2209†	9	.017"	.037"	.379"	2598	876Q3374	375.00	876Q3400	750.00
2210†	10	.017"	.025"	.370"	2509	876Q3376	452.00	876Q3402	904.00
2212†	12	.017"	.040"	.412"	2598	876Q3378	520.00	876Q3404	1040.00
2215†	15	.017"	.045"	.505"	2598	876Q3380	622.00	876Q3406	1244.00
2219†	19	.017"	.045"	.530"	2598	876Q3382	771.00	876Q3408	1542.00
2225†	25	.017"	.060"	.600"	2598	876Q3384	940.00	876Q3410	1880.00

*UL Recognized. †Suggested Working Voltage: 400. ‡Suggested Working Voltage: 300.



Unshielded Audio Cable — Vinyl Control

- UL Classified CM/CL2

Temperature Rating: -20°C to +80°C. Stranded tinned copper. Vinyl insulated conductors cabled. Chrome vinyl jacket. **Suggested Working Voltage:** 600 except where noted. UL Style 2509 except where noted.

Mfr.'s Type	No. of Cond.	Cond. Size	Cond. Strand	Nom. Wall Thick.	Nom. Jacket Thick.	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
							Stock No.	EACH	Stock No.	EACH
2302†	2	16	19/29	.023"	.030"	.256"	876-3420	130.00	876Q3444	260.00
2303†	3	16	26/30	.016"	.020"	.245"	876Q3422	219.00	876Q3446	438.00
2304	4	16	19/29	.030"	.045"	.375"	876Q3424	261.00	876Q3448	522.00
2305	5	16	19/29	.030"	.045"	.405"	876Q3426	378.00	876Q3450	756.00
2307	7	16	19/29	.030"	.045"	.455"	876Q3428	499.00	876Q3452	998.00
2309	9	16	19/29	.030"	.045"	.520"	876Q3430	693.00	876Q3454	1170.00
2312	12	16	19/29	.030"	.060"	.610"	876Q3432	1056.00	876Q3456	2112.00
2315	15	16	19/29	.030"	.060"	.670"	876Q3434	1200.00	876Q3458	2400.00
2319	19	16	19/29	.030"	.065"	.700"	876Q3436	1540.00	876Q3460	3080.00
2325	25	16	19/29	.030"	.065"	.850"	876Q3438	2067.00	876Q3462	4134.00
2342	2	14	19/27	.031"	.035"	.332"	876Q3440	210.00	876Q3464	420.00
2362	2	12	19/25	.031"	.040"	.384"	876Q3442	284.00	876Q3468	568.00

†UL Style 2598. ‡Suggested Working Voltage: 300.

Sound and Control Cables — Paired/Unshielded

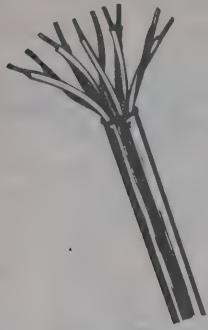
UL
2464

- UL Classified CM
- 18 AWG Stranded Conductors (16 x 30)



Temperature Rating: -20°C to +80°C. Stranded tinned copper. Vinyl insulated. Twisted pairs. Chrome vinyl jacket. **Suggested Working Voltage:** 300.

Mfr.'s Type	No. of Pairs	Insulation Thickness	Jacket Thickness	Nom. O.D.	PER 500' SPOOL		PER 1000' SPOOL	
					Stock No.	EACH	Stock No.	EACH
2802	2*	.014"	.032"	.327"	876Q3472	229.00	876Q3490	458.00
2803	3	.014"	.032"	.362"	876Q3474	309.00	876Q3492	618.00
2804	4	.014"	.032"	.358"	876Q3476	442.00	876Q3494	884.00
2806	6	.014"	.032"	.433"	876Q3478	577.00	876Q3496	1154.00
2809	9	.013"	.055"	.524"	876Q3480	851.00	876Q3498	1702.00
2812	12	.013"	.055"	.600"	876Q3482	1291.00	876Q3500	2582.00
2815	15	.013"	.060"	.677"	876Q3484	1783.00	876Q3502	3566.00
2819	19	.013"	.070"	.721"	876Q3486	2580.00	876Q3504	5160.00



Local Area Network

- Level 5 or Category 5
- NEC 800 Type CMP/MPP and CMR
- ETL Verified to EIA/TIA
- 24 AWG

Solid bare copper, insulated, twisted, jacketed. Applications: IBM Type 3 IEEE 802.3 (10 BASE T), Ethernet IEEE 802.5 16 Mbps Token Ring, other high speed data applications up to and including 100 Mbps data transmission rates. **DC Conductor Resistance — Max. Individual:** 25.7 Ohms/kFT. **Mutual Capacitance at 1 MHz — Max. Individual:** 14 pF/kFT. **Capacitance Unbalance Pair to Ground — Max. Individual:** 1000 pF/kFT.

Plenum Cable — CSA Type PCC FT-6

Stock No.	Mfr.'s Type	Number of Pairs	Nom. O.D.	PER 1000'
876Q5190	3602MSU	2	.147"	266.00
876Q5192	3603MSU	3	.155"	408.00
876Q5194	3604MSU	4	.170"	489.60
876Q5196	3606MS	6	.198"	978.00
876Q5200	3625MS	25	.341"	2856.00

Riser Cable — CSA Type PCC FT-4

Stock No.	Mfr.'s Type	Number of Pairs	Nom. O.D.	PER 1000'
876Q5180	3077MSU	2	.181"	172.00
876Q5182	3079MSU	3	.190"	190.00
876Q5184	3078MSU	4	.205"	198.00
876Q5186	3080MS	6	.240"	326.00
876Q5188	3083MS	25	.420"	1624.00

IBM Compatible Cables



Stock No.	Mfr.'s Type	Description	Wt. 1000'	PER 1000'
876Q4200	6688	Type 1 IBM 4716748 — Type CL2 2 Data Pairs Non-Plenum 22 AWG Solid Bare Copper	52.00	420.24
876Q4201	6688T	Type 1 IBM 4716749 — Type CL2P 2 Data Pairs Plenum 22 AWG Solid Bare Copper	63.00	1001.64
876Q4202	6689	Type 2 IBM 4716739 — Type CM 2 Data Pairs 4 Voice Pairs Non-Plenum, 22 AWG Solid Bare Copper	84.00	592.00
876Q4203	6689T	Type 2 IBM 4716738 — Type CMP 2 Data Pairs, 4 Voice Pairs Plenum, 22 AWG Solid Bare Copper	95.00	1200.00
876Q4204	6690	Type 6 2 Pair Office — Type CL2 Grade Data Cable	52.00	430.44

Plenum Cables — Type CL2P

Power Limited Circuit Cable — Class 2

Approved for direct installation in air plenums without conduit. Use up to 200'. Low cap. 12.5 PF/FT between conductors twisted pairs. 24 AWG stranded tinned conductors, cabled with overall aluminum mylar shield, 22 AWG stranded tinned copper drain wire, overall opaque jacket.

Mfr.'s Type	No. of Pairs	Strand	Nom. O.D.	500'		1000'		
				Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
9500	2	7/32	.208"	876Q4029	259.00	876Q4030	20	559.00
9501	3	7/32	.220"	876Q4032	292.00	876Q4033	36	559.00
9502	4	7/32	.240"	876Q4035	400.00	876Q4036	37	700.00
9503	6	7/32	.290"	876Q4038	500.00	876Q4039	52	967.00
9504	7	7/32	.300"	876Q4041	680.00	876Q4042	58	1300.00
9505	9	7/32	.350"	876Q4044	834.00	876Q4045	63	1559.00
9506	12*	7/32	.420"	876Q4047	1183.20	876Q4048	129	2209.32

*12 pairs plus 1 single.

Multi-Paired Individually — Shielded Cable

Tinned copper, teflon insulated, black/red and green/white pairs each under an aluminum-mylar shield, 22 AWG stranded drain wires with overall tape wrap, opaque jacket. NEC725-38(B)(3); UL Subject 13.

2976T	2	7/30	.180"	876Q4080	234.60	876Q4081	24	440.64
2980T	3	7/30	.252"	876Q4083	367.00	876Q4084	36	803.76

POS Cables

Solid, tinned copper conductor. Foil shield with drain wire, tinned copper braid shield. Opaque jacket.

Mfr.'s Type	No. of Conductors	AWG	Nom. O.D.	500'		1000'		
				Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
6173T	2	22	.280"	876Q8017	462.00	876Q8018	41	884.00



Ethernet Cable

RG58 type coaxial cable, 50 ohm impedance. 21-19 AWG bare copper conductor. Foil shield and 95% tinned copper braid shield.

CL2 Rated — PVC Jacket

Mfr.'s Type	Nom. O.D.	500'		1000'	
		Stock No.	EACH	Stock No.	EACH
6907	.183"	876-9780	150.00	876Q9782	250.00

CL2P Rated — Opaque Jacket

Stock No.	Nom. O.D.	Stock No.	EACH	Stock No.	EACH
6907T	.158"	876-9784	267.00	876Q9786	475.00

Modular Cord

- 26 Gage (7 x 34) or 28 Gage (7 x 36)
- UL Listed

Stranded tinned copper, vinyl insulated, conductors parallel, silver vinyl jacket. **Color Code:** Four Wire — Black, Red, Green, Yellow; Six Wire — White, Black, Red, Green, Yellow, Blue; Eight Wire — Blue, Orange, Black, Red, Green, Yellow, Brown, Grey; Ten Wire — Violet, Blue, Orange, Black, Red, Green, Yellow, Brown, Grey, White.

Stock No.	Mfr.'s Type	Number of Conductors	Conductor		Nom. O.D.	PER 1000'
			AWG	Stranding		
876-5128	3744-26*	4	26	7 x 34	.090" x .193"	94.00
876-5130	3746-26*	6	26	7 x 34	.090" x .280"	132.00
876Q5132	3748-26*	8	26	7 x 34	.090" x .335"	170.00
876Q5134	3750-26*	10	26	7 x 34	.090" x .430"	246.00
876-5136	3744†	4	28	7 x 36	.090" x .190"	102.00
876Q5138	3746†	6	28	7 x 36	.090" x .265"	186.00
876Q5140	3748†	8	28	7 x 36	.090" x .330"	240.00

*CSA Certified. †Tinned Copper. ‡Color Code: Eight Wire — White, Orange, Black, Red, Green, Yellow, Blue, Brown.

Remote — Control, Signaling, Power Limited Circuits

Stranded, tinned copper using extruded insulation, cabled; TFE binder tape, overall opaque jacket unshielded or shielded. Shielded has aluminum mylar shield and drain wire NEC725-38(B)(3).



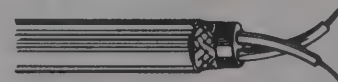
Unshielded

Mfr.'s Type	No. of Conductors	AWG	Nom. O.D.	500'		1000'		
				Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2202T	2	18	.175"	876Q7090	110.00	876Q7091	24	206.04
2204T	4	18	.214"	876Q7093	95.88	876Q7094	42	328.44
2206T	6	18	.290"	876Q7096	265.20	876Q7097	54	497.76
2208T	8	18	.224"	876Q7099	346.80	876Q8000	70	610.08
2302T	2	16	.256"	876Q8002	154.00	876Q8003	27	284.00

Shielded

2877T	2	22	.150"	876Q8005	110.00	876Q8006	16	204.00
2882T	4	22	.215"	876Q8008	158.00	876Q8009	24	298.00
2886T	2	18	.196"	876Q4077	132.60	876Q4078	26	252.96
2890T	4	18	.215"	876Q8011	240.00	876Q8012	33	442.00

Twinaxial Cable



NEC725-38(B)(3). UL Subject 13, Computer cables — equivalent to IBM 7362061 type.

Mfr.'s Type	Conductor	AWG	Shield	Jacket	Nom. O.D.	500'		1000'		
						Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
6275T	1 TC, 1 C	20	TC Brd 95%	Black Tint	.282"	876Q4074	584.00	876Q4075	57	1100.00

Enduro I General Response Indoor Control

Foil Shield 18 AWG, 16/30

- ▶ CM, UL, AWM 2464, CSA PCC FT4
- ▶ Flexible Construction
- ▶ Good Impact/Abrasion Resistance
- ▶ Premium Polyvinylchloride Jacket

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5300	81382	2	.032	.23	897.60
876Q5301	81383	3	.032	.24	1115.88
876Q5302	81384	4	.032	.26	1256.64
876Q5303	81386	6	.032	.31	1766.64
876Q5304	81388	8	.032	.33	2174.64

- ▶ Operating Temperature Range: -20°C to 80°C-AWM
- ▶ Insulation Thickness: .017"
- ▶ Jacket Material: PVC
- ▶ Jacket Colors: Gray, Black, and Sand Beige

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5305	81390	10	.032	.39	2480.64
876Q5306	81390/15	15	.032	.45	3127.32
876Q5307	81390/20	20	.032	.51	4351.32
876Q5308	81390/25	25	.053	.56	5793.60



Enduro II Industrial Control

Foil Shield 22 AWG, 7/30

- ▶ 24 and 22 AWG: UL Style 1061, UL20200
- ▶ 20, 18 and 16 AWG: UL Style 1007
- ▶ Aluminum/Polyester Shield, Foil Facing In Plus Stranded, Tinned Copper Drain Wire Equal In Size To Insulated Conductors Of Cable
- ▶ Stranded Tin Coated Copper Conductor
- ▶ Passes UL VW-1 Flame Test

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5310	82192	2	.032	.18	1179.12
876Q5311	82193	3	.032	.19	1266.84
876Q5312	82194	4	.032	.20	1570.80
876Q5313	82196	6	.032	.23	1774.80
876Q5314	82198	8	.032	.25	1876.80
876Q5315	82199/10	10	.032	.28	2290.22

- ▶ Color Coded Insulation, 80°C Premium PVC
- ▶ Nylon Rip Cord For Ease Of Jacket Stripping
- ▶ Insulation Thickness: .010"
- ▶ Jacket Material: Polyurethane
- ▶ Jacket Colors: Black and Gray (Other Colors Available)

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5316	82199/15	15	.032	.31	3223.20
876Q5317	82199/20	20	.032	.34	3753.60
876Q5318	82199/25	25	.032	.38	4243.20
876Q5319	82199/30	30	.032	.40	4936.80
876Q5320	82199/40	40	.032	.45	6038.40
876Q5321	82199/50	50	.032	.49	6895.20



Enduro III Outdoor and Direct Burial

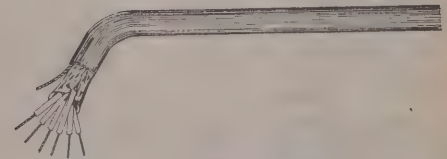
Foil Shield 16 AWG, 19/29

- ▶ High Tensile/Tear Strength
- ▶ Superior Abrasion/Cut-Through Resistance
- ▶ Excellent Outdoor Aging Characteristics
- ▶ Excellent Resistance To Most Oils, Solvents, Fuels and Water
- ▶ Fungus Resistant Per MIL-STD-810C
- ▶ Passes UL VW-1 Flame Test

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5330	83362	2	.032	.25	1509.60
876Q5331	83363	3	.032	.27	1734.00
876Q5332	83364	4	.032	.29	2297.04
876Q5333	83366	6	.032	.35	2915.16
876Q5334	83368	8	.032	.38	3965.76

- ▶ Ultraviolet Light Stabilized (Color Black Recommended)
- ▶ Operating Temperature Range: -20°C To 80°C
- ▶ Low Temperature Flexibility To -20°C
- ▶ Insulation Thickness: .017"
- ▶ Jacket Material: Polyethylene
- ▶ Jacket Colors: Black and Gray (Other Colors Available)

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5335	83370	10	.032	.44	4651.20
876Q5336	83370/15	15	.032	.49	6150.60
876Q5337	83370/20	20	.053	.59	8710.80
876Q5338	83370/25	25	.053	.66	11077.20



Enduro IV Computer and Control

Foil and Braid Shield 22 AWG, 7/30, 300 V

- ▶ UL Conductor Style 1888, UL20237 and UL20238 Power Limited Tray Cable, 300 V, 90°C
- ▶ Stranded Tin Coated Copper Conductor
- ▶ Passes IEEE Flame Test
- ▶ Color Coded Insulation, 125°C Thermoplastic Rubber

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5340	84102	2	.032	.22	1672.80
876Q5341	84103	3	.032	.24	1907.40
876-5342	84104	4	.032	.26	2003.28
876Q5343	84106	6	.032	.29	2488.80
876Q5344	84108	8	.032	.31	2672.40

- ▶ Nylon Rip Cord For Ease Of Jacket Stripping
- ▶ Insulation Jacket Thickness: .016"
- ▶ Jacket Material: Thermoplastic Rubber
- ▶ Jacket Colors: Black and Gray (Other Colors Available)

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5345	84110	10	.032	.34	3182.40
876Q5346	84110/15	15	.032	.39	4120.80
876Q5347	84110/20	20	.032	.43	4977.60
876Q5348	84110/25	25	.032	.47	6426.00



Enduro V High Temperature/Low Smoke Control

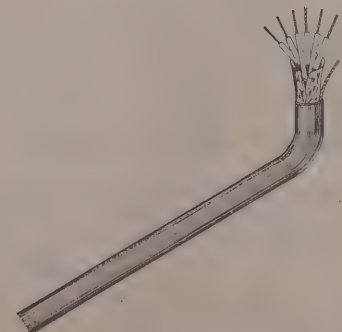
Foil Shield 18 AWG, 7/28

- ▶ UL Cable Style 20229, 300 V
- ▶ Outstanding Moisture, Abrasion and Impact Resistance
- ▶ Passes Steiner Tunnel Test (Low Smoke and Flame Generation)
- ▶ Passes IEEE-383, 210,000 BTU Flame Test
- ▶ Low Coefficient Of Friction
- ▶ Excellent Chemical, Oil, Solvent and Fungus Resistance

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5350	85382	2	.025	.19	3702.60
876Q5351	85383	3	.025	.22	4304.40
876Q5352	85384	4	.025	.24	5242.80
876Q5353	85385	5	.025	.26	6344.40
876Q5354	85386	6	.025	.27	7405.20
876Q5355	85387	7	.025	.29	8649.60
876Q5356	85388	8	.025	.30	9975.60

- ▶ Reduced Cable Diameters
- ▶ Direct Burial In Wet Earth Without Conduit
- ▶ Operating Temperature Range: -80°C To 200°C (UL, 150°C)
- ▶ Insulation Thickness: .010"
- ▶ Jacket Material: FEP Teflon
- ▶ Jacket Color: Natural Tan

Stock No.	Mfr.'s Type	No. of Cond.	Jacket Thickness (In.)	Diameter (In.)	PER 1000' COIL
876Q5357	85389	9	.025	.32	12688.80
876Q5358	85390	10	.025	.33	13566.00
876Q5359	85390/12	12	.025	.35	14443.20
876Q5360	85390/15	15	.025	.38	16830.00
876Q5361	85390/20	20	.025	.43	19002.60
876Q5362	85390/25	25	.025	.47	26112.00



Electrical Tapes

Scotch® Super 33+ Vinyl Electrical Tape

33+ tape stretches easily and sticks aggressively to hold in all temperature conditions (0°F/-18°C to 220°F/105°C). 33+ tape provides excellent resistance against flame, abrasion, moisture, alkalies, solvents, oils, ultraviolet rays and many acids while maintaining its full electrical and mechanical properties. (7-mil thick).

617-4725. 33+. 3/4" x 66'.....PER ROLL 3.43
617-4730. 33+. 3/4" x 20'.....PER ROLL 1.34

Scotch® Super 88 Vinyl Electrical Tape

Heavy-duty 8.5-mil thick tape particularly well-suited for cold weather applications. It remains flexible under cold conditions and works well even on small wires. Resists abrasions, salt, alkalies, acids and ultraviolet rays.

617-4735. 88. 3/4" x 66'.....PER ROLL 3.83

Tem Flex™ Series Tapes

1700 Vinyl Electrical Tape. Economy-grade, general purpose vinyl electrical tape. 7-mil tape that is UL listed and CSA certified for 176°F and 80°C.

617-4736. 1700. 3/4" x 60'.....PER ROLL .64

1755 Friction Tape. Tape features a high grade cotton cloth with an electrical grade adhesive. Designed to provide abrasion protection in wire and cable splicing and connection insulation applications.

617-1755. 1755. 3/4" x 60'.....**— NEW —** PER ROLL 1.95

2150 Rubber Electrical Tape. The 2150 tape is designed for insulating and sealing in low voltage applications.

617-1756. 2150. 3/4" x 22'.....**— NEW —** PER ROLL 3.84



Scotch™ 35 Vinyl Electrical Tape

Color coding tape, 7-mil flame retardant and weather resistant tape. Meets requirements of U.L. 510 and CSA.

617-4902. 35. Red (3/4" x 66').....PER ROLL 3.34

617-4903. 35. Green (3/4" x 66').....PER ROLL 3.34

617-4904. 35. Blue (3/4" x 66').....PER ROLL 3.34

617-4905. 35. Yellow (3/4" x 66').....PER ROLL 3.34

617-4906. 35. White (3/4" x 66').....PER ROLL 3.34

617-4907. 35. Orange (3/4" x 66').....PER ROLL 3.34

617-4908. 35. Brown (3/4" x 66').....PER ROLL 3.34

617-4909. 35. Gray (3/4" x 66').....PER ROLL 3.34

617-4910. 35. Violet (3/4" x 66').....PER ROLL 3.34

3M Professional Quality Electrical Tape Kit for Coding

Kit consists of five rolls (1/2" x 62 2/3 yds.) of Scotch™ 35 Vinyl Electrical Tape. Five Colors: Blue, green, red, yellow and white

617-1045. 10457.....PER PACK 7.02

Scotch® Self-Fusing Silicone Rubber

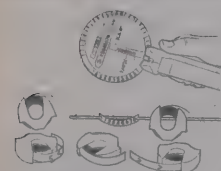
High temperature, track-resistant, 12-mil, self-fusing electrical tape composed of fully cured inorganic silicone rubber. Primarily used for cable insulation or as a protective overwrap for terminating high voltage wires.

617-4737. 70. 1" x 30'.....PER ROLL 25.46

Scotch® Rubber Mastic Tape

A 15-mil tape for insulating, padding and sealing bus bar connections up to 10,000 volts.

617-4742. 2228. 2" x 10'.....PER ROLL 16.17



ScotchCode® STL-100 Embossing Tool

The 3M ScotchCode® STL-100 embossing tool allows users to quickly produce slip-on wire marker tags that will always be easy to read.

— NEW —

617-4556. STL-100K. Embossing tool and 3 marker rolls.....EACH 25.82

617-4557. STL-101*. 3/8" tag/label, 50 labels per roll.....EACH 4.08

617-4558. STL-102*. 1/4" tag/label, 75 labels per roll.....EACH 3.62

617-4559. STL-103. 3/8" label tape roll, embossed.....EACH 3.17

*STL-101 — 8 characters per label; STL-102 — 3 characters per label.

ScotchCode® STD-TAG Dispenser

Unique write-on tag dispenser features continuous-feed design for ease of use. Dispenser holds two size wire marker tags. Dispenser contains one roll of STD-101, 102 and one SMP marking pen.

— NEW —

617-4561. STD-TAG. Dispenser with tags and pen.....EACH 36.21

617-4562. STD-101. 3/8" wire marker tag, 50 per roll.....EACH 4.98

617-4563. STD-102. 1/4" wire marker tag, 75 per roll.....EACH 4.53



Scotchcode® Write-On Dispensers and Marking Pens

The disposable write-on tape dispenser contains 250 die-cut markers and comes complete with marking pens. Writing area measures 3/4" x 5/16". O.D. range of each marker is 22-6 ang. (.090"-.315"). Vinyl tape is resistant to oils and solvents and has a high-tack acrylic adhesive. Additional marking pens can be ordered in red or black permanent ink.



617-4685. SWD. Dispenser with pen. 1-9.....EACH 19.55
10-24.....EACH 17.80
617-4690. SWD-R. Dispenser Refill. 1-9.....EACH 15.11
10-24.....EACH 13.75
617-4695. SMP. Black.....EACH 4.09
617-4700. SMP-R. Red.....EACH 4.09



Scotchcode® STD Wire Marker Tape Dispenser

This handy dispenser is a fast convenient system for marking wire or cable. Easy to carry in pocket or tool box; always at hand.

617-4545. Type STD-0-9. Dispenser with #0-9.....EACH 25.82
617-4550. Type STD-C. Dispenser with colored tape.....EACH 25.82
617-4540. STD. Dispenser only.....EACH 8.47

Scotchcode® SDR Identifying Tapes

5.5 mil reinforced flame-retardant epoxy film tape with an acrylic high tack pressure-sensitive adhesive. Tape resists abrasion, oil and water. Excellent adhesion to clean Neoprene®, Hypalon, nylon and PVC insulation materials.



Stock No.	Mfr.'s Type	Description	PER ROLL	
			1-49	50-Up
617-4555	SDR-0-9	Numbered 0-9	16.35*	14.89*
617-4560	SDR-0	Numbered "0" only	1.64	1.50
617-4565	SDR-1	Numbered "1" only	1.64	1.50
617-4570	SDR-2	Numbered "2" only	1.64	1.50
617-4575	SDR-3	Numbered "3" only	1.64	1.50
617-4580	SDR-4	Numbered "4" only	1.64	1.50
617-4585	SDR-5	Numbered "5" only	1.64	1.50
617-4590	SDR-6	Numbered "6" only	1.64	1.50
617-4595	SDR-7	Numbered "7" only	1.64	1.50
617-4600	SDR-8	Numbered "8" only	1.64	1.50
617-4605	SDR-9	Numbered "9" only	1.64	1.50
617-4610	SDR-GN	Green	1.64	1.50
617-4615	SDR-GY	Gray	1.64	1.50
617-4620	SDR-OR	Orange	1.64	1.50
617-4625	SDR-RD	Red	1.64	1.50
617-4630	SDR-BK	Black	1.64	1.50
617-4635	SDR-BL	Blue	1.64	1.50
617-4640	SDR-BR	Brown	1.64	1.50
617-4645	SDR-VL	Violet	1.64	1.50
617-4650	SDR-WH	White	1.64	1.50
617-4655	SDR-YL	Yellow	1.64	1.50

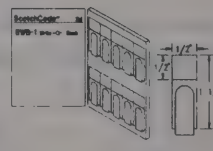
*Box of 10 rolls; each roll has a different number.

Wire Marker Books

Use the SPB book markers to mark electrical wires and terminal strips to the diameter of .47". Markers are made of vinyl impregnated cloth with a rubber adhesive back. Books contain printed vinyl cloth wire and terminal center book. **Printed Area:** 1.3 x 0.22" and 0.22 x 0.22" for terminals.



Pre-Printed



Write-On

Type SPB-01. Pre-printed wire marker book, 45 each 0-9; 15 each L1, L2, L3, T1, T2, T3.

617-4722. SPB-01.....PER BOOK 12.85

Type SPB-02. Pre-printed book of markers, 10 each A-Z, 0-15, +, -, /.

617-4723. SPB-02.....PER BOOK 12.85

Type SPB-03. Pre-printed book of markers, 10 each 1-43.

617-4724. SPB-03.....PER BOOK 12.85

Type SWB-2. Write-on book, 120 markers 75 x 1.75" (.75 x .75).

617-4726. SWB-2.....PER BOOK 12.85

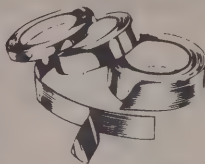
Type SWB-3. Write-on book, 60 markers, 1 x 2.85" (1 x 1).

617-4727. SWB-3.....PER BOOK 12.85

EMI/RFI Foil Shielding Tapes

Copper foil electrical tapes provide an easy-to-apply, timesaving, cost-effective way to shield against EMI/RFI radiation. Foil tapes are conductive through the adhesive and offer mechanical, electrical and thermal values to meet your shielding effectiveness and frequency requirements.

617-4705.	1181.	Copper Foil with smooth finish 1/2" x 18 yds.....	PER ROLL 20.13
617-4710.	1181.	Copper Foil with smooth finish 1" x 18 yds.....	PER ROLL 38.52
617-4715.	1245.	Copper Foil with embossed finish 1/2" x 18 yds.....	PER ROLL 18.17
617-4720.	1245.	Copper Foil with embossed finish 1" x 18 yds.....	PER ROLL 36.16



Engineering Kit for Foil Shielding Tapes

This kit is a unique new way to have a variety of foil shielding tapes conveniently at hand for design or prototype needs. **Kit Contains:** Eight rolls — 1170, 1181, 1182, 1183, 1194, 1245, 1267 and 1345; each is 3/4" by 4 yds. The compact dispenser box (4 x 7.5") serves as a desktop reference with basic technical information on each tape including product number, backing and adhesive type and thickness, adhesion, resistance, and shielding effectiveness.

617-4721.	Foil Tape Kit.....	EACH 90.23
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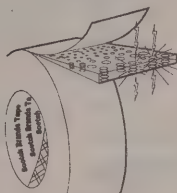
Scotch™ Adhesive Transfer Tape

9703
Scotch 9703 Conductive Adhesive Transfer Tape is an effective time-saving, cost-reducing product for use in numerous electronics assembly applications. It features anisotropic electrical conductivity, i.e. conductivity only through the adhesive thickness and not along the plane of the tape. Moreover, for bond performance you can depend on, it offers consistent caliper and high ultimate bond strength with moderate high temperature performance. And bond strength increases substantially with natural or accelerated aging.

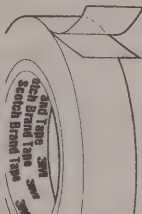
9882 Fully-Cured Acrylic Pressure Sensitive Adhesive

Say "yes" to new Scotch brand Thermally Conductive Adhesive Transfer Tapes and you get an advanced alternative for thermal management in electronics bonding and assembly.

604-0020.	9703.	Electrically Conductive 1" x 3 Yds.....	PER ROLL 19.10
604-0025.	9703.	Electrically Conductive 1" x 36 Yds.....	PER ROLL 140.45
604-0030.	9882.	Thermally Conductive 1" x 3 Yds.....	PER ROLL 18.28
604-0035.	9882.	Thermally Conductive 1" x 36 Yds.....	PER ROLL 133.57

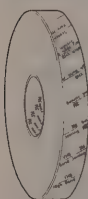


9703



9882

Scotch™ brand VHB™ Tape



Very-High-Bond (VHB™) Tape Bonds with the strength enough to replace rivets, bolts, welds and similar fastening methods. Product seals against the environment as well as resists UV light. Helps cut costs and increases manufacturing efficiency. **Color:** white. **Thickness:** .045".

604-0010.	4950 Tape (1" x 3" Strips).....	PER PK./8 2.16
604-0015.	4950 Tape (1" x 36 Yds.).....	PER ROLL 83.95

Kapton™ Polyimide Film Tape

- Chemical and Radiation Resistant Polyimide Film Is Dimensionally Stable at High Temperatures, and Flame Retardant
- Strong, Heat Resistant Silicone Adhesive Resists Adhesive Transfer at Elevated Temperatures, Providing Higher Productivity
- Color: Amber
- Roll Length: 36 yds

617-5413.	5413 (1/2").....	PER ROLL 20.65
617-5414.	5413 (3/4").....	PER ROLL 28.04



Scotch™ 130C Linerless Rubber Splicing Tape



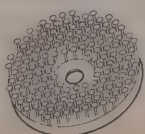
Scotch™ 130C Electrical Tape is a highly conformable, linerless Ethylene Propylene Rubber (EPR), high-voltage insulating tape formulated to provide excellent thermal dissipation of splice heat. The tape is designed for use in splicing and terminating wires and cables. Rated up to 90°C continuous operating temperatures and short term 130°C overload service. The tape will meet industry specifications for flame retardance and has excellent physical and electrical properties which provide immediate moisture seals and void-free buildups. This product can be used for low- and high-voltage (through 69 kV) applications. **Color:** Black. **Roll Length:** 30 ft.

617-0130.	130C. 1" x 30', splice up to 69kV.....	PER ROLL 9.58
617-0131.	130C. 1 1/2" x 30', splice up to 69kV.....	PER ROLL 14.56
617-0132.	130C. 2" x 30', splice up to 69kV.....	PER ROLL 19.15
617-0133.	130C. 3/4" x 30', splice up to 69kV.....	PER ROLL 7.80

Dual Lock™ Fastener

SJ3463 is a round fastener made from a rigid version of the Dual Lock™ SJ-3441. It has a recessed center hole for attachment to metal, plastic or wood with pop rivets, screws or bolts or via ultrasonic heading to a plastic stud.

604-0050.	SJ3463. 13/16" Diameter (Black).....	PER PK.10 3.14
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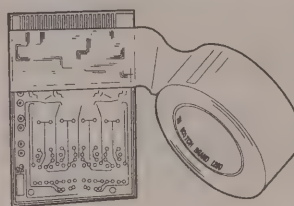
Acrylic Adhesive Foam Tapes

A-30 Series

A-30 is a firm acrylic pressure sensitive adhesive system. It features high ultimate bond strength, very good high temperature performance and solvent resistance, and high shear holding power. Bond strength increases with natural aging. These products are designed for general purpose mounting and joining, and may offer one piece removal. Surfaces and conditions in question for removal should be tested. The high degree of conformability of these tapes make them well suited for joining rough mis-matched surfaces, and the closed-cell foam makes excellent water and air seals. **Roll Size:** 1" x 36 yds.
617-4416. 4416. 1/16" Double-coated Vinyl Foam Tape.....PER ROLL 46.28
617-4408. 4408. 1/8" Double-coated Vinyl Foam Tape.....PER ROLL 60.32

A-20 Series

A-20 is a firm acrylic pressure sensitive adhesive system. It features high ultimate bond strength, very good high temperature and solvent resistance, and very high shear holding power. Bond strength increases substantially with natural aging. These urethane foams are soft, conformable and high in internal strength which makes them ideal for general purpose mounting and joining. The excellent cold temperature properties of these products make them suited for applications on snowmobiles, freezers, etc. **Roll Size:** 1" x 36 yds.
617-7016. 4016. 1/16" Double-coated Urethane Foam Tape.....PER ROLL 30.71
617-7008. 4008. 1/8" Double-coated Urethane Foam Tape.....PER ROLL 43.93



Scotch™ Brand Plating Tape

The 1280 tape is a premium grade tape with the most process latitude. It features an extra conformable adhesive that makes it an ideal choice for difficult jobs such as gold plating tin/lead PWBs. **Roll Size:** 2" x 72.

617-1280.	1280. Red plating tape, silicone/rubber.....	EACH 23.82
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Pronto™ Instant Adhesives

CA40 Instant Adhesive

- Sets in 1-30 Seconds
- Water Thin (2 to 10 cps) Viscosity Penetrates and Locks Pre-Assembled Parts
- Bonds Difficult to Adhere Plastics, Rubber, Etc.
- Conforms to Mil-Spec A-46050C

CA40 works where other adhesives will not. CA40 bonds difficult-to-bond materials, including EPDM rubber.

CA50 Gel Instant Adhesive

- Good Void and Gap Filling Properties
- Slower Setting Rate (20-70 Seconds) Allows for Repositioning
- Excellent for Wire Tacking and Coil Terminating Jobs
- Multi-Purpose Application Bonds All Types of Materials
- Bonds Difficult to Adhere Plastics, Rubber, Etc.

CA50 Gel provides a gel consistency that doesn't sag and isn't surface sensitive. Can be used on vertical surfaces.

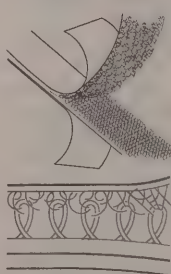
Pronto CA40 and CA50 Gel Instant Adhesives provide the right combinations of bond strength, cure time and viscosity to match your bonding requirements. All you need is a single drop per square inch to quickly bond plastics, rubber, metal, etc. Pronto Instant Adhesives are clear, one-part cyanoacrylate products which cure rapidly at room temperature to form bonds with tensile strengths up to 5,000 psi. Curing requires no expensive equipment or fixturing devices. CA40 and CA50 Gel Instant Adhesives can be cured without expensive equipment or fixturing devices, and reach handling strength in seconds. Both CA40 and CA50 Gel can be applied right from their containers making them useful in or out of the field. Both products are 100% solids. No solvents are involved.

617-0140.	CA40.....	EACH 12.95
617-0150.	CA50.....	EACH 15.51



Scotchmate™ brand Hook and Loop Fastening System

- Operating Temperature: -20°F to 120°F Continuous, -20°F to 158°F Intermittent
- Adheres To Most Smooth Surfaces
- Backing Attachment: Pressure Sensitive Rubber Adhesive
- Pack Contains 8 Mated Pcs. (8-5J3526 Mated with 8-5J3527)



When the two sides of a Scotchmate Hook and Loop Fastener are pressed together, hundreds of tiny, stiff hooks mesh with a surface of pliable loops. You simply press together to fasten and pull apart to open. And do it thousands of times during the life of your product. For use in environments where temperatures climb to levels difficult for some adhesives.

604-0005.	SJ3526/27. 1" x 3" Strips.....	PER PK./8 4.28
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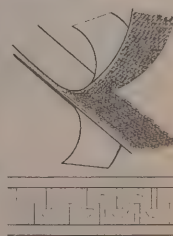
Dual Lock™ brand Reclosable Fastening Systems

SJ-3541

- Backing Attachment: Pressure Sensitive Rubber Adhesive
- Operating Temperature: -20°F to 120°F Continuous, -20°F to 158°F Intermittent with No Static Charge
- General Purpose — Bonds to Most Surfaces
- Mating Stem Type: 400
- Self Mating

SJ-3560

- Backing Attachment: Clear, Pressure Sensitive Very High Bond Scotch™ VHB™ Acrylic Adhesive
- Operating Temperature: -20°F to 200°F
- UV Resistant/Plasticizer Resistant
- Self Mating



When Dual Lock brand Reclosable Fasteners are pressed together, hundreds of mushroom-shaped stems interlock with one another. An audible snap announces that the fastener is locked. Compared to hook and loop fasteners, you get improved tensile strength with five times more holding power. Open and close hundreds of times during the life of your product.

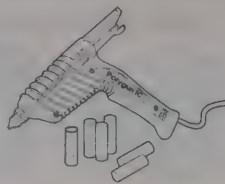
604-0040.	SJ-3541. 1" x 3" (Black).....	PER PK./8 3.68
604-0045.	SJ-3560. 1" x 3" (Clear).....	PER PK./8 6.16

Hot Melt Adhesive System

The Polygon TC Applicator is a real work-horse that delivers Jet-melt™ adhesive quickly and economically. 3M has drawn from its years of leadership in hot melt hand-gun technology to produce the ultimate low-cost applicator.

Easy Operation. The convenient cartridge holder speeds reloading and features "touch control" with special non-fatiguing thumb operation and precise, even adhesive flow. Applicator is ready to go after a brief 5-minute warm-up.

High-Speed Application. Does bigger jobs faster, dispensing industrial grade Jet-melt adhesives at flow rates that are 50% higher than comparably sized handguns. A single loading applies over 89 inches of 1/8" adhesive bead in one uninterrupted application.

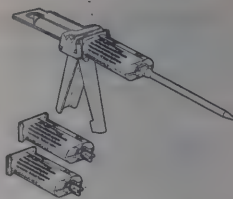


Stock No.	Mfr.'s Type	Description	Color	EACH
617-3770	Polygon TC	Applicator Tool	—	100.02
617-3779	3779 TC	Hotmelt Adhesive 5/8" x 2"	Amber	22.85*
617-3797	3797 TC	Hotmelt Adhesive 5/8" x 2"	Grey	14.03
617-3700	3747 TC	Hotmelt Adhesive 5/8" x 2"	Tan	9.13
617-3701	3748 TC	Hotmelt Adhesive 5/8" x 2"	Off White	12.27
617-3702	3762 TC	Hotmelt Adhesive 5/8" x 2"	Tan	7.43
617-3703	3792 TC	Hotmelt Adhesive 5/8" x 2"	Clear	9.03
617-3704	3748VO	Hotmelt Adhesive 5/8" x 2"	Light Yellow	12.27

* Multiple Glue Sticks in a 1 lb. bag.

ScotchWeld™ Adhesive System

The Scotch-Weld EPX Applicator System is a fast, convenient way to simultaneously meter, mix and apply two-component adhesives and potting compounds. The system features handy Duo-Pak cartridges that snap quickly into the durable, lightweight EPX applicator. For dispensing, a slight squeeze on the trigger advances the plunger into the cartridge. You're assured of accurate measurement and the mixing nozzle provides thorough mixing and precise placement of material. It's the ideal system for assembly, maintenance and in-field service. Now to meet the specialized needs of the electronics industry, 3M offers three unique new two-part epoxy formulations in Duo-Pak cartridges. These Scotch-Weld products are electrolytically noncorrosive to copper — a vital consideration where long-term reliability of electronic components is a factor.



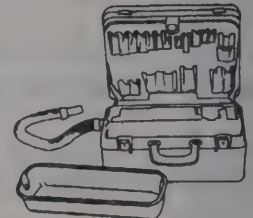
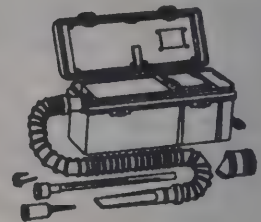
Stock No.	Mfr.'s Type	Description	EACH
617-7000	EXP Applicator	Applicator Tool	31.01
617-7001	DP-100	Clear Epoxy	7.96
617-7002	DP-270	Clear Epoxy	8.19
617-7003	DP-270	Black Epoxy	8.19
617-7004	DP-190	Gray Epoxy	9.61
617-7005	EXP Nozzle	Mixing Nozzle	.76

Electronics Vacuum Cleaner, Tool Case Vacuum Cleaners and Filters

▶ 3 Year Warranty

Features

- ▶ **Stretch Hose** — The stretch hose extends from 32" to seven feet long. Long enough to reach into large machines without lifting the vacuum, yet compact for easy storage.
- ▶ **Disposable Filters** — A choice of three conveniently disposable filters to fit your specific applications.
- ▶ **Roomy Storage Compartment for Attachments** — Attachments and power cord are easily stored inside the cover and held securely in place with an internal door.
- ▶ **Replaceable 1 HP Motor** — A replaceable one-horsepower motor gives you all the cleaning power you need and is easy to service.
- ▶ **Strong Resilient Case** — High impact plastic case is tough all over for years of hard work.
- ▶ **Two Durable Latches** — Two sturdy latches keep the lid on tight and the attachments inside during transit.
- ▶ **Current-Limiting Attachments** — Technician safety is increased because 3M's current-limiting attachments, which include a crevice tool, a wand to reach hard-to-get-at-places and a brush to loosen toner and dust particles.
- ▶ **Detachable Power Cord** — Power cord is detachable for effortless storage.



The 3M Service Vacuum Cleaner, the professionals' choice, is a powerful unit developed for high efficiency cleanup of most business equipment. Designed to be easier to use than ever, this portable vacuum makes even difficult jobs a breeze. And with a high-quality filtration system and advanced safety features, it's the only service vacuum designed specifically with the professionals' needs in mind. Convenience, quality and safety make the 3M Service Vacuum Cleaner far and away the professionals' choice for cleaning office equipment. Transporting the 3M Service Vacuum Cleaner is easier, too. A replaceable handle, two replaceable latches and new hinges mean it travels well. The case is made of high impact plastic, so it's tough on the job or on the road. The new 3M Service Vacuum Cleaner features a hose assembly, wand and crevice tool made with a new plastic that slows down the flow of electricity and drains away static, dramatically reducing potential for shock. These important current-limiting features help to protect customer engineers from the potential danger of contact with electrical power and the annoyance of electrostatic discharge (ESD). They also reduce the risk of shock damage to sensitive electronic components.

Specifications. Electrical: 115 VAC, 50/60 Hz, 5.0 amps. **Dimensions:** Length — 17.80" (45.2cm); Width — 7.75" (19.7cm); Height — 9.25" (23.5cm); Weight — 9 lbs., 14 oz. **Certification:** U.L. listed, CSA listed. **Motor:** Continuous duty rated with one sealed ball bearing and one sleeve bearing lubricated for life. Thermally protected with automatic reset. Conducted RFI filtered (reduces EMI to be below FCC requirements). Comes complete with hose, 32" - 10

ft., wand, crevice tool, crevice tool brush, dusting brush, needle nozzle, 3 year warranty.

Tool Case Vacuum: The Tool Case Vacuum comes with pallet for tools. Comes with: 25'-10" stretch hose, wand, crevice tool, creative tool brush, dusting brush and needle nozzle. Three year warranty.

617-8500. SV-Model 497AJM. 3M Electronics Service Vacuum Cleaner	EACH 240.00
617-8501. SV-Model 497AJN. 3M Tool Case Vacuum Cleaner	EACH 349.00

Replacement Filters

617-8505. SV-SPF1. Type I — small particle	EACH 22.63
617-8506. SV-MPF2. Type II — medium particle	EACH 14.91
617-8507. SV-CDF3. Type III — common dust	EACH 11.96

Multi-Fit Replacement Filters*

617-8512. SV-UFILB, Type II with standard housing	EACH 10.20
617-8513. SV-UFILSD, Type II with static dissipative housing	EACH 11.90

*New cost effective filters used in 3M 497 series vacuums, as well as, competitive vacuums.

Dusting Fabric



Fabric contains an exclusive low-tact adhesive, that firmly captures dust and debris. Fabric is non-abrasive and lint free.

617-8508. SV-DF01. 11" x 14 1/2"	PER PK./40 5.67
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Industrial Cleaner And Scotch Brand 5-Way Penetrant

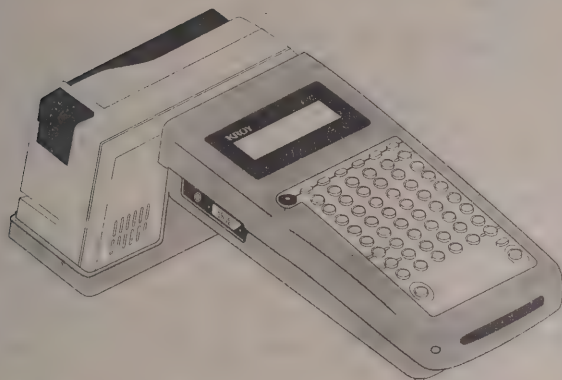
Cleaner. Heavy-duty industrial degreaser/cleaner. Effective on grease, oils, grime, printing inks, and most non-curing adhesives and tape residues. Can be used on unpainted metals, ceramic, glass, porcelain, many plastics, and most painted surfaces. No environmental harmful or caustic solvents; no toxic residues.

Penetrant. A multi-purpose penetrant that will displace moisture to help prevent shorting, increase conductivity and inhibit rust and corrosion by penetrating the pores of the surface freeing rust or frozen bolts and nuts. Harmless to paint, plastics, fabrics and rubber. Contains no Methylene Chloride, 1,1,1-Trichloroethane or Chlorofluorocarbons.

617-8509. Industrial Cleaner. Citrus Base Cleaner, Aerosol Solution	EACH 11.59
617-8510. 5 Way 24oz. Penetrant, 24oz.	EACH 7.44
617-8511. 5 Way 6oz. Penetrant, 6oz.	EACH 3.69



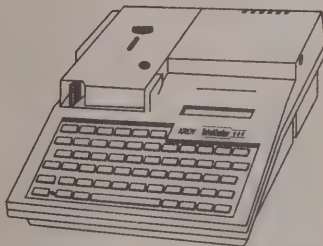
K2000 The "All In One" Industrial Labeling System



- Prints From 6 to 72 Point Alpha/Numeric Legends on Industrial Laminate Tape Cartridge Supply
- Eight Resident BARCODES, RS232 Port for Scanner Wand, Computer Generated Labels and PCMCIA Interface Card Slot for Custom Programs
- Prints on Heat Shrink Tubing with Either Alpha/Numeric Legends, Bar Codes or Both for Easy Wire/Cable Identification
- No Smear Thermal Transfer Technology
- Six Resident Languages: English, Spanish, French, German, Italian and Portuguese
- 3/8" And 1/2" Tubing Meets MIL-I-23053/5 Class 3 Specifications

Tubemarker Model TM600 Heat Shrink Tube Labeling System

- Prints on 3 Sizes Shrink Tube Covering 10-22 Gauge Wire Sizes
- Prints on 1/2 Inch, 50 Foot Laminated Tape Supply, Fast Changeover
- Prints One Line Legend, Any Length, in Four Font Sizes: 8, 10, 12 and 16 Point
- 16 Character LED Display Affords Proofing Before Printing



Model TM600 is about the size of a desktop calculator and uses either industrial grade laminated tape, or shrinkable tubing. Unit prints in four font sizes in bold, underline, vertically or horizontally. Repeats legend up to 99 times and will sequence up to four letters or numbers. Legends can be centered automatically to tube size selected. Six Resident Languages: English, Spanish, French, German, Italian and Portuguese. Shipped as AC or battery operated kit; includes carrying case, AC adapter or battery charger and one each shrink tubing sizes. 8" W x 27/8" H x 9 1/2" D. **Shipping Weight of Kits:** 9 lbs, 10 oz.

Stock No.	Mfr.'s Type	Description	EACH
255-0060	2404101	TM600 Kit AC Powered	449.00
255-0065	2404102	TM600 Kit Battery Powered	449.00
255-0070	2404201	.125" white tubing, black print	29.95
255-0075	2404210	.188" white tubing, black print	29.95
255-0080	2404220	.250" white tubing, black print	29.95
255-0085	2404202	.125" yellow tubing, black print	32.95
255-0090	2404211	.188" yellow tubing, black print	32.95
255-0095	2404221	.250" yellow tubing, black print	32.95
255-0100	2464401	.50" x 50' clear tape, black print	34.95
255-0105	2464416	.50" x 50' white tape, black print	34.95
255-0110	2464435	.50" x 50' red tape, black print	34.95
255-0115	2464443	.50" x 50' yellow tape, black print	34.95

Portable labeler prints .8" and 1" labels. 203 dpi (dots per inch) thermal transfer resolution with resident typestyle corresponds to Helvetica. **Resident Barcode Symbolologies:** 3 of 9, 12, of 5, 128, UPC-A, UPC-E, EAN 8, EAN 13, CODABAR. **Features Include:** 1 to 6 line printing, 67 scalable type sizes (6 pt-72 pt in 1 pt increments). **Styles:** outline, bold, shadow, frame, italic, mirror, vertical and rotation feature. Left, right or center justification and label format options for margins and label width.

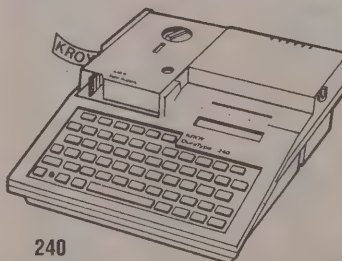
Alpha/numeric sequencing and repeat (1-999). 128 K memory (6000 characters) to save label files. RS232 port for computer connection, or use of scanner. Application card (PCMCIA) capability available. K2000 is shipped complete with one black on white (40 ft.) tape supply, 6 ni-cad C-cell batteries, battery charger and owners manual. Optional AC adapter, carrying case and supplies are listed below. Unit measures 4" H x 6" W x 11 1/4" D. **Weight with batteries:** 4 lbs.

Stock No.	Mfr.'s Type	Description	EACH
255-0010	2426501	K2000 Labeling System	1095.00
255-0015	2435100	AC adapter	39.95
255-0020	2447100	Hard sided carrying case	73.95

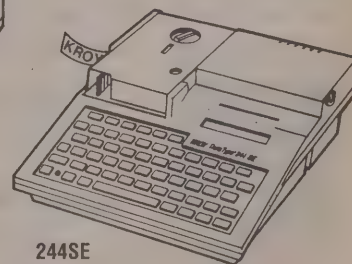
Industrial Laminated Tape Supplies and Heat Shrink Tubing

255-0025	2438601	1" black image on clear tape 40'	39.95
255-0026	2438616	1" black image on white tape	39.95
255-0030	2438643	1" black image on yellow tape 40'	39.95
255-0031	2438620	1" white image on black tape	39.95
255-0035	2438636	1" white image on red tape	39.95
255-0040	2470021	1/4" white tube, black print 9'	34.95
255-0041	2470022	1/4" yellow tube, black print	37.95
255-0045	2470031	3/8" white tube, black print 9'	34.95
255-0046	2470032	3/8" yellow tube, black print	37.95
255-0050	2470041	1/2" white tube, black print 9'	34.95
255-0051	2470042	1/2" yellow tube, black print 9'	37.95
255-0055	2483801	TAMPER-EVIDENT security tape. Word VOID appears if lifted. 1" black on white	35.95

Duratype 240/244SE Labelers for Office, Plant and Labs



240



244SE

- 240 Dots Per Inch Resolution
- Automatic Alpha/Numeric Sequencing A-Z, 1-99
- Prints Up To 15 Characters Per Second Quietly
- Industrial Grade Tape Supplies With Built In Cutter

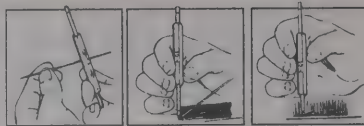
240 has 1-line 10 and 24 pt. type, vary text with outline, underline, bold, frame or mirror. 244SE adds negative image and shadow text feature and is a 4-line printer with 6, 8, and 12 pt. type. Both models repeat text up to 99 times. Horizontal or vertical printing. Six resident languages. Barcode cards option available.

Stock No.	Mfr.'s Type	Description	EACH
255-0120	2225700	240 1-line printer requires 4 ni-cads C-cell batteries or adapter (not included)	169.00
255-0125	2459000	AC adapter	33.90
255-0130	2383201	244SE 4-line printer includes AC adapter	329.00
255-0135	2383206	244SE kit includes AC adapter, carrying case, 3 tape supplies and 36 pt. type card	488.80
255-0140	2357501	.5" x 50' clear tape, black print	34.95
255-0145	2357516	.5" x 50' white tape, black print	34.95
255-0150	2357536	.5" x 50' red tape, white print	34.95
255-0155	2357543	.5" x 50' yellow tape, black print	34.95



WSU Series Hand Wrapping, Stripping and Unwrapping Tools

Model WSU-30M performs the work of three separate tools. Wraps/unwraps 30 AWG (0.25 mm) wire onto standard .025" (0.6 mm) square DIP socket posts and strips 30 AWG wire nick-free. Makes a "modified style" of wrap, in which approximately 1 1/2 turns of insulated wire are wrapped in addition to the bare wire for added mechanical stability. All metal construction for years of dependable service. Model WSU-30 offers same design, quality, and workmanship but will wrap lengths of stripped wire only.



Stock No.	Mr.'s Type	Use With	EACH
825-2224	WSU-2224	22-24 AWG on standard .031" x .06" and .045" square posts	32.00
825-1437	WSU-30M	Modified wrap for 30 AWG on .025" square posts	20.70
827-1430	WSU-30	Regular wrap for 30 AWG on .025" square posts	19.50

Hand Wrapping/Unwrapping Tools

New convenience. One tool that does the job of two. Quick, convenient and easy to use. To switch from wire-wrapping to unwrapping takes only seconds — just a quick change of the cap from one end to the other.



Wrapping Side				Unwrapping Side				EACH
Stock No.	Mr.'s Type	Wrap	Wire Size (AWG)	Max. Insul. Dia.	Term. Hole Dia.	Term. Hole Depth	Term. Hole Dia.	
825-2050	HW-UW-1819	Reg	18-19 GA	—	.075	1.000	.075	79.62
825-2051	HW-UW-20	Reg	20 GA	—	.075	1.000	.070	68.50
825-2052	HW-UW-224	Reg	22-24 GA	—	.075	.807	.070	68.50
825-2057	HW-UW-26SM	Mod	26 GA	.031	.046	.750	.038	79.65

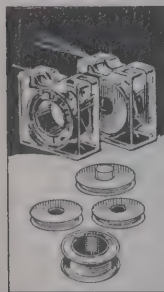
Hand Unwrapping Tools

These tools are used to easily remove solderless wrapped connections from 18 thru 32 gauge wire.



Stock No.	Mr.'s Type	Type	Wire Size (AWG)	Type	Term. Hole Dia.	Term. Hole Depth	EACH
825-2045	UW-1819	A	18-19	Left	.075	1.000	25.01
825-2030	UW-1	A	20-26	Left	.070	1.000	15.52
825-2031	UW-2	C	20-26	Left	.070	1.000	20.68
825-2032	UW-4	B	20-26	Right	.070	2.360	21.61
825-2033	UW-7	A	20-26	Left	.086	.750	15.52
825-2036	UW52-L	C	20-26	Left	.052	.750	20.64
825-2035	UW-093R	A	24-32	Left	.038	1.000	12.36
825-2038	UWD-93-93	C	24-32	Right	.038	1.000	20.64
825-2039	UW-2832C	B	28-32	Left	.038	.750	20.64

Wire Dispenser



Cuts wire to length, strips 1" of insulation. With 50-ft. roll of AWG #30 Kynar wire-wrapping wire. Refillable.

Stock No.	Mr.'s Type	Wire Color	EACH
827-4030	WD-30-B	Blue	12.18
827-4031	WD-30-Y	Yellow	12.18
827-4032	WD-30-W	White	12.18
827-4033	WD-30-R	Red	12.18

Replacement Rolls for Above

Stock No.	Mr.'s Type	EACH
827-4040	R-30-B-0050	7.00
827-4041	R-30-Y-0050	7.00
827-4042	R-30-W-0050	7.00
827-4043	R-30-R-0050	7.00

Tri-Color Dispenser

Stock No.	Mr.'s Type	EACH
827-4020	WD-30-TRI	21.00
827-4025	R-30-TRI	16.00

Socket-Wrap I.D. Plastic Panels

Don't get stuck with unmarked pins. Identify pin numbers on wire-wrapping sockets with these socket-sized plastic panels with numbered holes in pin locations. Simply slip on the socket before wrapping to greatly simplify both initial wire-wrapping and troubleshooting or repair. Can also be written on for easy identification of location. IC part numbers, function, etc.



Stock No.	Mr.'s Type	Pins	Row Spacing	Quantity Per Pack	EACH
825-5049	ID-8-100	8	.3" (7.5 mm)	100	14.38
825-5050	ID-14-100	14	.3" (7.5 mm)	100	13.13
825-5051	ID-16-100	16	.3" (7.5 mm)	100	13.25
825-5052	ID-18-50	18	.3" (7.5 mm)	50	11.25
825-5053	ID-20-50	20	.3" (7.5 mm)	50	12.50
825-5054	ID-22-50	22	.4" (10 mm)	50	12.50
825-5055	ID-24-50	24	.6" (15 mm)	50	15.00
825-5056	ID-28-50	28	.6" (15 mm)	50	17.50
825-5057	ID-40-25	40	.6" (15 mm)	25	14.38
825-5058	ID-96-25	96	.3" (7.5 mm)	25	16.88

Pre-Cut and Pre-Stripped Wrapping Wire

KYNAR™ 30 AWG (0.25 mm)

Insulation Diameter: .0195" (0.50 mm). Strip-off Length Both Ends: 1" (25 mm). 500 wires per package. Replace "X" in Stock No. with number indicated above color.



Stock No.	Insulation Length		Mfr.'s Type					PER PK/500	
	Inch	MM	0 White	1 Yellow	2 Blue	3 Red	4 Black	1-4	5-25
825-3X11	1	25	30W-010	30Y-010	30B-010	30R-010	30BLK-010	11.21	10.50
825-3X12	2	51	30W-020	30Y-020	30B-020	30R-020	30BLK-020	12.95	12.00
825-3X13	3	76	30W-030	30Y-030	30B-030	30R-030	30BLK-030	14.30	13.26
825-3X14	4	101	30W-040	30Y-040	30B-040	30R-040	30BLK-040	18.00	17.00
825-3X15	5	127	30W-050	30Y-050	30B-050	30R-050	30BLK-050	19.26	18.24

KYNAR™ 28 AWG Wire

825-8X11	1	25	28W-010	28Y-010	28B-010	—	—	13.51	13.00
825-8X12	2	51	28W-020	28Y-020	28B-020	—	—	15.23	14.50
825-8X13	3	76	28W-030	28Y-030	28B-030	—	—	16.79	15.50
825-8X14	4	101	28W-040	28Y-040	28B-040	—	—	18.97	17.50
825-8X15	5	127	28W-050	28Y-050	28B-050	—	—	20.49	19.64

KYNAR™ Wire Rolls; 30 and 28 AWG

Stock No.	Roll Size	AWG Size	Mr.'s Type				PER ROLL
			1 Blue	2 White	3 Yellow	4 Red	
825-8X16	100'	30	R30B0100	R30W0100	R30Y0100	R30R0100	8.91
825-8X17	500'	30	R30B0500	R30W0500	R30Y0500	R30R0500	23.86
825-8X18	100'	28	R28B0100	R28W0100	R28Y0100	R28R0100	10.06
825-8X19	500'	28	R28B0500	R28W0500	R28Y0500	R28R0500	35.19

Cut/Strip/Wrap Wire-Wrapping Wire Rolls; 24, 26 and 30 AWG

Stock No.	Roll Size	AWG Size	Mr.'s Type			PER ROLL
			1 Blue	2 Yellow	3 White	
825-8X20	100'	24	KSW24B0100	KSW24Y0100	KSW24W0100	17.25
825-8X21	100'	26	KSW26B0100	KSW26Y0100	KSW26W0100	13.80
825-8X22	100'	30	KSW30B0100	KSW30Y0100	KSW30W0100	11.50

Wire Cut-and-Strip Tools

A revolutionary new concept for easy and clean stripping of wires for wire-wrapping. Easy to operate — place wires (up to 4) in stripping slot with ends extending beyond cutter blades — press tool and pull — wire is cut and stripped to proper "wire-wrapping" length.



Stock No.	Mr.'s Type	Wire Size (AWG)	Adjustable "Shiner" Length of Stripped Wire		Blade Type	EACH	Stock No.	Replacement Blade Numbers	EACH
			From	To					
825-2201	ST-100	22-24 GA	1 1/8"	1 9/16"	Double	28.75	825-2221	OK-3907-B	5.17
825-2202	ST-100-24	24 GA	1 1/8"	1 9/16"	Single	28.75	825-2222	OK-3907-24B	5.88
825-2203	ST-100-26	26 GA	1 1/8"	1 11/16"	Single	28.75	825-2223	OK-3907-26B	5.88
825-2204	ST-100-28	28 GA	1 1/8"	1 1/8"	Single	32.50	825-2224	OK-3907-28B	7.25
825-2205	ST-100-30	30 GA	1 1/8"	1 1/8"	Single	32.50	825-2225	OK-3907-30B	6.38

Wire Wrapping Bits and Sleeve



BIT				Sleeve							
Stock No.	Mr.'s Type	Wire Gauge (AWG)	Wrap	EACH	Stock No.	Mr.'s Type	Max. Insul. Dia.	Term. Hole Dia.	Term. Hole Depth	Min. Term. Dia.	Max. Term. Dia.
825-2010	KB22	22	Reg	42.00	825-2015	P2224	—	.075	.750	.054	.073
825-2100	WB2275M	22	Mod	40.00	825-2015	P2224	.052	.075	1.000	.049	.074
825-2103	KB24	22-24	Reg	33.00	825-2015	P2224	—	.075	.807	.054	.073
825-2011	KB24	24	Reg	38.00	825-2016	P2426	—	.075	.750	.055	.074
825-2101	WB24M	24	Mod	46.00	825-2015	P2224	.046	.075	.750	.054	.073
825-2012	KB26	26	Reg	46.35	825-2016	P2426	—	.075	1.000	.058	.073
825-2102	WB26SM	26	Mod	46.00	825-2020	P26LN	.031	.040	.750	.028	.038
825-2103	WB26M	26	Mod	46.00	825-2015	P2224	.046	.075	1.000	.054	.073
825-2104	WB26SHM	28	Mod	40.48	825-2018	P3032	.030	.036	.750	.031	.034
825-2105	SB30MSH-B	30	Mod	42.88	825-2018	P3032	.027	.036	.750	.031	.034
825-2025	WB3032M	30-32	Mod	39.96	825-2018	P3032	.027	.040	.750	.034	.038

Wire Bit and Sleeve Sets

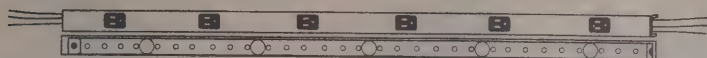
Type CSW24-7035 fits 24 AWG regular wrap; CSW26M-4026 fits 26 AWG modified wrap; CSW30M-3619 fits 30 AWG modified wrap.

Stock No.	Mr.'s Type	Term. Hole		Term. Hole		Wire Insul. Dia.		EACH
		Max.	Min.	Diameter	Depth	Max.	Min.	
825-2470	CSW24-7035	.068"	.057"	.070"	1.00"	.035"	.035"	228.85
825-2640	CSW26M-4026*	.035"	.031"	.040"	0.75"	.030"	.026"	228.85
825-3036	CSW30M-3619*	.035"	.031"	.036"	0.75"	.021"	.019"	228.85

* Manufacturer's recommendation for 0.025" terminals in 0.100" centers.

Wiremold® Wire-Management Products — 2000 Plugmold® Multioutlet Systems

— NEW —



- ▶ Pre-Wired Electrical Raceway Provides Multiple Outlet Convenience for Electrically Busy Locations
- ▶ Hardwired for Permanent Installations
- ▶ 15 A Specification Grade Receptacles at 6" or 12" Centers
- ▶ Compact Low Profile Design (1 1/2" H x 3/4" W x 3/4" D)
- ▶ Baked Enamel Ivory Finish or Gray Finish
- ▶ Pre-Wired with 12 Gauge Insulated Solid Wire
- ▶ 3, 5 or 6 Ft. Lengths
- ▶ UL Listed, CSA Certified

Stock No.	Mfr.'s Type	Length	Color	Quantity of Outlets	Center to Center	EACH
533-7400	V20GB306	3'	Ivory	6	6"	25.44
533-7405	G20GB306	3'	Gray	6	6"	25.44
533-7410	V20GB506	5'	Ivory	10	6"	38.30
533-7415	G20GB506	5'	Gray	10	6"	38.30
533-7420	V20GB512	5'	Ivory	5	12"	27.61
533-7425	G20GB512	5'	Gray	5	12"	27.61
533-7430	V20GB606	6'	Ivory	12	6"	43.73
533-7435	G20GB606	6'	Gray	12	6"	43.73
533-7440	V20GB609	6'	Ivory	8	9"	35.57
533-7445	G20GB609	6'	Gray	8	9"	35.57
533-7450	V20GB612	6'	Ivory	6	12"	32.83
533-7455	G20GB612	6'	Gray	6	12"	32.83

Surface Raceway

Shape Electronics offers a full line of Wiremold® plastic surface raceway to simplify any new or existing wiring or cabling job. Wiremold raceway systems are ideal for smoke detectors, burglar alarms, fire alarms, additional receptacles and switches, ceiling fans, telecommunication systems or computer networking. These systems offer a flexible organized method to run power or data cabling over walls or on the floor and most models can be painted to match the surroundings. Adhesive backing speeds installation and snap-on fittings provide easy access for changes or future additions. Wiremold raceway protects electrical wiring for a safer installation.

Uniduct™ Ivory 1 Piece Raceway



Uniduct



Device Box

Uniduct is a single piece latching raceway designed to secure and protect low-voltage (50 volts or less) wires and communication cables. The easy open and snap-close flexible hinge allows for quick installations and changes.

Raceway

Stock No.	Mfr.'s Type	Description	Pkg. Qty.	PER PKG.
533-7001	2700	3/4"H x 3/4"D — 6 ft. lengths	1	9.90
533-7005	2800	1"H x 1/2"D — 6 ft. lengths	1	10.92
533-7012	2900	1 1/2"H x 3/4"D — 6 ft. lengths	1	14.88

Fittings for 2700 Raceway

533-7015	2706	Cover Clip	20	20.40
533-7020	2710B	Blank End Fitting	10	10.20
533-7025	2711	90° Flat Elbow	20	20.40
533-7030	2715	Tee	10	10.20
533-7035	2717	Internal Elbow	20	20.40
533-7040	2718	External Elbow	10	10.20
533-7045	2786	Ceiling Drop Connector	10	12.70

Fittings for 2800 Raceway

533-7050	2806	Cover Clip	20	21.60
533-7055	2810B	Blank End Fitting	10	10.80
533-7060	2811	90° Flat Elbow	20	21.60
533-7065	2815	Tee	10	10.80
533-7073	2817	Internal Elbow	20	21.60
533-7075	2818	External Elbow	10	10.80
533-7080	2886	Ceiling Drop Connector	10	12.70
533-7085	2889	2800 to 2700 Reducer	10	10.80

Fittings for 2900 Raceway

533-7090	2906	Cover Clip	20	23.40
533-7095	2910B	Blank End Fitting	10	11.70
533-7100	2911	90° Flat Elbow	20	23.40
533-7105	2915	Tee	10	11.70
533-7111	2917	Internal Elbow	20	23.40
533-7116	2918	External Elbow	10	11.70
533-7120	2986	Ceiling Drop Connector	10	12.70
533-7125	2989	2900 to 2800 Reducer	10	11.70
533-7130	2989A	2900 to 2700 Reducer	10	11.70

Device Boxes

533-7135	2948	1 Gang Box 1 3/4" Deep	1	3.86
533-7140	2948-2	2 Gang Box 1 3/4" Deep	1	6.27
533-7145	2949	Communication Box	1	6.83
533-7150	2949FO	Fiber Optic Kit	1	2.94

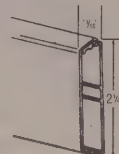
2 Piece Ivory Raceway Base and Cover



400



800



2300

The Two Piece raceway systems are constructed of rigid PVC that resists impact and corrosion and are UL and CSA listed for applications up to 300 volts. Three sizes to choose, simply mount the base, run the wire and snap on the cover.

Raceway

Stock No.	Mfr.'s Type	Description	Pkg. Qty.	PER PKG.
533-7155	400BAC	7/8"H x 7/16"D — 5 ft. lengths	1	5.75
533-7160	800BAC	1 5/16"H x 7/16"D — 5 ft. lengths	1	6.75
533-7165	2300BAC	2 1/4"H x 1 1/16"D — 5 ft. lengths	1	9.75

Fittings for 400 Raceway

533-7170	400WC	Wire Clip	100	18.00
533-7175	406	Cover Clip	10	3.20
533-7180	410B	Blank End Fitting	20	8.60
533-7185	411	90° Flat Elbow	10	11.50
533-7190	415	Tee Base and Cover	5	7.65
533-8000	417	Internal Elbow	10	10.80
533-8005	418	External Elbow	10	10.80

Fittings for 800 Raceway

533-8010	800WC	Wire Clip	100	22.00
533-8015	806	Cover Clip	10	2.80
533-8020	810A1	Entrance End Fitting	5	15.10
533-8025	810B	Blank End Fitting	20	9.60
533-8030	811	90° Flat Elbow	10	12.00
533-8035	815	Tee	5	7.90
533-8040	817	Internal Elbow	10	11.20
533-8045	818	External Elbow	10	11.20
533-8050	889A	800 to 400 Reducer	5	8.90

Fittings for 2300 Raceway

533-8055	2300WC	Wire Clip	100	27.00
533-7255	2306	Cover Clip	10	4.80
533-7260	2310A	Entrance End Fitting	5	18.75
533-7265	2310B	Blank End Fitting	5	3.85
533-7270	2311	90° Flat Elbow	5	6.85
533-7275	2315	Tee	5	8.25
533-7280	2317	Internal Elbow	5	6.85
533-7285	2318	External Elbow	5	6.85
533-7290	2389	2300 to 800 Reducer	5	9.70
533-7295	2389A	2300 to 400 Reducer	5	9.70

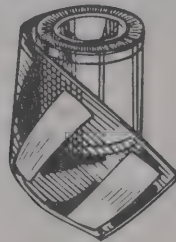
Device Boxes

533-7300	2336	Blank Cover	1	3.32
533-7305	2337A	Round Extension Box	1	7.70
533-7310	2338	Round Box 4 3/4" Dia.	1	7.52
533-7315	2338A	Round Box 5 1/2" Dia.	1	7.70
533-7320	2347	1 Gang Box 1 3/8" Deep	1	3.40
533-7325	2347-2	2 Gang Box 1 3/8" Deep	1	5.06
533-7330	2348	1 Gang Box 1 3/4" Deep	1	3.86
533-7335	2348-2	2 Gang Box 1 3/4" Deep	1	6.27
533-7340	2348-3	3 Gang Box 1 3/4" Deep	1	9.28
533-7345	2351	Extension Box 7/8" Deep	1	3.28
533-7350	2348AMP	1 Gang Magnetic Box	1	7.39
533-7355	2348-2AMP	2 Gang Magnetic Box	1	11.76
533-7360	2349	Communication Box	1	6.83
533-7365	2949FO	Fiber Optic Kit	1	2.94

Portable Wire Marker Printer

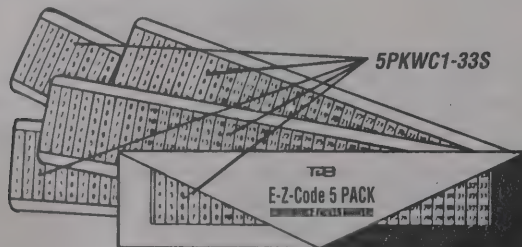

Internal Ni-Cad batteries require 10-12 hours charging time to print approximately 3 rolls of markers without adapter. 120VAC, 60Hz power required for use with adapter. Storage capacity for 100 labels and jobs lists. Can print a directory of entries. Prints up to 16 Alpha, numeric, and special symbols on a single line. Keyboard includes special symbols for marking electrical wires or panel boards. Sequences infinitely. Multiple sequence quantity up to 99, select marker quantity up to 99. Automatic shut-off with recall of last legend. Includes wall adapter, 1 roll of WPR-125A labels, 1 cartridge ribbon, an instruction manual, a marker removal tool and a carrying case for the printer and accessories.

534-3001. WD-26P. Wire Marker PrinterEACH 898.61

Wire Marker Printer Refill Rolls


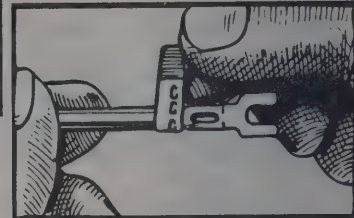
Stock No.	Mfr.'s Type	Description	EACH
534-3002	WPR-125A	500 markers, 1 1/16" Wd x 1 3/8" Lg — 7 char/line	45.07
534-3004	WPR-125B	250 markers, 1 3/8" Wd x 1 3/8" Lg — 16 char/line	45.07
534-3006	WPR-125C	750 markers, 1 5/32" Wd x 1 3/8" Lg — 4 char/line	45.07
534-3008	WPR-125D	1000 markers, 1 1/32" Wd x 1 3/8" Lg — 3 char/line	45.07
534-3010	WPR-135A	200 markers, 1 1/16" Wd x 3 5/16" Lg — 7 char/line	45.07
534-3012	WPR-135B	100 markers, 1 3/8" Wd x 3 5/16" Lg — 16 char/line	45.07
534-3014	WPR-145A	150 markers, 1 1/16" Wd x 5 1/16" Lg — 7 char/line	45.07
534-3016	WPR-145B	75 markers, 1 3/8" Wd x 5 1/16" Lg — 16 char/line	45.07

Each refill roll comes in a package with a carbon black ink cartridge.

E-Z-Code® Wire Marker Cards


Each package contains 5 cards of 36 markers per card, durable WBC vinyl cloth for long-life reliability.

Stock No.	Mfr.'s Type	Description	PER PK./5
534-3090	5PKWC1-33S	1 through 33	7.11
534-3092	5PKWC34-66S	34 through 66	7.11
534-3094	5PKWC67-99S	67 through 99	7.11
534-3096	5PKWCAZ-AJS	A through Z plus A through J	7.11

E-Z-Code® WBC Vinyl Cloth Standard Books


Stock No.	Mfr.'s Type	Description	EACH
534-3020	WM-0-9	40 markers each 0 through 9 10 markers each T ₁ , T ₂ , T ₃ , L ₁ , L ₂ , L ₃	12.97
534-3022	WM-0-9M	46 markers each 0 through 9 One number per page	12.97
534-3024	WM-0-45	10 markers each 0 through 45	12.97
534-3026	WM-46-90	10 markers each 46 through 90	12.97
534-3028	WM-A-Z	10 markers each A through Z, +, -, and 0 through 15	12.97
534-3030	WM-123	150 markers each 1, 2, 3	12.97
534-3032	WM-ABC	150 markers each A, B, C	12.97
534-3034	WM-A-33	10 markers each 1 through 33, A, B, C, +, -, T ₁ , T ₂ , T ₃ , L ₁ , L ₂ , L ₃	12.97
534-3036	WM-A-90	6 markers each 0 through 15 4 markers each 16 through 90, 2 markers each A through Z	12.97
534-3038	WM-GRD-7/16" X 2 1/2"	120 markers with ground legend	12.97
534-3040	WM-GRD-7/16" X 1 1/4"	240 markers with ground legend	12.97
534-3042	WM-0	460 markers with 0	12.97
534-3044	WM-1	460 markers with 1	12.97
534-3046	WM-2	460 markers with 2	12.97
534-3048	WM-3	460 markers with 3	12.97
534-3050	WM-4	460 markers with 4	12.97
534-3052	WM-5	460 markers with 5	12.97
534-3054	WM-6	460 markers with 6	12.97
534-3056	WM-7	460 markers with 7	12.97
534-3058	WM-8	460 markers with 8	12.97
534-3060	WM-9	460 markers with 9	12.97
534-3062	WM-A	460 markers with A	12.97
534-3064	WM-B	460 markers with B	12.97
534-3066	WM-C	460 markers with C	12.97
534-3068	WM-D	460 markers with D	12.97
534-3070	WM-E	460 markers with E	12.97
534-3072	WM-F	460 markers with F	12.97
534-3074	WM-G	460 markers with G	12.97
534-3076	WM-L	460 markers with L	12.97
534-3078	WM-N	460 markers with N	12.97
534-3080	WM-P	460 markers with P	12.97
534-3082	WM-R	460 markers with R	12.97
534-3084	WM-S	460 markers with S	12.97
534-3086	WM-T	460 markers with T	12.97
534-3088	WM-X	460 markers with X	12.97

Premium Grade Wire Pulling Lubricant

- ▶ Preferred Wax Base Formulation
- ▶ Retains Lubricating Properties and Will Not Separate up to 200°F
- ▶ Will Not Separate After Frozen
- ▶ Superior Adherence to Cable
- ▶ Recommended for use on all Commonly Used Wire and Cable Including High Voltage Cable
- ▶ Dries to Slick, Waxy Film
- ▶ Non-toxic, No Silicones, Non-staining, Easy Clean Up
- ▶ UL Listed E43782

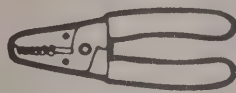


Stock No.	Mfr.'s Type	Description	NAED Number	EACH	
				1-4	5-9
534-5230	15-230	1 Quart	783786-15230	5.75	5.30
534-5231	15-231	1 Gallon	783786-15231	13.26	12.31
534-5236	15-236	Squeeze Bottle, one quart	783786-15236	5.92	5.46

Wire Strippers and Cable Rippers



18-800



18-850S

Combination Wiring Tool

- ▶ Sizes Strips, and Cuts Wire #16-6 Solid, #18-8 Stranded
- ▶ Sizes Threads and Cuts Bolts, 4-40, 6-32, 8-32, 10-32, 10-24
- ▶ Crimps Bare and Insulated Terminals #22-10AWG
- ▶ Conduit Reaming Nose, Wire Looping Holes
- ▶ Adjustable Hinge Bolt Assures Stripping Blade Alignment
- ▶ 1/2" Cutting Blade is Hardened to Hold the Edge
- ▶ Made of Premium Tool Steel

Wire Stripper

- ▶ Sizes, Strips, and Cuts Wire #16-6 Solid, #18-8 Stranded
- ▶ Model 18-850S has Anchored Handle Spring for Easy Handle Operation, Spring Stays Put
- ▶ Conduit Reaming Nose, Wire Looping Holes
- ▶ Adjustable Hinge Bolt Assures Stripping Blade Alignment
- ▶ 1/2" Cutting Blade is Hardened to Hold the Edge
- ▶ Made of Premium Tool Steel

Stock No.	Mfr.'s Type	Description	NAED Number	EACH	
				1-4	5-9
534-8800	18-800	Combination Wiring Tool	783786-18800	22.75	19.50
534-8850	18-850S	Wire Stripper with Wire Spring	783786-18851	11.50	10.61



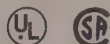
Self Adjusting Wire Stripper

- ▶ The First Good End Stripper on the Market
- ▶ No Need to Determine Wire size, Stripper Adjusts Automatically
- ▶ Grips Wire and Strips With One Squeeze of the Handles
- ▶ Strips and Cuts #18-10 Solid or Stranded
- ▶ Wire is Never Nicked or Cut Because Blade Never Touches It

Stock No.	Mfr.'s Type	Description	NAED Number	EACH	
				1-4	5-9
534-8300	18-300	Self-Adjusting Wire Stripper	783786-18300	32.08	27.50

Receptacle Tester

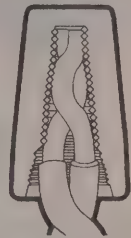
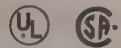
- ▶ Conveniently Tests Receptacles for Proper Wiring Including Polarity and Presence of Safety Ground wire
- ▶ Easy to Read Indication Legend
- ▶ Pocket Size
- ▶ U.L. Listed E80682, CSA Certified



Stock No.	Mfr.'s Type	Description	NAED Number	EACH	
				1-4	5-9
534-9060	19-060	Receptacle Tester for 120V Ckts	783786-19060	15.20	14.03

Fixed Spring® Wire Connectors

- ▶ Five Space Efficient, Color-Coded Sizes
- ▶ Deep, Wide Connector Entry
- ▶ Wire Range #22-10 AWG Copper Only
- ▶ Plated Steel, Square Wire Springs
- ▶ Flame Retardant Thermoplastic Shells
- ▶ U.L. Listed E17010 and CSA Certified LR6541
- ▶ Rated 105°C (221°F)

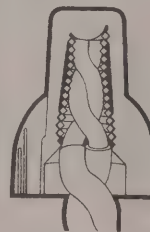


For making branch circuit wire or fixture wire connections on numerous combinations of solid and/or stranded copper wire.

Stock No.	Mfr.'s Type	Description	Wire Range	Min.	Max.	NAED Number	PK/100	
							1-4	5-9
534-0010	10-100-H	(Hi-0) Grey	22-16	1#20W/1#22	2#16	783786-10130	5.09	4.70
534-0012	10-102-H	(Hi-2) Blue	22-14	3#22	3#16	783786-10102	5.35	4.94
534-0013	10-103-H	(Hi-3) Orange	22-14	3#22	2#14W/1#18	783786-10103	6.14	5.66
534-0014	10-104-H	(Hi-4) Yellow	18-10	1#14W/1#18	1#10W/1#14	783786-10104	7.16	6.61
534-0016	10-106-H	(Hi-6) Red	18-10	2#14	4#12	783786-10106	10.41	9.61



Freespring® Wire Connector



- ▶ Each Size Joins a Wide Range of Conductor Sizes and Combinations
- ▶ Four Color Coded Sizes
- ▶ Wire Range #22-6AWG Copper Only
- ▶ No Need to Pre-twist Wires
- ▶ Flame Retardant Thermoplastic Shells
- ▶ Plated Steel, Square Wire Springs
- ▶ U.L. Listed E17010 and CSA Certified LR6541
- ▶ Rated 105°C (221°F)

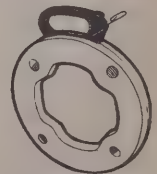
For making branch circuit wire or fixture wire connections on numerous combinations of solid and/or stranded copper wire.

Stock No.	Mfr.'s Type	Description	Wire Range	Min.	Max.	NAED Number	PK/100	
							1-4	5-9
534-0052	10-602-H	(Hi-Y) Yellow	22-10	2#18	3#12 Sol.	783786-10602	8.69	8.02
534-0054	10-604-H	(Hi-R) Red	18-8	2#16	5#12 Sol.	783786-10604	11.53	10.64
534-0066*	10-606-H	(Hi-G) Grey	18-8	2#12	3#10W/1#12	783786-10606	10.97	10.12
534-0068*	10-608-H	(Hi-B) Blue	14-6	1#10W/1#12	1#6W/2#8	783786-10608	13.29	12.27

*PK/50.

Steel Fish Tape

- ▶ High-Impact Case
- ▶ Slip Resistant Inner Ring
- ▶ Durable, Easy Grip Handle and Brake
- ▶ Enlarged Tape Viewports



Best quality, oil tempered, flat spring steel fish tape in patented Tapemaster® dispenser and storage reel.

Stock No.	Mfr.'s Type	Description	NAED Number	EACH	
				1-4	5-9
534-4250	14-250	8 1/2" reel dia. 1/8" x .060" x 50'	783786-14250	33.85	29.01
534-4251	14-251	8 1/2" reel dia. 1/8" x .045" x 50'	783786-14251	35.06	30.05
534-4258	14-258	12" reel dia. 1/8" x .060" x 100'	783786-14258	51.29	43.96
534-4259	14-259	12" reel dia. 1/8" x .060" x 200'	783786-14259	65.94	61.23
534-4260	14-260	12" reel dia. 1/4" x .060" x 100'	783786-14260	55.41	51.45

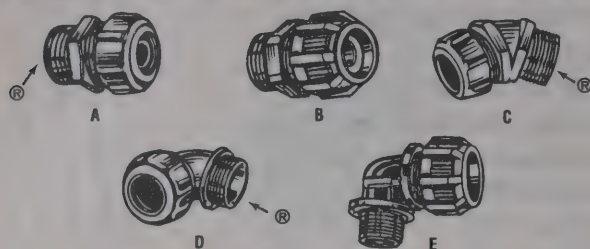
Fiber Fishing Rod System



- ▶ Best Combination of Rigidity, Flexibility and Strength Available in any Fish Tape
- ▶ Easily Negotiates Multiple Bends, even in Flexible Conduit
- ▶ All Non-metallic Construction with High Dielectric Properties, Reduces Personal Hazards Around Hot Circuits
- ▶ Tighter Bending Radius than Conventional Fish Tapes, Only 1/4 the Pulling Effort
- ▶ Field Repairable if Broken

Stock No.	Mfr.'s Type	Description	NAED Number	EACH	
				1-4	5-9
534-4806	14-806	8 1/2" Dia. Reel-50' x 1/8" Rod	783786-14806	69.72	64.74
534-4807	14-807	12" Dia. Reel-100' x 1/8" Rod	783786-14807	126.43	117.40
534-4808	14-808	12" Dia. Reel-200' x 1/8" Rod	783786-14808	229.66	213.25

Liquid Tight Strain Relief Connectors For Flexible Cord



The Ranger — liquid tight strain relief connectors. The only connector to take a .250 inch cable range UL File No. E 13938, CSA File No. 52391.

Straight — Fig. A

Stock No.	Mfr.'s Type	Hub Size (In.)	Throat Dia. (In.)	Cord Range	EACH	
					1-9	10-24
534-3700	2920	1/2	9/16	.125-.375	5.12	4.41
534-3705	2921	1/2	9/16	.310-.560	5.12	4.41
534-3710	2922	1/2	9/16	.500-.750	5.12	4.41
534-3715	2930	3/4	13/16	.125-.375	5.51	4.31
534-3720	2931	3/4	13/16	.310-.560	5.88	4.59
534-3725	2932	3/4	13/16	.500-.750	5.63	4.40
534-3730	2940	1	49/64	.310-.560	7.82	6.11
534-3735	2941	1	49/64	.500-.750	7.27	5.68
534-3740	2942	1	49/64	.700-.950	7.27	5.68

Non-Metallic Straight — Fig. B

534-3745	2920NM	1/2	0.55	.125-.375	5.27	4.46
534-3750	2921NM	1/2	0.55	.310-.560	5.27	4.46
534-3755	2922NM	1/2	0.55	.500-.750	5.27	4.46
534-3760	2930NM	3/4	0.79	.125-.375	5.57	4.35
534-3765	2931NM	3/4	0.79	.310-.560	5.94	4.64
534-3770	2932NM	3/4	0.79	.500-.750	5.70	4.45
534-3775	2940NM	1	0.98	.310-.560	7.95	6.21
534-3780	2941NM	1	0.98	.500-.750	7.38	5.77
534-3785	2942NM	1	0.98	.700-.950	7.87	6.15

45° Angle — Fig. C

534-3790	4920	1/2	37/64	.125-.375	9.38	7.93
534-3795	4921	1/2	37/64	.310-.560	9.38	7.93
534-3800	4922	1/2	37/64	.500-.750	9.38	7.93
534-3805	4930	3/4	25/32	.125-.375	12.51	9.78
534-3810	4931	3/4	25/32	.310-.560	13.19	10.25
534-3815	4932	3/4	25/32	.500-.750	12.51	9.78
534-3820	4940	1	15/16	.310-.560	19.09	13.19
534-3825	4941	1	15/16	.500-.750	19.09	13.19
534-3830	4942	1	15/16	.700-.950	19.09	13.19

90° Angle — Fig. D

534-3835	4960	1/2	19/32	.125-.375	8.71	7.77
534-3840	4961	1/2	19/32	.310-.560	9.29	7.73
534-3845	4962	1/2	19/32	.500-.750	9.38	7.33
534-3850	4970	3/4	25/32	.125-.375	12.51	9.78
534-3855	4971	3/4	25/32	.310-.560	12.51	9.78
534-3860	4972	3/4	25/32	.500-.750	12.51	9.78
534-3865	4980	1	1	.310-.560	19.09	13.19
534-3870	4981	1	1	.500-.750	19.09	13.19
534-3875	4982	1	1	.700-.950	19.09	13.19

Non-Metallic 90° Angle — Fig. E

534-3880	4960NM	1/2	0.55	.125-.375	9.58	8.55
534-3885	4961NM	1/2	0.55	.310-.560	9.58	8.55
534-3890	4970NM	3/4	0.79	.125-.375	12.60	9.85
534-3895	4971NM	3/4	0.79	.310-.560	12.60	9.85
534-3900	4972NM	3/4	0.79	.560-.750	11.70	9.14

Color-Keyed® Installing Tools

Model TBM20S — Fig. F. Terminates code copper lugs and connectors from #8 to #2. Features color-keyed dial that operator rotates to match color-coded connectors. Equipped with "Shure Stake" mechanism. 534-3620. Model TBM20S.....EACH 209.24

Model TBM5 — Fig. G. Terminates copper conductors from #8 to 250 MCM lugs, splices joints and taps. Includes dies. 534-3625. Model TBM5.....EACH 364.62

Model TBM5-S — Fig. G. Type TBM5-S installs same range of wire and cable as TBM5 above but is provided with "Shure Stake" feature to insure positive compression. 534-3630. Model TBM5-S.....EACH 483.36



Color-Keyed® One Hole Lugs for 600 V Applications

Color-keyed connectors and die assure complete compression. Connections are permanent, with high pullout value and low resistance. Made of high conductivity copper, tin plated.

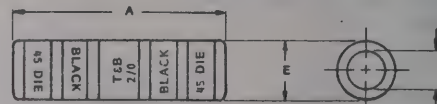


Stock No.	Mfr.'s Type	Cable Size	Color Key	Bolt Size	EACH	
					1-9	10-49
534-3500	54104*	#8 Str. or	Red	10	1.33	1.13
534-3505	54130	#8 Weld	Red	1/4	1.33	1.13
534-3510	54131		Red	5/16	1.37	1.17
534-3515	54132		Red	3/8	1.31	1.11
534-3520	54134	#6 Str. or	Blue	10	1.47	1.32
534-3525	54105*	#6 Weld	Blue	1/4	1.46	1.24
534-3530	54135		Blue	5/16	1.44	1.22
534-3535	54136		Blue	3/8	1.43	1.21
534-3540	54138	#4 Str. or	Grey	10	1.98	1.78
534-3545	54106*	#4 Weld	Grey	1/4	1.91	1.61
534-3550	54139		Grey	5/16	1.88	1.59
534-3555	54140		Grey	3/8	1.83	1.55
534-3560	54107*	#2 Str.	Brown	1/4	3.73	3.17
534-3565	54142		Brown	5/16	3.23	2.76
534-3570	54143		Brown	3/8	3.76	3.18
534-3575	54145		Brown	1/2	3.68	3.11
534-3580	54108*	#1 Str. or	Green	1/4	3.89	3.29
534-3585	54147	#2 Weld	Green	5/16	3.93	3.50
534-3590	54148		Green	3/8	3.73	3.15
534-3595	54150		Green	1/2	4.02	3.58
534-3600	54152	1/0 AWG or	Pink	1/4	4.35	3.40
534-3605	54153	#1 Weld	Pink	5/16	4.22	3.30
534-3610	54109*		Pink	3/8	4.16	3.25
534-3615	54155		Pink	1/2	4.05	3.16

*NEMA drilling.

Color-Keyed® Short Barrel Two-Way Connectors for 600 V Applications

— NEW —



Two-way connectors provide high pullout values; are easy to insulate, and provide a low resistance connection of high quality and low installed cost. **Material:** High conductivity wrought copper finish, electro tin plate.

Stock No.	Mfr.'s Type	Cable Size	Color Key	Dim. (In.)		EACH	
				A	E	1-9	10-49
534-4504	54504	#8 Str. or #8 Weld	Red	1.03	.27	1.89	1.60
534-4505	54505	#6 Str. or #6 Weld	Blue	1.00	.30	3.29	2.78
534-4506	54506	#4 Str.	Grey	1.00	.37	3.71	3.14
534-4507	54507	#2 or #4 Weld	Brown	1.25	.41	4.71	3.98
534-4508	54508	#1 or #2 Weld	Green	1.50	.47	5.40	4.57
534-4509	54509	1/0 AWG or #1 Weld	Pink	1.56	.52	5.84	4.56

SHRINK-KON® Heat Shrinkable Insulating Tubing for Thick Wall Applications



R Heavy Duty Protection R Improved Protection Against Moisture
R Field Proven Reliability — Rated R Color: Black
600 V, 90°C

16-12 AWG

Stock No.	Mfr.'s Type	Min. I.D. Expanded	Max. I.D. Recovered	Nom. Recovered Wall	Package Type	EACH
534-1600	HS16-12	.300	.100	.055	3' Pcs., Pk./25	102.98
534-1602	HS16-12L	.300	.100	.055	6' Pcs., Pk./25	128.74
534-1604	HS16-12-4	.300	.100	.055	4' Pcs., Pk./5	119.00
534-1606	HS16-12-25*	.300	.100	.055	25' Roll	61.13

12-6 AWG

534-1608	HS12-6	.400	.150	.060	3' Pcs., Pk./25	102.99
534-1610	HS12-6L	.400	.150	.060	6' Pcs., Pk./25	134.27
534-1612	HS12-6-4	.400	.150	.060	4' Pcs., Pk./5	119.00
534-1614	HS12-6-25*	.400	.150	.060	25' Roll	61.13

*Not U.L. listed.

Electric Heat Gun. Dual speed. Temperature: 450-1000°F. 1400 watts. Requires 12-18 amp outlet.

534-1400. Model WT1400.....EACH 114.75

XTRAFLEX™ System — Conduit and Fittings

Smooth Liquidtight Nonmetallic Conduit Type B

- ▶ Industrial Grade UL/CSA Listed
- ▶ Black Color Standard
- ▶ Lightweight
- ▶ Liquidtight
- ▶ Fast Installation — Even In Tight, Cramped Spaces
- ▶ Smooth Inner Diameter Allows Easy Wire Pulling
- ▶ Smooth Outer Jacket — Uses Material Approved for Outdoor Use, Is Sunlight Resistant and Oil Resistant
- ▶ Temperature Range: -18°C to +105°C (-2°F to +221°F)
- ▶ Market at One-Foot Intervals for Fast, Easy Measuring and Cutting



Recommended Industrial Applications

- ▶ Machine Tools
- ▶ Motor Hookups
- ▶ Food Processing Equipment
- ▶ Extensions from Wireways
- ▶ Sensor and Microswitch Wiring Found in Control Consoles
- ▶ UL Listed, UL File No. E95745
- ▶ CSA Certified, CSA File No. LL80349

Stock No.	Mfr.'s Type	Conduit Size	I.D. (in.)		O.D. (in.)		Feet Per Roll	PER ROLL	
			Min.	Max.	Min.	Max.		1-4	5-9
534-9100	LTC038	3/8"	.484	.504	.690	.710	100	90.63	77.28
534-9102	LTC050	1/2"	.622	.642	.820	.840	100	94.32	81.44
534-9104	LTC075	3/4"	.820	.840	1.030	1.050	100	132.46	112.93
534-9106	LTC100	1"	1.041	1.066	1.290	1.315	100	188.52	160.73
534-9108	LTC125	1 1/4"	1.380	1.410	1.630	1.660	100	267.70	214.16
534-9110	LTC150	1 1/2"	1.575	1.600	1.865	1.900	50	192.51	152.40
534-9112	LTC200	2"	2.020	2.045	2.340	2.375	50	246.50	210.15

Corrugated Flexible Nonmetallic Tubing

- ▶ OEM Grade UL Recognized
- ▶ Maximum Flexibility in Tight Applications
- ▶ Extremely Fast Installation
- ▶ Liquidtight with Specified Fittings
- ▶ Good Tensile Strength Provides Excellent Pullout Protection
- ▶ Smooth Inner Diameter Allows Easy Wire Pulling
- ▶ Broad Operating Temperature Range: -18°C to +60°C (-2°F to +140°F)

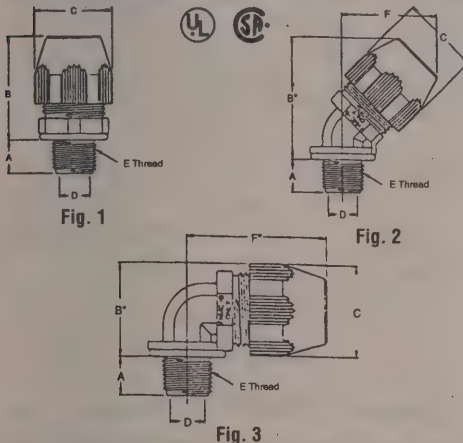


Recommended Industrial Applications

- ▶ Protection of Fiber Optic Cable
- ▶ Installation of Instrumentation and Control Cable
- ▶ Indoor/Outdoor Lighting
- ▶ Packaging Equipment
- ▶ Marine and Shipboard Wiring
- ▶ Flexing: Component Wiring Protection on Robots, Graphic Arts Equipment, etc.
- ▶ UL File No. 96548
- ▶ CSA File No. 067241

Stock No.	Mfr.'s Type	Conduit Size	I.D. (in.)		O.D. (in.)		Feet Per Roll	PER ROLL	
			Min.	Max.	Min.	Max.		1-4	5-9
534-9114	EFC038	3/8"	.484	.504	.690	.710	100	97.55	83.17
534-9116	EFC050	1/2"	.622	.642	.820	.840	100	94.32	81.44
534-9118	EFC075	3/4"	.820	.840	1.030	1.050	100	132.46	112.93
534-9120	EFC100	1"	1.041	1.066	1.290	1.315	100	203.06	173.13
534-9122	EFC125	1 1/4"	1.380	1.410	1.630	1.660	100	267.70	214.16
534-9124	EFC150	1 1/2"	1.575	1.600	1.865	1.900	50	192.50	152.40
534-9126	EFC200	2"	2.020	2.045	2.340	2.375	50	246.50	210.15

Plastic Bullet® Liquidtight Fittings for T&B LTC Nonmetallic Liquidtight Conduit Type B and T&B EFC Flexible Tubing



- ▶ U.L. Listed (File # E23018)
- ▶ CSA Certified (File # LR52391)
- ▶ CSA 22.2 #227.2 and CSA 22.2 #227.3
- ▶ ANSI/UL514B-1988
- ▶ Federal Standard H28 (NPT Threads)

- ▶ Watertight Requirements of NEMA Type 4 and NEMA Type 6 Enclosures
- ▶ Suitable for Hazardous Locations: Class 1 Div. 2; Class II Div. 1 and 2; Groups E, F and G; Class III Per NEC; Article 501-4, 502-4 and 503-3

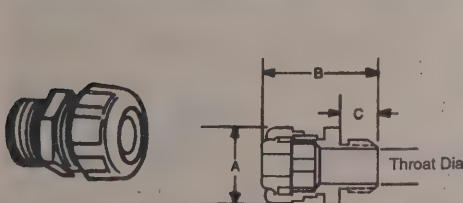
Connector assemblies to conduit without disassembly and is designed to be installed with a positive installation criteria (gland bottoms on body shoulder). Performance of connector unaffected by exposure to detergents, cleaners, and sanitizers commonly encountered in food processing plants and typical industrial environment; also unaffected by cutting fluids, wiring pulling compounds and Marine environment. The connector meets industry standards for cold impact and simulated hammer blow.

Standard Material/Finish. Body Gland: Weather stabilized thermoplastic (black). **"O" Ring:** Nitrile (blue). **Locknut:** Steel/electro zinc plated. **Material Temperature Rating:** Thermoplastic — -40°C to 105°C. **Material Flammability Rating:** UL94-V2.

Stock No.	Mfr.'s Type	Trade Size	Fig.	Description	Dimensions (In.)					EACH		
					A	B	C	D	E	1-9	10-24	25-49
534-9128	LT38P	3/8"	1	Straight	.570	1.595	1.354	.417	1/2-14	3.16	2.62	2.46
534-9130	LT438P	3/8"	2	45 Degree	.570	2.012	1.354	.417	1/2-14	4.90	3.83	3.39
534-9132	LT938P	3/8"	3	90 Degree	.570	1.380	1.354	.417	1/2-14	4.90	3.83	3.39
534-9134	LT50P	1/2"	1	Straight	.570	1.636	1.448	.550	1/2-14	2.89	2.45	2.26
534-9136	LT450P	1/2"	2	45 Degree	.570	2.092	1.448	.550	1/2-14	4.90	3.83	3.39
534-9138	LT950P	1/2"	3	90 Degree	.570	1.489	1.448	.550	1/2-14	4.36	3.41	3.12
534-9140	LT75P	3/4"	1	Straight	.582	1.757	1.740	.740	3/4-14	4.01	3.13	2.87
534-9142	LT475P	3/4"	2	45 Degree	.582	2.452	1.740	.740	3/4-14	7.46	5.83	5.15
534-9144	LT975P	3/4"	3	90 Degree	.582	1.790	1.740	.740	3/4-14	6.64	5.19	4.75
534-9146	LT100P	1"	1	Straight	.726	1.923	2.068	.940	1-11 1/2	6.63	5.18	4.58
534-9148	LT4100P	1"	2	45 Degree	.726	2.684	2.068	.940	1-11 1/2	15.31	11.96	10.57
534-9150	LT9100P	1"	3	90 Degree	.726	2.104	2.068	.940	1-11 1/2	15.13	11.82	10.45
534-9152	LT125P	1 1/4"	1	Straight	.750	2.164	2.494	1.257	1 1/4-11 1/2	11.40	8.91	7.87
534-9154	LT4125P	1 1/4"	2	45 Degree	.750	3.264	2.494	1.257	1 1/4-11 1/2	23.59	16.29	15.04
534-9156	LT9125P	1 1/4"	3	90 Degree	.750	2.564	2.494	1.257	1 1/4-11 1/2	23.41	16.17	14.92
534-9158	LT150P	1 1/2"	1	Straight	.767	2.353	2.784	1.453	1 1/2-11 1/2	16.23	11.20	10.34
534-9160	LT4150P	1 1/2"	2	45 Degree	.767	3.605	2.784	1.453	1 1/2-11 1/2	28.45	19.65	18.14
534-9162	LT9150P	1 1/2"	3	90 Degree	.767	2.854	2.784	1.453	1 1/2-11 1/2	28.27	19.53	18.03
534-9164	LT200P	2"	1	Straight	.794	2.605	3.362	1.883	2-8	23.21	18.94	17.59
534-9166	LT4200P	2"	2	45 Degree	.794	4.210	3.362	1.883	2-8	32.50	26.52	24.62
534-9168	LT9200P	2"	3	90 Degree	.794	3.432	3.362	1.883	2-8	32.22	26.29	24.41

Power Cable Connectors

Liquidtight Strain Relief Connectors



A liquidtight connector to connect flexible cord or power cable to a box or enclosure and provide adequate strain relief. **Standard Material. Gland, Body:** Steel, malleable iron, zinc die cast. **Retaining Ring:** Thermoplastic, stainless steel. **Bushing:** Neoprene. **"O" Ring:** Buna N. **Standard Finish:** Electro zinc plated and chromate coated. **UL Listed File No.:** E-13938. **CSA Certified:** LR-589, LR-4484. **Conforms to** UL 514, CSA 22.2 No. 18, ANSI C33.84, NFPA 70-1978 (ANSI).

Stock No.	Mfr.'s Type	Cable Size Range min. max.	Hub Size	Throat Dia. Min.	Dimensions (In.)			EACH		
					A	B	C	1-9	10-24	25-49
534-9174	2520	.125-.250	1/2"	9/16"	1 1/8	121/32	9/16	5.22	4.42	4.08
534-9176	2521	.250-.375	1/2"	9/16"	1 1/8	121/32	9/16	5.22	4.42	4.08
534-9178	2522	.375-.500	1/2"	9/16"	1 1/8	121/32	9/16	5.22	4.42	4.08
534-9180	2523	.450-.560	1/2"	9/16"	1 1/8	121/32	9/16	5.22	4.42	4.08
534-9182	2524*	.500-.625	1/2"	5/8"	1 3/8	13/4	19/32	5.82	4.55	4.17
534-9184	2525*	.625-.750	1/2"	5/8"	1 3/8	13/4	19/32	5.82	4.55	4.17
534-9186	2530	.125-.250	3/4"	13/16"	1 3/8	13/4	9/16	5.58	4.36	3.99
534-9188	2531	.250-.375	3/4"	13/16"	1 3/8	13/4	9/16	5.58	4.36	3.99
534-9190	2532	.375-.500	3/4"	13/16"	1 3/8	13/4	9/16	5.82	4.55	4.17
534-9192	2534	.500-.625	3/4"	13/16"	1 3/8	13/4	9/16	5.82	4.55	4.17
534-9194	2535	.625-.750	3/4"	13/16"	1 3/8	13/4	9/16	5.82	4.55	4.17
534-9196	2536*	.750-.880	3/4"	3/4"	1 3/8	115/16	5/8	7.71	6.02	5.52
534-9198	2541	.250-.375	1"	49/64"	1 11/16	123/32	9/16	7.54	5.89	5.17
534-9200	2542	.375-.500	1"	49/64"	1 11/16	123/32	9/16	7.54	5.89	5.17
534-9202	2544	.500-.625	1"	49/64"	1 11/16	123/32	9/16	8.04	6.28	5.52
534-9204	2545	.625-.750	1"	49/64"	1 11/16	123/32	9/16	7.71	6.02	5.52
534-9206	2546	.750-.880	1"	63/64"	1 11/16	17/8	9/16	8.04	6.28	5.75
534-9208	2547	.875-.985	1"	63/64"	1 11/16	17/8	9/16	7.71	6.02	5.52
534-9210	2548*	.880-1.065	1"	29/32"	2 1/16	23/8	25/32	22.55	16.77	14.38
534-9212	2549*	1.065-1.205	1"	29/32"	2 1/16	23/8	25/32	21.14	15.72	13.48

*Remove sufficient outer covering of cable to permit conductors to pass through connector body.

Nylon Self-Locking TY-RAP® Cable Ties

- ▶ Low profile head
- ▶ Smooth molded body
- ▶ Stainless steel lock
- ▶ Easy to install-won't slip



Wire Bundle Range	Minimum Unlocking Strength	Length	Width	PKG./100				PKG./1000		
				Stock No.	Mfr.'s Type	1-4	5-9	Stock No.	Mfr.'s Type	1-4
1/16"-5/8"	18 lbs.	3.62"	.091"	534-2000	TY523M	8.89	7.61	534-2005	TY23M	28.70
1/16"-5/8"	18 lbs.	3.62"	.091"	534-2001	TY523MX	11.56	9.90	534-2006	TY23MX	44.40
1/16"-1-1/2"	18 lbs.	7.00"	.091"	534-2010	TY52315M	11.56	9.90	534-2015	TYB2315M	41.00
1/16"-2"	18 lbs.	8.00"	.091"	534-2020	TY5232M	13.36	10.69	534-2025	TY232M	42.50
1/16"-4"	18 lbs.	14.00"	.091"	534-2030	TY5234M	17.67	15.14	534-2035	TY234M	75.20
1/16"-1-1/4"	40 lbs.	5.50"	.140"	534-2040	TY524M	10.27	8.80	534-2045	TY24M	44.40
1/16"-1-1/4"	40 lbs.	5.50"	.140"	534-2050	TY524MX	12.67	10.86	534-2055	TY24MX	59.40
1/16"-2"	40 lbs.	8.19"	.140"	534-2060	TY5242M	15.36	13.15	534-2065	TY242M	55.40
1/16"-3"	40 lbs.	11.08"	.140"	534-2070	TY526M	20.26	17.35	534-2075	TY26M	118.80
1/16"-3"	40 lbs.	11.08"	.140"	534-2080	TY526MX	25.55	21.89	534-2085	TY26MX	166.30
1/16"-4"	40 lbs.	14.50"	.140"	534-2090	TY5244M	26.66	22.84	534-2095	TY244M	176.20
1/16"-1-3/4"	50 lbs.	7.31"	.184"	534-2100	TY525M	12.96	11.10	534-2105	TY25M	59.40
1/16"-1-3/4"	50 lbs.	7.31"	.184"	534-2110	TY525MX	14.44	12.38	534-2115	TY25MX	66.30
1/16"-3"	50 lbs.	11.41"	.184"	534-2120	TY5253M	26.20	22.44	534-2125	TY253M	154.40
1/16"-3"	50 lbs.	11.41"	.184"	534-2121	TY5253MX	28.05	24.03	534-2126	TY253MX	178.30
1/16"-4"	50 lbs.	14.19"	.184"	534-2130	TY528M	29.81	25.54	534-2135	TY28M	174.20
1/16"-4"	50 lbs.	14.19"	.184"	534-2140	TY528MX	31.94	27.18	534-2145	TY28MX	196.90

Wire Bundle Range	Minimum Unlocking Strength	Length	Width	PKG./50				PKG./500		
				Stock No.	Mfr.'s Type	1-4	5-9	Stock No.	Mfr.'s Type	1-4
3/16"-2"	120 lbs.	8.00"	.301"	534-2150	TY5272M	15.19	13.02	534-2155	TY272M	132.20
3/16"-3-1/2"	120 lbs.	13.38"	.301"	534-2160	TY527M	21.72	18.61	534-2165	TY27M	180.65
3/16"-3-1/2"	120 lbs.	13.38"	.301"	534-2170	TY527MX	23.61	20.23	534-2175	TY27MX	207.40
3/16"-9"	120 lbs.	30.00"	.301"	534-2180	TY529M	46.25	39.64	534-2185	TY29M	354.68

X versions are for outdoor use

Cable Straps with Bolt/Screw Holes



Wire Bundle Range	Mount Hole Size No.	Minimum Unlocking Strength	Length	Width	PKG./100				PKG./1000		
					Stock No.	Mfr.'s No.	1-4	5-9	Stock No.	Mfr.'s Type	1-4
1/16"-5/8"	4	18 lbs.	4.0"	.091"	534-2200	TY533M	17.66	14.83	534-2205	TY33M	147.90
1/16"-1-1/8"	8	40 lbs.	6.0"	.140"	534-2210	TY534M	17.86	15.30	534-2215	TY34M	156.00
1/16"-1-3/4"	10	50 lbs.	7.8"	.184"	534-2220	TY535M	20.08	17.21	534-2225	TY35M	152.90
3/16"-3-1/2"	1/4"	120 lbs.	13.9"	.301"	534-2230	TY537M	29.77*	25.51*	534-2235	TY37M	280.95**

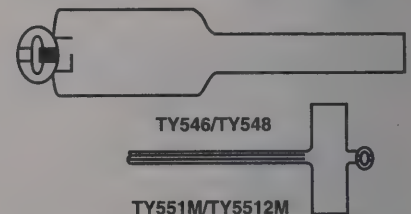
* Package of 50 ** Package of 500

Identification Cable Ties

These ties can be permanently marked with the marking pens listed below.

Stock No.	Mfr.'s Type	Wire Bundle Range	Marking Pad Size	Minimum Unlocking Strength	Length	Width	PKG./100	
							1-4	5-9
534-2300	TY546M	3/16"-1 3/4"	1/2" x 7/8"	50 lbs.	7.25"	.184"	37.96	32.52
534-2310	TY548M	3/16"-4"	1/2" x 2 1/8"	50 lbs.	14.20"	.184"	52.45	44.05
534-2320	TY551M	3/16"-5/8"	1" x 5/16"	18 lbs.	3.60"	.091"	10.09*	8.47*
534-2330	TY5512M	3/16"-2"	1" x 5/16"	18 lbs.	8.30"	.094"	28.16	23.65

* Package of 50



Mounting Bases

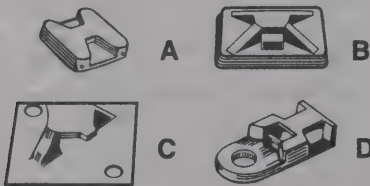


Fig.	Description	PKG./100				PKG./1000		
		Stock No.	Mfr.'s Type	1-4	5-9	Stock No.	Mfr.'s Type	1-4
A	Adhesive, 2-Way, .190 max tie width	534-2505	TC5342A	65.16	55.46	534-2510	TC342A	401.00
B	Adhesive, 3/4" x 3/4", .140 max tie width	534-2515	TC5344A	48.40	41.90	534-2520	TC344A	341.90
C	Adhesive, 4-Way, .184 max tie width	534-2525	TC5345A	65.16	56.40	534-2530	TC345A	401.00
B	Adhesive, 4-Way/2-Way for all ties	534-2535	TC5347A	62.57	53.52	534-2540	TC347A	396.00
D	No. 8 Screws, 2-Way, .180 max tie width	534-2545	TC5828	21.17	18.34	534-2550	TC828	119.20

Hand Tools and Marking Pens

Hand Tools

Pistol-type easy tension adjustment. Cuts tails off flush. Type WT 193A for .094" to .184" width ties.

534-2600. WT193A. .094"- .184" width ties.....EACH 137.31

534-2605. WT197. .184"- .301" width ties.....EACH 256.85

Compact hand tool made of high impact plastic. Pre-set tension. Cuts off flush. Lightweight and economical.

534-2610. Type WT1-TB. .094"- .184" width ties.....EACH 27.58

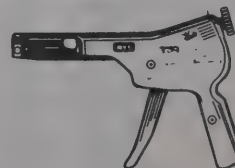
534-2615. Type WT2-TB. .184"- .301" width ties.....EACH 36.93

Nylon Marking Pens

New fine tip marking pen for use with identification ties.

534-2620. WT163M-1. Black.....EACH 10.76

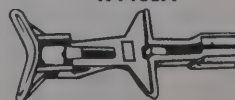
534-2625. WT163M-3. Red.....EACH 10.74



WT193A



WT197



WT-1/WT-2



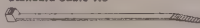
WT163M

Cable Ties, Tensioning Tools and Nylon Mounting Bases

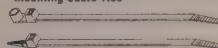
Wire Ties

Tying wire bundles and cables is easy and seconds-fast with these speed binding and harnessing wire ties. Their rounded ends and flexibility enable you to slip them easily under and around cables and harnesses. Gradually tapered tail inserts readily into self-locking head. Uniform serrations along the length of the tie permit easy "pull-through" right down to the wire bundle — ready for final tensioning and cut-off for a neat, tight harness. One-piece molded of self-extinguishing, fungus-inert 6/6 Nylon, the wire tie remains continuously serviceable to 185°F (85°C). There are no loose heads and no metal barbs. Packed in moisture-tight bags of 100 and 1000. Meet all applicable Military Specifications and are QPL listed. Standard color is natural, but ties are available in a variety of colors and materials; including Halar which is approved for use in plenum spaces, radiation and chemical-resistant Tefzel and heat-stabilized black for outdoor applications. Identification cable ties have a large flat area for imprinting or writing the required information.

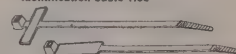
Standard Cable Tie



Mounting Cable Ties



Identification Cable Ties



Standard Cable Ties

Government Designation	Panduit Cross Reference		Minimum Tensile Unlocking Strength	Max. Bundle Diameter		Approx. Length		Approx. Width		PKG./100			PKG./1000		
	1 Piece PLT	2 Piece SST		In.	mm	In.	mm	In.	mm	Stock No.	Mfr.'s Type	PER PKG.	Stock No.	Mfr.'s Type	PER PKG.
MS3367-4	PLT.7M	—	18 lbs.	5/8	15.9	3 3/8	85.7	.08	2.0	805-1297	T18S	2.38	805-1105	T18S	19.99
MS3367-4	PLT1M	SST1M	18 lbs.	3/4	19.0	4	101.6	.10	2.5	805-0106	T18R	2.66	805-1106	T18R	25.14
MS3367-4	PLT1.5M	SST1.5M	18 lbs.	1 1/4	31.8	5 3/4	146.1	.10	2.5	805-1270	T18I	3.86	805-1110	T18I	32.66
MS3367-4	PLT2M	—	18 lbs.	2	50.8	8	203.2	.10	2.5	805-1271	T18L	3.96	805-1111	T18L	33.49
MS3367-5	PLT1.5I	SST1.5I	30 lbs.	1 1/4	31.8	6	152.4	.14	3.6	805-0107	T30R	3.91	805-1107	T30R	34.65
—	PLT2I	SST2I	30 lbs.	2	50.8	8	203.2	.14	3.6	805-1272	T30M	4.49	805-1112	T30M	39.70
—	PLT3I	SST3I	30 lbs.	3	76.2	11 1/4	285.8	.15	3.8	805-1113	T30I	10.32	805-1114	T30I	92.77
—	PLT4I	SST4I	30 lbs.	4	101.6	14 1/2	368.3	.15	3.8	805-1273	T30L	13.67	805-1115	T30L	118.66
MS3367-1	—	—	40 lbs.	2	50.8	8 1/2	215.9	.15	3.8	805-1117	T40R	4.83	805-1118	T40R	42.65
MS3367-7	—	—	40 lbs.	3	76.2	11 1/2	292.1	.15	3.8	805-1119	T40I	10.75	805-1120	T40I	96.56
MS3367-2	—	—	40 lbs.	4	101.6	14 1/2	368.3	.15	3.8	805-1121	T40L	14.57	805-1122	T40L	126.43
—	PLT1.5S	SST1.5S	50 lbs.	1 1/4	31.8	6 1/2	165.1	.18	4.6	805-1274	T50S	4.36	805-1123	T50S	38.88
MS3367-1	PLT2S	SST2S	50 lbs.	1 3/4	44.5	8	203.2	.18	4.6	805-0108	T50R	5.00	805-1108	T50R	44.67
MS3367-7	PLT3S	SST3S	50 lbs.	3	76.2	11 3/4	298.5	.18	4.6	805-0140	T50I	13.05	805-1140	T50I	111.89
MS3367-2	PLT4S	SST4S	50 lbs.	4	101.6	15 1/2	393.7	.18	4.6	805-0150	T50L	15.31	805-1150	T50L	135.03

Heavy Duty Lashing Cable Ties

Government Designation	Panduit Cross Reference		Minimum Tensile Unlocking Strength	Max. Bundle Diameter		Approx. Length		Approx. Width		PKG./50			PKG./500		
	1 Piece PLT	2 Piece SST		In.	mm	In.	mm	In.	mm	Stock No.	Mfr.'s Type	PER PKG.	Stock No.	Mfr.'s Type	PER PKG.
—	PLT2H	SST2H	120 lbs.	2	50.8	8 7/8	225.4	.30	7.6	805-1287	T120S	9.75	805-1124	T120S	83.65
—	PLT3H	—	120 lbs.	3	76.2	11 7/8	301.6	.30	7.6	805-1288	T120I	12.45	805-1125	T120I	107.00
MS3367-3	PLT4H	SST4H	120 lbs.	4	101.6	15 1/4	387.4	.30	7.6	805-1298	T120R	14.00	805-1126	T120R	120.00
MS3367-6	PLT9LH	SST8H	120 lbs.	8 3/4	222.3	29 3/4	755.7	.30	7.6	805-1299	T120L	27.10	—	—	—

Identification Cable Ties

Stock No.	Mfr.'s Type	Government Designation	Panduit Cross Reference		Minimum Tensile Unlocking Strength	Max. Bundle Diameter		Approx. Length		Approx. Width		PER PKG./100
			1 Piece PLT	2 Piece SST		In.	mm	In.	mm	In.	mm	
805-1282	IT18R	MS3368-5-E	PLM1M	—	18 lbs.	3/4	19.0	4	101.6	.10	2.5	13.02
805-1283	IT18FL	—	PLF1M	—	18 lbs.	3/4	19.0	4 1/4	107.9	.10	2.5	13.77
805-0117	ITSOR	MS3368-1-A	PLM2S	SSM2S	50 lbs.	1 3/4	44.4	8	203.2	.18	4.6	19.67
805-1284	ITSORD*	MS3368-3-C	PL2M2S	—	50 lbs.	1 3/4	44.4	8	203.2	.18	4.6	26.85
805-1285	ITSORT*	MS3368-4-D	PL3M2S	—	50 lbs.	1 3/4	44.4	8	203.2	.18	4.6	47.78
805-1286	ITSOL	MS3368-2-A	PLM4S	SSM4S	50 lbs.	4	101.6	15	381.1	.18	4.6	30.69

*Only available in PKG./50.

Releasable Cable Ties

Panduit Cross Reference		Minimum Tensile Unlocking Strength	Max. Bundle Diameter		Approx. Length		Approx. Width		PKG./100			PKG./1000		
1 Piece PLT	2 Piece SST		In.	mm	In.	mm	In.	mm	Stock No.	Mfr.'s Type	PER PKG.	Stock No.	Mfr.'s Type	PER PKG.
—	—	40 lbs.	2	50.8	8 1/2	215.9	.16	4.1	805-1128	RT40R	9.24	805-1131	RT40R	80.60
PRT1.5S	—	50 lbs.	1 3/8	34.9	6 1/2	165.1	.18	4.6	805-1129	RT50S	8.34	805-1132	RT50S	72.77
PRT4S	—	50 lbs.	4	101.6	15 1/2	393.7	.18	4.6	805-1130	RT50LL	23.66	805-1133	RT50LL	203.83

Tensioning Tools

Mark 7 and Mark 9

- ▶ Reduce Operator Fatigue and Speed Installation
- ▶ Quick Infinite Adjustability for Flush Cut-Off
- ▶ Long Service Life



Unique 1" stroke decreases tensioning cycles. Ergonomic design fits operator's hand, while hand grip ensures comfort. Roller bearing mechanism reduces return spring tension for smooth stroke. Lightweight; only 9 1/2 oz. Inner cam knob sets to 3 variable tension levels. Outer cam knob "fine tunes" within the tension ranges. Easy to read digital display speeds adjustment and verification. Durable, high impact, glass reinforced nylon casing. Double-wall linkage for added strength. Tough chromium steel components. Roller bearing mechanism assures low friction between mechanical components. Used to install Tyton ties T18 through T50 series.

805-0101. Model Mark 7 EACH 145.54

The Mark 9 tool has all the ergonomic design features of the Mark 7, but it can be used to install every Tyton tie, from the T18 Series to the T150 Series. The Mark 9 weighs 11 1/2 ozs. and has a spare blade compartment.

805-1290. Model Mark 9 EACH 242.33

Mark 5

The Mark 5 tensioning tool is made from a polycarbonate material. It features a short squeeze stroke and a positive cut-off feature which ensures consistently flush, burr-free edges. Can be used to install Tyton ties T18 through T50 Series.

805-0005. Model Mark 5 EACH 103.90

Nylon Mounting Bases (For Wire Ties Above)

MB-2.5A. 5/8" square; adhesive back; or use two #3 screws. For T18 ties.
805-2002. MB2.5A PER PKG./100 16.00

MB-3A. 3/4" square; adhesive back; or use two #4 screws. For T18-T30 ties.
805-2003. Natural PER PKG./100 26.50
805-2013. Black PER PKG./100 23.85

MB-4A. 1 1/8" square; adhesive back; or use two #8 screws. For T18-T50 ties.
805-2004 PER PKG./100 30.35



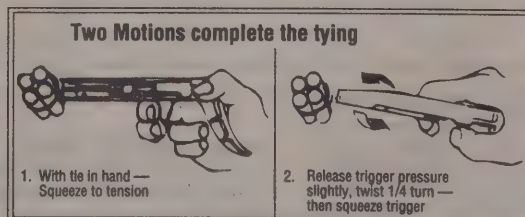
Cable Tie Kit

Tyton's cable tie kit contains ties, mounts, and a Tytontwyster Tool in a convenient case. The case is made from a durable polypropylene, and it keeps items in separate compartments for easy access and organization.

Each Kit Contains: 100 18 lb., 4" ties (T18R), 100 18 lb., 5 3/4" ties (T18I), 100 50 lb., 8" ties (T50R), 50 4 way adhesive mounts (MB-4A), 1 Tytontwyster Tool (TWT-1)

805-1011. TMK1 EACH 63.94

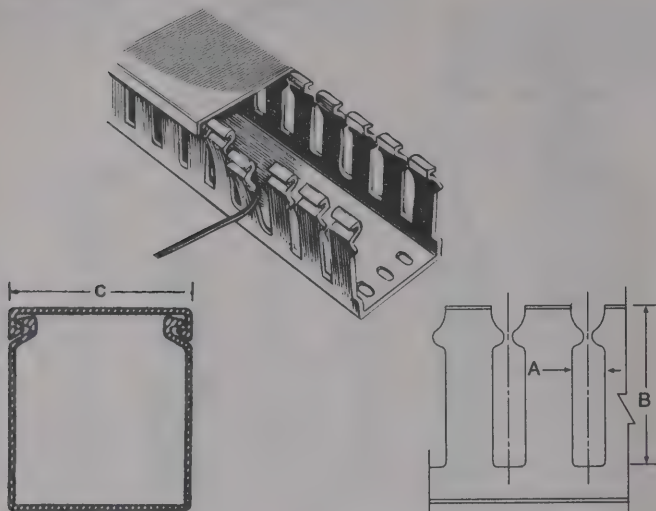
Tytontwyster Cable Tie Tool



The Tytontwyster is a pocket sized, installer controlled, tying tool. Model TWT cuts tail off flush. Made of high visibility, colored, high impact engineering resin. You control the tensioning and cut-off. TWT-1 (orange) installs Tyton ties T18 through T50 Series. TWT-2 (blue) installs Tyton ties T120 Series.

805-0102. Model TWT-1 EACH 22.33
805-1295. Model TWT-2 EACH 26.45

Wiring Duct and Covers

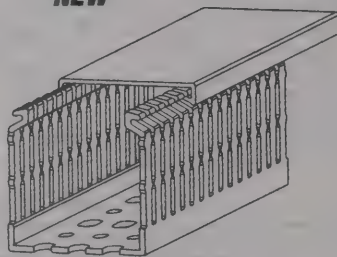


Slotted sidewall style is the popular choice of panel builders. Features restricted slot openings, scored sidewalls for corner and T junctions, breakaway fingers to provide additional access for wire leads, and smooth edges. Buffed edges on slotted wall fingers help prevent worker hand injury during installation and pressure sensitive adhesive backing can be utilized for either temporary positioning or permanent mounting. 1" width duct is provided with 1/2" adhesive strip along centerline. 2", 3" and 4" widths have two 1/2" or 3/4" adhesive strips along their length. Duct must be mounted on a clean, oil-free panel surface. Wiring Duct Covers with their non-slip plastic lining ensure that the covers will remain in place under vibration. Duct and cover sold separately. Packaged 30 feet (carton of 5 6-foot lengths). Manufactured from rigid PVC. UL Recognized, UL Flame Rating of 94V-0, CSA Certified.

High Density Wiring Duct

— NEW —

- ▶ 2 to 1 Finger Ratio
- ▶ Versatile Mounting Hole Design
- ▶ Covers Are Flush With the Side of the Duct
- ▶ Manufactured from Rigid PVC
- ▶ Duct and Covers Sold Separately in Six Foot Lengths
- ▶ UL Recognized
- ▶ CAS Certified
- ▶ UL Flame Rating of 94V-0
- ▶ Made in the USA



Tyton High Density Wiring Duct incorporates many of the features of its standard wiring duct but features narrow slotted wall fingers. These slotted wall fingers equal a 2 to 1 finger ratio compared to standard slotted wiring duct. The narrow fingers reduce the fanning of wires to terminal blocks for a neater appearance and to accommodate more compact designs. Tyton's versatile mounting hole pattern on the high density duct lines up with DIN rail, as well as numerous other mounting designs. Also, the mounting hole rows are consistent with Tyton's standard wiring duct, so the two ducts can easily be interchanged. Tyton's standard wiring duct cover can also be interchanged with the high density duct, eliminating the need to order additional cover inventory. Tyton's high density wiring duct with pressure sensitive rubber based adhesive backing. The adhesive backing can be utilized for temporary positions or permanent mounting. Color: Gray.

Stock No.	Mfr.'s Type	Duct Size	PER CARTON/30'		
			1-3	4-16	17-Up
805-8000	SLHDA-1 x 1-G	1 x 1	67.35	62.15	59.50
805-8002	SLHDA-1 x 2-G	1 x 2	95.40	88.10	83.70
805-8004	SLHDA-1 x 3-G	1 x 3	123.95	114.45	108.75
805-8006	SLHDA-1 x 4-G	1 x 4	152.50	140.80	133.75
805-8008	SLHDA-2 x 1-G	2 x 1	92.35	85.25	80.15
805-8010	SLHDA-2 x 2-G	2 x 2	104.55	96.55	91.75
805-8012	SLHDA-2 x 3-G	2 x 3	135.70	125.25	118.98
805-8014	SLHDA-2 x 4-G	2 x 4	164.25	151.60	144.00
805-8016	SLHDA-3 x 1-G	3 x 1	103.55	95.60	90.85

Lightguide Enclosure System

The Lightguide Enclosure System is designed to route and protect fiber optic cable. The system prevents accidental cuts, kinks, and associated signal loss. The Lightguide Enclosure System consists of connectors and protective channel. The connectors provide a 2" bend radius which ensures effective signal transmission while utilizing minimum space. Complete lay-in capability allows ease of access to the cable. Over 35 components in different sizes with various horizontal and vertical transitions are available. Call Allied for part numbers and more information. Available from factory only. Not stocked at Allied.



Slotted Wall Duct With Adhesive

White		Gray		Duct Size W x H	Dimensions			PER CARTON/30'		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		A	B	C	1-3	4-16	17-Up
805-8060	SLA-1.5 x 1.5-W	805-8061	SLA-1.5 x 1.5-G	1.5 x 1.5	.40	1.19	1.50	81.50	73.35	66.00
805-8062	SLA-1.5 x 1-W	805-8063	SLA-1.5 x 1-G	1.5 x 1.0	.40	.75	1.50	68.50	61.65	55.50
805-8064	SLA-1.5 x 2-W	805-8065	SLA-1.5 x 2-G	1.5 x 2.0	.40	1.62	1.50	91.00	81.90	73.70
805-0500	SLA-1 x 1-W	805-0600	SLA-1 x 1-G	1.0 x 1.0	.40	.75	1.00	58.50	52.65	47.40
805-0505	SLA-1 x 2-W	805-0605	SLA-1 x 2-G	1.0 x 2.0	.40	1.62	1.00	81.50	73.35	66.00
805-8066	SLA-1 x 3-W	805-8067	SLA-1 x 3-G	1.0 x 3.0	.40	2.62	1.00	106.50	95.85	86.25
805-8068	SLA-1 x 4-W	805-8069	SLA-1 x 4-G	1.0 x 4.0	.40	3.62	1.00	133.00	119.70	107.70
805-0510	SLA-2 x 1-W	805-0610	SLA-2 x 1-G	2.0 x 1.0	.38	.75	2.00	80.00	72.00	64.80
805-0515	SLA-2 x 2-W	805-0615	SLA-2 x 2-G	2.0 x 2.0	.40	1.62	2.00	89.00	80.10	72.10
805-0520	SLA-2 x 3-W	805-0620	SLA-2 x 3-G	2.0 x 3.0	.40	2.62	2.00	115.00	103.50	93.15
805-8070	SLA-3 x 1-W	805-8071	SLA-3 x 1-G	3.0 x 1.0	.40	.75	3.00	88.00	79.20	71.25
805-0525	SLA-3 x 2-W	805-0625	SLA-3 x 2-G	3.0 x 2.0	.40	1.62	3.00	108.00	97.20	87.45
805-8072	SLA-3 x 3-W	805-8073	SLA-3 x 3-G	3.0 x 3.0	.40	2.62	3.00	132.50	119.25	107.30
805-0530	SLA-4 x 2-W	805-0630	SLA-4 x 2-G	4.0 x 2.0	.40	1.62	4.00	112.50	101.25	91.10

Solid Wall Duct With Adhesive.

Designed for straight wire runs where no break-outs are required.

Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Duct Size W x H	Solid	Solid	PER CARTON/30'		
							1-3	4-16	17-Up
805-8073	SDA-5 x 5-W	805-8091	SDA-5 x 5-G	0.5 x 0.5	Solid	.76	53.50	48.15	43.30
805-8076	SDA-1 x 1-W	805-8092	SDA-1 x 1-G	1.0 x 1.0	.40	1.00	58.50	52.65	47.35
805-8077	SDA-1 x 2-W	805-8093	SDA-1 x 2-G	1.0 x 2.0	.40	1.62	81.50	73.35	66.00
805-8088	SDA-1 x 3-W	805-8094	SDA-1 x 3-G	1.0 x 3.0	.40	2.62	106.50	95.85	86.25
805-8089	SDA-2 x 2-W	805-8095	SDA-2 x 2-G	2.0 x 2.0	.40	1.62	89.00	80.10	72.05
805-8090	SDA-2 x 3-W	805-8096	SDA-2 x 3-G	2.0 x 3.0	.40	2.62	115.00	103.95	93.55

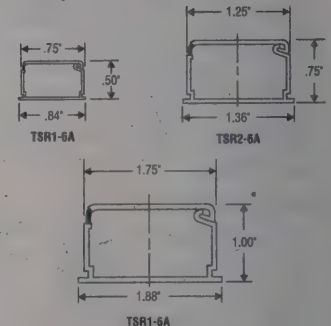
Covers

White		Gray		Width	PER CARTON/30'		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-3	4-16	17-Up
805-8097	TC-1.5-W	805-8098	TC-1.5-G	1.5	21.50	19.35	17.40
805-0700	TC-1-W	805-0720	TC-1-G	1.0	17.50	15.75	14.20
805-0705	TC-2-W	805-0725	TC-2-G	2.0	26.50	23.65	21.45
805-0710	TC-3-W	805-0730	TC-3-G	3.0	39.50	35.55	31.95
805-0715	TC-4-W	805-0735	TC-4-G	4.0	43.50	39.15	35.25

Surface Raceway

- ▶ A Special Flexible Hinge Allows for Numerous Openings Without Creating Discoloration or Stress Cracking
- ▶ The Self-Locking, Hidden Positive Latch Allows for Quick Re-Entry As Well As Secure Installation of Wire and Cable
- ▶ The Adhesive is an Acrylic Pressure Sensitive Foam Tape with High Ultimate Bond Strength, Which Conforms to Any Surface
- ▶ Ivory Is The Standard Color, White Is Available Upon Request And Both Are Paintable With A Latex-Based Paint

Raceway Dimensions



Tyton Surface Raceway is a one-piece latching duct designed to contain, route, and protect wire and cable when it is not feasible to run it within the wall.

805-0201. TSR11-6A. 3/4"W x 1/2"H x 6'L.....	PER PK./30' 28.80
805-0202. TSR21-6A. 1 1/4"W x 3/4"H x 6'L.....	PER PK./30' 42.00
805-0203. TSR31-6A. 1 3/4"W x 1"H x 6'L.....	PER PK./30' 65.40

Accessories

Stock No.	Mfr.'s Type	Dimensions	EACH
805-0204	TSR11-14	Splice Cover — 3/4"	.44
805-0205	TSR21-14	Splice Cover — 1 1/4"	.83
805-0206	TSR31-14	Splice Cover — 1 3/4"	2.02
805-0207	TSR11-36	End Cap — 3/4"	.60
805-0208	TSR21-36	End Cap — 1 1/4"	.89
805-0209	TSR31-36	End Cap — 1 3/4"	1.98
805-0210	TSR11-33	Internal Cover — 3/4"	1.38
805-0211	TSR21-33	Internal Cover — 1 1/4"	1.47
805-0212	TSR31-33	Internal Cover — 1 3/4"	1.95
805-0213	TSR11-29	External Cover — 3/4"	1.38
805-0214	TSR21-29	External Cover — 1 1/4"	1.47
805-0215	TSR31-29	External Cover — 1 3/4"	1.95
805-0216	TSR11-25	Elbow Cover — 3/4"	1.47
805-0217	TSR21-25	Elbow Cover — 1 1/4"	1.55
805-0218	TSR31-25	Elbow Cover — 1 3/4"	1.98
805-0219	TSR11-21	Tee Cover — 3/4"	1.47
805-0220	TSR21-21	Tee Cover — 1 1/4"	1.55
805-0221	TSR31-21	Tee Cover — 1 3/4"	1.98
805-0222	TSR11-50	Ceiling Drop — 3/4"	1.90
805-0223	TSR21-50	Ceiling Drop — 1 1/4"	2.04
805-0224	TSR31-50	Ceiling Drop — 1 3/4"	2.57
805-0225	TSR11-12	Reducer — 1 3/4" to 1 1/4"	1.73
805-0226	TSR21-12	Reducer — 1 3/4" to 3/4"	1.73
805-0227	TSR31-12	Reducer — 1 3/4" to 3/4"	1.73
805-0228	TSR1-JB1*	Junction Box — 1 1/4" depth	5.22
805-0229	TSR1-JB2*	Junction Box — 2" depth	5.37
805-0230	TSR1-JB3*	Junction Box — Dual-Gang 1 1/2" Depth	10.21

*Includes base and cover. Ivory is standard color. White, Ash, Gray, and Brown availability based on volume requirements.

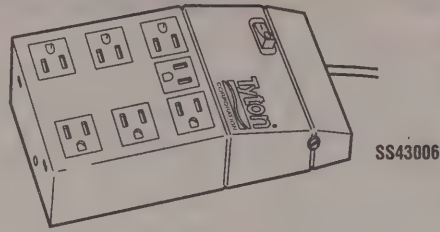
Surge Protectors, Tubing, Spiral Wrap

Category 5 Surge Protection

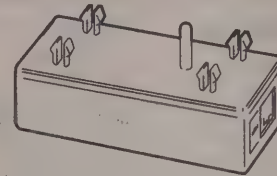
— NEW —

Preserve your hardware and prevent business suspension with Tyton CATEGORY 5 surge protection products. Tyton's SECTORGUARD series consists of state-of-the-art modular Plug-In AC/Data Communication/Telco protection, providing the ultimate protection at the wall outlet level for today's complex workstations. The units are available in three styles, three outlet plug-in, three outlet plug strip and the seven outlet plug strip. The Category 5 Snap-On modules are used in conjunction with this series for computer workstations, LANs, copiers, facsimile machines and other electronic equipment that often require special telecommunications interfaces. When applied to the SECTORGUARD, the unit provides total protection for any remote network. Tyton also provides an effective shield between incoming surges and sensitive I/O ports with the SECTORSHIELD. It is a DIN rail mounting module suited for the protection of intelligent hubs or situations where many ports require protection. The SECTORSHIELD is state-of-the-art protection for Category 5 applications by providing a solution to every configuration, whether it is DC to Category 5, Dial-Up to T1, single port or multi-port. All Category 5 models are equipped with modular jacks for both the Line (incoming unprotected) and the Load (equipment protected) side and they protect all eight wires of the connector. UL Certified CATEGORY 5, UL listed communication circuit accessory, UL94-5V flame retardant material. EIA/TIA compliant per specification TSB 40A. **Modular:** Port-by-port protection. **Maximum Surge Rating:** 2 kV/1 kA per wire (IEC 801-5). **Maximum Clamp Voltage:** 10 Volts (measured between a pair during the common mode application of 2 kV (1.2/50 μ s) 1 kA (8/20 μ s) wave form). **Wires Protected:** Eight. **Series Resistance:** None. **Attenuation:** Better than -33 dB at 100 MHz. **N.E.X.T.:** Worst pair, better than -43 dB at 100 MHz.

805-8050.	SS42003.	SECTORGUARD — 3-Outlet 15 Amp Plug-In	EACH	89.00
805-8051.	SS43005.	SECTORGUARD — 3-Outlet 15 Amp Plug Strip	EACH	99.00
805-8052.	SS43006.	SECTORGUARD — 7-Outlet 15 Amp Plug Strip	EACH	129.00
805-8053.	SS24040.	SECTORGUARD — Secondary 8 Wire CATEGORY 5 - RJ45	EACH	169.00
805-8054.	SS24540.	SECTORSHIELD — Secondary 8 Wire CATEGORY 5 - RJ45	EACH	174.00



SS43006



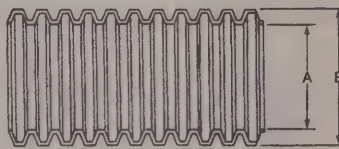
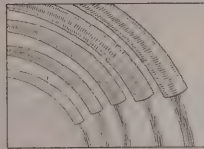
SS24040



SS24540

Convuluted Tubing

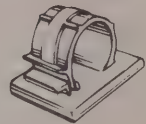
Convuluted tubing offers routing flexibility and protection against environmental conditions; acids, oils and greases; and potential installation damage. Convuluted tubing is available in black polyethylene with an operating range of -40°F min., 200°F max. Nylon available by special request.



Stock No.	Mfr.'s Type	Size	I.D. In./mm A	O.D. In./mm B	Wall Thickness In./mm	Box Quantity	PER BOX
805-0231	CTP140STD	1/4"	.236/0.264	.376/0.400	.0047/.0193	3200'	154.55
805-0238	CTP380STD	3/8"	.337/0.362	.491/0.516	.0059/.0217	2000'	118.64
805-0232	CTP120STD	1/2"	.484/0.509	.670/0.695	.0071/.0028	1200'	88.20
805-0233	CTP340STD	3/4"	.730/0.755	.960/0.985	.0094/.0252	600'	64.68
805-0239	CTP10STD	1"	1.000/1.039	1.278/1.306	.0118/.0276	350'	48.10
805-0240	CTP1120STD	1 1/2"	1.500/1.528	1.858/1.925	.0118/.0276	150'	50.51

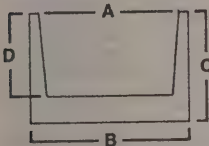
Series 12 Adhesive Cable Clamps

- Injection Molded
- Flame resistant
- Nylon
- UL Rated 94V-2



Stock No.	Mfr.'s Type	Color	Max. Bundle Diameter	PER PKG./100	1-4	5-9
805-5000	12-0250	Gray	1/4"	25.40	22.22	
805-5003	12-0375	Gray	3/8"	30.04	26.35	
805-5005	12-0500	Natural	1/2"	38.07	33.40	
805-5010	12-0750	Gray	3/4"	58.65	51.44	

Grommet



Tyton's Flexform grommet fits easily in all shapes and sizes of panel holes without tools or adhesives. Flexform grommet can be used on any type panel material including wood, steel, aluminum, plexiglass, and glass. **Standard Color:** Natural.

Stock No.	Mfr.'s Type	Material	Standard Dimensions (Inches)						PER 82' REEL
			A	B	C	D	For Panel Thickness	Panel Gauges	
805-1260	FP/AA	Polyethylene	.037	.087	.094	.063	.016-.040	20, 19, 18	28.92
805-1261	FP/AB	Polyethylene	.055	.150	.157	.099	.016-.052	21, 20, 19, 18	33.29
805-1262	FP/B	Polyethylene	.091	.177	.157	.099	.052-.083	17, 16, 15, 14	36.00
805-1263	FP/C	Polyethylene	.130	.220	.157	.099	.083-.130	13, 12, 11	41.66
805-1264	FP/D	Polyethylene	.197	.327	.228	.157	.130-.189	11, 10, 9, 8, 7, 6	54.82
805-1265	FP/E	Polyethylene	.260	.386	.241	.170	.189-.256	6, 5, 4, 3	65.53
805-1266	FP/F	Polyethylene	.319	.445	.256	.181	.256-.319	3, 2, 1	71.72
805-1267	FP/G	Polyethylene	.394	.512	.256	.181	.319-.382	1/0, 2/0, 3/0	77.77
805-1268	FP/H	Polyethylene	.512	.638	.256	.181	.382-.512	4/0, 5/0, 6/0, 7/0	83.59

Handi-Cuff Flexible Restraints

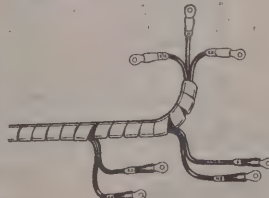
Tyton Handi-Cuffs offer you the strength and security you need when using flexible restraints. Features include: Special rounded head which provides extra strength without pinching. Can help prevent nerve damage, carpal tunnel syndrome, and other medical complications. Locking mechanism recessed within head prevents unwanted release. Write-on area for quick identification.



805-1295.	Model HC9P2	PER PKG./10	6.20
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Spiral Wrap

A range of Spiral Wrap in four materials for neatly harnessing cables. The range of materials covers all applications and conditions. Spiral Wrap is a versatile form of protection enabling cables to be led out at any point. Furthermore, because of its flexibility, it will follow any route taken by cable. **Spiral Wrap is stocked by Allied in the following material:** Non-flame retarded polyethylene (Spirathene Ref. NFP). **Color:** Natural. **Operating Range:** -60°C to +70°C. Also available on special order in the following materials: P.T.F.E. (Spiratemp Ref. P). **Color:** Natural. **Operating Range:** -60°C to +250°C (300°C for intermittent use). Nylon (Spiralon Ref. N). **Color:** Natural. **Operating Range:** -55°C to +95°C (135°C for intermittent use). Flame retarded polyethylene (Spirathene Ref. FRP). **Color:** White. **Operating Range:** -50°C to +70°C. **Standard Packs:** Spiralon and Spiratemp are supplied in 3 meter lengths, in polyethylene envelopes. Spirathene (flame retarded and non-flame retarded) are supplied in 30 meter lengths, in polyethylene envelopes.



Stock No.	Mfr.'s Type	Outside Diameter	Wall Thickness	Distance Between Lead Out Points	Cable Diameter	PER SPOOL/100'		
						1-24	25-49	50-99
805-3000	1NFP	.125	.032	.22	1/16-1/2	22.64	19.98	17.98
805-3010	2NFP	.250	.045	.37	3/16-2	23.42	20.67	18.60
805-3040	3NFP	.500	.062	.50	3/8-4	58.29	51.44	46.29
805-3030	4NFP	.750	.065	1.00	3/4-5	78.21	69.01	62.11

Electrical Tape

- Manufactured From High Quality PVC and Butyl Rubber
- Exceptional Surface and Adhesive Characteristics
- UL Listed

Stock No.	Mfr.'s Type	Thickness	Material	Description	EACH
805-0235	ET660	7 mil.	PVC	Black vinyl ideal for general purpose applications. Meets U.L. standard 510 and Mil-Std. Mil-1-7798-A	.88
805-0236	ETCW660	8 mil	PVC	Black vinyl ideal for cold weather applications. Meets U.L. standard 510 and Mil-Std. Mil-1-24391-A.	1.36
805-0237	ETSB210	20 mil	Self-bonding Butyl rubber	Provides void free insulation over irregular surfaces. Outstanding self-bonding properties.	2.76

Tagprint Labeling Software

Tyton Corporation offers two versions of Tagprint labeling software for efficient computer generated labeling. Tagprint for Windows and Tagprint II are both ideal for creating labels for wire and cable marking, PC boards and components, terminal blocks, and almost any industrial identification application. Tagprint for Windows and Tagprint II are IBM compatible. Both versions of Tagprint can be used with dot matrix and laser printers, as well as Tyton's TT1000 thermal transfer printer. Call Allied for more information on Tyton's thermal transfer labeling system, which incorporates Tagprint software. Easy to use, Tyton's software speeds production, while offering many labeling options. Bar coding, serialization, label sets, and text choices are just some of the capabilities of Tyton's Tagprint software.

Tagprint for Windows — NEW — Labeling Software

Tagprint for Windows provides many features for labeling versatility and efficiency. **WYSIWYG:** "What You See Is What You Get" label creation. The label is shown on the screen for easy editing and proofing. Graphic images appear, as well as representations of type styles, sizes and placement. **Preview:** View a sheet of labels at one time. **Serial Numbers:** Alpha and numeric options include decimal, octal, and hexadecimal capabilities. Most serial configurations increment automatically. Custom options are available to meet special requirements. **Random Access:** Allows easy data entry for labels that have different information on each label. **Graphics:** Windows-created graphics can be printed. **Bar Codes:** Code 39, Interleaved 2/5, UPC-A, and EAN standard bar codes are offered. All bar code dimensions can be altered to fit on various sized labels and printed with or without text. High density bar codes with sharp, clear imaging can be produced when using a laser printer or Tyton's TT1000 thermal transfer printer. **Fonts:** Uses the Windows true type fonts for a wide choice of sizes. **Label Sets:** Prints multiple sets for group repetition. **External Field:** Separate ASCII data bases can be accessed. Both fixed and free formats are read. **Time/Date Functions:** If desired, Tagprint for Windows prints time and date of label printing. Time and date are continually updated during the printing process, so there is no need to stop for changes. **Complete Storage Capacity:** Once a label is created, it can be stored in any directory or file and is automatically sorted for easy recall. **Printers:** Prints to laser and dot matrix printers, along with Tyton's TT1000 thermal transfer printer. **Unlimited Label Stock Sizes:** All standard Tabtag label sizes appear on Tagprint for Windows, but non-standard sizes can easily be added to the label data base. **Customer Support:** The software comes with a user's manual and toll-free number for friendly, knowledgeable customer support. **Requirements:** IBM PC, PS/2 or compatible with at least a 286 microprocessor. Microsoft DOS 3.3 or higher and Microsoft Windows 3.1 or later. IBM VGA or other graphic adapter supported by Windows. Mouse support by Windows. At least 4 MB of RAM. At least 2 MB of free space on the local hard disk. A 3.5" disk drive for installation. A printer with device driver for Windows 3.1. A 368 or 486 processor is preferred.

805-7500. TPSWIN50 EACH 408.00

Note: Windows is a trademark of Microsoft Corporation. Microsoft, MS, and MS-DOS are registered trademarks of Microsoft Corporation. IBM is a registered trademark of International Business Machines Corporation.

Tagprint II — NEW — Labeling Software

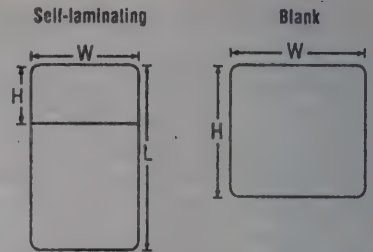
Like Tagprint for Windows, Tagprint II software offers labeling efficiency and versatility. Tagprint II runs on any IBM compatible computer with DOS 2.1 or later. Easy to use, no prior computer experience is needed to create, save, and store label files. As in Tagprint for Windows, Tagprint II offers: WYSIWYG ("What You See Is What You Get") Label Creation, Graphics, Label Sets, External Field, Time/Date Functions, Complete Storage Capacity, Unlimited Label Stock Sizes and Customer Support. Tagprint II also provides other features. **Serial Numbers:** Alpha and numeric options include decimal and hexadecimal capabilities. Most serial configurations increment automatically. Custom options are available to meet special requirements. **Bar Codes:** Five bar codes are offered on Tagprint II, including Code 39, Interleaved 2/5, UPC, Codabar, and EAN standard. All bar code dimensions can be altered to fit on various sized labels and printed with or without text. High density bar codes with sharp, clear imaging can be produced when using a laser printer or Tyton's thermal transfer printer. **Various Text Sizes:** Six standard sizes can be printed, from 5 characters per inch (c.p.i.) to 17 c.p.i. With the smaller text sizes, greater amounts of information can be placed on the small labels. Larger text size can make the label readable from a distance. **Automatic Centering:** Inputted information is automatically centered on the Tabtag label. Information can also be moved to very specific coordinates on the label. **Mouse Support:** Tagprint II can be used with or without a mouse. **Printers:** Prints to laser and dot matrix printers, along with Tyton's TT1000 thermal transfer printer.

805-0002. TPS-2 EACH 395.00

Tabtag and Handi-Labels Computer Printable Labels

Tabtag Labels

Computer-printable Tabtag labels are available in self-laminating and blank styles for nearly any labeling application. Self-laminating Tabtags are manufactured with a clear, flexible vinyl film which overwraps the legend to provide protection against moisture, chemicals, and abrasion. Blank Tabtags are used to flag wire and cable and identify terminal blocks, printed circuit boards, E-Proms, ICs and other components. Used for bar coding and other industrial identification purposes, Tabtags resist harsh chemicals and extreme temperatures, while providing smudge-resistant identification. Additional stock sizes are available, and custom labels can be designed to meet specific requirements. Standard label color is white. Yellow and grey are available upon request.



Stock No.	Mfr.'s Type	Label Type	Material	Label Size	Web Width	Labels Per Row	Rows Per Fanfold	Vertical Spacing	Labels Per Pkg.	PER PKG.
805-1100	TAG-1-100	Self-laminating	Vinyl Film	1.9" x .75" x 3.19"	9.500"	4	3	6 or 8 lines per inch	2,500	297.12
805-5100	TAG-5-100	Self-laminating	Vinyl Film	.8" x .5" x 1.437"	6.300"	6	8	6 or 8 lines per inch	5,000	167.28
805-6100	TAG-6-100	Self-laminating	Vinyl Film	2" x 1" x 3.75"	9.000"	4	3	6 or 8 lines per inch	2,500	335.90
805-1420	TAG-14-202	Blank	Vinyl Cloth	1" x .375"	8.600"	7	24	6 or 8 lines per inch	5,000	111.92
805-1540	TAG-15-400	Blank	Polyester	1" x .5"	8.600"	7	18	6 lines per inch	5,000	83.93
805-1560	TAG-15-600	Blank	Metalized Polyester*	1" x .5"	8.600"	7	18	6 lines per inch	5,000	111.01
805-1640	TAG-16-400	Blank	Polyester	.9" x .25"	8.900"	8	36	6 lines per inch	5,000	48.93
805-1770	TAG-17-707	Blank	Paper	1.5" x .25"	8.000"	4	36	6 lines per inch	5,000	47.22
805-1920	TAG-19-200	Blank	Plastic Cloth	2" x .375"	9.300"	4	24	6 or 8 lines per inch	5,000	170.68
805-2210	TAG-22-100	Self-laminating	Vinyl Film	1" x .5" x 1.437"	9.000"	8	8	6 or 8 lines per inch	5,000	123.33
805-2610	TAG-26-100	Self-laminating	Vinyl Film	.5" x .375" x .75"	9.300"	14	12	6 or 8 lines per inch	5,000	69.00
805-2730	TAG-27-300	Blank	Polyvinylfluoride Film	1.5" x .75"	7.625"	4	12	6 or 8 lines per inch	5,000	277.91

*Aluminum. If you have any questions on label materials or applications, please call Allied.

Handi-Labels

Tyton now offers Handi Cards for computer printing using Tagprint II software. **Label Dimensions:** .235" W x 1.5" L, 32 labels across the pages. Each section of labels is perforated so that it can be separated into individual cards after printing. This makes it possible to print custom legends on a standard Handi-Card size product. Handi-Labels come in packages of 2500 markers. The material is a white, conformable vinyl with a rubber based, permanent adhesive. **Temperature Range:** -40°F (40°C) to +175°F (347°C).

805-6101. TAG-46-102 PER PK./2500 42.66

Tyton Laser Tags — NEW —

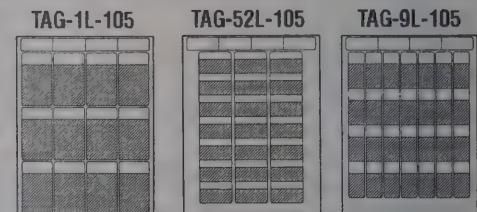
Laser Printable labels for quality label solutions.

- High Legibility
- Clear Imaging
- Solvent Resistant
- Smudge Resistance
- Heat Resistant
- Permanent

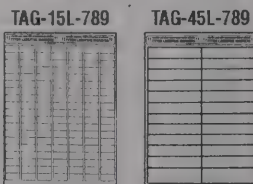
Self-Laminating Laser Tags

- For Wire Wrapping and Flat Ribbon Cable

Tyton self-laminating Laser Tags are durable, yet conformable to compound surfaces like wires and cables. These labels can be wrapped onto wires without fear of flagging or popping off the wires. Self-laminating Laser Tags are available in vinyl. The labels come on 8.5" x 11" sheets and are printable using Tyton Tagprint II software or Tagprint for Windows and a standard laser printer.



Stock No.	Mfr.'s Type	Labels Per Sheet	Sheets Per Pkg.	No. Across	No. Down	Width of Label A	Height of Printable Area B	Height of Marker and Tail C	Labels Per Pkg.	PER PKG.
805-6510	TAG-1L-105	12	84	4	3	1.9" (48.2 mm)	0.750" (19.0 mm)	3.25" (82.5 mm)	1000	152.69
805-6511	TAG-2L-105	91	55	13	7	0.5" (12.7 mm)	0.500" (12.7 mm)	1.43" (36.4 mm)	5000	111.29
805-6512	TAG-5L-105	56	90	8	7	0.8" (20.3 mm)	0.500" (12.7 mm)	1.43" (36.4 mm)	5000	163.94
805-6513	TAG-9L-105	28	36	7	4	1.0" (25.4 mm)	0.750" (19.0 mm)	2.25" (57.1 mm)	1000	69.18
805-6000	TAG-26L-105	156	33	13	12	0.5" (12.7 mm)	0.375" (9.5 mm)	0.75" (19.0 mm)	5000	64.80
805-6001	TAG-49L-105	70	36	7	10	1.0" (25.4 mm)	0.350" (8.8 mm)	1.00" (25.4 mm)	2500	119.85
805-6002	TAG-50L-105	21	48	3	2	1.0" (25.4 mm)	1.000" (25.4 mm)	3.16" (80.4 mm)	1000	91.05
805-6003	TAG-51L-105	84	60	7	12	1.0" (25.4 mm)	0.350" (8.8 mm)	0.75" (19.0 mm)	5000	102.51
805-6004	TAG-52L-105	21	48	3	7	2.0" (50.8 mm)	0.470" (11.9 mm)	1.33" (33.7 mm)	1000	91.05
805-6030	TAG-63L-105	49	52	7	7	1.0" (25.4 mm)	0.500" (12.7 mm)	1.33" (33.7 mm)	2500	112.08



Blank Laser Tags

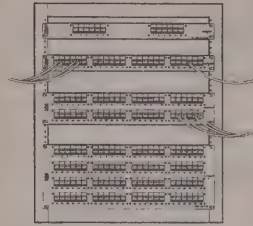
Blank Laser Tags are durable, laser printable labels for applications requiring clear, crisp legibility. The labels come on 8.5" x 11" sheets and are printable using Tyton Tagprint II software or Tagprint for Windows and a standard laser printer. Specially designed adhesives and materials are used for the Laser Tags, ensuring that the labels will not curl, change color, or jam laser printers. Blank Laser Tags are available in white polyester.

Stock No.	Mfr.'s Type	Labels Per Sheet	Sheet Per Pkg.	No. Across	No. Down	Width A	Height B	Labels Per Pkg.	PER PKG.
805-6005	TAG-11L-789	480	11	10	48	0.65" (16.5 mm)	.200" (5.08 mm)	5000	46.35
805-6006	TAG-13L-789	312	17	8	39	0.75" (19.0 mm)	.250" (6.35 mm)	5000	63.31
805-6007	TAG-14L-789	175	29	7	25	1.00" (25.4 mm)	.375" (9.52 mm)	5000	88.25
805-6008	TAG-15L-789	133	38	7	19	1.00" (25.4 mm)	.500" (12.70 mm)	5000	104.18
805-6009	TAG-45L-789	24	209	2	12	4.00" (101.6 mm)	.800" (20.32 mm)	5000	335.17

Patch Panels, Outlets and Networking Frames

Tyton 110 Series — Category 5 Performance Patch Panels

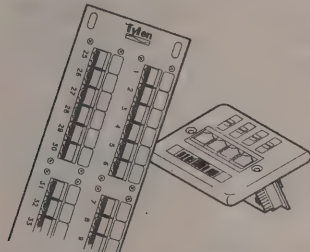
The Tyton 110 Series Patch Panel features PC board construction for optimum system performance, modular design, and offers the installer the option to terminate trunk or station lines directly to an AT&T 100 punch or Krone block mounted on the rear of the panel. The Tyton 110 Series Patch Panel is available in 12-, 24-, 48-, or 96-port versions and is configured to the AT&T 258A (EIA-T-568B) standard or EIA-T-568A configuration.



Stock No.	Mfr.'s Type	Description	EACH
805-1211	P-108-12-110	12 Port 8 Wire with AT&T 110 Connector on Rear in 19" x 3.50"	95.25
805-2411	P-108-24-110	24 Port 8 Wire with AT&T 110 Connector on Rear in 19" x 3.50"	123.80
805-4811	P-108-48-110	48 Port 8 Wire with AT&T 110 Connector on Rear in 19" x 3.50"	214.25
805-9611	P-108-96-110	96 Port 8 Wire with AT&T 110 Connector on Rear in 19" x 7.00"	377.10
805-1081	P-108-48-Krone	48 Port 8 Wire with Krone Punch Block Connector on Rear in 19" x 3.50"	235.70
805-1089	P-108-96-Krone	12 Port 8 Wire with Krone Punch Block Connector on Rear in 19" x 7.00"	410.85

Tyton Surface Mount Outlet for Category 5 Performance

The Tyton-Connect high speed information outlet is designed for all voice and data communications networks. It provides high bit-rate performance for use with all categories of building wiring up to 100 Mbps (Category 5). This fully modular outlet features PC board technology. It is ideal for applications where moves, adds, and changes will take place. Tyton-Outlet can be configured to either EIA-T-568A or EIA-T-568B.



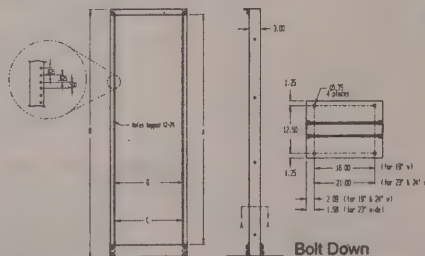
805-1001.	O-01-SMKRO.	Single Surface Mount Outlet with Krone Connectors, ABS Plastic Faceplate	EACH 8.21
805-1002.	O-02-SMKRO.	Dual Surface Mount Outlet with Krone Connectors, ABS Plastic Faceplate	EACH 11.28
805-1003.	O-03-SMKRO.	Triple Surface Mount Outlet with Krone Connectors, ABS Plastic Faceplate	EACH 18.03
805-1004.	O-04-SMKRO.	Quad Surface Mount Outlet with Krone Connectors, ABS Plastic Faceplate	EACH 22.70
805-1005.	O-01-SM110.	Single Surface Mount Outlet with AT&T 110 Connectors, ABS Plastic Faceplate	EACH 8.21
805-1006.	O-02-SM110.	Dual Surface Mount Outlet with AT&T 110 Connectors, ABS Plastic Faceplate	EACH 11.28
805-1007.	O-03-SM110.	Triple Surface Mount Outlet with AT&T 110 Connectors, ABS Plastic Faceplate	EACH 14.15
805-1008.	O-04-SM110.	Quad Surface Mount Outlet with AT&T 110 Connectors, ABS Plastic Faceplate	EACH 16.95

Modular Networking Frames and Data Communications Accessories

Tyton offers modular networking frames and data communications accessories for rack mount needs. The frames and accessories are ideal for mounting Tyton patch panels and other telecommunications equipment.

Modular Networking Frames

- ▶ 19" EIA Rack Mount Width
- ▶ Available with 10/32" or with 12/24" Tapped Holes
- ▶ Mounting Holes Are on both Front and Rear Flanges Per EIA Universal Hole Spacing
- ▶ Comes with Double Top Angle and Two Symmetrical Bases
- ▶ Comes in Aluminum (Mill) Finish
- ▶ Meets UL Standards 1459 and UL 1863



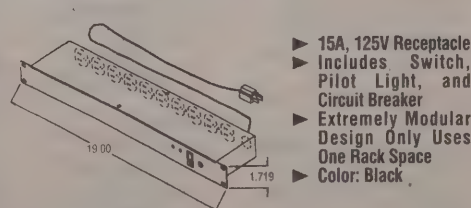
Stock No.	Mfr.'s Type	A Vertical Opening	B Overall Height	C Inside Width	D Hole-Hole Centers	E Overall Width	Rack Units	EACH
805-8401	T7RR	78.125"	84.00"	17.81"	18.31"	20.18"	45U	213.50

Cable Management Panel

- ▶ Manufactured from 18 Gauge Steel
- ▶ Completely Assembled with Small Latch Gates and Cable Hangers Installed
- ▶ Mounting Holes Available for Vertical Positioning of Large Cable Hangers
- ▶ Quantity of Hangers: 3
- ▶ Quantity of Latch Gates: 12
- ▶ Smooth Black Polyurethane Finish; Other Colors Available Dependent Upon Volume Requirements; Contact Allied for More Information

Stock No.	Mfr.'s Type	A Width	B Height	EACH
805-8408	TCMP	19"	3.46"	39.32

Rack Mount Power Strips



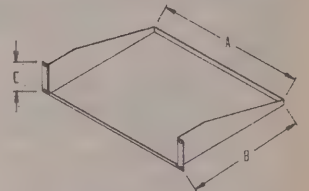
PowerStrip-6.	Meets UL Standard 1363. 15' power cord. Outlets: 6.	
805-8410.	Powerstrip-6	EACH 109.54
PowerStrip-10.	360 joules of surge protection. Meets UL Standards 1363 and UL 1449. Watts: 1875. 10' power cord. Outlets: 10.	
805-8415.	Powerstrip-10	EACH 152.44

Flush Mount Outlets Category 5 Performance

Tyton's high speed information outlet system offers snap-in inserts and connector for installation versatility. This design allows outlets to be retrofitted at the workstation, if desired. With choices of single, dual, triple, or quad face plates, ports may be added in the future without making the existing outlet obsolete. Used with the RJ45, 110 block connectors, Tyton information outlets exceed Category 5 requirements. This system is UL and CSA Certified to meet EIA/TIA 568, TSB40-A specification for attenuation, NEXT, and return loss. It provides high performance with all categories of building wiring to 100 Mbps. Printed circuit board technology is used for impedance matched performance. Tyton face plates are manufactured from ABS plastic and meet requirements for UL rated 94V-0.

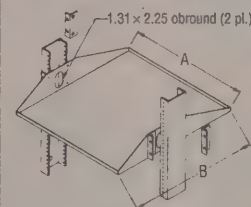
805-3500.	FPSINGLE.	Face Plate — Single Port	EACH 1.54
805-3501.	FPDUAL.	Face Plate — Dual Port	EACH 1.54
805-3502.	FPTRIPLE.	Face Plate — Triple Port	EACH 1.54
805-3503.	FPOUAD.	Face Plate — Quad Port	EACH 1.54
805-3504.	RJ-45BLK.	RJ45, 110 Block Connector, Black	EACH 6.15
805-3505.	RJ-45BLU.	RJ45, 110 Block Connector, Blue	EACH 6.15
805-3506.	RJ-45GRN.	RJ45, 110 Block Connector, Green	EACH 6.15
805-3507.	RJ-45RED.	RJ45, 110 Block Connector, Red	EACH 6.15
805-3508.	RJ-45WHT.	RJ45, 110 Block Connector, White	EACH 6.15
805-3509.	RJ-45YEL.	RJ45, 110 Block Connector, Yellow	EACH 6.15
805-3510.	BLANKINSERT.	Blank Insert for Face Plate	EACH .49
805-3511.	BNCINSERT.	BNC Connector Insert for Face Plate	EACH .80
805-3512.	FIBERINSERT.	Fiber Coupler Insert for Face Plate	EACH .80
805-3513.	FINSERT.	F Connector Insert for Face Plate	EACH .49

Cantilevered Equipment Shelves



- ▶ Manufactured from 16 Gauge Steel
- ▶ Rated for 50 Lbs. Capacity
- ▶ 10/32" Mounting Hardware Included
- ▶ Smooth Black Finish

Stock No.	Mfr.'s Type	Type	A Width	B Depth	EACH
805-8402	T19X145	Solid	19"	14"	47.33



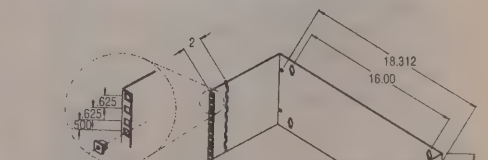
Center Weight Equipment Shelves

- ▶ Manufactured from 16 Gauge Steel
- ▶ Rated for 75 Lbs. Capacity with Optional Mounting Brackets (Included with Each Shelf)

- ▶ Rated for 50 Lbs. Capacity
- ▶ 10/32" Mounting Hardware Included
- ▶ Smooth Black Finish

Stock No.	Mfr.'s Type	Type	A Width	B Depth	EACH
805-8403	T19X195CW	Solid	19"	19"	61.49

Wall Mount Patch Panel Brackets



- ▶ Manufactured from 16 Gauge Steel
- ▶ Designed for 19" Patch Panel Mounting
- ▶ Universal Hinging — Right or Left Hand Hinging
- ▶ Units Accept Either 12/24" or 10/32" Screws; Holes Utilize Universal EIA Spacing
- ▶ Can Be Wall Mounted or Mounted to an 19" EIA Standard Rack
- ▶ Smooth Black Polyurethane Finish

Stock No.	Mfr.'s Type	A Height	B Depth	Rack Units	EACH
805-8405	T3PPB	3.50"	8.00"	2	24.74
805-8406	T5PPB	5.25"	8.00"	3	27.60
805-8407	T7PPB	7.00"	8.00"	4	30.32

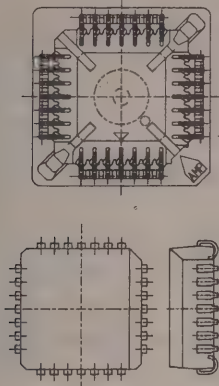
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Surface Mount Connectors

AMP

Low Insertion Force, Low Profile Surface Mount PLCC Sockets



New to the Amp family of Low Profile Plastic Leaded Chip Carrier (PLCC) sockets for surface mounting is this line of Low Insertion Force Sockets. A unique contact design allows the PLCC device to be easily inserted into the socket. Sockets will accommodate plastic "J"-leaded devices made to JEDEC Specifications MO-047AA-AH (square packages and MO-052-AE (rectangular packages).

Rectangular Sockets

Stock No.	Mfr.'s Type	No. of Positions	With Locating Posts	EACH	
				1-24	25-99
512-7564	822273-1	32	No	2.03	1.72
512-7566	822274-1	32	Yes	2.03	1.72

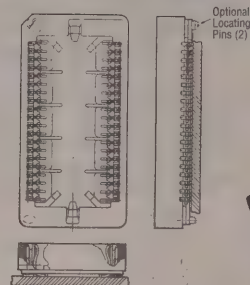
Square Sockets

512-7540	822269-1	20	No	1.43	1.21
512-7542	822270-1	20	Yes	1.43	1.21
512-7544	822271-1	28	No	1.88	1.59
512-7546	822272-1	28	Yes	1.88	1.59
512-7548	822275-1	44	No	2.24	2.04
512-7550	822276-1	44	Yes	2.49	2.11
512-7552	822277-1	52	No	2.69	2.28
512-7554	822278-1	52	Yes	2.69	2.28
512-7556	822279-1	68	No	2.96	2.74
512-7558	822280-1	68	Yes	2.96	2.74
512-7560	822281-1	84	No	3.47	3.21
512-7562	822282-1	84	Yes	3.47	3.21

Tools

Stock No.	Mfr.'s Type	Socket Position	No. of Positions	EACH	
512-7426	822011-1	Square	20	44.63	
512-7428	822045-1	Square	28	44.63	
512-7432	821981-1	Square	44	44.63	
512-7434	822049-1	Square	52	44.63	
512-7436	822026-1	Square	68	44.63	
512-7438	822068-1	Square	84	44.63	
512-7298	821980-1	Rectangular	32	44.63	
512-7440	822154-1	All Purpose	—	5.23	

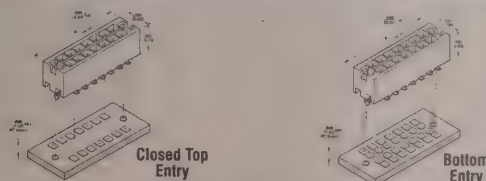
Low Profile SOJ-Style Surface Mount PLCC Socket



AMP has expanded its family of PLCC sockets to include this SOJ-style version. The socket was developed to accommodate "J"-leaded drams/rams with tin-plated leads.

Stock No.	Mfr.'s Type	No. of Positions	Centerline Spacing	With Locating Posts	EACH	
					1-24	25-99
512-7572	822372-1	28	.300	No	1.26	1.17
512-7574	822374-1	28	.300	No	1.33	1.23
512-7576	822265-2	40	.400	No	1.60	1.48
512-7578	822267-2	40	.400	Yes	1.60	1.48

Surface-Mount Receptacles Double Row, .100 x .100 Centers, Vertical Mount With Holdowns



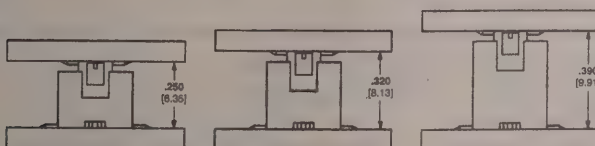
Closed Top Entry

Stock No.	Mfr.'s Type	No. of Positions	A Dim. (In.)	EACH	
				1-49	50-99
512-6243	535923-2	10	.700	4.53	3.83

Bottom Entry

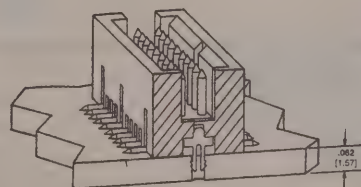
512-6244	535959-1	10	.700	4.53	3.83
512-6245	535959-3	20	1.200	5.64	4.78
512-6246	535959-2	26	1.500	6.40	5.41

AMPMODU 50/50 Grid Surface-Mount Connector System



With Standard Holdowns

The AMPMODU 50/50 Grid Connector System features polarized surface-mount headers and receptacles on a .050 x .050 (1.27 x 1.27) centerline grid. Board-to-board stack heights of .250 (6.35), .320 (8.13) and .390 (9.91) are available. This



system is ideal for parallel stacking applications for computers, computer peripheral equipment, communication systems, medical instrumentation and environmental control systems as well as other high density applications.

Vertical Receptacles, Double Row with Polarizing Tab

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-24	25-49	50-99
512-8100	104652-1	10	2.46	2.23	2.08
512-8103	104652-2	20	3.18	2.89	2.69
512-8106	104652-3	30	4.01	3.64	3.39
512-8109	104652-4	40	4.94	4.47	4.41
512-8112	104652-5	50	5.57	5.05	4.70
512-8115	104652-6	60	6.40	5.81	5.40
512-8118	104652-7	70	7.26	6.59	6.13
512-8121	104652-8	80	7.93	7.19	6.70
512-8124	104652-9	90	8.68	7.88	7.31
512-8127	1-104652-0	100	9.18	8.16	7.75

Vertical Headers (Double Row)

Mated Height .250		Mated Height .320		Mated Height .390		No. of Positions	EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		1-24	25-49
—	—	512-8130	104656-1	—	—	10	2.34	2.12
512-8133	104655-3	512-8134	104656-2	512-8136	104693-2	20	2.84	2.57
512-8139	104655-4	512-8140	104656-3	512-8141	104693-3	30	3.46	3.14
512-8144	104655-5	512-8145	104656-4	512-8146	104693-4	40	4.17	3.78
512-8149	104655-6	512-8150	104656-5	512-8151	104693-5	50	4.64	4.21
512-8154	104655-7	512-8155	104656-6	512-8156	104693-6	60	4.90	4.44
512-8159	104655-8	512-8160	104656-7	512-8161	104693-7	70	5.27	4.77
512-8164	104655-9	512-8165	104656-8	512-8166	104693-8	80	5.95	5.40
—	—	512-8169	104656-9	512-8170	104693-9	90	6.69	6.08
512-8173	1-104655-1	512-8174	1-104656-0	512-8176	1-104693-0	100	6.93	6.28

Polarized and Non-Polarized Loading Tools for Receptacles

Polarized		Non-Polarized		No. of Positions	EACH
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		
512-8101	104724-1	512-8102	104723-1	10	2.50
512-8104	104724-2	512-8105	104723-2	20	2.50
512-8107	104724-3	512-8108	104723-3	30	2.50
512-8110	104724-4	512-8111	104723-4	40	2.50
512-8113	104724-5	512-8114	104723-5	50	2.50
512-8116	104724-6	512-8117	104723-6	60	2.50
512-8119	104724-7	512-8120	104723-7	70	2.50
512-8122	104724-8	512-8123	104723-8	80	2.50
512-8125	104724-9	512-8126	104723-9	90	2.50
512-8128	1-104724-0	512-8129	1-104723-0	100	2.50

Polarized and Non-Polarized Loading Tools for Headers

512-8131	104726-1	512-8132	104725-1	10	2.50
512-8137	104726-2	512-8138	104725-2	20	2.50
512-8142	104726-3	512-8143	104725-3	30	2.50
512-8147	104726-4	512-8148	104725-4	40	2.50
512-8152	104726-5	512-8153	104725-5	50	2.50
512-8157	104726-6	512-8158	104725-6	60	2.50
512-8162	104726-7	512-8163	104725-7	70	2.50
512-8167	104726-8	512-8168	104725-8	80	2.50
512-8171	104726-9	512-8172	104725-9	90	2.50
512-8177	1-104726-0	512-8178	1-104725-0	100	2.50

Surface Mount Ceramic Capacitor Kit

Large Surface Mount Ceramic Capacitor Kit

AVX multilayer ceramic chip capacitors in a sampler kit. Capacitance, voltage, tolerance, temperature coefficient, chip sizes and quantities as noted below. Quantities listed are for large kit.
881-6700 **EACH 300.00**

Small Surface Mount Ceramic Capacitor Kit

Same as above, but with 1/2 the quantity of each value of capacitor.
881-6705 **EACH 170.00**

Replacement Parts for Above Kits (Packs of 100 Pieces Only)

Stock No.	Mfr.'s Type	pF	VDC	Tol %	Coeff	Pcs/Kit	PK./100
881-6500	08051A100JATMA	10	100	5	NPO	50	9.20
881-6501	08051A220JATMA	22	100	5	NPO	50	9.20
881-6502	08051A470JATMA	47	100	5	NPO	50	9.20
881-6503	08051A101JATMA	100	100	5	NPO	100	9.20

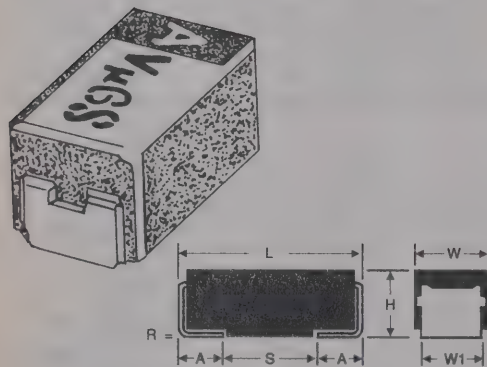
Stock No.	Mfr.'s Type	pF	VDC	Tol %	Coeff	Pcs/Kit	PK./100
881-6504	12061A471JATMA	470	100	5	NPO	50	12.00
881-6505	12061A102JATMA	1000	100	5	NPO	50	13.20
881-6506	12061C102KATMA	1000	100	10	X7R	50	10.00
881-6507	08055C103KATMA	10000	50	10	X7R	100	10.00
881-6508	08055C103MATMA	10000	50	20	X7R	50	9.00
881-6509	12061C103MATMA	10000	100	20	X7R	50	9.80
881-6510	12061C103KATMA	10000	100	10	X7R	100	10.80
881-6511	12065C473KATMA	47000	50	10	X7R	50	15.80
881-6512	12065C104KATMA	100000	50	10	X7R	100	17.60
881-6513	12065C104MATMA	100000	50	20	X7R	50	16.00
881-6514	12065E104MATMA	100000	50	20	Z5U	50	11.60
881-6515	12065E104ZATMA	100000	50	+80-20	Z5U	100	11.00
881-6516	12105C104KATMA	100000	50	10	X7R	100	12.24

Surface Mount Tantalum Capacitor Kit

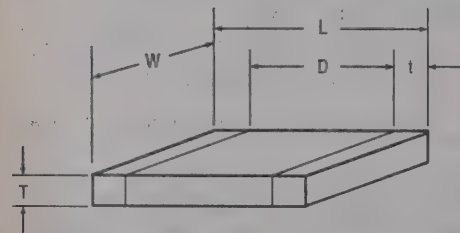
A sampler kit of surface mount tantalum chip capacitors. These chip capacitors are standard EIA surface mount technology.
881-6710. Surface Mount Tantalum Capacitor Kit **EACH 100.00**

Replacement Parts for Above Kit (Packs of 100 Pieces Only)

Stock No.	Mfr.'s Type	μF	VDC	Tol %	Case Code	Pcs/Kit	PK./100
881-6122	TAJA105K016R	1.0	16	10	A	40	24.00
881-6152	TAJB105K035R	1.0	35	10	B	40	26.52
881-6175	TAJA225K010R	2.2	10	10	A	40	25.00
881-6132	TAJB225K020R	2.2	20	10	B	40	27.00
881-6116	TAJB475K010R	4.7	10	10	B	40	46.00
881-6127	TAJC106K016R	10.0	16	10	C	10	46.00
881-6144	TAJD106K025R	10.0	25	10	D	10	60.00
881-6110	TAJC226K006R	22.0	6	10	C	10	46.00
881-6137	TAJD226K020R	22.0	20	10	D	10	65.00
881-6130	TAJD336K016R	33.0	16	10	D	10	60.00
881-6121	TAJD476K010R	47.0	10	10	D	10	65.00
881-6114	TAJD107K006R	100.0	6	10	D	10	75.00



AVX Ceramic Chip Capacitors



AVX ceramic surface mount capacitors, available in NPO, X7R and Z5U, have historically been one of the most reliable electronic components available. NPO and Z7R have temperature coefficients of -55°C to +125°C. NPO is the most popular formulation of the "temperature-compensating" EIA Class I ceramic materials. They show little capacitance change with frequency and dielectric absorption is typically less than 0.6% which is similar to mica and most films. The X7R is the most popular intermediate dielectric-constant formulation that is called "temperature-stable" in ceramics and fall into EIA Class II materials. Capacitance for X7R varies under the influence of electrical operating conditions such as voltage, frequency and time (approximately 5% change in 10 years). Z5U formulations are "general purpose" ceramics which are meant for use in limited temperature applications where small size and cost are important. They provide the highest capacitance density possible in a given size for the three most popular formulations. They show wide variations in electrical operating conditions. Despite their capacitance instability, Z5U formulations are very popular because of their small size, low ESL, low ESR and excellent frequency response. These features are particularly important for decoupling applications where only a minimum capacitance value is required.

Size	Dimensions (mm)				
	Length	Width	Thickness (Max.)	Terminal Width	
	L	W	T	Min.	Max.
0805	2.0 ±0.2	1.2 ±0.2	1.27	0.25	0.71
1206	3.2 ±0.2	1.6 ±0.2	1.27	0.25	0.76

Stock No.	Mfr.'s Type	Size	Value (pF)	Volt. (V)	Temp. Coef.	PER PK./100		
213-2000	12061A100JATMA	1206	10	100	NPO	15.00	12.00	11.00
213-2002	12061A150JATMA	1206	15	100	NPO	14.00	11.00	10.00
213-2004	12061A220JATMA	1206	22	100	NPO	14.00	11.00	10.00
213-2006	12061A330JATMA	1206	33	100	NPO	14.00	11.00	10.00
213-2008	12061A330JATMA	1206	39	100	NPO	14.00	11.00	10.00
213-2010	12061A470JATMA	1206	47	100	NPO	14.00	11.00	10.00
213-2012	12061A680JATMA	1206	68	100	NPO	14.00	11.00	10.00
213-2014	12061A101JATMA	1206	82	100	NPO	14.00	11.00	10.00
213-2016	12061A101JATMA	1206	100	100	NPO	14.00	11.00	10.00
213-2018	12061A151JATMA	1206	150	100	NPO	15.00	12.00	11.00
213-2020	12061A221JATMA	1206	220	100	NPO	16.00	13.00	12.00
213-2022	12061A331JATMA	1206	330	100	NPO	14.00	11.00	10.00
213-2024	12061A471JATMA	1206	470	100	NPO	16.00	13.00	11.00
213-2026	12061A681JATMA	1206	680	100	NPO	18.00	15.00	13.00
213-2028	12061A102JATMA	1206	1000	100	NPO	18.00	15.00	13.00
213-2030	12061C102JATMA	1206	1000	100	X7R	20.00	17.00	14.00
213-2032	12061C122JATMA	1206	2200	100	X7R	20.00	17.00	14.00
213-2034	12061C332JATMA	1206	3300	100	X7R	20.00	17.00	14.00
213-2036	12061C472JATMA	1206	4700	100	X7R	22.00	19.00	15.00
213-2038	12061C103JATMA	1206	10000	100	X7R	22.00	19.00	15.00
213-2044	08051A100JATMA	0805	10	100	NPO	12.00	10.00	8.00
213-2046	08051A150JATMA	0805	15	100	NPO	12.00	10.00	8.00
213-2048	08051A220JATMA	0805	22	100	NPO	12.00	10.00	8.00
213-2050	08051A330JATMA	0805	33	100	NPO	12.00	10.00	8.00
213-2052	08051A470JATMA	0805	47	100	NPO	12.00	10.00	8.00
213-2054	08051A680JATMA	0805	68	100	NPO	12.00	10.00	8.00
213-2056	08051A101JATMA	0805	100	100	NPO	12.00	10.00	8.00
213-2058	08051A151JATMA	0805	150	100	NPO	12.00	10.00	8.00
213-2060	08051A221JATMA	0805	220	100	NPO	12.00	10.00	8.00
213-2062	08051A331JATMA	0805	330	100	NPO	12.00	10.00	8.00
213-2064	08051A471JATMA	0805	470	100	NPO	12.00	10.00	8.00
213-2068	08051C222JATMA	0805	2200	100	X7R	16.00	13.00	11.00
213-2074	08051C103JATMA	0805	10000	100	X7R	20.00	17.00	14.00

AVX Tantalum Chip Capacitors

AVX offers solid tantalum capacitors in a wide range of sizes, styles and ratings to meet any design needs. The four case sizes offered here are the most popular and conform to EIA standard EIA-535BAAC. The TAJ Series is qualified as MIL-style CWR11. The TAJ Series is temperature rated at -55°C to +85°C.

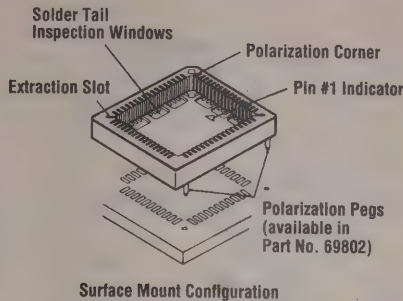
How to Order (Commercial):

TAJ Mfr.'s Type	B Case Code	335 Cap Code	M Tol. %	016 Volt DC	R Packaging	
Case Code	Dimensions					
	L	W	H	W1	A	S (min.)
A	3.2	1.6	1.6	1.2	0.8	1.1
B	3.5	2.8	1.9	2.2	0.8	1.4
C	6.0	3.2	2.6	2.2	1.3	2.9
D	7.3	4.3	2.9	2.4	1.3	4.4

W1 dimensions applies to the termination width for "A" dimension area only.

Stock No.	Mfr.'s Type	Size	Value (μF)	Volt. (V)	Tol. %	PER PK./100		
213-1000	TAJA105K016R	A	1.00	16	10	33.30	26.64	23.31
213-1002	TAJB225K016R	B	2.20	16	10	36.08	28.86	25.25
213-1004	TAJB335K016R	B	3.30	16	10	36.08	28.86	25.25
213-1008	TAJC106K016R	C	10.00	16	10	63.83	51.06	44.68
213-1010	TAJD226K016R	D	22.00	16	10	83.25	66.60	58.28
213-1012	TAJD336K016R	D	33.00	16	10	86.03	68.82	60.22
213-1014	TAJA474K025R	A	47	25	10	33.30	26.64	23.31
213-1016	TAJA104K035R	A	10	35	10	33.30	26.64	23.31
213-1018	TAJA224K035R	A	22	35	10	33.30	26.64	23.31
213-1020	TAJA334K035R	A	33	35	10	33.30	26.64	23.31
213-1024	TAJB105K035R	B	1.00	35	10	36.08	28.86	25.25
213-1026	TAJA104K050R	A	10	50	10	47.79	36.63	32.05
213-1028	TAJB474K050R	B	47	50	10	54.11	43.20	37.80
213-1034	TAJD475K050R	D	47.0	50	10	122.10	97.68	85.47

PLCC Sockets



The plastic leaded chip carrier sockets (PLCC) are designed to carry JEDEC type A chips on 1.27 mm (.050") centerlines. They are available in surface mount and through mount configurations of 20, 28, 32, 44, 52, 68, 84, and 100 position. The socket's low profile design minimizes overall height. Contacts are tin-lead plated phosphor-bronze.

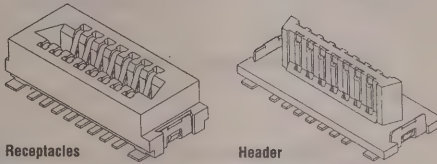
Stock No.	Mfr.'s Type	No. of Positions	Description	EACH	
				1-99	100-499
518-5037	69802-020	20	Surface Mount with Locating Peg	1.18	.99
518-5038	69802-028	28	Surface Mount with Locating Peg	1.43	1.19
518-5040	69802-032	32	Surface Mount with Locating Peg	1.35	1.12
518-5041	69802-044	44	Surface Mount with Locating Peg	1.80	1.50
518-5042	69802-052	52	Surface Mount with Locating Peg	2.28	1.90
518-5045	69802-068	68	Surface Mount with Locating Peg	2.65	2.21
518-5050	69802-084	84	Surface Mount with Locating Peg	3.06	2.55
518-5052	69802-120	20	Surface Mount without Locating Peg	1.18	.99
518-5054	69802-128	28	Surface Mount without Locating Peg	1.43	1.19
518-5055	69802-132	32	Surface Mount without Locating Peg	1.35	1.12
518-5057	69802-144	44	Surface Mount without Locating Peg	1.80	1.50
518-5058	69802-152	52	Surface Mount without Locating Peg	2.28	1.90
518-5060	69802-168	68	Surface Mount without Locating Peg	2.65	2.21
518-5065	69802-184	84	Surface Mount without Locating Peg	3.06	2.55

CONAN™ 1.0 mm Pitch Connector System



► **Product Users:** Manufacturers of Pagers, Cellular Phones, Notebook Computers, and Add-In Memory Boards

Low-profile, surface-mount connectors for close stacking of parallel circuit boards. Options available for 4.15 mm, 4.5 mm, 5.0 mm, 6.0 mm, or 7.0 mm mated connector height. Connectors feature reliable selectively-plated, blade-on-beam contacts on 1.0 mm pitch. **Current Rating:** 1 A per contact. UL recognized, CSA certified.



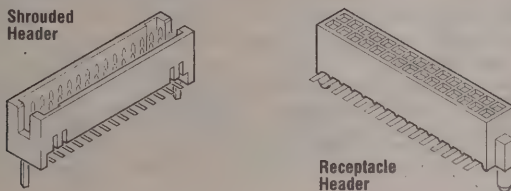
Receptacles

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
518-7000	91930-21125	25	2.81	2.08	1.79
518-7005	91930-21141	41	4.14	3.07	2.63
518-7010	91930-21151	51	4.87	3.61	3.10
518-7015	91930-21169	69	6.36	4.71	4.04

Headers

Stock No.	Mfr.'s Type	No. of Positions	Stacking Height (mm)	EACH		
				1-99	100-499	500-999
518-7020	91910-21425	25	6.00	2.73	2.02	1.73
518-7025	91910-21525	25	7.00	2.73	2.02	1.73
518-7030	91910-21141	41	4.15	3.66	2.71	2.32
518-7035	91910-21441	41	6.00	4.02	2.98	2.56
518-7040	91910-21541	41	7.00	4.02	2.98	2.56
518-7045	91910-21151	51	4.15	4.31	3.19	2.73
518-7050	91919-21569	69	7.00	6.17	4.57	3.92

RIB-CAGE™ II 0.050" (1.27 mm) Surface-Mount Connectors



High-density, double-row Rib-Cage™ II surface-mount, vertical shrouded headers mate with surface-mount vertical receptacle assemblies. Both are 0.050" x 0.050" (1.27 x 1.27 mm) centerline systems. Black LCP housing, rated UL 94V-0. Hold-downs maintain proper alignment to PC board. Standoffs prevent entrapment of cleaning solutions. Compatible with vapor-phase and infrared reflow soldering processes. Contacts selectively 30 µ minimum gold plated in contact area and 100 µ tin/lead on solder tails. **Current Rating:** 1 A DC. **Withstanding Voltage:** 800 VAC. **Temperature Rating:** -55° to +130°C. UL recognized, CSA certified.

Surface-Mount Vertical Header Assemblies for 6.4 mm BTB

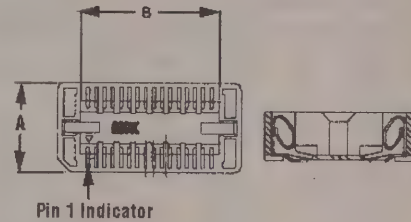
Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
518-7055	91855-110	20	2.32	1.72	1.55
518-7060	91855-125	50	4.75	3.52	3.17
518-7065	91855-135	70	6.16	4.56	4.11
518-7070	91855-140	80	6.84	5.07	4.57
518-7075	91855-150	100	8.56	6.34	5.71

Surface-Mount Vertical Receptacle Assemblies

Stock No.	Mfr.'s Type	No. of Positions	EACH		
			1-99	100-499	500-999
518-7080	91872-610	20	2.92	2.16	1.95
518-7085	91872-625	50	5.94	4.40	3.96
518-7090	91872-635	70	7.70	5.70	5.13
518-7095	91872-640	80	8.56	6.34	5.71
518-7100	91872-650	100	10.69	7.92	7.13

SOJ Sockets

— NEW —

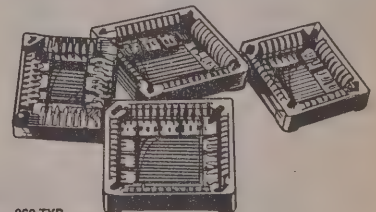
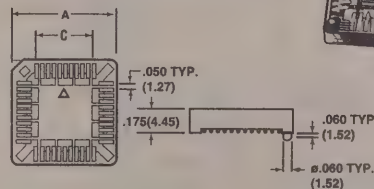


- Same Footprint as the Device They Socket
- Molded in High Temperature PPS
- All Solder Joints are 100% Inspectable

Stock No.	Mfr.'s Type	No. of Positions	Width (A)	Length (B)	EACH		
					1-24	25-99	100-249
978-5142	SOJ 24P-3.0	24	.546	.915	1.44	1.18	.99
978-5144	SOJ 26P-3.0	26	.546	.965	1.44	1.18	.99
978-5146	SOJ 28P-3.0	28	.546	1.015	1.25	1.04	.87
978-5148	SOJ 28P-4.0	28	.646	1.015	1.38	1.14	.95
978-5150	SOJ 32P-4.0	32	.646	1.115	1.31	1.08	.90
978-5152	SOJ 40P-4.0	40	.646	1.315	1.38	1.14	.95
978-5154	SOJ 42P-4.0	42	.646	1.365	1.38	1.14	.95

PLCC Sockets

Surface Mount PLCC Sockets



- Lowest Profile Available: .175" (4.44mm)
- Socket Has Standard JEDEC Mounting Pad Layout
- May Be Reflow Soldered By All Conventional Processes
- All Solder Joints Are Inspectable
- Polarization Notch Ensures Correct Alignment
- Pick and Place Tab for Automated Assembly Equipment (Add-P to Mfr.'s Type)
- Packaged in Tubes or Tape and Reel

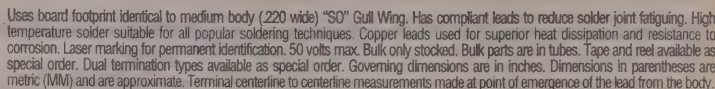
Insulator: High-temp. PPS, UL94V-0. **Contacts:** Phosphor bronze. **Plating:** 150 µ Tin/40 µ Nickel. **Temperature Range:** -55°C to +220°C. **Current Rating:** 1 A.

Stock No.	Mfr.'s Type	No. of Leads	Dimension A		Dimension C		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-2100	PLCC 20P-T-SMT	20	.600	15.24	.200	5.08	1.02	.92	.77
978-2105	PLCC 28P-T-SMT	28	.700	17.78	.300	7.62	1.02	.92	.77
978-2110	PLCC 32P-T-SMT	32	.700	17.78	.400	10.16	1.02	.92	.77
978-2115	PLCC 44P-T-SMT	44	.900	22.86	.500	12.70	1.20	1.08	.90
978-2120	PLCC 52P-T-SMT	52	1.000	25.40	.600	15.24	1.50	1.35	1.12
978-2125	PLCC 68P-T-SMT	68	1.213	30.81	.800	20.32	1.54	1.39	1.16
978-2130	PLCC 84P-T-SMT	84	1.413	35.89	1.000	25.40	1.70	1.53	1.28

PLCC Extraction Tool

Easy to use extraction tool provides positive protection for both socket and device during removal. Two versions available: XT-2 for economy and XT-HD for higher performance.

978-2235. TOL PLCC-XT-2. Economy Tool	EACH	19.38
978-2236. TOL PLCC-XT-HD. Precision Tool	EACH	134.64



Stock No.	Mfr.'s Type	Number of Pins	Ohms	EACH				
				1-99	100-499	500-999	1000-4999	5000-Up
755-2134	4814P-T01-103	14	10K	1.10	.88	.72	.52	.49
755-2101	4814P-T01-220	14	22	1.10	.88	.72	.52	.49
755-2209	4816P-T01-101	16	100	1.10	.88	.72	.52	.49
755-2221	4816P-T01-102	16	1K	1.10	.88	.72	.52	.49
755-2234	4816P-T01-103	16	10K	1.10	.88	.72	.52	.49
755-2247	4816P-T01-104	16	100K	1.10	.88	.72	.52	.49
755-2223	4816P-T01-152	16	1.5K	1.10	.88	.72	.52	.49
755-2201	4816P-T01-220	16	22	1.10	.88	.72	.52	.49
755-2206	4816P-T01-222	16	56	1.10	.88	.72	.52	.49
755-2239	4816P-T01-223	16	22K	1.10	.88	.72	.52	.49
755-2214	4816P-T01-271	16	270	1.10	.88	.72	.52	.49
755-2203	4816P-T01-330	16	33	1.10	.88	.72	.52	.49
755-2215	4816P-T01-331	16	330	1.10	.88	.72	.52	.49
755-2205	4816P-T01-470	16	47	1.10	.88	.72	.52	.49
755-2230	4816P-T01-472	16	4.7K	1.10	.88	.72	.52	.49
755-2206	4816P-T01-560	16	56	1.10	.88	.72	.52	.49
755-2207	4816P-T01-680	16	68	1.10	.88	.72	.52	.49
755-2208	4816P-T01-820	16	82	1.10	.88	.72	.52	.49

755-2434	4814P-T02-103	14	10K	1.10	.88	.72	.52	.49
755-2438	4814P-T02-203	14	20K	1.10	.88	.72	.52	.49
755-2415	4814P-T02-351	14	330	1.10	.88	.72	.52	.49
755-2430	4814P-T02-472	14	4.7K	1.10	.88	.72	.52	.49
755-2509	4816P-T02-101	16	100	1.10	.88	.72	.52	.49
755-2521	4816P-T02-102	16	1K	1.10	.88	.72	.52	.49
755-2534	4816P-T02-103	16	10K	1.10	.88	.72	.52	.49
755-2526	4816P-T02-222	16	2.2K	1.10	.88	.72	.52	.49
755-2530	4816P-T02-472	16	4.7K	1.10	.88	.72	.52	.49
755-2543	4816P-T02-473	16	47K	1.10	.88	.72	.52	.49

Compatible with all surface mount soldering processes and all popular vacuum pick-and-place equipment. Meets EIA/EIAJ/IPC/VRCA SMD standard outline dimensions. Top or side actuated. **Current Contact Rating:** 100 mZ max. **Max. Voltage:** 24 V. Switch is normally open type. **Operating Temperature Range:** -55°C to +125°C.

754-0250. 7914G-1-000E.....	PER PK./100 83.00
754-0252. 7914J-1-000E.....	PER PK./100 83.00

RECOMMENDED PCB LAYOUT

Miniature industrial rotary selector switch. Vertical adjust. Rugged surface mount design. Switch is SP9T, break-before-make timing. "O" position is off with no contact made. Withstands 260° soldering heat for five seconds. **Max. Current Contact Rating:** 100 mA. **Max. Voltage:** 24 V. **Operating Temperature Range:** -55°C to +125°C.

754-0265. 7643J-1-010. 1-99 EACH 2.29
100-499 EACH 1.90

Compatible with all surface mount soldering processes and all popular vacuum pick-and-place equipment. Meets EIA/EIA/JIPC/VRCI SMD standard outline dimensions. **Max. Current Contact Rating:** 100 mA. **Max. Voltage:** 24 V. **Operating Temperature Range:** -55°C to +125°C. **Rotational Life:** 50 cycles. Non-shorting contact timing. Switch is single pole double throw type. Withstands 260° soldering heat for 10 seconds.

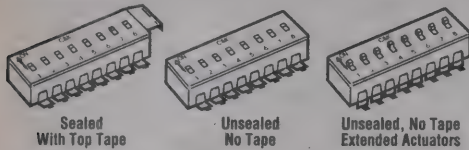
754-0255. 7814G-1-051E	PER PK./100 160.00
754-0257. 7814J-1-051E	PER PK./100 160.00

Figure 1: Dimensions and Recommended PCB Layout for the 100-pin DIP package. The figure includes a top view of the package with dimensions: 3.5mm width, 3.5mm height, and an adjustment slot (0.51 wide x 1.93 long x 0.51 deep). It also shows a side view with a 0.15mm thickness. A recommended PCB layout is shown with dimensions: 1.6mm pin pitch, 0.65mm pin width, 0.9mm pin height, 2.25mm body width, and 2 PLCS (lead clearance) on each side.

This low level signal switch is compatible with all surface mount soldering processes. Withstands 260° soldering heat. **Rotational Life:** Type 7813J-1-051E — 50; Type 7813J-1-023E — 2000 cycles. **Max. Current Contact Rating:** 100 mA. **Max. Voltage:** 24 V. Non-shorting contact timing. Switch is single pole double throw type. **Operating Temperature Range:** -55°C to +125°C.

754-0260. 7813J-1-051E	PER PK./100 168.00
754-0261. 7813J-1-023E	PER PK./100 181.00

Sealed Low Profile DIP Switches, LD Series



- R Three Surface Mount Terminal Styles — .100" Terminal Spacing
- R Process Compatible — Withstands IR and Vapor Phase Reflow Soldering and Cleaning Processes High Temperature Materials (UL 94V-0)
- R Sealed Construction — Internal Actuator O-Ring, Epoxy Base Seal
- R Tin-Lead Alloy Coats All Sides Of Terminals For Joint Integrity
- R New Two Pole Model — Same Size As Single Pole Switch
- R Available On Tape and Reel For Automated Placement

Contact Rating: 0.4 VA max. @ 20 V AC or DC max. Mechanical and Electrical Life: 40,000 make-and-break cycles at full load. Contact Resistance: Below 50 milliohms typ. initial @ 2-4 V DC, 100 mA. Insulation Resistance: 10⁹ ohms min. Dielectric Strength: 500 V RMS min. @ sea level. Operation Temperature: -30°C to 85°C. Solderability: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging). Housing and Base: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0). Actuator: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0), with standard internal o-ring seal. Switch Support: Brass, tin plated. Movable Contact: Phosphor bronze with gold plate over nickel plate. Terminals: Copper alloy, with tin-lead alloy over nickel plate. Terminal Seal: Epoxy. All terminals insert molded.

Sealed — With Top Tape

Stock No.	Mfr.'s Type	No. of Pos.	Length	EACH		
				1-99	100-499	500-999
676-7250	LD04HOSK	4	.470 (11.94)	1.96	1.63	1.40
676-7251	LD05HOSK	5	.570 (14.48)	2.06	1.72	1.47
676-7252	LD06HOSK	6	.670 (17.02)	2.26	1.89	1.62
676-7253	LD07HOSK	7	.770 (19.56)	2.45	2.04	1.75
676-7254	LD08HOSK	8	.870 (22.10)	2.57	2.14	1.84
676-7255	LD10HOSK	10	1.070 (27.18)	2.94	2.45	2.10

Unsealed — No Tape

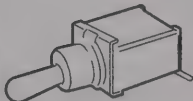
Stock No.	Mfr.'s Type	No. of Pos.	Length	EACH		
				1-99	100-499	500-999
676-7256	LD04HOSK	4	.470 (11.94)	1.96	1.63	1.40
676-7257	LD05HOSK	5	.570 (14.48)	2.06	1.72	1.47
676-7258	LD06HOSK	6	.670 (17.02)	2.26	1.89	1.62
676-7259	LD07HOSK	7	.770 (19.56)	2.45	2.04	1.75
676-7260	LD08HOSK	8	.870 (22.10)	2.57	2.14	1.84
676-7261	LD10HOSK	10	1.070 (27.18)	2.94	2.45	2.10

Unsealed — No Tape — Extended Actuators

Stock No.	Mfr.'s Type	No. of Pos.	Length	EACH		
				1-99	100-499	500-999
676-7262	LD04H1SKD	4	.470 (11.94)	1.96	1.63	1.40
676-7263	LD05H1SKD	5	.570 (14.48)	2.06	1.72	1.47
676-7264	LD06H1SKD	6	.670 (17.02)	2.26	1.89	1.62
676-7265	LD07H1SKD	7	.770 (19.56)	2.45	2.04	1.75
676-7266	LD08H1SKD	8	.870 (22.10)	2.57	2.14	1.84
676-7267	LD10H1SKD	10	1.070 (27.18)	2.94	2.45	2.10

Sealed Tiny Toggle Switches, ET Series

- R New—Antistatic Plastic Actuator—900 V DC Static Resistance
- R Tin-Lead Alloy Coats All Sides Of Terminals For Joint Integrity
- R Process Compatible — Withstands IR and Vapor Phase Reflow Soldering and Cleaning Processes — High Temperature Materials (UL 94V-0)
- R Sealed Construction — Internal Actuator O-Ring, Welded Housing and Epoxy Terminals Seal Standard



Contact Rating: 0.4 VA max. @ 20 V AC or DC max. Mechanical and Electrical Life: 60,000 make-and-break cycles at full load on ET01 model. All other models, 30,000 cycles. Contact Resistance: Below 20 milliohms typ. initial @ 2-4 V DC, 100 mA. Insulation Resistance: 10⁹ ohms min. Static Resistance (M3 actuator only): 9000 V DC min @ sea level, actuator to terms. Dielectric Strength: 1000 V RMS min. @ sea level. Operation Temperature: -30°C to +85°C. Solderability: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging). Case and Bushing: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0). Actuator: M3 antistatic actuator; Nylon 4/6, black standard, (UL 94 V-0). M Actuator: Brass, chrome, plated, internal o-ring seal standard with all actuators. Switch Support: Brass, tin plated. Contacts: Copper alloy, with gold plate over nickel plate. Terminal Seal: Epoxy.

Antistatic — With Plastic M3 Actuator

Stock No.	Mfr.'s Type	Switch Func.			EACH		
		Pos. 1	Pos. 2	Pos. 3	1-99	100-499	500-999
676-7310	ET01M3D1SAKE	On	None	On	6.63	5.53	4.74
676-7311	ET03M3D1SAKE	On	Off	On	7.30	6.09	5.22
676-7312	ET05M3D1SAKE	Mom.	Off	Mom.	7.30	6.09	5.22
676-7313	ET07M3D1SAKE	On	Off	Mom.	7.30	6.09	5.22
676-7314	ET08M3D1SAKE	On	None	On	7.30	6.09	5.22

With Chrome Plated Brass M Actuator

676-7315	ET01MD1SAKE	On	None	On	6.32	5.27	4.52
676-7316	ET03MD1SAKE	On	Off	On	7.00	5.83	5.00
676-7317	ET05MD1SAKE	Mom.	Off	Mom.	7.00	5.83	5.00
676-7318	ET07MD1SAKE	On	Off	Mom.	7.00	5.83	5.00
676-7319	ET08MD1SAKE	On	None	Mom.	7.00	5.83	5.00

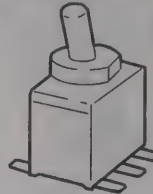
All Are SPDT Mom. = Momentary.

Sealed Ultra-Miniature Toggle Switches, GT Series

- R Three Surface Mount Terminal Styles — .100" Terminal Spacing
- R Three Terminal Styles — .100 in. Terminal Spacing
- R Process Compatible — Withstands IR and Vapor Phase Reflow Soldering and Cleaning Processes — High Temperature Materials (UL 94V-0)
- R Sealed Construction — Internal Actuator O-Ring, Epoxy Base Seal
- R Tin-Lead Alloy Coats All Sides Of Terminals For Joint Integrity
- R New Two Pole Model — Same Size As Single Pole Switch
- R Available On Tape and Reel For Automated Placement



SP with SA Terminals



SP with SC Terminals

Contact Rating: 0.4 VA max. @ 20 V AC or DC max. Mechanical and Electrical Life: 40,000 make-and-break cycles at full load. Contact Resistance: Below 50 milliohms typ. initial @ 2-4 V DC, 100 mA. Insulation Resistance: 10⁹ ohms min. Dielectric Strength: 500 V RMS min. @ sea level. Operation Temperature: -30°C to 85°C. Solderability: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging). Housing and Base: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0). Actuator: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0), with standard internal o-ring seal. Switch Support: Brass, tin plated. Movable Contact: Phosphor bronze with gold plate over nickel plate. Stationary Contacts: Copper alloy, with gold plate over nickel plate. Terminals: Copper alloy, with tin-lead alloy over nickel plate. Terminal Seal: Epoxy. All terminals insert molded.

SP Models With SA Terminals

Stock No.	Mfr.'s Type	Switch Func.			EACH		
		Pos. 1	Pos. 2	Pos. 3	1-99	100-499	500-999
676-7270	GT11MSAKE *	On	None	On	5.96	4.96	4.25
676-7271	GT13MSAKE *	On	Off	On	6.83	5.70	4.88
676-7272	GT12MSAKE **	Off	None	On	6.34	5.29	4.53

SP Models With SC Terminals

676-7273	GT11MSCKE *	On	None	On	5.59	4.66	3.99
676-7274	GT13MSCKE *	On	Off	On	6.47	5.39	4.62
676-7275	GT12MSCKE **	Off	None	On	6.04	5.03	4.31

DP Models With SC Terminals

676-7276	GT21MSCKE †	On	None	On	7.45	6.21	5.32
676-7277	GT23MSCKE †	On	Off	On	7.92	6.60	5.65
676-7278	GT22MSCKE ‡	Off	None	On	7.69	6.41	5.49

SP Models With SV Terminals

676-7279	GT11MSVKE *	On	None	On	6.20	5.17	4.43
676-7280	GT13MSVKE *	On	Off	On	7.00	5.83	5.00
676-7281	GT12MSVKE **	Off	None	On	6.39	5.32	4.56

DP Models With SV Terminals

676-7282	GT21MSVKE †	On	None	On	8.40	7.00	6.00
676-7283	GT23MSVKE †	On	Off	On	8.89	7.41	6.35
676-7284	GT22MSVKE ‡	Off	None	On	8.65	7.21	6.18

*SPDT. **SPST. †DPDT. ‡DPST.

Sealed Tiny Pushbutton Switches, EP Series



SP with Extended Actuator

SP with Flush Actuator

- R Process Compatible — Withstands IR and Vapor Phase Reflow Soldering and Cleaning Processes — High Temperature Materials (UL 94V-0)
- R Tin-Lead Alloy Coats All Sides Of Terminals For Joint Integrity
- R Sealed Construction — Internal Actuator O-Ring, Welded Housing and Epoxy Terminals Seal Standard

Contact Rating: 0.4 VA max. @ 20 V AC or DC max. Mechanical and Electrical Life: 60,000 make-and-break cycles at full load. Contact Resistance: Below 20 milliohms typ. initial @ 2-4 V DC, 100 mA. Insulation Resistance: 10⁹ ohms min. Dielectric Strength: 1000 V RMS min. @ sea level. Operation Temperature: -30°C to 85°C. Solderability: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging). Case and Bushing: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0). Actuator: LCP (UL 94V-0), with standard internal o-ring seal. Switch Support: Brass, tin plated. Contacts: Copper alloy, with gold plate over nickel plate. Terminals: Copper alloy, with tin-lead alloy over nickel plate. Terminal Seal: Epoxy.

SP Models With Extended Actuator

Stock No.	Mfr.'s Type	Switch Func.			EACH		
		Pos. 1	Pos. 2	Pos. 3	1-99	100-499	500-999
676-7320	EP11SD1SAKE*	Off	Mom.		5.06	4.22	3.61
676-7321	EP12SD1SAKE+	On	Mom.		6.43	5.36	4.59

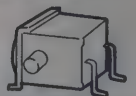
SP Models With Flush Actuator

Stock No.	Mfr.'s Type	Switch Func.			EACH		
		Pos. 1	Pos. 2	Pos. 3	1-99	100-499	500-999
676-7322	EP11FPD1SAKE*	Off	Mom.		5.06	4.22	3.61
676-7323	EP12FPD1SAKE+	On	Mom.		6.43	5.36	4.59

SPST*. SPDT+ Mom. = Momentary.

Sealed Ultra-Miniature Pushbutton Switches, GT Series

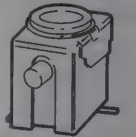
- R Five Terminal Styles — .050 and .100" Spacing
- R Process Compatible — Withstands IR and Vapor Phase Reflow Soldering and Cleaning Processes — High Temperature Materials (UL 94V-0)
- R Tin-Lead Alloy Coats All Sides Of Terminals For Joint Integrity
- R SPST and SPDT Momentary Models Available
- R Sealed Construction — Internal Actuator O-Ring, Epoxy Base Seal



SP with SA Terminals



SP with SC Terminals



SP with SV1 Terminals

Contact Rating: 0.4 VA max. @ 20 V AC or DC max. Mechanical and Electrical Life: 40,000 make-and-break cycles at full load. Contact Resistance: Below 50 milliohms typ. initial @ 2-4 V DC, 100 mA. Insulation Resistance: 10⁹ ohms min. Dielectric Strength: 500 V RMS min. @ sea level. Operation Temperature: -30°C to 85°C. Solderability: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging). Housing and Base: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0). Actuator: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0), with standard internal o-ring seal. Switch Support: Brass, tin plated. Movable Contact: Beryllium copper with gold plate over nickel plate. Stationary Contacts: Copper alloy, with gold plate over nickel plate. Terminals: Copper alloy, with tin-lead alloy over nickel plate. Terminal Seal: Epoxy. All terminals insert molded.

SP Models With SA Terminals

Stock No.	Mfr.'s Type	Switch Func.			EACH		
		Pos. 1	Pos. 2	Pos. 3	1-99	100-499	500-999
676-7290	GP11MSAKE *	Off	Mom.		5.67	4.73	4.05
676-7291	GP12MSAKE *	On	Mom.		6.12	5.10	4.37

SP Models With SA1 Terminals

676-7292	GP11MSA1KE **	Off	Mom.	6.75	5.63	4.82
676-7293	GP12MSA1KE **	On	Mom.	7.16	5.97	5.11

SP Model With SC Terminals

676-7294	GP12MSCKE	On	Mom.	5.51	4.59	3.93
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SP Model With SC1 Terminals

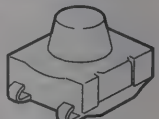
676-7295	GP12MSC1KE	On	Mom.	6.39	5.32	4.56
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SP Models With SV1 Terminals

676-7296	GP11MSV1KE *	Off	Mom.	7.08	5.90	5.06
676-7297	GP12MSV1KE**	On	Mom.	7.51	6.26	5.36

*SPST. **SPDT. Mom. = Momentary.

Sealed Miniature Key Switches, KT Series



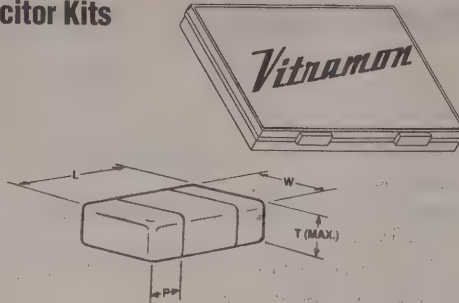
- R Ultra-Miniature Low Profile Design — Approx. .250" (6 mm) Sq. — Three Terminal Styles
- R Tin-Lead Alloy Coats All

Vitramon Monolithic Ceramic Chip Capacitor Kits

- ▶ NPO, X7R, Z5U, High Q Dielectrics
- ▶ Nickel Barrier Termination Construction
- ▶ Extended Capacitance Ranges
- ▶ Unique Wet Build-Up Process Eliminates Micro Cracks In The Chip Capacitor Body With Less Porous, Denser Structure And Better Electrode Plate Registration

To determine the values contained in each kit, compare the value codes in Chart 1 with the value codes in Chart 3. Example: All part numbers in Chart 3 with the letter "C" in the value code are contained in the kit which has the letter "C" as its value code in Chart 1.

To determine the characteristics of each capacitor, compare the three letters and number in the characteristic code in Chart 3 with the characteristic code explanation in Chart 2.



Style/ Type	E.I.A. Type	Length (L)		Width (W)		Thickness (T) Max.		Term. (P)				Dim. Tol. L and W		Voltage VDC
		In.	mm	In.	mm	In.	mm	Min.		Max.		In.	mm	
								In.	mm	In.	mm			
VJ0603	0603	.063	1.60	.031	.80	.035	.89	.005	.120	.015	.380	±.005	±.20	50, 100
VJ0805	0805	.079	2.00	.049	1.25	.051	1.30	.010	.250	.028	.710	±.008	±.20	50, 100, 200
VJ1206	1206	.126	3.20	.063	1.60	.059	1.50	.010	.250	.028	.710	±.008	±.20	50, 100, 200
VJ1210	1210	.126	3.20	.098	2.50	.067	1.20	.010	.250	.028	.710	±.008	±.20	50, 100, 200
VJ1812	1812	.177	4.50	.126	3.20	.067	1.70	.010	.250	.030	.760	±.010	±.25	50

Chart 1 — Vitramon Monolithic Ceramic Chip Capacitor Kits

Stock No.	Mfr.'s Type	Case Type	Kit Value Code	Quantity Per Value	Total Pcs. Per Kit	# Values Per Kit	EACH	
							1-4	5-Up
777-0772	KV-VJKTNP0	C62	C	5	175	35	96.90	99.45
777-0773	KV-VJKTZR	C62	D	10	300	30	100.30	92.58
777-0774	KV-VJKTZ5U	C62	E	5	150	30	100.30	92.58
777-0775	KV-VJKTPOP	C62	F	5	125	25	93.50	86.31
777-0776	KV-VJKTTHQ	C62	G	5	200	40	127.50	117.69
777-0777	KV-VJKT0603	C62	H	20	600	30	127.50	117.69

Chart 2 — Capacitor Characteristic Code Chart

Dielectric	Tolerance	Voltage	Style/Type
A = NPO	B = ± .10pF	X = 25V	2 = 1812
Y = X7R	C = ± .25pF	A = 50V	3 = 0603
U = Z5U	D = ± .5pF	B = 100V	5 = 0805
Q = HI Q	F = ± 1%	C = 200V	6 = 1206
	J = ± 5%	E = 500V	0 = 1210
	K = ± 10%		
	M = ± 20%		

Chart 3 — Values Contained in Vitramon Monolithic Ceramic Chip Capacitor Kits

Cap. Value	Kit Code	Char. Code	Cap. Value	Kit Code	Char. Code	Cap. Value	Kit Code	Char. Code	Cap. Value	Kit Code	Char. Code
1.0	C	ACA5	10	G	QJC5	470	CF	AJA5	.022	D	YKA5
	C	ACB6		H	AJA3		C	AJB6		E	UMA5
	H	QBC5	11	G	QJC5		D	YKA5		H	YKA5
1.2	G	ABA3	12	G	QJC5	560	H	AJA3	.027	H	YKA5
1.5	CF	QBC5	16	G	QJC5	680	D	YKA5	.033	D	YKA5
		ACA5	18	C	AFAS		D	YKA5		E	UMA5
	H	ABA3		G	QJC5	820	F	AJA5		E	UMA5
1.8	G	QBC5		H	AJA3		F	AJA5		E	UMA5
1.9	G	QBC5	24	G	QJC5		F	YKA5		H	YKA5
2.0	G	QBC5	27	C	AFAS	1000	CF	AJA5	.047	D	YKA5
2.1	G	QBC5		F	ADA5		C	ABJ6		E	UMA5
2.2	C	ACB6		G	QJC5		D	YKA5		D	YKA5
	F	ACA5	30	G	QJC5	1200	D	YKA5	.056	D	YKA5
	C	QBC5	33	G	QJC5	1500	D	YKA5	.068	D	YKA5
2.4	G	ABA3	39	C	AFAS	1800	C	AJA5	.082	D	YKA5
2.7	G	QBC5		H	AJA3		D	YKA5	.10	DF	YKA5
3.0	G	QBC5	47	CF	AJA5	2200	D	YKA5		DF	YKA5
3.3	C	ACA5		C	AJB6		H	YKA5		E	UMA5
	H	ABA3	56	G	QJC5	2700	D	YKA5		F	YKA5
3.6	G	QBC5	62	G	QJC5	3300	D	YKA5		F	YKA5
3.9	C	ACA5	68	CF	AJA5	3900	C	AJB6	.12	E	UMA5
	G	QBC5		C	AJB6		C	AJB6		E	UMA5
	H	ABA3		G	QJC5		H	YKA5	.15	D	YKA5
4.7	CF	ACA5		H	AJA3	4700	C	AJA6	.18	D	YKA5
	C	ACB6	82	G	QJC6		C	YKA3		E	UMA5
	G	QBC5	100	CF	AJA5	5600	D	YKA5		E	UMA5
5.1	H	ABA3		C	AJB6	6800	D	YKA5	.22	D	YKA5
5.6	CF	ADA5		H	QJC6	8200	H	YKA3	.27	E	UMA5
	C	ADB6	150	CF	AJA5	.01	H	YKA5		E	UMA5
	G	QBC5		G	QJC6		D	YKA5	.33	E	UMA5
6.2	G	ACA3	180	C	AJB6		E	UMA6		E	UMA6
6.8	CF	QBC5	220	CF	QJC6		H	YKA3	.47	EF	UMA2
	C	ADB5		G	QJC6	.012	D	YKA5	.56	EF	UMA2
	G	QJC5		H	AJA3	.015	H	YKA3	.68	EF	UMA2
8.2	H	ACA3	270	G	QJC0		D	YKA5	1.0	EF	UMA2
9.1	G	QJC5	330	C	AJB6	.018	E	UMA5	1.2	EF	UMA2
10	CF	QJC5		G	QJC0		E	UMA5			
	C	ADB6		H	AJA3						

CEC-123
General Purpose SMD Electrolytic
Capacitor Kit

- ▶ (SMD) Electrolytic Capacitors
- ▶ Surface Mounting Mountable Construction
- ▶ Miniaturized Down to 5.5 mm Heights
- ▶ Load Life of 2000 hrs at 85°C
- ▶ Operating Temperature Range -40 to +85°C
- ▶ Voltage Range: 4 V to 50 V
- ▶ Capacitance Tolerance: ±20% @ 120 Hz, 20°C
- ▶ Total of 120 Capacitors
- ▶ Case Size: 8" W x 11 1/4" H x 4" D (All Kits on This Page Supplied in This Case)

Capacitance Values Contained in the CEC-123 Kit

Capacitance	Quantity	Voltage	Tolerance
0.1 MFD	10	50.0	±20%
0.22 MFD	10	50.0	±20%
0.47 MFD	10	50.0	±20%
1.0 MFD	10	50.0	±20%
2.2 MFD	10	50.0	±20%
4.7 MFD	10	50.0	±20%
10.0 MFD	10	50.0	±20%
22.0 MFD	10	35.0	±20%
33.0 MFD	10	10.0	±20%
47.0 MFD	10	16.0	±20%
100.0 MFD	10	6.3	±20%
220.0 MFD	10	4.0	±20%

777-0123.....EACH 73.10

CEC-62
Tantalum Chip Capacitor Kit (SMD)

- ▶ (SMD) Highest Quality Tantalum Chip Capacitors
- ▶ Ultra-Small Case Sizes
- ▶ High Soldering Heat Resistance
- ▶ Greater Reliability
- ▶ 12 of the Most Requested Capacitance Values
- ▶ Easy to Read Label Clearly Shows Capacitance, Voltage, and Tolerance
- ▶ Sturdy, Clear, See-Through Plastic Case With 12 Individual Compartments
- ▶ Total of 60 Capacitors

Capacitance values contained in the CEC-62 Kit

Capacitance	Quantity	Voltage	Tolerance
68.0 MFD	5	4	±20%
22.0 MFD	5	6.3	±20%
47.0 MFD	5	6.3	±20%
10.0 MFD	5	16	±20%
4.7 MFD	5	20	±20%
2.2 MFD	5	20	±20%
1.5 MFD	5	25	±20%
0.047 MFD	5	35	±20%
0.1 MFD	5	35	±20%
0.22 MFD	5	35	±20%
0.47 MFD	5	35	±20%
1.0 MFD	5	35	±20%

777-0062.....EACH 67.92

CC-540-12 Multi-Layered Ceramic Chip Capacitor Kit. 10 pieces each — 43 values. Ultra-miniature size, light in weight and thin body thickness. Highest reliable performance. 9" x 7.5" x 1.6" styrene case with chip types clearly marked. Includes: EIA 1206 case sizes, NPO, X7R and Z5U types, 10pF — .1 MFD capacitance ranges at 50 volts.

777-5412, CC-540-12.....EACH 174.95

TC-150 Tantalum Chip Organizer Kit. 9" x 7.5" x 1.6" styrene case with 150 pieces. Kit Features Include: Highest quality tantalum chip capacitors in Ultra small case sizes. High soldering heat resistance: 30 values of tantalum chips. 4V-35V, .047-68 MFD, x8/x16 magnifying glass and specially designed Chip tweezers.

777-1500, TC-150.....EACH 156.40

CC-540-08 Multi-Layered Ceramic Chip Capacitor Kit. 10 pieces each — 43 values. Ultra-miniature size. Thin body thickness, light in weight with highly reliable performance 9" x 7.5" x 1.6" styrene case with see thru locking lid, and clearly marked chip types. 10pF-1mF capacitance ranges at 50 volts. EIA 0805 case size, NPO, X7R, and Z5U types.

777-5408, CC-540-08.....EACH 184.45

CEC-360 Surface Mount Kit. One of a kind organizer kit containing 120 pieces of surface mount electrolytic capacitors. 4-50 VDC; 0.1-220 MFD. Packed in compartments in clear plastic polystyrene case.

777-0360, CEC-360.....EACH 140.25

CEC-112 Surface Mount Wound Chip Inductor Kit. Surface mount inductor chips designed for hybrid circuits, high-density circuits and microelectronic devices. Kit offers 7 pieces each of 16 popular values. Kit includes x8/x16 magnifier and special tweezers. All supplied in molded styrene case. 1.0pH-820pH.

777-0112, CEC-112.....EACH 138.55

CEC-181 SMD Ceramic Chip Capacitor Kit. EIA 1206 size multi-layer ceramic chip capacitors. 10pF-1mF capacitance ranges at 50 volts. 5 pieces each — 18 values. NPO, X7R and Z5U types. 8" x 1 1/4" x 4" styrene case with chips clearly marked.

777-0181, CEC-181.....EACH 44.20

CEC-182 SMD Ceramic Chip Capacitor Kit. EIA 0805 size multi-layer ceramic chip capacitors. 10pF-1mF capacitance ranges at 50 volts. 5 pieces each — 18 values. NPO, X7R and Z5U types. 8" x 1 1/4" x 4" styrene case with chips clearly marked.

777-0182, CEC-182.....EACH 44.20

Call Allied For Replacement Parts



Miniature Molded-Case Tantalum Chip Capacitors, Type 293D, 10% Tolerance

Part Numbering System

293D 105 X0 010 A 2

Termination. 2 = Solderable Coating (Standard).

Case Code. See Ratings and Case Code Table.

D-C Voltage Rating, at +85°C in volts. Preceded by zero's if needed to complete the three digit block.
A decimal point is indicated by an "R" (6R3 = 6.3 volts)

Capacitance Tolerance. X0 = ±20%, X9 = ±10%, X5 = ±5% (Special Order).

Capacitance Code. Expressed in picofarads. The first two digits are significant.
The third is the number of zeros following.

Sprague Type Numbers. Identifies the basic capacitor design.

Dimensions in Inches

Case Code	EIA Size	L Length	W Width	H Height	Terminations		
					P ±.012	TW ±.004	TH Min.
A	3216	.126 ±.008	.063 ±.008	.063 ±.008	.031	.047	.028
B	3528	.138 ±.008	.110 ±.008	.075 ±.008	.031	.087	.028
C	6032	.236 ±.012	.126 ±.012	.098 ±.012	.051	.087	.039
D	7343	.287 ±.012	.170 ±.012	.110 ±.012	.051	.095	.039
E	5845	.228 ±.008	.177 ±.008	.122 ±.008	.051	.122	.039

- Low Cost
- "Machine Friendly"
- Wrap-Around Terminations

- Meets EIA Specification EIA 535BAAC
- Meets IEC Specification QC300801/US0001

KS-293DC12A. Economy, "A" case size, min. mold/case tantalum chip caps, Type 293D, 120 pieces/12 values.
 KS-293DC12B. Economy, "B" case size, min. mold/case tantalum chip caps, Type 293D, 120 pieces/12 values.
 KS-293DC12C. Economy, "C" case size, min. mold/case tantalum chip caps, Type 293D, 120 pieces/12 values.
 KS-293DC12D. Economy, "D" case size, min. mold/case tantalum chip caps, Type 293D, 120 pieces/12 values.
 KS-293DC12G. Economy, "A, B, C, D" case sizes, min. mold/case tantalum chip caps, Type 293D, 330 pieces/22 values.
 KS-293DC12H. Economy, "A, B, C, D" case sizes, min. mold/case tantalum chip caps, Type 293D, 240 pieces/12 values.
 KS-293DC12I. Economy, "A, B, C, D" case sizes, min. mold/case tantalum chip caps, Type 293D, 110 pieces/11 values.
 KS-293DC15E. Deluxe, "A, B, C, D" case sizes, min. mold/case tantalum chip caps, Type 293D, 360 pieces/36 values.
 KS-293DC62F. Deluxe, "A, B, C, D" case sizes, min. mold/case tantalum chip caps, Type 293D, 400 pieces/40 values.

To determine the values contained in each kit, compare the value codes in Chart 1 with the value codes in Chart 2. Example: All part numbers in Chart 2 with the letter "A" in the value

code are contained in the kit which has the letter "A" as its value code in Chart 1.

Chart 1 — Sprague Tantalum Chip (Type 293D) Capacitor Kits

Stock No.	Mfr.'s Type	Total Pieces Per Kit	Quantity Per Value	No. of Values Per Kit	Cabinet Type	Value Code	Component Body Case Type/Size	EACH	
								1-4	5-Up
777-0750	KS-293DC12A	120	10	12	C12	A	All "A" Body Sizes	77.35	71.40
777-0751	KS-293DC12B	120	10	12	C12	B	All "B" Body Sizes	77.35	71.40
777-0752	KS-293DC12C	120	10	12	C12	C	All "C" Body Sizes	77.35	71.40
777-0753	KS-293DC12D	120	10	12	C12	D	All "D" Body Sizes	77.35	71.40
777-0754	KS-293DC12G	330	15	22	C12	G	A, B, C, D Body Sizes	169.15	156.14
777-0755	KS-293DC12H	240	20	12	C12	H	A, B, C, D Body Sizes	138.55	127.89
777-0756	KS-293DC12I	110	10	11	C12	I	A, B, C, D Body Sizes	73.10	67.48
777-0757	KS-293DC15E	360	10	36	C15	E	A, B, C, D Body Sizes	203.15	187.52
777-0758	KS-293DC62F	400	10	40	C62	F	A, B, C, D Body Sizes	249.05	229.89

Chart 2 — Capacitance Values/Part Numbers Contained in Sprague Tantalum Chip Capacitor Kits

A Case

Part Number	μF	V	Value Code
293D106X9004A	10	4	AEF
293D225X96R3A	2.2	6.3	A F
293D335X96R3A	3.3	6.3	AE
293D155X9010A	1.5	10	A F
293D225X9010A	2.2	10	AEFG
293D475X9010A	4.7	10	AEF
293D105X9016A	1.0	16	AEFGHI
293D474X9025A	.47	25	AEFG
293D104X9035A	.10	35	AEFGHI
293D154X9035A	.15	35	A
293D224X9035A	.22	35	AEFG
293D334X9035A	.33	35	AEF

B Case

293D106X9004B	10	4	BEF
293D475X9010B	4.7	10	B F
293D685X9010B	6.8	10	BEF
293D106X9010B	10	10	BEFGH
293D106X9016B	10	16	BEF

B Case — Continued

Part Number	μF	V	Value Code
293D335X9016B	3.3	16	B FG
293D475X9020B	4.7	16	BEFGHI
293D225X9020B	2.2	20	BEFG
293D155X9025B	1.5	25	BEF
293D474X9035B	.47	35	B
293D105X9035B	1.0	35	BEFGHI
293D334X9050B	.33	50	BE

C Case

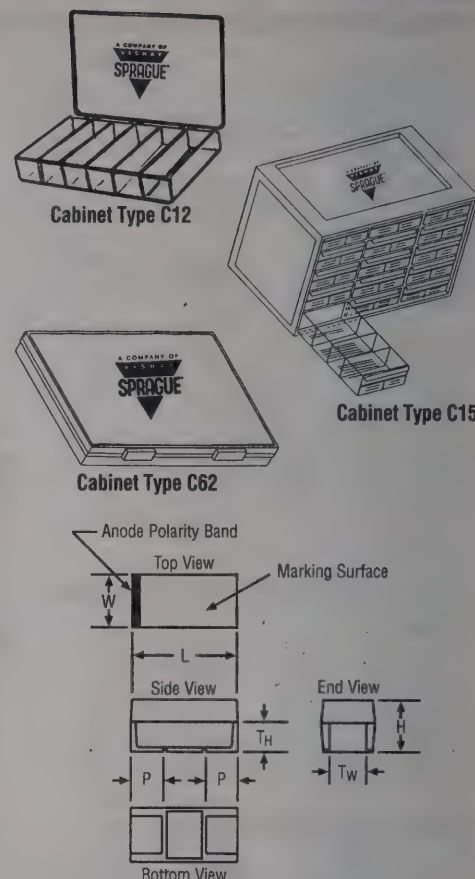
293D476X96R3C	47	6.3	CEF
293D226X9010C	22	10	CEFG
293D106X9016C	10	16	C FGHI
293D156X9016C	15	16	CEF
293D685X9020C	6.8	20	CEF
293D106X9020C	10	20	CE
293D335X9025C	3.3	25	C F
293D475X9025C	4.7	25	C GHI
293D685X9025C	6.8	25	CEFG
293D106X9025C	10	25	GHI

C Case — Continued

Part Number	μF	V	Value Code
293D225X9035C	2.2	35	CEF
293D475X9035C	4.7	35	CEF
293D105X9050C	1.0	50	CEF

D Case

293D476X9010D	47	10	DEFGHI
293D107X9010D	100	10	DEFGHI
293D226X9016D	22	16	D F
293D336X9016D	33	16	DEFG
293D476X9016D	47	16	DEF
293D106X9020D	10	20	DE
293D226X9020D	22	20	D FGHI
293D156X9025D	15	25	D FG
293D226X9025D	22	25	DEF
293D685X9035D	6.8	35	G
293D106X9035D	10	35	DEFGHI
293D225X9050D	2.2	50	DE
293D475X9050D	4.7	50	DEF
—	—	—	—



Dale Inductor Kits — Surface Mount

- ▶ Molded Construction Provides Superior Strength and Moisture Resistance
- ▶ Compatible with Vapor Phase and Infra-Red Reflow Soldering
- ▶ Wide Inductance Range

KD-IMC1812. Dale surface mount, molded inductors, IMC-1812 type.
KD-ISC1812. Dale surface mount, molded, shielded inductors, ISC1812 type. **KD-IMC1210.** Dale surface mount, molded inductors, IMC-1210 type. **KD-ISC1210.** Dale surface mount, molded, shielded inductors, ISC1210 type.



Case: C62

To determine the values contained in each kit, compare the value codes in Chart 1 with the value codes in Chart 2. Example: All part numbers in Chart 2 with the letter "A" in the value code are contained in the kit which has the letter "A" as its value code in Chart 1.

Chart 1 — Dale Surface Mount Inductor Kits

Stock No.	Mfr.'s Type	No. of Values Per Kit	Qty./Pcs. Per Value	Qty./Pcs. Per Kit	Case Type	Value Code	Inductor Type	EACH	
								1-4	5-Up
777-1812	KD-IMC1812	18	5	90	C62	A	IMC-1812	130.90	120.83
777-1813	KD-ISC1812	18	5	90	C62	B	ISC-1812*	132.60	122.40
777-1210	KD-IMC1210	18	5	90	C62	C	IMC-1210	130.90	120.83
777-1211	KD-ISC1210	18	5	90	C62	D	ISC-1210*	132.60	122.40

*Shielded.

Chart 2 — Inductance Values in μ h Contained in Dale Inductor Kits

Value Code	Induct. Value	Value Code	Induct. Value	Value Code	Induct. Value	Value Code	Induct. Value
C	.033	B D	1.8	AB D	8.2	AB D	56
CD	.1	C	2.2	ABCD	10	ABCD	100
ABCD	.33	BCD	2.7	A C	12	A	150
ABCD	.47	BCD	3.3	A C	15	A	180
B D	.82	C	3.9	A	18	A	220
ABCD	1.0	ABCD	4.7	ABCD	22	—	—
BCD	1.2	B D	5.6	A	33	—	—
BCD	1.5	AB D	6.8	ABCD	47	—	—

Dale Precision Power Wirewound Resistors

- ▶ Surface Mount Wirewounds
- ▶ Axial Leaded Low Value Wirewounds
- ▶ Proprietary Processing Technique Produces Extremely Low Resistance Values
- ▶ Low Temperature Coefficient
- ▶ Molded High-Temperature Encapsulation
- ▶ Excellent Load Life Stability



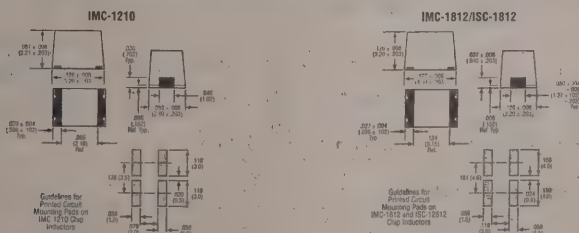
Case: C12

KD-WSC1/2. 1/2 watt 1% precision power wirewound surface mount resistor. **KD-WSC2.** 2 watt 1% precision power wirewound surface mount resistor. **KD-LVR1.** 1 watt 1% precision power low value wire/w. MIL/qualified resistor. To determine the values contained in each kit, compare the value codes in Chart 1 with the value codes in Chart 2. Example: All part numbers in Chart 2 with the letter "A" in the value code are contained in the kit which has the letter "A" as its value code in Chart 1.

Chart 1 — Dale Precision Power Wirewound Kits

Stock No.	Mfr.'s Type	Watts	Tol.	Qty. Per Value	Qty. Per Kit	Case Type	Value Code	EACH	
								1-4	5-Up
777-0701	KD-WSC1/2	1/2	1%	5	30	C12	A	58.23	53.75
777-0702	KD-WSC1	1	1%	5	30	C12	B	56.95	52.57
777-0703	KD-WSC2	2	1%	5	30	C12	C	58.23	53.35

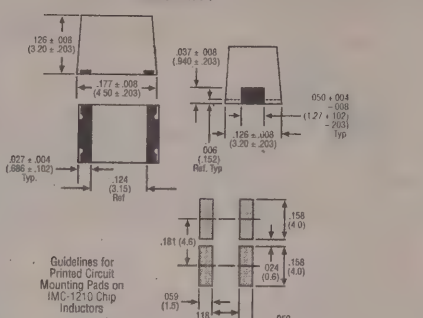
Molded Surface Mount Inductors



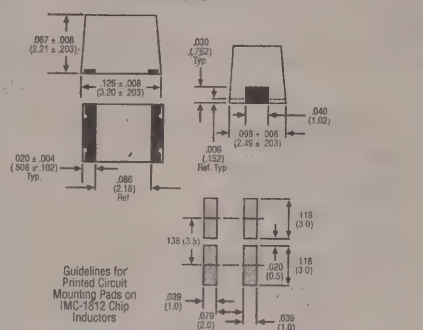
Molded construction provides superior strength and moisture resistance. Printed marking. Compatible with vapor phase and infra-red reflow soldering.

Stock No.	Mfr.'s Type	Ind (μ H)	Tol.	Current DC mA	Q Min	EACH		
						1-49	50-99	100-249
895-6350	IMC-1210	.33	20%	450	30	1.20	1.00	.56
895-6352	IMC-1210	2.7	10%	290	30	1.20	1.00	.56
895-6354	IMC-1210	4.7	10%	220	30	1.20	1.00	.56
895-6356	IMC-1210	8.2	10%	170	30	1.20	1.00	.56
895-6358	IMC-1210	10	10%	150	30	1.20	1.00	.56
895-6400	IMC-1812	.10	20%	450	30	1.08	.90	.50
895-6402	IMC-1812	.22	20%	450	30	1.08	.90	.50
895-6404	IMC-1812	.33	20%	430	30	1.08	.90	.50

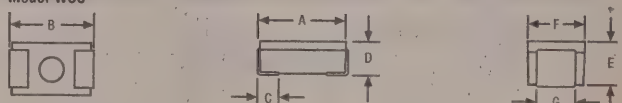
IMC-1210



IMC-1812



Model WSC



Model WSC Dimensions — Inches (mm)

Mfr.'s Type	A	B	C	D	E	F	G
WSC-1/2	.188±.005 (4.77±.127)	.200±.020 (5.08±.508)	.040±.010 (1.02±.254)	.096±.015 (2.44±.381)	.090±.005 (2.29±.127)	.125±.005 (3.18±.127)	.050±.010 (1.27±.254)
WSC-1	.238±.005 (6.05±.127)	.250±.020 (6.35±.508)	.045±.010 (1.14±.254)	.110±.015 (2.79±.381)	.104±.005 (2.64±.127)	.150±.005 (3.81±.127)	.098±.005 (2.49±.127)
WSC-2	.433±.005 (11.00±.127)	.445±.032 (11.30±.813)	.100±.010 (2.54±.254)	.162±.015 (4.11±.381)	.156±.005 (3.96±.127)	.275±.005 (6.98±.127)	.215±.005 (5.46±.127)

Chart 2 — Resistance Values Contained in Dale Wirewound Kits

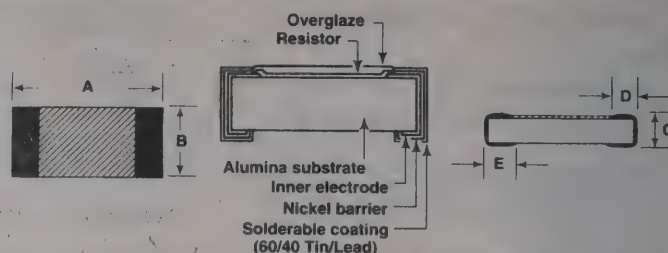
Value Code	Res. Value	Value Code	Res. Value
AB D	.05	A	.75
ABCD	.1	ABC	1
ABC	.25	BC	10
ABC	.5	C	100

Stock No.	Mfr.'s Type	Ind (μ H)	Tol.	Current DC mA	Q Min	EACH		
						1-49	50-99	100-249
895-6406	IMC-1812	.47	20%	355	30	1.08	.90	.50
895-6408	IMC-1812	.56	20%	285	30	1.08	.90	.50
895-6410	IMC-1812	.68	10%	270	30	1.08	.90	.50
895-6412	IMC-1812	1.0	10%	450	50	1.08	.90	.50
895-6414	IMC-1812	1.5	10%	410	50	1.08	.90	.50
895-6416	IMC-1812	2.2	10%	380	50	1.08	.90	.50
895-6418	IMC-1812	3.3	10%	355	50	1.08	.90	.50
895-6420	IMC-1812	4.7	10%	315	50	1.08	.90	.50
895-6422	IMC-1812	5.6	10%	300	50	1.08	.90	.50
895-6424	IMC-1812	6.8	10%	285	50	1.08	.90	.50
895-6426	IMC-1812	10	10%	250	50	1.08	.90	.50
895-6428	IMC-1812	15	10%	200	50	1.14	.95	.53
895-6430	IMC-1812	33	10%	160	50	1.14	.95	.53
895-6432	IMC-1812	47	10%	140	50	1.14	.95	.53
895-6434	IMC-1812	56	10%	135	50	1.35	1.13	.63
895-6436	IMC-1812	68	10%	130	50	1.35	1.13	.63
895-6438	IMC-1812	100	10%	110	50	1.35	1.13	.63
895-6440	IMC-1812	220	10%	100	40	1.35	1.13	.63
895-6442	IMC-1812	390	10%	80	40	1.84	1.53	.86
895-6444	IMC-1812	470	10%	62	40	1.84	1.53	.86
895-6446	IMC-1812	1000	10%	30	30	1.84	1.53	.86
895-6500	ISC-1812	.33	10%	450	30	1.20	1.00	.56
895-6502	ISC-1812	1.2	10%	145	30	1.20	1.00	.56
895-6504	ISC-1812	2.7	10%	110	30	1.20	1.00	.56
895-6506	ISC-1812	3.9	10%	100	30	1.20	1.00	.56
895-6508	ISC-1812	5.6	10%	86	30	1.20	1.00	.56
895-6510	ISC-1812	8.2	10%	75	30	1.20	1.00	.56
895-6512	ISC-1812	12	10%	65	50	1.20	1.00	.56

Model CRCW Thick Film Chip Resistors

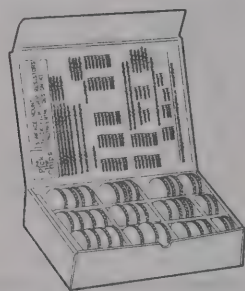
Dimensions (Numbers in brackets indicate millimeters)

Mr.'s Type	A	B	C	D	E
CRCW0603	.063 ± .006 [1.60 ± .10]	.031 ± .006 [.80 ± .15]	.020 ± .004 [.50 ± .10]	.012 ± .008 [.30 ± .20]	.012 ± .008 [.30 ± .20]
CRCW0805	.079 ± .008 [2.0 ± .20]	.049 ± .008 [1.25 ± .20]	.020 ± .008 [.50 ± .20]	.016 ± .008 [.40 ± .25]	.016 ± .008 [.40 ± .25]
CRCW1206	.126 ± .006 [3.20 ± .15]	.063 ± .006 [1.60 ± .15]	.022 ± .006 [.56 ± .15]	.020 ± .010 [.50 ± .25]	.020 ± .010 [.50 ± .25]



Internationally standardized size assures automatic placement compatibility. Flow solderable. Thick film element. Wraparound termination. Inner electrode protection. Operating temperature is -55°C to +150°C. Supplied on 7" reels.

Stock No.	Mr.'s Type	Value Range	Tol	Watts	PPM	PER REEL/5000	
						1-4	5-9
895-66XX	CRCW0603	10-1M	1%	1/16	100	125.00	115.38
895-67XX	CRCW0603	10-1M	5%	1/16	200	50.00	46.25
895-56XX	CRCW0805	10-1M	1%	1/10	100	91.75	85.00
895-57XX	CRCW0805	10-1M	5%	1/10	200	40.95	37.75
895-58XX	CRCW1206	10-1M	1%	1/8	100	75.75	70.75
895-59XX	CRCW1206	10-1M	5%	1/8	200	40.95	37.75



CRCW Chip Resistor Kits

Stock No.	Mr.'s Type	Value Range	Values Per Kit	Pieces Per Value	Tol.	Watts	PPM	EACH	
								1-4	5-9
895-0001	CRCW1206-101	51.1-200K	74	500	1%	1/8	100	1530.00	1500.00
895-0002	CRCW1206-102A	51.1-150K	30	100	1%	1/8	100	200.00	180.00
895-0003	CRCW0805-102A	51.1-150K	30	100	1%	1/10	100	200.00	180.00
895-0004	CRCW1206-102B	60.4-200K	30	100	1%	1/8	100	200.00	180.00
895-0005	CRCW0805-102B	60.4-200K	30	100	1%	1/10	100	200.00	180.00
895-0006	CRCW1206-103	80.6-88.7K	15	100	1%	1/8	100	110.00	95.00
895-0007	CRCW0805-103	80.6-88.7K	15	100	1%	1/10	100	110.00	95.00
895-0008	CRCW1206-104	10-1M	30	100	5%	1/8	200	200.00	180.00
895-0009	CRCW0805-104	10-1M	30	100	5%	1/10	200	200.00	180.00
895-0010	CRCW1206-105	33-100K	15	100	5%	1/8	200	110.00	95.00
895-0011	CRCW0805-105	33-100K	15	100	5%	1/10	200	110.00	95.00

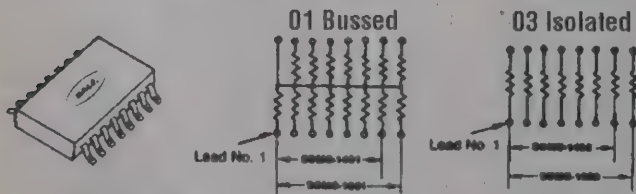
5% Resistance Value Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	43	11	150	21	470	31	1.8K	41	5.1K	51	20K	61	56K	71	240K	81	620K	91
15	02	47	12	180	22	510	32	2K	42	5.6K	52	24K	62	62K	72	270K	82	680K	92
18	03	51	13	200	23	560	33	2.4K	43	6.2K	53	27K	63	68K	73	300K	83	750K	93
20	04	56	14	240	24	620	34	2.7K	44	6.8K	54	30K	64	75K	74	330K	84	820K	94
24	05	62	15	270	25	680	35	3K	45	7.5K	55	33K	65	82K	75	360K	85	910K	95
27	06	68	16	300	26	750	36	3.3K	46	8.2K	56	36K	66	91K	76	390K	86	1M	96
30	07	75	17	330	27	820	37	3.6K	47	9.1K	57	39K	67	100K	77	430K	87	—	—
33	08	82	18	360	28	910	38	3.9K	48	10K	58	43K	68	150K	78	470K	88	—	—
36	09	91	19	390	29	1K	39	4.3K	49	15K	59	47K	69	180K	79	510K	89	—	—
39	10	100	20	430	30	1.5K	40	4.7K	50	18K	60	51K	70	200K	80	560K	90	—	—

1% Resistance Value Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	43.2	19	121	28	475	37	1.5K	46	4.99K	55	20K	64	56.2K	73	249K	82	750K	91
12.1	11	47.5	20	150	29	499	38	2K	47	5.11K	56	22.1K	65	75K	74	301K	83	806K	92
15	12	49.9	21	200	30	511	39	2.21K	48	5.62K	57	24.9K	66	80.6K	75	348K	84	909K	93
20	13	51.1	22	221	31	562	40	2.49K	49	7.5K	58	30.1K	67	90.9K	76	402K	85	1M	94
22.1	14	56.2	23	249	32	750	41	3.01K	50	8.06K	59	34.8K	68	100K	77	432K	86	—	—
24.9	15	75	24	301	33	806	42	3.48K	51	9.09K	60	40.2K	69	121K	78	475K	87	—	—
30.1	16	80.6	25	348	34	909	43	4.02K	52	10K	61	47.5K	70	150K	79	499K	88	—	—
34.8	17	90.9	26	402	35	1K	44	4.32K	53	12.1K	62	49.9K	71	200K	80	511K	89	—	—
40.2	18	100	27	432	36	1.21K	45	4.75K	54	15K	63	51.1K	72	221K	81	562K	90	—	—

SOMC Thick Film Resistor Network Series



Stock No.	Mr.'s Type	No. of Pins	Circuit Schematic	EACH				
				1-99	100-499	500-999	1000-4999	5000-up
895-24XX	SOMC-14-01	14	Bussed-01	0.96	0.78	0.60	0.46	0.37
895-25XX	SOMC-14-03	14	Isolated-03	0.96	0.78	0.60	0.46	0.37
895-26XX	SOMC-16-01	16	Bussed-01	0.96	0.78	0.60	0.46	0.37
895-27XX	SOMC-16-03	16	Isolated-03	0.96	0.78	0.60	0.46	0.37

Standard Resistance Value Chart

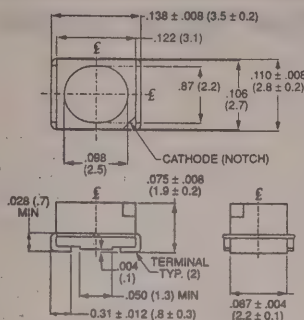
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
22	01	270	15	3.3K	29	39K	43
27*	02	330	16	3.9K	30	47K	44
33	03	390	17	4.7K	31	56K	45
39	04	470	18	5.6K*	32	68K	46
47	05	560	19	6.8K	33	82K	47
56	06	680	20	8.2K	34	100K	48
68	07	820	21	10K	35	120K	49
82	08	1.0K	22	12K	36	150K	50
100	09	1.2K	23	15K	37	180K	51
120	10	1.5K	24	18K	38	220K	52
150	11	1.8K	25	20K	39	330K	53
180	12	2.0K	26	22K	40	470K	54
200*	13	2.2K	27	27K	41	1M	55
220	14	2.7K	28	33K	42	—	—

*14 Pin series only.

Rugged, molded epoxy case construction is compatible with automatic surface mounting equipment. Uniform performance characteristics. Highly stable thick film element. Leads are tin-lead plated copper alloy. 0.050" lead spacing. 0.090" maximum seated height. Reduces total assembly costs. Bussed style typically used in pull-up/pull-down applications and digital pulse squaring. Isolated style typically used in pull-up/pull-down circuits, line termination and impedance balancing. ±100PPM. 2% tolerance. **Power Rating:** For bussed style, 0.08-watt; for isolated style, 0.16-watt. **Operating Temperature:** -55°C to +125°C.

Series 7002X and 7008X

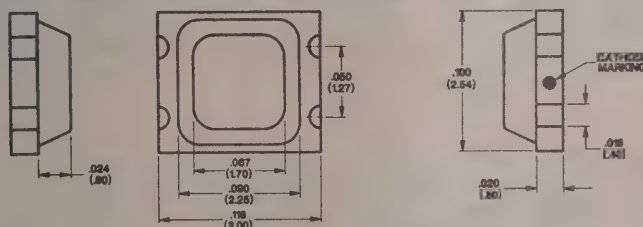
- Non-Diffused
- Package Color: Clear
- Viewing Angle: 120°
- Rated Current: 10 mA
- Premium Brightness in Miniature Chip-Type LED Assemblies
- Ideally Suited for Applications Such As Telecommunications, Data Processing Peripherals and Networking Units As Replacements for Through-Hole Products
- Also Ideal for Backlighting or Light Pipe Applications
- Integral Reflection Cup Maximizes Output
- Compact Size: 3.5 mm Wide × 2.8 mm Deep × 2 mm High
- Compatible with Full Range of IR and Vapor Phase Reflow Processes, and Conductive Adhesives, to Facilitate High-Speed Board Loading
- Packaged for Automatic Component Placement in Pocketed Anti-Static Tape Reels.



Stock No.	Mfr.'s Type	Output Color	Lum. Intensity at 10 mA		Forward Voltage Typ.	EACH*
			Min.	Typ.		
679-1101	7002X1	Red	2.0 mcd	6.0 mcd	1.9 V _f	.68
679-1102	7008X1	Red	2.0 mcd	6.0 mcd	1.9 V _f	.68
679-1103	7002X11	Red	9.0 mcd	17.0 mcd	1.8 V _f	.78
679-1104	7008X11	Red	9.0 mcd	17.0 mcd	1.8 V _f	.78
679-1105	7002X3	Amber	1.5 mcd	5.0 mcd	1.9 V _f	.68
679-1106	7008X3	Amber	1.5 mcd	5.0 mcd	1.9 V _f	.68
679-1107	7002X5	Green	5.0 mcd	10.0 mcd	2.0 V _f	.68
679-1108	7008X5	Green	5.0 mcd	10.0 mcd	2.0 V _f	.68
679-1109	7002X7	Yellow	2.0 mcd	5.0 mcd	2.0 V _f	.68
679-1110	7008X7	Yellow	2.0 mcd	5.0 mcd	2.0 V _f	.68

*Sold in 100 piece multiples. Full reels available; 7002X supplied 2,000 parts per 7" reel and 7008X supplied 8,000 parts per 13" reel.

Series CMD113 Surface Mount LED Lamps

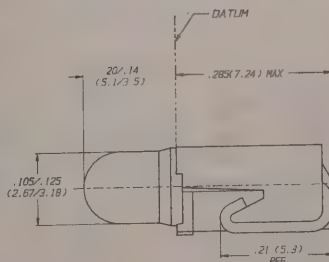


Single and dual surface mount LED Lamps are designed to be compatible with today's state-of-the-art surface mount technology. Packaged on an 8 mm tape allowing for easy automated placement. All have clear lenses.

Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Typical Current	EACH	
					1-99	100-499
679-1130	CMD11304HR	H. E. Red	7.0	20	1.03	.69
679-1131	CMD11304Y	Yellow	14.0	20	1.03	.69
679-1132	CMD11304A	Amber	14.0	20	1.03	.69
679-1133	CMD11304G	H. E. Green	22.0	20	1.03	.69
679-1134	CMD11304UR	Ultra Red	14.0	10	1.03	.69
679-1135	CMD11354HRG	Red/Green	4.0/12.0	20	1.34	.90
679-1136	CMD11354AG	Amber/Green	8.0/12.0	20	1.34	.90
679-1137	CMD11354URG	Red/Green	8.0/12.0	10/20	1.34	.90

Series 6251F T-1 Surface Mount Circuit Board Indicator

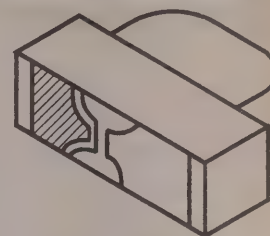
Compact size only 3.8 mm high. Available in diffused or non-diffused styles. High brightness uniform light output. Direct optics with no bends or losses. Housing meets UL 94V-0.



Stock No.	Mfr.'s Type	Output Color	Lens Style	Typical Intensity	EACH	
					1-99	100-499
679-1138	6251F1	Red	Diffused	5.0	1.01	.55
679-1139	6251F5	Green	Diffused	5.0	1.01	.55
679-1140	6251F7	Yellow	Diffused	5.0	1.01	.55
679-1141	6251F21	Super Red	Diffused	10.0	1.25	.67
679-1142	6251F11	Red	Non-Diffused	10.0	1.01	.55
679-1143	6251F15	Green	Non-Diffused	10.0	1.01	.55
679-1144	6251F17	Yellow	Non-Diffused	10.0	1.01	.55
679-1145	6251F31	Super Red	Non-Diffused	20.0	1.25	.67

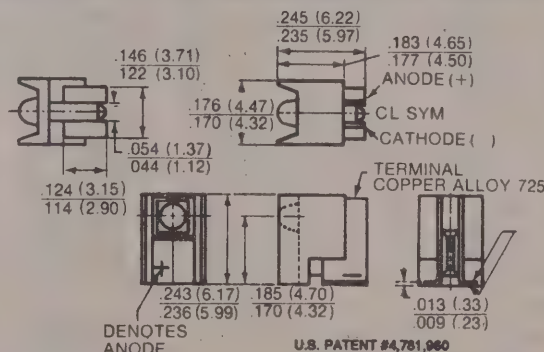
Series CMD115 Right Angle Surface Mount LED Lamps

Right angle surface mount LED Lamps are designed to be compatible with today's state-of-the-art surface mount technology. Packaged on 8 mm tape allowing for easy automated placement. All have clear lenses. Compact size only 3.0 mm × 1.0 mm × 2.0 mm.



Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Typical Current	EACH	
					1-99	100-499
679-1124	CMD11504UR	Red	13.2	20	.58	.39
679-1125	CMD11504A	Orange	3.2	20	.58	.39
679-1126	CMD11504Y	Yellow	3.2	20	.58	.39
679-1127	CMD11504PY	Pure Yellow	10.4	20	.58	.39
679-1128	CMD11504G	Green	16.0	20	.58	.39
679-1129	CMD11504PG	Pure Green	2.6	20	.58	.39

Series 6200 Sub-Miniature 1.65 mm Right Angle Block Assembly



U.S. PATENT #4,781,960
ALL DIMENSIONS ARE IN INCHES (MM).

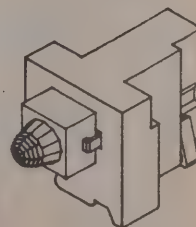
Designated the model 6200 series, these devices position LEDs for easy visibility, particularly in applications where boards are mounted in parallel close to one another. 6200 series surface mount LEDs are available in red, amber, green, and yellow colors, in standard and low-current versions, and in both standard and low-current 5 volt resistor-included versions. 6200 series LEDs are designed and packaged to meet the requirements of automated surface mount production lines. These devices will withstand processing temperatures of either IR or vapor-phase reflow, and are compatible with most common fluxes and cleaning agents. **Housing:** Black Polyphenylene Sulfide, UL 94V-0.

Stock No.	Mfr.'s Type	Color	Typical Intensity	Rated Current	Forward Voltage Typ.	EACH
						100-400
679-1120	6200T1	Red	5.0 mcd	10.0 mA	2.2 V	.63
679-1121	6200T3	Amber	5.0 mcd	10.0 mA	2.0 V	.63
679-1122	6200T5	Green	4.0 mcd	10.0 mA	2.3 V	.63
679-1123	6200T7	Yellow	3.8 mcd	10.0 mA	2.2 V	.63

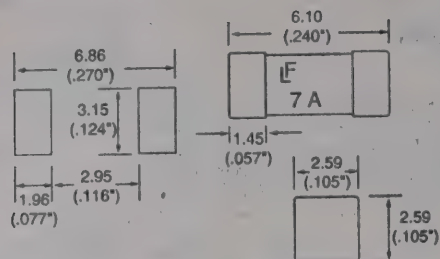
*Sold in 100 piece multiples only.

Series 6255T Surface Mount Circuit Board Indicator

Full surface mount reflow compatibility. Wide view angle and super brite output. Direct optics, no bends or losses. Ideal drop-in replacement for Dialight 591 Series Prism. Black housing provides high contrast. UL 94V-0 rated housing.



Stock No.	Mfr.'s Type	Output Color	Typical Intensity	Current mA	EACH	
					1-99	100-499
679-1146	6255T1	Red	5.0	10	1.12	.60
679-1147	6255T3	Amber	5.0	10	1.12	.60
679-1148	6255T5	Green	4.0	10	1.12	.60
679-1149	6255T7	Yellow	3.8	10	1.12	.60
679-1150	6255T1LC	Red	0.5	2	1.30	.70
679-1151	6255T5LC	Green	1.2	2	1.30	.70
679-1152	6255T7LC	Yellow	0.5	2	1.30	.70

Nano²™ Very Fast-Acting Type

Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. Approved by MITI from 1 through 5 amperes. **Operating Temperature:** -55° C to 125° C. **Shock:** MIL-STD-202, Method 213, Test Condition 1 (100 G's peak for 6 milliseconds). **Vibration:** MIL-STD-202, Method 201 (10-55 Hz, .06 in. total excursion). **Salt Spray:** MIL-STD-202, Method 101, Test Conditions B (48 hours). **Insulation Resistance (after opening):** MIL-STD-202, Method 302, Test Condition A (10,000 Ohms minimum). **Resistance to Soldering Heat:** MIL-STD-202, Method 210, Test Condition B (20 sec. at 260° C). **Thermal Shock:** MIL-STD-202, Method 107, Test Condition B (-65° to 125° C). **Moister Resistance:** MIL-STD-202, Method 106, High Humidity (90-98 RH), Heat (65° C). **Materials:** Ceramic Body/Tin-Lead Alloy Plated Brass Caps. **Soldering Parameters.** Wave solder: 500° F (260° C), 10 sec. **Infrared:** 500° F (260° C), 30 sec. **Solderability:** MIL-STD-202, Method 208. **Voltage Rating:** 125. **Agency File Numbers:** UL E10480, CSA LR 29862.

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PK/100		
					1-3	4-6	7-9
845-5010	R451.062	1/16	8.40	0.000370	91.03	80.92	72.83
845-5011	R451.125	1/8	2.65	0.00290	91.03	80.92	72.83
845-5012	R451.250	1/4	1.05	0.0165	91.03	80.92	72.83
845-5013	R451.375	3/8	0.610	0.0460	91.03	80.92	72.83
845-5014	R451.500	1/2	0.420	0.0950	91.03	80.92	72.83
845-5015	R451.750	3/4	0.245	0.265	69.87	62.11	55.90
845-5016	R451.001	1	0.165	0.550	69.87	62.11	55.90
845-5017	R451.015	1 1/2	0.0610	1.45	69.87	62.11	55.90
845-5018	R451.002	2	0.037	0.55	69.87	62.11	55.90
845-5019	R451.025	2 1/2	0.0280	0.960	69.87	62.11	55.90
845-5020	R451.003	3	0.0228	1.50	69.87	62.11	55.90
845-5021	R451.035	3 1/2	0.0190	2.25	69.87	62.11	55.90
845-5022	R451.004	4	0.0163	3.15	69.87	62.11	55.90
845-5023	R451.005	5	0.0126	5.75	69.87	62.11	55.90
845-5024	R451.007	7	0.0086	9.20	69.87	62.11	55.90

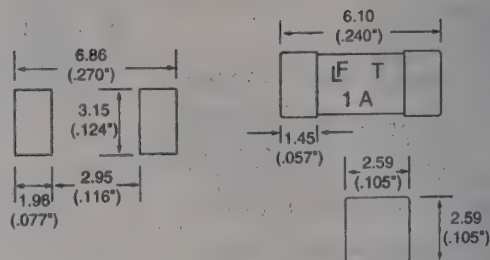
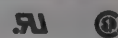
Tape and Reel

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PER REEL/1000			
					1-4	5-9	10-24	25-Up
845-5025	R451.062	1/16	8.40	0.000370	728.28	662.07	606.90	560.22
845-5026	R451.125	1/8	2.65	0.00290	728.28	662.07	606.90	560.22
845-5027	R451.250	1/4	1.05	0.0165	728.28	662.07	606.90	560.22
845-5028	R451.375	3/8	0.610	0.0460	728.28	662.07	606.90	560.22
845-5029	R451.500	1/2	0.420	0.0950	728.28	662.07	606.90	560.22
845-5030	R451.750	3/4	0.245	0.265	558.96	508.15	465.80	429.97
845-5031	R451.001	1	0.165	0.550	558.96	508.15	465.80	429.97
845-5032	R451.015	1 1/2	0.0610	1.45	558.96	508.15	465.80	429.97
845-5033	R451.002	2	0.0370	0.55	558.96	508.15	465.80	429.97
845-5034	R451.025	2 1/2	0.0280	0.960	558.96	508.15	465.80	429.97
845-5035	R451.003	3	0.0228	1.50	558.96	508.15	465.80	429.97
845-5036	R451.035	3 1/2	0.0190	2.25	558.96	508.15	465.80	429.97
845-5037	R451.004	4	0.0163	3.15	558.96	508.15	465.80	429.97
845-5038	R451.005	5	0.0126	5.75	558.96	508.15	465.80	429.97
845-5039	R451.007	7	0.0086	9.20	558.96	508.15	465.80	429.97

Nanofuse™ Very Fast-Acting Type Fuse

Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. **Interrupting ratings:** DC: 300 amperes. AC: 50 amperes. **Operating Temperature:** -55° C to 125° C. **Shock:** MIL-STD-202, Method 213, Test Condition 1 (100 G's peak for 6 milliseconds). **Vibration:** MIL-STD-202, Method 201 (10-55 Hz, .06 in. total excursion). **Salt Spray:** MIL-STD-202, Method 101, Test Conditions B (48 hours). **Insulation Resistance (After Opening):** MIL-STD-202, Method 302, Test Condition A (1/2 megohm minimum). **Resistance to Soldering Heat:** MIL-STD-202, Method 210, Test Condition F (20 sec. at 260° C). **Thermal Shock:** MIL-STD-202, Method 107, Test Condition B (-65° to 125° C). **Moister Resistance:** MIL-STD-202, Method 106, High Humidity (90-98 RH), Heat (65° C). **Materials:** Ceramic Body Plated Brass Caps. **Soldering parameters.** Wave Solder: 500° F (260° C), 10 sec. **Infrared:** 500° F (260° C), 30 sec. **Agency File Number:** UL E10480, CSA LR 29862.

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	Voltage Rating	PK/100		
						1-3	4-6	7-9
845-5165	R271.062	1/16	7.0	0.0000750	125	153.76	136.68	123.01
845-5166	R271.125	1/8	1.65	0.00163	125	153.76	136.68	123.01
845-5167	R271.250	1/4	0.665	0.0106	125	153.76	136.68	123.01
845-5168	R271.375	3/8	0.395	0.0254	125	153.76	136.68	123.01
845-5169	R271.500	1/2	0.270	0.0546	125	153.76	136.68	123.01
845-5170	R271.750	3/4	0.179	0.155	60	114.24	101.55	91.39
845-5171	R271.001	1	0.128	0.281	60	114.24	101.55	91.39
845-5172	R271.015	1 1/2	0.0750	0.650	60	114.24	101.55	91.39
845-5173	R271.002	2	0.0540	0.421	60	114.24	101.55	91.39
845-5174	R271.025	2 1/2	0.0394	0.721	60	114.24	101.55	91.39
845-5175	R271.003	3	0.0339	1.23	60	114.24	101.55	91.39
845-5176	R271.035	3 1/2	0.0263	1.65	60	114.24	101.55	91.39
845-5177	R271.004	4	0.0220	2.35	60	114.24	101.55	91.39
845-5178	R271.005	5	0.0125	3.90	32	114.24	101.55	91.39
845-5179	R271.007	7	0.00860	10.5	32	114.24	101.55	91.39
845-5180	R271.010	10	0.00635	24.2	32	114.24	101.55	91.39
845-5181	R271.012	12	0.00405	45.5	32	188.44	167.51	150.76
845-5182	R271.015	15	0.00324	70.1	32	188.44	167.51	150.76

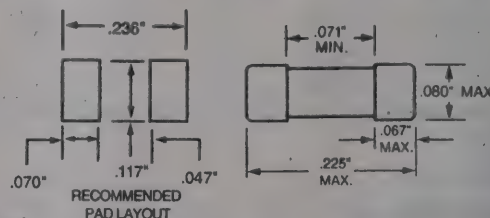
Nano²™ Slo-Blo® Type Fuse

Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. **Interrupting Ratings:** 50 amperes at 125 VAC. 50 amperes at 125 VDC. **Operating Temperature:** -55° C to 125° C. **Shock:** MIL-STD-202, Method 201 (10-55 Hz, .06 in. total excursion). **Salt Spray:** MIL-STD-202, Method 101, Test Condition B (48 hours). **Insulation Resistance (after opening):** MIL-STD-202, Method 302, Test Condition A (10,000 Ohms minimum). **Resistance to Soldering Heat:** MIL-STD-202, Method 210, (3 sec. at 260° C). **Thermal Shock:** MIL-STD-202, Method 107, Test Condition B (-65 to 125° C). **Moister Resistance:** MIL-STD-202, Method 106, High Humidity (90-98 RH), Heat (65° C). **Materials:** Ceramic Body/Tin-Lead Alloy Plated Brass Caps. **Soldering Parameters.** Wave solder: 500° F (260° C), 3 seconds, max. **Infrared Reflow:** 446° F (230° C) max. **Solderability:** MIL-STD-202, Method 208. **Marking:** The 452 000 series Slo-Blo fuse marking includes the letter "T" to designate time delay characteristics. **Voltage Rating:** 125. **Agency File Numbers:** UL E10480, CSA LR 29862.

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PK/100		
					1-3	4-6	7-9
845-5040	R452.001	1	0.2600	2.29	99.96	88.85	79.97
845-5041	R452.015	1 1/2	0.0930	4.41	99.96	88.85	79.97
845-5042	R452.002	2	0.0620	8.41	99.96	88.85	79.97
845-5043	R452.025	2 1/2	0.0450	15.2	99.96	88.85	79.97
845-5044	R452.003	3	0.0350	21.2	99.96	88.85	79.97
845-5045	R452.035	3 1/2	0.0240	31.8	99.96	88.85	79.97
845-5046	R452.004	4	0.0195	49.1	99.96	88.85	79.97
845-5047	R452.005	5	0.0140	58.2	99.96	88.85	79.97

Tape and Reel

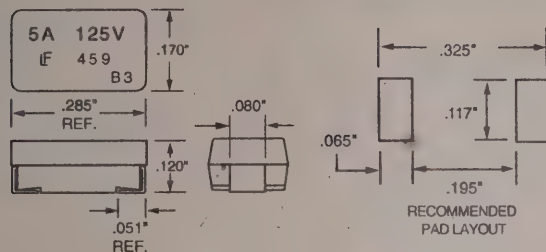
Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PER REEL/1000			
					1-4	5-9	10-24	25-Up
845-5048	R452.001	1	0.2600	2.29	799.68	726.98	666.40	615.14
845-5049	R452.015	1 1/2	0.0930	4.41	799.68	726.98	666.40	615.14
845-5050	R452.002	2	0.0620	8.41	799.68	726.98	666.40	615.14
845-5051	R452.025	2 1/2	0.0450	15.2	799.68	726.98	666.40	615.14
845-5052	R452.003	3	0.0350	21.2	799.68	726.98	666.40	615.14
845-5053	R452.035	3 1/2	0.0240	31.8	799.68	726.98	666.40	615.14
845-5054	R452.004	4	0.0195	49.1	799.68	726.98	666.40	615.14
845-5055	R452.005	5	0.0140	58.2	799.68	726.98	666.40	615.14



Tape and Reel

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	Voltage Rating	PER REEL/1000			
						1-4	5-9	10-24	25-Up
845-5183	R271.062	1/16	7.0	0.0000750	125	1230.12	1118.29	1025.10	946.25
845-5184	R271.125	1/8	1.65	0.00163	125	1230.12	1118.29	1025.10	946.25
845-5185	R271.250	1/4	0.665	0.0106	125	1230.12	1118.29	1025.10	946.25
845-5186	R271.375	3/8	0.395	0.0254	125	1230.12	1118.29	1025.10	946.25
845-5187	R271.500	1/2	0.270	0.0546	125	1230.12	1118.29	1025.10	946.25
845-5188	R271.750	3/4	0.179	0.155	60	913.92	830.84	761.6	703.02
845-5189	R271.001	1	0.128	0.281	60	913.92	830.84	761.6	703.02
845-5190	R271.015	1 1/2	0.0750	0.650	60	913.92	830.84	761.6	703.02
845-5191	R271.002	2	0.0540	0.421	60	913.92	830.84	761.6	703.02
845-5192	R271.025	2 1/2	0.0394	0.721	60	913.92	830.84	761.6	703.02
845-5193	R271.003	3	0.0339	1.23	60	913.92	830.84	761.6	703.02
845-5194	R271.035	3 1/2	0.0263	1.65	60	913.92	830.84	761.6	703.02
845-5195	R271.004	4	0.0220	2.35	60	913.92	830.84	761.6	703.02
845-5196	R271.005	5	0.0125	3.90	32	913.92	830.84	761.6	703.02
845-5197	R271.007	7	0.00860	10.5	32	913.92	830.84	761.6	703.02
845-5198	R271.010	10	0.00635	24.2	32	913.92	830.84	761.6	703.02
845-5199	R271.012	12	0.00405	45.5	32	1507.56	1370.51	1256.30	1159.66
845-5200	R271.015	15	0.00324	70.1	32	1507.56	1370.51	1256.30	1159.66

PICO SMF® Very Fast-Acting Type Fuse



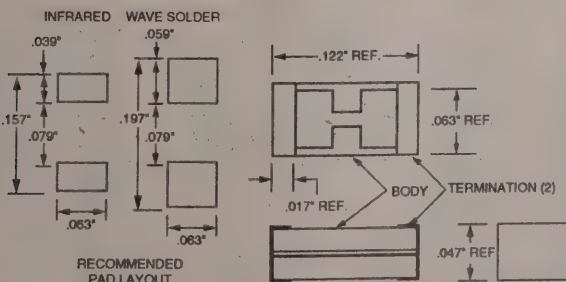
Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. **Interrupting Ratings:** 50 amperes at 125 VAC, 300 amperes at 125 VDC. **Operating Temperature:** -55°C to 125°C. **Shock:** MIL-STD-202, Method 213, Test Condition 1 (100 G's peak for 6 milliseconds). **Vibration:** MIL-STD-202, Method 201 (10-55 Hz, .06 inches total excursion). **Salt Spray:** MIL-STD-202, Method 101, Test Condition B (48 hours). **Insulation Resistance (After Opening):** MIL-STD-202, Method 302 (10,000 Ohms minimum at 100 volts). **Resistance to Soldering Heat:** MIL-STD-202, Method 210, Test Condition F (10 sec. at 260°C). **Thermal Shock:** MIL-STD-202, Method 107, Test Condition B (-65° to 125°C). **Moisture Resistance:** MIL-STD-202, Method 106, High Humidity (90-98 RH), Heat (65°). **Materials:** Molded thermoplastic body plated copper terminal. **Soldering parameters:** Wave solder: 500°F (260°C), 10 seconds, max. Infrared: 500°F (260°C), 30 seconds max. Vapor Phase: 420°F (215°C), 120 seconds max. **Solderability:** MIL-STD-202, Method 208. **Voltage Rating:** 125. **Agency File Numbers:** UL E10480, CSA LR 29862.

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PK/100		
					1-3	4-6	7-9
845-5110	R459.062	1/16	7.0	0.000075	109.39	97.24	87.52
845-5111	R459.125	1/8	1.7	0.00163	109.39	97.24	87.52
845-5112	R459.250	1/4	0.665	0.0106	83.89	74.57	67.12
845-5113	R459.375	3/8	0.395	0.0254	83.89	74.57	67.12
845-5114	R459.500	1/2	0.275	0.0546	83.89	74.57	67.12
845-5115	R459.750	3/4	0.166	0.0155	83.89	74.57	67.12
845-5116	R459.001	1	0.122	0.0281	83.89	74.57	67.12
845-5117	R459.015	1 1/2	0.0817	0.0650	83.89	74.57	67.12
845-5118	R459.002	2	0.0468	0.421	83.89	74.57	67.12
845-5119	R459.025	2 1/2	0.0350	0.721	83.89	74.57	67.12
845-5120	R459.003	3	0.0290	1.23	83.89	74.57	67.12
845-5121	R459.035	3 1/2	0.0240	1.65	83.89	74.57	67.12
845-5122	R459.004	4	0.0224	2.35	83.89	74.57	67.12
845-5123	R459.005	5	0.0155	3.90	83.89	74.57	67.12

Tape and Reel

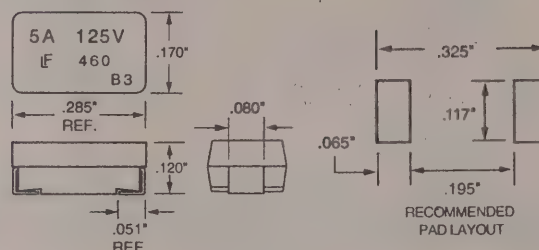
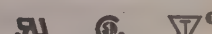
Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PER REEL/1000			
					1-4	5-9	10-24	25-Up
845-5124	R459.062	1/16	7.0	0.000075	875.16	795.60	729.30	673.20
845-5125	R459.125	1/8	1.7	0.00163	875.16	795.60	729.30	673.20
845-5126	R459.250	1/4	0.665	0.0106	671.16	610.15	559.30	516.28
845-5127	R459.375	3/8	0.395	0.0254	671.16	610.15	559.30	516.28
845-5128	R459.500	1/2	0.275	0.0546	671.16	610.15	559.30	516.28
845-5129	R459.750	3/4	0.166	0.0155	671.16	610.15	559.30	516.28
845-5130	R459.001	1	0.122	0.0281	671.16	610.15	559.30	516.28
845-5131	R459.015	1 1/2	0.0817	0.0650	671.16	610.15	559.30	516.28
845-5132	R459.002	2	0.0468	0.421	671.16	610.15	559.30	516.28
845-5133	R459.025	2 1/2	0.0350	0.721	671.16	610.15	559.30	516.28
845-5134	R459.003	3	0.0290	1.23	671.16	610.15	559.30	516.28
845-5135	R459.035	3 1/2	0.0240	1.65	671.16	610.15	559.30	516.28
845-5136	R459.004	4	0.0224	2.35	671.16	610.15	559.30	516.28
845-5137	R459.005	5	0.0155	3.90	671.16	610.15	559.30	516.28

ALF SMF Very Fast-Acting Type



Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. **Interrupting Ratings:** 50 amperes at 32 VDC. **Operating Temperature:** -55°C to 125°C. **Vibration:** Withstands 10-55 Hz per MIL-STD-202F, method 201a and 10-2000 Hz at 20 G's per MIL-STD-202F, Method 204D. **Condition D.** **Insulation Resistance (After Opening):** Exceeds 20 megohms. **Resistance to Solder Heat:** Withstands 60 seconds above 200°C up to 260°C, maximum. **Thermal Shock:** Withstands 5 cycles of -5° to 125°C. **Materials:** Glass Body/ Nickel/ Solder Coated Terminals. **Soldering parameters:** Wave solder: 500°F (260°C), 10 seconds, max. Infrared: 500°F (260°C), 30 seconds, Max. **Voltage Rating:** 32. **Agency File Numbers:** UL E10480, CSA LR 29862.

PICO SMF® Slo-Blo® Type Fuse



Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. Approved by MITI from 1 through 5 amperes. **Interrupting Ratings:** 50 amperes at 125 VAC, 50 amperes at 125 VDC. **Operating Temperature:** -55°C to 125°C. **Shock:** MIL-STD-202, Method 213, Test Condition 1 (100 G's peak for 6 milliseconds). **Vibration:** MIL-STD-202, Method 201 (10-55 Hz, 10 G's peak). **Salt Spray:** MIL-STD-202, Method 101, Test Condition B. **Insulation Resistance (After Opening):** MIL-STD-202, Method 302 (10,000 Ohms minimum at 100 volts). **Resistance to Soldering Heat:** MIL-STD-202, Method 210 (3sec. at 260°C). **Thermal Shock:** MIL-STD-202, Method 107 (-65° to 125°C). **Moisture Resistance:** MIL-STD-202 Method 106, High Humidity (90-98 RH), Heat (65°). **Materials:** Molded Thermoplastic body plated copper terminals. **Soldering parameters:** Wave solder: 445°F (260°C), 3 seconds, max. Infrared: 445°F (230°C). **Solderability:** MIL-STD-202, Method 208. **Voltage Rating:** 125. **Agency File Numbers:** UL E10480, CSA LR 29862.

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PK/100		
					1-3	4-6	7-9
845-5141	R460.500	1/2	1.13	0.210	115.77	102.91	92.62
845-5142	R460.750	3/4	0.460	0.760	115.77	102.91	92.62
845-5143	R460.001	1	0.267	2.01	115.77	102.91	92.62
845-5144	R460.015	1 1/2	0.117	3.94	115.77	102.91	92.62
845-5145	R460.002	2	0.0700	7.60	115.77	102.91	92.62
845-5146	R460.025	2 1/2	0.0500	13.0	115.77	102.91	92.62
845-5147	R460.003	3	0.0390	21.0	115.77	102.91	92.62
845-5148	R460.035	3 1/2	0.0231	26.8	115.77	102.91	92.62
845-5149	R460.004	4	0.0186	35.0	115.77	102.91	92.62
845-5150	R460.005	5	0.0128	54.8	115.77	102.91	92.62

Tape and Reel

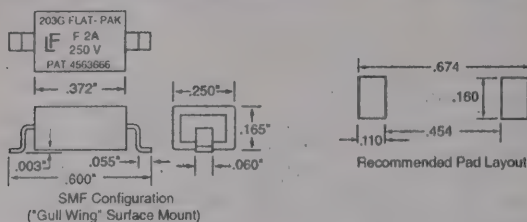
Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PER REEL/1000			
					1-4	5-9	10-24	25-Up
845-5152	R460.500	1/2	1.13	0.210	926.16	841.96	771.80	712.43
845-5153	R460.750	3/4	0.460	0.760	926.16	841.96	771.80	712.43
845-5154	R460.001	1	0.267	2.01	926.16	841.96	771.80	712.43
845-5155	R460.015	1 1/2	0.117	3.94	926.16	841.96	771.80	712.43
845-5156	R460.002	2	0.0700	7.60	926.16	841.96	771.80	712.43
845-5157	R460.025	2 1/2	0.0500	13.0	926.16	841.96	771.80	712.43
845-5158	R460.003	3	0.0390	21.0	926.16	841.96	771.80	712.43
845-5159	R460.035	3 1/2	0.0231	26.8	926.16	841.96	771.80	712.43
845-5160	R460.004	4	0.0186	35.0	926.16	841.96	771.80	712.43
845-5161	R460.005	5	0.0128	54.8	926.16	841.96	771.80	712.43

Note: Measured at 10% rated current, 25°C. Measured at 100% rated current, 25°C. Total operating I at 50A and 32V. Current is limited to less than 50A at 32V due to internal fuse resistance.

Tape and Reel

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	Total Pt A° Sec.	PER REEL/3000			
						1-4	5-9	10-24	25-Up
845-5221	R418.250	1/4	0.75	280	0.00004	1530.00	1390.91	1275.00	1176.92
845-5223	R418.500	1/2	0.35	220	0.0002	1407.60	1279.64	1173.00	1082.77
845-5225	R418.001	1	0.18	220	0.005	1407.60	1279.64	1173.00	1082.77
845-5226	R418.125	1 1/4	0.15	220	0.009	1407.60	1279.64	1173.00	1082.77
845-5227	R418.015	1 1/2	0.11	220	0.020	1407.60	1279.64	1173.00	1082.77
845-5229	R418.002	2	0.065	160	0.040	1407.60	1279.64	1173.00	1082.77

Flat-Pak® SMF Fuse Fast-Acting Type



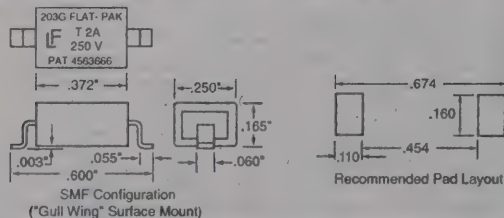
Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. **Interrupting Ratings:** 50 amperes at 250 VAC. **Operating Temperature:** -55°C to 125°C. **Materials:** Thermoplastic Body/Plated Copper Leads. **Flammability Rating:** 94V0. **Soldering parameters:** Wave Solder: 500°F (260°C), 3 seconds, maximum. Infrared: 420°F (215°C), 30 seconds maximum. **Solderability:** MIL-STD-202, Method 208. **Cleaning:** Board washable in most common solvents. **Voltage Rating:** 250. **Agency File Numbers:** UL E10480, CSA LR 29862.

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PK/100		
					1-3	4-6	7-9
845-5231	202.125G	1/8	2.45	0.00180	158.86	141.21	127.09
845-5232	202.250G	1/4	0.880	0.0147	158.86	141.21	127.09
845-5233	202.500G	1/2	2.98	0.0363	158.86	141.21	127.09
845-5234	202.750G	3/4	0.166	0.0980	158.86	141.21	127.09
845-5235	202.001G	1	0.119	0.192	158.86	141.21	127.09
845-5236	202.015G	1 1/2	0.0701	0.540	158.86	141.21	127.09
845-5237	202.002G	2	0.0469	1.07	158.86	141.21	127.09
845-5238	202.025G	2 1/2	0.0455	1.76	158.86	141.21	127.09
845-5239	202.003G	3	0.0327	1.71	158.86	141.21	127.09
845-5240	202.004G	4	0.0244	3.00	158.86	141.21	127.09
845-5241	202.005G	5	0.0174	4.68	158.86	141.21	127.09

Tape and Reel

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PER REEL/1000			
					1-4	5-9	10-24	25-Up
845-5243	202.125G	1/8	2.45	0.00180	1270.92	1155.38	1059.10	977.83
845-5244	202.250G	1/4	0.880	0.0147	1270.92	1155.38	1059.10	977.83
845-5245	202.500G	1/2	2.98	0.0363	1270.92	1155.38	1059.10	977.83
845-5246	202.750G	3/4	0.166	0.0980	1270.92	1155.38	1059.10	977.83
845-5247	202.001G	1	0.119	0.192	1270.92	1155.38	1059.10	977.83
845-5248	202.015G	1 1/2	0.0701	0.540	1270.92	1155.38	1059.10	977.83
845-5249	202.002G	2	0.0469	1.07	1270.92	1155.38	1059.10	977.83
845-5250	202.025G	2 1/2	0.0455	1.76	1270.92	1155.38	1059.10	977.83
845-5251	202.003G	3	0.0327	1.71	1270.92	1155.38	1059.10	977.83
845-5252	202.004G	4	0.0244	3.00	1270.92	1155.38	1059.10	977.83
845-5253	202.005G	5	0.0174	4.68	1270.92	1155.38	1059.10	977.83

Flat-Pak® SMF Fuse Slo-Blo® Type Fuse



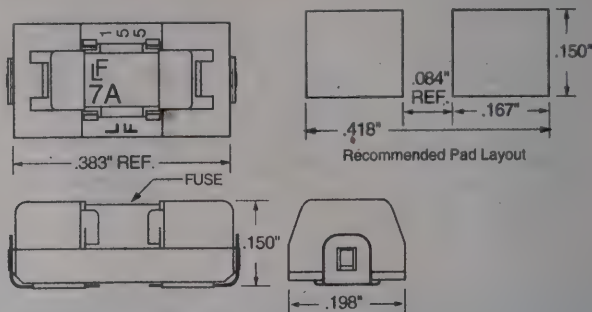
Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. **Interrupting Ratings:** 50 amperes at 250 VAC. **Operating Temperature:** -55°C to 125°C. **Materials:** Thermoplastic Body/Plated Copper Leads. **Flammability Rating:** 94V0. **Soldering Parameters:** Wave Solder: 500°F (260°C), 3 seconds, maximum. Infrared: 420°F (215°C), 30 seconds maximum. **Solderability:** MIL-STD-202, Method 208. **Cleaning:** Board washable in most common solvents. **Voltage Rating:** 250. **Agency File Numbers:** UL E10480, CSA LR 29862.

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PK/100		
					1-3	4-6	7-9
845-5255	203.250G	1/4	1.36	0.0126	166.51	148.01	133.21
845-5256	203.500G	1/2	0.433	0.112	166.51	148.01	133.21
845-5257	203.750G	3/4	0.158	0.327	166.51	148.01	133.21
845-5258	203.001G	1	0.0755	0.328	166.51	148.01	133.21
845-5259	203.015G	1 1/2	0.0390	0.850	166.51	148.01	133.21
845-5260	203.002G	2	0.0345	1.70	166.51	148.01	133.21
845-5261	203.025G	2 1/2	0.0237	2.87	166.51	148.01	133.21
845-5262	203.003G	3	0.0197	4.40	166.51	148.01	133.21
845-5263	203.004G	4	0.0148	8.75	166.51	148.01	133.21
845-5264	203.005G	5	0.0124	14.7	166.51	148.01	133.21

Tape and Reel

Stock No.	Mfr.'s Type	Ampere Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A° Sec.	PER REEL/1000			
					1-4	5-9	10-24	25-Up
845-5265	203.250G	1/4	1.36	0.0126	1332.12	1211.02	1110.10	1024.71
845-5266	203.500G	1/2	0.433	0.112	1332.12	1211.02	1110.10	1024.71
845-5267	203.750G	3/4	0.158	0.327	1332.12	1211.02	1110.10	1024.71
845-5268	203.001G	1	0.0755	0.328	1332.12	1211.02	1110.10	1024.71
845-5269	203.015G	1 1/2	0.0390	0.850	1332.12	1211.02	1110.10	1024.71
845-5270	203.002G	2	0.0345	1.70	1332.12	1211.02	1110.10	1024.71
845-5271	203.025G	2 1/2	0.0237	2.87	1332.12	1211.02	1110.10	1024.71
845-5272	203.003G	3	0.0197	4.40	1332.12	1211.02	1110.10	1024.71
845-5273	203.004G	4	0.0148	8.75	1332.12	1211.02	1110.10	1024.71
845-5274	203.005G	5	0.0124	14.7	1332.12	1211.02	1110.10	1024.71

Omni-Blok® SMF Fuse Block Molded Base and Fuse



Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. **Electricals:** 7 Amperes, 125 Volts. **Molded Parts:** Thermoplastic (94 V0). **Terminals:** Tin/Lead Alloy Plated Beryllium Copper. **Ambient Temperature:** -55°C to 125°C. **Shock:** MIL-STD-202, Method 213, Test Condition 1 (100 G's peak for 6 milliseconds). **Vibration:** MIL-STD-202, Method 201 (10-55 Hz). **Thermal Shock:** MIL-STD-202, Method 107, Condition A (200 cycles: 30 minutes at -55°C, 30 minutes at 125°C). **Soldering parameters (Fuse Installed):** Infrared: 500°F (260°C), 30 sec. 445°F (230°C), 30 sec. **Solderability:** MIL-STD-202, Method 208. Each base comes with fuse.

Stock No.	Mfr.'s Type	Ampere Rating	PK/100		
			1-3	4-6	7-9
845-5060	154.062	1/16	133.87	119.00	107.10
845-5061	154.125	1/8	133.87	119.00	107.10
845-5062	154.250	1/4	133.87	119.00	107.10
845-5063	154.375	3/8	133.87	119.00	107.10
845-5064	154.500	1/2	133.87	119.00	107.10
845-5065	154.750	3/4	119.73	101.09	90.98
845-5066	154.001	1	119.73	101.09	90.98
845-5067	154.015	1 1/2	119.73	101.09	90.98
845-5068	154.002	2	119.73	101.09	90.98
845-5069	154.025	2 1/2	119.73	101.09	90.98
845-5070	154.003	3	119.73	101.09	90.98
845-5071	154.035	3 1/2	119.73	101.09	90.98
845-5072	154.004	4	119.73	101.09	90.98
845-5073	154.005	5	119.73	101.09	90.98
845-5074	154.007	7	119.73	101.09	90.98

Note: See R451 Series for fuse replacements.

Tape and Reel

Stock No.	Mfr.'s Type	Ampere Rating	PER REEL/1500			
			1-4	5-9	10-24	25-Up
845-5075	154.062	1/16	1071.00	973.64	892.50	823.85
845-5076	154.125	1/8	1071.00	973.64	892.50	823.85
845-5077	154.250	1/4	1071.00	973.64	892.50	823.85
845-5078	154.375	3/8	1071.00	973.64	892.50	823.85
845-5079	154.500	1/2	1071.00	973.64	892.50	823.85
845-5080	154.750	3/4	909.84	827.13	758.20	699.88
845-5081	154.001	1	909.84	827.13	758.20	699.88
845-5082	154.015	1 1/2	909.84	827.13	758.20	699.88
845-5083	154.002	2	909.84	827.13	758.20	699.88
845-5084	154.025	2 1/2	909.84	827.13	758.20	699.88
845-5085	154.003	3	909.84	827.13	758.20	699.88
845-5086	154.035	3 1/2	909.84	827.13	758.20	699.88
845-5087	154.004	4	909.84	827.13	758.20	699.88
845-5088	154.005	5	909.84	827.13	758.20	699.88
845-5089	154.007	7	909.84	827.13	758.20	699.88

Stock No.	Mfr.'s Type	Ampere Rating	PK/100		
			1-3	4-6	7-9
845-5090	154.001T	1	147.13	130.79	117.70
845-5091	154.015T	1 1/2	147.13	130.79	117.70
845-5092	154.002T	2	147.13	130.79	117.70
845-5093	154.025T	2 1/2	147.13	130.79	117.70
845-5094	154.003T	3	147.13	130.79	117.70
845-5095	154.035T	3 1/2	147.13	130.79	117.70
845-5096	154.004T	4	147.13	130.79	117.70
845-5097	154.005T	5	147.13	130.79	117.70

Note: See R452 Series for fuse replacements.

Tape and Reel

Stock No.	Mfr.'s Type	Ampere Rating	PER REEL/1500			
			1-4	5-9	10-24	25-Up
845-5098	154.001T	1	1177.08	1070.07	980.90	905.45
845-5099	154.015T	1 1/2	1177.08	1070.07	980.90	905.45
845-5100	154.002T	2	1177.08	1070.07	980.90	905.45
845-5101	154.025T	2 1/2	1177.08	1070.07	980.90	905.45
845-5102	154.003T	3	1177.08	1070.07	980.90	905.45
845-5103	154.035T	3 1/2	1177.08	1070.07	980.90	905.45
845-5104	154.004T	4	1177.08	1070.07	980.90	905.45
845-5105	154.005T	5	1177.08	1070.07	980.90	905.45

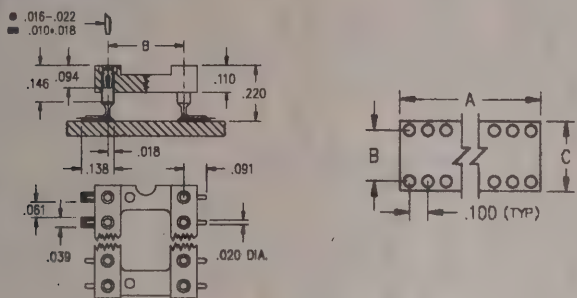
Dual-In-Line Sockets



Mill-Max surface mount socket insulators are molded from high temperature PCT polyester. HDT @ 264 psi= 254°C (490°F). This material is suitable for all forms of soldering including infra-red reflow and vapor phase. The pins are screw-machined brass

(QQ-B-626), plated 200 μ tin-lead (Sn-Pb 93/7) over 80-120 μ nickel. The contact (clip) is stamped beryllium-copper (QQ-C-533) heat treated, plated 30 μ gold or 200 μ tin-lead (Sn-Pb 93/7) over 80-120 μ nickel. **Operating Temperature:** -55°C to +125°C.

Gull Wing Open Frame



- For Infra-Red Reflow And Vapor Phase Soldering
- Gull Wing Terminals For Maximum Strength And Easy In-Circuit Test
- Hi-Rel, 4-Finger #30 Clip
- Recognized Under The Component Program Of Underwriters Laboratories Inc., File E 135165
- Contact (Clip) Is 30 μ Au

.2 Inch Pin Spacing

Stock No.	Mfr.'s Type	No. of Pins	Dimensions			EACH			
			A	B	C	1-99	100-499	500-999	1000
900-5000	110-93-210-41-105	10	0.5	0.2	0.3	.50	.41	.38	.35

.3 Inch Pin Spacing

900-5002	110-93-304-41-105	4	0.2	0.3	0.4	.21	.18	.16	.15
900-5004	110-93-306-41-105	6	0.3	0.3	0.4	.31	.26	.24	.22
900-5006	110-93-308-41-105	8	0.4	0.3	0.4	.41	.35	.32	.30
900-5008	110-93-310-41-105	10	0.5	0.3	0.4	.50	.41	.38	.35
900-5010	110-93-314-41-105	14	0.7	0.3	0.4	.69	.58	.53	.49
900-5012	110-93-316-41-105	16	0.8	0.3	0.4	.79	.66	.61	.57
900-5014	110-93-318-41-105	18	0.9	0.3	0.4	.89	.74	.69	.64
900-5016	110-93-320-41-105	20	1.0	0.3	0.4	.95	.80	.73	.68
900-5018	110-93-322-41-105	22	1.1	0.3	0.4	1.05	.88	.81	.75
900-5020	110-93-324-41-105	24	1.2	0.3	0.4	1.15	.96	.88	.82
900-5022	110-93-328-41-105	28	1.4	0.3	0.4	1.34	1.12	1.03	.96

.4 Inch Pin Spacing

900-5024	110-93-420-41-105	20	1.0	0.4	0.5	.95	.80	.73	.68
900-5026	110-93-422-41-105	22	1.1	0.4	0.5	1.05	.88	.81	.75
900-5028	110-93-424-41-105	24	1.2	0.4	0.5	1.15	.96	.88	.82
900-5030	110-93-428-41-105	28	1.4	0.4	0.5	1.34	1.12	1.03	.96
900-5032	110-93-432-41-105	32	1.6	0.4	0.5	1.53	1.27	1.18	1.09

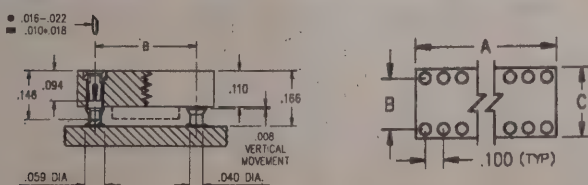
.6 Inch Pin Spacing

900-5034	110-93-624-41-105	24	1.2	0.6	0.7	1.15	.96	.88	.82
900-5036	110-93-628-41-105	28	1.4	0.6	0.7	1.34	1.12	1.03	.96
900-5038	110-93-632-41-105	32	1.6	0.6	0.7	1.53	1.27	1.18	1.09
900-5040	110-93-636-41-105	36	1.8	0.6	0.7	1.72	1.43	1.32	1.23
900-5042	110-93-640-41-105	40	2.0	0.6	0.7	1.91	1.59	1.47	1.37
900-5044	110-93-642-41-105	42	2.1	0.6	0.7	2.01	1.67	1.54	1.43
900-5046	110-93-648-41-105	48	2.4	0.6	0.7	2.29	1.91	1.76	1.64
900-5048	110-93-650-41-105	50	2.5	0.6	0.7	2.32	1.94	1.79	1.66
900-5050	110-93-652-41-105	52	2.6	0.6	0.7	2.42	2.01	1.86	1.73

.9 Inch Pin Spacing

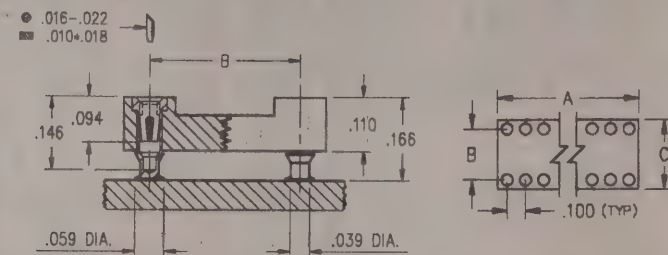
900-5052	110-93-950-41-105	50	2.5	0.9	1.0	2.32	1.94	1.79	1.66
900-5054	110-93-952-41-105	52	2.6	0.9	1.0	2.42	2.01	1.86	1.73
900-5056	110-93-964-41-105	64	3.2	0.9	1.0	2.97	2.48	2.29	2.12

Stub Tail, Closed Frame For Automatic Placement



- Closed Frame Insulator Is Vision System Compatible
- High-Temp Nylon 46 Insulator, Suitable For Infra-Red And Vapor Phase Soldering
- Unique Floating Contacts Compensate For Unevenly Screened Solder Paste
- Contact (Clip) Is 200 μ Sn

Stub Tail Open Frame



- For Infra-Red Reflow And Vapor Phase Soldering
- Unique Floating Contacts Compensate Effects Of Unevenly Dispensed Solder Paste
- Hi-Rel, Finger #30 Clip
- Contact (Clip) Is 30 μ Au

.2 Inch Pin Spacing

Stock No.	Mfr.'s Type	No. of Pins	Dimensions			EACH			
			A	B	C	1-99	100-499	500-999	1000
900-5060	114-93-210-41-117	10	0.5	0.2	0.3	.54	.45	.41	.38

.3 Inch Pin Spacing

900-5062	114-93-304-41-117	4	0.2	0.3	0.4	.23	.20	.18	.17
900-5064	114-93-306-41-117	6	0.3	0.3	0.4	.33	.28	.26	.24
900-5066	114-93-308-41-117	8	0.4	0.3	0.4	.45	.37	.35	.32
900-5068	114-93-310-41-117	10	0.5	0.3	0.4	.54	.45	.41	.38
900-5070	114-93-314-41-117	14	0.7	0.3	0.4	.81	.67	.62	.58
900-5072	114-93-316-41-117	16	0.8	0.3	0.4	.86	.72	.66	.61
900-5074	114-93-318-41-117	18	0.9	0.3	0.4	.97	.81	.74	.69
900-5076	114-93-320-41-117	20	1.0	0.3	0.4	1.04	.86	.80	.74
900-5078	114-93-322-41-117	22	1.1	0.3	0.4	1.14	.95	.88	.81
900-5080	114-93-324-41-117	24	1.2	0.3	0.4	1.25	1.04	.96	.89
900-5082	114-93-328-41-117	28	1.4	0.3	0.4	1.45	1.21	1.12	1.04

.4 Inch Pin Spacing

900-5084	114-93-420-41-117	20	1.0	0.4	0.5	1.04	.86	.80	.74
900-5086	114-93-422-41-117	22	1.1	0.4	0.5	1.14	.95	.88	.81
900-5088	114-93-424-41-117	24	1.2	0.4	0.5	1.25	1.04	.96	.89
900-5090	114-93-428-41-117	28	1.4	0.4	0.5	1.45	1.21	1.12	1.04
900-5092	114-93-432-41-117	32	1.6	0.4	0.5	1.66	1.38	1.28	1.19

.6 Inch Pin Spacing

900-5094	114-93-624-41-117	24	1.2	0.6	0.7	1.25	1.04	.96	.89
900-5096	114-93-628-41-117	28	1.4	0.6	0.7	1.45	1.21	1.12	1.04
900-5098	114-93-632-41-117	32	1.6	0.6	0.7	1.66	1.38	1.28	1.19
900-5100	114-93-636-41-117	36	1.8	0.6	0.7	1.87	1.56	1.44	1.33
900-5102	114-93-640-41-117	40	2.0	0.6	0.7	2.07	1.73	1.60	1.48
900-5104	114-93-642-41-117	42	2.1	0.6	0.7	2.18	1.82	1.68	1.56
900-5106	114-93-648-41-117	48	2.4	0.6	0.7	2.49	2.07	1.91	1.78
900-5108	114-93-650-41-117	50	2.5	0.6	0.7	2.52	2.10	1.94	1.80
900-5110	114-93-652-41-117	52	2.6	0.6	0.7	2.62	2.19	2.02	1.87

.9 Inch Pin Spacing

900-5112	114-93-950-41-117	50	2.5	0.9	1.0	2.52	2.10	1.94	1.80
900-5114	114-93-952-41-117	52	2.6	0.9	1.0	2.62	2.19	2.02	1.87
900-5116	114-93-964-41-117	64	3.2	0.9	1.0	3.23	2.69	2.48	2.31

Vacuum Pad Top Surface Only .3 Inch Pin Spacing

Stock No.	Mfr.'s Type	No. of Pins	Dimensions			EACH			
			A	B	C	1-99	100-499	500-999	1000
900-5120	214-99-308-01-670799	8	0.4	0.3	0.4	.39	.32	.30	.28
900-5122	214-99-314-01-670799	0.7	0.3	0.4	.65	.54	.50	.46	
900-5124	214-99-316-01-670799	16	0.8	0.3	0.4	.74	.62	.57	.53
900-5126	214-99-318-01-670799	18	0.9	0.3	0.4	.83	.70	.64	.60
900-5128	214-99-320-01-670799	20	1.0	0.3	0.4	.90	.75	.69	.64

Vacuum Pad Top And Bottom .6 Inch Pin Spacing

900-5130	214-99-624-01-670799	24	1.2	0.6	0.7	1.08	.90	.83	.77
900-5132	214-99-628-01-670799	28	1.4	0.6	0.7	1.25	1.05	.97	.90
900-5134	214-99-632-01-670799	32	1.6	0.6	0.7	1.44	1.20	1.10	1.03
900-5136	214-99-640-01-670799	40	2.0	0.6	0.7	1.79	1.49	1.38	1.28

Kits

These kits are specifically designed to aid the design engineer in prototyping applications. Each kit contains a wide selection of commonly used values and sizes that meet a variety of circuit design requirements.

Capacitors

Stock No.	Mfr.'s Type	Description	Pieces Each	Values Per Kit	Temp. Coefficient	Part Series	Volts	EACH
711-2000	KIT-GRM36	GRM36 0402 Ceramic Chip	100	25	COG	—	50	600.00
			200	21	X7R	—	50	
			200	8	Y5V	—	50	
711-2002	KIT-GRM39	GRM39 0603 Ceramic Chip	50	13	COG	—	100	340.00
			50	15	COG	—	50	
			50	11	X7R	—	50	
			50	3	X7R	—	25	
			50	8	Y5V	—	50	
711-2004	KIT-GRM40	GRM40 0805 Ceramic Chip	50	29	COG	—	50	325.00
			100	22	X7R	—	50	
			100	6	Z5U	—	50	
			100	1	Y5V	—	25	
			100	1	Y5V	—	16	
711-2006	KIT-GRM42-6	GRM42-6 1206 Ceramic Chip	50	24	COG	—	50	365.00
			100	31	X7R	—	50	
			100	5	Z5U	—	50	
711-2008	KIT-RPE	Radial Lead Capacitors	50	16	COG	—	50	250.00
			50	8	X7R	—	100	
			50	4	Z5U	—	100	

Inductors

Stock No.	Mfr.'s Type	Description	Pieces Each	Values Per Kit	Temp. Coefficient	Part Series	Volts	EACH
711-2010	KIT-EKLQ015A	Chip Inductors	50	14	—	LON2A LQH3N LQH3C	—	442.00
			40	7	—	—	—	
			30	9	—	—	—	
711-2012	KIT-EKLQ016A	Chip Inductors	20	9	—	LQP31A LON1A LQH1N LQH1C	—	612.00
			20	12	—	—	—	
			20	10	—	—	—	
711-2014	KIT-EKLQ025A	Chip Inductors	30	30	—	LQH3N LQH4N LQH4N LQH3C	—	510.00
			20	8	—	—	—	
			20	2	—	—	—	
711-2016	KIT-EKLQ026A	Chip Inductors	20	25	—	LQH1N LQH1C LQH3C LQM32C	—	578.00
			20	10	—	—	—	
			20	3	—	—	—	



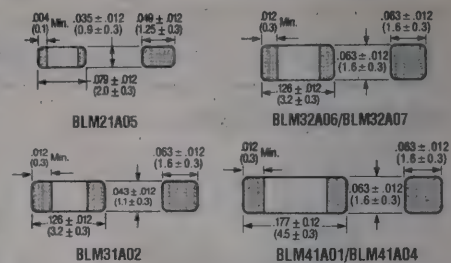
Standard Chip Inductors

These subminiature chip inductors are wound on a special ferrite core using an automatic winding technique. With high Q at high frequencies and low DC resistance, these inductors are perfect for enhancing the performance of electronic circuits in video, communications and audio equipment. -25°C to +85°C operating temperature.

Stock No.	Mfr.'s Type	Nom. Value μ H	Nom. Q	DC Res. Max.	Self-Res. Freq. (MHz) Min.	Current (mA)	EACH				
							1-99	100-249	250-499	500-999	1000-4999
711-0200	LQH3N100K04M00	10	35	1.80	20.0	190	.20	.18	.17	.16	.15
711-0202	LQH3N120K04M00	12	35	2.00	18.0	180	.20	.18	.17	.16	.15
711-0204	LQH3N150K04M00	15	35	2.20	16.0	170	.20	.18	.17	.16	.15
711-0206	LQH3N180K04M00	18	35	2.50	15.0	165	.20	.18	.17	.16	.15
711-0208	LQH3N220K04M00	22	35	2.80	14.0	150	.20	.18	.17	.16	.15
711-0210	LQH3N270K04M00	27	35	3.10	13.0	125	.20	.18	.17	.16	.15
711-0212	LQH3N330K04M00	33	40	3.50	12.0	115	.20	.18	.17	.16	.15
711-0214	LQH3N390K04M00	39	40	3.90	11.0	110	.20	.18	.17	.16	.15
711-0216	LQH3N470K04M00	47	40	4.30	11.0	100	.20	.18	.17	.16	.15
711-0218	LQH3N560K04M00	56	40	4.90	10.0	85	.20	.18	.17	.16	.15
711-0220	LQH3N680K04M00	68	40	5.50	9.0	80	.20	.18	.17	.16	.15
711-0222	LQH3N820K04M00	82	40	6.20	8.5	70	.20	.19	.17	.16	.15
711-0224	LQH3N101K04M00	100	40	7.00	8.0	60	.20	.18	.17	.16	.15
711-0226	LQH3N121K04M00	120	40	8.00	7.5	75	.20	.18	.17	.16	.15
711-0228	LQH3N151K04M00	150	40	9.30	7.0	70	.20	.18	.17	.16	.15
711-0230	LQH3N181K04M00	180	40	10.20	6.0	65	.20	.18	.17	.16	.15
711-0232	LQH3N221K04M00	220	40	11.80	5.5	65	.20	.18	.17	.16	.15
711-0234	LQH3N271K04M00	270	40	12.50	5.0	65	.22	.19	.18	.17	.16
711-0236	LQH3N331K04M00	330	40	13.00	5.0	65	.20	.18	.17	.16	.15
711-0238	LQH4N100K04M00	10	35	.56	23.0	400	.28	.21	.20	.19	.18
711-0240	LQH4N120K04M00	12	35	.62	21.0	380	.28	.21	.20	.19	.18
711-0242	LQH4N150K04M00	15	35	.73	19.0	360	.28	.21	.20	.19	.18
711-0244	LQH4N180K04M00	18	35	.82	17.0	340	.28	.21	.20	.19	.18
711-0246	LQH4N220K04M00	22	35	.94	15.0	320	.28	.21	.20	.19	.18
711-0248	LQH4N270K04M00	27	35	1.10	14.0	300	.28	.21	.20	.19	.18
711-0250	LQH4N330K04M00	33	35	1.20	12.0	270	.28	.21	.20	.19	.18
711-0252	LQH4N390K04M00	39	35	1.40	11.0	240	.28	.21	.20	.19	.18
711-0254	LQH4N470K04M00	47	35	1.50	10.0	220	.28	.21	.20	.19	.18
711-0256	LQH4N560K04M00	56	35	1.70	9.3	200	.28	.21	.20	.19	.18
711-0258	LQH4N680K04M00	68	35	1.90	8.4	180	.28	.21	.20	.19	.18
711-0260	LQH4N820K04M00	82	35	2.20	7.5	170	.28	.21	.20	.19	.18
711-0262	LQH4N101K04M00	100	40	2.50	6.8	160	.28	.21	.20	.19	.18
711-0264	LQH4N121K04M00	120	40	3.00	6.2	150	.28	.21	.20	.19	.18
711-0266	LQH4N151K04M00	150	40	3.70	5.5	130	.28	.21	.20	.19	.18
711-0268	LQH4N181K04M00	180	40	4.50	5.0	120	.28	.21	.20	.19	.18
711-0270	LQH4N221K04M00	220	40	5.40	4.5	110	.28	.21	.20	.19	.18
711-0272	LQH4N271K04M00	270	40	6.80	4.0	100	.28	.22	.21	.20	.19
711-0274	LQH4N331K04M00	330	40	8.20	3.6	95	.28	.21	.20	.19	.18
711-0276	LQH4N391K04M00	390	40	9.70	3.3	90	.28	.21	.20	.19	.18
711-0278	LQH4N471K04M00	470	40	11.80	3.0	80	.28	.21	.20	.19	.18
711-0280	LQH4N561K04M00	560	40	14.50	2.7	70	.28	.21	.20	.19	.18
711-0282	LQH4N681K04M00	680	40	17.00	2.5	65	.28	.21	.20	.19	.18
711-0284	LQH4N821K04M00	820	40	20.50	2.2	60	.28	.21	.20	.19	.18
711-0286	LQH4N102K04M00	1000	40	25.00	2.0	50	.28	.21	.20	.19	.18
711-0288	LQH4N122K04M00	1200	40	30.00	1.8	45	.28	.21	.20	.19	.18
711-0290	LQH4N152K04M00	1500	40	37.00	1.6	40	.28	.21	.20	.19	.18

Ferrite Chips

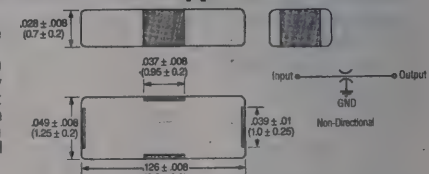
This new series of solid ferrite chips for surface mount applications is designed to reduce the possibility of spurious oscillations in high frequency amplifying circuits and to operate effectively from several MHz to several hundred MHz. Because of their small size, they are mountable on 2.5 mm c-c pitch thus saving considerable PCB space. There is no stray capacitance to 1 GHz. Nickel barrier for solder heat resistance. Suitable for both flow and reflow soldering applications. Temperature range is -55°C to +125°C.



Stock No.	Mfr.'s Type	EIA Size	Typ. Imp. @ 100 MHz	Ohms Max.	Current (mA)	EACH				
						1-99	100-249	250-499	500-999	1000-4999
711-1121	BLM21A601SPB	0805	600	1.5	200	.29	.18	.16	.14	.12
711-1123	BLM31A700SPB	1206	70	0.5	200	.32	.22	.19	.17	.15
711-1125	BLM31B601SPB	1206	600	1.0	200	.34	.28	.25	.23	.21
711-1127	BLM31A601SPB	1206	600	1.0	200	.34	.28	.25	.23	.21
711-1129	BLM41A800SPB	1806	80	0.3	500	.29	.21	.19	.17	.15
711-1131	BLM41A151SPB	1806	150	0.7	200	.30	.25	.22	.20	.18

NFM40R Series Surface Mount EMI Suppression Filters

The NFM40R series is a miniature chip-type EMI suppression filter. It is well suited for EMI suppression in digital circuit boards or in I/O lines of digital equipment where high density mounting is used. Nickel barrier for solder heat resistance. Wide frequency range of operation of several hundred MHz. Tape and Reel option available as custom order. Call for price and delivery.



Stock No.	Mfr.'s Type	Cap. (pF)	Tol. (%)	WVDC	Rated Current (mA)	EACH				
						1-99	100-249	250-499	500-999	1000-4999
711-1080	NFM40R01C220B1	22	+50, -20	25	200	.85	.45	.39	.34	.31
711-1082	NFM40R01C470B1	47	+50, -20	25	200	.85	.45	.39	.34	.31
711-1084	NFM40R01C101B1	100	+50, -20	25	200	.85	.45	.39	.34	.31
711-1086	NFM40R11C221B1	220	+50, -20	25	200	.85	.45	.39	.34	.31
711-1088	NFM40R11C471B1	470	+50, -20	25	200	.85	.45	.39	.34	.31
711-1090	NFM40R11C102B1	1000	+50, -20	25	200	.85	.45	.39	.34	.31
711-1092	NFM40R11C222B1	2200	+50, -20	25	200	.85	.45	.39	.34	.31
711-1094	NFM40R11C223B1	22000	+80, -20	25	200	.85	.45	.39	.34	.31

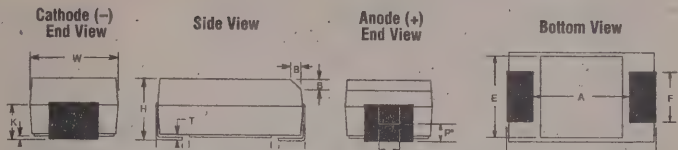
NFM61R Series Surface Mount EMI Suppression Filters

This T-type chip EMIFIL is a 3 terminal capacitor capable of carrying the large currents (2A) required for use in DC power circuits. The chip consists of a T-type filter circuit incorporating a ferrite bead inductor for the purpose of suppressing undesirable oscillation. These filters can be used at temperatures between -25°C and +85°C. High solder heat resistance. Either flow or reflow soldering can be used. Additional parts and specifications available as custom orders. Call for pricing and delivery.

Stock No.	Mfr.'s Type	Cap. (pF)	Tol. (%)	WVDC	Rated Current (ADC)	EACH				
						1-99	100-249	250-499	500-999	1000-4999
711-1096	NFM61R00T330B1	33	30	50	2	1.51	.82	.78	.71	.65
711-1098	NFM61R00T680B1	68	30	50	2	1.51	.82	.78	.71	.65
711-1100	NFM61R00T101B1	100	30	50	2	2.47	1.30	1.13	1.00	.90
711-1102	NFM61R00T181B1	181	30	50	2	2.47	1.30	1.13	1.00	.90
711-1104	NFM61R00T361B1	361	30	50	2	1.51	.82	.78	.71	.65
711-1106	NFM61R00T681B1	681	30	50	2	2.47	1.30	1.13	1.00	.90
711-1108	NFM61R01T0261	1000	+80, -20	50	2	2.47	1.30	1.13	1.00	.90
711-1110	NFM61R30T472B1	4700	+80, -20	50	2	1.89	1.00	.86	.77	.69

Solid Tantalum Chip Capacitors

Low DF and DC leakage. Chips are temperature stable and compatible with all soldering techniques and compatible with all tape-fed automatic pick and place systems. Soldering temperatures up to 260°C for 10 seconds. Chips have the highest capacitance per case size. Operating Temperature Range: -55°C to +125°C.

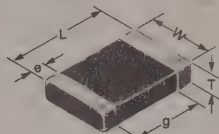


Case Code		Dimensions — Millimeters (Inches)													
Type	EIA/IECQ	L	W	H	K	F	S	B	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
A	3216	3.2 ±0.2 (.126 ±.008)	1.6 ±0.2 (.063 ±.008)	1.6 ±0.2 (.063 ±.008)	0.9 ±0.2 (.035 ±.008)	1.2 ±0.1 (.047 ±.004)	0.8 ±0.3 (.031 ±.012)	0.40 ±0.15 (.016 ±.006)	0.10 ±0.10 (.004 ±.004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	0.8 (.031)	1.4 (.055)	1.3 (.051)
B	3528	3.5 ±0.2 (.138 ±.008)	2.8 ±0.2 (.110 ±.008)	1.9 ±0.2 (.075 ±.008)	1.1 ±0.2 (.043 ±.008)	2.2 ±0.1 (.08 ±.004)	0.8 ±0.3 (.031 ±.012)	0.40 ±0.15 (.016 ±.006)	0.10 ±0.10 (.004 ±.004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	1.1 (.043)	1.8 (.071)	2.5 (.098)
C	6032	6.0 ±0.3 (.236 ±.012)	3.2 ±0.3 (.126 ±.012)	2.5 ±0.3 (.098 ±.012)	1.4 ±0.2 (.055 ±.008)	2.2 ±0.1 (.087 ±.004)	1.3 ±0.3 (.051 ±.012)	0.50 ±0.15 (.020 ±.006)	0.10 ±0.10 (.004 ±.004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	2.5 (.098)	2.8 (.110)	2.9 (.114)
D	7343	7.3 ±0.3 (.287 ±.012)	4.3 ±0.3 (.169 ±.012)	2.8 ±0.3 (.110 ±.012)	1.5 ±0.2 (.059 ±.008)	2.4 ±0.1 (.094 ±.004)	1.3 ±0.3 (.051 ±.012)	0.50 ±0.15 (.020 ±.006)	0.10 ±0.10 (.004 ±.004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	4.0 (.157)	3.9 (.154)

Stock No.	Mfr.'s Type	MFD	VDC	Tol. %	Reel Qty.	PER REEL	
						1-9	10-49
852-1260	TSC105K010A	1.0	10	10	2000	544.00	466.29
852-1261	TSC105K016A	1.0	16	10	2000	544.00	466.29
852-1262	TSC105K020A	1.0	20	10	2000	544.00	466.29
852-1263	TSC105K025B	1.0	25	10	2000	608.60	521.66
852-1264	TSC105K035B	1.0	35	10	2000	608.60	521.66
852-1265	TSC106K006B	10.0	6	10	2000	608.60	521.66
852-1266	TSC106K010B	10.0	10	10	2000	717.40	614.91
852-1267	TSC106K016C	10.0	16	10	500	244.80	209.83
852-1268	TSC106K020C	10.0	20	10	500	312.80	268.11
852-1269	TSC106K025D	10.0	25	10	500	319.60	273.94
852-1270	TSC106K035D	10.0	35	10	500	387.60	332.23
852-1271	TSC156K025D	15.0	25	10	500	319.60	273.94
852-1272	TSC225K016A	2.2	16	10	2000	571.20	489.60
852-1273	TSC225K020A	2.2	20	10	2000	571.20	489.60
852-1274	TSC225K025C	2.2	25	10	500	244.80	209.83
852-1275	TSC225K035C	2.2	35	10	500	244.80	209.83
852-1276	TSC226K016D	22.0	16	10	500	319.60	273.94
852-1277	TSC226K020D	22.0	20	10	500	319.60	273.94
852-1278	TSC336K010D	33.0	10	10	500	319.60	273.94
852-1279	TSC336K016D	33.0	16	10	500	319.60	273.94
852-1280	TSC475K010A	4.7	10	10	2000	571.20	489.60
852-1281	TSC475K016B	4.7	16	10	2000	608.60	521.66

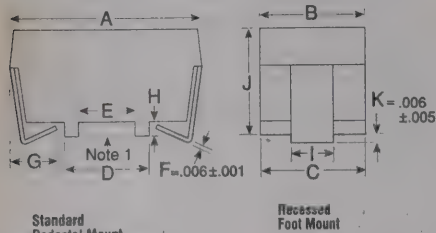
GRM Series Chip Capacitors

Non-polarized and miniature size chip capacitors have uniform dimensions and configuration. Flow and reflow solderable. Nickel barrier termination is highly resistant to metal migration. They have minimum series inductance.



Mfr.'s Type	EIA Size	Cap (pF)	WVDC	Tol. %	Length	Width	PER PACK		PER REEL			
							Stock No.	PER PK./100	Stock No.	Reel Quantity	PER REEL	
											1-4	5
GRM39C0G100C050AD	0603	10	50	.25 PF	0.060	0.030	711-1201	9.00	711-1200	4000	120.00	104.91
GRM39C0G150J050AD	0603	15	50	5	0.060	0.030	711-1203	9.00	711-1202	4000	120.00	104.91
GRM39C0G180J050AD	0603	18	50	5	0.060	0.030	711-1205	9.00	711-1204	4000	120.00	104.91
GRM39C0G220J050AD	0603	22	50	5	0.060	0.030	711-1207	9.00	711-1206	4000	120.00	104.91
GRM39C0G270J050AD	0603	27	50	5	0.060	0.030	711-1327	9.00	711-1208	4000	120.00	104.91
GRM39C0G330J050AD	0603	33	50	5	0.060	0.030	711-1209	9.00	711-1210	4000	120.00	104.91
GRM39C0G470J050AD	0603	47	50	5	0.060	0.030	711-1211	9.00	711-1212	4000	120.00	104.91
GRM39C0G680J050AD	0603	68	50	5	0.060	0.030	711-1215	9.00	711-1214	4000	120.00	104.91
GRM39C0G820J050AD	0603	82	50	5	0.060	0.030	711-1217	9.00	711-1216	4000	120.00	104.91
GRM39X7R331K050AD	0603	330	50	10	0.060	0.030	711-1219	8.00	711-1218	4000	106.67	93.26
GRM39X7R471K050AD	0603	470	50	10	0.060	0.030	711-1223	8.00	711-1220	4000	106.67	93.26
GRM39X7R102K050AD	0603	1000	50	10	0.060	0.030	711-1225	8.00	711-1222	4000	100.00	87.43
GRM39X7R223K016AD	0603	22000	16	10	0.060	0.030	711-1227	8.00	711-1224	4000	140.00	122.40
GRM39X7R223K025AD	0603	22000	25	10	0.060	0.030	711-1229	8.00	711-1226	4000	166.67	145.71
GRM39X7R473K016AD	0603	47000	16	10	0.060	0.030	711-1231	8.00	711-1228	4000	166.67	145.71
GRM39Y5V103Z050AD	0603	10000	50	-20 +80	0.060	0.030	711-1233	8.00	711-1230	4000	240.00	209.83
GRM39Y5V473Z016AD	0603	47000	16	-20 +80	0.060	0.030	711-1235	9.00	711-1232	4000	120.00	104.91
GRM39Y5V473Z050AD	0603	47000	50	-20 +80	0.060	0.030	711-1237	9.00	711-1234	4000	166.00	139.89
GRM39Y5V104Z016AD	0603	100000	16	-20 +80	0.060	0.030	711-1239	9.00	711-1236	4000	266.67	233.14
GRM39Y5V104Z025AD	0603	100000	25	-20 +80	0.060	0.030	711-1241	9.00	711-1238	4000	173.33	151.54
GRM40C0G100C050BD	0805	10	50	.25 PF	0.080	0.050	711-1242	9.00	711-1240	4000	186.67	163.20
GRM40C0G150J050BD	0805	15	50	5	0.080	0.050	711-1243	15.00	711-1250	4000	133.33	116.57
GRM40C0G220J050BD	0805	22	50	5	0.080	0.050	711-1229	15.00	711-1252	4000	153.33	134.06
GRM40C0G270J050BD	0805	27	50	5	0.080	0.050	711-1245	6.00	711-1254	4000	160.00	139.89
GRM40C0G330J050BD	0805	33	50	5	0.080	0.050	711-1231	6.00	711-1256	4000	146.67	128.23
GRM40C0G470J050BD	0805	47	50	5	0.080	0.050	711-1247	6.00	711-1258	4000	146.67	128.23
GRM40C0G560J050BD	0805	56	50	5	0.080	0.050	711-1233	6.00	711-1260	4000	146.67	128.23
GRM40C0G680J050BD	0805	68	50	5	0.080	0.050	711-1249	6.00	711-1262	4000	140.00	122.40
GRM40C0G680J050BD	0805	68	50	5	0.080	0.050	711-1251	6.00	711-1264	4000	140.00	122.40
GRM40C0G101J050BD	0805	100	50	5	0.080	0.050	711-1253	6.00	711-1266	4000	140.00	122.40
GRM40C0G151J050BD	0805	150	50	5	0.080	0.050	711-1257	6.00	711-1268	4000	153.33	134.06
GRM40C0G221J050BD	0805	220	50	5	0.080	0.050	711-1259	7.00	711-1270	4000	160.00	139.89
GRM40C0G271J050BD	0805	270	50	5	0.080	0.050	711-1261	7.00	711-1272	4000	166.67	145.71
GRM40C0G331J050BD	0805	330	50	5	0.080	0.050	711-1263	8.00	711-1274	4000	166.67	145.71
GRM40C0G471J050BD	0805	470	50	5	0.080	0.050	711-1265	8.00	711-1276	4000	186.67	163.20
GRM40C0G102J050BL	0805	1000	50	5	0.080	0.050	711-1267	8.00	711-1278	3000	180.00	157.37
GRM40X7R102J050BD	0805	1000	50	5	0.080	0.050	711-1269	5.00	711-1280	4000	166.67	145.71
GRM40X7R102J100BD	0805	1000	100	5	0.080	0.050	711-1271	6.00	711-1282	4000	173.33	151.54
GRM40X7R472K050BL	0805	4700	50	10	0.080	0.050	711-1273	7.00	711-1284	4000	120.00	104.91
GRM40X7R103K050BD	0805	10000	50	10	0.080	0.050	711-1275	6.00	711-1286	4000	126.67	110.74
GRM40X7R223K050BL	0805	22000	50	10	0.080	0.050	711-1277	7.00	711-1288	3000	110.00	96.17
GRM40X7R473K050BL	0805	47000	50	10	0.080	0.050	711-1279	20.00	711-1290	3000	145.00	126.77
GRM40X7R104K025BL	0805	100000	25	10	0.080	0.050	711-1281	15.00	711-1292	3000	220.00	192.34
GRM40Z5U104M050BL	0805	100000	50	20	0.080	0.050	711-1283	9.00	711-1294	3000	135.00	118.03
GRM42-6C0G220J050BD	1206	22	50	5	0.125	0.063	711-1385	8.00	711-1300	4000	186.67	163.20
GRM42-6C0G270J050BD	1206	27	50	5	0.125	0.063	711-1387	16.00	711-1302	4000	166.67	145.71
GRM42-6C0G330J050BD	1206	33	50	5	0.125	0.063	711-1389	8.00	711-1304	4000	166.67	145.71
GRM42-6C0G470J050BD	1206	47	50	5	0.125	0.063	711-1391	20.00	711-1306	4000	180.00	157.37
GRM42-6C0G101J050BD	1206	100	50	5	0.125	0.063	711-1393	7.00	711-1308	4000	173.33	151.54
GRM42-6C0G221J050BD	1206	220	50	5	0.125	0.063	711-1395	8.00	711-1310	4000	166.67	145.71
GRM42-6C0G331J050BD	1206	330	50	5	0.125	0.063	711-1397	9.00	711-1312	4000	180.00	157.37
GRM42-6C0G471J050BD	1206	470	50	5	0.125	0.063	711-1399	9.00	711-1314	4000	200.00	174.86
GRM42-6C0G102J050BD	1206	1000	50	5	0.125	0.063	711-1301	13.00	711-1316	4000	233.33	204.00
GRM42-6C0G222J050BL	1206	2200	50	5	0.125	0.063	711-1303	18.00	711-1318	3000	315.00	275.40
GRM42-6X7R102K050BD	1206	1000	50	10	0.125	0.063	711-1305	9.00	711-1320	4000	140.00	122.40
GRM42-6X7R103K050BD	1206	10000	50	10	0.125	0.063	711-1307	9.00	711-1322	4000	140.00	122.40
GRM42-6X7R473K050BL	1206	47000	50	10	0.125	0.063	711-1309	9.00	711-1324	3000	150.00	131.14
GRM42-6X7R104K050BL	1206	100000	50	10	0.125	0.063	711-1311	9.00	711-1326	3000	293.00	256.46
GRM42-6Y5V105Z016BL	1206	1000000	16	-20 +80	0.125	0.063	711-1313	24.00	711-1328	3000	415.00	362.83
GRM42-6Z5U103M050BD	1206	10000	50	20	0.125	0.063	711-1315	8.00	711-1330	4000	140.00	122.40
GRM42-6Z5U473M050BD	1206	47000	50	20	0.125	0.063	711-1317	18.00	711-1332	4000	173.33	151.54
GRM42-6Z5U104M050BD	1206	100000	50	20	0.125	0.063	711-1319	9.00	711-1334	4000	200.00	174.86
GRM42-2X7R104K050BL	1210	100000	50	10	0.125	0.100	711-1321	25.00	711-1350	3000	270.00	236.06
GRM42-2X7R224K050BL	1210	220000	50	10	0.125	0.100	711-1323	25.00	711-1352	2000	263.33	230.23
GRM42-2Z5U334M050BL	1210	330000	50	20	0.125	0.100	711-1325	31.00	711-1354	3000	365.00	319.11

RW Series Wirewound Surface Mount Resistors



- Rectangular Shape Allows Vacuum Pick-and-Place
- Save Labor
- Improve Reliability
- Eliminate Need For Leaded Resistors
- Reduce Chance Of Solder-Joint Breakage

These surface mount power resistors enable engineers to integrate power resistors into designs that reduce circuit board real estate. Application is easy because the rectangular shape allows for vacuum pickup by pick-and-place equipment. In addition, the design saves labor and improves reliability, because one surface mount power resistor can replace a series of lower wattage chip resistors. Flexible J-bend terminations eliminate the need for leaded components and reduce the chance of solder-joint breakage due to greater area for placement adhesives and are ideal for wave soldering. Recessed foot mount design decreases board contact, which lowers board temperature, and makes reflow soldering clean-up easier. Fourth character in manufacturer's part number specifies either recessed or standard. Tape and reel supplied as special order item. Film and power film SMD resistors also available in higher ohm values as special order. Other resistance values available. Call for price and delivery info.

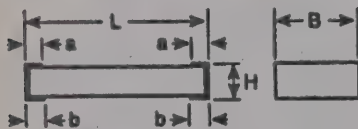
Package Outline Dimensions

Size	A	B	C	D	E	G	H	I	J
BA (in.)	.246 ±.010	.136 ±.005	.133 REF	.110 ±.010	—	.047 NOM.	.018 ±.005	.054 ±.005	.136 ±.005
(mm)	6.248 ±.254	3.454 ±.127	3.378 REF	2.794 ±.254	—	1.194 NOM.	.457 ±.127	1.372 ±.127	3.454 ±.127
CA (in.)	.394 ±.010	.159 ±.005	.156 REF	.220 ±.010	—	.062 NOM.	.018 ±.005	.078 ±.007	.159 ±.005
(mm)	10.008 ±.254	4.039 ±.127	3.962 REF	5.588 ±.254	—	1.575 NOM.	.457 ±.127	1.981 ±.178	4.038 ±.127
CB (in.)	.407 ±.010	.226 ±.005	.222 REF	.260 ±.005	.106 ±.020	.062 NOM.	.018 ±.005	.084 ±.013	.222 ±.005
(mm)	10.338 ±.254	5.74 ±.127	5.639 REF	6.604 ±.127	4.064 ±.508	1.575 NOM.	.457 ±.127	2.134 ±.330	5.639 ±.127
DA (in.)	.455 ±.010	.240 ±.005	.236 REF	.260 ±.005	.106 ±.020	.062 NOM.	.018 ±.005	.143 ±.012	.226 ±.005
(mm)	11.557 ±.254	6.096 ±.127	5.994 REF	6.604 ±.127	4.064 ±.508	1.575 NOM.	.457 ±.127	3.632 ±.305	5.740 ±.127
EA (in.)	.811 ±.010	.273 ±.005	.268 REF	.572 ±.010	.448 ±.020	.093 NOM.	.030 ±.005	.143 ±.012	.273 ±.005
(mm)	20.599 ±.254	6.934 ±.127	6.807 REF	14.529 ±.254	11.379 ±.508	2.362 NOM.	.762 ±.127	3.632 ±.305	6.934 ±.127

Note 1: Packages BA and CA are only available with a solid base. Packages CB and DA are available in either solid or recessed base. Package EA is only available in a recessed base.

5%		1%		Watts	Ohms	Size	PER PACK/10			
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type				5%		1%	
							1-24	25-49	1-24	25-49
292-8101	RW1S0BAR010J	292-9101	RW1S0BAR010F	1.0	0.01	BA	11.90	10.40	13.50	11.90
292-8100	RW1S0BAR020J	292-9100	RW1S0BAR020F	1.0	0.02	BA	11.90	10.40	13.50	11.90
292-8103	RW1S0BAR030J	292-9103	RW1S0BAR030F	1.0	0.03	BA	11.90	10.40	13.50	11.90
292-8102	RW1S0BAR050J	292-9102	RW1S0BAR050F	1.0	0.05	BA	11.90	10.40	13.50	11.90
292-8106	RW1S0BAR500J	292-9106	RW1S0BAR500F	1.0	0.50	BA	21.00	18.40	26.10	23.00
292-8108	RW1S5CAR010J	292-9108	RW1S5CAR010F	1.5	0.01	CA	13.00	11.30	15.40	13.50
292-8110	RW1S5CAR040J	292-9110	RW1S5CAR040F	1.5	0.04	CA	13.00	11.30	15.40	13.50
292-8112	RW1S5CAR100J	292-9112	RW1S5CAR100F	1.5	0.10	CA	14.10	12.30	18.40	16.10
292-8114	RW1S5CA1R00J	292-9114	RW1S5CA1R00F	1.5	1.00	CA	14.10	12.30	18.40	16.10
292-8118	RW2S0CBR010J	292-9118	RW2S0CBR010F	2.0	0.01	CB	16.50	14.40	19.10	16.80
292-8120	RW2S0CBR220J	292-9120	RW2S0CBR220F	2.0	0.22	CB	20.60	18.00	23.50	20.70
292-8122	RW2R0CBR400J	292-9122	RW2S0CBR400F	2.0	0.40	CB	20.60	18.00	23.50	20.70
292-8124	RW2R0DAR050J	292-9124	RW2R0DAR050F	2.0	0.05	DA	17.30	15.10	19.80	17.40
292-8126	RW2R0DAR100J	292-9126	RW2R0DAR100F	2.0	0.10	DA	20.80	18.20	23.90	21.00
292-8128	RW2R0DAR470J	292-9128	RW2R0DAR470F	2.0	0.47	DA	20.80	18.20	23.90	21.00
292-8130	RW2R0DA1R00J	292-9130	RW2R0DA1R00F	2.0	1.00	DA	20.80	18.20	23.90	21.00
292-8132	RW3R0EAR010J	292-9132	RW3R0EAR010F	3.0	0.01	EA	23.20	20.30	24.60	21.70
292-8134	RW3R0EAR020J	292-9134	RW3R0EAR020F	3.0	0.02	EA	23.20	20.30	24.60	21.70
292-8136	RW3R0EAR050J	292-9136	RW3R0EAR050F	3.0	0.05	EA	23.20	20.30	24.60	21.70
292-8138	RW3R0EAR100J	292-9138	RW3R0EAR100F	3.0	0.10	EA	23.20	20.30	24.60	21.70
292-8140	RW3R0EA1R00J	292-9140	RW3R0EA1R00F	3.0	1.00	EA	23.20	20.30	24.60	21.70

Surface Mount Thick Film Chip Resistors 1% Tolerance



- 1/10, 1/8, and 1/4 Watt Sizes
- Available In 100 and 1000 Piece Packs or On Tape and Reel; Cabinet Assortments Available
- 1% Tolerance Standard
- 200 ppm/°C Temperature Coefficient

1/10 Watt, 0603 Package

Stock No.	Mfr.'s Type	Ohms	PER PACK/100			
			1-4	5-9	10-49	50-Up
292-1500	S10F10R0	10	4.62	4.28	3.82	3.62
292-1502	S10F22R1	22.1	4.62	4.28	3.82	3.62
292-1504	S10F47R5	47.5	4.62	4.28	3.82	3.62
292-1506	S10F100R	100	4.62	4.28	3.82	3.62
292-1508	S10F221R	221	4.62	4.28	3.82	3.62
292-1510	S10F475R	475	4.62	4.28	3.82	3.62
292-1512	S10F1K00	1000	4.62	4.28	3.82	3.62
292-1514	S10F2K21	2210	4.62	4.28	3.82	3.62
292-1516	S10F4K75	4750	4.62	4.28	3.82	3.62
292-1518	S10F10K0	10000	4.62	4.28	3.82	3.62
292-1520	S10F22K1	22100	4.62	4.28	3.82	3.62
292-1522	S10F47K5	47500	4.62	4.28	3.82	3.62
292-1524	S10F100K	100000	4.62	4.28	3.82	3.62
292-1526	S10F221K	221000	4.62	4.28	3.82	3.62
292-1528	S10F475K	475000	4.62	4.28	3.82	3.62
292-1530	S10F1M00	1000000	4.62	4.28	3.82	3.62

Specifications. Load Life (1000 Hrs.): ±1% R. Terminal Strength: DIN 45921 T 1015 board bend test. Solderability: DIN 45921 T 1015 solder bath test (95% coverage). Temperature Range: -55°C-125°C. Resistance To Soldering Heat (260°C For 10 Sec.): ±1%.

Dimensions

L in.	0.061 ±0.006/-0.002	0.079 ±0.008	0.126 ±0.004/-0.005	0.126 ±0.008	0.197 ±0.008	0.248 ±0.012
mm	1.55 ±0.15/-0.05	2.0 ±0.2	3.2 ±0.1/-0.12	3.2 ±0.2	5.0 ±0.2	6.3 ±0.3
B in.	0.031 ±0.006/-0.002	0.049 ±0.008	0.063 ±0.006	0.102 ±0.008	0.098 ±0.008	0.122 ±0.008
mm	0.8 ±0.15/-0.05	1.25 ±0.2	1.60 ±0.15	2.6 ±0.2	2.5 ±0.2	3.1 ±0.2
H in.	0.018 ±0.004	0.018 ±0.004	0.023 ±0.002	0.024 ±0.004	0.024 ±0.004	0.024 ±0.004
mm	0.45 ±0.1	0.45 ±0.1	0.58 ±0.05	0.6 ±0.1	0.6 ±0.1	0.6 ±0.1
a in.	0.010 ±0.010/-0.006	0.016 ±0.008	0.016 ±0.008	0.016 ±0.008/-0.004	0.016 ±0.008/-0.004	0.016 ±0.008/-0.004
mm	0.25 ±0.25/-0.15	0.40 ±0.2	0.40 ±0.2	0.40 ±0.2/-0.1	0.40 ±0.2/-0.1	0.40 ±0.2/-0.1
b in.	0.010 ±0.010/-0.006	0.016 ±0.008	0.016 ±0.008	0.02 ±0.008	0.02 ±0.008	0.02 ±0.008
mm	0.25 ±0.25/-0.15	0.40 ±0.2	0.40 ±0.2	0.5 ±0.2	0.5 ±0.2	0.5 ±0.2

1/8 Watt, 0805 Package

Stock No.	Mfr.'s Type	Ohms	PER PACK/100			
			1-4	5-9	10-49	50-Up
292-1600	S12F10R0	10	6.19	5.70	5.13	4.85
292-1602	S12F22R1	22.1	6.19	5.70	5.13	4.85
292-1604	S12F47R5	47.5	6.19	5.70	5.13	4.85
292-1606	S12F100R	100	6.19	5.70	5.13	4.85
292-1608	S12F221R	221	6.19	5.70	5.13	4.85
292-1610	S12F475R	475	6.19	5.70	5.13	4.85
292-1612	S12F1K00	1000	6.19	5.70	5.13	4.85
292-1614	S12F2K21	2210	6.19	5.70	5.13	4.85
292-1616	S12F4K75	4750	6.19	5.70	5.13	4.85
292-1618	S12F10K0	10000	6.19	5.70	5.13	4.85
292-1620	S12F22K1	22100	6.19	5.70	5.13	4.85
292-1622	S12F47K5	47500	6.19	5.70	5.13	4.85
292-1624	S12F100K	100000	6.19	5.70	5.13	4.85
292-1626	S12F221K	221000	6.19	5.70	5.13	4.85
292-1628	S12F475K	475000	6.19	5.70	5.13	4.85
292-1630	S12F1M00	1000000	6.19	5.70	5.13	4.85

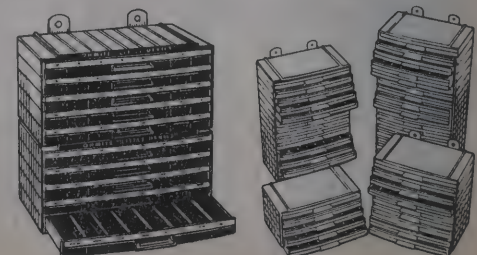
1/4 Watt, 1206 Package

Stock No.	Mfr.'s Type	Ohms	PER PACK/100			
			1-4	5-9	10-49	50-Up
292-1700	S25F10R0	10	6.19	5.70	5.13	4.85
292-1702	S25F22R1	22.1	6.19	5.70	5.13	4.85
292-1704	S25F47R5	47.5	6.19	5.70	5.13	4.85
292-1706	S25F100R	100	6.19	5.70	5.13	4.85
292-1708	S25F221R	221	6.19	5.70	5.13	4.85
292-1710	S25F475R	475	6.19	5.70	5.13	4.85
292-1712	S25F1K00	1000	6.19	5.70	5.13	4.85
292-1714	S25F2K21	2210	6.19	5.70	5.13	4.85
292-1716	S25F4K75	4750	6.19	5.70	5.13	4.85
292-1718	S25F10K0	10000	6.19	5.70	5.13	4.85
292-1720	S25F22K1	22100	6.19	5.70	5.13	4.85
292-1722	S25F47K5	47500	6.19	5.70	5.13	4.85
292-1724	S25F100K	100000	6.19	5.70	5.13	4.85
292-1726	S25F221K	221000	6.19	5.70	5.13	4.85
292-1728	S25F475K	475000	6.19	5.70	5.13	4.85
292-1730	S25F1M00	1000000	6.19	5.70	5.13	4.85

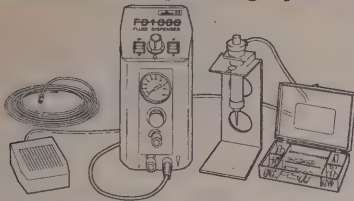
Resistor Assortment

Each cabinet contains the most popular resistance values, including "Mil" specified resistors. Each cabinet is an organized system designed for research and development, prototype laboratory work, education instruction, maintenance and replacement. All cabinets are labeled to identify the resistor series contained and all the drawer compartments identify the resistance values. The cabinets have interlocking bases and tops which permits stacking and helps conserve space. Cabinet models composed of two or more cabinets are stacked and reinforced with metal braces which allow mounting onto walls or pegboards. Each individual cabinet is 9" wide x 4 1/4" high x 5 1/4" deep.

Stock No.	Mfr.'s Type	Type	Watts	Tol. %	Qty.	No. of Values	Ohm Range	EACH
296-1686	CAB-6SR	SMT Chip	1/10	1 and 5	1000	63	0-2 M	434.50
296-1687	CAB-BSR	SMT Chip	1/8	1 and 5	1000	63	0-2 M	381.61
296-1688	CAB-12SR	SMT Chip	1/4	1 and 5	1000	63	0-2 M	376.26
296-1691	CAB-PSR1	SMT Wirewound and Metal Film	0.8-3.5	5	445	64	1-5 M	575.00



FD-1001 Fluid Dispensing System

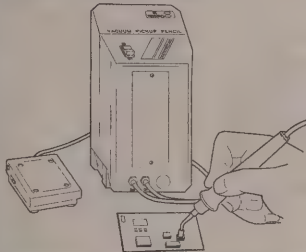


Dispense precise amounts of solder paste, adhesives and other fluids in manual and timed modes. Features solid-state timer with precision rotary control, pressure gauge and compact, ESD-safe housing. Automatic vacuum pull back eliminates tailing. This 150-volt ac dispenser includes foot pedal, stand for barrel storage, 25 needles and controller. Shop air required. Accessories are optional.

827-1001. Model FD-1001. Fluid Dispenser. 1-2.....	EACH 799.25
3-Up.....	EACH 735.00
827-1002. Model DAK-1. Dispenser Accessory Kit.....	EACH 40.25
827-1012. Model FD-VP. Vacuum Pick-Up Pencil.....	EACH 51.75

VP-161 Vacuum Pick-Up for SMD Handling and Placement

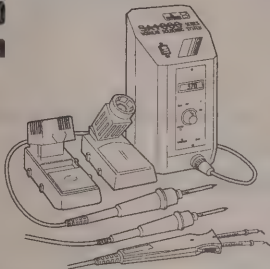
The 115-volt ac VP-161 Vacuum Pick-Up Pencil works with all component sizes. It features foot pedal or finger-activated vacuum and a self-contained vacuum pump. This ESD-safe system includes controller, handpiece nozzle kit, foot pedal and high-temperature silicone pads. An optional nozzle kit is available separately.



827-0161. Model VP-161. Vacuum Pencil System. 1-2.....	EACH 224.25
3-Up.....	EACH 215.00
827-0160. Model NK-160. Nozzle Kit.....	EACH 20.91

SMTweezer SMD Removal System

SMTweezer removes PLCC, SOIC and discretes. Precision tips contact leads simultaneously. Variable, tri-temp and fixed temperature controls with a 600-800°F range. System includes 115-volt input power base, variable temperature module, handpiece and holder. Accessories also available separately.



827-1441. Model SA-1441-V. SMTweezer System. 1-2.....	EACH 455.00
3-Up.....	EACH 419.00
827-0640. Model SAI-640 Micro Soldering Iron Handpiece.....	EACH 74.75
827-0690. Model SAI-690 Macro Soldering Iron Handpiece.....	EACH 74.75

Nozzles for FCR-2000 Series

SO Packages

Stock No.	Mfr.'s Type	Suggested Package	Dimensions — In. (mm)				EACH	
			A	B	C	D	1-4	5-Up
827-5080	N-S8	SOIC 8	.267 (6.78)	.210 (5.33)	—	—	109.25	101.78
827-5016	N-S16	SOIC 14, 16	.267 (6.78)	.400 (10.16)	—	—	109.25	101.78
827-5017	N-SL16	SOL 14, 16	.416 (10.57)	.425 (10.80)	—	—	109.25	101.78
827-5002	N-SL20	SOL 20, 20J	.416 (10.57)	.525 (13.34)	—	—	109.25	101.78
827-5024	N-SL24	SOL 24, 24J	.416 (10.57)	.625 (15.88)	—	—	109.25	101.78
827-5003	N-SL28	SOL 28	.416 (10.57)	.725 (18.42)	—	—	109.25	101.78
827-5032	N-SOJ32	SOJ 32	.530 (13.50)	.812 (20.60)	—	—	109.25	101.78
827-5040	N-SOJ40	SOJ 40	.530 (13.50)	1.000 (25.40)	—	—	109.25	101.78

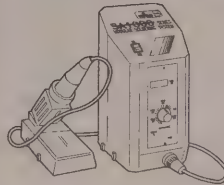
PLCC Comp. For PLCC Sockets Replace N-P in Mfr.'s Type with N-PS.

Stock No.	Mfr.'s Type	Suggested Package	Dimensions — In. (mm)				EACH	
			A	B	C	D	1-4	5-Up
827-5020	N-P20	PLCC-20	.469 (11.91)	.300 (7.62)	.469 (11.91)	.300 (7.62)	109.25	101.78
827-5004	N-P28	PLCC-28	.569 (14.45)	.400 (10.16)	.569 (14.45)	.400 (10.16)	109.25	101.78
827-5320	N-P32	PLCC-32	.664 (16.87)	.500 (12.70)	.664 (16.87)	.400 (10.16)	109.25	101.78
827-5005	N-P44	PLCC-44	.769 (19.53)	.600 (15.24)	.769 (19.53)	.600 (15.24)	109.25	101.78
827-5052	N-P52	PLCC-52	.870 (22.10)	.700 (17.78)	.870 (22.10)	.700 (17.78)	109.25	101.78
827-5006	N-P68	PLCC-68	1.071 (27.20)	.900 (22.86)	1.071 (27.20)	.900 (22.86)	109.25	101.78
827-5007	N-P84	PLCC-84	1.276 (32.41)	1.100 (27.94)	1.276 (32.41)	1.100 (27.94)	109.25	101.78

BQFP/QFP

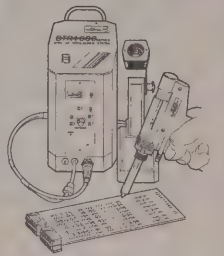
Stock No.	Mfr.'s Type	Suggested Package	Dimensions — In. (mm)				EACH	
			A	B	C	D	1-4	5-Up
827-5012	N-Q10	QFP-44	.526 (13.36)	.400 (10.16)	.526 (13.36)	.400 (10.16)	109.25	101.78
827-5014	N-Q14	QFP-52, 80	.682 (17.32)	.550 (13.97)	.682 (17.32)	.550 (13.97)	109.25	101.78
827-5008	N-Q1420	QFP-64, 80, 100	.920 (23.37)	.790 (20.07)	.712 (18.08)	.550 (13.97)	109.25	101.78
827-5009	N-Q28	QFP-120, 128, 144, 160	1.230 (31.24)	1.100 (27.94)	1.230 (31.24)	1.100 (27.94)	109.25	101.78
827-5023	N-BQ23	BQFP-100	.880 (22.35)	.650 (16.51)	.880 (22.35)	.650 (16.51)	109.25	101.78
827-5010	N-BQ28	BQFP-132	1.086 (27.58)	.850 (21.59)	1.086 (27.58)	.850 (21.59)	109.25	101.78
827-5011	N-BQ38	BQFP-196	1.486 (37.74)	1.240 (31.50)	1.486 (37.74)	1.240 (31.50)	109.25	101.78

Modular Soldering Stations for Hand Soldering and Touch-Up



These user-configurable, digital, ESD-safe soldering stations are ideal for QFP removal plus SMT hand soldering and touch-up. Choose micro or macro soldering iron versions with variable temperature control. Each contains a 115-volt input power base and a soldering iron holder. These soldering stations feature digital, variable, tri-temp and fixed temperature controls. The temperature range is 600-800°F.

827-1401. Model SA-1401-V Micro Soldering Iron System. 1-2.....	EACH 270.25
3-Up.....	EACH 248.00
827-1901. Model SA-1901-V Macro Soldering Iron System. 1-2.....	EACH 270.25
3-Up.....	EACH 248.00



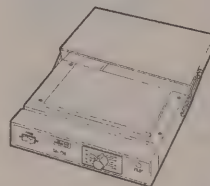
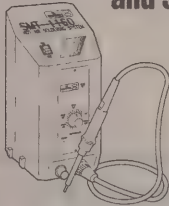
BTR-1101-V Thru-Hole and SMT Rework Station

This self-contained desoldering system provides maximum application flexibility, high thermal demand desoldering plus standard and SMT soldering removal. With the highest power closed-loop system available, it meets military specifications. Use it for standard and multi-layer desoldering. This station provides efficient and consistent results particularly for high thermal demand

boards. A self-contained vacuum has a powerful internal pump. Includes 115-volt input power base, variable temperature module, desoldering tool and holder.

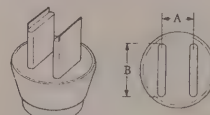
827-0110. BTR-1101-V. Self-Contained Solder System. 1-2.....	EACH 740.00
3-Up.....	EACH 680.00

SMT-1161-V Hot Air Pencil and SA-751 Hot Plate

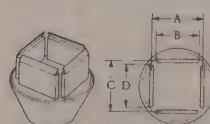


Use the Hot Air Pencil for non-contact soldering of heat-sensitive SMT components. Features self-contained air pump, variable temperature and airflow control with 486-840°F range and 60-watt quick-response heater. Includes handpiece holder and three nozzles. The Hot Plate features variable closed-loop RTD temperature control with 150-500°F range.

827-1161. SMT-1161-V. Variable-Temp. Hot Air Pencil. 1-2.....	EACH 910.00
3-Up.....	EACH 837.00
827-1060. Model NK-1060A. Three-Piece Nozzle Kit.....	EACH 44.85
827-0751. Model SA-751. SMT Preheat/Reflow Hot Plate. 1-2.....	EACH 660.00
3-Up.....	EACH 607.00



SO Packages



PLCC Comp.

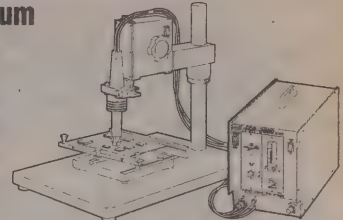


BQFP/QFP

Focused Convection Rework with Vacuum

System Includes

- Base Controller with Pump, Temperature, Time and Air Flow Controller
- Mode Selection/Heater Timer Module
- Handpiece with Vacuum, Cord and Connector (FCT-2228)
- Dual Footswitch for Vacuum and Heater Activation
- Handpiece Holder
- Multiple Nozzle Holder
- N-D25 Nozzle
- 10 Piece High Temperature Silicone Rubber Vacuum Pads
- Nozzle Removal Tool



- Vacuum Pad Removal Tool
- Instruction Manual
- RTS-A Adjustable Handpiece Stand with Z Axis Control and Stainless Steel Base Plate (WSA Systems)
- RBH-A Adjustable Board Holder (WSA Systems)

The all new FCR-2200 Series is a focused convection SMT rework system with vacuum pick-up. Utilizing a self-contained air source, the FCR-2200 regulates air flow and temperature to rework a wide range of components from discretes to PLCC and QFP. Its unique three-mode operation provides manual or semi-automatic control for component removal or replacement.

- Manual Mode: Continuous Hot Air Flow or On-Demand Air Flow (Via Footswitch); On-Demand Vacuum (Via Footswitch)
- Auto Remove Mode: Sequenced and Timed — Hot Air > Hot Air with Vacuum > Hot Air Shut Off > Vacuum Release
- Auto Replace Mode: Sequenced and Timed — Vacuum > Hot Air > Hot Air Shut Off

The FCR-2200 handpiece has a spring loaded vacuum tube which virtually eliminates mechanical stress when contacting the component. Additionally, the vacuum tube length is adjustable; the operator may extend it for better viewing during placement, retract it to allow the nozzle to "encapsulate" the component during reflow. The nozzles are designed to focus heated air on the component leads while impeding heat flow to adjacent areas. **Specifications. Input Voltage:** FCR-2201 — 115 VAC, 50/60 Hz; FCR-2202 — 230 VAC, 50/60 Hz. **Heater:** Resistive, 300 W, 28 VAC. **Heater Control:** Closed loop, thermocouple sensor feedback. **Air Source:** High efficiency diaphragm pump. **Air Flow:** Variable, 3 to 20 l/min. **Output Temperature Range:** 392° to 932°F (200° to 500°C). **Modes:** Manual/Auto Place/Auto Remove. **Heater Timer:** 0-180 seconds, utilized with Auto Place or Auto Remove modes.

Model FCR-2201. Forced convection SMT rework system with vacuum and heater timer, 115 VAC.

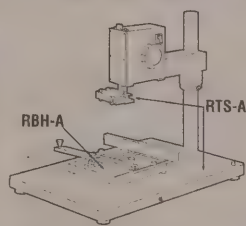
827-2200. Model FCR-2201. 1-2.....	EACH 1755.63
3-Up.....	EACH 1650.00

Model FCR-2201-WSA. Forced convection SMT rework system with vacuum and heater timer, 115 VAC, RTS-A and RBH-A.

827-2201. Model FCR-2201-WSA. 1-2.....	EACH 2966.00
3-Up.....	EACH 2768.00

Board Holder and Tool Stand

- Adjustable to Board Widths of Up to 12"
- Spring Loaded Board Fixturing for Repeatable Board Sizes
- Heavy Duty Aluminum Construction

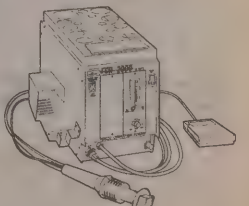


Model RBH-A. Board Holder.
827-2103. 1-2.....EACH 747.50
3-Up.....EACH 696.43

827-2104. Model RTS-A. Rework Tool Stand. 1-2.....	EACH 799.25
3-Up.....	EACH 744.64

Focused Convection Rework

- Removes and Replaces Discrete, SOIC, PLCC and QFP Components
- Closed-Loop, Variable Temperature Control
- Variable Air Flow Adjusts to Thermal Demands of the Board
- Self-Contained Air Source Provides Easy Set Up
- Fully Grounded and Static-Safe System
- Over 40 Nozzles Available



System Includes

- Air Flow Meter/Temp. Control Module
- Handpiece, Cord, Connector (FCT-2128)
- Footswitch for Hot Air Activation
- Power Base with Pump
- Handpiece Holder
- Multiple Nozzle Holder
- N-D25 Nozzle
- Nozzle Removal Tool
- Instruction Manual

The FCR-2100 Series is a low-cost hot air rework system with closed loop temperature control and air flow control. Unlike the FCR-2200 Series it does not have vacuum or timer. **Specifications. Input Voltage:** FCR-2101 — 115 VAC, 50/60 Hz; FCR-2102 — 230 VAC, 50/60 Hz. **Heater:** Resistive, 300 W, 28 VAC. **Heater Control:** Closed loop, thermocouple sensor feedback. **Air Source:** High efficiency diaphragm pump. **Air Flow:** Variable, 3 to 20 l/min. **Temperature Range:** 392° to 932°F (200° to 500°C). **Modes:** Continuous hot air or On-demand hot air via footswitch.

Model FCR-2101. Forced air convection SMT rework system, 115 VAC.	
827-2101. Model FCR-2101. 1-2.....	EACH 1259.25
3-Up.....	EACH 1199.00

Series G6G, Surface Mount Relay



- Can be Soldered by VPS, IRS, and DWS Methods
- Choice of "L" or "J" Modified Gullwing Leads for Surface Mounting
- Small Size 16 (W) × 10.2 (L) × 8 (H) mm (.63" W × .40" L × .315" H)
- Surge Withstand Voltage Meets FCC and CCITT Rules
- Unique Moving-Loop Armature Reduces Relay Size, Magnetic Interference, and Contact Bounce Time

Contact Data. Contact Ratings: 110 VAC, 0.2 A; 24 VDC, 1 A. Contact Material: Ag (Au clad). Carry Current: 2 A. Maximum Operating Voltage: 125 VAC, 125 VDC. Maximum Operating Current: 2 A. Maximum Switching Capacity: 50 VA, 60 W.

Coil Data (% of Rated Voltage). Pickup Voltage: 75% max. Dropout Voltage: 10% min. Set Voltage: 75% max. Reset Voltage: 75% max. Maximum Voltage: 200% at 40°C max.

Characteristic Data. Initial Contact Resistance: 50 mΩ max. Operate Time: 5 ms max. (typ. value approx. 2.0 ms). Release Time: 3 ms max. (typ. value approx. 1.8 ms). Set Time — Latching: 5 ms max. (typ. value approx. 2.6 ms). Reset Time — Latching: 5 ms max. (typ. value approx. 1.2 ms). Insulation Resistance: 1000 MΩ min. (at 5000 VDC). Ambient Temperature: -40°C to 85°C. Construction Data. Termination: PCB terminals. Construction: Filly-sealed. Weight: .09 oz. (2.5 g).

Dielectric Strength. Between Coil and Contacts: 2000 VAC, 50/60 Hz for 1 minute. Between Contacts of Different Polarity: 2000 VAC, 50/60 Hz for 1 minute. Between Contacts of Same Pole: 1000 VAC, 50/60 Hz for 1 minute. Between Set and Reset Coils (Dual-Winding Type Only): 250 VAC, 50/60 Hz for 1 minute.

Service Life. Mechanical: 50,000,000 operations min. Electrical: 100,000 operations min. at 1 A, 30 VDC.

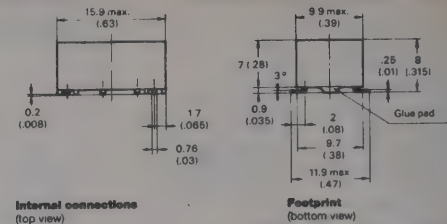
Non-Latching. L — Lead Sealed

Stock No.	Mfr.'s Type	Rated Voltage (VDC)	Coil Res. (mΩ)	Power (mW)	Contact Form	EACH		
						1-24	25-99	100-Up
821-4270	G6G-234F-L-DC5	5	125	200	DPDT	12.45	11.52	8.98
821-4271	G6G-234F-L-DC12	12	720	200	DPDT	12.45	11.52	8.98
821-4272	G6G-234F-L-DC48	48	6400	360	DPDT	14.93	13.81	10.77

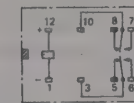
Dual Latching. L — Lead Sealed

821-4273	G6GK-234F-L-DC5	5	125	200	DPDT	16.53	15.29	11.92
821-4274	G6GK-234F-L-DC12	12	720	200	DPDT	16.53	15.29	11.92

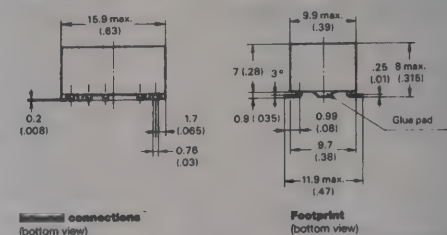
G6G-234F-L



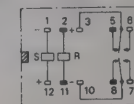
Internal connections (top view)



G6GK-234F-L



Internal connections (bottom view)



NOTE: and indicate mounting orientation marks.

Series G6H High-Sensitivity Relay-Compact, with Low 5 mm Profile



- Low Power Consumption (140 mW)
- Low Thermoelectromotive Force
- Low Magnetic Interference Enables High-Density Mounting
- Utilizes Omron's Moving Loop Design
- Highly Stable Magnetic Circuit for Latching Endurance and Excellent Resistance to Vibration and Shock
- High Sensitivity with Low Nominal Power Consumption

Contact Data. Contact Ratings: 125 VAC, 0.5 A; 30 VDC, 1 A. Contact Material: Ag (Au clad). Carry Current: 1 A. Maximum Operating Voltage: 125 VAC, 110 VDC. Maximum Operating Current: 1 A. Maximum Switching Capacity: 62.5 VA, 33 W.

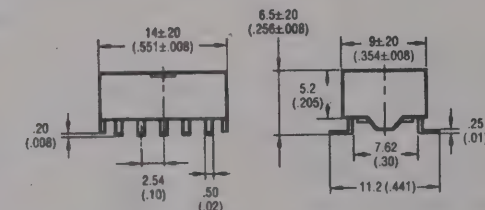
Coil Data (% of Rated Voltage). Pickup Voltage: 75% max. Dropout Voltage: 10% min. Set Voltage: 75% max. Reset Voltage: 75% max. Maximum Voltage: 200% max.

Characteristic Data. Initial Contact Resistance: 50 mΩ max. Operate Time: 3 ms max. (mean value approx. 2.0 ms). Release Time: 2 ms max. (mean value approx. 1.0 ms). Set Time-Latching: 3 ms max. (mean value approx. 2.0 ms). Reset Time-Latching: 2 ms max. (mean value approx. 1.0 ms). Insulation Resistance: 1,000 MΩ max. (at 500 VDC). Surge Withstand Voltage: 1,500 V 10 × 160 μs (conforms to FCC Part 68). Ambient Temperature: 40°C to 70°C.

Dielectric Strength. Between Coil and Contacts, and Between Contacts of Different Polarity: 1,000 VAC, 50/60 Hz for 1 minute. Between Contacts of Same Polarity: 750 VAC, 50/60 Hz for 1 minute.

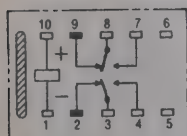
Service Life. Mechanical: 100 million operations min. Electrical: 100,000 operations min. at 1 A, 30 VDC.

Stock No.	Mfr.'s Type	Rated Voltage (VDC)	Coil Res. (mΩ)	Power (mW)	Contact Form	EACH		
						1-24	25-99	100-Up
821-4253	G6H-2-F-DC5	5	64.3	140	DPDT	6.26	5.83	4.55
821-4254	G6H-2-F-DC12	12	1028.0	140	DPDT	6.26	5.83	4.55
821-4255	G6H-2-F-DC24	24	2880.0	200	DPDT	6.26	5.83	4.55

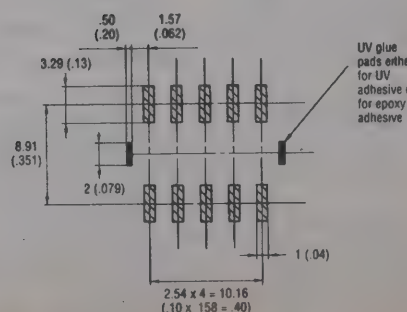


Note: 1. A tolerance of ±4mm applies to all dimensions shown.
2. and indicate mounting orientation marks.

Terminal arrangement/
Internal connections
(bottom view)



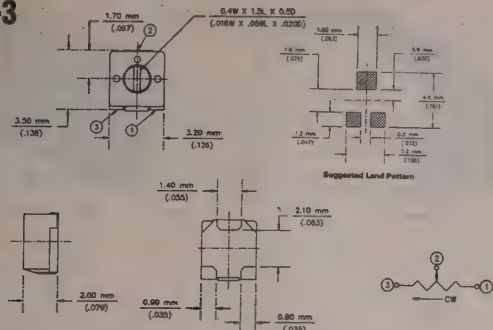
Mounting pads
(bottom view,
dimensional tolerance ±0.1)



UV glue pads either for UV adhesive or for epoxy adhesive



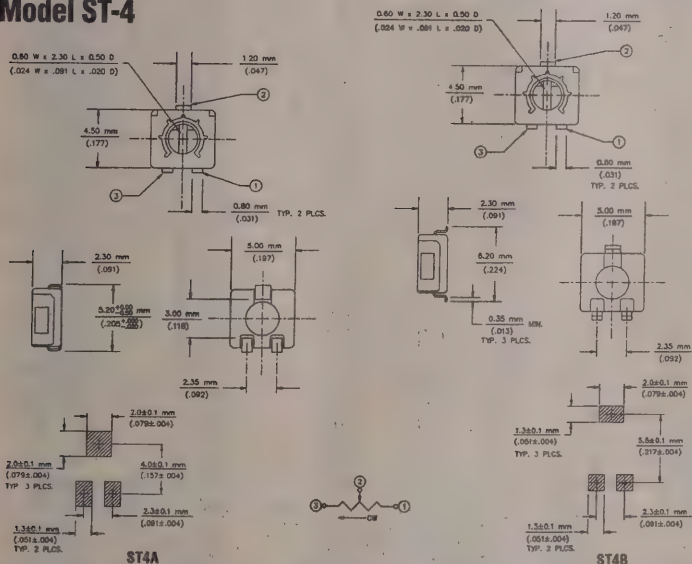
Model ST-3



Sealed to allow for automatic processing. Precious metal alloy contact. Chip style designed for compact size. **Resistance Range:** 10 Ω to 1 M Ω . **Resistance Tolerance:** $\pm 20\%$ standard. **Temperature Coefficient of Resistance:** 10 Ω to 50 Ω : ± 250 ppm/ $^{\circ}\text{C}$, 100 Ω to 1 M Ω : ± 100 ppm/ $^{\circ}\text{C}$. **Power Rating:** 0.125 W at 70 $^{\circ}\text{C}$. **Operating Voltage:** Maximum is at 200 V DC or power rating, whichever is less. **Wiper Current:** Maximum is at 100 mA or power rating, whichever is less. **Electrical Angle:** 210 $^{\circ}$ nominal. **Electrical Continuity:** Continuous over full mechanical range. **End Resistance:** 1% or 2 Ω , whichever is greater. **Resolution:** Essentially infinite. **Contact Resistance Variation:** 1% or 3 Ω , whichever is greater. **Operating Temperature Range:** -55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$. **Insulation Resistance:** 1000 M Ω minimum at 500 V DC. **Dielectric Strength:** 500 V AC rms, 1 minute, 1 mA maximum. **Mechanical Angle:** 240 $^{\circ}$ nominal. **Operating Torque:** 50 gram-cm maximum. **Stop Strength:** 200 gram-cm minimum. **Rotational Life:** 100 cycles.

Stock No.	Mfr.'s Type	Resistance (Ohms)	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
751-3000	ST3A-101	100	2.29	2.06	1.87	1.20	1.08
751-3002	ST3A-102	1K	2.29	2.06	1.87	1.20	1.08
751-3004	ST3A-202	2K	2.29	2.06	1.87	1.20	1.08
751-3006	ST3A-502	5K	2.29	2.06	1.87	1.20	1.08
751-3008	ST3A-103	10K	2.29	2.06	1.87	1.20	1.08
751-3010	ST3A-203	20K	2.29	2.06	1.87	1.20	1.08
751-3012	ST3A-503	50K	2.29	2.06	1.87	1.20	1.08
751-3014	ST3A-104	100K	2.29	2.06	1.87	1.20	1.08
751-3016	ST3A-105	1M	2.29	2.06	1.87	1.20	1.08

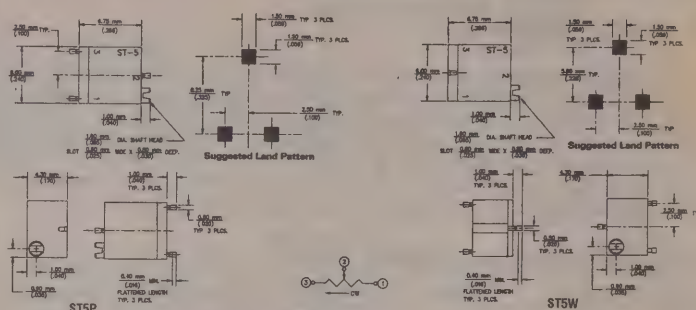
Model ST-4



Miniature Outline: 4.5 x 5.0 mm/0.177 x 0.197 inches. **Low Profile:** 2.3 mm/0.091 inches. Sealed with an O-ring for immersion cleaning processes. Withstands high temperature soldering processes. Packaged for automatic insertion. Manufactured with robotics for outstanding quality and uniformity. **Resistance Range:** 10 Ω to 2 M Ω . **Resistance Tolerance:** $\pm 20\%$. **Power Rating:** 0.25 W at 70 $^{\circ}\text{C}$, 0 W at 125 $^{\circ}\text{C}$. **Maximum Input:** 200 V. **Wiper Current:** 100 mA maximum. **Electrical Angle:** 210 $^{\circ}$ nominal. **End Resistance:** 1% of resistance value or 2 Ω , whichever is greater. **Contact Resistance Variation:** 1% of resistance value or 3 Ω , whichever is greater. **Operating Temperature Range:** -55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$. **Temperature Coefficient of Resistance:** Maximum is 10 Ω to 50 Ω : ± 250 ppm/ $^{\circ}\text{C}$, 100 Ω to 2 M Ω : ± 100 ppm/ $^{\circ}\text{C}$.

Stock No.	Mfr.'s Type	Resistance (Ohms)	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
751-3100	ST4A-101	100	1.20	1.09	0.99	0.90	0.82
751-3102	ST4A-102	1K	1.20	1.09	0.99	0.90	0.82
751-3104	ST4A-202	2K	1.20	1.09	0.99	0.90	0.82
751-3106	ST4A-502	5K	1.20	1.09	0.99	0.90	0.82
751-3108	ST4A-103	10K	1.20	1.09	0.99	0.90	0.82
751-3110	ST4A-203	20K	1.20	1.09	0.99	0.90	0.82
751-3112	ST4A-503	50K	1.20	1.09	0.99	0.90	0.82
751-3114	ST4A-104	100K	1.20	1.09	0.99	0.90	0.82
751-3116	ST4A-105	1M	1.20	1.09	0.99	0.90	0.82
751-3150	ST4B-101	100	1.20	1.09	0.99	0.90	0.82
751-3152	ST4B-102	1K	1.20	1.09	0.99	0.90	0.82
751-3154	ST4B-202	2K	1.20	1.09	0.99	0.90	0.82
751-3156	ST4B-502	5K	1.20	1.09	0.99	0.90	0.82
751-3158	ST4B-103	10K	1.20	1.09	0.99	0.90	0.82
751-3160	ST4B-203	20K	1.20	1.09	0.99	0.90	0.82
751-3162	ST4B-503	50K	1.20	1.09	0.99	0.90	0.82
751-3164	ST4B-104	100K	1.20	1.09	0.99	0.90	0.82
751-3166	ST4B-105	1M	1.20	1.09	0.99	0.90	0.82

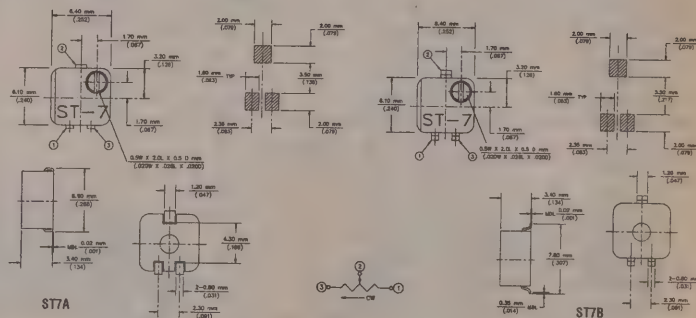
Model ST-5



Miniature Outline: 0.236" x 0.266" x 0.169" high. Sealed for immersion cleaning processes. Withstands high temperature soldering processes. Precious metal alloy multi-contact wiper. **Resistance Range:** 10 Ω to 2 M Ω . **Resistance Tolerance:** $\pm 10\%$. **Power Rating:** 0.25 W at 85 $^{\circ}\text{C}$ derated to 0 W at 125 $^{\circ}\text{C}$. **Maximum Input:** 200 V. **Wiper Current:** 100 mA maximum. **Resolution:** Essentially infinite. **End Resistance:** 1% or 2 Ω , whichever is greater. **Contact Resistance Variation:** 1% or 3 Ω , whichever is greater. **Operating Temperature Range:** -55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$. **Temperature Coefficient of Resistance:** 10 Ω to 50 Ω : ± 250 ppm/ $^{\circ}\text{C}$, 100 Ω to 2 M Ω : ± 100 ppm/ $^{\circ}\text{C}$. **Dielectric Strength:** 500 V AC for 1 minute. **Insulation Resistance:** 1000 M Ω minimum at 500 V DC. **Electrical Angle:** 11 turns nominal. **Mechanical Angle:** 14 turns nominal. **Shaft Torque:** 200 gram-cm (2.8 oz.-in.) maximum. Stops are wiper idles.

Stock No.	Mfr.'s Type	Resistance (Ohms)	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
751-3200	ST5P-101	100	3.35	3.05	2.77	2.52	2.29
751-3202	ST5P-102	1K	3.35	3.05	2.77	2.52	2.29
751-3204	ST5P-202	2K	3.35	3.05	2.77	2.52	2.29
751-3206	ST5P-502	5K	3.35	3.05	2.77	2.52	2.29
751-3208	ST5P-103	10K	3.35	3.05	2.77	2.52	2.29
751-3210	ST5P-203	20K	3.35	3.05	2.77	2.52	2.29
751-3212	ST5P-503	50K	3.35	3.05	2.77	2.52	2.29
751-3214	ST5P-104	100K	3.35	3.05	2.77	2.52	2.29
751-3216	ST5P-105	1M	3.35	3.05	2.77	2.52	2.29
751-3250	ST5W-101	100	3.35	3.05	2.77	2.52	2.29
751-3252	ST5W-102	1K	3.35	3.05	2.77	2.52	2.29
751-3254	ST5W-202	2K	3.35	3.05	2.77	2.52	2.29
751-3256	ST5W-502	5K	3.35	3.05	2.77	2.52	2.29
751-3258	ST5W-103	10K	3.35	3.05	2.77	2.52	2.29
751-3260	ST5W-203	20K	3.35	3.05	2.77	2.52	2.29
751-3262	ST5W-503	50K	3.35	3.05	2.77	2.52	2.29
751-3264	ST5W-104	100K	3.35	3.05	2.77	2.52	2.29
751-3266	ST5W-105	1M	3.35	3.05	2.77	2.52	2.29

Model ST-7



Sealed to allow for automatic processing. Precious metal alloy contact. **Resistance Range:** 50 Ω to 1 M Ω . **Resistance Tolerance:** $\pm 20\%$ standard. **Temperature Coefficient of Resistance:** 50 Ω : ± 250 ppm/ $^{\circ}\text{C}$, 100 Ω to 1 M Ω : ± 100 ppm/ $^{\circ}\text{C}$. **Power Rating:** 0.25 W at 70 $^{\circ}\text{C}$. **Operating Voltage:** Maximum is at 200 V DC or power rating, whichever is less. **Wiper Current:** Maximum is at 100 mA or power rating, whichever is less. **Electrical Angle:** 2.5 turns nominal. **Electrical Continuity:** Continuous over full mechanical range. **End Resistance:** 1% or 3 Ω , whichever is greater. **Resolution:** Essentially infinite. **Contact Resistance Variation:** 1% or 3 Ω , whichever is greater. **Operating Temperature Range:** -55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$. **Insulation Resistance:** 1000 M Ω minimum at 500 V DC for 2 minutes. **Dielectric Strength:** 500 V AC rms, 1 minute, 1 mA maximum. **Mechanical Angle:** 3 turns nominal. **Operating Torque:** 50 gram-cm maximum. **Stop Strength:** 200 gram-cm (0.70 oz.-in.) minimum. **Rotational Life:** 100 cycles.

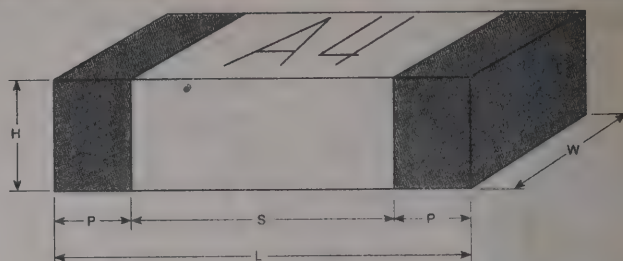
Stock No.	Mfr.'s Type	Resistance (Ohms)	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
751-3300	ST7A-101	100	3.59	3.26	2.96	2.70	2.45
751-3302	ST7A-102	1K	3.59	3.26	2.96	2.70	2.45
751-3304	ST7A-202	2K	3.59	3.26	2.96	2.70	2.45
751-3306	ST7A-502	5K	3.59	3.26	2.96	2.70	2.45
751-3308	ST7A-103	10K	3.59	3.26	2.96	2.70	2.45
751-3310	ST7A-203	20K	3.59	3.26	2.96	2.70	2.45
751-3312	ST7A-503	50K	3.59	3.26	2.96	2.70	2.45
751-3314	ST7A-104	100K	3.59	3.26	2.96	2.70	2.45
751-3316	ST7A-105	1M	3.59	3.26	2.96	2.70	2.45
751-3350	ST7B-101	100	3.59	3.26	2.96	2.70	2.45
751-3352	ST7B-102	1K	3.59	3.26	2.96	2.70	2.45
751-3354	ST7B-202	2K	3.59	3.26	2.96	2.70	2.45
751-3356	ST7B-502	5K	3.59	3.26	2.96	2.70	2.45
751-3358	ST7B-103	10K	3.59	3.26	2.96	2.70	2.45
751-3360	ST7B-203	20K	3.59	3.26	2.96	2.70	2.45
751-3362	ST7B-503	50K	3.59	3.26	2.96	2.70	2.45
751-3364	ST7B-104	100K	3.59	3.26	2.96	2.70	2.45
751-3366	ST7B-105	1M	3.59	3.26	2.96	2.70	2.45



Monolithic SMD® Chip Capacitors

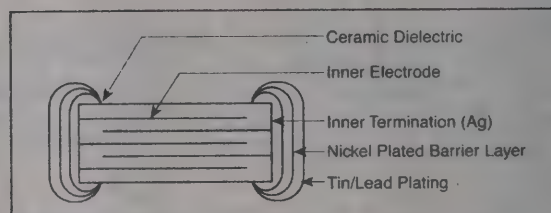
► Monolithic Construction

Monolithic ceramic capacitors consist of alternating ceramic (15 to 30 microns) onto which metal electrodes are printed. The stacked layers, cut into individual chips, are then sintered at a very high temperature to form a monolithic device. Alternating electrode layers are connected to end terminations completing the functional unit. **Temperature Characteristics:** COG — 0 ± 30 ppm/°C, -55°C to +125°C; X7R — $\pm 15\%$ ΔC , -55°C to +125°C; Y5V — $+22\%$ to -82% ΔC , -30°C to +85°C; Z5U — $+22\%$ to -56% ΔC , +10°C to +85°C. **Termination:** B — Ni/Sn. **Packaging:** B — T&R 7" reel; 2 — 7" paper tape. **Marking:** 0 — no mark.



CMC Case Size Dimensions — Millimeters (Inches)

Case Size	Length (L)	Width (W)	Height (H)		Term. Width (P)		Spacing (S) Min.
			Min.	Max.	Min.	Max.	
0603	1.6 $\pm$.10 (.063 $\pm$.004)	0.80 $\pm$.10 (.032 $\pm$.004)	0.70 (.028)	0.90 (.036)	0.25 (.010)	0.65 (.026)	0.40 (.016)
0805	2.0 $\pm$.10 (.079 $\pm$.004)	1.25 $\pm$.10 (.049 $\pm$.004)	0.51 (.021)	1.30 (.052)	0.25 (.010)	0.75 (.030)	0.55 (.022)
1206	3.2 $\pm$.15 (.126 $\pm$.006)	1.6 $\pm$.15 (.063 $\pm$.006)	0.51 (.021)	1.60 (.064)	0.25 (.010)	0.75 (.030)	1.40 (.056)

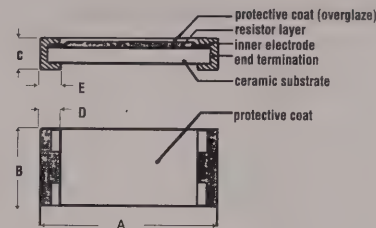


Stock No.	Mfr.'s Type	Value (pF)	Voltage	Temperature Coefficient	Tolerance	Reel Quantity	PER REEL	
							1-9	10-99
748-5002	0603CG100J9B20	10	50 V	COG	5%	4000	197.20	169.03
748-5004	0603CG180J9BB0	18	50 V	COG	5%	4000	215.13	182.03
748-5008	0603CG220J9BB0	22	50 V	COG	5%	4000	215.13	182.03
748-5010	0603CG270J9BB0	27	50 V	COG	5%	4000	215.13	182.03
748-5012	0603CG470J9BB0	47	50 V	COG	5%	4000	215.13	182.03
748-5016	0603CG101J9B20	100	50 V	COG	5%	4000	215.13	182.03
748-5018	06032R331K9B20	330	50 V	X7R	10%	4000	178.04	150.65
748-5020	06032R102K9BB0	1000	50 V	X7R	10%	4000	178.04	150.65
748-5022	06032R222K9B20	2200	50 V	X7R	10%	4000	178.04	150.65
748-5024	06032R472K9BB0	4700	50 V	X7R	10%	4000	207.71	175.75
748-5026	06032R103K9BB0	10000	50 V	X7R	10%	4000	222.55	188.31
748-5028	06032F103M9B20	10000	50 V	Y5V	20%	4000	207.71	175.75
748-5030	06032F473M9B20	47000	50 V	Y5V	20%	4000	215.13	182.03
748-5032	06032F104M8B20	100000	25 V	Y5V	20%	4000	215.13	182.03
748-5034	0805CG100J9BB0	10	50 V	COG	5%	4000	126.11	106.71
748-5036	0805CG150J9BB0	15	50 V	COG	5%	4000	148.36	125.54
748-5040	0805CG220J9BB0	22	50 V	COG	5%	4000	126.11	106.71
748-5042	0805CG270J9BB0	27	50 V	COG	5%	4000	148.36	125.54
748-5044	0805CG330J9BB0	33	50 V	COG	5%	4000	126.11	106.71
748-5046	0805CG470J9BB0	47	50 V	COG	5%	4000	148.36	125.54
748-5050	0805CG560J9BB0	56	50 V	COG	5%	4000	148.36	125.54
748-5052	0805CG680J9BB0	68	50 V	COG	5%	4000	200.29	169.48
748-5054	0805CG101J9BB0	100	50 V	COG	5%	4000	148.36	125.54
748-5056	0805CG221J9BB0	220	50 V	COG	5%	4000	148.36	125.54
748-5058	0805CG271J9BB0	270	50 V	COG	5%	4000	200.29	169.48
748-5060	0805CG331J9BB0	330	50 V	COG	5%	4000	200.29	169.48
748-5062	0805CG471J9BB0	470	50 V	COG	5%	3000	150.22	127.11
748-5064	0805CG102J9BB0	1000	50 V	COG	5%	3000	122.40	103.57
748-5066	08052R102K9BB0	1000	50 V	X7R	10%	4000	148.36	125.54
748-5068	08052R472K9BB0	4700	50 V	X7R	10%	4000	170.62	144.37
748-5070	08052R103K9BB0	10000	50 V	X7R	10%	4000	152.07	128.68
748-5072	08052R473M8BB0	47000	25 V	X7R	20%	4000	192.87	163.20
748-5074	08052R104M8BB0	100000	25 V	X7R	20%	2000	111.27	94.15
748-5076	1206CG220J9BB0	22	50 V	COG	5%	4000	152.07	128.68
748-5078	1206CG270J9BB0	27	50 V	COG	5%	4000	218.84	185.17
748-5080	1206CG330J9BB0	33	50 V	COG	5%	4000	152.07	128.68
748-5082	1206CG470J9BB0	47	50 V	COG	5%	4000	152.07	128.68
748-5084	1206CG101J9BB0	100	50 V	COG	5%	4000	152.07	128.68
748-5086	1206CG221J9BB0	220	50 V	COG	5%	4000	152.07	128.68
748-5088	1206CG331J9BB0	330	50 V	COG	5%	4000	189.16	160.06
748-5090	1206CG471J9BB0	470	50 V	COG	5%	4000	189.16	160.06
748-5092	1206CG102J9BB0	1000	50 V	COG	5%	4000	204.00	172.62
748-5094	1206CG222J9BB0	2200	50 V	COG	5%	3000	300.44	254.22
748-5096	12062R102K9BB0	1000	50 V	X7R	10%	4000	178.04	150.65
748-5098	12062R103K9BB0	10000	50 V	X7R	10%	4000	152.07	128.68
748-5100	12062R473K9BB0	47000	50 V	X7R	10%	4000	204.00	172.62
748-5102	12062R104K9BB0	100000	50 V	X7R	10%	4000	218.84	185.17
748-5104	12062E103M9BB0	10000	50 V	Z5U	20%	4000	152.07	128.68
748-5106	12062E473M9BB0	47000	50 V	Z5U	20%	4000	152.07	128.68
748-5108	12062E104M9BB0	100000	50 V	Z5U	20%	4000	152.07	128.68



Series 9C Commercial SMD Chip Resistors

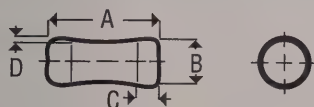
The surface mounted chip resistor consists of a glass passivated thick film resistive paste screened onto a high purity alumina ceramic substrate. The nominal resistance value is achieved by varying the composition of the paste prior to the screening process and by laser trimming the film after it has been screened on. To insure mechanical and environmental integrity, the chip is covered with a silicon based "procoat." The conductive layer consists of a precious metal and a wrap around termination is deposited at each end to allow mechanical and electrical attachment. These chip resistors are adaptable to high speed automated mechanization assembly. They allow excellent printed circuit board density as well as utilization of both board sides. Zero ohm jumper available as custom order in full reels only.



Stock No.	Mfr.'s Type	Philips No.	Tol. %	Wattage @70°C	Value Range	Value Chart	Dimensions (In.)					PER PK./100	
							A	B	C	D	E	1-5	6-25
297-91XX	9C1206	9C12063A-FK	1	1/8	10 Ω to 1 M	D	.126	.063	.023	.016	.020	3.73	3.00
297-93XX	9C1206	9C12063A-JL	5	1/4	10 Ω to 1 M	C	.126	.063	.023	.016	.020	2.76	2.29
297-95XX	9C0805	9C08052A-JL	5	1/10	10 Ω to 1 M	C	.079	.049	.024	.016	.016	3.31	2.63
297-96XX	9C0805	9C08052A-FK	1	1/10	10 Ω to 1 M	D	.079	.049	.024	.016	.016	4.08	3.26

Chart C 5% Values

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	39	18	200	26	470	34	2700	42	5600	50	30 K	58	100 K	66	390 K	74
20	12	47	20	270	28	560	36	3000	44	10 K	52	39 K	60	200 K	68	470 K	76
27	14	56	22	300	30	1000	38	3900	46	20 K	54	47 K	62	270 K	70	560 K	78
30	16	100	24	390	32	2000	40	4700	48	27 K	56	56 K	64	300 K	72	1 Meg	80



Series 9B Precision MELF Surface Mount Resistors

The MELF resistor consists of a high alumina core on which metal film is deposited. A cap is applied at each end and the resistor is spiralled to value. The resistor is then coated, color coded, and end caps treated to facilitate soldering. Zero ohm jumper available as custom order in full reels only.

Stock No.	Mfr.'s Type	Philips No.	Tol. %	Wattage @70°C	Value Range	Value Chart	Dimensions (In.)				PER PK./1000	
							A	B	C	D	1-9	10-49
297-85XX	9B0805	9B08052A-FC	1	1/8	10 Ω to 1 M	D	.087	.039	.014	.002	130.00	120.00
297-81XX	9B1406	9B14064A-FC	1	1/8	10 Ω to 1 M	D	.136	.055	.023	.006	65.00	55.00

Chart D 1% Values

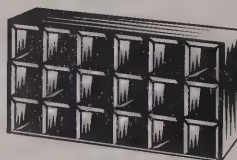
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	03	49.9	15	200	27	1 K	39	4.99 K	51	20 K	63	100 K	75	499 K	87
15	06	75	18	301	30	1.5 K	42	7.5 K	54	30.1 K	66	150 K	78	750 K	90
20	09	100	21	499	33	2 K	45	10 K	57	49.9 K	69	200 K	81	1 Meg	93
30.1	12	150	24	750	36	3.01 K	48	15 K	60	75 K	72	301 K	84	—	—

RCD Chip Resistor Kits

- Economical Pricing
- Great for Engineering Labs Or Prototyping
- Packaged In Plastic Boxes



Thick Film Kits



Thin Film Kits

0805 Thick Film 5%

Provides MC0805 5% parts, 122 values, 10 pieces each. 10 Ω to 1 M (including zero ohm) in 200 ppm parts. 1220 pieces total.

849-5000. 0805J10.....EACH 55.89

0805 Thick Film 5%

Same as above, except 50 pieces each, 6100 pieces total.

849-5005. 0805J50.....EACH 116.65

0805 Thick Film 1%

Provides MCR0805 1% parts, 72 values, 10 pieces each. 10 Ω to 1 M in 100 ppm parts. 720 pieces total.

849-5010. 0805F10.....EACH 58.50

0805 Thick Film 1%

Same as above, except 50 pieces each, 3600 pieces total.

849-5015. 0805F50.....EACH 137.07

1206 Thick Film 5%

Provides MC1A 5% parts, 24 values, 10 pieces each. 10 Ω to 1 M (including zero ohm) in 200 ppm parts. 240 pieces total.

849-5020. 1206C10.....EACH 25.00

1206 Thick Film 5%

Provides MC1A 5% parts, 122 values, 10 pieces each. 10 Ω to 1 M (including zero ohm) in 200 ppm parts. 1220 pieces total.

849-5025. 1206J10.....EACH 55.89

1206 Thick Film 5%

Same as above, except 50 pieces each, 6100 pieces total.

849-5030. 1206J50.....EACH 115.00

0805 Thin Film 0.5%

Provides BLU-0805 0.5% parts, 97 values, 100 pieces each. 10 Ω to 100 KΩ in 50 ppm parts. 9700 pieces total.

849-5035. B0805D100.....EACH 915.00

1206 Thin Film 1%

Provides BLU-1206 1% parts, 106 values, 100 pieces each. 10 Ω to 240 KΩ in 25 ppm parts. 10,600 pieces total.

849-5050. B1206F100.....EACH 1725.00

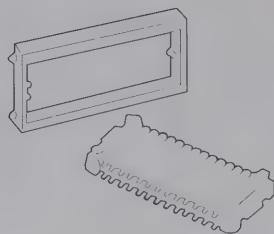
SEI Kits



Surface mount thick film chip resistor design kits for RMC-1/8 (1206 size) in 5% and 1% tolerances, RMC-1/10 (0805 size) in 5% and 1% tolerances and RMC-1/16 (0603 size) in 5% tolerance only. Kits have 30 samples per value. 5% kits have 60 values (E24) and 1% kits have 120 values (E96). Kit includes product specifications, packaging guidelines, performance data and the chip samples. Replacement parts available in 1000 piece bulk packaging or 5000 piece tape and reel. Packaged in plastic notebook pages in three-ring binder.

894-0100. RMC-1/8. 5% 1206 kit	EACH 79.00
894-0105. RMC-1/8. 1% 1206 kit	EACH 115.50
894-0110. RMC-1/10. 5% 0805 kit	EACH 79.00
894-0115. RMC-1/10. 1% 0805 kit	EACH 115.50
894-0120. RMC-1/16. 5% 0603 kit	EACH 107.75

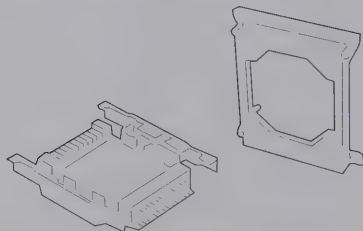
Small Outline Package Sockets



Glass reinforced PPS (UL 94V-0) body and frame. Contacts are aluminum alloy. The plating is 2.03 μ m (80 pinch) nickel underplate. **Current Rating:** 0.5 A per contact with a maximum contact resistance of 30 m Ω and a minimum insulation of 1000 M Ω . **Breakdown Voltage:** 500 V AC for one minute. **Shock Resistance:** 980 m/S² (100 G) (3 axis). **Operating Temperature:** -55°C to +85°C.

Stock No.	Mfr.'s Type	Position	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
906-3400	SOP-08A-SMT-TT	8	1.67	1.52	1.39	1.29	1.19
906-3402	SOP-14A-SMT-TT	14	2.39	2.17	1.99	1.84	1.70
906-3404	SOP-20A-SMT-TT	20	2.86	2.60	2.38	2.20	2.04
906-3406	SOP-24A-SMT-TT	24	3.30	3.00	2.75	2.54	2.36

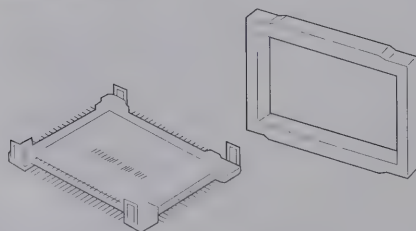
Thin Small Outline Package Sockets



This socket has a liquid crystal polymer body with a glass-filled PPS frame. Its contact and holder are copper alloy. Flammability is UL 94V-0. The plating is 2.03 μ m (80 pinch) tin/lead overall and 1.27 μ m (50 pinch) nickel underplating. **Current Rating:** 0.1 A per contact. **Insulation Resistance:** 100 M Ω . **Dielectric Withstanding:** 500 V AC for one minute. **Contact Resistance:** 60 m Ω maximum. **Operating Temperature:** -55°C to +65°C.

Stock No.	Mfr.'s Type	Position	Lead Spacing (mm)	EACH				
				1-99	100-499	500-999	1000-4999	5000-Up
906-3410	TSOP-2855-SMT-T	28	0.55	4.22	3.84	3.52	3.25	3.02
906-3412	TSOP-3250-SMT-T	32	0.50	4.75	4.32	3.96	3.66	3.40
906-3414	TSOP-3212-SMT-T	32	1.27	4.75	4.32	3.96	3.66	3.40
906-3416	TSOP-4050-SMT-T	40	0.50	5.88	5.34	4.90	4.52	4.20

Quad Flat Pack Sockets

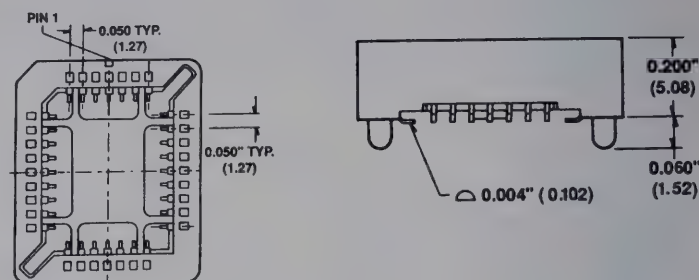


This socket has a glass-filled PPS body and frame. Its contacts and holder are copper alloy. The flammability rating is UL 94V-0. The plating is 2.03 μ m (80 pinch) tin/lead overall and 1.27 μ m (50 pinch) nickel underplating. **Shock Resistance:** 980 m/s (100G). **Operating Temperature:** -55°C to +85°C.

Stock No.	Mfr.'s Type	Position	Contact Spacing (mm)	EACH				
				1-99	100-499	500-999	1000-4999	5000-Up
906-3420	QFP-648-SMTR-TT	64*	0.8	12.20	11.09	10.17	9.38	8.71
906-3422	QFP-648-SMTN-TT	64‡	0.8	12.20	11.09	10.17	9.38	8.71
906-3424	QFP-808-AMTN-TT	80‡	0.8	15.18	13.80	12.65	11.68	10.84

*Motorola type. ‡NEC type.

PLCC-SMT Series Surface Mount Plastic Leaded Chip Carrier Sockets



High-density, low profile 0.200" (5.08) maximum height. Open frame design allows for visual inspection of solder joints. Footprint matches device. Phosphor bronze contacts with tin-over-nickel plating. High-temperature, black polyphenylene sulfide insulator, rated UL94V-0, is compatible with IR reflow and wave soldering. **Insertion Force:** 180g/pin maximum. **Withdrawal Force:** 28.35 g pin minimum. **Contact Resistance:** 20 m Ω **Current Rating:** 1 A. **Temperature Range:** -55°C to +105°C. For automatic assembly. Available with or without location posts.

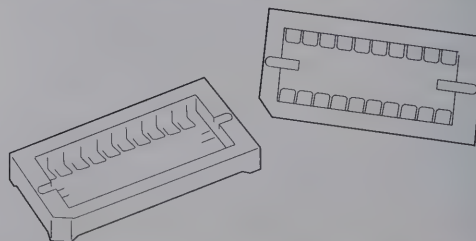
Surface Mount PLCC Sockets with Location Posts

Stock No.	Mfr.'s Type	Contacts	Configuration	EACH		
				1-24	25-99	100-499
906-6600	PLCC-20-SMTL-TT	20	0.600" (15.24) Square	1.87	1.68	1.52
906-6605	PLCC-28-SMTL-TT	28	0.700" (17.78) Square	2.23	2.00	1.80
906-6610	PLCC-32-SMTL-TT	32	0.700" (17.78) $\times$ 0.800" (20.32) Rectangular	2.36	2.12	1.91
906-6615	PLCC-44-SMTL-TT	44	0.900" (22.86) Square	2.91	2.62	2.36
906-6620	PLCC-52-SMTL-TT	52	1.000" (25.40) Square	3.10	2.79	2.51
906-6625	PLCC-68-SMTL-TT	68	1.200" (30.48) Square	3.65	3.29	2.96
906-6630	PLCC-84-SMTL-TT	84	1.400" (35.56) Square	4.27	3.84	3.31

Surface Mount PLCC Sockets without Location Posts

Stock No.	Mfr.'s Type	Contacts	Configuration	EACH		
				1.70	1.49	1.21
906-6560	PLCC-20-SMT-TT	20	0.600" (15.24) Square	1.70	1.49	1.21
906-6565	PLCC-28-SMT-TT	28	0.700" (17.78) Square	2.02	1.77	1.44
906-6570	PLCC-32-SMT-TT	32	0.700" (17.78) $\times$ 0.800" (20.32) Rectangular	2.14	1.87	1.53
906-6575	PLCC-44-SMT-TT	44	0.900" (22.86) Square	2.64	2.31	2.00
906-6580	PLCC-52-SMT-TT	52	1.000" (25.40) Square	2.82	2.47	2.01
906-6585	PLCC-68-SMT-TT	68	1.200" (30.48) Square	3.32	2.91	2.37
906-6590	PLCC-84-SMT-TT	84	1.400" (35.56) Square	3.88	3.40	2.43

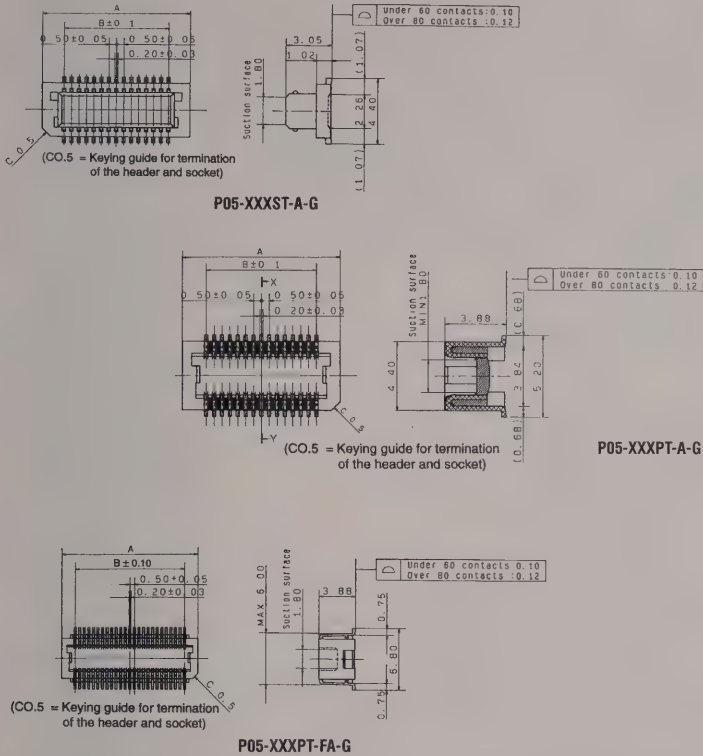
SOJ Small Outline Dual In-Line J-Leaded Socket



SOJ socket have a high temperature thermoplastic housing with copper alloy contacts. The flammability rating is UL 94V-0. The plating is tin/lead on contact area, 2.00 pinch (5.08 μ m) minimum tin/lead on terminal area. **Insertion Force:** 180 grams per contact maximum. **Withdrawal Force:** 28.35 grams per contact minimum. **Temperature Rating:** -55°C to +105°C. **Contact Resistance:** 20 m Ω . **Insulation Resistance:** 1000 M Ω minimum. **Capacitance:** 1 picofarad.

Stock No.	Mfr.'s Type	Position	Row Spacing	EACH				
				1-99	100-499	500-999	1000-4999	5000-Up
906-3430	SOJ-263TP-SMT-TT	26	0.300 (7.62)	1.18	1.08	0.98	0.91	0.84
906-3432	SOJ-284TP-SMT-TT	28	0.400 (10.16)	1.24	1.13	1.04	0.96	0.89
906-3434	SOJ-324TP-SMT-TT	32	0.400 (10.16)	1.51	1.37	1.26	1.16	1.08
906-3436	SOJ-404TP-SMT-TT	40	0.400 (10.16)	1.47	1.34	1.22	1.13	1.05
906-3438	SOJ-424TP-SMT-TT	42	0.400 (10.16)	1.51	1.37	1.26	1.16	1.08

PAK-5



The PAK-5 body consists of high temperature plastic. Contacts and brackets are copper alloy. The flammability rating is UL 94V-0. The plating is 0.2 µm (8 pinch) gold overall. **Insulation Resistance:** 1000 MΩ. **Dielectric Withstanding:** 250 V DC. **Contact Resistance:** 50 Ω maximum. **Current Rating:** 0.5 A per contact. **Rated Voltage:** AC, DC 60 V. **Ambient Temperature Rating:** -50°C to +85°C. The peak soldering heat resistance is 245°C; 300°C within 5 seconds; 350°C within 3 seconds. **Durability:** 20 cycles 80 mS maximum.

0.5 mm Pinch Socket, Mounts With A or FA Type Plugs

Stock No.	Mfr.'s Type	Position	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
906-3550	P05-020ST-A-G	20	3.37	3.06	2.81	2.59	2.40
906-3552	P05-030ST-A-G	30	4.83	4.40	4.03	3.72	3.45
906-3554	P05-040ST-A-G	40	6.30	5.73	5.25	4.85	4.50
906-3556	P05-050ST-A-G	50	7.73	7.03	6.44	5.95	5.52
906-3558	P05-060ST-A-G	60	9.08	8.25	7.56	6.98	6.48
906-3560	P05-080ST-A-G	80	11.59	10.53	9.66	8.91	8.28
906-3562	P05-100ST-A-G	100	14.20	12.91	11.83	10.92	10.14

0.5 mm Pinch, Plug 5 mm Stackable Height

906-3570	P05-020PT-A-G	20	3.69	3.36	3.08	2.84	2.64
906-3572	P05-030PT-A-G	30	5.22	4.75	4.35	4.02	3.73
906-3574	P05-040PT-A-G	40	6.69	6.08	5.58	5.15	4.78
906-3576	P05-050PT-A-G	50	8.00	7.27	6.66	6.15	5.71
906-3578	P05-060PT-A-G	60	9.30	8.46	7.75	7.16	6.64
906-3580	P05-080PT-A-G	80	12.08	10.98	10.06	9.29	8.63
906-3582	P05-100PT-A-G	100	14.79	13.45	12.33	11.38	10.56

0.5 mm Pinch, 5 mm Stacking Height (With Floating Plug)

906-3590	P05-020PT-FA-G	20	4.63	4.21	3.86	3.56	3.31
906-3592	P05-030PT-FA-G	30	6.75	6.14	5.63	5.19	4.82
906-3594	P05-040PT-FA-G	40	8.75	7.96	7.29	6.73	6.25
906-3596	P05-050PT-FA-G	50	10.61	9.64	8.84	8.16	7.58
906-3598	P05-060PT-FA-G	60	12.34	11.22	10.29	9.49	8.82
906-3600	P05-080PT-FA-G	80	16.22	14.74	13.52	12.48	11.58
906-3602	P05-100PT-FA-G	100	19.91	18.10	16.59	15.32	14.22

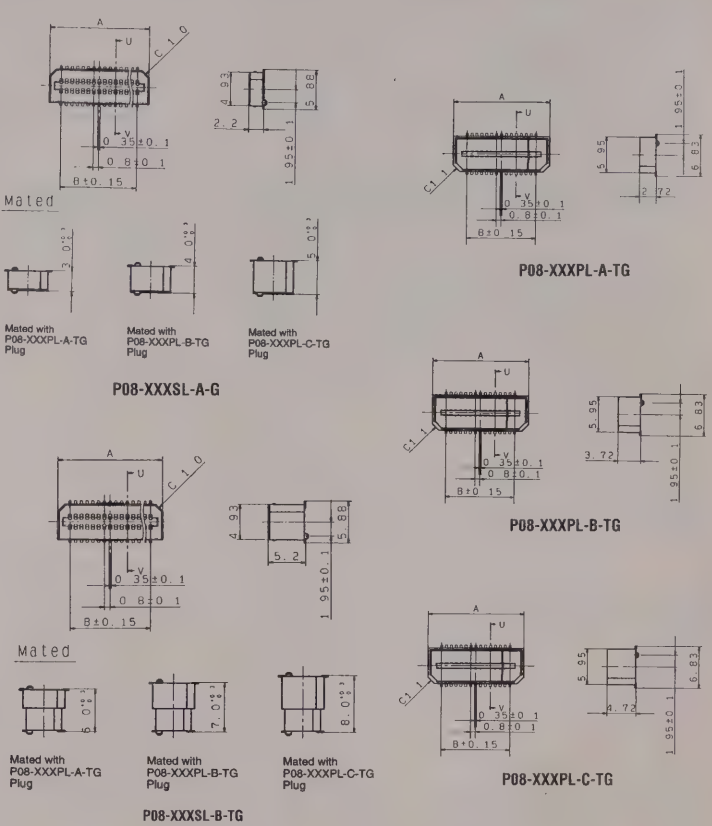
PAK-8 Hermaphroditic Connectors

The PAK-8 Hermaphroditic body consists of high temperature plastic. Contacts and brackets are copper alloy. The flammability rating is UL 94V-0. The plating is 0.2 µm (8 pinch) gold on contact area, 2.03 µm (80 pinch) tin/lead on terminal area. **Insulation Resistance:** 1000 MΩ. **Dielectric Withstanding:** 250 V DC. **Contact Resistance:** 60 Ω maximum. **Current Rating:** 0.5 A per contact. **Rated Voltage:** AC, DC 60 V. **Ambient Temperature Rating:** -50°C to +85°C. The peak soldering heat resistance is 245°C; 300°C within 5 seconds; 350°C within 3 seconds. **Durability:** 50 cycles 50 Ω maximum.

0.8 mm Pinch Hermaphroditic Connector With Locator Post Mounts With Itself To Form 6.5 mm Stackable Height

Stock No.	Mfr.'s Type	Position	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
906-3540	P08-030HL-E-TG	30	2.94	2.67	2.45	2.26	2.10
906-3542	P08-040HL-E-TG	40	3.75	3.41	3.13	2.89	2.68
906-3544	P08-050HL-E-TG	50	4.57	4.15	3.81	3.52	3.26
906-3546	P08-080HL-E-TG	80	7.24	6.58	6.04	5.57	5.17
906-3548	P08-100HL-E-TG	100	8.81	8.01	7.34	6.78	6.29

PAK-8



The PAK-8 body consists of high temperature plastic. Contacts and brackets are copper alloy. The flammability rating is UL 94V-0. The plating is 0.2 µm (8 pinch) gold on contact area, 2.03 µm (80 pinch) tin/lead on terminal area. **Insulation Resistance:** 1000 MΩ. **Dielectric Withstanding:** 250 V DC. **Contact Resistance:** 60 Ω maximum. **Current Rating:** 0.5 A per contact. **Rated Voltage:** AC, DC 60 V. **Ambient Temperature Rating:** -50°C to +85°C. The peak soldering heat resistance is 245°C; 300°C within 5 seconds; 350°C within 3 seconds. **Durability:** 50 cycles 60 Ω maximum.

0.8 mm Pinch Socket With Locator Post Mounts With A, B, or C Type Plug

Stock No.	Mfr.'s Type	Position	EACH				
			1-99	100-499	500-999	1000-4999	5000-Up
906-3440	P08-016SL-A-G	16	1.57	1.43	1.31	1.21	1.12
906-3442	P08-020SL-A-G	20	1.96	1.78	1.63	1.51	1.40
906-3444	P08-030SL-A-G	30	2.94	2.67	2.45	2.26	2.10
906-3446	P08-040SL-A-G	40	3.75	3.41	3.13	2.89	2.68
906-3448	P08-050SL-A-G	50	4.57	4.15	3.81	3.52	3.26
906-3450	P08-080SL-A-G	80	7.24	6.58	6.04	5.57	5.17
906-3452	P08-100SL-A-G	100	8.81	8.01	7.34	6.78	6.29

0.8 mm Pinch, Plug 3 mm Stacking Height With Locator Post

906-3460	P08-020PL-A-TG	20	1.96	1.78	1.63	1.51	1.40
906-3462	P08-030PL-A-TG	30	2.94	2.67	2.45	2.26	2.10
906-3464	P08-040PL-A-TG	40	3.75	3.41	3.13	2.89	2.68
906-3466	P08-050PL-A-TG	50	4.57	4.15	3.81	3.52	3.26
906-3468	P08-080PL-A-TG	80	7.24	6.58	6.04	5.57	5.17
906-3470	P08-100PL-A-TG	100	8.81	8.01	7.34	6.78	6.29

0.8 mm Pinch, Plug 4 mm Stacking Height With Locator Post

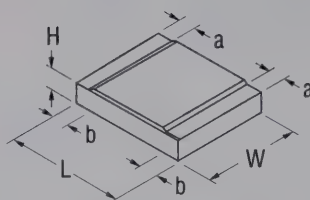
906-3480	P08-016PL-B-TG	16	1.57	1.43	1.31	1.21	1.12
906-3482	P08-020PL-B-TG	20	1.96	1.78	1.63	1.51	1.40
906-3484	P08-030PL-B-TG	30	2.94	2.67	2.45	2.26	2.10
906-3486	P08-040PL-B-TG	40	3.75	3.41	3.13	2.89	2.68
906-3488	P08-050PL-B-TG	50	4.57	4.15	3.81	3.52	3.26
906-3490	P08-080PL-B-TG	80	7.24	6.58	6.04	5.57	5.17
906-3492	P08-100PL-B-TG	100	8.81	8.01	7.34	6.78	6.29

0.8 mm Pinch, Plug 5 mm Stacking Height With Locator Post

906-3500	P08-020PL-C-TG	20	1.96	1.78	1.63	1.51	1.40
906-3502	P08-030PL-C-TG	30	2.94	2.67	2.45	2.26	2.10
906-3504	P08-040PL-C-TG	40	3.75	3.41	3.13	2.89	2.68
906-3506	P08-050PL-C-TG	50	4.57	4.15	3.81	3.52	3.26
906-3508	P08-080PL-C-TG	80	7.24	6.58	6.04	5.57	5.17
906-3510	P08-100PL-C-TG	100	8.81	8.01	7.34	6.78	6.29

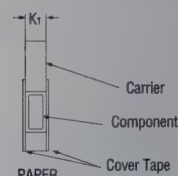
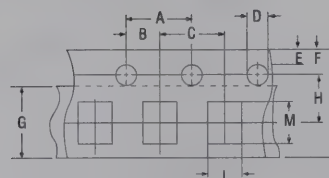
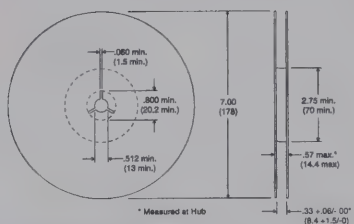
0.8 mm Pinch Socket With Locator Post Mounts With A Type Plug To Form 6 mm Stackable Height

906-3520	P08-020SL-B-TG	20	1.96	1.78	1.63	1.51	1.40
906-3522	P08-030SL-B-TG	30	2.94	2.67	2.45	2.26	2.10
906-3524	P08-040SL-B-TG	40	3.75	3.41	3.13	2.89	2.68
906-3526	P08-050SL-B-TG	50	4.57	4.15	3.81	3.52	3.26
906-3528	P08-080SL-B-TG	80	7.24	6.58	6.04	5.57	5.17
906-3530	P08-100SL-B-TG	100	8.81	8.01	7.34	6.78	6.29



Dim.	RMC 1/10	RMC 1/8
L	.078 ± .008 (2.00 ± 0.20)	.122 ± .004 (3.10 ± 0.10)
W	.049 ± .008 (1.25 ± 0.20)	.061 ± .004 (1.55 ± 0.10)
H	.018 ± .004 (0.45 ± 0.10)	.021 ± .004/- .002 (0.55 ± 0.10/-0.05)
a	.016 ± .008 (0.40 ± 0.20)	.018 ± .008 (0.45 ± 0.20)
b	.012 ± .008/- .004 (0.30 ± 0.20/-0.10)	.012 ± .008/- .004 (0.30 ± 0.20/-0.10)

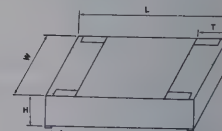
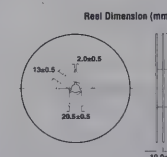
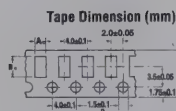
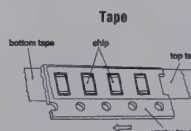
Stock No.	Mfr.'s Type	Package Size	Power Rating (Watts)	Maximum Working Voltage	Maximum Overload Voltage	Resistance Temperature Coefficient	Resistance Range	Tolerance	PER REEL/5000		
									1-5	6-9	10-20
894-3XXX	RMC-1/10	0805	1/10 @ 70°C	150 V	300 V	±200ppm/°C	10 Ω - 1 M	±5%	68.75	61.25	55.00
894-4XXX	RMC-1/10	0805	1/10 @ 70°C	150 V	300 V	±100ppm/°C	10 Ω - 1 M	±1%	120.00	106.75	96.00
894-5XXX	RMC-1/8	1206	1/8 @ 70°C	200 V	400 V	±200ppm/°C	10 Ω - 1 M	±5%	68.75	61.25	55.00
894-6XXX	RMC-1/8	1206	1/8 @ 70°C	200 V	400 V	±100ppm/°C	10 Ω - 1 M	±1%	120.00	106.75	96.00



Mfr.'s Type	A	B	C	D	E	F	G	H	J	K1	L	M
RMC 1/10	.16 ±.01 (.40 ±.01)	.08 ±.01 (2.0 ±.01)	.16 ±.01 (4.0 ±.01)	.06 ±.01/-0 (1.5 ±.01/-0)	.04 (1.0)	.069 (1.75)	.20 (5.0)	.138 ±.002 (3.50 ±.05)	.32 ±.01 (8.0 ±.01)	.04 max. (1.1 max.)	.065 ±.008 (1.65 ±.020)	.09 ±.01 (2.4 ±.02)
RMC 1/8	—	—	—	—	—	—	—	—	—	.04 max. (1.1 max.)	.08 ±.01 (2.0 ±.01)	.138 ±.002 (3.50 ±.05)

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
10	060	68	178	240	255	750	338	2400	412	7500	498	30 K	611	120 K	727	560 K	836
15	081	75	185	270	263	820	343	2700	421	8200	504	33 K	617	150 K	740	680 K	850
20	098	82	190	300	270	910	351	3000	427	10 K	522	39 K	636	180 K	751	910 K	871
22	102	100	202	330	276	1000	356	3300	433	11 K	528	47 K	650	200 K	759	1 M	877
27	117	110	206	390	288	1100	361	3600	441	12 K	533	51 K	657	220 K	765	—	—
30	123	120	212	430	296	1200	366	3900	446	15 K	550	56 K	666	270 K	783	—	—
33	130	150	226	470	302	1500	380	4700	461	18 K	565	62 K	677	300 K	790	—	—
39	140	160	230	510	308	1600	383	5100	467	20 K	575	68 K	685	330 K	796	—	—
47	153	180	237	560	315	1800	393	5600	473	22 K	585	82 K	703	390 K	811	—	—
51	160	200	243	620	324	2000	400	6200	482	24 K	592	91 K	712	470 K	825	—	—
56	166	220	248	680	330	2200	405	6800	489	27 K	603	100 K	717	510 K	830	—	—

Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX	Value	XXX
10	100	147	223	432	295	1.1 K	359	3.01 K	428	4.53 K	456	7.32 K	495	13.3 K	540	22.6 K	589	49.9 K	655	110 K	720	590 K	836
15	113	150	226	475	303	1.21 K	367	3.09 K	430	4.64 K	458	7.5 K	498	13.7 K	543	27.4 K	604	51.1 K	658	130 K	735	619 K	841
49.9	157	162	230	487	305	1.5K	380	3.32 K	435	4.75 K	462	8.25 K	505	15 K	550	30.1 K	612	56.2 K	664	143 K	738	715 K	858
51.1	161	200	243	499	306	1.82 K	385	3.48 K	437	4.99 K	465	9.09 K	513	16.9 K	555	33.2 K	618	68.1 K	686	150 K	740	909 K	881
100	202	221	250	511	310	2 K	400	3.65 K	443	5.11 K	468	9.53 K	518	17.8 K	563	34.8 K	621	73.2 K	690	200 K	759	1 Meg	891
110	206	249	257	590	320	2.21 K	406	3.83 K	445	5.62 K	470	10 K	522	18.2 K	566	36.5 K	624	75 K	694	267 K	780	—	—
121	213	301	271	604	322	2.37 K	409	3.92 K	447	6.04 K	475	11 K	528	20 K	575	39.2 K	635	90.9 K	711	301 K	781	—	—
130	217	332	275	750	338	2.43 K	412	4.02 K	450	6.19 K	481	12.1 K	535	21.5 K	580	40.2 K	638	93.1 K	714	499 K	828	—	—
133	221	402	292	1 K	356	2.49 K	415	4.42 K	453	6.81 K	490	12.7 K	538	22.1 K	586	47.5 K	651	100 K	717	511 K	138	—	—



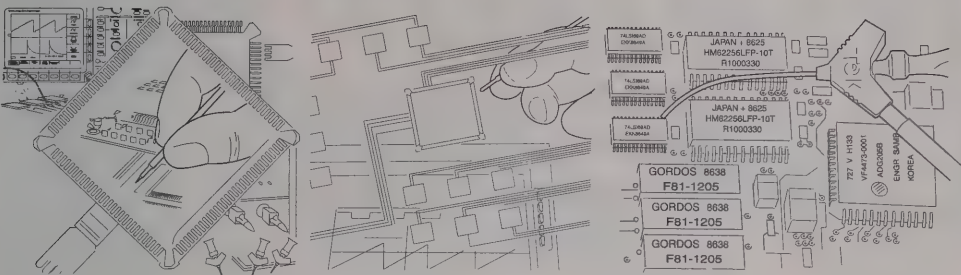
Stock No.	Mfr.'s Type	Style	Watts	Max. Volts (Working)	Tol.	PER REEL/5000	
						1-4	5-10
697-93XX	CFC-12	1206	1/4 W	200 V	5%	59.00	53.55
697-95XX	CFC-10	0805	1/8 W	150 V	5%	54.00	51.00

Style	L	W	H	T	t
E001 (0805)	2.0 ± 0.2	1.25 ± 0.1	0.45 ± 0.1	0.4 ± 0.2	0.2 - 0.5
E002 (1206)	3.2 ± 0.2	1.55 ± 0.1	0.55 ± 0.1 -0.05	0.45 ± 0.2	0.2 - 0.5

	0805	1206
A ₀	1.65 ±0.2	2.0 ±0.2
B ₀	2.40 ±0.2	3.5 ±0.2

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	39	18	200	26	470	34	2700	42	5600	50	30 K	58	100 K	66	390 K	74
20	12	47	20	270	28	560	36	3000	44	10 K	52	39 K	60	200 K	68	470 K	76
27	14	56	22	300	30	1000	38	3900	46	20 K	54	47 K	62	270 K	70	560 K	78
30	16	100	24	390	32	2000	40	4700	48	27 K	56	56 K	64	300 K	72	1 Meg	80

Surface Mount Device Interconnects



- Applications**
- Research and Design
 - Manufacturing Test Of SMD Circuitry
 - Servicing Of SMD Circuitry
 - Prototype Debug and Design

- SMG50/SMT KlipChip™ Kits**
- Access To 0.050" Centers PLCC, SOIC, and Other Packages
 - PQFP100/132 PQFP Adapter Clips
 - 386SX Attachment With PQFP100
 - 68020/68030 Attachment With PQFP132
 - 350 MHz Bandwidth
 - Small Low-Profile Design Fits In Tight Spaces

Surface Mount Device Probing and Interconnects
The increasing use of surface mount technology (SMT) brings many benefits to electronic circuit board (ECB) design and manufacture. Among these are increased circuit density, increased product reliability, and lower assembly costs.

Troubleshooting and device interconnection, however, have become more difficult due to decreased device size, tighter lead spacing and increased ECB densities. Tektronix' offering of the following SMT probing and inter-connect devices meets these demanding requirements.

SureFoot™ Probing 25 mil JEDEC, 0.65 and 0.5 mm EIAJ Packages
SureFoot™ (patent pending) is an integral probe tip and miniature guide that enables fault-free "hands-on" probing of fine-pitch SMD packages. Guided by the IC's leads, SureFoot's miniature plastic tines align the probe before electrical contact is made. The tines also form a shield between IC leads, preventing the probe tip from shorting adjacent pins.

SureFoot™ conforms to EIAJ (Electronic Industry Association of Japan) or JEDEC (Joint Electron Device Engineering Council) packaging standards, assuring quick and reliable probe contact with fine-pitch IC leads. Several color-coded versions of SureFoot™ are available, addressing the most common SMD packages with leads spaced on 0.65 mm (EIAJ) and 25 mil (JEDEC) centers. A crystal orange version fits the tighter 0.5 mm lead spacing of several EIAJ packages.

Style for Tektronix SMD Probes
Tektronix probes have replaceable probe tips. The basic contact of the new SMD probe family is a 25 mil socket that accepts square or round pins. SureFoot™ probe tips are available in styles to match each of these high-performance probe families.

Stock No.	Mfr.'s Type	Package Lead Spacing	Package Standard	Color Code	PER PKG./12
700-0501	SF501	50 mil	JEDEC	Yellow	40.00
700-0502	SF502	25 mil	JEDEC	Blue	40.00

- SureFoot™**
- Hand Probe Fine Pitch SMD Packages: 25 mil JEDEC; 0.65 mm EIAJ; 0.5 mm EIAJ
 - For P656XA/AS

- SMCK1/SMQK1 SOIC/PLCC Adapter Kits**
- Assortment Of SOIC Or PLCC Clips
 - Leads and SMT KlipChip™ Included
 - Signal Insertion and Temporary Lead Jumpers Without Soldering

Stock No.	Mfr.'s Type	Package Lead Spacing	Package Standard	Color Code	PER PKG./12
700-0503	SF502	0.65 mm	EIAJ	Blue	40.00
700-0504	SF503	0.5 mm	EIAJ	Red	40.00

Small Geometry Probes For Surface Mount Devices

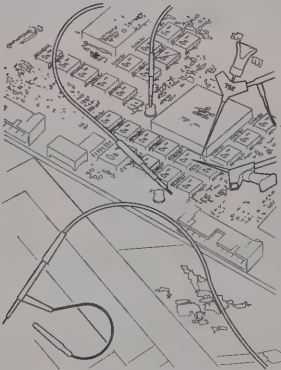
- SMD Package Support**
- 50 mil SO/SOIC
 - 50 mil QUAD
 - 25 mil JEDEC

- Circuit Compatibility**
- TTL
 - BiCMOS
 - ECL
 - FastCMOS

- Scope Compatibility**
- TDS Series
 - TAS Series
 - 2400 Series
 - 11000 Series

- P6561AS**
- 10X – 200 MHz
 - <11 pF Loading
 - Readout

- P6562AS**
- 10X – 350 MHz
 - <11 pF Loading
 - Readout



The P6561AS and P6562AS are scaled for surface mount IC packages. Their low-mass probe bodies are only 1.5" long and 100 mils wide. Bundled in sets to match the oscilloscope's performance and channel count, these probes provide solutions for the most popular EIAJ and JEDEC surface mount packages.

Surface Mount Device Probing
While instrumentation improvements have provided a steady stream of digital troubleshooting tools, the physical challenges associated with probing small geometry ICs have gone unaddressed until now. SMD probes from Tektronix provide circuit designers the first complete, off-the-shelf solution for probing small geometry IC packages.

The basic contact of the SMD probe family is a 25 mil socket that accepts square or round pins. A variety of tip adapters permits convenient, non-destructive, temporary connection to the most popular EIAJ and JEDEC surface mount packages. Each SMD probe is designed to minimize capacitive loading on TTL, ECL, CMOS, FastCMOS, and BiCMOS circuits. The probe and oscilloscope form a measurement system optimized for circuit designers by providing fast transient response, high system bandwidth, and low capacitive circuit loading.

SMD Probe Characteristics. Probes Per Set: P6561AS — 2; P6562AS — 4. **Oscilloscope Series:** P6561AS — TDS300, TDS400; P6562AS — TAS400, 2400 and 11000. **Bandwidth (–3 dB):** P6561AS — 200 MHz; P6562AS — 350 MHz. **Rise Time (Typical):** P6561AS — <1.85 ns; P6562AS — <1.1 ns. **Uniform Signal Delay:** P6561AS — ±150 ps; P6562AS — ±125 ps. **Attenuation:** 10X. **Device Loading Capacitance (Typical):** <11 pF. **Device Loading Resistance:** 10 MΩ. **Maximum Non-Destructive:** 42 V. **Input Voltage:** (DC + peak AC). **Compensation Range:** P6561AS — 15 pF to 35 pF; P6562AS — 12 pF to 35 pF. **Replacement Probe:** P6561AS — P6561A; P6562AS — P6562A.

700-6561. P6561AS	EACH 385.00	700-6562. P6562AS	EACH 795.00
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FlexLead™ Adapters

Fine Pitch Surface Mounted Devices

- FlexLead™ Family**
25 mil JEDEC 0.65 mm EIAJ
0.5 mm EIAJ
- Convenient Probing Of 25 mil Pitch and Smaller Packages
 - Minimum Circuit Loading
 - Adapts To Many Of The Most Common JEDEC and EIAJ Packages
 - Compatible With Any Oscilloscope Or Logic Analyzer Probe Or Podlet
 - 100 mil Interface For Easy Probe Connection

Surface and Device Probing
As the pitch and lead spacing on surface mount packages gets smaller, connecting a probe to these packages becomes increasingly difficult. At a pitch of 25 mils or smaller the leads will no longer mechanically support a probe without potentially damaging the package. At this fine pitch it also becomes difficult to hand hold a probe without shorting to adjacent leads or causing mechanical damage to the package. The Tektronix FlexLead™ Adapters make it possible to conveniently connect to fine pitch Gull-wing Leaded QFP (Quad Flat Pack) packages while reducing the risk of both mechanical and electrical damage to the part.

FlexLead™ Adapters
The FlexLead™ Adapters have a standard 100 mil. interface on one end, to which any oscilloscope probe or logic analyzer podlet will directly connect, both signal and ground leads. The opposite end of the adapter has a row of solder pads, matching the leads of the package, that are soldered to the package leads. After the necessary probing is complete the adapters are intended to be unsoldered and discarded. They are intended to be used only once and are priced low enough to make this practical.

Characteristics. Series Resistance: Less than 100 MΩ (typical). **Inductance:** Less than 100 nH (typical). **Capacitance:** Less than 2 pF (typical). **Maximum Voltage:** 42 V. **Maximum Current:** 750 mA.

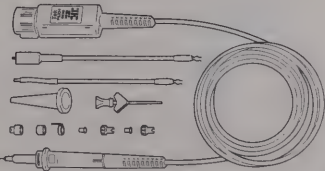
Soldering Instructions Videotapes
These no-charge VHS videotapes describe the recommended procedure for soldering the FlexLeads.
068-0320-04 — NTSC Version
068-0320-06 — PAL Version
068-0320-07 — SECAM Version

The FlexLead™ Adapters are packaged eight per package

Stock No.	Mfr.'s Type	Package Type	EACH
700-0700	PJ25X16	JEDEC, 25 mil, 64 leads (16 × 16)	145.00
700-0701	PJ25X17	JEDEC, 25 mil, 68 leads (17 × 17)	140.00
700-0702	PJ25X20	JEDEC, 25 mil, 80 leads (20 × 20)	150.00
700-0703	PJ25X21	JEDEC, 25 mil, 84 leads (21 × 21)	165.00
700-0704	PJ25X24	JEDEC, 25 mil, 96 leads (24 × 24)	165.00
700-0705	PJ21624	JEDEC, 25 mil, 80 leads (16 × 24)	160.00
700-0706	PJ25X25	JEDEC, 25 mil, 100 leads (25 × 25)	170.00
700-0707	PJ25X30	JEDEC, 25 mil, 120 leads (30 × 30)	175.00
700-0708	PJ22030	JEDEC, 25 mil, 100 leads (20 × 30)	165.00
700-0709	PJ25X33	JEDEC, 25 mil, 132 leads (33 × 33)	185.00
700-0733	PJ25X41	JEDEC, 25 mil, 164 leads (41 × 41)	200.00
700-0711	PJ25X49	JEDEC, 25 mil, 196 leads (49 × 49)	220.00
700-0712	PJ25X52	JEDEC, 25 mil, 208 leads (52 × 52)	230.00
700-0713	PJ25X60	JEDEC, 25 mil, 240 leads (60 × 60)	250.00
700-0714	PE50X20	EIAJ, 0.5 mm, 80 leads (20 × 20)	170.00
700-0715	PE50X25	EIAJ, 0.5 mm, 100 leads (25 × 25)	185.00
700-0716	PE50X26	EIAJ, 0.5 mm, 104 leads (26 × 26)	190.00
700-0717	PE50X36	EIAJ, 0.5 mm, 144 leads (36 × 36)	200.00
700-0718	PE50X38	EIAJ, 0.5 mm, 152 leads (38 × 38)	210.00
700-0719	PE52638	EIAJ, 0.5 mm, 128 leads (26 × 38)	200.00
700-0734	PE50X40	EIAJ, 0.5 mm, 160 leads (40 × 40)	220.00
700-0721	PE50X52	EIAJ, 0.5 mm, 208 leads (52 × 52)	265.00
700-0722	PE50X60	EIAJ, 0.5 mm, 240 leads (60 × 60)	270.00
700-0723	PE50X64	EIAJ, 0.5 mm, 256 leads (64 × 64)	285.00
700-0724	PE50X75	EIAJ, 0.5 mm, 300 leads (75 × 75)	330.00
700-0736	PE50X76	EIAJ, 0.5 mm, 304 leads (76 × 76)	340.00
700-0726	PE65X20	EIAJ, 0.65 mm, 80 leads (20 × 20)	145.00
700-0727	PE65X28	EIAJ, 0.65 mm, 112 leads (28 × 28)	175.00
700-0728	PE65X36	EIAJ, 0.65 mm, 144 leads (36 × 36)	190.00
700-0729	PE65X40	EIAJ, 0.65 mm, 160 leads (40 × 40)	215.00
700-0737	PE65X46	EIAJ, 0.65 mm, 184 leads (46 × 46)	205.00
700-0731	PE65X52	EIAJ, 0.65 mm, 208 leads (52 × 52)	210.00

Active FET Probes For TekProbe™ BNC Interfaces

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 - 10 MΩ Input R
 - DC Offset
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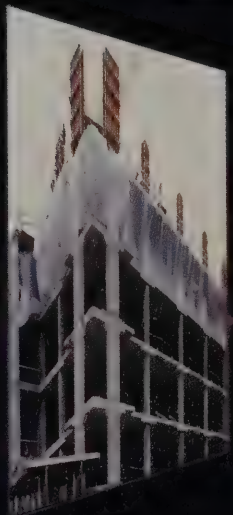
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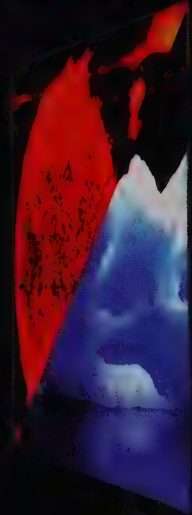
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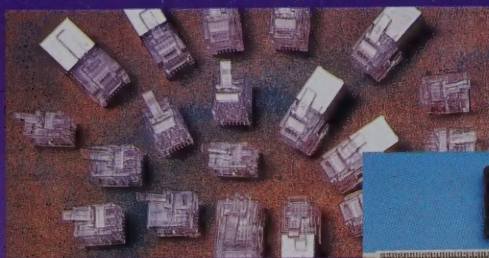
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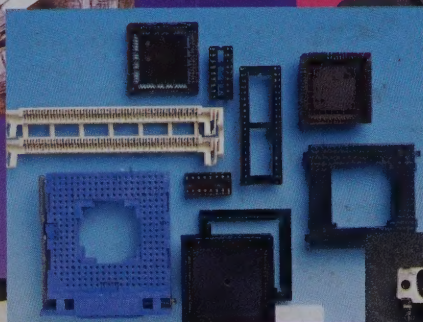
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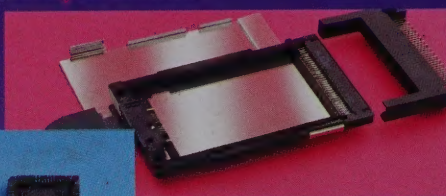


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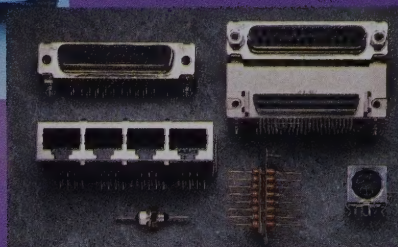


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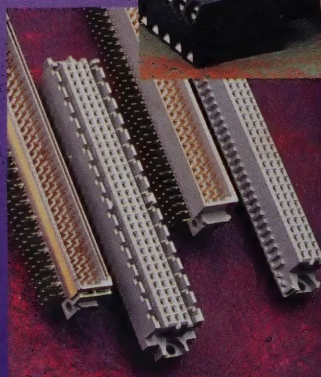
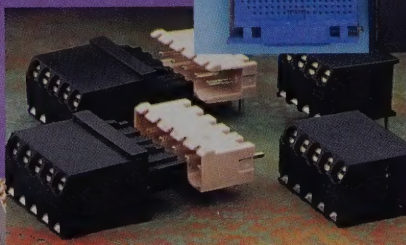
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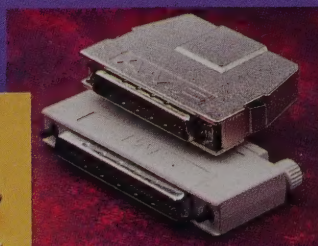
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